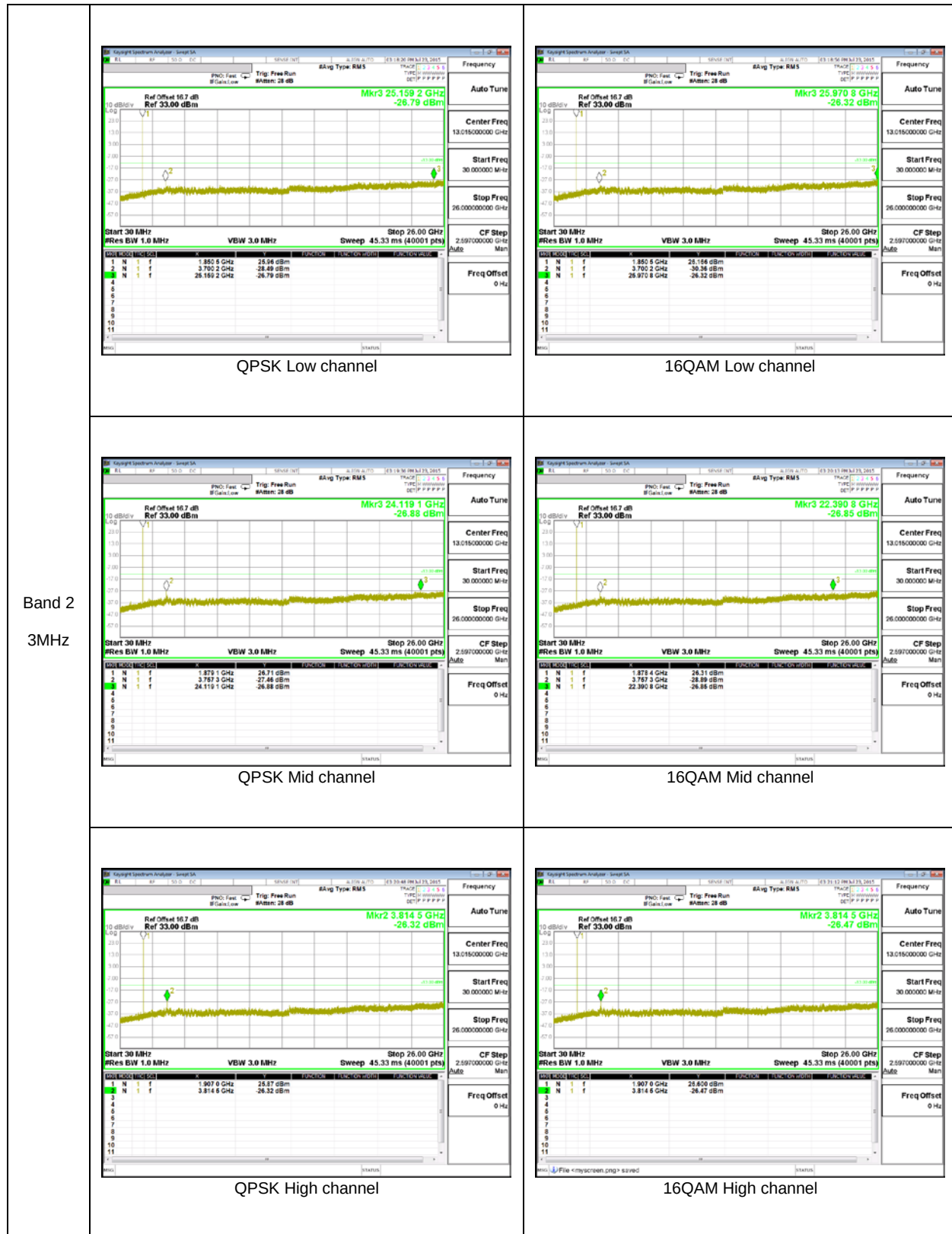
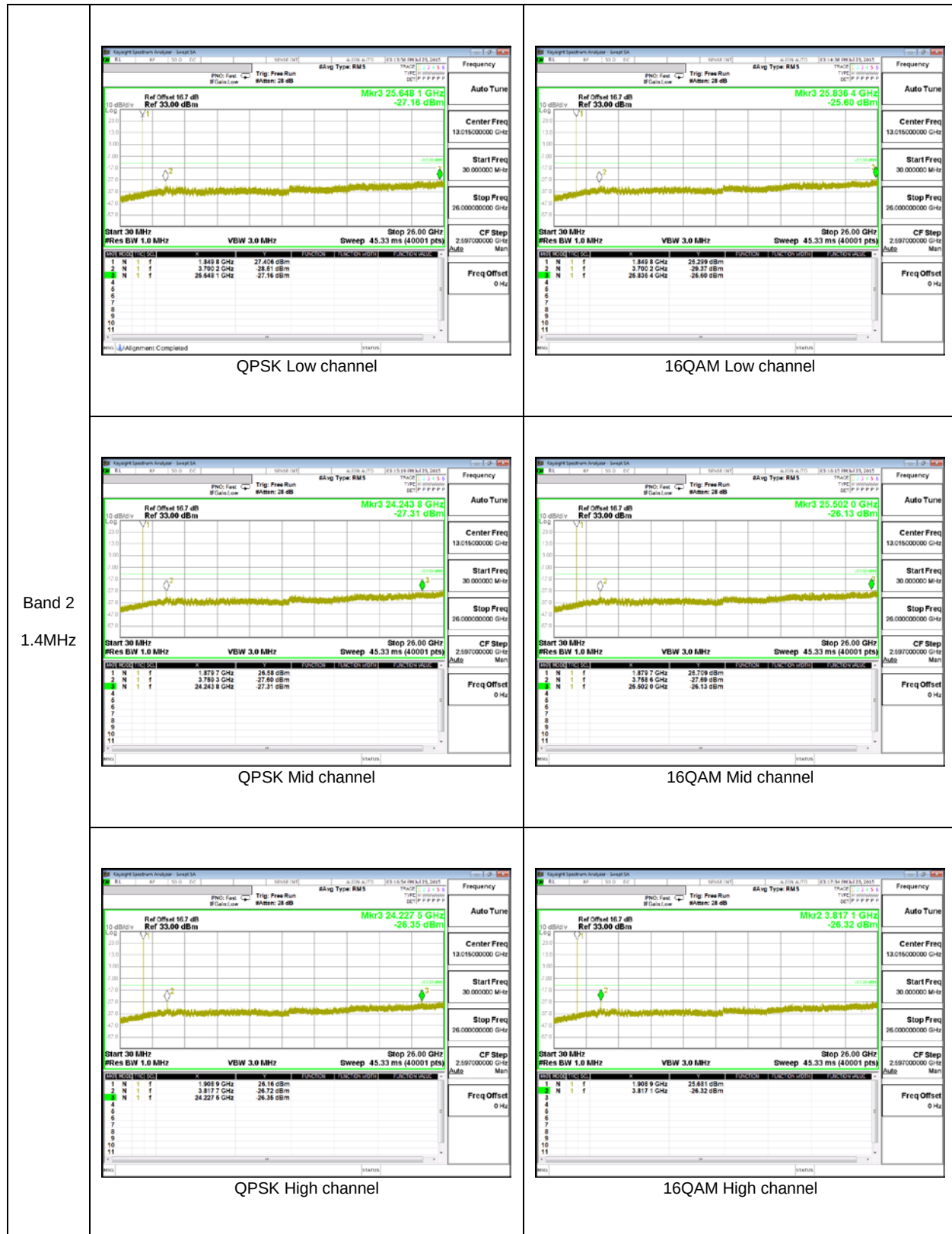






## **10.4. FREQUENCY STABILITY**

### **RULE PART(S)**

FCC: §2.1055, §22.355, §24.235 and §27.54

### **LIMITS**

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

### **TEST PROCEDURE**

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

### **RESULTS**

See the following pages.

## 10.4.1. FREQUENCY STABILITY RESULTS

### LTE Band 17, Channel 23790, Frequency 710.0 MHz

| Reference Frequency: LTE Band 17 Mid Channel 710.0 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 1775.000 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [*C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| 3.80                                                          | 50                              | 709.99998506                                  | 0.003       | 2.5         |
| 3.80                                                          | 40                              | 709.99998396                                  | 0.004       | 2.5         |
| 3.80                                                          | 30                              | 709.99998822                                  | -0.002      | 2.5         |
| <b>3.80</b>                                                   | <b>20</b>                       | 709.99998687                                  | <b>0</b>    | <b>2.5</b>  |
| 3.80                                                          | 10                              | 709.99998986                                  | -0.004      | 2.5         |
| 3.80                                                          | 0                               | 709.99998336                                  | 0.005       | 2.5         |
| 3.80                                                          | -10                             | 709.99999289                                  | -0.008      | 2.5         |
| 3.80                                                          | -20                             | 709.99998382                                  | 0.004       | 2.5         |
| 3.80                                                          | -30                             | 709.99999058                                  | -0.005      | 2.5         |

| Reference Frequency: LTE Band 17 Mid Channel 710.0 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 1775.000 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [*C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| <b>3.80</b>                                                   | <b>20</b>                       | <b>709.99998687</b>                           | <b>0</b>    | <b>2.5</b>  |
| 4.20                                                          | 20                              | 709.99998873                                  | -0.003      | 2.5         |
| 3.40                                                          | 20                              | 709.99998731                                  | -0.001      | 2.5         |

**LTE Band 5, Channel 20524, Frequency 836.5 MHz**

**WCDMA Band 5, Channel 4183, Frequency 836.6 MHz**

**GSM 850, Channel 190, Frequency 836.6 MHz**

| Reference Frequency: LTE Band 5 Mid Channel 836.5 MHz @ 20°C |                                 |                                               |             |             |
|--------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 2091.250 Hz                              |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                        | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                              |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| 3.80                                                         | 50                              | 836.49998403                                  | 0.000       | 2.5         |
| 3.80                                                         | 40                              | 836.49998671                                  | -0.004      | 2.5         |
| 3.80                                                         | 30                              | 836.49998461                                  | -0.001      | 2.5         |
| <b>3.80</b>                                                  | <b>20</b>                       | 836.49998373                                  | <b>0</b>    | <b>2.5</b>  |
| 3.80                                                         | 10                              | 836.49998751                                  | -0.005      | 2.5         |
| 3.80                                                         | 0                               | 836.49998469                                  | -0.001      | 2.5         |
| 3.80                                                         | -10                             | 836.49998522                                  | -0.002      | 2.5         |
| 3.80                                                         | -20                             | 836.49998408                                  | 0.000       | 2.5         |
| 3.80                                                         | -30                             | 836.49998200                                  | 0.002       | 2.5         |

| Reference Frequency: LTE Band 5 Mid Channel 836.5 MHz @ 20°C |                                 |                                               |             |             |
|--------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 2091.250 Hz                              |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                        | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                              |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| <b>3.80</b>                                                  | <b>20</b>                       | <b>836.49998373</b>                           | <b>0</b>    | <b>2.5</b>  |
| 4.20                                                         | 20                              | 836.49998508                                  | -0.002      | 2.5         |
| 3.40                                                         | 20                              | 836.49998393                                  | 0.000       | 2.5         |

**LTE Band 4, Channel 20174, Frequency 1732.5 MHz**

**WCDMA Band 4, Channel 1413, Frequency 1732.6 MHz**

| Reference Frequency: LTE Band 4 Mid Channel 1732.5 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 4331.250 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| 3.80                                                          | 50                              | 1732.49998479                                 | -0.006      | 2.5         |
| 3.80                                                          | 40                              | 1732.49997753                                 | -0.002      | 2.5         |
| 3.80                                                          | 30                              | 1732.49998437                                 | -0.006      | 2.5         |
| <b>3.80</b>                                                   | <b>20</b>                       | 1732.49997421                                 | <b>0</b>    | <b>2.5</b>  |
| 3.80                                                          | 10                              | 1732.49998057                                 | -0.004      | 2.5         |
| 3.80                                                          | 0                               | 1732.49997559                                 | -0.001      | 2.5         |
| 3.80                                                          | -10                             | 1732.49996878                                 | 0.003       | 2.5         |
| 3.80                                                          | -20                             | 1732.49997350                                 | 0.000       | 2.5         |
| 3.80                                                          | -30                             | 1732.49997217                                 | 0.001       | 2.5         |

| Reference Frequency: LTE Band 4 Mid Channel 1732.5 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 4331.250 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| <b>3.80</b>                                                   | <b>20</b>                       | <b>1732.49997421</b>                          | <b>0</b>    | <b>2.5</b>  |
| 4.20                                                          | 20                              | 1732.49997672                                 | -0.001      | 2.5         |
| 3.40                                                          | 20                              | 1732.49998043                                 | -0.004      | 2.5         |

**LTE Band 2, Channel 18900, Frequency 1880.0 MHz**

**WCDMA Band 2, Channel 9400, Frequency 1880.0 MHz**

**GSM 1900, Channel 661, Frequency 1880.0 MHz**

| Reference Frequency: LTE Band 2 Mid Channel 1880.0 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 4700.000 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| 3.80                                                          | 50                              | 1879.99997740                                 | -0.005      | 2.5         |
| 3.80                                                          | 40                              | 1879.99997175                                 | -0.002      | 2.5         |
| 3.80                                                          | 30                              | 1879.99997379                                 | -0.003      | 2.5         |
| <b>3.80</b>                                                   | <b>20</b>                       | 1879.99996841                                 | <b>0</b>    | <b>2.5</b>  |
| 3.80                                                          | 10                              | 1879.99997637                                 | -0.004      | 2.5         |
| 3.80                                                          | 0                               | 1879.99997246                                 | -0.002      | 2.5         |
| 3.80                                                          | -10                             | 1879.99997721                                 | -0.005      | 2.5         |
| 3.80                                                          | -20                             | 1879.99997944                                 | -0.006      | 2.5         |
| 3.80                                                          | -30                             | 1879.99997512                                 | -0.004      | 2.5         |

| Reference Frequency: LTE Band 2 Mid Channel 1880.0 MHz @ 20°C |                                 |                                               |             |             |
|---------------------------------------------------------------|---------------------------------|-----------------------------------------------|-------------|-------------|
| Limit: +- 2.5 ppm = 4700.000 Hz                               |                                 |                                               |             |             |
| Power Supply<br>[Vdc]                                         | Environment<br>Temperature [°C] | Frequency Deviation Measured with Time Elapse |             |             |
|                                                               |                                 | [MHz]                                         | Delta [ppm] | Limit [ppm] |
| <b>3.80</b>                                                   | <b>20</b>                       | <b>1879.99996841</b>                          | <b>0</b>    | <b>2.5</b>  |
| 4.20                                                          | 20                              | 1879.99997931                                 | -0.006      | 2.5         |
| 3.40                                                          | 20                              | 1879.99997348                                 | -0.003      | 2.5         |

## 11. RADIATED TEST RESULTS

### 11.1. RADIATED POWER (ERP & EIRP)

#### RULE PART(S)

FCC: §2.1046, §22.913, §24.232 and §27.50

#### LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50(c) - (10) Portable stations (hand-held devices) are limited to 3 watts ERP; (LTE B17)

27.50(d) - (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.(Band 4)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

#### TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17; MXA setting reference to 971168 D01 v02r02

For peak power measurement with a MXA:

a) Set the RBW  $\geq$  OBW; b) Set VBW  $\geq 3 \times$  RBW; c) Set span  $\geq 2 \times$  RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points  $\geq$  span/RBW; g) Trace mode = max hold;

For average power measurement with a MXA:

a) Set span to at least 1.5 times the OBW; b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz; c) Set VBW  $\geq 3 \times$  RBW; d) Set number of points in sweep  $\geq 2 \times$  span / RBW; e) Sweep time = auto-couple; f) Detector = RMS (power averaging); g) Use free run trigger If burst duty cycle  $\geq 98$ ; h) Use trigger to capture bursts If burst duty cycle  $< 98$ ; i) Trace average at least 100 traces in power averaging (i.e., RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

#### TEST RESULTS

### 11.1.1. ERP/EIRP Results

#### GSM

| Band    | Mode  | Channel | f [MHz] | ERP / EIRP |        |
|---------|-------|---------|---------|------------|--------|
|         |       |         |         | [dBm]      | [mW]   |
| GSM850  | GPRS  | 512     | 824.2   | 28.73      | 746.45 |
|         |       | 661     | 836.6   | 28.50      | 707.95 |
|         |       | 810     | 848.8   | 29.15      | 822.24 |
|         | EGPRS | 512     | 824.2   | 23.76      | 237.68 |
|         |       | 661     | 836.6   | 23.54      | 225.94 |
|         |       | 810     | 848.8   | 25.78      | 378.44 |
| GSM1900 | GPRS  | 512     | 1850.2  | 27.74      | 594.29 |
|         |       | 661     | 1880.0  | 28.77      | 753.36 |
|         |       | 810     | 1909.8  | 28.29      | 674.53 |
|         | EGPRS | 512     | 1850.2  | 28.26      | 669.88 |
|         |       | 661     | 1880.0  | 28.52      | 711.21 |
|         |       | 810     | 1909.8  | 27.34      | 542.00 |

**WCDMA**

| Band   | Mode  | Channel | f [MHz] | ERP / EIRP |        |
|--------|-------|---------|---------|------------|--------|
|        |       |         |         | [dBm]      | [mW]   |
| Band 5 | REL99 | 4132    | 826.4   | 17.64      | 58.08  |
|        |       | 4183    | 836.6   | 17.75      | 59.57  |
|        |       | 4233    | 846.6   | 18.33      | 68.08  |
|        | HSDPA | 4132    | 826.4   | 17.52      | 56.49  |
|        |       | 4183    | 836.6   | 17.74      | 59.43  |
|        |       | 4233    | 846.6   | 18.09      | 64.42  |
| Band 4 | REL99 | 1312    | 1712.4  | 24.17      | 261.22 |
|        |       | 1413    | 1732.6  | 24.46      | 279.25 |
|        |       | 1513    | 1752.6  | 24.02      | 252.35 |
|        | HSDPA | 1312    | 1712.4  | 23.88      | 244.34 |
|        |       | 1413    | 1732.6  | 24.39      | 274.79 |
|        |       | 1513    | 1752.6  | 23.25      | 211.35 |
| Band 2 | REL99 | 9262    | 1852.4  | 20.40      | 109.65 |
|        |       | 9400    | 1880.0  | 20.64      | 115.88 |
|        |       | 9538    | 1907.6  | 19.37      | 86.50  |
|        | HSDPA | 9262    | 1852.4  | 22.89      | 194.54 |
|        |       | 9400    | 1880.0  | 22.85      | 192.75 |
|        |       | 9538    | 1907.6  | 22.46      | 176.20 |

**LTE Band 17**

| Band    | BW [MHz] | Mode  | RB/RB Size | f [MHz] | ERP / EIRP |       |
|---------|----------|-------|------------|---------|------------|-------|
|         |          |       | Full RB    |         | [dBm]      | [mW]  |
| Band 17 | 10       | QPSK  | 50/0       | 709.0   | 13.16      | 20.70 |
|         |          |       | 50/0       | 710.0   | 13.07      | 20.28 |
|         |          |       | 50/0       | 711.0   | 13.13      | 20.56 |
|         |          | 16QAM | 50/0       | 709.0   | 11.83      | 15.24 |
|         |          |       | 50/0       | 710.0   | 12.05      | 16.03 |
|         |          |       | 50/0       | 711.0   | 12.11      | 16.26 |
|         | 5        | QPSK  | 25/0       | 706.5   | 11.43      | 13.90 |
|         |          |       | 25/0       | 710.0   | 11.37      | 13.71 |
|         |          |       | 25/0       | 713.5   | 11.75      | 14.96 |
|         |          | 16QAM | 25/0       | 706.5   | 10.61      | 11.51 |
|         |          |       | 25/0       | 710.0   | 10.33      | 10.79 |
|         |          |       | 25/0       | 713.5   | 11.10      | 12.88 |

**LTE Band 5**

| Band   | BW [MHz] | Mode  | RB/RB Size | f [MHz] | ERP / EIRP |       |
|--------|----------|-------|------------|---------|------------|-------|
|        |          |       | Full RB    |         | [dBm]      | [mW]  |
| Band 5 | 10       | QPSK  | 50/0       | 1860.0  | 15.22      | 33.27 |
|        |          |       | 50/0       | 1880.0  | 15.31      | 33.96 |
|        |          |       | 50/0       | 1900.0  | 15.17      | 32.89 |
|        |          | 16QAM | 50/0       | 1860.0  | 14.20      | 26.30 |
|        |          |       | 50/0       | 1880.0  | 14.29      | 26.85 |
|        |          |       | 50/0       | 1900.0  | 14.10      | 25.70 |
|        | 5        | QPSK  | 25/0       | 1852.5  | 16.33      | 42.95 |
|        |          |       | 25/0       | 1880.0  | 16.09      | 40.64 |
|        |          |       | 25/0       | 1907.5  | 15.66      | 36.81 |
|        |          | 16QAM | 25/0       | 1852.5  | 15.36      | 34.36 |
|        |          |       | 25/0       | 1880.0  | 15.02      | 31.77 |
|        |          |       | 25/0       | 1907.5  | 15.13      | 32.58 |
|        | 3        | QPSK  | 15/0       | 1815.5  | 16.46      | 44.26 |
|        |          |       | 15/0       | 1880.0  | 16.22      | 41.88 |
|        |          |       | 15/0       | 1908.5  | 15.76      | 37.67 |
|        |          | 16QAM | 15/0       | 1815.5  | 15.42      | 34.83 |
|        |          |       | 15/0       | 1880.0  | 15.21      | 33.19 |
|        |          |       | 15/0       | 1908.5  | 14.86      | 30.62 |
|        | 1.4      | QPSK  | 6/0        | 1850.7  | 13.72      | 23.55 |
|        |          |       | 6/0        | 1880.0  | 13.63      | 23.07 |
|        |          |       | 6/0        | 1909.3  | 13.39      | 21.83 |
|        |          | 16QAM | 6/0        | 1850.7  | 12.71      | 18.66 |
|        |          |       | 6/0        | 1880.0  | 12.63      | 18.32 |
|        |          |       | 6/0        | 1909.3  | 12.84      | 19.23 |

**LTE Band 4**

| Band   | BW [MHz] | Mode  | RB/RB Size | f [MHz] | ERP / EIRP |       |
|--------|----------|-------|------------|---------|------------|-------|
|        |          |       | Full RB    |         | [dBm]      | [mW]  |
| Band 4 | 20       | QPSK  | 100/0      | 1720.0  | 17.30      | 53.70 |
|        |          |       | 100/0      | 1732.5  | 18.03      | 63.53 |
|        |          |       | 100/0      | 1745.0  | 18.08      | 64.27 |
|        |          | 16QAM | 100/0      | 1720.0  | 16.24      | 42.07 |
|        |          |       | 100/0      | 1732.5  | 17.01      | 50.23 |
|        |          |       | 100/0      | 1745.0  | 16.96      | 49.66 |
|        | 15       | QPSK  | 75/0       | 1717.5  | 17.10      | 51.29 |
|        |          |       | 75/0       | 1732.5  | 18.13      | 65.01 |
|        |          |       | 75/0       | 1747.5  | 18.10      | 64.57 |
|        |          | 16QAM | 75/0       | 1717.5  | 16.09      | 40.64 |
|        |          |       | 75/0       | 1732.5  | 17.14      | 51.76 |
|        |          |       | 75/0       | 1747.5  | 17.12      | 51.52 |
|        | 10       | QPSK  | 50/0       | 1715.0  | 16.77      | 47.53 |
|        |          |       | 50/0       | 1732.5  | 17.93      | 62.09 |
|        |          |       | 50/0       | 1750.0  | 17.76      | 59.70 |
|        |          | 16QAM | 50/0       | 1715.0  | 15.78      | 37.84 |
|        |          |       | 50/0       | 1732.5  | 16.93      | 49.32 |
|        |          |       | 50/0       | 1750.0  | 16.68      | 46.56 |
|        | 5        | QPSK  | 25/0       | 1712.5  | 16.65      | 46.24 |
|        |          |       | 25/0       | 1732.5  | 17.95      | 62.37 |
|        |          |       | 25/0       | 1752.5  | 17.40      | 54.95 |
|        |          | 16QAM | 25/0       | 1712.5  | 15.64      | 36.64 |
|        |          |       | 25/0       | 1732.5  | 16.94      | 49.43 |
|        |          |       | 25/0       | 1752.5  | 17.42      | 55.21 |
|        | 3        | QPSK  | 15/0       | 1711.5  | 15.38      | 34.51 |
|        |          |       | 15/0       | 1732.5  | 16.77      | 47.53 |
|        |          |       | 15/0       | 1753.5  | 15.86      | 38.55 |
|        |          | 16QAM | 15/0       | 1711.5  | 14.31      | 26.98 |
|        |          |       | 15/0       | 1732.5  | 15.73      | 37.41 |
|        |          |       | 15/0       | 1753.5  | 14.81      | 30.27 |
|        | 1.4      | QPSK  | 6/0        | 1710.7  | 16.02      | 39.99 |
|        |          |       | 6/0        | 1732.5  | 17.22      | 52.72 |
|        |          |       | 6/0        | 1754.3  | 15.94      | 39.26 |
|        |          | 16QAM | 6/0        | 1710.7  | 15.01      | 31.70 |
|        |          |       | 6/0        | 1732.5  | 16.23      | 41.98 |
|        |          |       | 6/0        | 1754.3  | 15.04      | 31.92 |

**LTE Band 2**

| Band   | BW [MHz] | Mode  | RB/RB Size | f [MHz] | ERP / EIRP |       |
|--------|----------|-------|------------|---------|------------|-------|
|        |          |       | Full RB    |         | [dBm]      | [mW]  |
| Band 2 | 20       | QPSK  | 100/0      | 1860.0  | 15.95      | 39.36 |
|        |          |       | 100/0      | 1880.0  | 15.86      | 38.55 |
|        |          |       | 100/0      | 1900.0  | 16.01      | 39.90 |
|        |          | 16QAM | 100/0      | 1860.0  | 14.89      | 30.83 |
|        |          |       | 100/0      | 1880.0  | 14.86      | 30.62 |
|        |          |       | 100/0      | 1900.0  | 14.99      | 31.55 |
|        | 15       | QPSK  | 75/0       | 1857.5  | 15.12      | 32.51 |
|        |          |       | 75/0       | 1880.0  | 15.33      | 34.12 |
|        |          |       | 75/0       | 1902.5  | 15.20      | 33.11 |
|        |          | 16QAM | 75/0       | 1857.5  | 13.74      | 23.66 |
|        |          |       | 75/0       | 1880.0  | 14.35      | 27.23 |
|        |          |       | 75/0       | 1902.5  | 14.22      | 26.42 |
|        | 10       | QPSK  | 50/0       | 1955.0  | 15.10      | 32.36 |
|        |          |       | 50/0       | 1880.0  | 15.19      | 33.04 |
|        |          |       | 50/0       | 1905.0  | 14.89      | 30.83 |
|        |          | 16QAM | 50/0       | 1955.0  | 14.09      | 25.64 |
|        |          |       | 50/0       | 1880.0  | 14.13      | 25.88 |
|        |          |       | 50/0       | 1905.0  | 13.91      | 24.60 |
|        | 5        | QPSK  | 25/0       | 1852.5  | 15.23      | 33.34 |
|        |          |       | 25/0       | 1880.0  | 15.19      | 33.04 |
|        |          |       | 25/0       | 1907.5  | 14.95      | 31.26 |
|        |          | 16QAM | 25/0       | 1852.5  | 14.26      | 26.67 |
|        |          |       | 25/0       | 1880.0  | 14.13      | 25.88 |
|        |          |       | 25/0       | 1907.5  | 13.94      | 24.77 |
|        | 3        | QPSK  | 15/0       | 1815.5  | 15.24      | 33.42 |
|        |          |       | 15/0       | 1880.0  | 15.24      | 33.42 |
|        |          |       | 15/0       | 1908.5  | 14.88      | 30.76 |
|        |          | 16QAM | 15/0       | 1815.5  | 14.22      | 26.42 |
|        |          |       | 15/0       | 1880.0  | 14.25      | 26.61 |
|        |          |       | 15/0       | 1908.5  | 13.87      | 24.38 |
|        | 1.4      | QPSK  | 6/0        | 1850.7  | 13.87      | 24.38 |
|        |          |       | 6/0        | 1880.0  | 13.75      | 23.71 |
|        |          |       | 6/0        | 1909.3  | 13.57      | 22.75 |
|        |          | 16QAM | 6/0        | 1850.7  | 12.86      | 19.32 |
|        |          |       | 6/0        | 1880.0  | 12.76      | 18.88 |
|        |          |       | 6/0        | 1909.3  | 12.53      | 17.91 |

## 11.1.2. ERP/EIRP DATA

### GSM 850

| GSM<br><br>GSM850<br>GPRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2  |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------|----------------------|-----------------------|--------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|------|--|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Company:                                                                              |                    | Samsung              |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Project #:                                                                            |                    | 15K21363             |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Date:                                                                                 |                    | 07-22-15             |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Test Engineer:                                                                        |                    | Steven Kim           |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Configuration:                                                                        |                    | EUT ONLY, X Position |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mode:                                                                                 |                    | GPRS 850 MHz         |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Test Equipment:                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>824.20</td><td>24.91</td><td>V</td><td>1.1</td><td>-1.6</td><td>22.29</td><td>38.5</td><td>-16.2</td><td></td></tr><tr><td>824.20</td><td>31.35</td><td>H</td><td>1.1</td><td>-1.6</td><td>28.73</td><td>38.5</td><td>-9.7</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>836.60</td><td>24.50</td><td>V</td><td>1.1</td><td>-1.4</td><td>22.01</td><td>38.5</td><td>-16.4</td><td></td></tr><tr><td>836.60</td><td>30.99</td><td>H</td><td>1.1</td><td>-1.4</td><td>28.50</td><td>38.5</td><td>-10.0</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>848.80</td><td>23.90</td><td>V</td><td>1.1</td><td>-1.3</td><td>21.54</td><td>38.5</td><td>-16.9</td><td></td></tr><tr><td>848.80</td><td>31.51</td><td>H</td><td>1.1</td><td>-1.3</td><td>29.15</td><td>38.5</td><td>-9.3</td><td></td></tr></table> |                                                                                       |                    |                      |                       |              |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 824.20 | 24.91 | V | 1.1 | -1.6 | 22.29 | 38.5 | -16.2 |  | 824.20 | 31.35 | H | 1.1 | -1.6 | 28.73 | 38.5 | -9.7 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.60 | 24.50 | V | 1.1 | -1.4 | 22.01 | 38.5 | -16.4 |  | 836.60 | 30.99 | H | 1.1 | -1.4 | 28.50 | 38.5 | -10.0 |  | High Ch |  |  |  |  |  |  |  |  | 848.80 | 23.90 | V | 1.1 | -1.3 | 21.54 | 38.5 | -16.9 |  | 848.80 | 31.51 | H | 1.1 | -1.3 | 29.15 | 38.5 | -9.3 |  |
| f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | SG reading<br>(dBm)                                                                   | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)   | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 824.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 24.91                                                                                 | V                  | 1.1                  | -1.6                  | 22.29        | 38.5           | -16.2          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 824.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 31.35                                                                                 | H                  | 1.1                  | -1.6                  | 28.73        | 38.5           | -9.7           |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 24.50                                                                                 | V                  | 1.1                  | -1.4                  | 22.01        | 38.5           | -16.4          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 30.99                                                                                 | H                  | 1.1                  | -1.4                  | 28.50        | 38.5           | -10.0          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 848.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 23.90                                                                                 | V                  | 1.1                  | -1.3                  | 21.54        | 38.5           | -16.9          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| 848.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 31.51                                                                                 | H                  | 1.1                  | -1.3                  | 29.15        | 38.5           | -9.3           |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| Rev. 3.17.11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |
| Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |      |  |

| GSM<br><br>GSM850<br>EGPRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2  |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------|----------------------|-----------------------|--------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Company:                                                                              |                    | Samsung              |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Project #:                                                                            |                    | 15K21363             |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Date:                                                                                 |                    | 07-23-15             |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Test Engineer:                                                                        |                    | Steven Kim           |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Configuration:                                                                        |                    | EUT ONLY, X Position |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Mode:                                                                                 |                    | GPRS 850 MHz         |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Test Equipment:                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>824.20</td><td>20.87</td><td>V</td><td>1.1</td><td>-1.6</td><td>18.25</td><td>38.5</td><td>-20.2</td><td></td></tr><tr><td>824.20</td><td>26.38</td><td>H</td><td>1.1</td><td>-1.6</td><td>23.76</td><td>38.5</td><td>-14.7</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>836.60</td><td>20.24</td><td>V</td><td>1.1</td><td>-1.4</td><td>17.75</td><td>38.5</td><td>-20.7</td><td></td></tr><tr><td>836.60</td><td>26.03</td><td>H</td><td>1.1</td><td>-1.4</td><td>23.54</td><td>38.5</td><td>-14.9</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>848.80</td><td>20.24</td><td>V</td><td>1.1</td><td>-1.3</td><td>17.88</td><td>38.5</td><td>-20.6</td><td></td></tr><tr><td>848.80</td><td>28.14</td><td>H</td><td>1.1</td><td>-1.3</td><td>25.78</td><td>38.5</td><td>-12.7</td><td></td></tr></table> |                                                                                       |                    |                      |                       |              |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 824.20 | 20.87 | V | 1.1 | -1.6 | 18.25 | 38.5 | -20.2 |  | 824.20 | 26.38 | H | 1.1 | -1.6 | 23.76 | 38.5 | -14.7 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.60 | 20.24 | V | 1.1 | -1.4 | 17.75 | 38.5 | -20.7 |  | 836.60 | 26.03 | H | 1.1 | -1.4 | 23.54 | 38.5 | -14.9 |  | High Ch |  |  |  |  |  |  |  |  | 848.80 | 20.24 | V | 1.1 | -1.3 | 17.88 | 38.5 | -20.6 |  | 848.80 | 28.14 | H | 1.1 | -1.3 | 25.78 | 38.5 | -12.7 |  |
| f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SG reading<br>(dBm)                                                                   | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)   | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 824.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.87                                                                                 | V                  | 1.1                  | -1.6                  | 18.25        | 38.5           | -20.2          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 824.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26.38                                                                                 | H                  | 1.1                  | -1.6                  | 23.76        | 38.5           | -14.7          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.24                                                                                 | V                  | 1.1                  | -1.4                  | 17.75        | 38.5           | -20.7          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 26.03                                                                                 | H                  | 1.1                  | -1.4                  | 23.54        | 38.5           | -14.9          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 848.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20.24                                                                                 | V                  | 1.1                  | -1.3                  | 17.88        | 38.5           | -20.6          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| 848.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 28.14                                                                                 | H                  | 1.1                  | -1.3                  | 25.78        | 38.5           | -12.7          |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| Rev. 3.17.11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |
| Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                       |                    |                      |                       |              |                |                |       |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |       |      |       |  |        |       |   |     |      |       |      |       |  |

**GSM 1900**

| GSM<br><br>GSM1900<br>GPRS  | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-22-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: GPRS 1900MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1850.20</td><td>20.5</td><td>V</td><td>1.60</td><td>8.80</td><td>27.74</td><td>33.0</td><td>-5.3</td></tr><tr><td>1850.20</td><td>20.0</td><td>H</td><td>1.60</td><td>8.80</td><td>27.15</td><td>33.0</td><td>-5.9</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1880.00</td><td>21.8</td><td>V</td><td>1.62</td><td>8.62</td><td>28.77</td><td>33.0</td><td>-4.2</td></tr><tr><td>1880.00</td><td>19.9</td><td>H</td><td>1.62</td><td>8.62</td><td>26.88</td><td>33.0</td><td>-6.1</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1909.80</td><td>21.5</td><td>V</td><td>1.63</td><td>8.44</td><td>28.29</td><td>33.0</td><td>-4.7</td></tr><tr><td>1909.80</td><td>19.2</td><td>H</td><td>1.63</td><td>8.44</td><td>25.96</td><td>33.0</td><td>-7.0</td></tr></table> <div>Rev. 3.17.11</div>  |                     |                    |                    |                       |               |                |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1850.20 | 20.5 | V | 1.60 | 8.80 | 27.74 | 33.0 | -5.3 | 1850.20 | 20.0 | H | 1.60 | 8.80 | 27.15 | 33.0 | -5.9 | Mid Ch |  |  |  |  |  |  |  | 1880.00 | 21.8 | V | 1.62 | 8.62 | 28.77 | 33.0 | -4.2 | 1880.00 | 19.9 | H | 1.62 | 8.62 | 26.88 | 33.0 | -6.1 | High Ch |  |  |  |  |  |  |  | 1909.80 | 21.5 | V | 1.63 | 8.44 | 28.29 | 33.0 | -4.7 | 1909.80 | 19.2 | H | 1.63 | 8.44 | 25.96 | 33.0 | -7.0 |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|---------------|-------|--|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|---------------|-------|--------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|------|---------|------|---|------|------|-------|------|------|--------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|------|---------|------|---|------|------|-------|------|------|---------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|------|---------|------|---|------|------|-------|------|------|
|                             | f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1850.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20.5                | V                  | 1.60               | 8.80                  | 27.74         | 33.0           | -5.3          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1850.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20.0                | H                  | 1.60               | 8.80                  | 27.15         | 33.0           | -5.9          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 21.8                | V                  | 1.62               | 8.62                  | 28.77         | 33.0           | -4.2          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 19.9                | H                  | 1.62               | 8.62                  | 26.88         | 33.0           | -6.1          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1909.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 21.5                | V                  | 1.63               | 8.44                  | 28.29         | 33.0           | -4.7          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
| 1909.80                     | 19.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                   | 1.63               | 8.44               | 25.96                 | 33.0          | -7.0           |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
| GSM<br><br>GSM1900<br>EGPRS | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-22-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: EGPRS 1900MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1850.20</td><td>18.5</td><td>V</td><td>1.60</td><td>8.80</td><td>25.74</td><td>33.0</td><td>-7.3</td></tr><tr><td>1850.20</td><td>21.1</td><td>H</td><td>1.60</td><td>8.80</td><td>28.26</td><td>33.0</td><td>-4.7</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1880.00</td><td>18.6</td><td>V</td><td>1.62</td><td>8.62</td><td>25.55</td><td>33.0</td><td>-7.4</td></tr><tr><td>1880.00</td><td>21.5</td><td>H</td><td>1.62</td><td>8.62</td><td>28.52</td><td>33.0</td><td>-4.5</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1909.80</td><td>19.2</td><td>V</td><td>1.63</td><td>8.44</td><td>26.02</td><td>33.0</td><td>-7.0</td></tr><tr><td>1909.80</td><td>20.5</td><td>H</td><td>1.63</td><td>8.44</td><td>27.34</td><td>33.0</td><td>-5.7</td></tr></table> <div>Rev. 3.17.11</div> |                     |                    |                    |                       |               |                |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1850.20 | 18.5 | V | 1.60 | 8.80 | 25.74 | 33.0 | -7.3 | 1850.20 | 21.1 | H | 1.60 | 8.80 | 28.26 | 33.0 | -4.7 | Mid Ch |  |  |  |  |  |  |  | 1880.00 | 18.6 | V | 1.62 | 8.62 | 25.55 | 33.0 | -7.4 | 1880.00 | 21.5 | H | 1.62 | 8.62 | 28.52 | 33.0 | -4.5 | High Ch |  |  |  |  |  |  |  | 1909.80 | 19.2 | V | 1.63 | 8.44 | 26.02 | 33.0 | -7.0 | 1909.80 | 20.5 | H | 1.63 | 8.44 | 27.34 | 33.0 | -5.7 |
|                             | f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1850.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 18.5                | V                  | 1.60               | 8.80                  | 25.74         | 33.0           | -7.3          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1850.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 21.1                | H                  | 1.60               | 8.80                  | 28.26         | 33.0           | -4.7          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 18.6                | V                  | 1.62               | 8.62                  | 25.55         | 33.0           | -7.4          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 21.5                | H                  | 1.62               | 8.62                  | 28.52         | 33.0           | -4.5          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                     |                    |                    |                       |               |                |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
|                             | 1909.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 19.2                | V                  | 1.63               | 8.44                  | 26.02         | 33.0           | -7.0          |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |
| 1909.80                     | 20.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                   | 1.63               | 8.44               | 27.34                 | 33.0          | -5.7           |               |       |  |          |                     |                    |                    |                       |               |                |               |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |      |         |      |   |      |      |       |      |      |

