

## FCC Test Report (PART 22)

**Report No.:** RFBCKS-WTW-P21010640-2

**FCC ID:** NKR-WLD92

**Test Model:** WLD92

**Received Date:** Jan. 21, 2021

**Test Date:** Jan. 29 to Feb. 05, 2021

**Issued Date:** Apr. 06, 2021

**Applicant:** Wistron NeWeb Corporation

**Address:** 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
Taiwan

**FCC Registration /  
Designation Number:** 723255 / TW2022



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### Release Control Record

| Issue No.              | Description       | Date Issued   |
|------------------------|-------------------|---------------|
| RFBCKS-WTW-P21010640-2 | Original release. | Apr. 06, 2021 |

## 1 Certificate of Conformity

**Product:** LTE Indoor Router

**Brand:** Wistron NeWeb Corporation

**Test Model:** WLD92

**Sample Status:** Engineering sample

**Applicant:** Wistron NeWeb Corporation

**Test Date:** Jan. 29 to Feb. 05, 2021

**Standards:** FCC Part 22, Subpart H

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** Vivian Huang , **Date:** Apr. 06, 2021  
Vivian Huang / Specialist

**Approved by :** Clark Lin , **Date:** Apr. 06, 2021  
Clark Lin / Technical Manager

## 2 Summary of Test Results

| Applied Standard: FCC Part 22 & Part 2 |                              |        |                                                                                       |
|----------------------------------------|------------------------------|--------|---------------------------------------------------------------------------------------|
| FCC Clause                             | Test Item                    | Result | Remarks                                                                               |
| 2.1046<br>22.913 (a)                   | Effective radiated power     | PASS   | Meet the requirement of limit.                                                        |
| 22.913(d)                              | Peak to Average Ratio        | N/A    | Refer to Note 2 below                                                                 |
| 2.1047                                 | Modulation characteristics   | N/A    | Refer to Note 2 below                                                                 |
| 2.1055<br>22.355                       | Frequency Stability          | N/A    | Refer to Note 2 below                                                                 |
| 2.1049                                 | Occupied Bandwidth           | N/A    | Refer to Note 2 below                                                                 |
| 22.917                                 | Band Edge Measurements       | N/A    | Refer to Note 2 below                                                                 |
| 2.1051<br>22.917                       | Conducted Spurious Emissions | N/A    | Refer to Note 2 below                                                                 |
| 2.1053<br>22.917                       | Radiated Spurious Emissions  | PASS   | Meet the requirement of limit.<br>Minimum passing margin is -48.43 dB at 3719.25 MHz. |

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Effective radiated power and Radiated Spurious Emissions were performed for this addendum. The others testing data refer to original test report.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement                    | Frequency     | Expanded Uncertainty (k=2) ( $\pm$ ) |
|--------------------------------|---------------|--------------------------------------|
| Radiated Emissions up to 1 GHz | 9kHz ~ 30MHz  | 3.1 dB                               |
|                                | 30MHz ~ 1GHz  | 5.4 dB                               |
| Radiated Emissions above 1 GHz | 1GHz ~ 18GHz  | 5.0 dB                               |
|                                | 18GHz ~ 40GHz | 5.3 dB                               |

## 2.2 Test Site and Instruments

For radiated spurious emissions test:

