

## 5.8.2 LTE Band 4

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3466.0          | -46.76     | 6.4       | 4.7      | -48.46          | -13         | Vertical     |
| 2                      | 5180.0          | -53.1      | 8.0       | 8.7      | -52.40          | -13         | Horizontal   |
| 3                      | 6795.6          | -52.2      | 9.2       | 12.3     | -49.10          | -13         | Horizontal   |
| 4                      | 8561.6          | -55.49     | 10.3      | 18.1     | -47.69          | -13         | Horizontal   |
| 5                      | 10214.0         | -51.27     | 11.3      | 17.4     | -45.17          | -13         | Vertical     |
| 6                      | 11926.8         | -46.43     | 12.5      | 17.1     | -41.83          | -13         | Vertical     |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3466.0          | -49.14     | 6.4       | 4.7      | -50.84          | -13         | Vertical     |
| 2                      | 5237.2          | -52.5      | 8.0       | 8.7      | -51.80          | -13         | Vertical     |
| 3                      | 7291.2          | -53.91     | 9.6       | 13.7     | -49.81          | -13         | Vertical     |
| 4                      | 9207.2          | -53.85     | 10.5      | 18.5     | -45.85          | -13         | Horizontal   |
| 5                      | 10349.2         | -51.12     | 11.5      | 17.4     | -45.22          | -13         | Horizontal   |
| 6                      | 11910.0         | -46.97     | 12.5      | 17.1     | -42.37          | -13         | Vertical     |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 3466.0          | -49.14     | 6.4       | 4.7      | -50.84          | -13         | Vertical     |
| 2                      | 5198.8          | -52.77     | 8.0       | 8.7      | -52.07          | -13         | Vertical     |
| 3                      | 6949.6          | -52.99     | 9.3       | 12.9     | -49.39          | -13         | Vertical     |
| 4                      | 8654.8          | -56.44     | 10.3      | 18.5     | -48.24          | -13         | Horizontal   |
| 5                      | 10404.8         | -50.76     | 11.6      | 17.1     | -45.26          | -13         | Horizontal   |
| 6                      | 12479.8         | -46.28     | 12.7      | 18.7     | -40.28          | -13         | Vertical     |

### 5.8.3 LTE Band 5

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3199.6          | -51.19     | 6.1       | 4.7      | -52.59          | -13         | Vertical     |
| 2                      | 4082.8          | -54.49     | 7.0       | 7.7      | -53.79          | -13         | Horizontal   |
| 3                      | 4854.0          | -52.99     | 7.6       | 7.9      | -52.69          | -13         | Vertical     |
| 4                      | 5675.2          | -54.06     | 8.5       | 10.5     | -52.06          | -13         | Horizontal   |
| 5                      | 6566.8          | -51.61     | 9.0       | 11.5     | -49.11          | -13         | Horizontal   |
| 6                      | 7280.2          | -53.19     | 9.6       | 13.7     | -49.09          | -13         | Vertical     |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3332.8          | -51.96     | 6.2       | 4.7      | -53.46          | -13         | Vertical     |
| 2                      | 4111.2          | -54.41     | 7.0       | 7.7      | -53.71          | -13         | Horizontal   |
| 3                      | 4965.2          | -55.27     | 7.7       | 9.0      | -53.97          | -13         | Vertical     |
| 4                      | 5779.6          | -54.01     | 8.4       | 10.5     | -51.91          | -13         | Vertical     |
| 5                      | 6404.4          | -52.3      | 8.9       | 11.5     | -49.70          | -13         | Horizontal   |
| 6                      | 7237.6          | -53.77     | 9.6       | 13.7     | -49.67          | -13         | Vertical     |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 3388.4          | -52.55     | 6.3       | 4.7      | -54.15          | -13         | Horizontal   |
| 2                      | 4312.0          | -52.87     | 7.1       | 7.7      | -52.27          | -13         | Horizontal   |
| 3                      | 5149.6          | -53.93     | 7.9       | 8.7      | -53.13          | -13         | Horizontal   |
| 4                      | 6094.0          | -52.59     | 8.7       | 10.4     | -50.89          | -13         | Horizontal   |
| 5                      | 7218.7          | -52.97     | 9.5       | 13.7     | -48.77          | -13         | Vertical     |
| 6                      | 8137.0          | -55.97     | 10.0      | 17.3     | -48.67          | -13         | Vertical     |