**WCDMA Band 5**

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|----------------------------------|-------------------------------------|----------------------------|------------------------------|------------------------------|--------------|
| WCDMA<br>Band 5<br>REL99 | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 1</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-27-15<br/><b>Test Engineer:</b> Steven Kim<br/><b>Configuration:</b> EUT ONLY, Y Position<br/><b>Mode:</b> Rel 99_850 MHz</p> <p><b>Test Equipment:</b><br/><b>Receiving:</b> VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/><b>Substitution:</b> Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p> |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | <b>f</b><br><b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>SG reading</b><br><b>(dBm)</b> | <b>Ant. Pol.</b><br><b>(H/V)</b> | <b>Cable Loss</b><br><b>(dB)</b> | <b>Antenna Gain</b><br><b>(dBd)</b> | <b>ERP</b><br><b>(dBm)</b> | <b>Limit</b><br><b>(dBm)</b> | <b>Margin</b><br><b>(dB)</b> | <b>Notes</b> |
|                          | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 826.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12.68                             | V                                | 1.1                              | -1.5                                | 10.07                      | 38.5                         | -28.4                        |              |
|                          | 826.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.25                             | H                                | 1.1                              | -1.5                                | 17.64                      | 38.5                         | -20.8                        |              |
|                          | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.46                             | V                                | 1.1                              | -1.4                                | 10.97                      | 38.5                         | -27.5                        |              |
|                          | 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.24                             | H                                | 1.1                              | -1.4                                | 17.75                      | 38.5                         | -20.7                        |              |
|                          | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 846.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 11.35                             | V                                | 1.1                              | -1.3                                | 8.97                       | 38.5                         | -29.5                        |              |
|                          | 846.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.71                             | H                                | 1.1                              | -1.3                                | 18.33                      | 38.5                         | -20.1                        |              |
|                          | Rev. 3.17.11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                                  |                                  |                                     |                            |                              |                              |              |
| WCDMA<br>Band 5<br>HSDPA | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 1</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-27-15<br/><b>Test Engineer:</b> Steven Kim<br/><b>Configuration:</b> EUT ONLY, Y Position<br/><b>Mode:</b> HSDPA_850 MHz</p> <p><b>Test Equipment:</b><br/><b>Receiving:</b> VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/><b>Substitution:</b> Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p>  |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | <b>f</b><br><b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>SG reading</b><br><b>(dBm)</b> | <b>Ant. Pol.</b><br><b>(H/V)</b> | <b>Cable Loss</b><br><b>(dB)</b> | <b>Antenna Gain</b><br><b>(dBd)</b> | <b>ERP</b><br><b>(dBm)</b> | <b>Limit</b><br><b>(dBm)</b> | <b>Margin</b><br><b>(dB)</b> | <b>Notes</b> |
|                          | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 826.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8.69                              | V                                | 1.1                              | -1.5                                | 6.08                       | 38.5                         | -32.4                        |              |
|                          | 826.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.13                             | H                                | 1.1                              | -1.5                                | 17.52                      | 38.5                         | -20.9                        |              |
|                          | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.03                             | V                                | 1.1                              | -1.4                                | 10.54                      | 38.5                         | -27.9                        |              |
|                          | 836.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.23                             | H                                | 1.1                              | -1.4                                | 17.74                      | 38.5                         | -20.7                        |              |
|                          | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                   |                                  |                                  |                                     |                            |                              |                              |              |
|                          | 846.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 11.19                             | V                                | 1.1                              | -1.3                                | 8.81                       | 38.5                         | -29.6                        |              |
|                          | 846.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20.47                             | H                                | 1.1                              | -1.3                                | 18.09                      | 38.5                         | -20.4                        |              |
|                          | Rev. 3.17.11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                                  |                                  |                                     |                            |                              |                              |              |

**WCDMA Band 4**

| WCDMA<br><br>Band 4<br>REL99 | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-23-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: Rel 99_1700 MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1712.40</td><td>15.03</td><td>V</td><td>1.54</td><td>9.20</td><td>22.69</td><td>33.0</td><td>-10.3</td></tr><tr><td>1712.40</td><td>16.51</td><td>H</td><td>1.54</td><td>9.20</td><td>24.17</td><td>33.0</td><td>-8.8</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.60</td><td>15.10</td><td>V</td><td>1.55</td><td>9.31</td><td>22.86</td><td>33.0</td><td>-10.1</td></tr><tr><td>1732.60</td><td>16.70</td><td>H</td><td>1.55</td><td>9.31</td><td>24.46</td><td>33.0</td><td>-8.5</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1752.60</td><td>15.40</td><td>V</td><td>1.56</td><td>9.38</td><td>23.22</td><td>33.0</td><td>-9.8</td></tr><tr><td>1752.60</td><td>16.20</td><td>H</td><td>1.56</td><td>9.38</td><td>24.02</td><td>33.0</td><td>-9.0</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1712.40 | 15.03 | V | 1.54 | 9.20 | 22.69 | 33.0 | -10.3 | 1712.40 | 16.51 | H | 1.54 | 9.20 | 24.17 | 33.0 | -8.8 | Mid Ch |  |  |  |  |  |  |  | 1732.60 | 15.10 | V | 1.55 | 9.31 | 22.86 | 33.0 | -10.1 | 1732.60 | 16.70 | H | 1.55 | 9.31 | 24.46 | 33.0 | -8.5 | High Ch |  |  |  |  |  |  |  | 1752.60 | 15.40 | V | 1.56 | 9.38 | 23.22 | 33.0 | -9.8 | 1752.60 | 16.20 | H | 1.56 | 9.38 | 24.02 | 33.0 | -9.0  |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|---------|-------|---|------|------|-------|------|------|--------|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|---------|-------|---|------|------|-------|------|------|---------|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|------|---------|-------|---|------|------|-------|------|-------|
|                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1712.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.03               | V                  | 1.54               | 9.20                  | 22.69         | 33.0           | -10.3          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1712.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 16.51               | H                  | 1.54               | 9.20                  | 24.17         | 33.0           | -8.8           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1732.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.10               | V                  | 1.55               | 9.31                  | 22.86         | 33.0           | -10.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1732.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 16.70               | H                  | 1.55               | 9.31                  | 24.46         | 33.0           | -8.5           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1752.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.40               | V                  | 1.56               | 9.38                  | 23.22         | 33.0           | -9.8           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
| 1752.60                      | 16.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                   | 1.56               | 9.38               | 24.02                 | 33.0          | -9.0           |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
| WCDMA<br><br>Band 4<br>HSDPA | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-23-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: HSDPA_1700 MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1712.40</td><td>14.84</td><td>V</td><td>1.54</td><td>9.20</td><td>22.50</td><td>33.0</td><td>-10.5</td></tr><tr><td>1712.40</td><td>16.22</td><td>H</td><td>1.54</td><td>9.20</td><td>23.88</td><td>33.0</td><td>-9.1</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.60</td><td>14.83</td><td>V</td><td>1.55</td><td>9.31</td><td>22.59</td><td>33.0</td><td>-10.4</td></tr><tr><td>1732.60</td><td>16.63</td><td>H</td><td>1.55</td><td>9.31</td><td>24.39</td><td>33.0</td><td>-8.6</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1752.60</td><td>15.43</td><td>V</td><td>1.56</td><td>9.38</td><td>23.25</td><td>33.0</td><td>-9.8</td></tr><tr><td>1752.60</td><td>14.59</td><td>H</td><td>1.56</td><td>9.38</td><td>22.41</td><td>33.0</td><td>-10.6</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1712.40 | 14.84 | V | 1.54 | 9.20 | 22.50 | 33.0 | -10.5 | 1712.40 | 16.22 | H | 1.54 | 9.20 | 23.88 | 33.0 | -9.1 | Mid Ch |  |  |  |  |  |  |  | 1732.60 | 14.83 | V | 1.55 | 9.31 | 22.59 | 33.0 | -10.4 | 1732.60 | 16.63 | H | 1.55 | 9.31 | 24.39 | 33.0 | -8.6 | High Ch |  |  |  |  |  |  |  | 1752.60 | 15.43 | V | 1.56 | 9.38 | 23.25 | 33.0 | -9.8 | 1752.60 | 14.59 | H | 1.56 | 9.38 | 22.41 | 33.0 | -10.6 |
|                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1712.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 14.84               | V                  | 1.54               | 9.20                  | 22.50         | 33.0           | -10.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1712.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 16.22               | H                  | 1.54               | 9.20                  | 23.88         | 33.0           | -9.1           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1732.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 14.83               | V                  | 1.55               | 9.31                  | 22.59         | 33.0           | -10.4          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1732.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 16.63               | H                  | 1.55               | 9.31                  | 24.39         | 33.0           | -8.6           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
|                              | 1752.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.43               | V                  | 1.56               | 9.38                  | 23.25         | 33.0           | -9.8           |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |
| 1752.60                      | 14.59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                   | 1.56               | 9.38               | 22.41                 | 33.0          | -10.6          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |       |   |      |      |       |      |      |         |  |  |  |  |  |  |  |         |       |   |      |      |       |      |      |         |       |   |      |      |       |      |       |

**WCDMA Band 2**

| WCDMA<br><br>Band 2<br>REL99 | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-23-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: REL99_1900 MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>1852.40</td><td>13.21</td><td>V</td><td>1.60</td><td>8.79</td><td>20.40</td><td>33.0</td><td>-12.6</td><td></td></tr><tr><td>1852.40</td><td>11.25</td><td>H</td><td>1.60</td><td>8.79</td><td>18.44</td><td>33.0</td><td>-14.6</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>1880.00</td><td>13.64</td><td>V</td><td>1.62</td><td>8.62</td><td>20.64</td><td>33.0</td><td>-12.4</td><td></td></tr><tr><td>1880.00</td><td>12.17</td><td>H</td><td>1.62</td><td>8.62</td><td>19.17</td><td>33.0</td><td>-13.8</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>1907.60</td><td>12.55</td><td>V</td><td>1.63</td><td>8.45</td><td>19.37</td><td>33.0</td><td>-13.6</td><td></td></tr><tr><td>1907.60</td><td>11.49</td><td>H</td><td>1.63</td><td>8.45</td><td>18.31</td><td>33.0</td><td>-14.7</td><td></td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 1852.40 | 13.21 | V | 1.60 | 8.79 | 20.40 | 33.0 | -12.6 |  | 1852.40 | 11.25 | H | 1.60 | 8.79 | 18.44 | 33.0 | -14.6 |  | Mid Ch |  |  |  |  |  |  |  |  | 1880.00 | 13.64 | V | 1.62 | 8.62 | 20.64 | 33.0 | -12.4 |  | 1880.00 | 12.17 | H | 1.62 | 8.62 | 19.17 | 33.0 | -13.8 |  | High Ch |  |  |  |  |  |  |  |  | 1907.60 | 12.55 | V | 1.63 | 8.45 | 19.37 | 33.0 | -13.6 |  | 1907.60 | 11.49 | H | 1.63 | 8.45 | 18.31 | 33.0 | -14.7 |  |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|--|---------|-------|---|------|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|--|---------|-------|---|------|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|--|---------|-------|---|------|------|-------|------|-------|--|
|                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1852.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 13.21               | V                  | 1.60               | 8.79                  | 20.40         | 33.0           | -12.6          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1852.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 11.25               | H                  | 1.60               | 8.79                  | 18.44         | 33.0           | -14.6          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 13.64               | V                  | 1.62               | 8.62                  | 20.64         | 33.0           | -12.4          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12.17               | H                  | 1.62               | 8.62                  | 19.17         | 33.0           | -13.8          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1907.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12.55               | V                  | 1.63               | 8.45                  | 19.37         | 33.0           | -13.6          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
| 1907.60                      | 11.49                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                   | 1.63               | 8.45               | 18.31                 | 33.0          | -14.7          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
| WCDMA<br><br>Band 2<br>HSDPA | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-23-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT ONLY, Y Position<br/>Mode: HSDPA_1900 MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>1852.40</td><td>15.29</td><td>V</td><td>1.60</td><td>8.79</td><td>22.48</td><td>33.0</td><td>-10.5</td><td></td></tr><tr><td>1852.40</td><td>15.70</td><td>H</td><td>1.60</td><td>8.79</td><td>22.89</td><td>33.0</td><td>-10.1</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>1880.00</td><td>15.69</td><td>V</td><td>1.62</td><td>8.62</td><td>22.69</td><td>33.0</td><td>-10.3</td><td></td></tr><tr><td>1880.00</td><td>15.85</td><td>H</td><td>1.62</td><td>8.62</td><td>22.85</td><td>33.0</td><td>-10.1</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>1907.60</td><td>14.67</td><td>V</td><td>1.63</td><td>8.45</td><td>21.49</td><td>33.0</td><td>-11.5</td><td></td></tr><tr><td>1907.60</td><td>15.64</td><td>H</td><td>1.63</td><td>8.45</td><td>22.46</td><td>33.0</td><td>-10.5</td><td></td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 1852.40 | 15.29 | V | 1.60 | 8.79 | 22.48 | 33.0 | -10.5 |  | 1852.40 | 15.70 | H | 1.60 | 8.79 | 22.89 | 33.0 | -10.1 |  | Mid Ch |  |  |  |  |  |  |  |  | 1880.00 | 15.69 | V | 1.62 | 8.62 | 22.69 | 33.0 | -10.3 |  | 1880.00 | 15.85 | H | 1.62 | 8.62 | 22.85 | 33.0 | -10.1 |  | High Ch |  |  |  |  |  |  |  |  | 1907.60 | 14.67 | V | 1.63 | 8.45 | 21.49 | 33.0 | -11.5 |  | 1907.60 | 15.64 | H | 1.63 | 8.45 | 22.46 | 33.0 | -10.5 |  |
|                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1852.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.29               | V                  | 1.60               | 8.79                  | 22.48         | 33.0           | -10.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1852.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.70               | H                  | 1.60               | 8.79                  | 22.89         | 33.0           | -10.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.69               | V                  | 1.62               | 8.62                  | 22.69         | 33.0           | -10.3          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1880.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.85               | H                  | 1.62               | 8.62                  | 22.85         | 33.0           | -10.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
|                              | 1907.60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 14.67               | V                  | 1.63               | 8.45                  | 21.49         | 33.0           | -11.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |
| 1907.60                      | 15.64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                   | 1.63               | 8.45               | 22.46                 | 33.0          | -10.5          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |        |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |         |  |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |  |         |       |   |      |      |       |      |       |  |

**LTE Band 17**

LTE

Band 17

10MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-24-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 17, QPSK, 10MHz

Test Equipment:

Receiving: VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)

Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 709.00   | 5.98                | V                  | 1.0                | -1.6                  | 3.38          | 34.8           | -31.4          |       |
| 709.00   | 15.76               | H                  | 1.0                | -1.6                  | 13.16         | 34.8           | -21.6          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 710.00   | 5.66                | V                  | 1.0                | -1.6                  | 3.06          | 34.8           | -31.7          |       |
| 710.00   | 15.67               | H                  | 1.0                | -1.6                  | 13.07         | 34.8           | -21.7          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 711.00   | 5.46                | V                  | 1.0                | -1.6                  | 2.86          | 34.8           | -31.9          |       |
| 711.00   | 15.73               | H                  | 1.0                | -1.6                  | 13.13         | 34.8           | -21.6          |       |

Rev. 3.17.11

Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

LTE

Band 17

10MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-24-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 17 16QAM, 10MHz

Test Equipment:

Receiving: VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)

Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 709.00   | 4.97                | V                  | 1.0                | -1.6                  | 2.37          | 34.8           | -32.4          |       |
| 709.00   | 14.43               | H                  | 1.0                | -1.6                  | 11.83         | 34.8           | -22.9          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 710.00   | 4.74                | V                  | 1.0                | -1.6                  | 2.14          | 34.8           | -32.6          |       |
| 710.00   | 14.65               | H                  | 1.0                | -1.6                  | 12.05         | 34.8           | -22.7          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 711.00   | 4.52                | V                  | 1.0                | -1.6                  | 1.92          | 34.8           | -32.9          |       |
| 711.00   | 14.71               | H                  | 1.0                | -1.6                  | 12.11         | 34.8           | -22.7          |       |

Rev. 3.17.11

Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |                  |                   |                     |              |              |               |              |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|-------------------|---------------------|--------------|--------------|---------------|--------------|
| LTE<br>Band 17<br>5MHz<br>QPSK  | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-24-15<br/><b>Test Engineer:</b> Steven.Kim<br/><b>Configuration:</b> EUT / Y-Position<br/><b>Mode:</b> LTE Band 17, QPSK , 5MHz</p> <p><b>Test Equipment:</b><br/>Receiving: VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/>Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p> |                   |                  |                   |                     |              |              |               |              |
|                                 | <b>f</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>EIRP</b>  | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                 | <b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBd)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                 | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                  |                   |                     |              |              |               |              |
|                                 | 706.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.32              | V                | 1.0               | -1.6                | 4.72         | 34.8         | -30.1         |              |
|                                 | 706.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 14.03             | H                | 1.0               | -1.6                | 11.43        | 34.8         | -23.3         |              |
|                                 | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                  |                   |                     |              |              |               |              |
|                                 | 710.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.16              | V                | 1.0               | -1.6                | 4.56         | 34.8         | -30.2         |              |
|                                 | 710.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 13.97             | H                | 1.0               | -1.6                | 11.37        | 34.8         | -23.4         |              |
|                                 | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                  |                   |                     |              |              |               |              |
|                                 | 713.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6.61              | V                | 1.0               | -1.6                | 4.01         | 34.8         | -30.8         |              |
|                                 | 713.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 14.35             | H                | 1.0               | -1.6                | 11.75        | 34.8         | -23.0         |              |
|                                 | <p>Rev. 3.17.11<br/>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                  |                   |                     |              |              |               |              |
| LTE<br>Band 17<br>5MHz<br>16QAM | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-24-15<br/><b>Test Engineer:</b> Steven.Kim<br/><b>Configuration:</b> EUT / Y-Position<br/><b>Mode:</b> LTE Band 17 16QAM, 5MHz</p> <p><b>Test Equipment:</b><br/>Receiving: VULB9163-750, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/>Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p>  |                   |                  |                   |                     |              |              |               |              |
|                                 | <b>f</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>EIRP</b>  | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                 | <b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBd)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                 | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                  |                   |                     |              |              |               |              |
|                                 | 706.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6.37              | V                | 1.0               | -1.6                | 3.77         | 34.8         | -31.0         |              |
|                                 | 706.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 13.21             | H                | 1.0               | -1.6                | 10.61        | 34.8         | -24.2         |              |
|                                 | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                  |                   |                     |              |              |               |              |
|                                 | 710.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 7.15              | V                | 1.0               | -1.6                | 4.55         | 34.8         | -30.2         |              |
|                                 | 710.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12.93             | H                | 1.0               | -1.6                | 10.33        | 34.8         | -24.4         |              |
|                                 | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                  |                   |                     |              |              |               |              |
|                                 | 713.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5.56              | V                | 1.0               | -1.6                | 2.96         | 34.8         | -31.8         |              |
|                                 | 713.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 13.70             | H                | 1.0               | -1.6                | 11.10        | 34.8         | -23.7         |              |
|                                 | <p>Rev. 3.17.11<br/>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                  |                   |                     |              |              |               |              |



|                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                  |                   |                     |              |              |               |              |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|-------------------|---------------------|--------------|--------------|---------------|--------------|
| LTE<br>Band 5<br>5MHz<br>QPSK                                                                  | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-24-15<br/><b>Test Engineer:</b> Steven.Kim<br/><b>Configuration:</b> EUT / Y-Position<br/><b>Mode:</b> LTE5 5MHz FUND QPSK</p> <p><b>Test Equipment:</b><br/>Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/>Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p>  |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | <b>f</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>ERP</b>   | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                                                                                | <b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBd)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                                                                                | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 826.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12.88             | V                | 1.1               | -1.5                | 10.28        | 38.5         | -28.2         |              |
|                                                                                                | 826.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18.93             | H                | 1.1               | -1.5                | 16.33        | 38.5         | -22.1         |              |
|                                                                                                | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 836.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12.12             | V                | 1.1               | -1.4                | 9.63         | 38.5         | -28.8         |              |
|                                                                                                | 836.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18.58             | H                | 1.1               | -1.4                | 16.09        | 38.5         | -22.4         |              |
|                                                                                                | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 846.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.53             | V                | 1.6               | -1.3                | 8.65         | 38.5         | -29.8         |              |
|                                                                                                | 846.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 18.54             | H                | 1.6               | -1.3                | 15.66        | 38.5         | -22.8         |              |
| <p>Rev. 3.17.11<br/>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                  |                   |                     |              |              |               |              |
| LTE<br>Band 5<br>5MHz<br>16QAM                                                                 | <p align="center"><b>High Frequency Substitution Measurement</b><br/><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b></p> <p><b>Company:</b> Samsung<br/><b>Project #:</b> 15K21363<br/><b>Date:</b> 07-24-15<br/><b>Test Engineer:</b> Steven.Kim<br/><b>Configuration:</b> EUT / Y-Position<br/><b>Mode:</b> LTE5 5MHz FUND 16QAM</p> <p><b>Test Equipment:</b><br/>Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT)<br/>Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.</p> |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | <b>f</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>ERP</b>   | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                                                                                | <b>MHz</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBd)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                                                                                | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 826.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.84             | V                | 1.1               | -1.5                | 9.24         | 38.5         | -29.2         |              |
|                                                                                                | 826.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17.96             | H                | 1.1               | -1.5                | 15.36        | 38.5         | -23.1         |              |
|                                                                                                | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 836.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 11.15             | V                | 1.1               | -1.4                | 8.65         | 38.5         | -29.8         |              |
|                                                                                                | 836.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17.51             | H                | 1.1               | -1.4                | 15.02        | 38.5         | -23.4         |              |
|                                                                                                | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                  |                   |                     |              |              |               |              |
|                                                                                                | 846.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10.53             | V                | 1.1               | -1.3                | 8.15         | 38.5         | -30.3         |              |
|                                                                                                | 846.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 17.51             | H                | 1.1               | -1.3                | 15.13        | 38.5         | -23.3         |              |
| <p>Rev. 3.17.11<br/>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |                  |                   |                     |              |              |               |              |

| LTE<br><br>Band 5<br><br>3MHz<br><br>QPSK                                              | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|-----------------------|--------------|----------------|----------------|-------|--|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|
|                                                                                        | Company:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    | Samsung                                                                               |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Project #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | 15K21363                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | 07-24-15                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Test Engineer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    | Steven.Kim                                                                            |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Configuration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    | EUT / Y-Position                                                                      |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | LTE5 3MHz FUND QPSK                                                                   |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Test Equipment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>825.50</td><td>12.56</td><td>V</td><td>1.1</td><td>-1.5</td><td>9.96</td><td>38.5</td><td>-28.5</td><td></td></tr><tr><td>825.50</td><td>19.06</td><td>H</td><td>1.1</td><td>-1.5</td><td>16.46</td><td>38.5</td><td>-22.0</td><td></td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>836.50</td><td>12.24</td><td>V</td><td>1.1</td><td>-1.4</td><td>9.74</td><td>38.5</td><td>-28.7</td><td></td></tr><tr><td>836.50</td><td>18.71</td><td>H</td><td>1.1</td><td>-1.4</td><td>16.22</td><td>38.5</td><td>-22.2</td><td></td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>847.50</td><td>11.45</td><td>V</td><td>1.6</td><td>-1.3</td><td>8.57</td><td>38.5</td><td>-29.9</td><td></td></tr><tr><td>847.50</td><td>18.64</td><td>H</td><td>1.6</td><td>-1.3</td><td>15.76</td><td>38.5</td><td>-22.7</td><td></td></tr></table> |                    |                                                                                       |                       |              |                |                |       |  | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 825.50 | 12.56 | V | 1.1 | -1.5 | 9.96 | 38.5 | -28.5 |  | 825.50 | 19.06 | H | 1.1 | -1.5 | 16.46 | 38.5 | -22.0 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.50 | 12.24 | V | 1.1 | -1.4 | 9.74 | 38.5 | -28.7 |  | 836.50 | 18.71 | H | 1.1 | -1.4 | 16.22 | 38.5 | -22.2 |  | High Ch |  |  |  |  |  |  |  |  | 847.50 | 11.45 | V | 1.6 | -1.3 | 8.57 | 38.5 | -29.9 |  | 847.50 | 18.64 | H | 1.6 | -1.3 | 15.76 | 38.5 | -22.7 |
| f<br>MHz                                                                               | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)                                                                    | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Low Ch                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 825.50                                                                                 | 12.56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.1                                                                                   | -1.5                  | 9.96         | 38.5           | -28.5          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 825.50                                                                                 | 19.06                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.1                                                                                   | -1.5                  | 16.46        | 38.5           | -22.0          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Mid Ch                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                                 | 12.24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.1                                                                                   | -1.4                  | 9.74         | 38.5           | -28.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                                 | 18.71                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.1                                                                                   | -1.4                  | 16.22        | 38.5           | -22.2          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| High Ch                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 847.50                                                                                 | 11.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.6                                                                                   | -1.3                  | 8.57         | 38.5           | -29.9          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 847.50                                                                                 | 18.64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.6                                                                                   | -1.3                  | 15.76        | 38.5           | -22.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Rev. 3.17.11<br>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |

| LTE<br><br>Band 5<br><br>3MHz<br><br>16QAM                                             | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|-----------------------|--------------|----------------|----------------|-------|--|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|
|                                                                                        | Company:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    | Samsung                                                                               |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Project #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | 15K21363                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | 07-24-15                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Test Engineer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    | Steven.Kim                                                                            |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Configuration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    | EUT / Y-Position                                                                      |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | LTE5 3MHz FUND 16QAM                                                                  |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | Test Equipment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                                        | <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>825.50</td><td>11.56</td><td>V</td><td>1.1</td><td>-1.5</td><td>8.96</td><td>38.5</td><td>-29.5</td><td></td></tr><tr><td>825.50</td><td>18.02</td><td>H</td><td>1.1</td><td>-1.5</td><td>15.42</td><td>38.5</td><td>-23.0</td><td></td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>836.50</td><td>11.25</td><td>V</td><td>1.1</td><td>-1.4</td><td>8.76</td><td>38.5</td><td>-29.7</td><td></td></tr><tr><td>836.50</td><td>17.70</td><td>H</td><td>1.1</td><td>-1.4</td><td>15.21</td><td>38.5</td><td>-23.2</td><td></td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>847.50</td><td>10.41</td><td>V</td><td>1.1</td><td>-1.3</td><td>8.03</td><td>38.5</td><td>-30.4</td><td></td></tr><tr><td>847.50</td><td>17.24</td><td>H</td><td>1.1</td><td>-1.3</td><td>14.86</td><td>38.5</td><td>-23.6</td><td></td></tr></table> |                    |                                                                                       |                       |              |                |                |       |  | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 825.50 | 11.56 | V | 1.1 | -1.5 | 8.96 | 38.5 | -29.5 |  | 825.50 | 18.02 | H | 1.1 | -1.5 | 15.42 | 38.5 | -23.0 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.50 | 11.25 | V | 1.1 | -1.4 | 8.76 | 38.5 | -29.7 |  | 836.50 | 17.70 | H | 1.1 | -1.4 | 15.21 | 38.5 | -23.2 |  | High Ch |  |  |  |  |  |  |  |  | 847.50 | 10.41 | V | 1.1 | -1.3 | 8.03 | 38.5 | -30.4 |  | 847.50 | 17.24 | H | 1.1 | -1.3 | 14.86 | 38.5 | -23.6 |
| f<br>MHz                                                                               | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)                                                                    | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Low Ch                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 825.50                                                                                 | 11.56                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.1                                                                                   | -1.5                  | 8.96         | 38.5           | -29.5          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 825.50                                                                                 | 18.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.1                                                                                   | -1.5                  | 15.42        | 38.5           | -23.0          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Mid Ch                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                                 | 11.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.1                                                                                   | -1.4                  | 8.76         | 38.5           | -29.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                                 | 17.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.1                                                                                   | -1.4                  | 15.21        | 38.5           | -23.2          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| High Ch                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 847.50                                                                                 | 10.41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | V                  | 1.1                                                                                   | -1.3                  | 8.03         | 38.5           | -30.4          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 847.50                                                                                 | 17.24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                  | 1.1                                                                                   | -1.3                  | 14.86        | 38.5           | -23.6          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Rev. 3.17.11<br>Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |

| LTE<br><br>Band 5<br><br>1.4MHz<br><br>QPSK                            | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|-----------------------|--------------|----------------|----------------|-------|--|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|
|                                                                        | Company:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    | Samsung                                                                               |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Project #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | 15K21363                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | 07-24-15                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Test Engineer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    | Steven.Kim                                                                            |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Configuration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    | EUT / Y-Position                                                                      |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | LTE5 1.4MHz FUND QPSK                                                                 |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Test Equipment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>824.70</td><td>10.45</td><td>V</td><td>1.1</td><td>-1.5</td><td>7.85</td><td>38.5</td><td>-30.6</td><td></td></tr><tr><td>824.70</td><td>16.32</td><td>H</td><td>1.1</td><td>-1.5</td><td>13.72</td><td>38.5</td><td>-24.7</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>836.50</td><td>10.20</td><td>V</td><td>1.1</td><td>-1.4</td><td>7.71</td><td>38.5</td><td>-30.7</td><td></td></tr><tr><td>836.50</td><td>16.12</td><td>H</td><td>1.1</td><td>-1.4</td><td>13.63</td><td>38.5</td><td>-24.8</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>844.30</td><td>9.26</td><td>V</td><td>1.6</td><td>-1.3</td><td>6.38</td><td>38.5</td><td>-32.1</td><td></td></tr><tr><td>844.30</td><td>16.27</td><td>H</td><td>1.6</td><td>-1.3</td><td>13.39</td><td>38.5</td><td>-25.1</td><td></td></tr></table> |                    |                                                                                       |                       |              |                |                |       |  | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 824.70 | 10.45 | V | 1.1 | -1.5 | 7.85 | 38.5 | -30.6 |  | 824.70 | 16.32 | H | 1.1 | -1.5 | 13.72 | 38.5 | -24.7 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.50 | 10.20 | V | 1.1 | -1.4 | 7.71 | 38.5 | -30.7 |  | 836.50 | 16.12 | H | 1.1 | -1.4 | 13.63 | 38.5 | -24.8 |  | High Ch |  |  |  |  |  |  |  |  | 844.30 | 9.26 | V | 1.6 | -1.3 | 6.38 | 38.5 | -32.1 |  | 844.30 | 16.27 | H | 1.6 | -1.3 | 13.39 | 38.5 | -25.1 |
| f<br>MHz                                                               | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)                                                                    | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Low Ch                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 824.70                                                                 | 10.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 1.1                                                                                   | -1.5                  | 7.85         | 38.5           | -30.6          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 824.70                                                                 | 16.32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 1.1                                                                                   | -1.5                  | 13.72        | 38.5           | -24.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Mid Ch                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                 | 10.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 1.1                                                                                   | -1.4                  | 7.71         | 38.5           | -30.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                 | 16.12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 1.1                                                                                   | -1.4                  | 13.63        | 38.5           | -24.8          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| High Ch                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 844.30                                                                 | 9.26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 1.6                                                                                   | -1.3                  | 6.38         | 38.5           | -32.1          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 844.30                                                                 | 16.27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 1.6                                                                                   | -1.3                  | 13.39        | 38.5           | -25.1          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Rev. 3.17.11                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |       |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |

| LTE<br><br>Band 5<br><br>1.4MHz<br><br>16QAM                           | High Frequency Substitution Measurement<br>UL Korea, Ltd. Suwon Laboratory Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------|-----------------------|--------------|----------------|----------------|-------|--|----------|---------------------|--------------------|--------------------|-----------------------|--------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|--|--------|------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|--------|--|--|--|--|--|--|--|--|--------|------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|--|---------|--|--|--|--|--|--|--|--|--------|------|---|-----|------|------|------|-------|--|--------|-------|---|-----|------|-------|------|-------|
|                                                                        | Company:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    | Samsung                                                                               |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Project #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    | 15K21363                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Date:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    | 07-24-15                                                                              |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Test Engineer:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | Steven.Kim                                                                            |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Configuration:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    | EUT / Y-Position                                                                      |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Mode:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    | LTE5 1.4MHz FUND 16QAM                                                                |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | Test Equipment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    | Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    | Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.                           |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
|                                                                        | <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBd)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="9">Low Ch</td></tr><tr><td>824.70</td><td>9.41</td><td>V</td><td>1.1</td><td>-1.5</td><td>6.81</td><td>38.5</td><td>-31.6</td><td></td></tr><tr><td>824.70</td><td>15.31</td><td>H</td><td>1.1</td><td>-1.5</td><td>12.71</td><td>38.5</td><td>-25.7</td><td></td></tr><tr><td colspan="9">Mid Ch</td></tr><tr><td>836.50</td><td>9.14</td><td>V</td><td>1.1</td><td>-1.4</td><td>6.65</td><td>38.5</td><td>-31.8</td><td></td></tr><tr><td>836.50</td><td>15.12</td><td>H</td><td>1.1</td><td>-1.4</td><td>12.63</td><td>38.5</td><td>-25.8</td><td></td></tr><tr><td colspan="9">High Ch</td></tr><tr><td>844.30</td><td>8.25</td><td>V</td><td>1.1</td><td>-1.3</td><td>5.87</td><td>38.5</td><td>-32.6</td><td></td></tr><tr><td>844.30</td><td>15.22</td><td>H</td><td>1.1</td><td>-1.3</td><td>12.84</td><td>38.5</td><td>-25.6</td><td></td></tr></table> |                    |                                                                                       |                       |              |                |                |       |  | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  |  | 824.70 | 9.41 | V | 1.1 | -1.5 | 6.81 | 38.5 | -31.6 |  | 824.70 | 15.31 | H | 1.1 | -1.5 | 12.71 | 38.5 | -25.7 |  | Mid Ch |  |  |  |  |  |  |  |  | 836.50 | 9.14 | V | 1.1 | -1.4 | 6.65 | 38.5 | -31.8 |  | 836.50 | 15.12 | H | 1.1 | -1.4 | 12.63 | 38.5 | -25.8 |  | High Ch |  |  |  |  |  |  |  |  | 844.30 | 8.25 | V | 1.1 | -1.3 | 5.87 | 38.5 | -32.6 |  | 844.30 | 15.22 | H | 1.1 | -1.3 | 12.84 | 38.5 | -25.6 |
| f<br>MHz                                                               | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB)                                                                    | Antenna Gain<br>(dBd) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Low Ch                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 824.70                                                                 | 9.41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 1.1                                                                                   | -1.5                  | 6.81         | 38.5           | -31.6          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 824.70                                                                 | 15.31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                  | 1.1                                                                                   | -1.5                  | 12.71        | 38.5           | -25.7          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Mid Ch                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                 | 9.14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 1.1                                                                                   | -1.4                  | 6.65         | 38.5           | -31.8          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 836.50                                                                 | 15.12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                  | 1.1                                                                                   | -1.4                  | 12.63        | 38.5           | -25.8          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| High Ch                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 844.30                                                                 | 8.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 1.1                                                                                   | -1.3                  | 5.87         | 38.5           | -32.6          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| 844.30                                                                 | 15.22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                  | 1.1                                                                                   | -1.3                  | 12.84        | 38.5           | -25.6          |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Rev. 3.17.11                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |
| Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                                                                       |                       |              |                |                |       |  |          |                     |                    |                    |                       |              |                |                |       |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |        |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |  |         |  |  |  |  |  |  |  |  |        |      |   |     |      |      |      |       |  |        |       |   |     |      |       |      |       |

**LTE Band 4**

|                                                      |                                                                                                                                                                                                       |                   |                  |                   |                     |              |              |               |              |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|-------------------|---------------------|--------------|--------------|---------------|--------------|
| LTE<br>Band 4<br>20MHz<br>QPSK                       | <b>High Frequency Substitution Measurement</b><br><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b>                                                                                                    |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>Company:</b> Samsung<br><b>Project #:</b> 15K21363<br><b>Date:</b> 07-25-15<br><b>Test Engineer:</b> Steven.Kim<br><b>Configuration:</b> EUT / Y-Position<br><b>Mode:</b> LTE Band 4, QPSK, 20MHz  |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>Test Equipment:</b><br>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse                                                     |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>f</b>                                                                                                                                                                                              | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>EIRP</b>  | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                                      | <b>MHz</b>                                                                                                                                                                                            | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBi)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                                      | Low Ch                                                                                                                                                                                                |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1720.00                                                                                                                                                                                               | 9.72              | V                | 1.54              | 9.12                | 17.30        | 30.0         | -12.7         |              |
|                                                      | 1720.00                                                                                                                                                                                               | 7.36              | H                | 1.54              | 9.12                | 14.94        | 30.0         | -15.1         |              |
|                                                      | Mid Ch                                                                                                                                                                                                |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1732.50                                                                                                                                                                                               | 10.27             | V                | 1.55              | 9.31                | 18.03        | 30.0         | -12.0         |              |
|                                                      | 1732.50                                                                                                                                                                                               | 7.96              | H                | 1.55              | 9.31                | 15.72        | 30.0         | -14.3         |              |
|                                                      | High Ch                                                                                                                                                                                               |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1745.00                                                                                                                                                                                               | 10.27             | V                | 1.56              | 9.37                | 18.08        | 30.0         | -11.9         |              |
|                                                      | 1745.00                                                                                                                                                                                               | 8.45              | H                | 1.56              | 9.37                | 16.26        | 30.0         | -13.7         |              |
| Rev. 3.17.11<br>Note: For Band 4 EIRP limit is 30dBm |                                                                                                                                                                                                       |                   |                  |                   |                     |              |              |               |              |
| LTE<br>Band 4<br>20MHz<br>16QAM                      | <b>High Frequency Substitution Measurement</b><br><b>UL Korea, Ltd. Suwon Laboratory Chamber 2</b>                                                                                                    |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>Company:</b> Samsung<br><b>Project #:</b> 15K21363<br><b>Date:</b> 07-25-15<br><b>Test Engineer:</b> Steven.Kim<br><b>Configuration:</b> EUT / Y-Position<br><b>Mode:</b> LTE Band 4, 16QAM, 20MHz |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>Test Equipment:</b><br>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse                                                     |                   |                  |                   |                     |              |              |               |              |
|                                                      | <b>f</b>                                                                                                                                                                                              | <b>SG reading</b> | <b>Ant. Pol.</b> | <b>Cable Loss</b> | <b>Antenna Gain</b> | <b>EIRP</b>  | <b>Limit</b> | <b>Margin</b> | <b>Notes</b> |
|                                                      | <b>MHz</b>                                                                                                                                                                                            | <b>(dBm)</b>      | <b>(H/V)</b>     | <b>(dB)</b>       | <b>(dBi)</b>        | <b>(dBm)</b> | <b>(dBm)</b> | <b>(dB)</b>   |              |
|                                                      | Low Ch                                                                                                                                                                                                |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1720.00                                                                                                                                                                                               | 8.66              | V                | 1.54              | 9.12                | 16.24        | 30.0         | -13.8         |              |
|                                                      | 1720.00                                                                                                                                                                                               | 6.30              | H                | 1.54              | 9.12                | 13.88        | 30.0         | -16.1         |              |
|                                                      | Mid Ch                                                                                                                                                                                                |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1732.50                                                                                                                                                                                               | 9.25              | V                | 1.55              | 9.31                | 17.01        | 30.0         | -13.0         |              |
|                                                      | 1732.50                                                                                                                                                                                               | 6.89              | H                | 1.55              | 9.31                | 14.65        | 30.0         | -15.4         |              |
|                                                      | High Ch                                                                                                                                                                                               |                   |                  |                   |                     |              |              |               |              |
|                                                      | 1745.00                                                                                                                                                                                               | 9.15              | V                | 1.56              | 9.37                | 16.96        | 30.0         | -13.0         |              |
|                                                      | 1745.00                                                                                                                                                                                               | 7.44              | H                | 1.56              | 9.37                | 15.25        | 30.0         | -14.8         |              |
| Rev. 3.17.11<br>Note: For Band 4 EIRP limit is 30dBm |                                                                                                                                                                                                       |                   |                  |                   |                     |              |              |               |              |