| DESCRIPTION & MANUFACTURER                          | MODEL NO.            | SERIAL NO.  | CALIBRATED DATE | CALIBRATED UNTIL |
|-----------------------------------------------------|----------------------|-------------|-----------------|------------------|
| Test Receiver<br>R&S                                | ESR7                 | 102026      | Apr. 22, 2020   | Apr. 21, 2021    |
| Spectrum Analyzer<br>Keysight                       | N9030B               | MY57141948  | May 22, 2020    | May 21, 2021     |
| Pre-Amplifier<br>EMCI                               | EMC001340            | 980142      | May 25, 2020    | May 24, 2021     |
| Loop Antenna<br>Electro-Metrics                     | EM-6879              | 264         | Feb. 18, 2020   | Feb. 17, 2021    |
| RF Cable                                            | 5D-FB                | LOOPCAB-001 | Jan. 07, 2021   | Jan. 06, 2022    |
| RF Cable                                            | 5D-FB                | LOOPCAB-002 | Jan. 07, 2021   | Jan. 06, 2022    |
| Pre-Amplifier<br>EMCI                               | EMC330N              | 980538      | Apr. 28, 2020   | Apr. 27, 2021    |
| Trilog Broadband Antenna<br>SCHWARZBECK             | VULB9168             | 9168-0842   | Nov. 03, 2020   | Nov. 02, 2021    |
| RF Cable                                            | 8D                   | 966-5-1     | Apr. 29, 2020   | Apr. 28, 2021    |
| RF Cable                                            | 8D                   | 966-5-2     | Apr. 29, 2020   | Apr. 28, 2021    |
| RF Cable                                            | 8D                   | 966-5-3     | Apr. 29, 2020   | Apr. 28, 2021    |
| Fixed attenuator<br>Mini-Circuits                   | UNAT-5+              | PAD-ATT5-02 | Jan. 11, 2021   | Jan. 10, 2022    |
| Horn_Antenna<br>SCHWARZBECK                         | BBHA 9120D           | 9120D-1819  | Nov. 22, 2020   | Nov. 21, 2021    |
| Pre-Amplifier<br>EMCI                               | EMC12630SE           | 980509      | Apr. 29, 2020   | Apr. 28, 2021    |
| RF Cable<br>EMCI                                    | EMC104-SM-SM-1500    | 180503      | Apr. 29, 2020   | Apr. 28, 2021    |
| RF Cable<br>EMCI                                    | EMC104-SM-SM-2000    | 180501      | Apr. 29, 2020   | Apr. 28, 2021    |
| RF Cable<br>EMCI                                    | EMC104-SM-SM-6000    | 180506      | Apr. 29, 2020   | Apr. 28, 2021    |
| Pre-Amplifier<br>EMCI                               | EMC184045SE          | 980387      | Jan. 11, 2021   | Jan. 10, 2022    |
| Horn_Antenna<br>SCHWARZBECK                         | BBHA 9170            | BBHA9170519 | Nov. 22, 2020   | Nov. 21, 2021    |
| RF Cable                                            | EMC102-KM-KM-1200    | 160924      | Jan. 11, 2021   | Jan. 10, 2022    |
| RF Cable                                            | EMC-KM-KM-4000       | 200214      | Mar. 11, 2020   | Mar. 10, 2021    |
| Software                                            | ADT_Radiated_V8.7.08 | NA          | NA              | NA               |
| Boresight Antenna Tower<br>& Turn Table<br>Max-Full | MF-7802BS            | MF780208530 | NA              | NA               |

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 5.
3. Tested Date: Jan. 29, 2021

**For radiated power test:**

| DESCRIPTION &<br>MANUFACTURER     | MODEL NO.  | SERIAL NO.    | CALIBRATED<br>DATE | CALIBRATED<br>UNTIL |
|-----------------------------------|------------|---------------|--------------------|---------------------|
| Power meter<br>Anritsu            | ML2495A    | 1529002       | July 22, 2020      | July 21, 2021       |
| Power sensor<br>Anritsu           | MA2411B    | 1339443       | July 22, 2020      | July 21, 2021       |
| Fixed Attenuator<br>Mini-Circuits | MDCS18N-10 | MDCS18N-10-01 | Apr. 14, 2020      | Apr. 13, 2021       |

- Note:**
1. The test was performed in Oven room 2.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. Tested Date: Feb. 05, 2021

### 3 General Information

#### 3.1 General Description of EUT

|                     |                                          |                       |
|---------------------|------------------------------------------|-----------------------|
| Product             | LTE Indoor Router                        |                       |
| Brand               | Wistron NeWeb Corporation                |                       |
| Test Model          | WLD92                                    |                       |
| Status of EUT       | Engineering sample                       |                       |
| Power Supply Rating | 12Vdc from power adapter                 |                       |
| Modulation Type     | LTE Band 5                               | QPSK, 16QAM, 64QAM    |
| Operating Frequency | LTE Band 5                               | 824.7 MHz ~ 848.3 MHz |
| Max. ERP Power      | LTE Band 5<br>(Channel Bandwidth 1.4MHz) | 22.62 dBm             |
|                     | LTE Band 5<br>(Channel Bandwidth 3MHz)   | 22.56 dBm             |
|                     | LTE Band 5<br>(Channel Bandwidth 5MHz)   | 22.53 dBm             |
|                     | LTE Band 5<br>(Channel Bandwidth 10MHz)  | 22.54 dBm             |
| Antenna Type        | Refer to Note                            |                       |
| Antenna Connector   | Refer to Note                            |                       |
| Accessory Device    | Power adapter x 1                        |                       |
| Cable Supplied      | RJ45 cable x 1 (Unshielded, 1.8 m)       |                       |

Note:

1. Effective Radiated Power and Radiated Spurious Emission tests were performed. Other testing please refer to original test report, FCC ID: XMR201807EG06A (Brand: Quectel, Model: EG-06A)
2. The WWAN module supports more bands than have been reported for this application as following, these bands have been permanently disabled by software.  
Disabled bands: WCDMA B2/ B4/ B5, LTE B7/ B13/ B25/ B26/ B30.
3. Simultaneously transmission condition.

| Condition | Technology    |             |      |
|-----------|---------------|-------------|------|
| 1         | WLAN (2.4GHz) | WLAN (5GHz) | WWAN |

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

4. The EUT must be supplied with a power adapter as following table:

| Brand           | Model No.         | Spec.                                                                                               |
|-----------------|-------------------|-----------------------------------------------------------------------------------------------------|
| SHENZHEN FRECOM | F12L30-120100SPAU | Input: 100-240 Vac, 0.3 A, 50/60 Hz<br>Output: 12 Vdc, 1.0 A<br>DC output cable (unshielded, 1.5 m) |

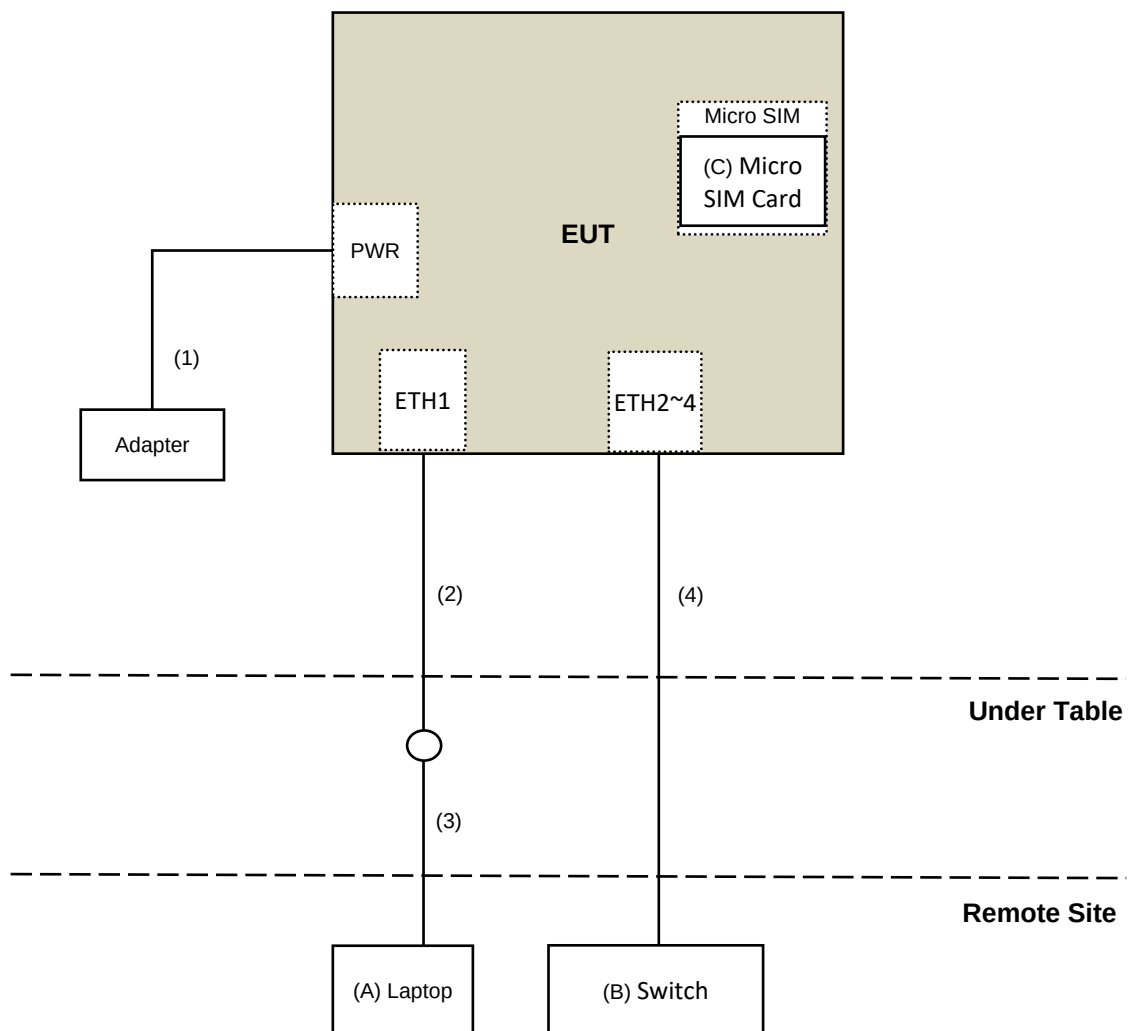
5. The antennas provided to the EUT, please refer to the following table:

| Antenna No. | RF Chain No.     | Antenna Net Gain (dBi) | Frequency Range | Antenna Type | Connector Type |
|-------------|------------------|------------------------|-----------------|--------------|----------------|
| 1 (LTE)     | Chain0           | 2.3                    | 1850~1910 MHz   | PIFA         | None           |
|             |                  | 1.9                    | 1710~1755 MHz   |              |                |
|             |                  | 1.8                    | 824~849 MHz     |              |                |
|             |                  | 0.4                    | 698~716 MHz     |              |                |
|             |                  | 1.9                    | 1710~1780 MHz   |              |                |
| 2 (LTE)     | Chain1 (RX only) | -                      | -               | PIFA         | None           |
| 3 (WLAN)    | Chain0           | 2.1                    | 2.4~2.4835 GHz  | PIFA         | None           |
|             |                  | 3.7                    | 5.15~5.85 GHz   |              |                |
| 4 (WLAN)    | Chain1           | 2.9                    | 2.4~2.4835 GHz  | PIFA         | None           |
|             |                  | 4.7                    | 5.15~5.85 GHz   |              |                |

6. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

7. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

### 3.2 Configuration of System under Test



### 3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| ID | Product  | Brand  | Model No.     | Serial No.    | FCC ID | Remarks         |
|----|----------|--------|---------------|---------------|--------|-----------------|
| A. | Laptop   | DELL   | Inspiron 7570 | DW3CSJ2       | NA     | Provided by Lab |
| B. | Switch   | D-Link | DGS-1005D     | DR8WC92000523 | NA     | Provided by Lab |
| C. | SIM Card | R&S    | CRT-Z3        | NA            | NA     | Provided by Lab |

Note:

1. All power cords of the above support units are non-shielded (1.8m).

| ID | Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks            |
|----|--------------|------|------------|--------------------|--------------|--------------------|
| 1. | DC Cable     | 1    | 1.5        | No                 | 0            | Supplied by client |
| 2. | RJ-45 Cable  | 1    | 1.8        | No                 | 0            | Supplied by client |
| 3. | RJ-45 Cable  | 1    | 10         | No                 | 0            | Provided by Lab    |
| 4. | RJ-45 Cable  | 3    | 10         | No                 | 0            | Provided by Lab    |

### 3.3 Test Mode Applicability and Tested Channel Detail

#### LTE Band 5

| TEST ITEM         | AVAILABLE CHANNEL | TESTED CHANNEL      | CHANNEL BANDWIDTH | MODULATION       | MODE              |
|-------------------|-------------------|---------------------|-------------------|------------------|-------------------|
| ERP               | 20407 to 20643    | 20407, 20525, 20643 | 1.4MHz            | QPSK/16QAM/64QAM | 1RB / 0 RB offset |
|                   | 20415 to 20635    | 20415, 20525, 20635 | 3MHz              | QPSK/16QAM/64QAM | 1RB / 0 RB offset |
|                   | 20425 to 20625    | 20425, 20525, 20625 | 5MHz              | QPSK/16QAM/64QAM | 1RB / 0 RB offset |
|                   | 20450 to 20600    | 20450, 20525, 20600 | 10MHz             | QPSK/16QAM/64QAM | 1RB / 0 RB offset |
| Radiated Emission | 20407 to 20643    | 20407, 20525, 20643 | 1.4MHz            | QPSK             | 1RB / 0 RB offset |
|                   | 20415 to 20635    | 20415, 20525, 20635 | 3MHz              | QPSK             | 1RB / 0 RB offset |
|                   | 20425 to 20625    | 20425, 20525, 20625 | 5MHz              | QPSK             | 1RB / 0 RB offset |
|                   | 20450 to 20600    | 20450, 20525, 20600 | 10MHz             | QPSK             | 1RB / 0 RB offset |

#### Note:

1. All supported modulation types were evaluated. The Worst case of QPSK was selected. Therefore, the Radiated Emission was presented under QPSK mode only.
2. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Y-plane.