### 5.8.4 LTE Band 12

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3577.2          | -50.77     | 6.5       | 4.7      | -52.57          | -13         | Horizontal   |
| 2                      | 4229.2          | -52.9      | 7.1       | 7.7      | -52.30          | -13         | Horizontal   |
| 3                      | 4904.8          | -55.04     | 7.7       | 9.0      | -53.74          | -13         | Horizontal   |
| 4                      | 5567.2          | -52.52     | 8.2       | 9.5      | -51.22          | -13         | Vertical     |
| 5                      | 6282.0          | -52.62     | 8.8       | 10.8     | -50.62          | -13         | Vertical     |
| 6                      | 7014.7          | -53.43     | 9.3       | 12.9     | -49.83          | -13         | Vertical     |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 1415.7          | -40.51     | 4.0       | 3.4      | -41.11          | -13         | Horizontal   |
| 2                      | 3574.4          | -49.97     | 6.4       | 4.7      | -51.67          | -13         | Horizontal   |
| 3                      | 4241.2          | -52.82     | 7.1       | 7.7      | -52.22          | -13         | Horizontal   |
| 4                      | 4910.8          | -54.9      | 7.7       | 9.0      | -53.60          | -13         | Vertical     |
| 5                      | 5739.6          | -53.17     | 8.5       | 10.5     | -51.17          | -13         | Horizontal   |
| 6                      | 7064.5          | -52.37     | 9.4       | 12.9     | -48.87          | -13         | Vertical     |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 3193.2          | -51        | 6.1       | 4.7      | -52.40          | -13         | Vertical     |
| 2                      | 3976.4          | -53.39     | 6.9       | 7.7      | -52.59          | -13         | Horizontal   |
| 3                      | 4776.8          | -52.78     | 7.6       | 7.9      | -52.48          | -13         | Vertical     |
| 4                      | 5539.2          | -52.46     | 8.2       | 9.5      | -51.16          | -13         | Horizontal   |
| 5                      | 6373.2          | -51.79     | 8.8       | 10.8     | -49.79          | -13         | Horizontal   |
| 6                      | 7151.8          | -54.58     | 9.4       | 13.7     | -50.28          | -13         | Horizontal   |

### 5.8.5 LTE Band 13

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 1386.6          | -48.76     | 4.0       | 3.4      | -49.36          | -13         | Horizontal   |
| 2                      | 2107.7          | -41.4      | 4.9       | 2.8      | -43.50          | -13         | Horizontal   |
| 3                      | 3121.2          | -50.82     | 6.0       | 4.7      | -52.12          | -13         | Horizontal   |
| 4                      | 3898.8          | -53.96     | 6.8       | 7.7      | -53.06          | -13         | Vertical     |
| 5                      | 4683.6          | -52.67     | 7.5       | 7.9      | -52.27          | -13         | Horizontal   |
| 6                      | 5422.0          | -52.61     | 8.1       | 9.5      | -51.21          | -13         | Vertical     |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3158.4          | -50.77     | 6.0       | 4.7      | -52.07          | -13         | Horizontal   |
| 2                      | 3948.8          | -53.54     | 6.8       | 7.7      | -52.64          | -13         | Horizontal   |
| 3                      | 4750.0          | -51.83     | 7.5       | 7.9      | -51.43          | -13         | Vertical     |
| 4                      | 5626.8          | -53.28     | 8.3       | 10.5     | -51.08          | -13         | Horizontal   |
| 5                      | 6400.0          | -52.3      | 8.9       | 11.5     | -49.70          | -13         | Horizontal   |
| 6                      | 7213.6          | -53.59     | 9.5       | 13.7     | -49.39          | -13         | Vertical     |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 1857.7          | -40.51     | 4.6       | 2.9      | -42.21          | -13         | Horizontal   |
| 2                      | 2600.0          | -38.36     | 5.5       | 3.7      | -40.16          | -13         | Vertical     |
| 3                      | 3180.4          | -48.68     | 6.1       | 4.7      | -50.08          | -13         | Horizontal   |
| 4                      | 4541.6          | -51.36     | 7.4       | 7.3      | -51.46          | -13         | Horizontal   |
| 5                      | 6340.4          | -51.67     | 8.8       | 10.8     | -49.67          | -13         | Horizontal   |
| 6                      | 8501.2          | -55.9      | 10.3      | 18.1     | -48.10          | -13         | Vertical     |