LTE

Band 4

15MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1717.50  | 9.52                | V                  | 1.54               | 9.12                  | 17.10         | 30.0           | -12.9          |       |
| 1717.50  | 7.31                | H                  | 1.54               | 9.12                  | 14.89         | 30.0           | -15.1          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1732.50  | 10.37               | V                  | 1.55               | 9.31                  | 18.13         | 30.0           | -11.9          |       |
| 1732.50  | 7.81                | H                  | 1.55               | 9.31                  | 15.57         | 30.0           | -14.4          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1747.50  | 10.27               | V                  | 1.56               | 9.39                  | 18.10         | 30.0           | -11.9          |       |
| 1747.50  | 8.32                | H                  | 1.56               | 9.39                  | 16.15         | 30.0           | -13.9          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 4

15MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1717.50  | 8.51                | V                  | 1.54               | 9.12                  | 16.09         | 30.0           | -13.9          |       |
| 1717.50  | 6.24                | H                  | 1.54               | 9.12                  | 13.82         | 30.0           | -16.2          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1732.50  | 9.38                | V                  | 1.55               | 9.31                  | 17.14         | 30.0           | -12.9          |       |
| 1732.50  | 6.79                | H                  | 1.55               | 9.31                  | 14.55         | 30.0           | -15.5          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1747.50  | 9.29                | V                  | 1.56               | 9.39                  | 17.12         | 30.0           | -12.9          |       |
| 1747.50  | 7.28                | H                  | 1.56               | 9.39                  | 15.11         | 30.0           | -14.9          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

| LTE<br><br>Band 4<br><br>10MHz<br><br>QPSK  | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-25-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / Y-Position<br/>Mode: LTE Band 4, QPSK, 10MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1715.00</td><td>9.19</td><td>V</td><td>1.54</td><td>9.12</td><td>16.77</td><td>30.0</td><td>-13.2</td></tr><tr><td>1715.00</td><td>7.42</td><td>H</td><td>1.54</td><td>9.12</td><td>15.00</td><td>30.0</td><td>-15.0</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.50</td><td>10.17</td><td>V</td><td>1.55</td><td>9.31</td><td>17.93</td><td>30.0</td><td>-12.1</td></tr><tr><td>1732.50</td><td>7.80</td><td>H</td><td>1.55</td><td>9.31</td><td>15.56</td><td>30.0</td><td>-14.4</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1750.00</td><td>9.92</td><td>V</td><td>1.56</td><td>9.40</td><td>17.76</td><td>30.0</td><td>-12.2</td></tr><tr><td>1750.00</td><td>8.32</td><td>H</td><td>1.56</td><td>9.40</td><td>16.16</td><td>30.0</td><td>-13.8</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1715.00 | 9.19 | V | 1.54 | 9.12 | 16.77 | 30.0 | -13.2 | 1715.00 | 7.42 | H | 1.54 | 9.12 | 15.00 | 30.0 | -15.0 | Mid Ch |  |  |  |  |  |  |  | 1732.50 | 10.17 | V | 1.55 | 9.31 | 17.93 | 30.0 | -12.1 | 1732.50 | 7.80 | H | 1.55 | 9.31 | 15.56 | 30.0 | -14.4 | High Ch |  |  |  |  |  |  |  | 1750.00 | 9.92 | V | 1.56 | 9.40 | 17.76 | 30.0 | -12.2 | 1750.00 | 8.32 | H | 1.56 | 9.40 | 16.16 | 30.0 | -13.8 |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|--------|--|--|--|--|--|--|--|---------|-------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|---------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|
|                                             | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1715.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9.19                | V                  | 1.54               | 9.12                  | 16.77         | 30.0           | -13.2          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1715.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7.42                | H                  | 1.54               | 9.12                  | 15.00         | 30.0           | -15.0          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10.17               | V                  | 1.55               | 9.31                  | 17.93         | 30.0           | -12.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7.80                | H                  | 1.55               | 9.31                  | 15.56         | 30.0           | -14.4          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1750.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9.92                | V                  | 1.56               | 9.40                  | 17.76         | 30.0           | -12.2          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| 1750.00                                     | 8.32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                   | 1.56               | 9.40               | 16.16                 | 30.0          | -13.8          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| LTE<br><br>Band 4<br><br>10MHz<br><br>16QAM | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-25-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / Y-Position<br/>Mode: LTE Band 4 16QAM, 10MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1715.00</td><td>8.20</td><td>V</td><td>1.54</td><td>9.12</td><td>15.78</td><td>30.0</td><td>-14.2</td></tr><tr><td>1715.00</td><td>6.36</td><td>H</td><td>1.54</td><td>9.12</td><td>13.94</td><td>30.0</td><td>-16.1</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.50</td><td>9.17</td><td>V</td><td>1.55</td><td>9.31</td><td>16.93</td><td>30.0</td><td>-13.1</td></tr><tr><td>1732.50</td><td>6.79</td><td>H</td><td>1.55</td><td>9.31</td><td>14.55</td><td>30.0</td><td>-15.5</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1750.00</td><td>8.84</td><td>V</td><td>1.56</td><td>9.40</td><td>16.68</td><td>30.0</td><td>-13.3</td></tr><tr><td>1750.00</td><td>7.27</td><td>H</td><td>1.56</td><td>9.40</td><td>15.11</td><td>30.0</td><td>-14.9</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div>  |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1715.00 | 8.20 | V | 1.54 | 9.12 | 15.78 | 30.0 | -14.2 | 1715.00 | 6.36 | H | 1.54 | 9.12 | 13.94 | 30.0 | -16.1 | Mid Ch |  |  |  |  |  |  |  | 1732.50 | 9.17  | V | 1.55 | 9.31 | 16.93 | 30.0 | -13.1 | 1732.50 | 6.79 | H | 1.55 | 9.31 | 14.55 | 30.0 | -15.5 | High Ch |  |  |  |  |  |  |  | 1750.00 | 8.84 | V | 1.56 | 9.40 | 16.68 | 30.0 | -13.3 | 1750.00 | 7.27 | H | 1.56 | 9.40 | 15.11 | 30.0 | -14.9 |
|                                             | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1715.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8.20                | V                  | 1.54               | 9.12                  | 15.78         | 30.0           | -14.2          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1715.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.36                | H                  | 1.54               | 9.12                  | 13.94         | 30.0           | -16.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9.17                | V                  | 1.55               | 9.31                  | 16.93         | 30.0           | -13.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.79                | H                  | 1.55               | 9.31                  | 14.55         | 30.0           | -15.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                             | 1750.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8.84                | V                  | 1.56               | 9.40                  | 16.68         | 30.0           | -13.3          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| 1750.00                                     | 7.27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | H                   | 1.56               | 9.40               | 15.11                 | 30.0          | -14.9          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |       |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |

LTE

Band 4

5MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 4, QPSK , 5MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1712.50 | 9.07       | V         | 1.54       | 9.12         | 16.65 | 30.0  | -13.4  |       |
| 1712.50 | 5.87       | H         | 1.54       | 9.12         | 13.45 | 30.0  | -16.6  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1732.50 | 10.19      | V         | 1.55       | 9.31         | 17.95 | 30.0  | -12.1  |       |
| 1732.50 | 5.67       | H         | 1.55       | 9.31         | 13.43 | 30.0  | -16.6  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1752.50 | 9.57       | V         | 1.56       | 9.39         | 17.40 | 30.0  | -12.6  |       |
| 1752.50 | 6.66       | H         | 1.56       | 9.39         | 14.49 | 30.0  | -15.5  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 4

5MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 4 16QAM, 5MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1712.50 | 8.06       | V         | 1.54       | 9.12         | 15.64 | 30.0  | -14.4  |       |
| 1712.50 | 4.87       | H         | 1.54       | 9.12         | 12.45 | 30.0  | -17.6  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1732.50 | 9.18       | V         | 1.55       | 9.31         | 16.94 | 30.0  | -13.1  |       |
| 1732.50 | 4.67       | H         | 1.55       | 9.31         | 12.43 | 30.0  | -17.6  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1752.50 | 9.59       | V         | 1.56       | 9.39         | 17.42 | 30.0  | -12.6  |       |
| 1752.50 | 5.62       | H         | 1.56       | 9.39         | 13.45 | 30.0  | -16.6  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 4

3MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 4, QPSK , 3MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1711.50 | 7.80       | V         | 1.54       | 9.12         | 15.38 | 30.0  | -14.6  |       |
| 1711.50 | 6.00       | H         | 1.54       | 9.12         | 13.58 | 30.0  | -16.4  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1732.50 | 9.01       | V         | 1.55       | 9.31         | 16.77 | 30.0  | -13.2  |       |
| 1732.50 | 5.93       | H         | 1.55       | 9.31         | 13.69 | 30.0  | -16.3  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1753.50 | 8.04       | V         | 1.56       | 9.38         | 15.86 | 30.0  | -14.1  |       |
| 1753.50 | 6.82       | H         | 1.56       | 9.38         | 14.64 | 30.0  | -15.4  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 4

3MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 4, QPSK , 3MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1711.50 | 6.73       | V         | 1.54       | 9.12         | 14.31 | 30.0  | -15.7  |       |
| 1711.50 | 4.98       | H         | 1.54       | 9.12         | 12.56 | 30.0  | -17.4  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1732.50 | 7.97       | V         | 1.55       | 9.31         | 15.73 | 30.0  | -14.3  |       |
| 1732.50 | 4.90       | H         | 1.55       | 9.31         | 12.66 | 30.0  | -17.3  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1753.50 | 6.99       | V         | 1.56       | 9.38         | 14.81 | 30.0  | -15.2  |       |
| 1753.50 | 5.85       | H         | 1.56       | 9.38         | 13.67 | 30.0  | -16.3  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

| LTE<br><br>Band 4<br><br>1.4MHz<br><br>QPSK  | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-25-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / Y-Position<br/>Mode: LTE Band 4 QPSK, 1.4MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1710.70</td><td>8.44</td><td>V</td><td>1.54</td><td>9.12</td><td>16.02</td><td>30.0</td><td>-14.0</td></tr><tr><td>1710.70</td><td>3.90</td><td>H</td><td>1.54</td><td>9.12</td><td>11.48</td><td>30.0</td><td>-18.5</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.50</td><td>9.46</td><td>V</td><td>1.55</td><td>9.31</td><td>17.22</td><td>30.0</td><td>-12.8</td></tr><tr><td>1732.50</td><td>3.51</td><td>H</td><td>1.55</td><td>9.31</td><td>11.27</td><td>30.0</td><td>-18.7</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1754.30</td><td>8.13</td><td>V</td><td>1.56</td><td>9.37</td><td>15.94</td><td>30.0</td><td>-14.1</td></tr><tr><td>1754.30</td><td>3.18</td><td>H</td><td>1.56</td><td>9.37</td><td>10.99</td><td>30.0</td><td>-19.0</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1710.70 | 8.44 | V | 1.54 | 9.12 | 16.02 | 30.0 | -14.0 | 1710.70 | 3.90 | H | 1.54 | 9.12 | 11.48 | 30.0 | -18.5 | Mid Ch |  |  |  |  |  |  |  | 1732.50 | 9.46 | V | 1.55 | 9.31 | 17.22 | 30.0 | -12.8 | 1732.50 | 3.51 | H | 1.55 | 9.31 | 11.27 | 30.0 | -18.7 | High Ch |  |  |  |  |  |  |  | 1754.30 | 8.13 | V | 1.56 | 9.37 | 15.94 | 30.0 | -14.1 | 1754.30 | 3.18 | H | 1.56 | 9.37 | 10.99 | 30.0 | -19.0 |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|--------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|--------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|---------|--|--|--|--|--|--|--|---------|------|---|------|------|-------|------|-------|---------|------|---|------|------|-------|------|-------|
|                                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1710.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8.44                | V                  | 1.54               | 9.12                  | 16.02         | 30.0           | -14.0          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1710.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.90                | H                  | 1.54               | 9.12                  | 11.48         | 30.0           | -18.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 9.46                | V                  | 1.55               | 9.31                  | 17.22         | 30.0           | -12.8          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.51                | H                  | 1.55               | 9.31                  | 11.27         | 30.0           | -18.7          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1754.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8.13                | V                  | 1.56               | 9.37                  | 15.94         | 30.0           | -14.1          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| 1754.30                                      | 3.18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | H                   | 1.56               | 9.37               | 10.99                 | 30.0          | -19.0          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| LTE<br><br>Band 4<br><br>1.4MHz<br><br>16QAM | <div>High Frequency Substitution Measurement<br/>UL Korea, Ltd. Suwon Laboratory Chamber 2</div> <div>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-25-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / Y-Position<br/>Mode: LTE Band 4 16QAM, 1.4MHz</div> <div>Test Equipment:<br/>Receiving: 3117[00168724] and Chamber 1 SMA Cables<br/>Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse</div> <table><tr><th>f<br/>MHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Cable Loss<br/>(dB)</th><th>Antenna Gain<br/>(dBi)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Margin<br/>(dB)</th><th>Notes</th></tr><tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1710.70</td><td>7.43</td><td>V</td><td>1.54</td><td>9.12</td><td>15.01</td><td>30.0</td><td>-15.0</td></tr><tr><td>1710.70</td><td>2.91</td><td>H</td><td>1.54</td><td>9.12</td><td>10.49</td><td>30.0</td><td>-19.5</td></tr><tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1732.50</td><td>8.47</td><td>V</td><td>1.55</td><td>9.31</td><td>16.23</td><td>30.0</td><td>-13.8</td></tr><tr><td>1732.50</td><td>2.50</td><td>H</td><td>1.55</td><td>9.31</td><td>10.26</td><td>30.0</td><td>-19.7</td></tr><tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>1754.30</td><td>7.23</td><td>V</td><td>1.56</td><td>9.37</td><td>15.04</td><td>30.0</td><td>-15.0</td></tr><tr><td>1754.30</td><td>2.15</td><td>H</td><td>1.56</td><td>9.37</td><td>9.96</td><td>30.0</td><td>-20.0</td></tr></table> <div>Rev. 3.17.11<br/>Note: For Band 4 EIRP limit is 30dBm</div> |                     |                    |                    |                       |               |                |                |       | f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes | Low Ch |  |  |  |  |  |  |  | 1710.70 | 7.43 | V | 1.54 | 9.12 | 15.01 | 30.0 | -15.0 | 1710.70 | 2.91 | H | 1.54 | 9.12 | 10.49 | 30.0 | -19.5 | Mid Ch |  |  |  |  |  |  |  | 1732.50 | 8.47 | V | 1.55 | 9.31 | 16.23 | 30.0 | -13.8 | 1732.50 | 2.50 | H | 1.55 | 9.31 | 10.26 | 30.0 | -19.7 | High Ch |  |  |  |  |  |  |  | 1754.30 | 7.23 | V | 1.56 | 9.37 | 15.04 | 30.0 | -15.0 | 1754.30 | 2.15 | H | 1.56 | 9.37 | 9.96  | 30.0 | -20.0 |
|                                              | f<br>MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | Low Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1710.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7.43                | V                  | 1.54               | 9.12                  | 15.01         | 30.0           | -15.0          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1710.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.91                | H                  | 1.54               | 9.12                  | 10.49         | 30.0           | -19.5          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | Mid Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8.47                | V                  | 1.55               | 9.31                  | 16.23         | 30.0           | -13.8          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1732.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.50                | H                  | 1.55               | 9.31                  | 10.26         | 30.0           | -19.7          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | High Ch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                    |                    |                       |               |                |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
|                                              | 1754.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7.23                | V                  | 1.56               | 9.37                  | 15.04         | 30.0           | -15.0          |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |
| 1754.30                                      | 2.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | H                   | 1.56               | 9.37               | 9.96                  | 30.0          | -20.0          |                |       |          |                     |                    |                    |                       |               |                |                |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |        |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |         |  |  |  |  |  |  |  |         |      |   |      |      |       |      |       |         |      |   |      |      |       |      |       |

**LTE Band 2**

LTE

Band 2

20MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 2 QPSK, 20MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1860.00  | 8.43                | V                  | 1.60               | 9.12                  | 15.95         | 33.0           | -17.1          |       |
| 1860.00  | 6.96                | H                  | 1.60               | 9.12                  | 14.48         | 33.0           | -18.5          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1880.00  | 8.86                | V                  | 1.62               | 8.62                  | 15.86         | 33.0           | -17.1          |       |
| 1880.00  | 7.49                | H                  | 1.62               | 8.62                  | 14.49         | 33.0           | -18.5          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1900.00  | 9.14                | V                  | 1.63               | 8.50                  | 16.01         | 33.0           | -17.0          |       |
| 1900.00  | 8.42                | H                  | 1.63               | 8.50                  | 15.29         | 33.0           | -17.7          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

20MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Samsung

Project #:

15K21363

Date:

07-25-15

Test Engineer:

Steven.Kim

Configuration:

EUT / Y-Position

Mode:

LTE Band 2 16QAM, 20MHz

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1860.00  | 7.37                | V                  | 1.60               | 9.12                  | 14.89         | 33.0           | -18.1          |       |
| 1860.00  | 5.89                | H                  | 1.60               | 9.12                  | 13.41         | 33.0           | -19.6          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1880.00  | 7.86                | V                  | 1.62               | 8.62                  | 14.86         | 33.0           | -18.1          |       |
| 1880.00  | 6.51                | H                  | 1.62               | 8.62                  | 13.51         | 33.0           | -19.5          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1900.00  | 8.12                | V                  | 1.63               | 8.50                  | 14.99         | 33.0           | -18.0          |       |
| 1900.00  | 7.30                | H                  | 1.63               | 8.50                  | 14.17         | 33.0           | -18.8          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

15MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1857.50  | 7.60                | V                  | 1.60               | 9.12                  | 15.12         | 33.0           | -17.9          |       |
| 1857.50  | 6.05                | H                  | 1.60               | 9.12                  | 13.57         | 33.0           | -19.4          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1880.00  | 8.33                | V                  | 1.62               | 8.62                  | 15.33         | 33.0           | -17.7          |       |
| 1880.00  | 6.65                | H                  | 1.62               | 8.62                  | 13.65         | 33.0           | -19.3          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1902.50  | 8.34                | V                  | 1.63               | 8.49                  | 15.20         | 33.0           | -17.8          |       |
| 1902.50  | 6.56                | H                  | 1.63               | 8.49                  | 13.42         | 33.0           | -19.6          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

15MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f<br>MHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Cable Loss<br>(dB) | Antenna Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Notes |
|----------|---------------------|--------------------|--------------------|-----------------------|---------------|----------------|----------------|-------|
| Low Ch   |                     |                    |                    |                       |               |                |                |       |
| 1857.50  | 6.22                | V                  | 1.60               | 9.12                  | 13.74         | 33.0           | -19.3          |       |
| 1857.50  | 4.98                | H                  | 1.60               | 9.12                  | 12.50         | 33.0           | -20.5          |       |
| Mid Ch   |                     |                    |                    |                       |               |                |                |       |
| 1880.00  | 7.35                | V                  | 1.62               | 8.62                  | 14.35         | 33.0           | -18.6          |       |
| 1880.00  | 5.59                | H                  | 1.62               | 8.62                  | 12.59         | 33.0           | -20.4          |       |
| High Ch  |                     |                    |                    |                       |               |                |                |       |
| 1902.50  | 7.36                | V                  | 1.63               | 8.49                  | 14.22         | 33.0           | -18.8          |       |
| 1902.50  | 5.56                | H                  | 1.63               | 8.49                  | 12.42         | 33.0           | -20.6          |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

10MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1855.00 | 7.58             | V               | 1.60            | 9.12               | 15.10      | 33.0        | -17.9       |       |
| 1855.00 | 6.02             | H               | 1.60            | 9.12               | 13.54      | 33.0        | -19.5       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 8.19             | V               | 1.62            | 8.62               | 15.19      | 33.0        | -17.8       |       |
| 1880.00 | 6.50             | H               | 1.62            | 8.62               | 13.50      | 33.0        | -19.5       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1905.00 | 8.05             | V               | 1.63            | 8.47               | 14.89      | 33.0        | -18.1       |       |
| 1905.00 | 6.57             | H               | 1.63            | 8.47               | 13.41      | 33.0        | -19.6       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

10MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1855.00 | 6.57             | V               | 1.60            | 9.12               | 14.09      | 33.0        | -18.9       |       |
| 1855.00 | 4.99             | H               | 1.60            | 9.12               | 12.51      | 33.0        | -20.5       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 7.13             | V               | 1.62            | 8.62               | 14.13      | 33.0        | -18.9       |       |
| 1880.00 | 5.51             | H               | 1.62            | 8.62               | 12.51      | 33.0        | -20.5       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1905.00 | 7.07             | V               | 1.63            | 8.47               | 13.91      | 33.0        | -19.1       |       |
| 1905.00 | 5.50             | H               | 1.63            | 8.47               | 12.34      | 33.0        | -20.7       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

5MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1852.50 | 7.71             | V               | 1.60            | 9.12               | 15.23      | 33.0        | -17.8       |       |
| 1852.50 | 5.97             | H               | 1.60            | 9.12               | 13.49      | 33.0        | -19.5       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 8.19             | V               | 1.62            | 8.62               | 15.19      | 33.0        | -17.8       |       |
| 1880.00 | 6.34             | H               | 1.62            | 8.62               | 13.34      | 33.0        | -19.7       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1907.50 | 8.12             | V               | 1.63            | 8.46               | 14.95      | 33.0        | -18.0       |       |
| 1907.50 | 6.65             | H               | 1.63            | 8.46               | 13.48      | 33.0        | -19.5       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

5MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1852.50 | 6.74             | V               | 1.60            | 9.12               | 14.26      | 33.0        | -18.7       |       |
| 1852.50 | 4.93             | H               | 1.60            | 9.12               | 12.45      | 33.0        | -20.6       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 7.13             | V               | 1.62            | 8.62               | 14.13      | 33.0        | -18.9       |       |
| 1880.00 | 5.31             | H               | 1.62            | 8.62               | 12.31      | 33.0        | -20.7       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1907.50 | 7.11             | V               | 1.63            | 8.46               | 13.94      | 33.0        | -19.1       |       |
| 1907.50 | 5.61             | H               | 1.63            | 8.46               | 12.44      | 33.0        | -20.6       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

3MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1851.50 | 7.72             | V               | 1.60            | 9.12               | 15.24      | 33.0        | -17.8       |       |
| 1851.50 | 6.13             | H               | 1.60            | 9.12               | 13.65      | 33.0        | -19.4       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 8.24             | V               | 1.62            | 8.62               | 15.24      | 33.0        | -17.8       |       |
| 1880.00 | 6.50             | H               | 1.62            | 8.62               | 13.50      | 33.0        | -19.5       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1908.50 | 8.06             | V               | 1.63            | 8.45               | 14.88      | 33.0        | -18.1       |       |
| 1908.50 | 6.87             | H               | 1.63            | 8.45               | 13.69      | 33.0        | -19.3       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

3MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f MHz   | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---------|------------------|-----------------|-----------------|--------------------|------------|-------------|-------------|-------|
| Low Ch  |                  |                 |                 |                    |            |             |             |       |
| 1851.50 | 6.70             | V               | 1.60            | 9.12               | 14.22      | 33.0        | -18.8       |       |
| 1851.50 | 5.12             | H               | 1.60            | 9.12               | 12.64      | 33.0        | -20.4       |       |
| Mid Ch  |                  |                 |                 |                    |            |             |             |       |
| 1880.00 | 7.25             | V               | 1.62            | 8.62               | 14.25      | 33.0        | -18.7       |       |
| 1880.00 | 5.52             | H               | 1.62            | 8.62               | 12.52      | 33.0        | -20.5       |       |
| High Ch |                  |                 |                 |                    |            |             |             |       |
| 1908.50 | 7.05             | V               | 1.63            | 8.45               | 13.87      | 33.0        | -19.1       |       |
| 1908.50 | 5.89             | H               | 1.63            | 8.45               | 12.71      | 33.0        | -20.3       |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

1.4MHz

QPSK

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1850.70 | 6.35       | V         | 1.60       | 9.12         | 13.87 | 33.0  | -19.1  |       |
| 1850.70 | 4.90       | H         | 1.60       | 9.12         | 12.42 | 33.0  | -20.6  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1880.00 | 6.75       | V         | 1.62       | 8.62         | 13.75 | 33.0  | -19.2  |       |
| 1880.00 | 4.98       | H         | 1.62       | 8.62         | 11.98 | 33.0  | -21.0  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1909.30 | 6.76       | V         | 1.63       | 8.44         | 13.57 | 33.0  | -19.4  |       |
| 1909.30 | 5.05       | H         | 1.63       | 8.44         | 11.86 | 33.0  | -21.1  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE

Band 2

1.4MHz

16QAM

High Frequency Substitution Measurement

UL Korea, Ltd. Suwon Laboratory Chamber 2

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Test Equipment:

Receiving: 3117[00168724] and Chamber 1 SMA Cables

Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse

| f       | SG reading | Ant. Pol. | Cable Loss | Antenna Gain | EIRP  | Limit | Margin | Notes |
|---------|------------|-----------|------------|--------------|-------|-------|--------|-------|
| MHz     | (dBm)      | (H/V)     | (dB)       | (dBi)        | (dBm) | (dBm) | (dB)   |       |
| Low Ch  |            |           |            |              |       |       |        |       |
| 1850.70 | 5.34       | V         | 1.60       | 9.12         | 12.86 | 33.0  | -20.1  |       |
| 1850.70 | 3.86       | H         | 1.60       | 9.12         | 11.38 | 33.0  | -21.6  |       |
| Mid Ch  |            |           |            |              |       |       |        |       |
| 1880.00 | 5.76       | V         | 1.62       | 8.62         | 12.76 | 33.0  | -20.2  |       |
| 1880.00 | 3.92       | H         | 1.62       | 8.62         | 10.92 | 33.0  | -22.1  |       |
| High Ch |            |           |            |              |       |       |        |       |
| 1909.30 | 5.72       | V         | 1.63       | 8.44         | 12.53 | 33.0  | -20.5  |       |
| 1909.30 | 5.01       | H         | 1.63       | 8.44         | 11.82 | 33.0  | -21.2  |       |

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

## **11.2. FIELD STRENGTH OF SPURIOUS RADIATION**

### **RULE PART(S)**

FCC: §2.1053, §22.917, §24.238 and §27. 53

### **LIMIT**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

### **TEST PROCEDURE**

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

### **RESULTS**

## 11.2.1. SPURIOUS RADIATION PLOTS

### GSM 850

| GSM<br><br>GSM850<br>GPRS                                                             | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|----------------|--------------------|---------------|------------------|---------------|-------|--|----------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|-------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-23-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone, X Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: GPRS 850 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 22 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 824.2MHz</td></tr><tr><td>1.6484</td><td>-19.4</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-57.5</td><td>-13.0</td><td>-44.5</td><td></td></tr><tr><td>2.4726</td><td>-12.5</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-51.0</td><td>-13.0</td><td>-38.0</td><td></td></tr><tr><td>3.2968</td><td>-28.1</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-67.1</td><td>-13.0</td><td>-54.1</td><td></td></tr><tr><td>1.6484</td><td>-24.5</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-62.7</td><td>-13.0</td><td>-49.7</td><td></td></tr><tr><td>2.4726</td><td>-12.8</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-51.3</td><td>-13.0</td><td>-38.3</td><td></td></tr><tr><td>3.2968</td><td>-26.8</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-65.9</td><td>-13.0</td><td>-52.9</td><td></td></tr><tr><td colspan="10">Mid Ch, 836.6MHz</td></tr><tr><td>1.6730</td><td>-13.7</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-51.8</td><td>-13.0</td><td>-38.8</td><td></td></tr><tr><td>2.5098</td><td>-23.5</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-62.0</td><td>-13.0</td><td>-49.0</td><td></td></tr><tr><td>3.3464</td><td>-27.9</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td></td></tr><tr><td>1.6730</td><td>-13.5</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-51.6</td><td>-13.0</td><td>-38.6</td><td></td></tr><tr><td>2.5098</td><td>-21.7</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-60.2</td><td>-13.0</td><td>-47.2</td><td></td></tr><tr><td>3.3464</td><td>-27.9</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td></td></tr><tr><td colspan="10">High Ch, 848.8MHz</td></tr><tr><td>1.6976</td><td>-20.4</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-58.6</td><td>-13.0</td><td>-45.6</td><td></td></tr><tr><td>2.5466</td><td>-18.9</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-57.5</td><td>-13.0</td><td>-44.5</td><td></td></tr><tr><td>3.3952</td><td>-28.4</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-67.5</td><td>-13.0</td><td>-54.5</td><td></td></tr><tr><td>1.6976</td><td>-16.2</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-54.4</td><td>-13.0</td><td>-41.4</td><td></td></tr><tr><td>2.5466</td><td>-12.8</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-51.3</td><td>-13.0</td><td>-38.3</td><td></td></tr><tr><td>3.3952</td><td>-28.4</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-67.6</td><td>-13.0</td><td>-54.6</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch, 824.2MHz |  |  |  |  |  |  |  |  |  | 1.6484 | -19.4 | V | 3.0 | 39.1 | 1.0 | -57.5 | -13.0 | -44.5 |  | 2.4726 | -12.5 | V | 3.0 | 39.5 | 1.0 | -51.0 | -13.0 | -38.0 |  | 3.2968 | -28.1 | V | 3.0 | 40.1 | 1.0 | -67.1 | -13.0 | -54.1 |  | 1.6484 | -24.5 | H | 3.0 | 39.1 | 1.0 | -62.7 | -13.0 | -49.7 |  | 2.4726 | -12.8 | H | 3.0 | 39.5 | 1.0 | -51.3 | -13.0 | -38.3 |  | 3.2968 | -26.8 | H | 3.0 | 40.1 | 1.0 | -65.9 | -13.0 | -52.9 |  | Mid Ch, 836.6MHz |  |  |  |  |  |  |  |  |  | 1.6730 | -13.7 | V | 3.0 | 39.1 | 1.0 | -51.8 | -13.0 | -38.8 |  | 2.5098 | -23.5 | V | 3.0 | 39.5 | 1.0 | -62.0 | -13.0 | -49.0 |  | 3.3464 | -27.9 | V | 3.0 | 40.1 | 1.0 | -67.0 | -13.0 | -54.0 |  | 1.6730 | -13.5 | H | 3.0 | 39.1 | 1.0 | -51.6 | -13.0 | -38.6 |  | 2.5098 | -21.7 | H | 3.0 | 39.5 | 1.0 | -60.2 | -13.0 | -47.2 |  | 3.3464 | -27.9 | H | 3.0 | 40.1 | 1.0 | -67.0 | -13.0 | -54.0 |  | High Ch, 848.8MHz |  |  |  |  |  |  |  |  |  | 1.6976 | -20.4 | V | 3.0 | 39.1 | 1.0 | -58.6 | -13.0 | -45.6 |  | 2.5466 | -18.9 | V | 3.0 | 39.6 | 1.0 | -57.5 | -13.0 | -44.5 |  | 3.3952 | -28.4 | V | 3.0 | 40.2 | 1.0 | -67.5 | -13.0 | -54.5 |  | 1.6976 | -16.2 | H | 3.0 | 39.1 | 1.0 | -54.4 | -13.0 | -41.4 |  | 2.5466 | -12.8 | H | 3.0 | 39.6 | 1.0 | -51.3 | -13.0 | -38.3 |  | 3.3952 | -28.4 | H | 3.0 | 40.2 | 1.0 | -67.6 | -13.0 | -54.6 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Ch, 824.2MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6484                                                                                | -19.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -57.5         | -13.0            | -44.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4726                                                                                | -12.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.5           | 1.0                | -51.0         | -13.0            | -38.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.2968                                                                                | -28.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.1           | 1.0                | -67.1         | -13.0            | -54.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6484                                                                                | -24.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -62.7         | -13.0            | -49.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4726                                                                                | -12.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.5           | 1.0                | -51.3         | -13.0            | -38.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.2968                                                                                | -26.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.1           | 1.0                | -65.9         | -13.0            | -52.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Ch, 836.6MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -13.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -51.8         | -13.0            | -38.8         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -23.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.5           | 1.0                | -62.0         | -13.0            | -49.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -27.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.1           | 1.0                | -67.0         | -13.0            | -54.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -13.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -51.6         | -13.0            | -38.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -21.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.5           | 1.0                | -60.2         | -13.0            | -47.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -27.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.1           | 1.0                | -67.0         | -13.0            | -54.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Ch, 848.8MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6976                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -58.6         | -13.0            | -45.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5466                                                                                | -18.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.6           | 1.0                | -57.5         | -13.0            | -44.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3952                                                                                | -28.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.2           | 1.0                | -67.5         | -13.0            | -54.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6976                                                                                | -16.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -54.4         | -13.0            | -41.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5466                                                                                | -12.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.6           | 1.0                | -51.3         | -13.0            | -38.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3952                                                                                | -28.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.2           | 1.0                | -67.6         | -13.0            | -54.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| GSM<br><br>GSM850<br>EGPRS                                                            | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-23-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone, X Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: EGPRS 850 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 22 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 824.2MHz</td></tr><tr><td>1.6484</td><td>-17.0</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-55.1</td><td>-13.0</td><td>-42.1</td><td></td></tr><tr><td>2.4726</td><td>-24.9</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-63.4</td><td>-13.0</td><td>-50.4</td><td></td></tr><tr><td>3.2968</td><td>-28.4</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-67.5</td><td>-13.0</td><td>-54.5</td><td></td></tr><tr><td>1.6484</td><td>-15.6</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-53.7</td><td>-13.0</td><td>-40.7</td><td></td></tr><tr><td>2.4726</td><td>-18.4</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-56.9</td><td>-13.0</td><td>-43.9</td><td></td></tr><tr><td>3.2968</td><td>-29.0</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-68.1</td><td>-13.0</td><td>-55.1</td><td></td></tr><tr><td colspan="10">Mid Ch, 836.6MHz</td></tr><tr><td>1.6730</td><td>-20.2</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-58.4</td><td>-13.0</td><td>-45.4</td><td></td></tr><tr><td>2.5098</td><td>-27.6</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-66.2</td><td>-13.0</td><td>-53.2</td><td></td></tr><tr><td>3.3464</td><td>-29.0</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-68.1</td><td>-13.0</td><td>-55.1</td><td></td></tr><tr><td>1.6730</td><td>-18.2</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-56.3</td><td>-13.0</td><td>-43.3</td><td></td></tr><tr><td>2.5098</td><td>-20.8</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-59.4</td><td>-13.0</td><td>-46.4</td><td></td></tr><tr><td>3.3464</td><td>-29.0</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-68.1</td><td>-13.0</td><td>-55.1</td><td></td></tr><tr><td colspan="10">High Ch, 848.8MHz</td></tr><tr><td>1.6976</td><td>-23.8</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-61.9</td><td>-13.0</td><td>-48.9</td><td></td></tr><tr><td>2.5466</td><td>-26.9</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-65.5</td><td>-13.0</td><td>-52.5</td><td></td></tr><tr><td>3.3952</td><td>-27.8</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td></td></tr><tr><td>1.6976</td><td>-19.0</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-57.1</td><td>-13.0</td><td>-44.1</td><td></td></tr><tr><td>2.5466</td><td>-24.5</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-63.1</td><td>-13.0</td><td>-50.1</td><td></td></tr><tr><td>3.3952</td><td>-28.5</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-67.7</td><td>-13.0</td><td>-54.7</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch, 824.2MHz |  |  |  |  |  |  |  |  |  | 1.6484 | -17.0 | V | 3.0 | 39.1 | 1.0 | -55.1 | -13.0 | -42.1 |  | 2.4726 | -24.9 | V | 3.0 | 39.5 | 1.0 | -63.4 | -13.0 | -50.4 |  | 3.2968 | -28.4 | V | 3.0 | 40.1 | 1.0 | -67.5 | -13.0 | -54.5 |  | 1.6484 | -15.6 | H | 3.0 | 39.1 | 1.0 | -53.7 | -13.0 | -40.7 |  | 2.4726 | -18.4 | H | 3.0 | 39.5 | 1.0 | -56.9 | -13.0 | -43.9 |  | 3.2968 | -29.0 | H | 3.0 | 40.1 | 1.0 | -68.1 | -13.0 | -55.1 |  | Mid Ch, 836.6MHz |  |  |  |  |  |  |  |  |  | 1.6730 | -20.2 | V | 3.0 | 39.1 | 1.0 | -58.4 | -13.0 | -45.4 |  | 2.5098 | -27.6 | V | 3.0 | 39.5 | 1.0 | -66.2 | -13.0 | -53.2 |  | 3.3464 | -29.0 | V | 3.0 | 40.1 | 1.0 | -68.1 | -13.0 | -55.1 |  | 1.6730 | -18.2 | H | 3.0 | 39.1 | 1.0 | -56.3 | -13.0 | -43.3 |  | 2.5098 | -20.8 | H | 3.0 | 39.5 | 1.0 | -59.4 | -13.0 | -46.4 |  | 3.3464 | -29.0 | H | 3.0 | 40.1 | 1.0 | -68.1 | -13.0 | -55.1 |  | High Ch, 848.8MHz |  |  |  |  |  |  |  |  |  | 1.6976 | -23.8 | V | 3.0 | 39.1 | 1.0 | -61.9 | -13.0 | -48.9 |  | 2.5466 | -26.9 | V | 3.0 | 39.6 | 1.0 | -65.5 | -13.0 | -52.5 |  | 3.3952 | -27.8 | V | 3.0 | 40.2 | 1.0 | -67.0 | -13.0 | -54.0 |  | 1.6976 | -19.0 | H | 3.0 | 39.1 | 1.0 | -57.1 | -13.0 | -44.1 |  | 2.5466 | -24.5 | H | 3.0 | 39.6 | 1.0 | -63.1 | -13.0 | -50.1 |  | 3.3952 | -28.5 | H | 3.0 | 40.2 | 1.0 | -67.7 | -13.0 | -54.7 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Ch, 824.2MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6484                                                                                | -17.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -55.1         | -13.0            | -42.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4726                                                                                | -24.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.5           | 1.0                | -63.4         | -13.0            | -50.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.2968                                                                                | -28.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.1           | 1.0                | -67.5         | -13.0            | -54.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6484                                                                                | -15.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -53.7         | -13.0            | -40.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4726                                                                                | -18.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.5           | 1.0                | -56.9         | -13.0            | -43.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.2968                                                                                | -29.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.1           | 1.0                | -68.1         | -13.0            | -55.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Ch, 836.6MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -20.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -58.4         | -13.0            | -45.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -27.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.5           | 1.0                | -66.2         | -13.0            | -53.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -29.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.1           | 1.0                | -68.1         | -13.0            | -55.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -18.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -56.3         | -13.0            | -43.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -20.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.5           | 1.0                | -59.4         | -13.0            | -46.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -29.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.1           | 1.0                | -68.1         | -13.0            | -55.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Ch, 848.8MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6976                                                                                | -23.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.1           | 1.0                | -61.9         | -13.0            | -48.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5466                                                                                | -26.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 39.6           | 1.0                | -65.5         | -13.0            | -52.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3952                                                                                | -27.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | V                  | 3.0                    | 40.2           | 1.0                | -67.0         | -13.0            | -54.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6976                                                                                | -19.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.1           | 1.0                | -57.1         | -13.0            | -44.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5466                                                                                | -24.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 39.6           | 1.0                | -63.1         | -13.0            | -50.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3952                                                                                | -28.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                  | 3.0                    | 40.2           | 1.0                | -67.7         | -13.0            | -54.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |

**GSM 1900**

|                         |                                                                                                                                                                                                                                                                                                                                                                 |                     |                    |                 |                |                |               |                |               |       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| GSM<br>GSM1900<br>GPRS  | <p align="center"><b>UL Korea, Ltd Suwon Laboratory</b><br/><b>Above 1GHz High Frequency Substitution Measurement</b></p> <p> <b>Company:</b> Samsung<br/> <b>Project #:</b> 15K21363<br/> <b>Date:</b> 07-22-15<br/> <b>Test Engineer:</b> Steven Kim<br/> <b>Configuration:</b> EUT / AC Adapter / Earphone, Y Position<br/> <b>Mode:</b> GPRS 1900 </p>      |                     |                    |                 |                |                |               |                |               |       |
|                         | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>Part 24</div> </div>                                                                                                                                                 |                     |                    |                 |                |                |               |                |               |       |
|                         | f<br>GHz                                                                                                                                                                                                                                                                                                                                                        | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                         | <b>Low Ch, 1850.2MHz</b>                                                                                                                                                                                                                                                                                                                                        |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.7004                                                                                                                                                                                                                                                                                                                                                          | -16.2               | V                  | 3.0             | 40.5           | 1.0            | -55.7         | -13.0          | -42.7         |       |
|                         | 5.5506                                                                                                                                                                                                                                                                                                                                                          | -11.2               | V                  | 3.0             | 40.8           | 1.0            | -51.0         | -13.0          | -38.0         |       |
|                         | 7.4008                                                                                                                                                                                                                                                                                                                                                          | -22.5               | V                  | 3.0             | 40.8           | 1.0            | -62.3         | -13.0          | -49.3         |       |
|                         | 3.7000                                                                                                                                                                                                                                                                                                                                                          | -16.0               | H                  | 3.0             | 40.5           | 1.0            | -55.5         | -13.0          | -42.5         |       |
|                         | 5.5506                                                                                                                                                                                                                                                                                                                                                          | -10.2               | H                  | 3.0             | 40.8           | 1.0            | -50.9         | -13.0          | -37.0         |       |
|                         | 7.4008                                                                                                                                                                                                                                                                                                                                                          | -22.3               | H                  | 3.0             | 40.8           | 1.0            | -62.0         | -13.0          | -49.0         |       |
|                         | <b>Mid Ch, 1880.0MHz</b>                                                                                                                                                                                                                                                                                                                                        |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.7600                                                                                                                                                                                                                                                                                                                                                          | -13.1               | V                  | 3.0             | 40.5           | 1.0            | -52.6         | -13.0          | -39.6         |       |
|                         | 5.6400                                                                                                                                                                                                                                                                                                                                                          | -11.7               | V                  | 3.0             | 40.8           | 1.0            | -51.5         | -13.0          | -38.5         |       |
|                         | 7.5200                                                                                                                                                                                                                                                                                                                                                          | -21.7               | V                  | 3.0             | 40.7           | 1.0            | -61.5         | -13.0          | -48.5         |       |
|                         | 3.7600                                                                                                                                                                                                                                                                                                                                                          | -17.5               | H                  | 3.0             | 40.5           | 1.0            | -57.0         | -13.0          | -44.0         |       |
|                         | 5.6400                                                                                                                                                                                                                                                                                                                                                          | -13.7               | H                  | 3.0             | 40.8           | 1.0            | -53.5         | -13.0          | -40.5         |       |
|                         | 7.5200                                                                                                                                                                                                                                                                                                                                                          | -22.0               | H                  | 3.0             | 40.7           | 1.0            | -61.7         | -13.0          | -48.7         |       |
|                         | <b>High Ch, 1909.8 MHz</b>                                                                                                                                                                                                                                                                                                                                      |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.8196                                                                                                                                                                                                                                                                                                                                                          | -10.3               | V                  | 3.0             | 40.6           | 1.0            | -49.9         | -13.0          | -36.9         |       |
|                         | 5.7294                                                                                                                                                                                                                                                                                                                                                          | -12.5               | V                  | 3.0             | 40.8           | 1.0            | -52.3         | -13.0          | -39.3         |       |
|                         | 7.6392                                                                                                                                                                                                                                                                                                                                                          | -21.6               | V                  | 3.0             | 40.7           | 1.0            | -61.2         | -13.0          | -48.2         |       |
|                         | 3.8196                                                                                                                                                                                                                                                                                                                                                          | -17.4               | H                  | 3.0             | 40.6           | 1.0            | -57.0         | -13.0          | -44.0         |       |
|                         | 5.7294                                                                                                                                                                                                                                                                                                                                                          | -16.9               | H                  | 3.0             | 40.8           | 1.0            | -56.7         | -13.0          | -43.7         |       |
|                         | 7.6392                                                                                                                                                                                                                                                                                                                                                          | -22.2               | H                  | 3.0             | 40.7           | 1.0            | -61.9         | -13.0          | -48.9         |       |
|                         | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                                                                           |                     |                    |                 |                |                |               |                |               |       |
| GSM<br>GSM1900<br>EGPRS | <p align="center"><b>UL Korea, Ltd Suwon Laboratory</b><br/><b>Above 1GHz High Frequency Substitution Measurement</b></p> <p> <b>Company:</b> Samsung<br/> <b>Project #:</b> 15K21363<br/> <b>Date:</b> 07-23-15<br/> <b>Test Engineer:</b> Steven Kim<br/> <b>Configuration:</b> EUT / AC Adapter / Earphone, X Position<br/> <b>Mode:</b> EGPRS 1900 MHz </p> |                     |                    |                 |                |                |               |                |               |       |
|                         | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>Part 24</div> </div>                                                                                                                                                 |                     |                    |                 |                |                |               |                |               |       |
|                         | f<br>GHz                                                                                                                                                                                                                                                                                                                                                        | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                         | <b>Low Ch, 1850.2MHz</b>                                                                                                                                                                                                                                                                                                                                        |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.7004                                                                                                                                                                                                                                                                                                                                                          | -20.5               | V                  | 3.0             | 40.5           | 1.0            | -60.0         | -13.0          | -47.0         |       |
|                         | 5.5506                                                                                                                                                                                                                                                                                                                                                          | -15.3               | V                  | 3.0             | 40.8           | 1.0            | -55.2         | -13.0          | -42.2         |       |
|                         | 7.4008                                                                                                                                                                                                                                                                                                                                                          | -22.2               | V                  | 3.0             | 40.8           | 1.0            | -61.9         | -13.0          | -48.9         |       |
|                         | 3.7000                                                                                                                                                                                                                                                                                                                                                          | -16.1               | H                  | 3.0             | 40.5           | 1.0            | -55.5         | -13.0          | -42.5         |       |
|                         | 5.5500                                                                                                                                                                                                                                                                                                                                                          | -17.3               | H                  | 3.0             | 40.8           | 1.0            | -57.1         | -13.0          | -44.1         |       |
|                         | 7.4000                                                                                                                                                                                                                                                                                                                                                          | -22.1               | H                  | 3.0             | 40.8           | 1.0            | -61.9         | -13.0          | -48.9         |       |
|                         | <b>Mid Ch, 1880.0MHz</b>                                                                                                                                                                                                                                                                                                                                        |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.7600                                                                                                                                                                                                                                                                                                                                                          | -20.4               | V                  | 3.0             | 40.5           | 1.0            | -60.0         | -13.0          | -47.0         |       |
|                         | 5.6400                                                                                                                                                                                                                                                                                                                                                          | -13.0               | V                  | 3.0             | 40.8           | 1.0            | -52.8         | -13.0          | -39.8         |       |
|                         | 7.5200                                                                                                                                                                                                                                                                                                                                                          | -22.2               | V                  | 3.0             | 40.7           | 1.0            | -62.0         | -13.0          | -49.0         |       |
|                         | 3.7600                                                                                                                                                                                                                                                                                                                                                          | -20.5               | H                  | 3.0             | 40.5           | 1.0            | -60.0         | -13.0          | -47.0         |       |
|                         | 5.6400                                                                                                                                                                                                                                                                                                                                                          | -18.9               | H                  | 3.0             | 40.8           | 1.0            | -58.7         | -13.0          | -45.7         |       |
|                         | 7.5200                                                                                                                                                                                                                                                                                                                                                          | -22.2               | H                  | 3.0             | 40.7           | 1.0            | -61.9         | -13.0          | -48.9         |       |
|                         | <b>High Ch, 1909.8 MHz</b>                                                                                                                                                                                                                                                                                                                                      |                     |                    |                 |                |                |               |                |               |       |
|                         | 3.8196                                                                                                                                                                                                                                                                                                                                                          | -19.2               | V                  | 3.0             | 40.6           | 1.0            | -58.8         | -13.0          | -45.8         |       |
|                         | 5.7294                                                                                                                                                                                                                                                                                                                                                          | -17.4               | V                  | 3.0             | 40.8           | 1.0            | -57.1         | -13.0          | -44.1         |       |
|                         | 7.6392                                                                                                                                                                                                                                                                                                                                                          | -22.0               | V                  | 3.0             | 40.7           | 1.0            | -61.7         | -13.0          | -48.7         |       |
|                         | 3.8196                                                                                                                                                                                                                                                                                                                                                          | -20.4               | H                  | 3.0             | 40.6           | 1.0            | -60.0         | -13.0          | -47.0         |       |
|                         | 5.7294                                                                                                                                                                                                                                                                                                                                                          | -20.4               | H                  | 3.0             | 40.8           | 1.0            | -60.2         | -13.0          | -47.2         |       |
|                         | 7.6392                                                                                                                                                                                                                                                                                                                                                          | -22.1               | H                  | 3.0             | 40.7           | 1.0            | -61.7         | -13.0          | -48.7         |       |
|                         | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                                                                           |                     |                    |                 |                |                |               |                |               |       |

**WCDMA Band 5**

| WCDMA<br><br>Band 5<br>REL99                                                          | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|----------------|--------------------|---------------|------------------|---------------|-------|--|----------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|-------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|-------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-27-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone / Y Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: Tx, REL99,850MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 24 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 826.40MHz</td></tr><tr><td>1.6528</td><td>-20.4</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.6</td><td>-13.0</td><td>-46.6</td><td></td></tr><tr><td>2.4792</td><td>-15.9</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.0</td><td>-13.0</td><td>-42.0</td><td></td></tr><tr><td>3.3056</td><td>-21.2</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.8</td><td>-13.0</td><td>-46.8</td><td></td></tr><tr><td>1.6528</td><td>-20.2</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.4</td><td>-13.0</td><td>-46.4</td><td></td></tr><tr><td>2.4792</td><td>-16.5</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr><tr><td>3.3056</td><td>-20.7</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.3</td><td>-13.0</td><td>-46.3</td><td></td></tr><tr><td colspan="10">Mid Ch, 836.6MHz</td></tr><tr><td>1.6732</td><td>-20.7</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.9</td><td>-13.0</td><td>-46.9</td><td></td></tr><tr><td>2.5098</td><td>-18.5</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-57.6</td><td>-13.0</td><td>-44.6</td><td></td></tr><tr><td>3.3464</td><td>-19.2</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-57.7</td><td>-13.0</td><td>-44.7</td><td></td></tr><tr><td>1.6732</td><td>-21.0</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.2</td><td>-13.0</td><td>-47.2</td><td></td></tr><tr><td>2.5098</td><td>-19.4</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-58.5</td><td>-13.0</td><td>-45.5</td><td></td></tr><tr><td>3.3464</td><td>-20.4</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.0</td><td>-13.0</td><td>-46.0</td><td></td></tr><tr><td colspan="10">High Ch, 846.6MHz</td></tr><tr><td>1.6932</td><td>-18.6</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-57.8</td><td>-13.0</td><td>-44.8</td><td></td></tr><tr><td>2.5398</td><td>-12.9</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-51.9</td><td>-13.0</td><td>-38.9</td><td></td></tr><tr><td>3.3864</td><td>-18.7</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-57.2</td><td>-13.0</td><td>-44.2</td><td></td></tr><tr><td>1.6932</td><td>-20.3</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.5</td><td>-13.0</td><td>-46.5</td><td></td></tr><tr><td>2.5398</td><td>-14.0</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-53.0</td><td>-13.0</td><td>-40.0</td><td></td></tr><tr><td>3.3864</td><td>-20.4</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-58.9</td><td>-13.0</td><td>-45.9</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch, 826.40MHz |  |  |  |  |  |  |  |  |  | 1.6528 | -20.4 | V | 3.0 | 40.2 | 1.0 | -59.6 | -13.0 | -46.6 |  | 2.4792 | -15.9 | V | 3.0 | 40.1 | 1.0 | -55.0 | -13.0 | -42.0 |  | 3.3056 | -21.2 | V | 3.0 | 39.6 | 1.0 | -59.8 | -13.0 | -46.8 |  | 1.6528 | -20.2 | H | 3.0 | 40.2 | 1.0 | -59.4 | -13.0 | -46.4 |  | 2.4792 | -16.5 | H | 3.0 | 40.1 | 1.0 | -55.6 | -13.0 | -42.6 |  | 3.3056 | -20.7 | H | 3.0 | 39.6 | 1.0 | -59.3 | -13.0 | -46.3 |  | Mid Ch, 836.6MHz |  |  |  |  |  |  |  |  |  | 1.6732 | -20.7 | V | 3.0 | 40.2 | 1.0 | -59.9 | -13.0 | -46.9 |  | 2.5098 | -18.5 | V | 3.0 | 40.1 | 1.0 | -57.6 | -13.0 | -44.6 |  | 3.3464 | -19.2 | V | 3.0 | 39.6 | 1.0 | -57.7 | -13.0 | -44.7 |  | 1.6732 | -21.0 | H | 3.0 | 40.2 | 1.0 | -60.2 | -13.0 | -47.2 |  | 2.5098 | -19.4 | H | 3.0 | 40.1 | 1.0 | -58.5 | -13.0 | -45.5 |  | 3.3464 | -20.4 | H | 3.0 | 39.6 | 1.0 | -59.0 | -13.0 | -46.0 |  | High Ch, 846.6MHz |  |  |  |  |  |  |  |  |  | 1.6932 | -18.6 | V | 3.0 | 40.2 | 1.0 | -57.8 | -13.0 | -44.8 |  | 2.5398 | -12.9 | V | 3.0 | 40.1 | 1.0 | -51.9 | -13.0 | -38.9 |  | 3.3864 | -18.7 | V | 3.0 | 39.5 | 1.0 | -57.2 | -13.0 | -44.2 |  | 1.6932 | -20.3 | H | 3.0 | 40.2 | 1.0 | -59.5 | -13.0 | -46.5 |  | 2.5398 | -14.0 | H | 3.0 | 40.1 | 1.0 | -53.0 | -13.0 | -40.0 |  | 3.3864 | -20.4 | H | 3.0 | 39.5 | 1.0 | -58.9 | -13.0 | -45.9 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Ch, 826.40MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6528                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -59.6         | -13.0            | -46.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4792                                                                                | -15.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -55.0         | -13.0            | -42.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3056                                                                                | -21.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.6           | 1.0                | -59.8         | -13.0            | -46.8         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6528                                                                                | -20.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -59.4         | -13.0            | -46.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4792                                                                                | -16.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -55.6         | -13.0            | -42.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3056                                                                                | -20.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.6           | 1.0                | -59.3         | -13.0            | -46.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Ch, 836.6MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6732                                                                                | -20.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -59.9         | -13.0            | -46.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -18.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -57.6         | -13.0            | -44.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -19.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.6           | 1.0                | -57.7         | -13.0            | -44.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6732                                                                                | -21.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -60.2         | -13.0            | -47.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -19.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -58.5         | -13.0            | -45.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.6           | 1.0                | -59.0         | -13.0            | -46.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Ch, 846.6MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6932                                                                                | -18.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -57.8         | -13.0            | -44.8         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5398                                                                                | -12.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -51.9         | -13.0            | -38.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3864                                                                                | -18.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.5           | 1.0                | -57.2         | -13.0            | -44.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6932                                                                                | -20.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -59.5         | -13.0            | -46.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5398                                                                                | -14.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -53.0         | -13.0            | -40.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3864                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.5           | 1.0                | -58.9         | -13.0            | -45.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| WCDMA<br><br>Band 5<br>HSDPA                                                          | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-27-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone / Y Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: Tx, HSDPA,850MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 24 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 826.40MHz</td></tr><tr><td>1.6528</td><td>-20.4</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.6</td><td>-13.0</td><td>-46.6</td><td></td></tr><tr><td>2.4792</td><td>-16.6</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr><tr><td>3.3056</td><td>-21.1</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.7</td><td>-13.0</td><td>-46.7</td><td></td></tr><tr><td>1.6528</td><td>-20.5</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.7</td><td>-13.0</td><td>-46.7</td><td></td></tr><tr><td>2.4792</td><td>-17.3</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-56.4</td><td>-13.0</td><td>-43.4</td><td></td></tr><tr><td>3.3056</td><td>-20.6</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.2</td><td>-13.0</td><td>-46.2</td><td></td></tr><tr><td colspan="10">Mid Ch, 836.6MHz</td></tr><tr><td>1.6732</td><td>-20.3</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.5</td><td>-13.0</td><td>-46.5</td><td></td></tr><tr><td>2.5098</td><td>-18.7</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-57.7</td><td>-13.0</td><td>-44.7</td><td></td></tr><tr><td>3.3464</td><td>-19.6</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-58.1</td><td>-13.0</td><td>-45.1</td><td></td></tr><tr><td>1.6732</td><td>-20.9</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.0</td><td>-13.0</td><td>-47.0</td><td></td></tr><tr><td>2.5098</td><td>-19.6</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-58.7</td><td>-13.0</td><td>-45.7</td><td></td></tr><tr><td>3.3464</td><td>-20.4</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-59.0</td><td>-13.0</td><td>-46.0</td><td></td></tr><tr><td colspan="10">High Ch, 846.6MHz</td></tr><tr><td>1.6932</td><td>-21.3</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.4</td><td>-13.0</td><td>-47.4</td><td></td></tr><tr><td>2.5398</td><td>-12.8</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-51.8</td><td>-13.0</td><td>-38.8</td><td></td></tr><tr><td>3.3864</td><td>-18.8</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-57.3</td><td>-13.0</td><td>-44.3</td><td></td></tr><tr><td>1.6932</td><td>-17.3</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-56.5</td><td>-13.0</td><td>-43.5</td><td></td></tr><tr><td>2.5398</td><td>-13.7</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-52.7</td><td>-13.0</td><td>-39.7</td><td></td></tr><tr><td>3.3864</td><td>-20.0</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-58.5</td><td>-13.0</td><td>-45.5</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Ch, 826.40MHz |  |  |  |  |  |  |  |  |  | 1.6528 | -20.4 | V | 3.0 | 40.2 | 1.0 | -59.6 | -13.0 | -46.6 |  | 2.4792 | -16.6 | V | 3.0 | 40.1 | 1.0 | -55.6 | -13.0 | -42.6 |  | 3.3056 | -21.1 | V | 3.0 | 39.6 | 1.0 | -59.7 | -13.0 | -46.7 |  | 1.6528 | -20.5 | H | 3.0 | 40.2 | 1.0 | -59.7 | -13.0 | -46.7 |  | 2.4792 | -17.3 | H | 3.0 | 40.1 | 1.0 | -56.4 | -13.0 | -43.4 |  | 3.3056 | -20.6 | H | 3.0 | 39.6 | 1.0 | -59.2 | -13.0 | -46.2 |  | Mid Ch, 836.6MHz |  |  |  |  |  |  |  |  |  | 1.6732 | -20.3 | V | 3.0 | 40.2 | 1.0 | -59.5 | -13.0 | -46.5 |  | 2.5098 | -18.7 | V | 3.0 | 40.1 | 1.0 | -57.7 | -13.0 | -44.7 |  | 3.3464 | -19.6 | V | 3.0 | 39.6 | 1.0 | -58.1 | -13.0 | -45.1 |  | 1.6732 | -20.9 | H | 3.0 | 40.2 | 1.0 | -60.0 | -13.0 | -47.0 |  | 2.5098 | -19.6 | H | 3.0 | 40.1 | 1.0 | -58.7 | -13.0 | -45.7 |  | 3.3464 | -20.4 | H | 3.0 | 39.6 | 1.0 | -59.0 | -13.0 | -46.0 |  | High Ch, 846.6MHz |  |  |  |  |  |  |  |  |  | 1.6932 | -21.3 | V | 3.0 | 40.2 | 1.0 | -60.4 | -13.0 | -47.4 |  | 2.5398 | -12.8 | V | 3.0 | 40.1 | 1.0 | -51.8 | -13.0 | -38.8 |  | 3.3864 | -18.8 | V | 3.0 | 39.5 | 1.0 | -57.3 | -13.0 | -44.3 |  | 1.6932 | -17.3 | H | 3.0 | 40.2 | 1.0 | -56.5 | -13.0 | -43.5 |  | 2.5398 | -13.7 | H | 3.0 | 40.1 | 1.0 | -52.7 | -13.0 | -39.7 |  | 3.3864 | -20.0 | H | 3.0 | 39.5 | 1.0 | -58.5 | -13.0 | -45.5 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Ch, 826.40MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6528                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -59.6         | -13.0            | -46.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4792                                                                                | -16.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -55.6         | -13.0            | -42.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3056                                                                                | -21.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.6           | 1.0                | -59.7         | -13.0            | -46.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6528                                                                                | -20.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -59.7         | -13.0            | -46.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4792                                                                                | -17.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -56.4         | -13.0            | -43.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3056                                                                                | -20.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.6           | 1.0                | -59.2         | -13.0            | -46.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Ch, 836.6MHz                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6732                                                                                | -20.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -59.5         | -13.0            | -46.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -18.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -57.7         | -13.0            | -44.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -19.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.6           | 1.0                | -58.1         | -13.0            | -45.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6732                                                                                | -20.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -60.0         | -13.0            | -47.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5098                                                                                | -19.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -58.7         | -13.0            | -45.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3464                                                                                | -20.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.6           | 1.0                | -59.0         | -13.0            | -46.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Ch, 846.6MHz                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6932                                                                                | -21.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.2           | 1.0                | -60.4         | -13.0            | -47.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5398                                                                                | -12.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 40.1           | 1.0                | -51.8         | -13.0            | -38.8         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3864                                                                                | -18.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V                  | 3.0                    | 39.5           | 1.0                | -57.3         | -13.0            | -44.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6932                                                                                | -17.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.2           | 1.0                | -56.5         | -13.0            | -43.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5398                                                                                | -13.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 40.1           | 1.0                | -52.7         | -13.0            | -39.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3864                                                                                | -20.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | H                  | 3.0                    | 39.5           | 1.0                | -58.5         | -13.0            | -45.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                   |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |

**WCDMA Band 4**

WCDMA

Band 4

REL99

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company:

Samsung

Project #:

15K21363

Date:

07-24-15

Test Engineer:

Steven Kim

Configuration:

EUT / AC Adapter / Earphone / Y Position

Mode:

Tx, REL99,1700MHz

Chamber

Chamber 1

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 24

| f<br>GHz                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|---------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| Low Ch, 1712.4MHz                                                                     |                     |                    |                 |                |                |               |                |               |       |
| 3.4248                                                                                | -11.9               | V                  | 3.0             | 39.5           | 1.0            | -50.3         | -13.0          | -37.3         |       |
| 5.1372                                                                                | -11.7               | V                  | 3.0             | 40.1           | 1.0            | -50.7         | -13.0          | -37.7         |       |
| 6.8496                                                                                | -6.5                | V                  | 3.0             | 39.4           | 1.0            | -44.9         | -13.0          | -31.9         |       |
| 3.4248                                                                                | -15.1               | H                  | 3.0             | 39.5           | 1.0            | -53.6         | -13.0          | -40.6         |       |
| 5.1372                                                                                | -12.3               | H                  | 3.0             | 40.1           | 1.0            | -51.3         | -13.0          | -38.3         |       |
| 6.8496                                                                                | -6.5                | H                  | 3.0             | 39.4           | 1.0            | -44.9         | -13.0          | -31.9         |       |
| Mid Ch, 1732.6MHz                                                                     |                     |                    |                 |                |                |               |                |               |       |
| 3.4652                                                                                | -14.8               | V                  | 3.0             | 39.4           | 1.0            | -53.3         | -13.0          | -40.3         |       |
| 5.1978                                                                                | -11.7               | V                  | 3.0             | 40.1           | 1.0            | -50.8         | -13.0          | -37.8         |       |
| 6.9304                                                                                | -6.7                | V                  | 3.0             | 39.4           | 1.0            | -45.1         | -13.0          | -32.1         |       |
| 3.4652                                                                                | -15.2               | H                  | 3.0             | 39.4           | 1.0            | -53.6         | -13.0          | -40.6         |       |
| 5.1978                                                                                | -12.5               | H                  | 3.0             | 40.1           | 1.0            | -51.6         | -13.0          | -38.6         |       |
| 6.9304                                                                                | -6.4                | H                  | 3.0             | 39.4           | 1.0            | -44.8         | -13.0          | -31.8         |       |
| High Ch, 1752.6MHz                                                                    |                     |                    |                 |                |                |               |                |               |       |
| 3.5052                                                                                | -10.4               | V                  | 3.0             | 39.4           | 1.0            | -48.8         | -13.0          | -35.8         |       |
| 5.2578                                                                                | -12.2               | V                  | 3.0             | 40.1           | 1.0            | -51.3         | -13.0          | -38.3         |       |
| 7.0104                                                                                | -6.8                | V                  | 3.0             | 39.3           | 1.0            | -45.1         | -13.0          | -32.1         |       |
| 3.5052                                                                                | -14.3               | H                  | 3.0             | 39.4           | 1.0            | -52.6         | -13.0          | -39.6         |       |
| 5.2578                                                                                | -12.6               | H                  | 3.0             | 40.1           | 1.0            | -51.7         | -13.0          | -38.7         |       |
| 7.0104                                                                                | -6.5                | H                  | 3.0             | 39.3           | 1.0            | -44.8         | -13.0          | -31.8         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                     |                    |                 |                |                |               |                |               |       |

WCDMA

Band 4

HSDPA

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company:

Samsung

Project #:

15K21363

Date:

07-24-15

Test Engineer:

Steven Kim

Configuration:

EUT / AC Adapter / Earphone / Y Position

Mode:

Tx, HSDPA,1700MHz

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 24

| f<br>GHz                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|---------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| Low Ch, 1712.4MHz                                                                     |                     |                    |                 |                |                |               |                |               |       |
| 3.4248                                                                                | -18.3               | V                  | 3.0             | 40.2           | 1.0            | -57.5         | -13.0          | -44.5         |       |
| 5.1372                                                                                | -18.7               | V                  | 3.0             | 40.9           | 1.0            | -58.6         | -13.0          | -45.6         |       |
| 6.8496                                                                                | -16.3               | V                  | 3.0             | 41.0           | 1.0            | -56.3         | -13.0          | -43.3         |       |
| 3.4248                                                                                | -22.4               | H                  | 3.0             | 40.2           | 1.0            | -61.7         | -13.0          | -48.7         |       |
| 5.1372                                                                                | -21.3               | H                  | 3.0             | 40.9           | 1.0            | -61.2         | -13.0          | -48.2         |       |
| 6.8496                                                                                | -16.7               | H                  | 3.0             | 41.0           | 1.0            | -56.7         | -13.0          | -43.7         |       |
| Mid Ch, 1732.6MHz                                                                     |                     |                    |                 |                |                |               |                |               |       |
| 3.4652                                                                                | -19.0               | V                  | 3.0             | 40.3           | 1.0            | -58.2         | -13.0          | -45.2         |       |
| 5.1978                                                                                | -20.4               | V                  | 3.0             | 40.9           | 1.0            | -60.3         | -13.0          | -47.3         |       |
| 6.9304                                                                                | -15.7               | V                  | 3.0             | 41.0           | 1.0            | -55.7         | -13.0          | -42.7         |       |
| 3.4652                                                                                | -20.6               | H                  | 3.0             | 40.3           | 1.0            | -59.9         | -13.0          | -46.9         |       |
| 5.1978                                                                                | -21.6               | H                  | 3.0             | 40.9           | 1.0            | -61.5         | -13.0          | -48.5         |       |
| 6.9304                                                                                | -16.7               | H                  | 3.0             | 41.0           | 1.0            | -56.7         | -13.0          | -43.7         |       |
| High Ch, 1752.6MHz                                                                    |                     |                    |                 |                |                |               |                |               |       |
| 3.5052                                                                                | -15.7               | V                  | 3.0             | 40.3           | 1.0            | -55.0         | -13.0          | -42.0         |       |
| 5.2578                                                                                | -21.1               | V                  | 3.0             | 40.9           | 1.0            | -60.9         | -13.0          | -47.9         |       |
| 7.0104                                                                                | -16.9               | V                  | 3.0             | 41.0           | 1.0            | -56.9         | -13.0          | -43.9         |       |
| 3.5052                                                                                | -20.5               | H                  | 3.0             | 40.3           | 1.0            | -59.8         | -13.0          | -46.8         |       |
| 5.2578                                                                                | -21.9               | H                  | 3.0             | 40.9           | 1.0            | -61.8         | -13.0          | -48.8         |       |
| 7.0104                                                                                | -16.9               | H                  | 3.0             | 41.0           | 1.0            | -57.0         | -13.0          | -44.0         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                     |                    |                 |                |                |               |                |               |       |

## WCDMA Band 2

WCDMA

Band 2

REL99

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company:

Samsung

Project #:

15K21363

Date:

07-23-15

Test Engineer:

Steven Kim

Configuration:

EUT / AC Adapter / Earphone / Y Position

Mode:

Tx, REL99,1900MHz

Chamber

Chamber 1

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 24

| f<br>GHz           | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|--------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| Low Ch, 1852.4MHz  |                     |                    |                 |                |                |               |                |               |       |
| 3.7048             | -7.6                | V                  | 3.0             | 39.2           | 1.0            | -45.7         | -13.0          | -32.7         |       |
| 5.5572             | -10.6               | V                  | 3.0             | 40.0           | 1.0            | -49.6         | -13.0          | -36.6         |       |
| 7.4096             | -9.9                | V                  | 3.0             | 39.2           | 1.0            | -48.1         | -13.0          | -35.1         |       |
| 3.7048             | -4.7                | H                  | 3.0             | 39.2           | 1.0            | -42.9         | -13.0          | -29.9         |       |
| 5.5572             | -9.7                | H                  | 3.0             | 40.0           | 1.0            | -48.7         | -13.0          | -35.7         |       |
| 7.4096             | -9.5                | H                  | 3.0             | 39.2           | 1.0            | -47.7         | -13.0          | -34.7         |       |
| Mid Ch, 1880MHz    |                     |                    |                 |                |                |               |                |               |       |
| 3.7600             | -4.7                | V                  | 3.0             | 39.1           | 1.0            | -42.8         | -13.0          | -29.8         |       |
| 5.6400             | -11.3               | V                  | 3.0             | 39.9           | 1.0            | -50.3         | -13.0          | -37.3         |       |
| 7.5200             | -9.3                | V                  | 3.0             | 39.1           | 1.0            | -47.4         | -13.0          | -34.4         |       |
| 3.7600             | -6.4                | H                  | 3.0             | 39.1           | 1.0            | -44.5         | -13.0          | -31.5         |       |
| 5.6400             | -11.6               | H                  | 3.0             | 39.9           | 1.0            | -50.5         | -13.0          | -37.5         |       |
| 7.5200             | -8.5                | H                  | 3.0             | 39.1           | 1.0            | -46.7         | -13.0          | -33.7         |       |
| High Ch, 1907.6MHz |                     |                    |                 |                |                |               |                |               |       |
| 3.8152             | -3.4                | V                  | 3.0             | 39.0           | 1.0            | -41.4         | -13.0          | -28.4         |       |
| 5.7228             | -10.3               | V                  | 3.0             | 39.9           | 1.0            | -49.2         | -13.0          | -36.2         |       |
| 7.6304             | -9.1                | V                  | 3.0             | 39.1           | 1.0            | -47.3         | -13.0          | -34.3         |       |
| 3.8152             | -6.6                | H                  | 3.0             | 39.0           | 1.0            | -44.7         | -13.0          | -31.7         |       |
| 5.7228             | -10.1               | H                  | 3.0             | 39.9           | 1.0            | -48.9         | -13.0          | -35.9         |       |
| 7.6304             | -8.9                | H                  | 3.0             | 39.1           | 1.0            | -47.0         | -13.0          | -34.0         |       |

Rev. 03.03.09

Note: No other emissions were detected above the system noise floor.

WCDMA

Band 2

HSDPA

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company:

Samsung

Project #:

15K21363

Date:

07-23-15

Test Engineer:

Steven Kim

Configuration:

EUT / AC Adapter / Earphone / Y Position

Mode:

Tx, HSDPA,1900MHz

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 24

| f<br>GHz           | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|--------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| Low Ch, 1852.4MHz  |                     |                    |                 |                |                |               |                |               |       |
| 3.7048             | -13.7               | V                  | 3.0             | 40.5           | 1.0            | -53.1         | -13.0          | -40.1         |       |
| 5.5572             | -17.2               | V                  | 3.0             | 40.8           | 1.0            | -57.0         | -13.0          | -44.0         |       |
| 7.4096             | -20.8               | V                  | 3.0             | 40.8           | 1.0            | -60.5         | -13.0          | -47.5         |       |
| 3.7048             | -13.4               | H                  | 3.0             | 40.5           | 1.0            | -52.8         | -13.0          | -39.8         |       |
| 5.5572             | -20.8               | H                  | 3.0             | 40.8           | 1.0            | -60.6         | -13.0          | -47.6         |       |
| 7.4096             | -20.6               | H                  | 3.0             | 40.8           | 1.0            | -60.4         | -13.0          | -47.4         |       |
| Mid Ch, 1880MHz    |                     |                    |                 |                |                |               |                |               |       |
| 3.7600             | -11.1               | V                  | 3.0             | 40.5           | 1.0            | -50.7         | -13.0          | -37.7         |       |
| 5.6400             | -19.9               | V                  | 3.0             | 40.8           | 1.0            | -59.7         | -13.0          | -46.7         |       |
| 7.5200             | -20.3               | V                  | 3.0             | 40.7           | 1.0            | -60.0         | -13.0          | -47.0         |       |
| 3.7600             | -12.1               | H                  | 3.0             | 40.5           | 1.0            | -51.7         | -13.0          | -38.7         |       |
| 5.6400             | -21.1               | H                  | 3.0             | 40.8           | 1.0            | -60.9         | -13.0          | -47.9         |       |
| 7.5200             | -20.2               | H                  | 3.0             | 40.7           | 1.0            | -60.0         | -13.0          | -47.0         |       |
| High Ch, 1907.6MHz |                     |                    |                 |                |                |               |                |               |       |
| 3.8152             | -10.5               | V                  | 3.0             | 40.6           | 1.0            | -50.1         | -13.0          | -37.1         |       |
| 5.7228             | -19.4               | V                  | 3.0             | 40.8           | 1.0            | -59.2         | -13.0          | -46.2         |       |
| 7.6304             | -20.5               | V                  | 3.0             | 40.7           | 1.0            | -60.2         | -13.0          | -47.2         |       |
| 3.8152             | -12.7               | H                  | 3.0             | 40.6           | 1.0            | -52.3         | -13.0          | -39.3         |       |
| 5.7228             | -21.6               | H                  | 3.0             | 40.8           | 1.0            | -61.4         | -13.0          | -48.4         |       |
| 7.6304             | -20.4               | H                  | 3.0             | 40.7           | 1.0            | -60.0         | -13.0          | -47.0         |       |

Rev. 03.03.09

Note: No other emissions were detected above the system noise floor.