#### Test Condition:

| Test Item                    | Environmental Conditions | Input Power  | Tested By    |
|------------------------------|--------------------------|--------------|--------------|
| ERP                          | 25deg. C, 60%RH          | 120Vac, 60Hz | Jyunchun Lin |
| Radiated Emission Below 1GHz | 25deg. C, 75%RH          | 120Vac, 60Hz | Ryan Du      |
| Radiated Emission Above 1GHz | 25deg. C, 75%RH          | 120Vac, 60Hz | Ryan Du      |

### 3.4 EUT Operating Conditions

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

### **3.5 General Description of Applied Standards and references**

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

**Test standard:**

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 22, Subpart H**

**ANSI/TIA/EIA-603-E 2016**

**ANSI 63.26-2015**

All test items have been performed and recorded as per the above standards.

**References Test Guidance:**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

All test items have been performed as a reference to the above KDB test guidance.

## 4 Test Types and Results

### 4.1 Output Power Measurement

#### 4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 7 watts e.r.p.

#### 4.1.2 Test Procedures

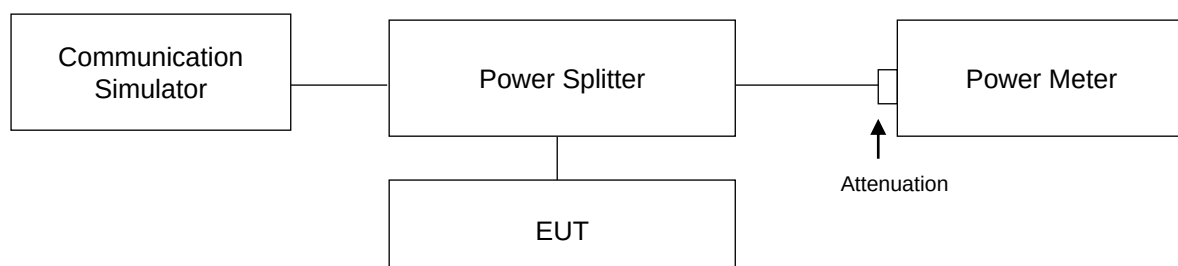
##### Conducted Power Measurement:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and difference RB size/ RB offset for difference bandwidth record the power level shown on power meter.

##### EIRP / ERP Measurement:

- EIRP = Conducted Output power level + Antenna gain.
- ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIRP power - 2.15dBi.
- ERP = Conducted Output power level + Antenna gain (dBi) - Isotropically Factor (2.15dB).

#### 4.1.3 Test Setup



#### 4.1.4 Test Results

### CONDUCTED OUTPUT POWER (dBm)

#### LTE Band 5

| Band / BW | RB Size | RB Offset | QPSK      |           |           | 3GPP MPR (dB) | 16QAM     |           |           | 3GPP MPR (dB) | 64QAM     |           |           | 3GPP MPR (dB) |
|-----------|---------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|
|           |         |           | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               |
|           |         |           | 20407     | 20525     | 20643     |               | 20407     | 20525     | 20643     |               | 20407     | 20525     | 20643     |               |
|           |         |           | 824.7 MHz | 836.5 MHz | 848.3 MHz |               | 824.7 MHz | 836.5 MHz | 848.3 MHz |               | 824.7 MHz | 836.5 MHz | 848.3 MHz |               |
| 5 / 1.4M  | 1       | 0         | 22.81     | 22.68     | 22.82     | 0             | 22.16     | 21.86     | 22.10     | 1             | 22.05     | 21.90     | 20.81     | 2             |
|           | 1       | 2         | 22.84     | 22.70     | 22.91     | 0             | 22.11     | 22.01     | 22.05     | 1             | 22.10     | 22.02     | 22.11     | 2             |
|           | 1       | 5         | 22.75     | 22.68     | 22.89     | 0             | 22.00     | 21.93     | 22.16     | 1             | 21.93     | 21.88     | 20.00     | 2             |
|           | 3       | 0         | 22.79     | 22.71     | 22.93     | 0             | 21.95     | 21.86     | 22.02     | 1             | 22.01     | 22.02     | 21.86     | 2             |
|           | 3       | 1         | 22.81     | 22.77     | 22.95     | 0             | 21.93     | 21.81     | 22.10     | 1             | 22.00     | 21.85     | 22.12     | 2             |
|           | 3       | 3         | 22.80     | 22.70     | 22.97     | 0             | 21.89     | 21.84     | 22.08     | 1             | 21.92     | 21.87     | 22.10     | 2             |
|           | 6       | 0         | 21.85     | 21.81     | 21.97     | 1             | 20.96     | 20.91     | 21.05     | 2             | 20.94     | 20.85     | 21.02     | 3             |