### 5.8.6 LTE Band 25

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3573.6          | -50.67     | 6.4       | 4.7      | -52.37          | -13         | Horizontal   |
| 2                      | 4556.0          | -50.55     | 7.4       | 7.3      | -50.65          | -13         | Vertical     |
| 3                      | 6405.2          | -52.07     | 8.9       | 11.5     | -49.47          | -13         | Horizontal   |
| 4                      | 8433.6          | -55.96     | 10.2      | 18.1     | -48.06          | -13         | Horizontal   |
| 5                      | 10810.4         | -48.55     | 11.7      | 17.3     | -42.95          | -13         | Horizontal   |
| 6                      | 13835.0         | -50        | 13.8      | 24.8     | -39.00          | -13         | Horizontal   |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3769.6          | -51.26     | 6.6       | 7.7      | -50.16          | -13         | Vertical     |
| 2                      | 5384.0          | -52.64     | 8.1       | 9.5      | -51.24          | -13         | Vertical     |
| 3                      | 6965.6          | -52.98     | 9.3       | 12.9     | -49.38          | -13         | Horizontal   |
| 4                      | 9190.4          | -53.82     | 10.5      | 18.5     | -45.82          | -13         | Horizontal   |
| 5                      | 12141.0         | -45.99     | 12.6      | 17.5     | -41.09          | -13         | Vertical     |
| 6                      | 16027.4         | -41.27     | 15.0      | 20.4     | -35.87          | -13         | Vertical     |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 3577.2          | -50.13     | 6.5       | 4.7      | -51.93          | -13         | Horizontal   |
| 2                      | 4520.8          | -51.29     | 7.3       | 7.3      | -51.29          | -13         | Horizontal   |
| 3                      | 6011.2          | -52.7      | 8.6       | 10.4     | -50.90          | -13         | Horizontal   |
| 4                      | 8241.6          | -54.63     | 10.1      | 17.3     | -47.43          | -13         | Horizontal   |
| 5                      | 10788.4         | -48.39     | 11.7      | 17.3     | -42.79          | -13         | Horizontal   |
| 6                      | 12806.0         | -46.77     | 12.5      | 19.2     | -40.07          | -13         | Vertical     |

### 5.8.7 LTE Band 26

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 1846.7          | -40.85     | 4.6       | 2.9      | -42.55          | -13         | Horizontal   |
| 2                      | 2489.2          | -38.56     | 5.4       | 3.7      | -40.26          | -13         | Vertical     |
| 3                      | 3184.4          | -50.01     | 6.1       | 4.7      | -51.41          | -13         | Vertical     |
| 4                      | 4546.8          | -50.85     | 7.4       | 7.3      | -50.95          | -13         | Vertical     |
| 5                      | 6404.0          | -52.03     | 8.9       | 11.5     | -49.43          | -13         | Horizontal   |
| 6                      | 7880.5          | -53.77     | 9.9       | 16.6     | -47.07          | -13         | Vertical     |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 1667.0          | -45.27     | 4.3       | 2.9      | -46.67          | -13         | Horizontal   |
| 2                      | 2450.4          | -39.64     | 5.3       | 3.7      | -41.24          | -13         | Horizontal   |
| 3                      | 3590.0          | -50.28     | 6.5       | 4.7      | -52.08          | -13         | Horizontal   |
| 4                      | 4558.8          | -50.88     | 7.4       | 7.3      | -50.98          | -13         | Vertical     |
| 5                      | 5656.8          | -53.67     | 8.3       | 10.5     | -51.47          | -13         | Horizontal   |
| 6                      | 6807.6          | -53.39     | 9.2       | 12.3     | -50.29          | -13         | Horizontal   |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 1852.5          | -41.2      | 4.6       | 2.9      | -42.90          | -13         | Horizontal   |
| 2                      | 2608.5          | -38.21     | 5.5       | 3.7      | -40.01          | -13         | Horizontal   |
| 3                      | 3584.8          | -49.9      | 6.5       | 4.7      | -51.70          | -13         | Horizontal   |
| 4                      | 4442.0          | -50.67     | 7.3       | 7.3      | -50.67          | -13         | Horizontal   |
| 5                      | 5498.0          | -52.31     | 8.2       | 9.5      | -51.01          | -13         | Horizontal   |
| 6                      | 6344.8          | -51.68     | 8.8       | 10.8     | -49.68          | -13         | Horizontal   |