**LTE Band 17**

|                                  |                                                                                                                                                                                                                                                                                                       |                     |                    |                 |                |                |              |                |               |       |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br>Band 17<br>10MHz<br>QPSK  | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-29-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br/>Mode: TX, LTE BAND 17, 10MHz BW, QPSK</p>  |                     |                    |                 |                |                |              |                |               |       |
|                                  | <p>Chamber: Chamber 1<br/>Pre-amplifier: AFS42<br/>Filter: Filter 1<br/>Limit: FCC Part 27</p>                                                                                                                                                                                                        |                     |                    |                 |                |                |              |                |               |       |
|                                  | f<br>GHz                                                                                                                                                                                                                                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                  | Low Channel (709MHz)                                                                                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4180                                                                                                                                                                                                                                                                                                | -19.4               | V                  | 3.0             | 40.2           | 1.0            | -58.6        | -13.0          | -45.6         |       |
|                                  | 2.1270                                                                                                                                                                                                                                                                                                | -13.8               | V                  | 3.0             | 40.1           | 1.0            | -53.0        | -13.0          | -40.0         |       |
|                                  | 2.8360                                                                                                                                                                                                                                                                                                | -30.3               | V                  | 3.0             | 40.0           | 1.0            | -69.2        | -13.0          | -56.2         |       |
|                                  | 1.4180                                                                                                                                                                                                                                                                                                | -19.9               | H                  | 3.0             | 40.2           | 1.0            | -59.1        | -13.0          | -46.1         |       |
|                                  | 2.1270                                                                                                                                                                                                                                                                                                | -14.8               | H                  | 3.0             | 40.1           | 1.0            | -53.9        | -13.0          | -40.9         |       |
|                                  | 2.8360                                                                                                                                                                                                                                                                                                | -30.1               | H                  | 3.0             | 40.0           | 1.0            | -69.1        | -13.0          | -56.1         |       |
|                                  | Mid Channel (710MHz)                                                                                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4200                                                                                                                                                                                                                                                                                                | -18.4               | V                  | 3.0             | 40.2           | 1.0            | -57.6        | -13.0          | -44.6         |       |
|                                  | 2.1300                                                                                                                                                                                                                                                                                                | -12.3               | V                  | 3.0             | 40.1           | 1.0            | -51.4        | -13.0          | -38.4         |       |
|                                  | 2.8400                                                                                                                                                                                                                                                                                                | -29.8               | V                  | 3.0             | 40.0           | 1.0            | -68.8        | -13.0          | -55.8         |       |
|                                  | 1.4200                                                                                                                                                                                                                                                                                                | -18.4               | H                  | 3.0             | 40.2           | 1.0            | -57.5        | -13.0          | -44.5         |       |
|                                  | 2.1300                                                                                                                                                                                                                                                                                                | -10.5               | H                  | 3.0             | 40.1           | 1.0            | -49.6        | -13.0          | -36.6         |       |
|                                  | 2.8400                                                                                                                                                                                                                                                                                                | -30.6               | H                  | 3.0             | 40.0           | 1.0            | -69.6        | -13.0          | -56.6         |       |
|                                  | High Channel (711MHz)                                                                                                                                                                                                                                                                                 |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4220                                                                                                                                                                                                                                                                                                | -18.3               | V                  | 3.0             | 40.2           | 1.0            | -57.5        | -13.0          | -44.5         |       |
|                                  | 2.1330                                                                                                                                                                                                                                                                                                | -13.1               | V                  | 3.0             | 40.1           | 1.0            | -52.2        | -13.0          | -39.2         |       |
|                                  | 2.8440                                                                                                                                                                                                                                                                                                | -30.2               | V                  | 3.0             | 40.0           | 1.0            | -69.2        | -13.0          | -56.2         |       |
|                                  | 1.4220                                                                                                                                                                                                                                                                                                | -18.1               | H                  | 3.0             | 40.2           | 1.0            | -57.2        | -13.0          | -44.2         |       |
|                                  | 2.1330                                                                                                                                                                                                                                                                                                | -10.6               | H                  | 3.0             | 40.1           | 1.0            | -49.8        | -13.0          | -36.8         |       |
|                                  | 2.8440                                                                                                                                                                                                                                                                                                | -30.1               | H                  | 3.0             | 40.0           | 1.0            | -69.1        | -13.0          | -56.1         |       |
|                                  | Rev.03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 17<br>10MHz<br>16QAM | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-29-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br/>Mode: TX, LTE BAND 17, 10MHz BW, 16QAM</p> |                     |                    |                 |                |                |              |                |               |       |
|                                  | <p>Chamber: Chamber 1<br/>Pre-amplifier: AFS42<br/>Filter: Filter 1<br/>Limit: FCC Part 27</p>                                                                                                                                                                                                        |                     |                    |                 |                |                |              |                |               |       |
|                                  | f<br>GHz                                                                                                                                                                                                                                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                  | Low Channel (709MHz)                                                                                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4180                                                                                                                                                                                                                                                                                                | -21.4               | V                  | 3.0             | 40.2           | 1.0            | -60.6        | -13.0          | -47.6         |       |
|                                  | 2.1270                                                                                                                                                                                                                                                                                                | -15.8               | V                  | 3.0             | 40.1           | 1.0            | -54.9        | -13.0          | -41.9         |       |
|                                  | 2.8360                                                                                                                                                                                                                                                                                                | -30.4               | V                  | 3.0             | 40.0           | 1.0            | -69.3        | -13.0          | -56.3         |       |
|                                  | 1.4180                                                                                                                                                                                                                                                                                                | -21.4               | H                  | 3.0             | 40.2           | 1.0            | -60.6        | -13.0          | -47.6         |       |
|                                  | 2.1270                                                                                                                                                                                                                                                                                                | -16.5               | H                  | 3.0             | 40.1           | 1.0            | -55.6        | -13.0          | -42.6         |       |
|                                  | 2.8360                                                                                                                                                                                                                                                                                                | -30.5               | H                  | 3.0             | 40.0           | 1.0            | -69.5        | -13.0          | -56.5         |       |
|                                  | Mid Channel (710MHz)                                                                                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4200                                                                                                                                                                                                                                                                                                | -20.2               | V                  | 3.0             | 40.2           | 1.0            | -59.4        | -13.0          | -46.4         |       |
|                                  | 2.1300                                                                                                                                                                                                                                                                                                | -15.5               | V                  | 3.0             | 40.1           | 1.0            | -54.7        | -13.0          | -41.7         |       |
|                                  | 2.8400                                                                                                                                                                                                                                                                                                | -30.2               | V                  | 3.0             | 40.0           | 1.0            | -69.2        | -13.0          | -56.2         |       |
|                                  | 1.4200                                                                                                                                                                                                                                                                                                | -20.6               | H                  | 3.0             | 40.2           | 1.0            | -59.8        | -13.0          | -46.8         |       |
|                                  | 2.1300                                                                                                                                                                                                                                                                                                | -13.6               | H                  | 3.0             | 40.1           | 1.0            | -52.8        | -13.0          | -39.8         |       |
|                                  | 2.8400                                                                                                                                                                                                                                                                                                | -30.9               | H                  | 3.0             | 40.0           | 1.0            | -69.9        | -13.0          | -56.9         |       |
|                                  | High Channel (711MHz)                                                                                                                                                                                                                                                                                 |                     |                    |                 |                |                |              |                |               |       |
|                                  | 1.4220                                                                                                                                                                                                                                                                                                | -20.0               | V                  | 3.0             | 40.2           | 1.0            | -59.2        | -13.0          | -46.2         |       |
|                                  | 2.1330                                                                                                                                                                                                                                                                                                | -15.6               | V                  | 3.0             | 40.1           | 1.0            | -54.8        | -13.0          | -41.8         |       |
|                                  | 2.8440                                                                                                                                                                                                                                                                                                | -30.3               | V                  | 3.0             | 40.0           | 1.0            | -69.3        | -13.0          | -56.3         |       |
|                                  | 1.4220                                                                                                                                                                                                                                                                                                | -20.2               | H                  | 3.0             | 40.2           | 1.0            | -59.4        | -13.0          | -46.4         |       |
|                                  | 2.1330                                                                                                                                                                                                                                                                                                | -13.1               | H                  | 3.0             | 40.1           | 1.0            | -52.2        | -13.0          | -39.2         |       |
|                                  | 2.8440                                                                                                                                                                                                                                                                                                | -30.5               | H                  | 3.0             | 40.0           | 1.0            | -69.5        | -13.0          | -56.5         |       |
|                                  | Rev.03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                  |                     |                    |                 |                |                |              |                |               |       |

| LTE<br><br>Band 17<br><br>5MHz<br><br>QPSK                                            | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|----------------|--------------------|--------------|----------------------|---------------|-------|--|----------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|------------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|----------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|-------------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-29-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven.Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: TX, LTE BAND 17, 5MHz BW, QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |              | Limit<br>FCC Part 27 |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (706.5MHz)</td></tr><tr><td>1.4130</td><td>-22.1</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-61.3</td><td>-13.0</td><td>-48.3</td><td></td></tr><tr><td>2.1195</td><td>-13.2</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-52.4</td><td>-13.0</td><td>-39.4</td><td></td></tr><tr><td>2.8260</td><td>-30.3</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.3</td><td>-13.0</td><td>-56.3</td><td></td></tr><tr><td>1.4130</td><td>-22.2</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-61.4</td><td>-13.0</td><td>-48.4</td><td></td></tr><tr><td>2.1195</td><td>-13.1</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-52.2</td><td>-13.0</td><td>-39.2</td><td></td></tr><tr><td>2.8260</td><td>-30.7</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.7</td><td>-13.0</td><td>-56.7</td><td></td></tr><tr><td colspan="10">Mid Channel (710MHz)</td></tr><tr><td>1.4200</td><td>-19.1</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-58.3</td><td>-13.0</td><td>-45.3</td><td></td></tr><tr><td>2.1300</td><td>-13.9</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-53.1</td><td>-13.0</td><td>-40.1</td><td></td></tr><tr><td>2.8400</td><td>-29.9</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-68.9</td><td>-13.0</td><td>-55.9</td><td></td></tr><tr><td>1.4200</td><td>-17.4</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-56.6</td><td>-13.0</td><td>-43.6</td><td></td></tr><tr><td>2.1300</td><td>-12.1</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-51.2</td><td>-13.0</td><td>-38.2</td><td></td></tr><tr><td>2.8400</td><td>-30.6</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.6</td><td>-13.0</td><td>-56.6</td><td></td></tr><tr><td colspan="10">High Channel (713.5MHz)</td></tr><tr><td>1.4270</td><td>-19.2</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-58.4</td><td>-13.0</td><td>-45.4</td><td></td></tr><tr><td>2.1405</td><td>-17.1</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-56.2</td><td>-13.0</td><td>-43.2</td><td></td></tr><tr><td>2.8540</td><td>-30.0</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.0</td><td>-13.0</td><td>-56.0</td><td></td></tr><tr><td>1.4270</td><td>-19.0</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-58.2</td><td>-13.0</td><td>-45.2</td><td></td></tr><tr><td>2.1405</td><td>-15.4</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-54.5</td><td>-13.0</td><td>-41.5</td><td></td></tr><tr><td>2.8540</td><td>-30.6</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.6</td><td>-13.0</td><td>-56.6</td><td></td></tr></table> |                    |                        |                |                    |              |                      |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Channel (706.5MHz) |  |  |  |  |  |  |  |  |  | 1.4130 | -22.1 | V | 3.0 | 40.2 | 1.0 | -61.3 | -13.0 | -48.3 |  | 2.1195 | -13.2 | V | 3.0 | 40.1 | 1.0 | -52.4 | -13.0 | -39.4 |  | 2.8260 | -30.3 | V | 3.0 | 40.0 | 1.0 | -69.3 | -13.0 | -56.3 |  | 1.4130 | -22.2 | H | 3.0 | 40.2 | 1.0 | -61.4 | -13.0 | -48.4 |  | 2.1195 | -13.1 | H | 3.0 | 40.1 | 1.0 | -52.2 | -13.0 | -39.2 |  | 2.8260 | -30.7 | H | 3.0 | 40.0 | 1.0 | -69.7 | -13.0 | -56.7 |  | Mid Channel (710MHz) |  |  |  |  |  |  |  |  |  | 1.4200 | -19.1 | V | 3.0 | 40.2 | 1.0 | -58.3 | -13.0 | -45.3 |  | 2.1300 | -13.9 | V | 3.0 | 40.1 | 1.0 | -53.1 | -13.0 | -40.1 |  | 2.8400 | -29.9 | V | 3.0 | 40.0 | 1.0 | -68.9 | -13.0 | -55.9 |  | 1.4200 | -17.4 | H | 3.0 | 40.2 | 1.0 | -56.6 | -13.0 | -43.6 |  | 2.1300 | -12.1 | H | 3.0 | 40.1 | 1.0 | -51.2 | -13.0 | -38.2 |  | 2.8400 | -30.6 | H | 3.0 | 40.0 | 1.0 | -69.6 | -13.0 | -56.6 |  | High Channel (713.5MHz) |  |  |  |  |  |  |  |  |  | 1.4270 | -19.2 | V | 3.0 | 40.2 | 1.0 | -58.4 | -13.0 | -45.4 |  | 2.1405 | -17.1 | V | 3.0 | 40.1 | 1.0 | -56.2 | -13.0 | -43.2 |  | 2.8540 | -30.0 | V | 3.0 | 40.0 | 1.0 | -69.0 | -13.0 | -56.0 |  | 1.4270 | -19.0 | H | 3.0 | 40.2 | 1.0 | -58.2 | -13.0 | -45.2 |  | 2.1405 | -15.4 | H | 3.0 | 40.1 | 1.0 | -54.5 | -13.0 | -41.5 |  | 2.8540 | -30.6 | H | 3.0 | 40.0 | 1.0 | -69.6 | -13.0 | -56.6 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | ERP<br>(dBm) | Limit<br>(dBm)       | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Channel (706.5MHz)                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4130                                                                                | -22.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -61.3        | -13.0                | -48.3         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1195                                                                                | -13.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -52.4        | -13.0                | -39.4         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8260                                                                                | -30.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -69.3        | -13.0                | -56.3         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4130                                                                                | -22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -61.4        | -13.0                | -48.4         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1195                                                                                | -13.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -52.2        | -13.0                | -39.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8260                                                                                | -30.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.7        | -13.0                | -56.7         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Channel (710MHz)                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4200                                                                                | -19.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -58.3        | -13.0                | -45.3         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1300                                                                                | -13.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -53.1        | -13.0                | -40.1         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8400                                                                                | -29.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -68.9        | -13.0                | -55.9         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4200                                                                                | -17.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -56.6        | -13.0                | -43.6         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1300                                                                                | -12.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -51.2        | -13.0                | -38.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8400                                                                                | -30.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.6        | -13.0                | -56.6         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Channel (713.5MHz)                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4270                                                                                | -19.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -58.4        | -13.0                | -45.4         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1405                                                                                | -17.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -56.2        | -13.0                | -43.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8540                                                                                | -30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -69.0        | -13.0                | -56.0         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4270                                                                                | -19.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -58.2        | -13.0                | -45.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1405                                                                                | -15.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -54.5        | -13.0                | -41.5         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8540                                                                                | -30.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.6        | -13.0                | -56.6         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| LTE<br><br>Band 17<br><br>5MHz<br><br>16QAM                                           | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-29-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven.Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: TX, LTE BAND 17, 5MHz BW, 16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |              | Limit<br>FCC Part 27 |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (706.5MHz)</td></tr><tr><td>1.4130</td><td>-24.0</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-63.2</td><td>-13.0</td><td>-50.2</td><td></td></tr><tr><td>2.1195</td><td>-16.6</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.7</td><td>-13.0</td><td>-42.7</td><td></td></tr><tr><td>2.8260</td><td>-30.0</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.0</td><td>-13.0</td><td>-56.0</td><td></td></tr><tr><td>1.4130</td><td>-24.8</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-64.0</td><td>-13.0</td><td>-51.0</td><td></td></tr><tr><td>2.1195</td><td>-15.9</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.0</td><td>-13.0</td><td>-42.0</td><td></td></tr><tr><td>2.8260</td><td>-30.9</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.9</td><td>-13.0</td><td>-56.9</td><td></td></tr><tr><td colspan="10">Mid Channel (710MHz)</td></tr><tr><td>1.4200</td><td>-21.3</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.5</td><td>-13.0</td><td>-47.5</td><td></td></tr><tr><td>2.1300</td><td>-16.5</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr><tr><td>2.8400</td><td>-29.8</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-68.8</td><td>-13.0</td><td>-55.8</td><td></td></tr><tr><td>1.4200</td><td>-20.0</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-59.2</td><td>-13.0</td><td>-46.2</td><td></td></tr><tr><td>2.1300</td><td>-15.0</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-54.2</td><td>-13.0</td><td>-41.2</td><td></td></tr><tr><td>2.8400</td><td>-30.9</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.9</td><td>-13.0</td><td>-56.9</td><td></td></tr><tr><td colspan="10">High Channel (713.5MHz)</td></tr><tr><td>1.4270</td><td>-21.0</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.2</td><td>-13.0</td><td>-47.2</td><td></td></tr><tr><td>2.1405</td><td>-20.1</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-59.2</td><td>-13.0</td><td>-46.2</td><td></td></tr><tr><td>2.8540</td><td>-29.6</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-68.5</td><td>-13.0</td><td>-55.5</td><td></td></tr><tr><td>1.4270</td><td>-21.5</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-60.7</td><td>-13.0</td><td>-47.7</td><td></td></tr><tr><td>2.1405</td><td>-17.6</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-56.8</td><td>-13.0</td><td>-43.8</td><td></td></tr><tr><td>2.8540</td><td>-30.8</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-69.8</td><td>-13.0</td><td>-56.8</td><td></td></tr></table> |                    |                        |                |                    |              |                      |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Channel (706.5MHz) |  |  |  |  |  |  |  |  |  | 1.4130 | -24.0 | V | 3.0 | 40.2 | 1.0 | -63.2 | -13.0 | -50.2 |  | 2.1195 | -16.6 | V | 3.0 | 40.1 | 1.0 | -55.7 | -13.0 | -42.7 |  | 2.8260 | -30.0 | V | 3.0 | 40.0 | 1.0 | -69.0 | -13.0 | -56.0 |  | 1.4130 | -24.8 | H | 3.0 | 40.2 | 1.0 | -64.0 | -13.0 | -51.0 |  | 2.1195 | -15.9 | H | 3.0 | 40.1 | 1.0 | -55.0 | -13.0 | -42.0 |  | 2.8260 | -30.9 | H | 3.0 | 40.0 | 1.0 | -69.9 | -13.0 | -56.9 |  | Mid Channel (710MHz) |  |  |  |  |  |  |  |  |  | 1.4200 | -21.3 | V | 3.0 | 40.2 | 1.0 | -60.5 | -13.0 | -47.5 |  | 2.1300 | -16.5 | V | 3.0 | 40.1 | 1.0 | -55.6 | -13.0 | -42.6 |  | 2.8400 | -29.8 | V | 3.0 | 40.0 | 1.0 | -68.8 | -13.0 | -55.8 |  | 1.4200 | -20.0 | H | 3.0 | 40.2 | 1.0 | -59.2 | -13.0 | -46.2 |  | 2.1300 | -15.0 | H | 3.0 | 40.1 | 1.0 | -54.2 | -13.0 | -41.2 |  | 2.8400 | -30.9 | H | 3.0 | 40.0 | 1.0 | -69.9 | -13.0 | -56.9 |  | High Channel (713.5MHz) |  |  |  |  |  |  |  |  |  | 1.4270 | -21.0 | V | 3.0 | 40.2 | 1.0 | -60.2 | -13.0 | -47.2 |  | 2.1405 | -20.1 | V | 3.0 | 40.1 | 1.0 | -59.2 | -13.0 | -46.2 |  | 2.8540 | -29.6 | V | 3.0 | 40.0 | 1.0 | -68.5 | -13.0 | -55.5 |  | 1.4270 | -21.5 | H | 3.0 | 40.2 | 1.0 | -60.7 | -13.0 | -47.7 |  | 2.1405 | -17.6 | H | 3.0 | 40.1 | 1.0 | -56.8 | -13.0 | -43.8 |  | 2.8540 | -30.8 | H | 3.0 | 40.0 | 1.0 | -69.8 | -13.0 | -56.8 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | ERP<br>(dBm) | Limit<br>(dBm)       | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Channel (706.5MHz)                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4130                                                                                | -24.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -63.2        | -13.0                | -50.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1195                                                                                | -16.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -55.7        | -13.0                | -42.7         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8260                                                                                | -30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -69.0        | -13.0                | -56.0         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4130                                                                                | -24.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -64.0        | -13.0                | -51.0         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1195                                                                                | -15.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -55.0        | -13.0                | -42.0         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8260                                                                                | -30.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.9        | -13.0                | -56.9         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Channel (710MHz)                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4200                                                                                | -21.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -60.5        | -13.0                | -47.5         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1300                                                                                | -16.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -55.6        | -13.0                | -42.6         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8400                                                                                | -29.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -68.8        | -13.0                | -55.8         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4200                                                                                | -20.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -59.2        | -13.0                | -46.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1300                                                                                | -15.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -54.2        | -13.0                | -41.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8400                                                                                | -30.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.9        | -13.0                | -56.9         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Channel (713.5MHz)                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4270                                                                                | -21.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.2           | 1.0                | -60.2        | -13.0                | -47.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1405                                                                                | -20.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.1           | 1.0                | -59.2        | -13.0                | -46.2         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8540                                                                                | -29.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | V                  | 3.0                    | 40.0           | 1.0                | -68.5        | -13.0                | -55.5         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.4270                                                                                | -21.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.2           | 1.0                | -60.7        | -13.0                | -47.7         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.1405                                                                                | -17.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.1           | 1.0                | -56.8        | -13.0                | -43.8         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.8540                                                                                | -30.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H                  | 3.0                    | 40.0           | 1.0                | -69.8        | -13.0                | -56.8         |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |              |                      |               |       |  |          |                     |                    |                 |                |                |              |                |               |       |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                         |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |

**LTE Band 5**

| LTE<br><br>Band 5<br><br>10MHz<br><br>QPSK                                            | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|----------------|--------------------|---------------|------------------|---------------|-------|--|----------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|----------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|------------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|-----------------------|--|--|--|--|--|--|--|--|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|--|--------|-------|---|-----|------|-----|-------|-------|-------|
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-28-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven.Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone, Y Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: TX, LTE BAND 5, 10MHz BW,QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 22 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (829MHz)</td></tr><tr><td>1.6580</td><td>-25.1</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-63.2</td><td>-13.0</td><td>-50.2</td><td></td></tr><tr><td>2.4870</td><td>-19.5</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-58.0</td><td>-13.0</td><td>-45.0</td><td></td></tr><tr><td>3.3160</td><td>-30.8</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-69.9</td><td>-13.0</td><td>-56.9</td><td></td></tr><tr><td>1.6580</td><td>-29.5</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-67.6</td><td>-13.0</td><td>-54.6</td><td></td></tr><tr><td>2.4870</td><td>-23.1</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-61.6</td><td>-13.0</td><td>-48.6</td><td></td></tr><tr><td>3.3160</td><td>-34.1</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-73.3</td><td>-13.0</td><td>-60.3</td><td></td></tr><tr><td colspan="10">Mid Channel (836.5MHz)</td></tr><tr><td>1.6730</td><td>-35.0</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-73.1</td><td>-13.0</td><td>-60.1</td><td></td></tr><tr><td>2.5090</td><td>-35.0</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-73.5</td><td>-13.0</td><td>-60.5</td><td></td></tr><tr><td>3.3460</td><td>-30.0</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-69.2</td><td>-13.0</td><td>-56.2</td><td></td></tr><tr><td>1.6730</td><td>-36.2</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-74.3</td><td>-13.0</td><td>-61.3</td><td></td></tr><tr><td>2.5090</td><td>-35.0</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-73.5</td><td>-13.0</td><td>-60.5</td><td></td></tr><tr><td>3.3460</td><td>-34.2</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-73.4</td><td>-13.0</td><td>-60.4</td><td></td></tr><tr><td colspan="10">High Channel (844MHz)</td></tr><tr><td>1.6880</td><td>-28.5</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-66.6</td><td>-13.0</td><td>-53.6</td><td></td></tr><tr><td>2.5320</td><td>-21.9</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-60.4</td><td>-13.0</td><td>-47.4</td><td></td></tr><tr><td>3.3760</td><td>-30.3</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-69.5</td><td>-13.0</td><td>-56.5</td><td></td></tr><tr><td>1.6880</td><td>-28.0</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-66.2</td><td>-13.0</td><td>-53.2</td><td></td></tr><tr><td>2.5320</td><td>-22.1</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-60.6</td><td>-13.0</td><td>-47.6</td><td></td></tr><tr><td>3.3760</td><td>-34.6</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-73.7</td><td>-13.0</td><td>-60.7</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Channel (829MHz) |  |  |  |  |  |  |  |  |  | 1.6580 | -25.1 | V | 3.0 | 39.1 | 1.0 | -63.2 | -13.0 | -50.2 |  | 2.4870 | -19.5 | V | 3.0 | 39.5 | 1.0 | -58.0 | -13.0 | -45.0 |  | 3.3160 | -30.8 | V | 3.0 | 40.1 | 1.0 | -69.9 | -13.0 | -56.9 |  | 1.6580 | -29.5 | H | 3.0 | 39.1 | 1.0 | -67.6 | -13.0 | -54.6 |  | 2.4870 | -23.1 | H | 3.0 | 39.5 | 1.0 | -61.6 | -13.0 | -48.6 |  | 3.3160 | -34.1 | H | 3.0 | 40.1 | 1.0 | -73.3 | -13.0 | -60.3 |  | Mid Channel (836.5MHz) |  |  |  |  |  |  |  |  |  | 1.6730 | -35.0 | V | 3.0 | 39.1 | 1.0 | -73.1 | -13.0 | -60.1 |  | 2.5090 | -35.0 | V | 3.0 | 39.5 | 1.0 | -73.5 | -13.0 | -60.5 |  | 3.3460 | -30.0 | V | 3.0 | 40.1 | 1.0 | -69.2 | -13.0 | -56.2 |  | 1.6730 | -36.2 | H | 3.0 | 39.1 | 1.0 | -74.3 | -13.0 | -61.3 |  | 2.5090 | -35.0 | H | 3.0 | 39.5 | 1.0 | -73.5 | -13.0 | -60.5 |  | 3.3460 | -34.2 | H | 3.0 | 40.1 | 1.0 | -73.4 | -13.0 | -60.4 |  | High Channel (844MHz) |  |  |  |  |  |  |  |  |  | 1.6880 | -28.5 | V | 3.0 | 39.1 | 1.0 | -66.6 | -13.0 | -53.6 |  | 2.5320 | -21.9 | V | 3.0 | 39.5 | 1.0 | -60.4 | -13.0 | -47.4 |  | 3.3760 | -30.3 | V | 3.0 | 40.2 | 1.0 | -69.5 | -13.0 | -56.5 |  | 1.6880 | -28.0 | H | 3.0 | 39.1 | 1.0 | -66.2 | -13.0 | -53.2 |  | 2.5320 | -22.1 | H | 3.0 | 39.5 | 1.0 | -60.6 | -13.0 | -47.6 |  | 3.3760 | -34.6 | H | 3.0 | 40.2 | 1.0 | -73.7 | -13.0 | -60.7 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Channel (829MHz)                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6580                                                                                | -25.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -63.2         | -13.0            | -50.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4870                                                                                | -19.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -58.0         | -13.0            | -45.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3160                                                                                | -30.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.1           | 1.0                | -69.9         | -13.0            | -56.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6580                                                                                | -29.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -67.6         | -13.0            | -54.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4870                                                                                | -23.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -61.6         | -13.0            | -48.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3160                                                                                | -34.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.1           | 1.0                | -73.3         | -13.0            | -60.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Channel (836.5MHz)                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -35.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -73.1         | -13.0            | -60.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5090                                                                                | -35.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -73.5         | -13.0            | -60.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3460                                                                                | -30.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.1           | 1.0                | -69.2         | -13.0            | -56.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -36.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -74.3         | -13.0            | -61.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5090                                                                                | -35.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -73.5         | -13.0            | -60.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3460                                                                                | -34.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.1           | 1.0                | -73.4         | -13.0            | -60.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Channel (844MHz)                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6880                                                                                | -28.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -66.6         | -13.0            | -53.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5320                                                                                | -21.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -60.4         | -13.0            | -47.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3760                                                                                | -30.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.2           | 1.0                | -69.5         | -13.0            | -56.5         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6880                                                                                | -28.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -66.2         | -13.0            | -53.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5320                                                                                | -22.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -60.6         | -13.0            | -47.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3760                                                                                | -34.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.2           | 1.0                | -73.7         | -13.0            | -60.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| LTE<br><br>Band 5<br><br>10MHz<br><br>16QAM                                           | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Company: Samsung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Project #: 15K21363                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Date: 07-28-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Test Engineer: Steven.Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Configuration: EUT / AC Adapter / Earphone, Y Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Mode: TX, LTE BAND 5, 10MHz BW,16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | Chamber<br>Chamber 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    | Pre-amplifier<br>AFS42 |                | Filter<br>Filter 1 |               | Limit<br>Part 22 |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
|                                                                                       | <table><tr><th>f<br/>GHz</th><th>SG reading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>EIRP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (829MHz)</td></tr><tr><td>1.6580</td><td>-26.9</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-65.0</td><td>-13.0</td><td>-52.0</td><td></td></tr><tr><td>2.4870</td><td>-22.9</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-61.4</td><td>-13.0</td><td>-48.4</td><td></td></tr><tr><td>3.3160</td><td>-34.0</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-73.1</td><td>-13.0</td><td>-60.1</td><td></td></tr><tr><td>1.6580</td><td>-30.7</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-68.8</td><td>-13.0</td><td>-55.8</td><td></td></tr><tr><td>2.4870</td><td>-26.4</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-64.9</td><td>-13.0</td><td>-51.9</td><td></td></tr><tr><td>3.3160</td><td>-34.1</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-73.2</td><td>-13.0</td><td>-60.2</td><td></td></tr><tr><td colspan="10">Mid Channel (836.5MHz)</td></tr><tr><td>1.6730</td><td>-28.6</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-66.7</td><td>-13.0</td><td>-53.7</td><td></td></tr><tr><td>2.5090</td><td>-25.7</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-64.2</td><td>-13.0</td><td>-51.2</td><td></td></tr><tr><td>3.3460</td><td>-30.1</td><td>V</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-69.3</td><td>-13.0</td><td>-56.3</td><td></td></tr><tr><td>1.6730</td><td>-31.8</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-69.9</td><td>-13.0</td><td>-56.9</td><td></td></tr><tr><td>2.5090</td><td>-28.5</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td></td></tr><tr><td>3.3460</td><td>-34.1</td><td>H</td><td>3.0</td><td>40.1</td><td>1.0</td><td>-73.3</td><td>-13.0</td><td>-60.3</td><td></td></tr><tr><td colspan="10">High Channel (844MHz)</td></tr><tr><td>1.6880</td><td>-29.0</td><td>V</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-67.1</td><td>-13.0</td><td>-54.1</td><td></td></tr><tr><td>2.5320</td><td>-22.7</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-61.3</td><td>-13.0</td><td>-48.3</td><td></td></tr><tr><td>3.3760</td><td>-29.8</td><td>V</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-69.0</td><td>-13.0</td><td>-56.0</td><td></td></tr><tr><td>1.6880</td><td>-30.5</td><td>H</td><td>3.0</td><td>39.1</td><td>1.0</td><td>-68.7</td><td>-13.0</td><td>-55.7</td><td></td></tr><tr><td>2.5320</td><td>-24.4</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-62.9</td><td>-13.0</td><td>-49.9</td><td></td></tr><tr><td>3.3760</td><td>-34.4</td><td>H</td><td>3.0</td><td>40.2</td><td>1.0</td><td>-73.6</td><td>-13.0</td><td>-60.6</td><td></td></tr></table> |                    |                        |                |                    |               |                  |               |       |  | f<br>GHz | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes | Low Channel (829MHz) |  |  |  |  |  |  |  |  |  | 1.6580 | -26.9 | V | 3.0 | 39.1 | 1.0 | -65.0 | -13.0 | -52.0 |  | 2.4870 | -22.9 | V | 3.0 | 39.5 | 1.0 | -61.4 | -13.0 | -48.4 |  | 3.3160 | -34.0 | V | 3.0 | 40.1 | 1.0 | -73.1 | -13.0 | -60.1 |  | 1.6580 | -30.7 | H | 3.0 | 39.1 | 1.0 | -68.8 | -13.0 | -55.8 |  | 2.4870 | -26.4 | H | 3.0 | 39.5 | 1.0 | -64.9 | -13.0 | -51.9 |  | 3.3160 | -34.1 | H | 3.0 | 40.1 | 1.0 | -73.2 | -13.0 | -60.2 |  | Mid Channel (836.5MHz) |  |  |  |  |  |  |  |  |  | 1.6730 | -28.6 | V | 3.0 | 39.1 | 1.0 | -66.7 | -13.0 | -53.7 |  | 2.5090 | -25.7 | V | 3.0 | 39.5 | 1.0 | -64.2 | -13.0 | -51.2 |  | 3.3460 | -30.1 | V | 3.0 | 40.1 | 1.0 | -69.3 | -13.0 | -56.3 |  | 1.6730 | -31.8 | H | 3.0 | 39.1 | 1.0 | -69.9 | -13.0 | -56.9 |  | 2.5090 | -28.5 | H | 3.0 | 39.5 | 1.0 | -67.0 | -13.0 | -54.0 |  | 3.3460 | -34.1 | H | 3.0 | 40.1 | 1.0 | -73.3 | -13.0 | -60.3 |  | High Channel (844MHz) |  |  |  |  |  |  |  |  |  | 1.6880 | -29.0 | V | 3.0 | 39.1 | 1.0 | -67.1 | -13.0 | -54.1 |  | 2.5320 | -22.7 | V | 3.0 | 39.5 | 1.0 | -61.3 | -13.0 | -48.3 |  | 3.3760 | -29.8 | V | 3.0 | 40.2 | 1.0 | -69.0 | -13.0 | -56.0 |  | 1.6880 | -30.5 | H | 3.0 | 39.1 | 1.0 | -68.7 | -13.0 | -55.7 |  | 2.5320 | -24.4 | H | 3.0 | 39.5 | 1.0 | -62.9 | -13.0 | -49.9 |  | 3.3760 | -34.4 | H | 3.0 | 40.2 | 1.0 | -73.6 | -13.0 | -60.6 |
| f<br>GHz                                                                              | SG reading<br>(dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ant. Pol.<br>(H/V) | Distance<br>(m)        | Preamp<br>(dB) | Filter<br>(dB)     | EIRP<br>(dBm) | Limit<br>(dBm)   | Delta<br>(dB) | Notes |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Low Channel (829MHz)                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6580                                                                                | -26.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -65.0         | -13.0            | -52.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4870                                                                                | -22.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -61.4         | -13.0            | -48.4         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3160                                                                                | -34.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.1           | 1.0                | -73.1         | -13.0            | -60.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6580                                                                                | -30.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -68.8         | -13.0            | -55.8         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.4870                                                                                | -26.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -64.9         | -13.0            | -51.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3160                                                                                | -34.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.1           | 1.0                | -73.2         | -13.0            | -60.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Mid Channel (836.5MHz)                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -28.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -66.7         | -13.0            | -53.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5090                                                                                | -25.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -64.2         | -13.0            | -51.2         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3460                                                                                | -30.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.1           | 1.0                | -69.3         | -13.0            | -56.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6730                                                                                | -31.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -69.9         | -13.0            | -56.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5090                                                                                | -28.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -67.0         | -13.0            | -54.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3460                                                                                | -34.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.1           | 1.0                | -73.3         | -13.0            | -60.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| High Channel (844MHz)                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6880                                                                                | -29.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.1           | 1.0                | -67.1         | -13.0            | -54.1         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5320                                                                                | -22.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 39.5           | 1.0                | -61.3         | -13.0            | -48.3         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3760                                                                                | -29.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V                  | 3.0                    | 40.2           | 1.0                | -69.0         | -13.0            | -56.0         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 1.6880                                                                                | -30.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.1           | 1.0                | -68.7         | -13.0            | -55.7         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 2.5320                                                                                | -24.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 39.5           | 1.0                | -62.9         | -13.0            | -49.9         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| 3.3760                                                                                | -34.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | H                  | 3.0                    | 40.2           | 1.0                | -73.6         | -13.0            | -60.6         |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                        |                |                    |               |                  |               |       |  |          |                     |                    |                 |                |                |               |                |               |       |                      |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                        |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |                       |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |  |        |       |   |     |      |     |       |       |       |

|        |                                                                                      |            |               |          |          |        |         |       |       |       |  |
|--------|--------------------------------------------------------------------------------------|------------|---------------|----------|----------|--------|---------|-------|-------|-------|--|
|        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |            |               |          |          |        |         |       |       |       |  |
|        | Company: Samsung                                                                     |            |               |          |          |        |         |       |       |       |  |
|        | Project #: 15K21363                                                                  |            |               |          |          |        |         |       |       |       |  |
|        | Date: 07-28-15                                                                       |            |               |          |          |        |         |       |       |       |  |
|        | Test Engineer: Steven.Kim                                                            |            |               |          |          |        |         |       |       |       |  |
|        | Configuration: EUT / AC Adapter / Earphone, Y Position                               |            |               |          |          |        |         |       |       |       |  |
|        | Mode: TX, LTE BAND 5, 5MHz BW,QPSK                                                   |            |               |          |          |        |         |       |       |       |  |
|        | Chamber                                                                              |            | Pre-amplifier |          | Filter   |        | Limit   |       |       |       |  |
|        | Chamber 2                                                                            |            | AFS42         |          | Filter 1 |        | Part 22 |       |       |       |  |
| LTE    | f                                                                                    | SG reading | Ant. Pol.     | Distance | Preamp   | Filter | EIRP    | Limit | Delta | Notes |  |
| Band 5 | GHz                                                                                  | (dBm)      | (H/V)         | (m)      | (dB)     | (dB)   | (dBm)   | (dBm) | (dB)  |       |  |
| 5MHz   | Low Channel (826.5MHz)                                                               |            |               |          |          |        |         |       |       |       |  |
| QPSK   | 1.6530                                                                               | -21.6      | V             | 3.0      | 39.1     | 1.0    | -59.7   | -13.0 | -46.7 |       |  |
|        | 2.4790                                                                               | -23.0      | V             | 3.0      | 39.5     | 1.0    | -61.6   | -13.0 | -48.6 |       |  |
|        | 3.3060                                                                               | -31.0      | V             | 3.0      | 40.1     | 1.0    | -70.1   | -13.0 | -57.1 |       |  |
|        | 1.6530                                                                               | -22.9      | H             | 3.0      | 39.1     | 1.0    | -61.0   | -13.0 | -48.0 |       |  |
|        | 2.4790                                                                               | -27.8      | H             | 3.0      | 39.5     | 1.0    | -66.3   | -13.0 | -53.3 |       |  |
|        | 3.3060                                                                               | -33.7      | H             | 3.0      | 40.1     | 1.0    | -72.8   | -13.0 | -59.8 |       |  |
|        | Mid Channel (836.5MHz)                                                               |            |               |          |          |        |         |       |       |       |  |
|        | 1.6730                                                                               | -22.6      | V             | 3.0      | 39.1     | 1.0    | -60.7   | -13.0 | -47.7 |       |  |
|        | 2.5090                                                                               | -29.8      | V             | 3.0      | 39.5     | 1.0    | -68.4   | -13.0 | -55.4 |       |  |
|        | 3.3460                                                                               | -30.9      | V             | 3.0      | 40.1     | 1.0    | -70.0   | -13.0 | -57.0 |       |  |
|        | 1.6730                                                                               | -27.4      | H             | 3.0      | 39.1     | 1.0    | -65.5   | -13.0 | -52.5 |       |  |
|        | 2.5090                                                                               | -32.0      | H             | 3.0      | 39.5     | 1.0    | -70.6   | -13.0 | -57.6 |       |  |
|        | 3.3460                                                                               | -34.2      | H             | 3.0      | 40.1     | 1.0    | -73.4   | -13.0 | -60.4 |       |  |
|        | High Channel (846.5MHz)                                                              |            |               |          |          |        |         |       |       |       |  |
|        | 1.6930                                                                               | -28.8      | V             | 3.0      | 39.1     | 1.0    | -66.9   | -13.0 | -53.9 |       |  |
|        | 2.5390                                                                               | -27.7      | V             | 3.0      | 39.6     | 1.0    | -66.3   | -13.0 | -53.3 |       |  |
|        | 3.3860                                                                               | -30.5      | V             | 3.0      | 40.2     | 1.0    | -69.6   | -13.0 | -56.6 |       |  |
|        | 1.6930                                                                               | -27.6      | H             | 3.0      | 39.1     | 1.0    | -65.7   | -13.0 | -52.7 |       |  |
| 2.5390 | -31.9                                                                                | H          | 3.0           | 39.6     | 1.0      | -70.5  | -13.0   | -57.5 |       |       |  |
| 3.3860 | -34.4                                                                                | H          | 3.0           | 40.2     | 1.0      | -73.6  | -13.0   | -60.6 |       |       |  |
|        | Rev. 03.03.09                                                                        |            |               |          |          |        |         |       |       |       |  |
|        | Note: No other emissions were detected above the system noise floor.                 |            |               |          |          |        |         |       |       |       |  |

|        |                                                                                      |            |               |          |          |        |         |       |       |       |  |
|--------|--------------------------------------------------------------------------------------|------------|---------------|----------|----------|--------|---------|-------|-------|-------|--|
|        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |            |               |          |          |        |         |       |       |       |  |
|        | Company: Samsung                                                                     |            |               |          |          |        |         |       |       |       |  |
|        | Project #: 15K21363                                                                  |            |               |          |          |        |         |       |       |       |  |
|        | Date: 07-28-15                                                                       |            |               |          |          |        |         |       |       |       |  |
|        | Test Engineer: Steven.Kim                                                            |            |               |          |          |        |         |       |       |       |  |
|        | Configuration: EUT / AC Adapter / Earphone, Y Position                               |            |               |          |          |        |         |       |       |       |  |
|        | Mode: TX, LTE BAND 5, 5MHz BW,16QAM                                                  |            |               |          |          |        |         |       |       |       |  |
|        | Chamber                                                                              |            | Pre-amplifier |          | Filter   |        | Limit   |       |       |       |  |
|        | Chamber 2                                                                            |            | AFS42         |          | Filter 1 |        | Part 22 |       |       |       |  |
| LTE    | f                                                                                    | SG reading | Ant. Pol.     | Distance | Preamp   | Filter | EIRP    | Limit | Delta | Notes |  |
| Band 5 | GHz                                                                                  | (dBm)      | (H/V)         | (m)      | (dB)     | (dB)   | (dBm)   | (dBm) | (dB)  |       |  |
| 5MHz   | Low Channel (826.5MHz)                                                               |            |               |          |          |        |         |       |       |       |  |
| 16QAM  | 1.6530                                                                               | -21.9      | V             | 3.0      | 39.1     | 1.0    | -60.0   | -13.0 | -47.0 |       |  |
|        | 2.4790                                                                               | -25.1      | V             | 3.0      | 39.5     | 1.0    | -63.6   | -13.0 | -50.6 |       |  |
|        | 3.3060                                                                               | -34.0      | V             | 3.0      | 40.1     | 1.0    | -73.1   | -13.0 | -60.1 |       |  |
|        | 1.6530                                                                               | -24.0      | H             | 3.0      | 39.1     | 1.0    | -62.1   | -13.0 | -49.1 |       |  |
|        | 2.4790                                                                               | -27.3      | H             | 3.0      | 39.5     | 1.0    | -65.8   | -13.0 | -52.8 |       |  |
|        | 3.3060                                                                               | -33.6      | H             | 3.0      | 40.1     | 1.0    | -72.7   | -13.0 | -59.7 |       |  |
|        | Mid Channel (836.5MHz)                                                               |            |               |          |          |        |         |       |       |       |  |
|        | 1.6730                                                                               | -26.5      | V             | 3.0      | 39.1     | 1.0    | -64.6   | -13.0 | -51.6 |       |  |
|        | 2.5090                                                                               | -29.1      | V             | 3.0      | 39.5     | 1.0    | -67.6   | -13.0 | -54.6 |       |  |
|        | 3.3460                                                                               | -31.3      | V             | 3.0      | 40.1     | 1.0    | -70.5   | -13.0 | -57.5 |       |  |
|        | 1.6730                                                                               | -28.6      | H             | 3.0      | 39.1     | 1.0    | -66.7   | -13.0 | -53.7 |       |  |
|        | 2.5090                                                                               | -33.6      | H             | 3.0      | 39.5     | 1.0    | -72.1   | -13.0 | -59.1 |       |  |
|        | 3.3460                                                                               | -34.4      | H             | 3.0      | 40.1     | 1.0    | -73.6   | -13.0 | -60.6 |       |  |
|        | High Channel (846.5MHz)                                                              |            |               |          |          |        |         |       |       |       |  |
|        | 1.6930                                                                               | -27.7      | V             | 3.0      | 39.1     | 1.0    | -65.8   | -13.0 | -52.8 |       |  |
|        | 2.5390                                                                               | -27.7      | V             | 3.0      | 39.6     | 1.0    | -66.2   | -13.0 | -53.2 |       |  |
|        | 3.3860                                                                               | -33.2      | V             | 3.0      | 40.2     | 1.0    | -72.4   | -13.0 | -59.4 |       |  |
|        | 1.6930                                                                               | -29.6      | H             | 3.0      | 39.1     | 1.0    | -67.7   | -13.0 | -54.7 |       |  |
| 2.5390 | -30.1                                                                                | H          | 3.0           | 39.6     | 1.0      | -68.7  | -13.0   | -55.7 |       |       |  |
| 3.3860 | -33.3                                                                                | H          | 3.0           | 40.2     | 1.0      | -72.4  | -13.0   | -59.4 |       |       |  |
|        | Rev. 03.03.09                                                                        |            |               |          |          |        |         |       |       |       |  |
|        | Note: No other emissions were detected above the system noise floor.                 |            |               |          |          |        |         |       |       |       |  |