| Band / BW | RB Size | RB Offset | QPSK      |           |           | 3GPP MPR (dB) | 16QAM     |           |           | 3GPP MPR (dB) | 64QAM     |           |           | 3GPP MPR (dB) |
|-----------|---------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|
|           |         |           | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               |
|           |         |           | 20415     | 20525     | 20635     |               | 20415     | 20525     | 20635     |               | 20415     | 20525     | 20635     |               |
|           |         |           | 825.5 MHz | 836.5 MHz | 847.5 MHz |               | 825.5 MHz | 836.5 MHz | 847.5 MHz |               | 825.5 MHz | 836.5 MHz | 847.5 MHz |               |
| 5 / 3M    | 1       | 0         | 22.85     | 22.65     | 22.85     | 0             | 22.05     | 21.88     | 22.25     | 1             | 22.08     | 21.85     | 22.05     | 2             |
|           | 1       | 7         | 22.79     | 22.71     | 22.91     | 0             | 22.02     | 22.02     | 22.12     | 1             | 22.01     | 21.99     | 22.16     | 2             |
|           | 1       | 14        | 21.80     | 21.70     | 21.85     | 0             | 20.96     | 20.92     | 21.14     | 1             | 21.00     | 20.88     | 21.02     | 2             |
|           | 8       | 0         | 21.94     | 21.83     | 22.07     | 1             | 20.99     | 20.90     | 21.10     | 2             | 20.98     | 20.95     | 21.15     | 3             |
|           | 8       | 3         | 21.96     | 21.85     | 22.09     | 1             | 20.97     | 20.92     | 21.23     | 2             | 21.08     | 20.97     | 21.24     | 3             |
|           | 8       | 7         | 21.97     | 21.84     | 22.03     | 1             | 21.00     | 20.89     | 21.10     | 2             | 21.01     | 20.92     | 21.12     | 3             |
|           | 15      | 0         | 21.90     | 21.86     | 22.02     | 1             | 20.93     | 20.84     | 21.02     | 2             | 21.05     | 20.94     | 21.11     | 3             |

| Band / BW | RB Size | RB Offset | QPSK      |           |           | 3GPP MPR (dB) | 16QAM     |           |           | 3GPP MPR (dB) | 64QAM     |           |           | 3GPP MPR (dB) |
|-----------|---------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|
|           |         |           | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               | Low CH    | Mid CH    | High CH   |               |
|           |         |           | 20425     | 20525     | 20625     |               | 20425     | 20525     | 20625     |               | 20425     | 20525     | 20625     |               |
|           |         |           | 826.5 MHz | 836.5 MHz | 846.5 MHz |               | 826.5 MHz | 836.5 MHz | 846.5 MHz |               | 826.5 MHz | 836.5 MHz | 846.5 MHz |               |
| 5 / 5M    | 1       | 0         | 22.77     | 22.80     | 22.83     | 0             | 22.09     | 22.04     | 22.11     | 1             | 22.00     | 22.01     | 22.03     | 2             |
|           | 1       | 12        | 22.82     | 22.75     | 22.88     | 0             | 22.02     | 22.02     | 22.15     | 1             | 21.99     | 21.95     | 22.11     | 2             |
|           | 1       | 24        | 22.71     | 22.74     | 22.83     | 0             | 22.00     | 22.06     | 22.12     | 1             | 21.90     | 21.83     | 22.04     | 2             |
|           | 12      | 0         | 21.89     | 21.83     | 22.01     | 1             | 20.92     | 20.85     | 21.05     | 2             | 21.02     | 20.86     | 21.05     | 3             |
|           | 12      | 6         | 22.00     | 21.86     | 22.06     | 1             | 21.08     | 20.95     | 21.08     | 2             | 21.06     | 20.89     | 21.08     | 3             |
|           | 12      | 13        | 21.83     | 21.84     | 22.02     | 1             | 20.89     | 20.88     | 21.05     | 2             | 20.92     | 20.95     | 21.04     | 3             |
|           | 1       | 0         | 21.91     | 21.80     | 22.03     | 0             | 20.92     | 20.82     | 21.02     | 1             | 20.95     | 20.96     | 21.05     | 3             |