### 5.8.8 LTE Band 66

| No.                    | Frequency (MHz) | PMea (dBm) | Pcl (dBm) | Ga (dBi) | Peak EIRP (dBm) | Limit (dBm) | Polarization |
|------------------------|-----------------|------------|-----------|----------|-----------------|-------------|--------------|
| <b>Lowest Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3428.8          | -46.8      | 6.4       | 4.7      | -48.50          | -13         | Vertical     |
| 2                      | 5149.2          | -53.55     | 7.9       | 8.7      | -52.75          | -13         | Vertical     |
| 3                      | 6849.6          | -52.78     | 9.2       | 12.3     | -49.68          | -13         | Vertical     |
| 4                      | 8576.0          | -55.89     | 10.3      | 18.1     | -48.09          | -13         | Vertical     |
| 5                      | 10244.8         | -50.26     | 11.4      | 17.4     | -44.26          | -13         | Vertical     |
| 6                      | 11964.6         | -46.46     | 12.6      | 17.1     | -41.96          | -13         | Horizontal   |
| <b>Middle Channel</b>  |                 |            |           |          |                 |             |              |
| 1                      | 3493.6          | -46.06     | 6.4       | 4.7      | -47.76          | -13         | Horizontal   |
| 2                      | 5127.2          | -53.79     | 7.9       | 8.7      | -52.99          | -13         | Vertical     |
| 3                      | 6841.2          | -53.48     | 9.2       | 12.3     | -50.38          | -13         | Horizontal   |
| 4                      | 8510.4          | -56.79     | 10.3      | 18.1     | -48.99          | -13         | Horizontal   |
| 5                      | 10241.6         | -51.26     | 11.4      | 17.4     | -45.26          | -13         | Horizontal   |
| 6                      | 11988.4         | -47.18     | 12.6      | 17.1     | -42.68          | -13         | Horizontal   |
| <b>Highest Channel</b> |                 |            |           |          |                 |             |              |
| 1                      | 3559.6          | -46.05     | 6.4       | 4.7      | -47.75          | -13         | Horizontal   |
| 2                      | 5333.6          | -52.35     | 8.1       | 8.7      | -51.75          | -13         | Vertical     |
| 3                      | 7140.8          | -54.67     | 9.4       | 13.7     | -50.37          | -13         | Horizontal   |
| 4                      | 8908.8          | -55.35     | 10.4      | 18.3     | -47.45          | -13         | Vertical     |
| 5                      | 10699.6         | -50.01     | 11.7      | 17.3     | -44.41          | -13         | Horizontal   |
| 6                      | 12625.4         | -47.15     | 12.8      | 19.2     | -40.75          | -13         | Vertical     |

## 5.9 FREQUENCY STABILITY

FCC 47 CFR Part 2.1055 &  
FCC 47 CFR Part 22.355 &  
FCC 47 CFR Part 24.235 &  
FCC 47 CFR Part 27.54,

**Test Requirement:**

**LTE Band 2 & LTE Band 25:** RSS-133 Issue 6, Section 6.3  
**LTE Band 4 & LTE Band 66:** RSS-139 Issue 3, Section 6.4  
**LTE Band 5:** RSS-132 Issue 3, Section 5.3  
**LTE Band 12 & LTE Band 13:** RSS-130 Issue 2, Section 4.5

**Test Method:**

ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limits:****FCC 47 CFR Part 22.355, FCC 47 CFR Part 90.213**

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

**FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54**

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

**RSS-132 Issue 3, Section 5.3:**

The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations and  $\pm 1.5$  ppm for base stations

**RSS-133 Issue 6, Section 6.3:**

The carrier frequency shall not depart from the reference frequency, in excess of  $\pm 2.5$  ppm for mobile stations and  $\pm 1.0$  ppm for base stations.