|                                                                      |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|------------------------|-----------------|--------------------|----------------|------------------|----------------|---------------|-------|
| LTE<br>Band 5<br><br>3MHz<br><br>QPSK                                | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Company: Samsung                                                                     |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Project #: 15K21363                                                                  |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Date: 07-29-15                                                                       |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Test Engineer: Steven.Kim                                                            |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Configuration: EUT / AC Adapter / Earphone, Y Position                               |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Mode: TX, LTE BAND 5, 3MHz BW,QPSK                                                   |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Chamber<br>Chamber 2                                                                 |                     | Pre-amplifier<br>AFS42 |                 | Filter<br>Filter 1 |                | Limit<br>Part 22 |                |               |       |
|                                                                      | f<br>GHz                                                                             | SG reading<br>(dBm) | Ant. Pol.<br>(H/V)     | Distance<br>(m) | Preamp<br>(dB)     | Filter<br>(dB) | EIRP<br>(dBm)    | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                      | Low Channel (825.5MHz)                                                               |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6510                                                               | -20.1                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -58.2          | -13.0            | -45.2          |               |       |
| 2.4765                                                               | -24.6                                                                                | V                   | 3.0                    | 39.5            | 1.0                | -63.2          | -13.0            | -50.2          |               |       |
| 3.3020                                                               | -31.1                                                                                | V                   | 3.0                    | 40.1            | 1.0                | -70.2          | -13.0            | -57.2          |               |       |
| 1.6510                                                               | -23.4                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -61.5          | -13.0            | -48.5          |               |       |
| 2.4765                                                               | -28.7                                                                                | H                   | 3.0                    | 39.5            | 1.0                | -67.2          | -13.0            | -54.2          |               |       |
| 3.3020                                                               | -29.8                                                                                | H                   | 3.0                    | 40.1            | 1.0                | -68.9          | -13.0            | -55.9          |               |       |
| Mid Channel (836.5MHz)                                               |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6730                                                               | -25.1                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -63.2          | -13.0            | -50.2          |               |       |
| 2.5090                                                               | -30.1                                                                                | V                   | 3.0                    | 39.5            | 1.0                | -68.6          | -13.0            | -55.6          |               |       |
| 3.3460                                                               | -30.4                                                                                | V                   | 3.0                    | 40.1            | 1.0                | -69.5          | -13.0            | -56.5          |               |       |
| 1.6730                                                               | -28.4                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -66.5          | -13.0            | -53.5          |               |       |
| 2.5090                                                               | -33.5                                                                                | H                   | 3.0                    | 39.5            | 1.0                | -72.0          | -13.0            | -59.0          |               |       |
| 3.3460                                                               | -33.4                                                                                | H                   | 3.0                    | 40.1            | 1.0                | -72.5          | -13.0            | -59.5          |               |       |
| High Channel (847.5MHz)                                              |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6950                                                               | -26.6                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -64.8          | -13.0            | -51.8          |               |       |
| 2.5425                                                               | -31.1                                                                                | V                   | 3.0                    | 39.6            | 1.0                | -69.7          | -13.0            | -56.7          |               |       |
| 3.3900                                                               | -30.1                                                                                | V                   | 3.0                    | 40.2            | 1.0                | -69.3          | -13.0            | -56.3          |               |       |
| 1.6950                                                               | -27.3                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -65.4          | -13.0            | -52.4          |               |       |
| 2.5425                                                               | -31.0                                                                                | H                   | 3.0                    | 39.6            | 1.0                | -69.5          | -13.0            | -56.5          |               |       |
| 3.3900                                                               | -33.7                                                                                | H                   | 3.0                    | 40.2            | 1.0                | -72.9          | -13.0            | -59.9          |               |       |
| Rev. 03.03.09                                                        |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |

|                                                                      |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|------------------------|-----------------|--------------------|----------------|------------------|----------------|---------------|-------|
| LTE<br>Band 5<br><br>3MHz<br><br>16QAM                               | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Company: Samsung                                                                     |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Project #: 15K21363                                                                  |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Date: 07-29-15                                                                       |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Test Engineer: Steven.Kim                                                            |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Configuration: EUT / AC Adapter / Earphone, Y Position                               |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Mode: TX, LTE BAND 5, 3MHz BW,16QAM                                                  |                     |                        |                 |                    |                |                  |                |               |       |
|                                                                      | Chamber<br>Chamber 2                                                                 |                     | Pre-amplifier<br>AFS42 |                 | Filter<br>Filter 1 |                | Limit<br>Part 22 |                |               |       |
|                                                                      | f<br>GHz                                                                             | SG reading<br>(dBm) | Ant. Pol.<br>(H/V)     | Distance<br>(m) | Preamp<br>(dB)     | Filter<br>(dB) | EIRP<br>(dBm)    | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                      | Low Channel (825.5MHz)                                                               |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6510                                                               | -21.4                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -59.5          | -13.0            | -46.5          |               |       |
| 2.4675                                                               | -25.5                                                                                | V                   | 3.0                    | 39.5            | 1.0                | -64.0          | -13.0            | -51.0          |               |       |
| 3.3020                                                               | -31.6                                                                                | V                   | 3.0                    | 40.1            | 1.0                | -70.7          | -13.0            | -57.7          |               |       |
| 1.6510                                                               | -25.1                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -63.2          | -13.0            | -50.2          |               |       |
| 2.4675                                                               | -29.8                                                                                | H                   | 3.0                    | 39.5            | 1.0                | -68.3          | -13.0            | -55.3          |               |       |
| 3.3020                                                               | -30.6                                                                                | H                   | 3.0                    | 40.1            | 1.0                | -69.7          | -13.0            | -56.7          |               |       |
| Mid Channel (836.5MHz)                                               |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6730                                                               | -26.6                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -64.7          | -13.0            | -51.7          |               |       |
| 2.5090                                                               | -31.0                                                                                | V                   | 3.0                    | 39.5            | 1.0                | -69.5          | -13.0            | -56.5          |               |       |
| 3.3460                                                               | -31.7                                                                                | V                   | 3.0                    | 40.1            | 1.0                | -70.8          | -13.0            | -57.8          |               |       |
| 1.6730                                                               | -29.6                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -67.7          | -13.0            | -54.7          |               |       |
| 2.5090                                                               | -34.0                                                                                | H                   | 3.0                    | 39.5            | 1.0                | -72.5          | -13.0            | -59.5          |               |       |
| 3.3460                                                               | -34.3                                                                                | H                   | 3.0                    | 40.1            | 1.0                | -73.4          | -13.0            | -60.4          |               |       |
| High Channel (847.5MHz)                                              |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| 1.6950                                                               | -27.7                                                                                | V                   | 3.0                    | 39.1            | 1.0                | -65.9          | -13.0            | -52.9          |               |       |
| 2.5425                                                               | -31.7                                                                                | V                   | 3.0                    | 39.6            | 1.0                | -70.3          | -13.0            | -57.3          |               |       |
| 3.3900                                                               | -30.4                                                                                | V                   | 3.0                    | 40.2            | 1.0                | -69.6          | -13.0            | -56.6          |               |       |
| 1.6950                                                               | -28.7                                                                                | H                   | 3.0                    | 39.1            | 1.0                | -66.8          | -13.0            | -53.8          |               |       |
| 2.5425                                                               | -31.8                                                                                | H                   | 3.0                    | 39.6            | 1.0                | -70.3          | -13.0            | -57.3          |               |       |
| 3.3900                                                               | -34.2                                                                                | H                   | 3.0                    | 40.2            | 1.0                | -73.4          | -13.0            | -60.4          |               |       |
| Rev. 03.03.09                                                        |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                     |                        |                 |                    |                |                  |                |               |       |

|                                  |                                                                                                                                                                                                                                                                                                    |                     |                    |                 |                |                |               |                |               |       |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|---------------|----------------|---------------|-------|
| LTE<br>Band 5<br>1.4MHz<br>QPSK  | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-29-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / AC Adapter / Earphone, Y Position<br/>Mode: TX, LTE BAND 5, 1.4MHz BW,QPSK</p>  |                     |                    |                 |                |                |               |                |               |       |
|                                  | <p>Chamber Pre-amplifier Filter Limit</p> <p>Chamber 2 AFS42 Filter 1 Part 22</p>                                                                                                                                                                                                                  |                     |                    |                 |                |                |               |                |               |       |
|                                  | f<br>GHz                                                                                                                                                                                                                                                                                           | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                  | Low Channel (824.7MHz)                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6494                                                                                                                                                                                                                                                                                             | -20.9               | V                  | 3.0             | 39.1           | 1.0            | -59.0         | -13.0          | -46.0         |       |
|                                  | 2.4741                                                                                                                                                                                                                                                                                             | -24.3               | V                  | 3.0             | 39.5           | 1.0            | -62.9         | -13.0          | -49.9         |       |
|                                  | 3.2988                                                                                                                                                                                                                                                                                             | -31.7               | V                  | 3.0             | 40.1           | 1.0            | -70.8         | -13.0          | -57.8         |       |
|                                  | 1.6494                                                                                                                                                                                                                                                                                             | -24.5               | H                  | 3.0             | 39.1           | 1.0            | -62.6         | -13.0          | -49.6         |       |
|                                  | 2.4741                                                                                                                                                                                                                                                                                             | -29.9               | H                  | 3.0             | 39.5           | 1.0            | -68.4         | -13.0          | -55.4         |       |
|                                  | 3.2988                                                                                                                                                                                                                                                                                             | -33.5               | H                  | 3.0             | 40.1           | 1.0            | -72.6         | -13.0          | -59.6         |       |
|                                  | Mid Channel (836.5MHz)                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6730                                                                                                                                                                                                                                                                                             | -24.1               | V                  | 3.0             | 39.1           | 1.0            | -62.2         | -13.0          | -49.2         |       |
|                                  | 2.5090                                                                                                                                                                                                                                                                                             | -30.4               | V                  | 3.0             | 39.5           | 1.0            | -68.9         | -13.0          | -55.9         |       |
|                                  | 3.3460                                                                                                                                                                                                                                                                                             | -30.5               | V                  | 3.0             | 40.1           | 1.0            | -69.6         | -13.0          | -56.6         |       |
|                                  | 1.6730                                                                                                                                                                                                                                                                                             | -29.1               | H                  | 3.0             | 39.1           | 1.0            | -67.2         | -13.0          | -54.2         |       |
|                                  | 2.5090                                                                                                                                                                                                                                                                                             | -34.0               | H                  | 3.0             | 39.5           | 1.0            | -72.5         | -13.0          | -59.5         |       |
|                                  | 3.3460                                                                                                                                                                                                                                                                                             | -33.9               | H                  | 3.0             | 40.1           | 1.0            | -73.0         | -13.0          | -60.0         |       |
|                                  | High Channel (844.3MHz)                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6886                                                                                                                                                                                                                                                                                             | -25.8               | V                  | 3.0             | 39.1           | 1.0            | -63.9         | -13.0          | -50.9         |       |
|                                  | 2.5329                                                                                                                                                                                                                                                                                             | -25.5               | V                  | 3.0             | 39.5           | 1.0            | -64.0         | -13.0          | -51.0         |       |
|                                  | 3.3772                                                                                                                                                                                                                                                                                             | -32.3               | V                  | 3.0             | 40.2           | 1.0            | -71.5         | -13.0          | -58.5         |       |
|                                  | 1.6886                                                                                                                                                                                                                                                                                             | -28.2               | H                  | 3.0             | 39.1           | 1.0            | -66.3         | -13.0          | -53.3         |       |
|                                  | 2.5329                                                                                                                                                                                                                                                                                             | -27.5               | H                  | 3.0             | 39.5           | 1.0            | -66.0         | -13.0          | -53.0         |       |
|                                  | 3.3772                                                                                                                                                                                                                                                                                             | -34.1               | H                  | 3.0             | 40.2           | 1.0            | -73.3         | -13.0          | -60.3         |       |
|                                  | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                              |                     |                    |                 |                |                |               |                |               |       |
| LTE<br>Band 5<br>1.4MHz<br>16QAM | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-29-15<br/>Test Engineer: Steven.Kim<br/>Configuration: EUT / AC Adapter / Earphone, Y Position<br/>Mode: TX, LTE BAND 5, 1.4MHz BW,16QAM</p> |                     |                    |                 |                |                |               |                |               |       |
|                                  | <p>Chamber Pre-amplifier Filter Limit</p> <p>Chamber 2 AFS42 Filter 1 Part 22</p>                                                                                                                                                                                                                  |                     |                    |                 |                |                |               |                |               |       |
|                                  | f<br>GHz                                                                                                                                                                                                                                                                                           | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | EIRP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                  | Low Channel (824.7MHz)                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6494                                                                                                                                                                                                                                                                                             | -22.3               | V                  | 3.0             | 39.1           | 1.0            | -60.4         | -13.0          | -47.4         |       |
|                                  | 2.4741                                                                                                                                                                                                                                                                                             | -25.8               | V                  | 3.0             | 39.5           | 1.0            | -64.4         | -13.0          | -51.4         |       |
|                                  | 3.2988                                                                                                                                                                                                                                                                                             | -32.3               | V                  | 3.0             | 40.1           | 1.0            | -71.4         | -13.0          | -58.4         |       |
|                                  | 1.6494                                                                                                                                                                                                                                                                                             | -26.0               | H                  | 3.0             | 39.1           | 1.0            | -64.1         | -13.0          | -51.1         |       |
|                                  | 2.4741                                                                                                                                                                                                                                                                                             | -30.8               | H                  | 3.0             | 39.5           | 1.0            | -69.3         | -13.0          | -56.3         |       |
|                                  | 3.2988                                                                                                                                                                                                                                                                                             | -34.1               | H                  | 3.0             | 40.1           | 1.0            | -73.2         | -13.0          | -60.2         |       |
|                                  | Mid Channel (836.5MHz)                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6730                                                                                                                                                                                                                                                                                             | -25.6               | V                  | 3.0             | 39.1           | 1.0            | -63.7         | -13.0          | -50.7         |       |
|                                  | 2.5090                                                                                                                                                                                                                                                                                             | -31.3               | V                  | 3.0             | 39.5           | 1.0            | -69.8         | -13.0          | -56.8         |       |
|                                  | 3.3460                                                                                                                                                                                                                                                                                             | -30.8               | V                  | 3.0             | 40.1           | 1.0            | -69.9         | -13.0          | -56.9         |       |
|                                  | 1.6730                                                                                                                                                                                                                                                                                             | -30.0               | H                  | 3.0             | 39.1           | 1.0            | -68.1         | -13.0          | -55.1         |       |
|                                  | 2.5090                                                                                                                                                                                                                                                                                             | -34.4               | H                  | 3.0             | 39.5           | 1.0            | -72.9         | -13.0          | -59.9         |       |
|                                  | 3.3460                                                                                                                                                                                                                                                                                             | -34.3               | H                  | 3.0             | 40.1           | 1.0            | -73.4         | -13.0          | -60.4         |       |
|                                  | High Channel (844.3MHz)                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |               |                |               |       |
|                                  | 1.6886                                                                                                                                                                                                                                                                                             | -26.3               | V                  | 3.0             | 39.1           | 1.0            | -64.4         | -13.0          | -51.4         |       |
|                                  | 2.5329                                                                                                                                                                                                                                                                                             | -26.6               | V                  | 3.0             | 39.5           | 1.0            | -65.1         | -13.0          | -52.1         |       |
|                                  | 3.3772                                                                                                                                                                                                                                                                                             | -32.8               | V                  | 3.0             | 40.2           | 1.0            | -72.0         | -13.0          | -59.0         |       |
|                                  | 1.6886                                                                                                                                                                                                                                                                                             | -28.9               | H                  | 3.0             | 39.1           | 1.0            | -67.0         | -13.0          | -54.0         |       |
|                                  | 2.5329                                                                                                                                                                                                                                                                                             | -28.2               | H                  | 3.0             | 39.5           | 1.0            | -66.7         | -13.0          | -53.7         |       |
|                                  | 3.3772                                                                                                                                                                                                                                                                                             | -34.4               | H                  | 3.0             | 40.2           | 1.0            | -73.6         | -13.0          | -60.6         |       |
|                                  | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                              |                     |                    |                 |                |                |               |                |               |       |

# LTE Band 4

|                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |                    |                 |                |                |              |                |               |       |
|---------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br>Band 4<br>20MHz<br>QPSK  |  | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-27-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br/>Mode: TX, LTE BAND 4, 20MHz BW, QPSK</p> <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 27</div> </div>  |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                 |  | <p>Low Channel (1720MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.8               | V                  | 3.0             | 40.2           | 1.0            | -63.0        | -13.0          | -50.0         |       |
|                                 |  | 5.1600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -26.7               | V                  | 3.0             | 40.9           | 1.0            | -66.6        | -13.0          | -53.6         |       |
|                                 |  | 6.8800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -22.7               | V                  | 3.0             | 41.0           | 1.0            | -62.7        | -13.0          | -49.7         |       |
|                                 |  | 3.4400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -24.7               | H                  | 3.0             | 40.2           | 1.0            | -64.0        | -13.0          | -51.0         |       |
|                                 |  | 5.1600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -18.9               | H                  | 3.0             | 40.9           | 1.0            | -58.8        | -13.0          | -45.8         |       |
|                                 |  | 6.8800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -19.5               | H                  | 3.0             | 41.0           | 1.0            | -59.5        | -13.0          | -46.5         |       |
|                                 |  | <p>Mid Channel (1732.5MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.0               | V                  | 3.0             | 40.3           | 1.0            | -62.2        | -13.0          | -49.2         |       |
|                                 |  | 5.1975                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -25.0               | V                  | 3.0             | 40.9           | 1.0            | -64.9        | -13.0          | -51.9         |       |
|                                 |  | 6.9300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -18.8               | V                  | 3.0             | 41.0           | 1.0            | -58.8        | -13.0          | -45.8         |       |
|                                 |  | 3.4650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.7               | H                  | 3.0             | 40.3           | 1.0            | -59.9        | -13.0          | -46.9         |       |
|                                 |  | 5.1975                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -25.5               | H                  | 3.0             | 40.9           | 1.0            | -65.4        | -13.0          | -52.4         |       |
|                                 |  | 6.9300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -24.2               | H                  | 3.0             | 41.0           | 1.0            | -64.2        | -13.0          | -51.2         |       |
|                                 |  | <p>High Channel (1745MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.3               | V                  | 3.0             | 40.3           | 1.0            | -59.6        | -13.0          | -46.6         |       |
|                                 |  | 5.2350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -24.1               | V                  | 3.0             | 40.9           | 1.0            | -64.0        | -13.0          | -51.0         |       |
|                                 |  | 6.9800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -22.4               | V                  | 3.0             | 41.0           | 1.0            | -62.4        | -13.0          | -49.4         |       |
|                                 |  | 3.4900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.8               | H                  | 3.0             | 40.3           | 1.0            | -60.0        | -13.0          | -47.0         |       |
|                                 |  | 5.2350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -25.5               | H                  | 3.0             | 40.9           | 1.0            | -65.3        | -13.0          | -52.3         |       |
|                                 |  | 6.9800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -21.2               | H                  | 3.0             | 41.0           | 1.0            | -61.2        | -13.0          | -48.2         |       |
|                                 |  | <p>Rev. 03.03.09<br/>Note: No other emissions were detected above the system noise floor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 4<br>20MHz<br>16QAM |  | <p>UL Korea, Ltd Suwon Laboratory<br/>Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung<br/>Project #: 15K21363<br/>Date: 07-27-15<br/>Test Engineer: Steven Kim<br/>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br/>Mode: TX, LTE BAND 4, 20MHz BW, 16QAM</p> <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 27</div> </div> |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                 |  | <p>Low Channel (1720MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -22.5               | V                  | 3.0             | 40.2           | 1.0            | -61.7        | -13.0          | -48.7         |       |
|                                 |  | 5.1600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -26.2               | V                  | 3.0             | 40.9           | 1.0            | -66.1        | -13.0          | -53.1         |       |
|                                 |  | 6.8800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -24.6               | V                  | 3.0             | 41.0           | 1.0            | -64.6        | -13.0          | -51.6         |       |
|                                 |  | 3.4400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.6               | H                  | 3.0             | 40.2           | 1.0            | -62.8        | -13.0          | -49.8         |       |
|                                 |  | 5.1600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -27.8               | H                  | 3.0             | 40.9           | 1.0            | -67.7        | -13.0          | -54.7         |       |
|                                 |  | 6.8800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -21.8               | H                  | 3.0             | 41.0           | 1.0            | -61.8        | -13.0          | -48.8         |       |
|                                 |  | <p>Mid Channel (1732.5MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.1               | V                  | 3.0             | 40.3           | 1.0            | -59.3        | -13.0          | -46.3         |       |
|                                 |  | 5.1975                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -25.0               | V                  | 3.0             | 40.9           | 1.0            | -64.9        | -13.0          | -51.9         |       |
|                                 |  | 6.9300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.8               | V                  | 3.0             | 41.0           | 1.0            | -60.8        | -13.0          | -47.8         |       |
|                                 |  | 3.4650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -24.3               | H                  | 3.0             | 40.3           | 1.0            | -63.6        | -13.0          | -50.6         |       |
|                                 |  | 5.1975                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.8               | H                  | 3.0             | 40.9           | 1.0            | -63.7        | -13.0          | -50.7         |       |
|                                 |  | 6.9300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -22.2               | H                  | 3.0             | 41.0           | 1.0            | -62.2        | -13.0          | -49.2         |       |
|                                 |  | <p>High Channel (1745MHz)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.4900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -21.0               | V                  | 3.0             | 40.3           | 1.0            | -60.3        | -13.0          | -47.3         |       |
|                                 |  | 5.2350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.5               | V                  | 3.0             | 40.9           | 1.0            | -63.4        | -13.0          | -50.4         |       |
|                                 |  | 6.9800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -20.6               | V                  | 3.0             | 41.0           | 1.0            | -60.6        | -13.0          | -47.6         |       |
|                                 |  | 3.4900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -23.2               | H                  | 3.0             | 40.3           | 1.0            | -62.5        | -13.0          | -49.5         |       |
|                                 |  | 5.2350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -27.8               | H                  | 3.0             | 40.9           | 1.0            | -67.7        | -13.0          | -54.7         |       |
|                                 |  | 6.9800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -22.9               | H                  | 3.0             | 41.0           | 1.0            | -62.9        | -13.0          | -49.9         |       |
|                                 |  | <p>Rev. 03.03.09<br/>Note: No other emissions were detected above the system noise floor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |                 |                |                |              |                |               |       |

|                                                                                       |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|--|
| LTE<br>Band 4<br>15MHz<br>QPSK                                                        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Date: 07-27-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Mode: TX, LTE BAND 4, 15MHz BW,QPSK                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                                       | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 27  |                |               |       |  |
|                                                                                       | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                                       | Low Channel (1717.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4350                                                                               | -18.2              | V                  | 3.0             | 40.2           | 1.0            | -57.4        | -13.0          | -44.4         |       |  |
|                                                                                       | 5.1525                                                                               | -24.4              | V                  | 3.0             | 40.9           | 1.0            | -64.3        | -13.0          | -51.3         |       |  |
|                                                                                       | 6.8700                                                                               | -16.3              | V                  | 3.0             | 41.0           | 1.0            | -56.3        | -13.0          | -43.3         |       |  |
|                                                                                       | 3.4350                                                                               | -19.0              | H                  | 3.0             | 40.2           | 1.0            | -58.3        | -13.0          | -45.3         |       |  |
|                                                                                       | 5.1525                                                                               | -23.6              | H                  | 3.0             | 40.9           | 1.0            | -63.5        | -13.0          | -50.5         |       |  |
|                                                                                       | 6.8700                                                                               | -17.5              | H                  | 3.0             | 41.0           | 1.0            | -57.5        | -13.0          | -44.5         |       |  |
|                                                                                       | Mid Channel (1732.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4650                                                                               | -19.8              | V                  | 3.0             | 40.3           | 1.0            | -59.0        | -13.0          | -46.0         |       |  |
|                                                                                       | 5.1975                                                                               | -26.6              | V                  | 3.0             | 40.9           | 1.0            | -66.5        | -13.0          | -53.5         |       |  |
|                                                                                       | 6.9300                                                                               | -20.4              | V                  | 3.0             | 41.0           | 1.0            | -60.4        | -13.0          | -47.4         |       |  |
|                                                                                       | 3.4650                                                                               | -22.0              | H                  | 3.0             | 40.3           | 1.0            | -61.2        | -13.0          | -48.2         |       |  |
| 5.1975                                                                                | -27.8                                                                                | H                  | 3.0                | 40.9            | 1.0            | -67.7          | -13.0        | -54.7          |               |       |  |
| 6.9300                                                                                | -22.9                                                                                | H                  | 3.0                | 41.0            | 1.0            | -62.9          | -13.0        | -49.9          |               |       |  |
| High Channel (1747.5MHz)                                                              |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| 3.4950                                                                                | -20.2                                                                                | V                  | 3.0                | 40.3            | 1.0            | -59.5          | -13.0        | -46.5          |               |       |  |
| 5.2425                                                                                | -27.3                                                                                | V                  | 3.0                | 40.9            | 1.0            | -67.2          | -13.0        | -54.2          |               |       |  |
| 6.9900                                                                                | -21.0                                                                                | V                  | 3.0                | 41.0            | 1.0            | -61.1          | -13.0        | -48.1          |               |       |  |
| 3.4950                                                                                | -22.3                                                                                | H                  | 3.0                | 40.3            | 1.0            | -61.5          | -13.0        | -48.5          |               |       |  |
| 5.2425                                                                                | -19.8                                                                                | H                  | 3.0                | 40.9            | 1.0            | -59.7          | -13.0        | -46.7          |               |       |  |
| 6.9900                                                                                | -23.4                                                                                | H                  | 3.0                | 41.0            | 1.0            | -63.4          | -13.0        | -50.4          |               |       |  |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |

|                                                                                       |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|--|
| LTE<br>Band 4<br>15MHz<br>16QAM                                                       | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Date: 07-27-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Mode: TX, LTE BAND 4, 15MHz BW,16QAM                                                 |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                                       | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 27  |                |               |       |  |
|                                                                                       | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                                       | Low Channel (1717.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4350                                                                               | -22.9              | V                  | 3.0             | 40.2           | 1.0            | -62.1        | -13.0          | -49.1         |       |  |
|                                                                                       | 5.1525                                                                               | -25.4              | V                  | 3.0             | 40.9           | 1.0            | -65.3        | -13.0          | -52.3         |       |  |
|                                                                                       | 6.8700                                                                               | -24.4              | V                  | 3.0             | 41.0           | 1.0            | -64.4        | -13.0          | -51.4         |       |  |
|                                                                                       | 3.4350                                                                               | -25.0              | H                  | 3.0             | 40.2           | 1.0            | -64.2        | -13.0          | -51.2         |       |  |
|                                                                                       | 5.1525                                                                               | -25.4              | H                  | 3.0             | 40.9           | 1.0            | -65.3        | -13.0          | -52.3         |       |  |
|                                                                                       | 6.8700                                                                               | -24.2              | H                  | 3.0             | 41.0           | 1.0            | -64.2        | -13.0          | -51.2         |       |  |
|                                                                                       | Mid Channel (1732.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4650                                                                               | -24.7              | V                  | 3.0             | 40.3           | 1.0            | -64.0        | -13.0          | -51.0         |       |  |
|                                                                                       | 5.1975                                                                               | -22.7              | V                  | 3.0             | 40.9           | 1.0            | -62.6        | -13.0          | -49.6         |       |  |
|                                                                                       | 6.9300                                                                               | -23.2              | V                  | 3.0             | 41.0           | 1.0            | -63.2        | -13.0          | -50.2         |       |  |
|                                                                                       | 3.4650                                                                               | -23.5              | H                  | 3.0             | 40.3           | 1.0            | -62.7        | -13.0          | -49.7         |       |  |
| 5.1975                                                                                | -23.9                                                                                | H                  | 3.0                | 40.9            | 1.0            | -63.8          | -13.0        | -50.8          |               |       |  |
| 6.9300                                                                                | -24.0                                                                                | H                  | 3.0                | 41.0            | 1.0            | -64.0          | -13.0        | -51.0          |               |       |  |
| High Channel (1747.5MHz)                                                              |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| 3.4950                                                                                | -23.0                                                                                | V                  | 3.0                | 40.3            | 1.0            | -62.3          | -13.0        | -49.3          |               |       |  |
| 5.2425                                                                                | -24.8                                                                                | V                  | 3.0                | 40.9            | 1.0            | -64.7          | -13.0        | -51.7          |               |       |  |
| 6.9900                                                                                | -21.0                                                                                | V                  | 3.0                | 41.0            | 1.0            | -61.0          | -13.0        | -48.0          |               |       |  |
| 3.4950                                                                                | -25.2                                                                                | H                  | 3.0                | 40.3            | 1.0            | -64.5          | -13.0        | -51.5          |               |       |  |
| 5.2425                                                                                | -20.1                                                                                | H                  | 3.0                | 40.9            | 1.0            | -60.0          | -13.0        | -47.0          |               |       |  |
| 6.9900                                                                                | -24.0                                                                                | H                  | 3.0                | 41.0            | 1.0            | -64.0          | -13.0        | -51.0          |               |       |  |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |

|                                                                                       |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|--|
| LTE<br>Band 4<br>10MHz<br>QPSK                                                        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Date: 07-27-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Mode: TX, LTE BAND 4, 10MHz BW, QPSK                                                 |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                                       | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 27  |                |               |       |  |
|                                                                                       | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                                       | Low Channel (1715MHz)                                                                |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4300                                                                               | -19.2              | V                  | 3.0             | 40.2           | 1.0            | -58.4        | -13.0          | -45.4         |       |  |
|                                                                                       | 5.1450                                                                               | -19.4              | V                  | 3.0             | 40.9           | 1.0            | -59.3        | -13.0          | -46.3         |       |  |
|                                                                                       | 6.8600                                                                               | -18.7              | V                  | 3.0             | 41.0           | 1.0            | -58.7        | -13.0          | -45.7         |       |  |
|                                                                                       | 3.4300                                                                               | -21.6              | H                  | 3.0             | 40.2           | 1.0            | -60.8        | -13.0          | -47.8         |       |  |
|                                                                                       | 5.1450                                                                               | -26.1              | H                  | 3.0             | 40.9           | 1.0            | -66.0        | -13.0          | -53.0         |       |  |
|                                                                                       | 6.8600                                                                               | -19.1              | H                  | 3.0             | 41.0           | 1.0            | -59.1        | -13.0          | -46.1         |       |  |
|                                                                                       | Mid Channel (1732.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4650                                                                               | -19.0              | V                  | 3.0             | 40.3           | 1.0            | -58.3        | -13.0          | -45.3         |       |  |
|                                                                                       | 5.1975                                                                               | -22.6              | V                  | 3.0             | 40.9           | 1.0            | -62.5        | -13.0          | -49.5         |       |  |
|                                                                                       | 6.9300                                                                               | -21.8              | V                  | 3.0             | 41.0           | 1.0            | -61.8        | -13.0          | -48.8         |       |  |
|                                                                                       | 3.4650                                                                               | -19.3              | H                  | 3.0             | 40.3           | 1.0            | -58.6        | -13.0          | -45.6         |       |  |
|                                                                                       | 5.1975                                                                               | -22.6              | H                  | 3.0             | 40.9           | 1.0            | -62.5        | -13.0          | -49.5         |       |  |
| 6.9300                                                                                | -24.8                                                                                | H                  | 3.0                | 41.0            | 1.0            | -64.8          | -13.0        | -51.8          |               |       |  |
| High Channel (1750MHz)                                                                |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| 3.5000                                                                                | -20.4                                                                                | V                  | 3.0                | 40.3            | 1.0            | -59.7          | -13.0        | -46.7          |               |       |  |
| 5.2500                                                                                | -17.6                                                                                | V                  | 3.0                | 40.9            | 1.0            | -57.5          | -13.0        | -44.5          |               |       |  |
| 7.0000                                                                                | -22.2                                                                                | V                  | 3.0                | 41.0            | 1.0            | -62.2          | -13.0        | -49.2          |               |       |  |
| 3.5000                                                                                | -22.1                                                                                | H                  | 3.0                | 40.3            | 1.0            | -61.4          | -13.0        | -48.4          |               |       |  |
| 5.2500                                                                                | -18.2                                                                                | H                  | 3.0                | 40.9            | 1.0            | -58.0          | -13.0        | -45.0          |               |       |  |
| 7.0000                                                                                | -24.8                                                                                | H                  | 3.0                | 41.0            | 1.0            | -64.8          | -13.0        | -51.8          |               |       |  |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| LTE<br>Band 4<br>10MHz<br>16QAM                                                       | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Date: 07-27-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Mode: TX, LTE BAND 4, 10MHz BW, 16QAM                                                |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                                       | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 27  |                |               |       |  |
|                                                                                       | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                                       | Low Channel (1715MHz)                                                                |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4300                                                                               | -21.0              | V                  | 3.0             | 40.2           | 1.0            | -60.2        | -13.0          | -47.2         |       |  |
|                                                                                       | 5.1450                                                                               | -22.0              | V                  | 3.0             | 40.9           | 1.0            | -61.9        | -13.0          | -48.9         |       |  |
|                                                                                       | 6.8600                                                                               | -19.9              | V                  | 3.0             | 41.0           | 1.0            | -59.9        | -13.0          | -46.9         |       |  |
|                                                                                       | 3.4300                                                                               | -24.1              | H                  | 3.0             | 40.2           | 1.0            | -63.3        | -13.0          | -50.3         |       |  |
|                                                                                       | 5.1450                                                                               | -27.0              | H                  | 3.0             | 40.9           | 1.0            | -66.9        | -13.0          | -53.9         |       |  |
|                                                                                       | 6.8600                                                                               | -20.3              | H                  | 3.0             | 41.0           | 1.0            | -60.3        | -13.0          | -47.3         |       |  |
|                                                                                       | Mid Channel (1732.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                                       | 3.4650                                                                               | -20.9              | V                  | 3.0             | 40.3           | 1.0            | -60.2        | -13.0          | -47.2         |       |  |
|                                                                                       | 5.1975                                                                               | -23.6              | V                  | 3.0             | 40.9           | 1.0            | -63.5        | -13.0          | -50.5         |       |  |
|                                                                                       | 6.9300                                                                               | -22.5              | V                  | 3.0             | 41.0           | 1.0            | -62.5        | -13.0          | -49.5         |       |  |
|                                                                                       | 3.4650                                                                               | -21.5              | H                  | 3.0             | 40.3           | 1.0            | -60.8        | -13.0          | -47.8         |       |  |
|                                                                                       | 5.1975                                                                               | -23.3              | H                  | 3.0             | 40.9           | 1.0            | -63.2        | -13.0          | -50.2         |       |  |
| 6.9300                                                                                | -25.1                                                                                | H                  | 3.0                | 41.0            | 1.0            | -65.1          | -13.0        | -52.1          |               |       |  |
| High Channel (1750MHz)                                                                |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| 3.5000                                                                                | -22.0                                                                                | V                  | 3.0                | 40.3            | 1.0            | -61.3          | -13.0        | -48.3          |               |       |  |
| 5.2500                                                                                | -19.6                                                                                | V                  | 3.0                | 40.9            | 1.0            | -59.5          | -13.0        | -46.5          |               |       |  |
| 7.0000                                                                                | -23.1                                                                                | V                  | 3.0                | 41.0            | 1.0            | -63.1          | -13.0        | -50.1          |               |       |  |
| 3.5000                                                                                | -24.1                                                                                | H                  | 3.0                | 40.3            | 1.0            | -63.4          | -13.0        | -50.4          |               |       |  |
| 5.2500                                                                                | -20.6                                                                                | H                  | 3.0                | 40.9            | 1.0            | -60.4          | -13.0        | -47.4          |               |       |  |
| 7.0000                                                                                | -25.3                                                                                | H                  | 3.0                | 41.0            | 1.0            | -65.3          | -13.0        | -52.3          |               |       |  |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |

|                                                                                       |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------|-------------------------------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br><br>Band 4<br><br>5MHz<br><br>QPSK                                             | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |       |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | Company:                                                                             |       | Samsung                                   |                    |                 |                |                |              |                |               |       |
|                                                                                       | Project #:                                                                           |       | 15K21363                                  |                    |                 |                |                |              |                |               |       |
|                                                                                       | Date:                                                                                |       | 07-28-15                                  |                    |                 |                |                |              |                |               |       |
|                                                                                       | Test Engineer:                                                                       |       | Steven Kim                                |                    |                 |                |                |              |                |               |       |
|                                                                                       | Configuration:                                                                       |       | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                |                |              |                |               |       |
|                                                                                       | Mode:                                                                                |       | TX, LTE BAND 4, 5MHz BW, QPSK             |                    |                 |                |                |              |                |               |       |
|                                                                                       | Chamber                                                                              |       |                                           | Pre-amplifier      |                 |                | Filter         |              | Limit          |               |       |
|                                                                                       | Chamber 2                                                                            |       |                                           | AFS42              |                 |                | Filter 1       |              | FCC Part 27    |               |       |
|                                                                                       | f<br>GHz                                                                             |       | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
| Low Channel (1712.5MHz)                                                               |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.4250                                                                                |                                                                                      | -16.0 | V                                         | 3.0                | 40.2            | 1.0            | -55.2          | -13.0        | -42.2          |               |       |
| 5.1375                                                                                |                                                                                      | -22.9 | V                                         | 3.0                | 40.9            | 1.0            | -62.8          | -13.0        | -49.8          |               |       |
| 6.5800                                                                                |                                                                                      | -25.4 | V                                         | 3.0                | 40.9            | 1.0            | -65.3          | -13.0        | -52.3          |               |       |
| 3.4250                                                                                |                                                                                      | -19.4 | H                                         | 3.0                | 40.2            | 1.0            | -58.6          | -13.0        | -45.6          |               |       |
| 5.1375                                                                                |                                                                                      | -24.8 | H                                         | 3.0                | 40.9            | 1.0            | -64.7          | -13.0        | -51.7          |               |       |
| 6.5800                                                                                |                                                                                      | -25.2 | H                                         | 3.0                | 40.9            | 1.0            | -65.1          | -13.0        | -52.1          |               |       |
| Mid Channel (1732.5MHz)                                                               |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.4650                                                                                |                                                                                      | -20.1 | V                                         | 3.0                | 40.3            | 1.0            | -59.4          | -13.0        | -46.4          |               |       |
| 5.1975                                                                                |                                                                                      | -19.1 | V                                         | 3.0                | 40.9            | 1.0            | -59.0          | -13.0        | -46.0          |               |       |
| 6.9300                                                                                |                                                                                      | -22.3 | V                                         | 3.0                | 41.0            | 1.0            | -62.3          | -13.0        | -49.3          |               |       |
| 3.4650                                                                                |                                                                                      | -20.6 | H                                         | 3.0                | 40.3            | 1.0            | -59.9          | -13.0        | -46.9          |               |       |
| 5.1975                                                                                |                                                                                      | -27.0 | H                                         | 3.0                | 40.9            | 1.0            | -66.9          | -13.0        | -53.9          |               |       |
| 6.9300                                                                                |                                                                                      | -24.9 | H                                         | 3.0                | 41.0            | 1.0            | -64.9          | -13.0        | -51.9          |               |       |
| High Channel (1752.5MHz)                                                              |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.5050                                                                                |                                                                                      | -21.3 | V                                         | 3.0                | 40.3            | 1.0            | -60.5          | -13.0        | -47.5          |               |       |
| 5.2575                                                                                |                                                                                      | -27.6 | V                                         | 3.0                | 40.9            | 1.0            | -67.4          | -13.0        | -54.4          |               |       |
| 7.0100                                                                                |                                                                                      | -23.9 | V                                         | 3.0                | 41.0            | 1.0            | -63.9          | -13.0        | -50.9          |               |       |
| 3.5050                                                                                |                                                                                      | -18.7 | H                                         | 3.0                | 40.3            | 1.0            | -58.0          | -13.0        | -45.0          |               |       |
| 5.2575                                                                                |                                                                                      | -27.0 | H                                         | 3.0                | 40.9            | 1.0            | -66.9          | -13.0        | -53.9          |               |       |
| 7.0100                                                                                |                                                                                      | -25.3 | H                                         | 3.0                | 41.0            | 1.0            | -65.3          | -13.0        | -52.3          |               |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |

|                                                                                       |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------|-------------------------------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br><br>Band 4<br><br>5MHz<br><br>16QAM                                            | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |       |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | Company:                                                                             |       | Samsung                                   |                    |                 |                |                |              |                |               |       |
|                                                                                       | Project #:                                                                           |       | 15K21363                                  |                    |                 |                |                |              |                |               |       |
|                                                                                       | Date:                                                                                |       | 07-28-15                                  |                    |                 |                |                |              |                |               |       |
|                                                                                       | Test Engineer:                                                                       |       | Steven Kim                                |                    |                 |                |                |              |                |               |       |
|                                                                                       | Configuration:                                                                       |       | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                |                |              |                |               |       |
|                                                                                       | Mode:                                                                                |       | TX, LTE BAND 7, 5MHz BW, 16QAM            |                    |                 |                |                |              |                |               |       |
|                                                                                       | Chamber                                                                              |       |                                           | Pre-amplifier      |                 |                | Filter         |              | Limit          |               |       |
|                                                                                       | Chamber 2                                                                            |       |                                           | AFS42              |                 |                | Filter 1       |              | FCC Part 27    |               |       |
|                                                                                       | f<br>GHz                                                                             |       | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
| Low Channel (1712.5MHz)                                                               |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.4250                                                                                |                                                                                      | -18.4 | V                                         | 3.0                | 40.2            | 1.0            | -57.6          | -13.0        | -44.6          |               |       |
| 5.1375                                                                                |                                                                                      | -24.1 | V                                         | 3.0                | 40.9            | 1.0            | -64.0          | -13.0        | -51.0          |               |       |
| 6.5800                                                                                |                                                                                      | -26.5 | V                                         | 3.0                | 40.9            | 1.0            | -66.4          | -13.0        | -53.4          |               |       |
| 3.4250                                                                                |                                                                                      | -21.4 | H                                         | 3.0                | 40.2            | 1.0            | -60.6          | -13.0        | -47.6          |               |       |
| 5.1375                                                                                |                                                                                      | -26.4 | H                                         | 3.0                | 40.9            | 1.0            | -66.3          | -13.0        | -53.3          |               |       |
| 6.5800                                                                                |                                                                                      | -25.4 | H                                         | 3.0                | 40.9            | 1.0            | -65.3          | -13.0        | -52.3          |               |       |
| Mid Channel (1732.5MHz)                                                               |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.4650                                                                                |                                                                                      | -21.7 | V                                         | 3.0                | 40.3            | 1.0            | -61.0          | -13.0        | -48.0          |               |       |
| 5.1975                                                                                |                                                                                      | -19.8 | V                                         | 3.0                | 40.9            | 1.0            | -59.7          | -13.0        | -46.7          |               |       |
| 6.9300                                                                                |                                                                                      | -23.2 | V                                         | 3.0                | 41.0            | 1.0            | -63.2          | -13.0        | -50.2          |               |       |
| 3.4650                                                                                |                                                                                      | -22.5 | H                                         | 3.0                | 40.3            | 1.0            | -61.8          | -13.0        | -48.8          |               |       |
| 5.1975                                                                                |                                                                                      | -27.7 | H                                         | 3.0                | 40.9            | 1.0            | -67.6          | -13.0        | -54.6          |               |       |
| 6.9300                                                                                |                                                                                      | -25.4 | H                                         | 3.0                | 41.0            | 1.0            | -65.4          | -13.0        | -52.4          |               |       |
| High Channel (1752.5MHz)                                                              |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |
| 3.5050                                                                                |                                                                                      | -22.9 | V                                         | 3.0                | 40.3            | 1.0            | -62.1          | -13.0        | -49.1          |               |       |
| 5.2575                                                                                |                                                                                      | -28.1 | V                                         | 3.0                | 40.9            | 1.0            | -67.9          | -13.0        | -54.9          |               |       |
| 7.0100                                                                                |                                                                                      | -24.4 | V                                         | 3.0                | 41.0            | 1.0            | -64.4          | -13.0        | -51.4          |               |       |
| 3.5050                                                                                |                                                                                      | -20.4 | H                                         | 3.0                | 40.3            | 1.0            | -59.7          | -13.0        | -46.7          |               |       |
| 5.2575                                                                                |                                                                                      | -27.8 | H                                         | 3.0                | 40.9            | 1.0            | -67.7          | -13.0        | -54.7          |               |       |
| 7.0100                                                                                |                                                                                      | -25.8 | H                                         | 3.0                | 41.0            | 1.0            | -65.8          | -13.0        | -52.8          |               |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                                                                                      |       |                                           |                    |                 |                |                |              |                |               |       |

|                                |                                                                                                                                                                                                                                                                                       |                     |                    |                 |                |                |              |                |               |       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br>Band 4<br>3MHz<br>QPSK  | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement<br><br>Company: Samsung<br>Project #: 15K21363<br>Date: 07-28-15<br>Test Engineer: Steven Kim<br>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br>Mode: TX, LTE BAND 4, 3MHz BW,QPSK  |                     |                    |                 |                |                |              |                |               |       |
|                                | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 27</div> </div>                                                                   |                     |                    |                 |                |                |              |                |               |       |
|                                | f<br>GHz                                                                                                                                                                                                                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                | Low Channel (1711.5MHz)                                                                                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.4230                                                                                                                                                                                                                                                                                | -19.0               | V                  | 3.0             | 40.2           | 1.0            | -58.2        | -13.0          | -45.2         |       |
|                                | 5.1345                                                                                                                                                                                                                                                                                | -21.5               | V                  | 3.0             | 40.9           | 1.0            | -61.4        | -13.0          | -48.4         |       |
|                                | 6.8460                                                                                                                                                                                                                                                                                | -20.8               | V                  | 3.0             | 41.0           | 1.0            | -60.8        | -13.0          | -47.8         |       |
|                                | 3.4230                                                                                                                                                                                                                                                                                | -20.3               | H                  | 3.0             | 40.2           | 1.0            | -59.5        | -13.0          | -46.5         |       |
|                                | 5.1345                                                                                                                                                                                                                                                                                | -26.9               | H                  | 3.0             | 40.9           | 1.0            | -66.8        | -13.0          | -53.8         |       |
|                                | 6.8460                                                                                                                                                                                                                                                                                | -23.1               | H                  | 3.0             | 41.0           | 1.0            | -63.0        | -13.0          | -50.0         |       |
|                                | Mid Channel (1732.5MHz)                                                                                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.4650                                                                                                                                                                                                                                                                                | -20.9               | V                  | 3.0             | 40.3           | 1.0            | -60.2        | -13.0          | -47.2         |       |
|                                | 5.1975                                                                                                                                                                                                                                                                                | -19.8               | V                  | 3.0             | 40.9           | 1.0            | -59.7        | -13.0          | -46.7         |       |
|                                | 6.9300                                                                                                                                                                                                                                                                                | -21.3               | V                  | 3.0             | 41.0           | 1.0            | -61.3        | -13.0          | -48.3         |       |
|                                | 3.4650                                                                                                                                                                                                                                                                                | -20.7               | H                  | 3.0             | 40.3           | 1.0            | -59.9        | -13.0          | -46.9         |       |
|                                | 5.1975                                                                                                                                                                                                                                                                                | -22.2               | H                  | 3.0             | 40.9           | 1.0            | -62.1        | -13.0          | -49.1         |       |
|                                | 6.9300                                                                                                                                                                                                                                                                                | -24.3               | H                  | 3.0             | 41.0           | 1.0            | -64.3        | -13.0          | -51.3         |       |
|                                | High Channel (1753.5MHz)                                                                                                                                                                                                                                                              |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.5070                                                                                                                                                                                                                                                                                | -21.8               | V                  | 3.0             | 40.3           | 1.0            | -61.1        | -13.0          | -48.1         |       |
|                                | 5.2605                                                                                                                                                                                                                                                                                | -22.6               | V                  | 3.0             | 40.9           | 1.0            | -62.4        | -13.0          | -49.4         |       |
|                                | 7.0140                                                                                                                                                                                                                                                                                | -25.4               | V                  | 3.0             | 41.0           | 1.0            | -65.4        | -13.0          | -52.4         |       |
|                                | 3.5070                                                                                                                                                                                                                                                                                | -19.8               | H                  | 3.0             | 40.3           | 1.0            | -59.1        | -13.0          | -46.1         |       |
|                                | 5.2605                                                                                                                                                                                                                                                                                | -21.7               | H                  | 3.0             | 40.9           | 1.0            | -61.5        | -13.0          | -48.5         |       |
|                                | 7.0140                                                                                                                                                                                                                                                                                | -24.5               | H                  | 3.0             | 41.0           | 1.0            | -64.5        | -13.0          | -51.5         |       |
|                                | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                 |                     |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 4<br>3MHz<br>16QAM | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement<br><br>Company: Samsung<br>Project #: 15K21363<br>Date: 07-28-15<br>Test Engineer: Steven Kim<br>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br>Mode: TX, LTE BAND 4, 3MHz BW,16QAM |                     |                    |                 |                |                |              |                |               |       |
|                                | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 27</div> </div>                                                                   |                     |                    |                 |                |                |              |                |               |       |
|                                | f<br>GHz                                                                                                                                                                                                                                                                              | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                | Low Channel (1711.5MHz)                                                                                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.4230                                                                                                                                                                                                                                                                                | -20.7               | V                  | 3.0             | 40.2           | 1.0            | -59.9        | -13.0          | -46.9         |       |
|                                | 5.1345                                                                                                                                                                                                                                                                                | -22.6               | V                  | 3.0             | 40.9           | 1.0            | -62.5        | -13.0          | -49.5         |       |
|                                | 6.8460                                                                                                                                                                                                                                                                                | -21.7               | V                  | 3.0             | 41.0           | 1.0            | -61.7        | -13.0          | -48.7         |       |
|                                | 3.4230                                                                                                                                                                                                                                                                                | -21.5               | H                  | 3.0             | 40.2           | 1.0            | -60.7        | -13.0          | -47.7         |       |
|                                | 5.1345                                                                                                                                                                                                                                                                                | -27.5               | H                  | 3.0             | 40.9           | 1.0            | -67.4        | -13.0          | -54.4         |       |
|                                | 6.8460                                                                                                                                                                                                                                                                                | -23.9               | H                  | 3.0             | 41.0           | 1.0            | -63.8        | -13.0          | -50.8         |       |
|                                | Mid Channel (1732.5MHz)                                                                                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.4650                                                                                                                                                                                                                                                                                | -22.8               | V                  | 3.0             | 40.3           | 1.0            | -62.1        | -13.0          | -49.1         |       |
|                                | 5.1975                                                                                                                                                                                                                                                                                | -22.4               | V                  | 3.0             | 40.9           | 1.0            | -62.3        | -13.0          | -49.3         |       |
|                                | 6.9300                                                                                                                                                                                                                                                                                | -24.7               | V                  | 3.0             | 41.0           | 1.0            | -64.7        | -13.0          | -51.7         |       |
|                                | 3.4650                                                                                                                                                                                                                                                                                | -22.7               | H                  | 3.0             | 40.3           | 1.0            | -61.9        | -13.0          | -48.9         |       |
|                                | 5.1975                                                                                                                                                                                                                                                                                | -18.9               | H                  | 3.0             | 40.9           | 1.0            | -58.8        | -13.0          | -45.8         |       |
|                                | 6.9300                                                                                                                                                                                                                                                                                | -24.9               | H                  | 3.0             | 41.0           | 1.0            | -64.9        | -13.0          | -51.9         |       |
|                                | High Channel (1752.5MHz)                                                                                                                                                                                                                                                              |                     |                    |                 |                |                |              |                |               |       |
|                                | 3.5070                                                                                                                                                                                                                                                                                | -21.9               | V                  | 3.0             | 40.3           | 1.0            | -61.2        | -13.0          | -48.2         |       |
|                                | 5.2605                                                                                                                                                                                                                                                                                | -20.5               | V                  | 3.0             | 40.9           | 1.0            | -60.4        | -13.0          | -47.4         |       |
|                                | 7.0140                                                                                                                                                                                                                                                                                | -27.5               | V                  | 3.0             | 41.0           | 1.0            | -67.5        | -13.0          | -54.5         |       |
|                                | 3.5070                                                                                                                                                                                                                                                                                | -25.1               | H                  | 3.0             | 40.3           | 1.0            | -64.4        | -13.0          | -51.4         |       |
|                                | 5.2605                                                                                                                                                                                                                                                                                | -21.6               | H                  | 3.0             | 40.9           | 1.0            | -61.5        | -13.0          | -48.5         |       |
|                                | 7.0140                                                                                                                                                                                                                                                                                | -26.8               | H                  | 3.0             | 41.0           | 1.0            | -66.8        | -13.0          | -53.8         |       |
|                                | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                 |                     |                    |                 |                |                |              |                |               |       |

|                                                                      |                                                                                      |            |               |          |          |        |             |       |       |       |  |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------|---------------|----------|----------|--------|-------------|-------|-------|-------|--|
| LTE<br><br>Band 4<br><br>1.4MHz<br><br>QPSK                          | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Company: Samsung                                                                     |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Project #: 15K21363                                                                  |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Date: 07-28-15                                                                       |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Test Engineer: Steven Kim                                                            |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Mode: TX, LTE BAND 4, 1.4MHz BW, QPSK                                                |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Chamber                                                                              |            | Pre-amplifier |          | Filter   |        | Limit       |       |       |       |  |
|                                                                      | Chamber 2                                                                            |            | AFS42         |          | Filter 1 |        | FCC Part 27 |       |       |       |  |
|                                                                      | f                                                                                    | SG reading | Ant. Pol.     | Distance | Preamp   | Filter | ERP         | Limit | Delta | Notes |  |
|                                                                      | GHz                                                                                  | (dBm)      | (H/V)         | (m)      | (dB)     | (dB)   | (dBm)       | (dBm) | (dB)  |       |  |
|                                                                      | Low Channel (1710.7MHz)                                                              |            |               |          |          |        |             |       |       |       |  |
|                                                                      | 3.4214                                                                               | -18.3      | V             | 3.0      | 40.2     | 1.0    | -57.5       | -13.0 | -44.5 |       |  |
|                                                                      | 5.1321                                                                               | -14.7      | V             | 3.0      | 40.9     | 1.0    | -54.6       | -13.0 | -41.6 |       |  |
|                                                                      | 6.8428                                                                               | -20.5      | V             | 3.0      | 41.0     | 1.0    | -60.4       | -13.0 | -47.4 |       |  |
|                                                                      | 3.4214                                                                               | -19.4      | H             | 3.0      | 40.2     | 1.0    | -58.6       | -13.0 | -45.6 |       |  |
|                                                                      | 5.1321                                                                               | -16.8      | H             | 3.0      | 40.9     | 1.0    | -56.7       | -13.0 | -43.7 |       |  |
|                                                                      | 6.8428                                                                               | -20.8      | H             | 3.0      | 41.0     | 1.0    | -60.8       | -13.0 | -47.8 |       |  |
|                                                                      | Mid Channel (1732.5MHz)                                                              |            |               |          |          |        |             |       |       |       |  |
|                                                                      | 3.4650                                                                               | -20.8      | V             | 3.0      | 40.3     | 1.0    | -60.1       | -13.0 | -47.1 |       |  |
|                                                                      | 5.1975                                                                               | -16.5      | V             | 3.0      | 40.9     | 1.0    | -56.4       | -13.0 | -43.4 |       |  |
|                                                                      | 6.9300                                                                               | -24.3      | V             | 3.0      | 41.0     | 1.0    | -64.3       | -13.0 | -51.3 |       |  |
| 3.4650                                                               | -21.1                                                                                | H          | 3.0           | 40.3     | 1.0      | -60.3  | -13.0       | -47.3 |       |       |  |
| 5.1975                                                               | -15.1                                                                                | H          | 3.0           | 40.9     | 1.0      | -54.9  | -13.0       | -41.9 |       |       |  |
| 6.9300                                                               | -25.1                                                                                | H          | 3.0           | 41.0     | 1.0      | -65.1  | -13.0       | -52.1 |       |       |  |
| High Channel (1754.3MHz)                                             |                                                                                      |            |               |          |          |        |             |       |       |       |  |
| 3.5086                                                               | -16.9                                                                                | V          | 3.0           | 40.3     | 1.0      | -56.2  | -13.0       | -43.2 |       |       |  |
| 5.2629                                                               | -20.7                                                                                | V          | 3.0           | 40.9     | 1.0      | -60.6  | -13.0       | -47.6 |       |       |  |
| 7.0172                                                               | -21.1                                                                                | V          | 3.0           | 41.0     | 1.0      | -61.1  | -13.0       | -48.1 |       |       |  |
| 3.5086                                                               | -18.8                                                                                | H          | 3.0           | 40.3     | 1.0      | -58.1  | -13.0       | -45.1 |       |       |  |
| 5.2629                                                               | -9.8                                                                                 | H          | 3.0           | 40.9     | 1.0      | -49.7  | -13.0       | -36.7 |       |       |  |
| 7.0172                                                               | -24.5                                                                                | H          | 3.0           | 41.0     | 1.0      | -64.6  | -13.0       | -51.6 |       |       |  |
| Rev. 03.03.09                                                        |                                                                                      |            |               |          |          |        |             |       |       |       |  |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |            |               |          |          |        |             |       |       |       |  |

|                                                                      |                                                                                      |            |               |          |          |        |             |       |       |       |  |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------|---------------|----------|----------|--------|-------------|-------|-------|-------|--|
| LTE<br><br>Band 4<br><br>1.4MHz<br><br>16QAM                         | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Company: Samsung                                                                     |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Project #: 15K21363                                                                  |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Date: 07-28-15                                                                       |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Test Engineer: Steven Kim                                                            |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Mode: TX, LTE BAND 4, 1.4MHz BW, 16QAM                                               |            |               |          |          |        |             |       |       |       |  |
|                                                                      | Chamber                                                                              |            | Pre-amplifier |          | Filter   |        | Limit       |       |       |       |  |
|                                                                      | Chamber 2                                                                            |            | AFS42         |          | Filter 1 |        | FCC Part 27 |       |       |       |  |
|                                                                      | f                                                                                    | SG reading | Ant. Pol.     | Distance | Preamp   | Filter | ERP         | Limit | Delta | Notes |  |
|                                                                      | GHz                                                                                  | (dBm)      | (H/V)         | (m)      | (dB)     | (dB)   | (dBm)       | (dBm) | (dB)  |       |  |
|                                                                      | Low Channel (1710.7MHz)                                                              |            |               |          |          |        |             |       |       |       |  |
|                                                                      | 3.4214                                                                               | -19.1      | V             | 3.0      | 40.2     | 1.0    | -58.3       | -13.0 | -45.3 |       |  |
|                                                                      | 5.1321                                                                               | -9.0       | V             | 3.0      | 40.9     | 1.0    | -48.9       | -13.0 | -35.9 |       |  |
|                                                                      | 6.8428                                                                               | -21.9      | V             | 3.0      | 41.0     | 1.0    | -61.9       | -13.0 | -48.9 |       |  |
|                                                                      | 3.4214                                                                               | -21.1      | H             | 3.0      | 40.2     | 1.0    | -60.3       | -13.0 | -47.3 |       |  |
|                                                                      | 5.1321                                                                               | -18.0      | H             | 3.0      | 40.9     | 1.0    | -57.9       | -13.0 | -44.9 |       |  |
|                                                                      | 6.8428                                                                               | -22.1      | H             | 3.0      | 41.0     | 1.0    | -62.1       | -13.0 | -49.1 |       |  |
|                                                                      | Mid Channel (1732.5MHz)                                                              |            |               |          |          |        |             |       |       |       |  |
|                                                                      | 3.4650                                                                               | -20.8      | V             | 3.0      | 40.3     | 1.0    | -60.0       | -13.0 | -47.0 |       |  |
|                                                                      | 5.1975                                                                               | -9.5       | V             | 3.0      | 40.9     | 1.0    | -49.3       | -13.0 | -36.3 |       |  |
|                                                                      | 6.9300                                                                               | -22.7      | V             | 3.0      | 41.0     | 1.0    | -62.7       | -13.0 | -49.7 |       |  |
| 3.4650                                                               | -23.9                                                                                | H          | 3.0           | 40.3     | 1.0      | -63.2  | -13.0       | -50.2 |       |       |  |
| 5.1975                                                               | -17.0                                                                                | H          | 3.0           | 40.9     | 1.0      | -56.9  | -13.0       | -43.9 |       |       |  |
| 6.9300                                                               | -24.5                                                                                | H          | 3.0           | 41.0     | 1.0      | -64.5  | -13.0       | -51.5 |       |       |  |
| High Channel (1754.3MHz)                                             |                                                                                      |            |               |          |          |        |             |       |       |       |  |
| 3.5086                                                               | -21.4                                                                                | V          | 3.0           | 40.3     | 1.0      | -60.7  | -13.0       | -47.7 |       |       |  |
| 5.2629                                                               | -19.3                                                                                | V          | 3.0           | 40.9     | 1.0      | -59.2  | -13.0       | -46.2 |       |       |  |
| 7.0172                                                               | -20.9                                                                                | V          | 3.0           | 41.0     | 1.0      | -60.9  | -13.0       | -47.9 |       |       |  |
| 3.5086                                                               | -22.2                                                                                | H          | 3.0           | 40.3     | 1.0      | -61.5  | -13.0       | -48.5 |       |       |  |
| 5.2629                                                               | -14.3                                                                                | H          | 3.0           | 40.9     | 1.0      | -54.1  | -13.0       | -41.1 |       |       |  |
| 7.0172                                                               | -25.3                                                                                | H          | 3.0           | 41.0     | 1.0      | -65.3  | -13.0       | -52.3 |       |       |  |
| Rev. 03.03.09                                                        |                                                                                      |            |               |          |          |        |             |       |       |       |  |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |            |               |          |          |        |             |       |       |       |  |

**LTE Band 2**

|                                 |  |                                                                                                                                                                                                                     |                     |                    |                 |                |                |              |                |               |       |
|---------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
|                                 |  | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | Company: Samsung<br>Project #: 15K21363<br>Date: 07-26-15<br>Test Engineer: Steven Kim<br>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br>Mode: TX, LTE BAND 2, 20MHz BW, QPSK                          |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 24</div> </div> |                     |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 2<br>20MHz<br>QPSK  |  | f<br>GHz                                                                                                                                                                                                            | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                 |  | Low Channel (1860MHz)                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.7200                                                                                                                                                                                                              | -12.7               | V                  | 3.0             | 40.5           | 1.0            | -52.2        | -13.0          | -39.2         |       |
|                                 |  | 5.5800                                                                                                                                                                                                              | -17.8               | V                  | 3.0             | 40.8           | 1.0            | -57.6        | -13.0          | -44.6         |       |
|                                 |  | 7.4400                                                                                                                                                                                                              | -24.7               | V                  | 3.0             | 40.8           | 1.0            | -64.5        | -13.0          | -51.5         |       |
|                                 |  | 3.7200                                                                                                                                                                                                              | -15.8               | H                  | 3.0             | 40.5           | 1.0            | -55.3        | -13.0          | -42.3         |       |
|                                 |  | 5.5800                                                                                                                                                                                                              | -23.4               | H                  | 3.0             | 40.8           | 1.0            | -63.2        | -13.0          | -50.2         |       |
|                                 |  | 7.4400                                                                                                                                                                                                              | -23.4               | H                  | 3.0             | 40.8           | 1.0            | -63.1        | -13.0          | -50.1         |       |
|                                 |  | Mid Channel (1880MHz)                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.7600                                                                                                                                                                                                              | -16.6               | V                  | 3.0             | 40.5           | 1.0            | -56.2        | -13.0          | -43.2         |       |
|                                 |  | 5.6400                                                                                                                                                                                                              | -21.8               | V                  | 3.0             | 40.8           | 1.0            | -61.6        | -13.0          | -48.6         |       |
|                                 |  | 7.5200                                                                                                                                                                                                              | -24.0               | V                  | 3.0             | 40.7           | 1.0            | -63.7        | -13.0          | -50.7         |       |
|                                 |  | 3.7600                                                                                                                                                                                                              | -17.9               | H                  | 3.0             | 40.5           | 1.0            | -57.4        | -13.0          | -44.4         |       |
|                                 |  | 5.6400                                                                                                                                                                                                              | -24.4               | H                  | 3.0             | 40.8           | 1.0            | -64.2        | -13.0          | -51.2         |       |
|                                 |  | 7.5200                                                                                                                                                                                                              | -23.9               | H                  | 3.0             | 40.7           | 1.0            | -63.6        | -13.0          | -50.6         |       |
|                                 |  | High Channel (1900MHz)                                                                                                                                                                                              |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.8000                                                                                                                                                                                                              | -13.0               | V                  | 3.0             | 40.6           | 1.0            | -52.6        | -13.0          | -39.6         |       |
|                                 |  | 5.7000                                                                                                                                                                                                              | -22.6               | V                  | 3.0             | 40.8           | 1.0            | -62.4        | -13.0          | -49.4         |       |
|                                 |  | 7.6000                                                                                                                                                                                                              | -22.9               | V                  | 3.0             | 40.7           | 1.0            | -62.6        | -13.0          | -49.6         |       |
|                                 |  | 3.8000                                                                                                                                                                                                              | -13.8               | H                  | 3.0             | 40.6           | 1.0            | -53.4        | -13.0          | -40.4         |       |
|                                 |  | 5.7000                                                                                                                                                                                                              | -22.1               | H                  | 3.0             | 40.8           | 1.0            | -61.9        | -13.0          | -48.9         |       |
|                                 |  | 7.6000                                                                                                                                                                                                              | -23.2               | H                  | 3.0             | 40.7           | 1.0            | -62.9        | -13.0          | -49.9         |       |
|                                 |  | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement                                                                                                                                |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | Company: Samsung<br>Project #: 15K21363<br>Date: 07-26-15<br>Test Engineer: Steven Kim<br>Configuration: EUT / AC Adapter / Ear Phone / Y-Position<br>Mode: TX, LTE BAND 2, 20MHz BW, 16QAM                         |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | <div> <div>Chamber</div> <div>Chamber 2</div> </div> <div> <div>Pre-amplifier</div> <div>AFS42</div> </div> <div> <div>Filter</div> <div>Filter 1</div> </div> <div> <div>Limit</div> <div>FCC Part 24</div> </div> |                     |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 2<br>20MHz<br>16QAM |  | f<br>GHz                                                                                                                                                                                                            | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                 |  | Low Channel (1860MHz)                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.7200                                                                                                                                                                                                              | -16.3               | V                  | 3.0             | 40.5           | 1.0            | -55.8        | -13.0          | -42.8         |       |
|                                 |  | 5.5800                                                                                                                                                                                                              | -19.8               | V                  | 3.0             | 40.8           | 1.0            | -59.6        | -13.0          | -46.6         |       |
|                                 |  | 7.4400                                                                                                                                                                                                              | -25.3               | V                  | 3.0             | 40.8           | 1.0            | -65.0        | -13.0          | -52.0         |       |
|                                 |  | 3.7200                                                                                                                                                                                                              | -16.2               | H                  | 3.0             | 40.5           | 1.0            | -55.7        | -13.0          | -42.7         |       |
|                                 |  | 5.5800                                                                                                                                                                                                              | -24.5               | H                  | 3.0             | 40.8           | 1.0            | -64.3        | -13.0          | -51.3         |       |
|                                 |  | 7.4400                                                                                                                                                                                                              | -23.7               | H                  | 3.0             | 40.8           | 1.0            | -63.5        | -13.0          | -50.5         |       |
|                                 |  | Mid Channel (1880MHz)                                                                                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.7600                                                                                                                                                                                                              | -17.6               | V                  | 3.0             | 40.5           | 1.0            | -57.2        | -13.0          | -44.2         |       |
|                                 |  | 5.6400                                                                                                                                                                                                              | -23.4               | V                  | 3.0             | 40.8           | 1.0            | -63.2        | -13.0          | -50.2         |       |
|                                 |  | 7.5200                                                                                                                                                                                                              | -25.7               | V                  | 3.0             | 40.7           | 1.0            | -65.4        | -13.0          | -52.4         |       |
|                                 |  | 3.7600                                                                                                                                                                                                              | -21.6               | H                  | 3.0             | 40.5           | 1.0            | -61.1        | -13.0          | -48.1         |       |
|                                 |  | 5.6400                                                                                                                                                                                                              | -24.0               | H                  | 3.0             | 40.8           | 1.0            | -63.8        | -13.0          | -50.8         |       |
|                                 |  | 7.5200                                                                                                                                                                                                              | -24.8               | H                  | 3.0             | 40.7           | 1.0            | -64.5        | -13.0          | -51.5         |       |
|                                 |  | High Channel (1900MHz)                                                                                                                                                                                              |                     |                    |                 |                |                |              |                |               |       |
|                                 |  | 3.8000                                                                                                                                                                                                              | -14.9               | V                  | 3.0             | 40.6           | 1.0            | -54.5        | -13.0          | -41.5         |       |
|                                 |  | 5.7000                                                                                                                                                                                                              | -23.1               | V                  | 3.0             | 40.8           | 1.0            | -62.9        | -13.0          | -49.9         |       |
|                                 |  | 7.6000                                                                                                                                                                                                              | -24.3               | V                  | 3.0             | 40.7           | 1.0            | -64.0        | -13.0          | -51.0         |       |
|                                 |  | 3.8000                                                                                                                                                                                                              | -15.1               | H                  | 3.0             | 40.6           | 1.0            | -54.7        | -13.0          | -41.7         |       |
|                                 |  | 5.7000                                                                                                                                                                                                              | -22.9               | H                  | 3.0             | 40.8           | 1.0            | -62.7        | -13.0          | -49.7         |       |
|                                 |  | 7.6000                                                                                                                                                                                                              | -24.4               | H                  | 3.0             | 40.7           | 1.0            | -64.1        | -13.0          | -51.1         |       |
|                                 |  | Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor.                                                                                                                               |                     |                    |                 |                |                |              |                |               |       |

| UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement  |                          |                                           |                    |                 |                      |                |              |                |               |       |
|---------------------------------------------------------------------------------------|--------------------------|-------------------------------------------|--------------------|-----------------|----------------------|----------------|--------------|----------------|---------------|-------|
| Company:                                                                              |                          | Samsung                                   |                    |                 |                      |                |              |                |               |       |
| Project #:                                                                            |                          | 15K21363                                  |                    |                 |                      |                |              |                |               |       |
| Date:                                                                                 |                          | 07-26-15                                  |                    |                 |                      |                |              |                |               |       |
| Test Engineer:                                                                        |                          | Steven Kim                                |                    |                 |                      |                |              |                |               |       |
| Configuration:                                                                        |                          | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                      |                |              |                |               |       |
| Mode:                                                                                 |                          | TX, LTE BAND 2, 15MHz BW, QPSK            |                    |                 |                      |                |              |                |               |       |
| LTE<br>Band 2<br>15MHz<br>QPSK                                                        | Chamber                  |                                           | Pre-amplifier      |                 | Filter               |                | Limit        |                |               |       |
|                                                                                       | Chamber 2                |                                           | AFS42              |                 | Filter 1             |                | FCC Part 24  |                |               |       |
|                                                                                       | f<br>GHz                 | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamplifier<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                                       | Low Channel (1857.5MHz)  |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.7150                   | -14.5                                     | V                  | 3.0             | 40.5                 | 1.0            | -54.0        | -13.0          | -41.0         |       |
|                                                                                       | 5.5725                   | -20.5                                     | V                  | 3.0             | 40.8                 | 1.0            | -60.3        | -13.0          | -47.3         |       |
|                                                                                       | 7.4300                   | -25.7                                     | V                  | 3.0             | 40.8                 | 1.0            | -65.5        | -13.0          | -52.5         |       |
|                                                                                       | 3.7150                   | -15.6                                     | H                  | 3.0             | 40.5                 | 1.0            | -55.1        | -13.0          | -42.1         |       |
|                                                                                       | 5.5725                   | -24.4                                     | H                  | 3.0             | 40.8                 | 1.0            | -64.2        | -13.0          | -51.2         |       |
|                                                                                       | 7.4300                   | -24.9                                     | H                  | 3.0             | 40.8                 | 1.0            | -64.7        | -13.0          | -51.7         |       |
|                                                                                       | Mid Channel (1880MHz)    |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.7600                   | -11.5                                     | V                  | 3.0             | 40.5                 | 1.0            | -51.0        | -13.0          | -38.0         |       |
|                                                                                       | 5.6400                   | -20.8                                     | V                  | 3.0             | 40.8                 | 1.0            | -60.6        | -13.0          | -47.6         |       |
|                                                                                       | 7.5200                   | -24.0                                     | V                  | 3.0             | 40.7                 | 1.0            | -63.7        | -13.0          | -50.7         |       |
|                                                                                       | 3.7600                   | -19.0                                     | H                  | 3.0             | 40.5                 | 1.0            | -58.6        | -13.0          | -45.6         |       |
|                                                                                       | 5.6400                   | -24.5                                     | H                  | 3.0             | 40.8                 | 1.0            | -64.3        | -13.0          | -51.3         |       |
|                                                                                       | 7.5200                   | -23.2                                     | H                  | 3.0             | 40.7                 | 1.0            | -62.9        | -13.0          | -49.9         |       |
|                                                                                       | High Channel (1902.5MHz) |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.8050                   | -9.5                                      | V                  | 3.0             | 40.6                 | 1.0            | -49.1        | -13.0          | -36.1         |       |
|                                                                                       | 5.7075                   | -19.8                                     | V                  | 3.0             | 40.8                 | 1.0            | -59.6        | -13.0          | -46.6         |       |
|                                                                                       | 7.6100                   | -23.8                                     | V                  | 3.0             | 40.7                 | 1.0            | -63.5        | -13.0          | -50.5         |       |
|                                                                                       | 3.8050                   | -10.4                                     | H                  | 3.0             | 40.6                 | 1.0            | -50.0        | -13.0          | -37.0         |       |
|                                                                                       | 5.7075                   | -23.7                                     | H                  | 3.0             | 40.8                 | 1.0            | -63.5        | -13.0          | -50.5         |       |
|                                                                                       | 7.6100                   | -24.3                                     | H                  | 3.0             | 40.7                 | 1.0            | -64.0        | -13.0          | -51.0         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                          |                                           |                    |                 |                      |                |              |                |               |       |
| UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement  |                          |                                           |                    |                 |                      |                |              |                |               |       |
| Company:                                                                              |                          | Samsung                                   |                    |                 |                      |                |              |                |               |       |
| Project #:                                                                            |                          | 15K21363                                  |                    |                 |                      |                |              |                |               |       |
| Date:                                                                                 |                          | 07-26-15                                  |                    |                 |                      |                |              |                |               |       |
| Test Engineer:                                                                        |                          | Steven Kim                                |                    |                 |                      |                |              |                |               |       |
| Configuration:                                                                        |                          | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                      |                |              |                |               |       |
| Mode:                                                                                 |                          | TX, LTE BAND 2, 15MHz BW, 16QAM           |                    |                 |                      |                |              |                |               |       |
| LTE<br>Band 2<br>15MHz<br>16QAM                                                       | Chamber                  |                                           | Pre-amplifier      |                 | Filter               |                | Limit        |                |               |       |
|                                                                                       | Chamber 2                |                                           | AFS42              |                 | Filter 1             |                | FCC Part 24  |                |               |       |
|                                                                                       | f<br>GHz                 | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamplifier<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                                       | Low Channel (1857.5MHz)  |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.7150                   | -17.2                                     | V                  | 3.0             | 40.5                 | 1.0            | -56.7        | -13.0          | -43.7         |       |
|                                                                                       | 5.5725                   | -22.3                                     | V                  | 3.0             | 40.8                 | 1.0            | -62.1        | -13.0          | -49.1         |       |
|                                                                                       | 7.4300                   | -26.4                                     | V                  | 3.0             | 40.8                 | 1.0            | -66.1        | -13.0          | -53.1         |       |
|                                                                                       | 3.7150                   | -16.5                                     | H                  | 3.0             | 40.5                 | 1.0            | -56.0        | -13.0          | -43.0         |       |
|                                                                                       | 5.5725                   | -25.8                                     | H                  | 3.0             | 40.8                 | 1.0            | -65.6        | -13.0          | -52.6         |       |
|                                                                                       | 7.4300                   | -26.7                                     | H                  | 3.0             | 40.8                 | 1.0            | -66.4        | -13.0          | -53.4         |       |
|                                                                                       | Mid Channel (1880MHz)    |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.7600                   | -12.4                                     | V                  | 3.0             | 40.5                 | 1.0            | -52.0        | -13.0          | -39.0         |       |
|                                                                                       | 5.6400                   | -22.1                                     | V                  | 3.0             | 40.8                 | 1.0            | -61.9        | -13.0          | -48.9         |       |
|                                                                                       | 7.5200                   | -24.8                                     | V                  | 3.0             | 40.7                 | 1.0            | -64.6        | -13.0          | -51.6         |       |
|                                                                                       | 3.7600                   | -15.1                                     | H                  | 3.0             | 40.5                 | 1.0            | -54.6        | -13.0          | -41.6         |       |
|                                                                                       | 5.6400                   | -24.8                                     | H                  | 3.0             | 40.8                 | 1.0            | -64.6        | -13.0          | -51.6         |       |
|                                                                                       | 7.5200                   | -24.1                                     | H                  | 3.0             | 40.7                 | 1.0            | -63.9        | -13.0          | -50.9         |       |
|                                                                                       | High Channel (1902.5MHz) |                                           |                    |                 |                      |                |              |                |               |       |
|                                                                                       | 3.8050                   | -11.7                                     | V                  | 3.0             | 40.6                 | 1.0            | -51.2        | -13.0          | -38.2         |       |
|                                                                                       | 5.7075                   | -22.4                                     | V                  | 3.0             | 40.8                 | 1.0            | -62.2        | -13.0          | -49.2         |       |
|                                                                                       | 7.6100                   | -24.6                                     | V                  | 3.0             | 40.7                 | 1.0            | -64.3        | -13.0          | -51.3         |       |
|                                                                                       | 3.8050                   | -15.6                                     | H                  | 3.0             | 40.6                 | 1.0            | -55.2        | -13.0          | -42.2         |       |
|                                                                                       | 5.7075                   | -26.6                                     | H                  | 3.0             | 40.8                 | 1.0            | -66.4        | -13.0          | -53.4         |       |
|                                                                                       | 7.6100                   | -24.6                                     | H                  | 3.0             | 40.7                 | 1.0            | -64.3        | -13.0          | -51.3         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                          |                                           |                    |                 |                      |                |              |                |               |       |