| Band / BW | RB Size | RB Offset | QPSK    |           |         | 3GPP MPR (dB) | 16QAM   |           |         | 3GPP MPR (dB) | 64QAM   |           |         | 3GPP MPR (dB) |
|-----------|---------|-----------|---------|-----------|---------|---------------|---------|-----------|---------|---------------|---------|-----------|---------|---------------|
|           |         |           | Low CH  | Mid CH    | High CH |               | Low CH  | Mid CH    | High CH |               | Low CH  | Mid CH    | High CH |               |
|           |         |           | 20450   | 20525     | 20600   |               | 20450   | 20525     | 20600   |               | 20450   | 20525     | 20600   |               |
|           |         |           | 829 MHz | 836.5 MHz | 844 MHz |               | 829 MHz | 836.5 MHz | 844 MHz |               | 829 MHz | 836.5 MHz | 844 MHz |               |
| 5 / 10M   | 1       | 0         | 22.79   | 22.73     | 22.68   | 0             | 22.04   | 22.02     | 22.12   | 1             | 22.00   | 22.01     | 21.92   | 2             |
|           | 1       | 24        | 22.75   | 22.77     | 22.83   | 0             | 21.99   | 21.88     | 22.15   | 1             | 21.98   | 21.92     | 22.04   | 2             |
|           | 1       | 49        | 22.63   | 22.63     | 22.89   | 0             | 21.06   | 21.89     | 22.12   | 1             | 21.88   | 21.82     | 21.93   | 2             |
|           | 25      | 0         | 22.02   | 21.94     | 22.00   | 1             | 20.95   | 20.85     | 20.94   | 2             | 21.06   | 21.01     | 21.08   | 3             |
|           | 25      | 12        | 21.94   | 21.91     | 22.03   | 1             | 20.92   | 20.86     | 20.99   | 2             | 21.02   | 20.96     | 21.05   | 3             |
|           | 25      | 25        | 21.83   | 21.88     | 22.06   | 1             | 20.75   | 20.87     | 21.04   | 2             | 20.92   | 21.01     | 21.06   | 3             |
|           | 50      | 0         | 21.90   | 22.00     | 22.01   | 1             | 20.90   | 20.90     | 20.96   | 2             | 20.99   | 21.03     | 21.03   | 3             |

## ERP POWER

### LTE Band 5

| Band / BW                 | RB Size | RB Offset | QPSK   |        |         | 3GPP MPR (dB) | 16QAM  |        |         | 3GPP MPR (dB) | 64QAM  |        |         | 3GPP MPR (dB) |
|---------------------------|---------|-----------|--------|--------|---------|---------------|--------|--------|---------|---------------|--------|--------|---------|---------------|
|                           |         |           | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               |
|                           |         |           | 20407  | 20525  | 20643   |               | 20407  | 20525  | 20643   |               | 20407  | 20525  | 20643   |               |
|                           |         |           | 824.7  | 836.5  | 848.3   |               | 824.7  | 836.5  | 848.3   |               | 824.7  | 836.5  | 848.3   |               |
| 5 / 1.4M                  | 1       | 2         | 22.84  | 22.77  | 22.97   | 0             | 22.16  | 22.01  | 22.16   | 1             | 22.10  | 22.02  | 22.12   | 2             |
| Gain (dBi)                |         |           | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               |
| Isotropically Factor (dB) |         |           | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               |
| Max. ERP Power (dBm)      |         |           | 22.49  | 22.42  | 22.62   |               | 21.81  | 21.66  | 21.81   |               | 21.75  | 21.67  | 21.77   |               |

| Band / BW                 | RB Size | RB Offset | QPSK   |        |         | 3GPP MPR (dB) | 16QAM  |        |         | 3GPP MPR (dB) | 64QAM  |        |         | 3GPP MPR (dB) |
|---------------------------|---------|-----------|--------|--------|---------|---------------|--------|--------|---------|---------------|--------|--------|---------|---------------|
|                           |         |           | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               |
|                           |         |           | 20415  | 20525  | 20635   |               | 20415  | 20525  | 20635   |               | 20415  | 20525  | 20635   |               |
|                           |         |           | 825.5  | 836.5  | 847.5   |               | 825.5  | 836.5  | 847.5   |               | 825.5  | 836.5  | 847.5   |               |
| 5 / 3M                    | 1       | 7         | 22.85  | 22.71  | 22.91   | 0             | 22.05  | 22.02  | 22.25   | 1             | 22.08  | 21.99  | 22.16   | 2             |
| Gain (dBi)                |         |           | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               |
| Isotropically Factor (dB) |         |           | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               |
| Max. ERP Power (dBm)      |         |           | 22.50  | 22.36  | 22.56   |               | 21.70  | 21.67  | 21.90   |               | 21.73  | 21.64  | 21.81   |               |