**RSS-139 Issue 3, Section 6.4, RSS-130 Issue 2, Section 4.5:**

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

**Test Setup:** Refer to section 4.2.2 for details.

**Test Procedures:**

- 1) Use CMW 500 or CMU 200 with Frequency Error measurement capability.
  - a) Temp. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$
  - b) Voltage = low voltage, 2.8 Vdc, Normal, 3.8 Vdc and High voltage, 4.6Vdc.
- 2) Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to  $20^{\circ}\text{C}$  and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}\text{C}$  is reached.

- 3) Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

### 5.9.1 LTE Band 2

| Modulation                   | Channel/<br>Frequency | Voltage | Temperature | Deviation | Deviation | Limit | Pass/ Fail |
|------------------------------|-----------------------|---------|-------------|-----------|-----------|-------|------------|
|                              | (MHz)                 | (Vdc)   | (°C)        | (Hz)      | (ppm)     | (ppm) |            |
| LTE Band 2 / 20MHz / Full RB |                       |         |             |           |           |       |            |
| QPSK                         | 18900 /<br>1880.0     | VL      | TN          | 2.35      | 0.0013    | N/A   | Pass       |
|                              |                       | VN      |             | 5.12      | 0.0027    |       | Pass       |
|                              |                       | VH      |             | 4.32      | 0.0023    |       | Pass       |
|                              |                       | VN      | 50          | 4.31      | 0.0023    |       | Pass       |
|                              |                       |         | 40          | 4.23      | 0.0023    |       | Pass       |
|                              |                       |         | 30          | 2.45      | 0.0013    |       | Pass       |
|                              |                       |         | 20          | 6.47      | 0.0034    |       | Pass       |
|                              |                       |         | 10          | 7.32      | 0.0039    |       | Pass       |
|                              |                       |         | 0           | 4.39      | 0.0023    |       | Pass       |
|                              |                       |         | -10         | 3.98      | 0.0021    |       | Pass       |
|                              |                       |         | -20         | 4.09      | 0.0022    |       | Pass       |
|                              |                       |         | -30         | 4.60      | 0.0024    |       | Pass       |

### 5.9.2 LTE Band 4

| Modulation                   | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Pass/ Fail |
|------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|------------|
| LTE Band 4 / 20MHz / Full RB |                                |                  |                     |                   |                    |                |            |
| QPSK                         | 20175 /<br>1732.5              | VL               | TN                  | 3.21              | 0.0019             | N/A            | Pass       |
|                              |                                | VN               |                     | 2.50              | 0.0014             |                | Pass       |
|                              |                                | VH               |                     | 2.76              | 0.0016             |                | Pass       |
|                              |                                | VN               | 50                  | 2.76              | 0.0016             |                | Pass       |
|                              |                                |                  | 40                  | 3.72              | 0.0021             |                | Pass       |
|                              |                                |                  | 30                  | 3.67              | 0.0021             |                | Pass       |
|                              |                                |                  | 20                  | 4.31              | 0.0025             |                | Pass       |
|                              |                                |                  | 10                  | 2.17              | 0.0013             |                | Pass       |
|                              |                                |                  | 0                   | 2.76              | 0.0016             |                | Pass       |
|                              |                                |                  | -10                 | 3.51              | 0.0020             |                | Pass       |
|                              |                                |                  | -20                 | 2.31              | 0.0013             |                | Pass       |
|                              |                                |                  | -30                 | 1.12              | 0.0006             |                | Pass       |

### 5.9.3 LTE Band 5

| Modulation                   | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 5 / 10MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                         | 20525 / 836.5                  | VL               | TN                  | 0.09              | 0.0001             | ± 2.5          | Pass   |
|                              |                                | VN               |                     | 1.02              | 0.0012             | ± 2.5          | Pass   |
|                              |                                | VH               |                     | -1.23             | -0.0015            | ± 2.5          | Pass   |
|                              |                                | VN               | 50                  | 4.66              | 0.0056             | ± 2.5          | Pass   |
|                              |                                |                  | 40                  | 0.92              | 0.0011             | ± 2.5          | Pass   |
|                              |                                |                  | 30                  | 4.92              | 0.0059             | ± 2.5          | Pass   |
|                              |                                |                  | 20                  | 0.31              | 0.0004             | ± 2.5          | Pass   |
|                              |                                |                  | 10                  | 5.19              | 0.0062             | ± 2.5          | Pass   |
|                              |                                |                  | 0                   | 1.59              | 0.0019             | ± 2.5          | Pass   |
|                              |                                |                  | -10                 | -0.94             | -0.0011            | ± 2.5          | Pass   |
|                              |                                |                  | -20                 | 1.10              | 0.0013             | ± 2.5          | Pass   |
|                              |                                |                  | -30                 | 1.60              | 0.0019             | ± 2.5          | Pass   |