| LTE<br>Band 2<br>10MHz<br>QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                                           |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
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|--------|-------|---|-----|------|-----|-------|-------|-------|--|--|--------------|--|--|--|--|--|--|--|--|--|--|----------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Company:                                                                             |                    | Samsung                                   |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Project #:                                                                           |                    | 15K21363                                  |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
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                                                                                                                                                                                                                                     | Date:                                                                                |                    | 07-26-15                                  |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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                                                                                                                                                                                                                                     | Mode:                                                                                |                    | TX, LTE BAND 2, 10MHz BW,QPSK             |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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                                                                                                                                                                                                                                     | Chamber                                                                              |                    |                                           | Pre-amplifier  |                |              | Filter         |               | Limit       |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| <table><tr><th>f<br/>GHz</th><th>SGreading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th colspan="2">Notes</th></tr><tr><td colspan="11">Low Channel (1855MHz)</td></tr><tr><td>3.7100</td><td>-14.4</td><td>V</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-53.9</td><td>-13.0</td><td>-40.9</td><td colspan="2"></td></tr><tr><td>5.5650</td><td>-21.3</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-61.2</td><td>-13.0</td><td>-48.2</td><td colspan="2"></td></tr><tr><td>7.4450</td><td>-27.2</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td colspan="2"></td></tr><tr><td>3.7100</td><td>-14.5</td><td>H</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-54.0</td><td>-13.0</td><td>-41.0</td><td colspan="2"></td></tr><tr><td>5.5650</td><td>-22.6</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-62.4</td><td>-13.0</td><td>-49.4</td><td colspan="2"></td></tr><tr><td>7.4450</td><td>-27.0</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-66.8</td><td>-13.0</td><td>-53.8</td><td colspan="2"></td></tr><tr><td colspan="11">Mid Channel (1880MHz)</td></tr><tr><td>3.7600</td><td>-11.1</td><td>V</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-50.6</td><td>-13.0</td><td>-37.6</td><td colspan="2"></td></tr><tr><td>5.6400</td><td>-20.5</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-60.3</td><td>-13.0</td><td>-47.3</td><td colspan="2"></td></tr><tr><td>7.5200</td><td>-24.0</td><td>V</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-63.7</td><td>-13.0</td><td>-50.7</td><td colspan="2"></td></tr><tr><td>3.7600</td><td>-13.1</td><td>H</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-52.6</td><td>-13.0</td><td>-39.6</td><td colspan="2"></td></tr><tr><td>5.6400</td><td>-24.1</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-63.9</td><td>-13.0</td><td>-50.9</td><td colspan="2"></td></tr><tr><td>7.5200</td><td>-23.0</td><td>H</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-62.7</td><td>-13.0</td><td>-49.7</td><td colspan="2"></td></tr><tr><td colspan="11">High Channel (1905MHz)</td></tr><tr><td>3.8100</td><td>-10.9</td><td>V</td><td>3.0</td><td>40.6</td><td>1.0</td><td>-50.4</td><td>-13.0</td><td>-37.4</td><td colspan="2"></td></tr><tr><td>5.7150</td><td>-19.5</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-59.3</td><td>-13.0</td><td>-46.3</td><td colspan="2"></td></tr><tr><td>7.6200</td><td>-24.4</td><td>V</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-64.1</td><td>-13.0</td><td>-51.1</td><td colspan="2"></td></tr><tr><td>3.8100</td><td>-12.6</td><td>H</td><td>3.0</td><td>40.6</td><td>1.0</td><td>-52.2</td><td>-13.0</td><td>-39.2</td><td colspan="2"></td></tr><tr><td>5.7150</td><td>-22.4</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-62.2</td><td>-13.0</td><td>-49.2</td><td colspan="2"></td></tr><tr><td>7.6200</td><td>-25.0</td><td>H</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-64.7</td><td>-13.0</td><td>-51.7</td><td colspan="2"></td></tr><tr><td colspan="11">Rev.03.03.09</td></tr><tr><td colspan="11">Note: No other emissions were detected above the system noise floor.</td></tr></table> |                                                                                      |                    |                                           |                |                |              |                |               |             |  | f<br>GHz | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  | Low Channel (1855MHz) |  |  |  |  |  |  |  |  |  |  | 3.7100 | -14.4 | V | 3.0 | 40.5 | 1.0 | -53.9 | -13.0 | -40.9 |  |  | 5.5650 | -21.3 | V | 3.0 | 40.8 | 1.0 | -61.2 | -13.0 | -48.2 |  |  | 7.4450 | -27.2 | V | 3.0 | 40.8 | 1.0 | -67.0 | -13.0 | -54.0 |  |  | 3.7100 | -14.5 | H | 3.0 | 40.5 | 1.0 | -54.0 | -13.0 | -41.0 |  |  | 5.5650 | -22.6 | H | 3.0 | 40.8 | 1.0 | -62.4 | -13.0 | -49.4 |  |  | 7.4450 | -27.0 | H | 3.0 | 40.8 | 1.0 | -66.8 | -13.0 | -53.8 |  |  | Mid Channel (1880MHz) |  |  |  |  |  |  |  |  |  |  | 3.7600 | -11.1 | V | 3.0 | 40.5 | 1.0 | -50.6 | -13.0 | -37.6 |  |  | 5.6400 | -20.5 | V | 3.0 | 40.8 | 1.0 | -60.3 | -13.0 | -47.3 |  |  | 7.5200 | -24.0 | V | 3.0 | 40.7 | 1.0 | -63.7 | -13.0 | -50.7 |  |  | 3.7600 | -13.1 | H | 3.0 | 40.5 | 1.0 | -52.6 | -13.0 | -39.6 |  |  | 5.6400 | -24.1 | H | 3.0 | 40.8 | 1.0 | -63.9 | -13.0 | -50.9 |  |  | 7.5200 | -23.0 | H | 3.0 | 40.7 | 1.0 | -62.7 | -13.0 | -49.7 |  |  | High Channel (1905MHz) |  |  |  |  |  |  |  |  |  |  | 3.8100 | -10.9 | V | 3.0 | 40.6 | 1.0 | -50.4 | -13.0 | -37.4 |  |  | 5.7150 | -19.5 | V | 3.0 | 40.8 | 1.0 | -59.3 | -13.0 | -46.3 |  |  | 7.6200 | -24.4 | V | 3.0 | 40.7 | 1.0 | -64.1 | -13.0 | -51.1 |  |  | 3.8100 | -12.6 | H | 3.0 | 40.6 | 1.0 | -52.2 | -13.0 | -39.2 |  |  | 5.7150 | -22.4 | H | 3.0 | 40.8 | 1.0 | -62.2 | -13.0 | -49.2 |  |  | 7.6200 | -25.0 | H | 3.0 | 40.7 | 1.0 | -64.7 | -13.0 | -51.7 |  |  | Rev.03.03.09 |  |  |  |  |  |  |  |  |  |  | Note: No other emissions were detected above the system noise floor. |  |  |  |  |  |  |  |  |  |  |
| f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SGreading<br>(dBm)                                                                   | Ant. Pol.<br>(H/V) | Distance<br>(m)                           | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes       |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| Low Channel (1855MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -14.4                                                                                | V                  | 3.0                                       | 40.5           | 1.0            | -53.9        | -13.0          | -40.9         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.5650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -21.3                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -61.2        | -13.0          | -48.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.4450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -27.2                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -67.0        | -13.0          | -54.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| 3.7100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -14.5                                                                                | H                  | 3.0                                       | 40.5           | 1.0            | -54.0        | -13.0          | -41.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.5650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -22.6                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -62.4        | -13.0          | -49.4         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| 7.4450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -27.0                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -66.8        | -13.0          | -53.8         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| Mid Channel (1880MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -11.1                                                                                | V                  | 3.0                                       | 40.5           | 1.0            | -50.6        | -13.0          | -37.6         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.6400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -20.5                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -60.3        | -13.0          | -47.3         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.5200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -24.0                                                                                | V                  | 3.0                                       | 40.7           | 1.0            | -63.7        | -13.0          | -50.7         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -13.1                                                                                | H                  | 3.0                                       | 40.5           | 1.0            | -52.6        | -13.0          | -39.6         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.6400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -24.1                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -63.9        | -13.0          | -50.9         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.5200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -23.0                                                                                | H                  | 3.0                                       | 40.7           | 1.0            | -62.7        | -13.0          | -49.7         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| High Channel (1905MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.8100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -10.9                                                                                | V                  | 3.0                                       | 40.6           | 1.0            | -50.4        | -13.0          | -37.4         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.7150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -19.5                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -59.3        | -13.0          | -46.3         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.6200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -24.4                                                                                | V                  | 3.0                                       | 40.7           | 1.0            | -64.1        | -13.0          | -51.1         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.8100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -12.6                                                                                | H                  | 3.0                                       | 40.6           | 1.0            | -52.2        | -13.0          | -39.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.7150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -22.4                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -62.2        | -13.0          | -49.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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| 7.6200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -25.0                                                                                | H                  | 3.0                                       | 40.7           | 1.0            | -64.7        | -13.0          | -51.7         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| Rev.03.03.09                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| LTE<br>Band 2<br>10MHz<br>16QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                                           |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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                                                                                                                                                                                                                                     | Configuration:                                                                       |                    | EUT / AC Adapter / Ear Phone / X-Position |                |                |              |                |               |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   | 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                                                                                                                                                                                                                                     | Chamber                                                                              |                    |                                           | Pre-amplifier  |                |              | Filter         |               | Limit       |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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                                                                                                                                                                                                                                     | Chamber 2                                                                            |                    |                                           | AFS42          |                |              | Filter 1       |               | FCC Part 24 |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| <table><tr><th>f<br/>GHz</th><th>SGreading<br/>(dBm)</th><th>Ant. Pol.<br/>(H/V)</th><th>Distance<br/>(m)</th><th>Preamp<br/>(dB)</th><th>Filter<br/>(dB)</th><th>ERP<br/>(dBm)</th><th>Limit<br/>(dBm)</th><th>Delta<br/>(dB)</th><th colspan="2">Notes</th></tr><tr><td colspan="11">Low Channel (1855MHz)</td></tr><tr><td>3.7100</td><td>-13.5</td><td>V</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-53.0</td><td>-13.0</td><td>-40.0</td><td colspan="2"></td></tr><tr><td>5.5650</td><td>-22.4</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-62.2</td><td>-13.0</td><td>-49.2</td><td colspan="2"></td></tr><tr><td>7.4450</td><td>-27.3</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-67.1</td><td>-13.0</td><td>-54.1</td><td colspan="2"></td></tr><tr><td>3.7100</td><td>-15.5</td><td>H</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-55.0</td><td>-13.0</td><td>-42.0</td><td colspan="2"></td></tr><tr><td>5.5650</td><td>-23.7</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-63.5</td><td>-13.0</td><td>-50.5</td><td colspan="2"></td></tr><tr><td>7.4450</td><td>-27.2</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-67.0</td><td>-13.0</td><td>-54.0</td><td colspan="2"></td></tr><tr><td colspan="11">Mid Channel (1880MHz)</td></tr><tr><td>3.7600</td><td>-12.6</td><td>V</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-52.1</td><td>-13.0</td><td>-39.1</td><td colspan="2"></td></tr><tr><td>5.6400</td><td>-22.4</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-62.2</td><td>-13.0</td><td>-49.2</td><td colspan="2"></td></tr><tr><td>7.5200</td><td>-24.1</td><td>V</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-63.8</td><td>-13.0</td><td>-50.8</td><td colspan="2"></td></tr><tr><td>3.7600</td><td>-15.2</td><td>H</td><td>3.0</td><td>40.5</td><td>1.0</td><td>-54.7</td><td>-13.0</td><td>-41.7</td><td colspan="2"></td></tr><tr><td>5.6400</td><td>-25.5</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-65.3</td><td>-13.0</td><td>-52.3</td><td colspan="2"></td></tr><tr><td>7.5200</td><td>-25.1</td><td>H</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-64.8</td><td>-13.0</td><td>-51.8</td><td colspan="2"></td></tr><tr><td colspan="11">High Channel (1905MHz)</td></tr><tr><td>3.8100</td><td>-12.1</td><td>V</td><td>3.0</td><td>40.6</td><td>1.0</td><td>-51.7</td><td>-13.0</td><td>-38.7</td><td colspan="2"></td></tr><tr><td>5.7150</td><td>-21.6</td><td>V</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-61.4</td><td>-13.0</td><td>-48.4</td><td colspan="2"></td></tr><tr><td>7.6200</td><td>-24.9</td><td>V</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-64.6</td><td>-13.0</td><td>-51.6</td><td colspan="2"></td></tr><tr><td>3.8100</td><td>-16.5</td><td>H</td><td>3.0</td><td>40.6</td><td>1.0</td><td>-56.0</td><td>-13.0</td><td>-43.0</td><td colspan="2"></td></tr><tr><td>5.7150</td><td>-23.7</td><td>H</td><td>3.0</td><td>40.8</td><td>1.0</td><td>-63.5</td><td>-13.0</td><td>-50.5</td><td colspan="2"></td></tr><tr><td>7.6200</td><td>-25.5</td><td>H</td><td>3.0</td><td>40.7</td><td>1.0</td><td>-65.2</td><td>-13.0</td><td>-52.2</td><td colspan="2"></td></tr><tr><td colspan="11">Rev.03.03.09</td></tr><tr><td colspan="11">Note: No other emissions were detected above the system noise floor.</td></tr></table> |                                                                                      |                    |                                           |                |                |              |                |               |             |  | f<br>GHz | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  | Low Channel (1855MHz) |  |  |  |  |  |  |  |  |  |  | 3.7100 | -13.5 | V | 3.0 | 40.5 | 1.0 | -53.0 | -13.0 | -40.0 |  |  | 5.5650 | -22.4 | V | 3.0 | 40.8 | 1.0 | -62.2 | -13.0 | -49.2 |  |  | 7.4450 | -27.3 | V | 3.0 | 40.8 | 1.0 | -67.1 | -13.0 | -54.1 |  |  | 3.7100 | -15.5 | H | 3.0 | 40.5 | 1.0 | -55.0 | -13.0 | -42.0 |  |  | 5.5650 | -23.7 | H | 3.0 | 40.8 | 1.0 | -63.5 | -13.0 | -50.5 |  |  | 7.4450 | -27.2 | H | 3.0 | 40.8 | 1.0 | -67.0 | -13.0 | -54.0 |  |  | Mid Channel (1880MHz) |  |  |  |  |  |  |  |  |  |  | 3.7600 | -12.6 | V | 3.0 | 40.5 | 1.0 | -52.1 | -13.0 | -39.1 |  |  | 5.6400 | -22.4 | V | 3.0 | 40.8 | 1.0 | -62.2 | -13.0 | -49.2 |  |  | 7.5200 | -24.1 | V | 3.0 | 40.7 | 1.0 | -63.8 | -13.0 | -50.8 |  |  | 3.7600 | -15.2 | H | 3.0 | 40.5 | 1.0 | -54.7 | -13.0 | -41.7 |  |  | 5.6400 | -25.5 | H | 3.0 | 40.8 | 1.0 | -65.3 | -13.0 | -52.3 |  |  | 7.5200 | -25.1 | H | 3.0 | 40.7 | 1.0 | -64.8 | -13.0 | -51.8 |  |  | High Channel (1905MHz) |  |  |  |  |  |  |  |  |  |  | 3.8100 | -12.1 | V | 3.0 | 40.6 | 1.0 | -51.7 | -13.0 | -38.7 |  |  | 5.7150 | -21.6 | V | 3.0 | 40.8 | 1.0 | -61.4 | -13.0 | -48.4 |  |  | 7.6200 | -24.9 | V | 3.0 | 40.7 | 1.0 | -64.6 | -13.0 | -51.6 |  |  | 3.8100 | -16.5 | H | 3.0 | 40.6 | 1.0 | -56.0 | -13.0 | -43.0 |  |  | 5.7150 | -23.7 | H | 3.0 | 40.8 | 1.0 | -63.5 | -13.0 | -50.5 |  |  | 7.6200 | -25.5 | H | 3.0 | 40.7 | 1.0 | -65.2 | -13.0 | -52.2 |  |  | Rev.03.03.09 |  |  |  |  |  |  |  |  |  |  | Note: No other emissions were detected above the system noise floor. |  |  |  |  |  |  |  |  |  |  |
| f<br>GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SGreading<br>(dBm)                                                                   | Ant. Pol.<br>(H/V) | Distance<br>(m)                           | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes       |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| Low Channel (1855MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 3.7100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -13.5                                                                                | V                  | 3.0                                       | 40.5           | 1.0            | -53.0        | -13.0          | -40.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 5.5650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -22.4                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -62.2        | -13.0          | -49.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 7.4450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -27.3                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -67.1        | -13.0          | -54.1         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -15.5                                                                                | H                  | 3.0                                       | 40.5           | 1.0            | -55.0        | -13.0          | -42.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.5650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -23.7                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -63.5        | -13.0          | -50.5         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.4450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -27.2                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -67.0        | -13.0          | -54.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| Mid Channel (1880MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -12.6                                                                                | V                  | 3.0                                       | 40.5           | 1.0            | -52.1        | -13.0          | -39.1         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.6400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -22.4                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -62.2        | -13.0          | -49.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.5200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -24.1                                                                                | V                  | 3.0                                       | 40.7           | 1.0            | -63.8        | -13.0          | -50.8         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 3.7600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -15.2                                                                                | H                  | 3.0                                       | 40.5           | 1.0            | -54.7        | -13.0          | -41.7         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 5.6400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -25.5                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -65.3        | -13.0          | -52.3         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| 7.5200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -25.1                                                                                | H                  | 3.0                                       | 40.7           | 1.0            | -64.8        | -13.0          | -51.8         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |    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| High Channel (1905MHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 3.8100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -12.1                                                                                | V                  | 3.0                                       | 40.6           | 1.0            | -51.7        | -13.0          | -38.7         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 5.7150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -21.6                                                                                | V                  | 3.0                                       | 40.8           | 1.0            | -61.4        | -13.0          | -48.4         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 7.6200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -24.9                                                                                | V                  | 3.0                                       | 40.7           | 1.0            | -64.6        | -13.0          | -51.6         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 3.8100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -16.5                                                                                | H                  | 3.0                                       | 40.6           | 1.0            | -56.0        | -13.0          | -43.0         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 5.7150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -23.7                                                                                | H                  | 3.0                                       | 40.8           | 1.0            | -63.5        | -13.0          | -50.5         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| 7.6200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -25.5                                                                                | H                  | 3.0                                       | 40.7           | 1.0            | -65.2        | -13.0          | -52.2         |             |  |          |                    |                    |                 |                |                |              |                |               |       |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| Rev.03.03.09                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |
| Note: No other emissions were detected above the system noise floor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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    |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                       |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |                        |  |  |  |  |  |  |  |  |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |        |       |   |     |      |     |       |       |       |  |  |              |  |  |  |  |  |  |  |  |  |  |                                                                      |  |  |  |  |  |  |  |  |  |  |

|                                                                      |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|--|
| LTE<br>Band 2<br>5MHz<br>QPSK                                        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Date: 07-26-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Mode: TX, LTE BAND 2, 5MHz BW, QPSK                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                      | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |  |
|                                                                      | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                      | Low Channel (1852.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.7050                                                                               | -13.1              | V                  | 3.0             | 40.5           | 1.0            | -52.6        | -13.0          | -39.6         |       |  |
|                                                                      | 5.5575                                                                               | -20.1              | V                  | 3.0             | 40.8           | 1.0            | -59.9        | -13.0          | -46.9         |       |  |
|                                                                      | 7.4100                                                                               | -26.3              | V                  | 3.0             | 40.8           | 1.0            | -66.1        | -13.0          | -53.1         |       |  |
|                                                                      | 3.7050                                                                               | -14.2              | H                  | 3.0             | 40.5           | 1.0            | -53.7        | -13.0          | -40.7         |       |  |
|                                                                      | 5.5575                                                                               | -23.2              | H                  | 3.0             | 40.8           | 1.0            | -63.0        | -13.0          | -50.0         |       |  |
|                                                                      | 7.4100                                                                               | -25.0              | H                  | 3.0             | 40.8           | 1.0            | -64.8        | -13.0          | -51.8         |       |  |
|                                                                      | Mid Channel (1880MHz)                                                                |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.7600                                                                               | -11.0              | V                  | 3.0             | 40.5           | 1.0            | -50.5        | -13.0          | -37.5         |       |  |
|                                                                      | 5.6400                                                                               | -20.2              | V                  | 3.0             | 40.8           | 1.0            | -60.0        | -13.0          | -47.0         |       |  |
|                                                                      | 7.5200                                                                               | -24.7              | V                  | 3.0             | 40.7           | 1.0            | -64.4        | -13.0          | -51.4         |       |  |
|                                                                      | 3.7600                                                                               | -12.9              | H                  | 3.0             | 40.5           | 1.0            | -52.4        | -13.0          | -39.4         |       |  |
|                                                                      | 5.6400                                                                               | -20.2              | H                  | 3.0             | 40.8           | 1.0            | -60.0        | -13.0          | -47.0         |       |  |
|                                                                      | 7.5200                                                                               | -23.6              | H                  | 3.0             | 40.7           | 1.0            | -63.3        | -13.0          | -50.3         |       |  |
|                                                                      | High Channel (1907.5MHz)                                                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.8150                                                                               | -11.6              | V                  | 3.0             | 40.6           | 1.0            | -51.2        | -13.0          | -38.2         |       |  |
| 5.7225                                                               | -19.9                                                                                | V                  | 3.0                | 40.8            | 1.0            | -59.6          | -13.0        | -46.6          |               |       |  |
| 7.6300                                                               | -24.8                                                                                | V                  | 3.0                | 40.7            | 1.0            | -64.5          | -13.0        | -51.5          |               |       |  |
| 3.8150                                                               | -15.8                                                                                | H                  | 3.0                | 40.6            | 1.0            | -55.3          | -13.0        | -42.3          |               |       |  |
| 5.7225                                                               | -21.6                                                                                | H                  | 3.0                | 40.8            | 1.0            | -61.4          | -13.0        | -48.4          |               |       |  |
| 7.6300                                                               | -23.8                                                                                | H                  | 3.0                | 40.7            | 1.0            | -63.4          | -13.0        | -50.4          |               |       |  |
| Rev. 03.03.09                                                        |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |

|                                                                      |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|--|
| LTE<br>Band 2<br>5MHz<br>16QAM                                       | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Date: 07-26-15                                                                       |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Test Engineer: Steven Kim                                                            |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Mode: TX, LTE BAND 2, 5MHz BW, 16QAM                                                 |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |  |
|                                                                      | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |  |
|                                                                      | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |  |
|                                                                      | Low Channel (1852.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.7050                                                                               | -15.7              | V                  | 3.0             | 40.5           | 1.0            | -55.2        | -13.0          | -42.2         |       |  |
|                                                                      | 5.5575                                                                               | -21.1              | V                  | 3.0             | 40.8           | 1.0            | -60.9        | -13.0          | -47.9         |       |  |
|                                                                      | 7.4100                                                                               | -25.3              | V                  | 3.0             | 40.8           | 1.0            | -65.1        | -13.0          | -52.1         |       |  |
|                                                                      | 3.7050                                                                               | -17.1              | H                  | 3.0             | 40.5           | 1.0            | -56.6        | -13.0          | -43.6         |       |  |
|                                                                      | 5.5575                                                                               | -22.2              | H                  | 3.0             | 40.8           | 1.0            | -62.0        | -13.0          | -49.0         |       |  |
|                                                                      | 7.4100                                                                               | -25.2              | H                  | 3.0             | 40.8           | 1.0            | -64.9        | -13.0          | -51.9         |       |  |
|                                                                      | Mid Channel (1880MHz)                                                                |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.7600                                                                               | -12.8              | V                  | 3.0             | 40.5           | 1.0            | -52.3        | -13.0          | -39.3         |       |  |
|                                                                      | 5.6400                                                                               | -22.4              | V                  | 3.0             | 40.8           | 1.0            | -62.2        | -13.0          | -49.2         |       |  |
|                                                                      | 7.5200                                                                               | -24.8              | V                  | 3.0             | 40.7           | 1.0            | -64.5        | -13.0          | -51.5         |       |  |
|                                                                      | 3.7600                                                                               | -16.2              | H                  | 3.0             | 40.5           | 1.0            | -55.7        | -13.0          | -42.7         |       |  |
|                                                                      | 5.6400                                                                               | -22.7              | H                  | 3.0             | 40.8           | 1.0            | -62.5        | -13.0          | -49.5         |       |  |
|                                                                      | 7.5200                                                                               | -24.1              | H                  | 3.0             | 40.7           | 1.0            | -63.9        | -13.0          | -50.9         |       |  |
|                                                                      | High Channel (1907.5MHz)                                                             |                    |                    |                 |                |                |              |                |               |       |  |
|                                                                      | 3.8150                                                                               | -15.3              | V                  | 3.0             | 40.6           | 1.0            | -54.9        | -13.0          | -41.9         |       |  |
| 5.7225                                                               | -21.2                                                                                | V                  | 3.0                | 40.8            | 1.0            | -61.0          | -13.0        | -48.0          |               |       |  |
| 7.6300                                                               | -25.3                                                                                | V                  | 3.0                | 40.7            | 1.0            | -64.9          | -13.0        | -51.9          |               |       |  |
| 3.8150                                                               | -14.7                                                                                | H                  | 3.0                | 40.6            | 1.0            | -54.3          | -13.0        | -41.3          |               |       |  |
| 5.7225                                                               | -23.4                                                                                | H                  | 3.0                | 40.8            | 1.0            | -63.2          | -13.0        | -50.2          |               |       |  |
| 7.6300                                                               | -24.9                                                                                | H                  | 3.0                | 40.7            | 1.0            | -64.5          | -13.0        | -51.5          |               |       |  |
| Rev. 03.03.09                                                        |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |  |

|                                                                      |                                                                                      |                    |                    |                 |                |                |              |                |               |       |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br>Band 2<br>3MHz<br>QPSK                                        | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Company: Samsung                                                                     |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Project #: 15K21363                                                                  |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Date: 07-27-15                                                                       |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Test Engineer: Steven.Kim                                                            |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Mode: TX, LTE BAND 2, 3MHz BW,QPSK                                                   |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | Chamber                                                                              |                    | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |
|                                                                      | Chamber 2                                                                            |                    | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |
|                                                                      | f<br>GHz                                                                             | SGreading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                      | Low Channel(1851.5MHz)                                                               |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.7030                                                                               | -12.6              | V                  | 3.0             | 40.5           | 1.0            | -52.1        | -13.0          | -39.1         |       |
|                                                                      | 5.5545                                                                               | -26.5              | V                  | 3.0             | 40.8           | 1.0            | -66.3        | -13.0          | -53.3         |       |
|                                                                      | 7.4060                                                                               | -26.3              | V                  | 3.0             | 40.8           | 1.0            | -66.0        | -13.0          | -53.0         |       |
|                                                                      | 3.7030                                                                               | -12.5              | H                  | 3.0             | 40.5           | 1.0            | -52.0        | -13.0          | -39.0         |       |
|                                                                      | 5.5545                                                                               | -16.9              | H                  | 3.0             | 40.8           | 1.0            | -56.7        | -13.0          | -43.7         |       |
|                                                                      | 7.4060                                                                               | -25.5              | H                  | 3.0             | 40.8           | 1.0            | -65.3        | -13.0          | -52.3         |       |
|                                                                      | Mid Channel(1880MHz)                                                                 |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.7600                                                                               | -14.8              | V                  | 3.0             | 40.5           | 1.0            | -54.4        | -13.0          | -41.4         |       |
|                                                                      | 5.6400                                                                               | -25.0              | V                  | 3.0             | 40.8           | 1.0            | -64.8        | -13.0          | -51.8         |       |
|                                                                      | 7.5200                                                                               | -27.4              | V                  | 3.0             | 40.7           | 1.0            | -67.2        | -13.0          | -54.2         |       |
|                                                                      | 3.7600                                                                               | -16.6              | H                  | 3.0             | 40.5           | 1.0            | -56.2        | -13.0          | -43.2         |       |
|                                                                      | 5.6400                                                                               | -14.7              | H                  | 3.0             | 40.8           | 1.0            | -54.5        | -13.0          | -41.5         |       |
|                                                                      | 7.5200                                                                               | -24.6              | H                  | 3.0             | 40.7           | 1.0            | -64.3        | -13.0          | -51.3         |       |
|                                                                      | High Channel(1908.5MHz)                                                              |                    |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.8170                                                                               | -14.0              | V                  | 3.0             | 40.6           | 1.0            | -53.6        | -13.0          | -40.6         |       |
| 5.7255                                                               | -14.6                                                                                | V                  | 3.0                | 40.8            | 1.0            | -54.4          | -13.0        | -41.4          |               |       |
| 7.6340                                                               | -27.2                                                                                | V                  | 3.0                | 40.7            | 1.0            | -66.9          | -13.0        | -53.9          |               |       |
| 3.8170                                                               | -15.1                                                                                | H                  | 3.0                | 40.6            | 1.0            | -54.7          | -13.0        | -41.7          |               |       |
| 5.7255                                                               | -21.9                                                                                | H                  | 3.0                | 40.8            | 1.0            | -61.7          | -13.0        | -48.7          |               |       |
| 7.6340                                                               | -24.5                                                                                | H                  | 3.0                | 40.7            | 1.0            | -64.2          | -13.0        | -51.2          |               |       |
| Rev.03.03.09                                                         |                                                                                      |                    |                    |                 |                |                |              |                |               |       |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                    |                    |                 |                |                |              |                |               |       |

|                                                                      |                                                                                      |                     |                    |                 |                |                |              |                |               |       |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| LTE<br>Band 2<br>3MHz<br>16QAM                                       | UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Company: Samsung                                                                     |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Project #: 15K21363                                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Date: 07-27-15                                                                       |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Test Engineer: Steven.Kim                                                            |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Configuration: EUT / AC Adapter / Ear Phone / Y-Position                             |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Mode: TX, LTE BAND 2, 3MHz BW,16QAM                                                  |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | Chamber                                                                              |                     | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |
|                                                                      | Chamber 2                                                                            |                     | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |
|                                                                      | f<br>GHz                                                                             | SG reading<br>(dBm) | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                      | Low Channel(1851.5MHz)                                                               |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.703                                                                                | -13.8               | V                  | 3.0             | 40.5           | 1.0            | -53.3        | -13.0          | -40.3         |       |
|                                                                      | 5.555                                                                                | -27.1               | V                  | 3.0             | 40.8           | 1.0            | -66.9        | -13.0          | -53.9         |       |
|                                                                      | 7.406                                                                                | -26.7               | V                  | 3.0             | 40.8           | 1.0            | -66.4        | -13.0          | -53.4         |       |
|                                                                      | 3.703                                                                                | -15.4               | H                  | 3.0             | 40.5           | 1.0            | -54.9        | -13.0          | -41.9         |       |
|                                                                      | 5.555                                                                                | -21.0               | H                  | 3.0             | 40.8           | 1.0            | -60.8        | -13.0          | -47.8         |       |
|                                                                      | 7.406                                                                                | -25.9               | H                  | 3.0             | 40.8           | 1.0            | -65.7        | -13.0          | -52.7         |       |
|                                                                      | Mid Channel(1880MHz)                                                                 |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.760                                                                                | -14.9               | V                  | 3.0             | 40.5           | 1.0            | -54.5        | -13.0          | -41.5         |       |
|                                                                      | 5.640                                                                                | -26.6               | V                  | 3.0             | 40.8           | 1.0            | -66.4        | -13.0          | -53.4         |       |
|                                                                      | 7.520                                                                                | -27.8               | V                  | 3.0             | 40.7           | 1.0            | -67.6        | -13.0          | -54.6         |       |
|                                                                      | 3.760                                                                                | -17.8               | H                  | 3.0             | 40.5           | 1.0            | -57.4        | -13.0          | -44.4         |       |
|                                                                      | 5.640                                                                                | -15.6               | H                  | 3.0             | 40.8           | 1.0            | -55.4        | -13.0          | -42.4         |       |
|                                                                      | 7.520                                                                                | -25.0               | H                  | 3.0             | 40.7           | 1.0            | -64.7        | -13.0          | -51.7         |       |
|                                                                      | High Channel(1908.5MHz)                                                              |                     |                    |                 |                |                |              |                |               |       |
|                                                                      | 3.817                                                                                | -15.7               | V                  | 3.0             | 40.6           | 1.0            | -55.3        | -13.0          | -42.3         |       |
| 5.726                                                                | -15.3                                                                                | V                   | 3.0                | 40.8            | 1.0            | -55.1          | -13.0        | -42.1          |               |       |
| 7.634                                                                | -27.7                                                                                | V                   | 3.0                | 40.7            | 1.0            | -67.4          | -13.0        | -54.4          |               |       |
| 3.817                                                                | -17.9                                                                                | H                   | 3.0                | 40.6            | 1.0            | -57.5          | -13.0        | -44.5          |               |       |
| 5.726                                                                | -24.4                                                                                | H                   | 3.0                | 40.8            | 1.0            | -64.2          | -13.0        | -51.2          |               |       |
| 7.634                                                                | -25.1                                                                                | H                   | 3.0                | 40.7            | 1.0            | -64.8          | -13.0        | -51.8          |               |       |
| Rev.03.03.09                                                         |                                                                                      |                     |                    |                 |                |                |              |                |               |       |
| Note: No other emissions were detected above the system noise floor. |                                                                                      |                     |                    |                 |                |                |              |                |               |       |

| UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement  |                          |                                           |                    |                 |                |                |              |                |               |       |
|---------------------------------------------------------------------------------------|--------------------------|-------------------------------------------|--------------------|-----------------|----------------|----------------|--------------|----------------|---------------|-------|
| Company:                                                                              |                          | Samsung                                   |                    |                 |                |                |              |                |               |       |
| Project #:                                                                            |                          | 15K21363                                  |                    |                 |                |                |              |                |               |       |
| Date:                                                                                 |                          | 07-27-15                                  |                    |                 |                |                |              |                |               |       |
| Test Engineer:                                                                        |                          | Steven Kim                                |                    |                 |                |                |              |                |               |       |
| Configuration:                                                                        |                          | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                |                |              |                |               |       |
| Mode:                                                                                 |                          | TX, LTE BAND 2, 1.4MHz BW,QPSK            |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 2<br>1.4MHz<br>QPSK                                                       | Chamber                  |                                           | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |
|                                                                                       | Chamber 2                |                                           | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |
|                                                                                       | f<br>GHz                 | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                                       | Low Channel (1850.7MHz)  |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.7014                   | -11.1                                     | V                  | 3.0             | 40.5           | 1.0            | -50.6        | -13.0          | -37.6         |       |
|                                                                                       | 5.5071                   | -26.8                                     | V                  | 3.0             | 40.8           | 1.0            | -66.6        | -13.0          | -53.6         |       |
|                                                                                       | 7.3578                   | -24.1                                     | V                  | 3.0             | 40.8           | 1.0            | -63.9        | -13.0          | -50.9         |       |
|                                                                                       | 3.7014                   | -12.8                                     | H                  | 3.0             | 40.5           | 1.0            | -52.2        | -13.0          | -39.2         |       |
|                                                                                       | 5.5071                   | -27.0                                     | H                  | 3.0             | 40.8           | 1.0            | -66.8        | -13.0          | -53.8         |       |
|                                                                                       | 7.3578                   | -23.9                                     | H                  | 3.0             | 40.8           | 1.0            | -63.7        | -13.0          | -50.7         |       |
|                                                                                       | Mid Channel (1880MHz)    |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.7600                   | -14.7                                     | V                  | 3.0             | 40.5           | 1.0            | -54.3        | -13.0          | -41.3         |       |
|                                                                                       | 5.6400                   | -21.8                                     | V                  | 3.0             | 40.8           | 1.0            | -61.6        | -13.0          | -48.6         |       |
|                                                                                       | 7.5200                   | -25.4                                     | V                  | 3.0             | 40.7           | 1.0            | -65.2        | -13.0          | -52.2         |       |
|                                                                                       | 3.7600                   | -15.9                                     | H                  | 3.0             | 40.5           | 1.0            | -55.5        | -13.0          | -42.5         |       |
|                                                                                       | 5.6400                   | -26.1                                     | H                  | 3.0             | 40.8           | 1.0            | -65.9        | -13.0          | -52.9         |       |
|                                                                                       | 7.5200                   | -24.9                                     | H                  | 3.0             | 40.7           | 1.0            | -64.6        | -13.0          | -51.6         |       |
|                                                                                       | High Channel (1909.3MHz) |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.8186                   | -9.5                                      | V                  | 3.0             | 40.6           | 1.0            | -49.1        | -13.0          | -36.1         |       |
|                                                                                       | 5.7279                   | -19.7                                     | V                  | 3.0             | 40.8           | 1.0            | -59.5        | -13.0          | -46.5         |       |
|                                                                                       | 7.6732                   | -27.0                                     | V                  | 3.0             | 40.6           | 1.0            | -66.6        | -13.0          | -53.6         |       |
|                                                                                       | 3.8186                   | -13.7                                     | H                  | 3.0             | 40.6           | 1.0            | -53.3        | -13.0          | -40.3         |       |
|                                                                                       | 5.7279                   | -27.0                                     | H                  | 3.0             | 40.8           | 1.0            | -66.8        | -13.0          | -53.8         |       |
|                                                                                       | 7.6732                   | -26.9                                     | H                  | 3.0             | 40.6           | 1.0            | -66.5        | -13.0          | -53.5         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                          |                                           |                    |                 |                |                |              |                |               |       |
| UL Korea, Ltd Suwon Laboratory<br>Above 1GHz High Frequency Substitution Measurement  |                          |                                           |                    |                 |                |                |              |                |               |       |
| Company:                                                                              |                          | Samsung                                   |                    |                 |                |                |              |                |               |       |
| Project #:                                                                            |                          | 15K21363                                  |                    |                 |                |                |              |                |               |       |
| Date:                                                                                 |                          | 07-27-15                                  |                    |                 |                |                |              |                |               |       |
| Test Engineer:                                                                        |                          | Steven Kim                                |                    |                 |                |                |              |                |               |       |
| Configuration:                                                                        |                          | EUT / AC Adapter / Ear Phone / Y-Position |                    |                 |                |                |              |                |               |       |
| Mode:                                                                                 |                          | TX, LTE BAND 2, 1.4MHz BW,16QAM           |                    |                 |                |                |              |                |               |       |
| LTE<br>Band 2<br>1.4MHz<br>16QAM                                                      | Chamber                  |                                           | Pre-amplifier      |                 | Filter         |                | Limit        |                |               |       |
|                                                                                       | Chamber 2                |                                           | AFS42              |                 | Filter 1       |                | FCC Part 24  |                |               |       |
|                                                                                       | f<br>GHz                 | SG reading<br>(dBm)                       | Ant. Pol.<br>(H/V) | Distance<br>(m) | Preamp<br>(dB) | Filter<br>(dB) | ERP<br>(dBm) | Limit<br>(dBm) | Delta<br>(dB) | Notes |
|                                                                                       | Low Channel (1850.7MHz)  |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.7014                   | -12.9                                     | V                  | 3.0             | 40.5           | 1.0            | -52.4        | -13.0          | -39.4         |       |
|                                                                                       | 5.5071                   | -27.1                                     | V                  | 3.0             | 40.8           | 1.0            | -67.0        | -13.0          | -54.0         |       |
|                                                                                       | 7.3578                   | -24.2                                     | V                  | 3.0             | 40.8           | 1.0            | -64.1        | -13.0          | -51.1         |       |
|                                                                                       | 3.7014                   | -14.0                                     | H                  | 3.0             | 40.5           | 1.0            | -53.4        | -13.0          | -40.4         |       |
|                                                                                       | 5.5071                   | -27.1                                     | H                  | 3.0             | 40.8           | 1.0            | -66.9        | -13.0          | -53.9         |       |
|                                                                                       | 7.3578                   | -24.0                                     | H                  | 3.0             | 40.8           | 1.0            | -63.8        | -13.0          | -50.8         |       |
|                                                                                       | Mid Channel (1880MHz)    |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.7600                   | -16.3                                     | V                  | 3.0             | 40.5           | 1.0            | -55.9        | -13.0          | -42.9         |       |
|                                                                                       | 5.6400                   | -23.2                                     | V                  | 3.0             | 40.8           | 1.0            | -63.0        | -13.0          | -50.0         |       |
|                                                                                       | 7.5200                   | -25.7                                     | V                  | 3.0             | 40.7           | 1.0            | -65.5        | -13.0          | -52.5         |       |
|                                                                                       | 3.7600                   | -17.0                                     | H                  | 3.0             | 40.5           | 1.0            | -56.6        | -13.0          | -43.6         |       |
|                                                                                       | 5.6400                   | -26.9                                     | H                  | 3.0             | 40.8           | 1.0            | -66.7        | -13.0          | -53.7         |       |
|                                                                                       | 7.5200                   | -25.2                                     | H                  | 3.0             | 40.7           | 1.0            | -65.0        | -13.0          | -52.0         |       |
|                                                                                       | High Channel (1909.3MHz) |                                           |                    |                 |                |                |              |                |               |       |
|                                                                                       | 3.8186                   | -10.4                                     | V                  | 3.0             | 40.6           | 1.0            | -50.0        | -13.0          | -37.0         |       |
|                                                                                       | 5.7279                   | -21.7                                     | V                  | 3.0             | 40.8           | 1.0            | -61.4        | -13.0          | -48.4         |       |
|                                                                                       | 7.6732                   | -27.1                                     | V                  | 3.0             | 40.6           | 1.0            | -66.7        | -13.0          | -53.7         |       |
|                                                                                       | 3.8186                   | -17.3                                     | H                  | 3.0             | 40.6           | 1.0            | -56.9        | -13.0          | -43.9         |       |
|                                                                                       | 5.7279                   | -29.0                                     | H                  | 3.0             | 40.8           | 1.0            | -68.8        | -13.0          | -55.8         |       |
|                                                                                       | 7.6732                   | -26.9                                     | H                  | 3.0             | 40.6           | 1.0            | -66.5        | -13.0          | -53.5         |       |
| Rev. 03.03.09<br>Note: No other emissions were detected above the system noise floor. |                          |                                           |                    |                 |                |                |              |                |               |       |