### 5.9.4 LTE Band 12

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 12 / 10MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 23095 / 707.5                  | VL               | TN                  | -0.37             | -0.0005            | N/A            | Pass   |
|                               |                                | VN               |                     | -4.06             | -0.0057            |                | Pass   |
|                               |                                | VH               |                     | -3.06             | -0.0043            |                | Pass   |
|                               |                                | VN               | 50                  | -5.45             | -0.0077            |                | Pass   |
|                               |                                |                  | 40                  | -2.96             | -0.0042            |                | Pass   |
|                               |                                |                  | 30                  | -6.02             | -0.0085            |                | Pass   |
|                               |                                |                  | 20                  | -1.44             | -0.0020            |                | Pass   |
|                               |                                |                  | 10                  | -5.12             | -0.0072            |                | Pass   |
|                               |                                |                  | 0                   | -1.62             | -0.0023            |                | Pass   |
|                               |                                |                  | -10                 | -4.22             | -0.0060            |                | Pass   |
|                               |                                |                  | -20                 | -3.36             | -0.0047            |                | Pass   |
|                               |                                |                  | -30                 | -1.83             | -0.0026            |                | Pass   |

### 5.9.5 LTE Band 13

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 13 / 10MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 23230 / 782                    | VL               | TN                  | -2.43             | -0.0031            | N/A            | Pass   |
|                               |                                | VN               |                     | -4.12             | -0.0053            |                | Pass   |
|                               |                                | VH               |                     | -7.20             | -0.0092            |                | Pass   |
|                               |                                | VN               | 50                  | -2.56             | -0.0033            |                | Pass   |
|                               |                                |                  | 40                  | -1.87             | -0.0024            |                | Pass   |
|                               |                                |                  | 30                  | -2.59             | -0.0033            |                | Pass   |
|                               |                                |                  | 20                  | -0.89             | -0.0011            |                | Pass   |
|                               |                                |                  | 10                  | -4.75             | -0.0061            |                | Pass   |
|                               |                                |                  | 0                   | -2.55             | -0.0033            |                | Pass   |
|                               |                                |                  | -10                 | -3.24             | -0.0041            |                | Pass   |
|                               |                                |                  | -20                 | -2.46             | -0.0031            |                | Pass   |
|                               |                                |                  | -30                 | -5.02             | -0.0064            |                | Pass   |

### 5.9.6 LTE Band 25

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 25 / 20MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 26340 /<br>1880.0              | VL               | TN                  | 3.45              | 0.0018             | N/A            | Pass   |
|                               |                                | VN               |                     | 5.82              | 0.0031             |                | Pass   |
|                               |                                | VH               |                     | 3.87              | 0.0021             |                | Pass   |
|                               |                                | VN               | 50                  | 0.79              | 0.0004             |                | Pass   |
|                               |                                |                  | 40                  | 0.14              | 0.0001             |                | Pass   |
|                               |                                |                  | 30                  | -3.23             | -0.0017            |                | Pass   |
|                               |                                |                  | 20                  | -3.18             | -0.0017            |                | Pass   |
|                               |                                |                  | 10                  | 1.81              | 0.0010             |                | Pass   |
|                               |                                |                  | 0                   | 2.8               | 0.0015             |                | Pass   |
|                               |                                |                  | -10                 | -3.72             | -0.0020            |                | Pass   |
|                               |                                |                  | -20                 | -4.33             | -0.0023            |                | Pass   |
|                               |                                |                  | -30                 | 3.76              | 0.0020             |                | Pass   |

### 5.9.7 LTE Band 26

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 26 / 15MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 26915 / 836.5                  | VL               | TN                  | -4.59             | -0.0055            | ± 2.5          | Pass   |
|                               |                                | VN               |                     | 0.28              | 0.0003             | ± 2.5          | Pass   |
|                               |                                | VH               |                     | 2.19              | 0.0026             | ± 2.5          | Pass   |
|                               |                                | VN               | 50                  | -2.45             | -0.0029            | ± 2.5          | Pass   |
|                               |                                |                  | 40                  | -2.77             | -0.0033            | ± 2.5          | Pass   |
|                               |                                |                  | 30                  | -1.66             | -0.0020            | ± 2.5          | Pass   |
|                               |                                |                  | 20                  | 0.98              | 0.0012             | ± 2.5          | Pass   |
|                               |                                |                  | 10                  | 2.78              | 0.0033             | ± 2.5          | Pass   |
|                               |                                |                  | 0                   | -1.55             | -0.0019            | ± 2.5          | Pass   |
|                               |                                |                  | -10                 | -1.54             | -0.0018            | ± 2.5          | Pass   |
|                               |                                |                  | -20                 | 0.34              | 0.0004             | ± 2.5          | Pass   |
|                               |                                |                  | -30                 | -2.23             | -0.0027            | ± 2.5          | Pass   |

### 5.9.8 LTE Band 26 (Part 90S)

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 26 / 10MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 26740 / 819                    | VL               | TN                  | 4.98              | 0.0061             | ± 2.5          | Pass   |
|                               |                                | VN               |                     | -0.79             | -0.0010            | ± 2.5          | Pass   |
|                               |                                | VH               |                     | -3.70             | -0.0045            | ± 2.5          | Pass   |
|                               |                                | VN               | 50                  | -3.40             | -0.0042            | ± 2.5          | Pass   |
|                               |                                |                  | 40                  | -3.14             | -0.0038            | ± 2.5          | Pass   |
|                               |                                |                  | 30                  | -5.82             | -0.0071            | ± 2.5          | Pass   |
|                               |                                |                  | 20                  | 0.66              | 0.0008             | ± 2.5          | Pass   |
|                               |                                |                  | 10                  | -0.29             | -0.0004            | ± 2.5          | Pass   |
|                               |                                |                  | 0                   | 4.45              | 0.0054             | ± 2.5          | Pass   |
|                               |                                |                  | -10                 | -5.37             | -0.0066            | ± 2.5          | Pass   |
|                               |                                |                  | -20                 | -9.11             | -0.0111            | ± 2.5          | Pass   |
|                               |                                |                  | -30                 | -11.34            | -0.0138            | ± 2.5          | Pass   |

### 5.9.9 LTE Band 66

| Modulation                    | Channel/<br>Frequency<br>(MHz) | Voltage<br>(Vdc) | Temperature<br>(°C) | Deviation<br>(Hz) | Deviation<br>(ppm) | Limit<br>(ppm) | Result |
|-------------------------------|--------------------------------|------------------|---------------------|-------------------|--------------------|----------------|--------|
| LTE Band 66 / 20MHz / Full RB |                                |                  |                     |                   |                    |                |        |
| QPSK                          | 132322 / 1745                  | VL               | TN                  | -4.59             | -0.0026            | N/A            | Pass   |
|                               |                                | VN               |                     | -4.26             | -0.0024            |                | Pass   |
|                               |                                | VH               |                     | -7.40             | -0.0042            |                | Pass   |
|                               |                                | VN               | 50                  | -6.84             | -0.0039            |                | Pass   |
|                               |                                |                  | 40                  | -7.79             | -0.0045            |                | Pass   |
|                               |                                |                  | 30                  | -5.79             | -0.0033            |                | Pass   |
|                               |                                |                  | 20                  | -4.35             | -0.0025            |                | Pass   |
|                               |                                |                  | 10                  | -5.55             | -0.0032            |                | Pass   |
|                               |                                |                  | 0                   | -3.22             | -0.0018            |                | Pass   |
|                               |                                |                  | -10                 | -2.53             | -0.0014            |                | Pass   |
|                               |                                |                  | -20                 | -6.59             | -0.0038            |                | Pass   |
|                               |                                |                  | -30                 | -7.00             | -0.0040            |                | Pass   |

## APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

## APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

\*\*\* End of Report \*\*\*

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