| Band / BW                 | RB Size | RB Offset | QPSK   |        |         | 3GPP MPR (dB) | 16QAM  |        |         | 3GPP MPR (dB) | 64QAM  |        |         | 3GPP MPR (dB) |
|---------------------------|---------|-----------|--------|--------|---------|---------------|--------|--------|---------|---------------|--------|--------|---------|---------------|
|                           |         |           | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               |
|                           |         |           | 20425  | 20525  | 20625   |               | 20425  | 20525  | 20625   |               | 20425  | 20525  | 20625   |               |
|                           |         |           | 826.5  | 836.5  | 846.5   |               | 826.5  | 836.5  | 846.5   |               | 826.5  | 836.5  | 846.5   |               |
| 5 / 5M                    | 1       | 12        | 22.82  | 22.80  | 22.88   | 0             | 22.09  | 22.06  | 22.15   | 1             | 22.00  | 22.01  | 22.11   | 2             |
| Gain (dBi)                |         |           | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               |
| Isotropically Factor (dB) |         |           | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               |
| Max. ERP Power (dBm)      |         |           | 22.47  | 22.45  | 22.53   |               | 21.74  | 21.71  | 21.80   |               | 21.65  | 21.66  | 21.76   |               |

| Band / BW                 | RB Size | RB Offset | QPSK   |        |         | 3GPP MPR (dB) | 16QAM  |        |         | 3GPP MPR (dB) | 64QAM  |        |         | 3GPP MPR (dB) |
|---------------------------|---------|-----------|--------|--------|---------|---------------|--------|--------|---------|---------------|--------|--------|---------|---------------|
|                           |         |           | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               | Low CH | Mid CH | High CH |               |
|                           |         |           | 20450  | 20525  | 20600   |               | 20450  | 20525  | 20600   |               | 20450  | 20525  | 20600   |               |
|                           |         |           | 829    | 836.5  | 844     |               | 829    | 836.5  | 844     |               | 829    | 836.5  | 844     |               |
| 5 / 10M                   | 1       | 49        | 22.79  | 22.77  | 22.89   | 0             | 22.04  | 22.02  | 22.15   | 1             | 22.00  | 22.01  | 22.04   | 2             |
| Gain (dBi)                |         |           | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               | 1.8    | 1.8    | 1.8     |               |
| Isotropically Factor (dB) |         |           | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               | 2.15   | 2.15   | 2.15    |               |
| Max. ERP Power (dBm)      |         |           | 22.44  | 22.42  | 22.54   |               | 21.69  | 21.67  | 21.80   |               | 21.65  | 21.66  | 21.69   |               |

## 4.2 Radiated Emission Measurement

### 4.2.1 Limits of Radiated Emission Measurement

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. The emission limit equal to  $-13\text{dBm}$ .

### 4.2.2 Test Procedure

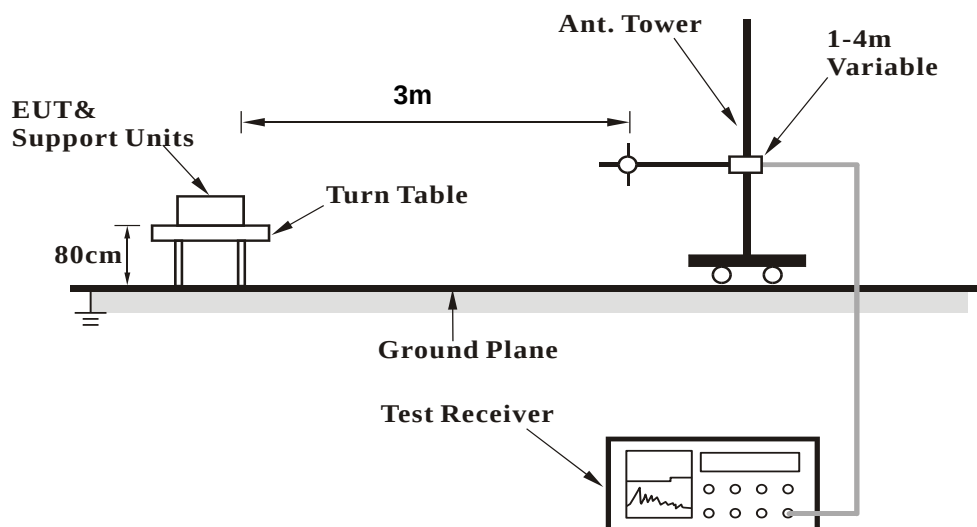
- a. The field strength was measured with Spectrum Analyzer.
- b. Measurement in the semi-anechoic chamber, EUT placed on the 0.8m/1.5m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor.
- c. Perform a field strength measurement and then mathematically convert the measured field strength level to EIRP level.
- d. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = Read Value (dB $\mu$ V/m) - Correction Factor @ 3m
- e. Correction Factor (dB) @ 3m =  $20\log(D) - 104.8$ ; where D is the measurement distance @3m = -95.26dB

**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

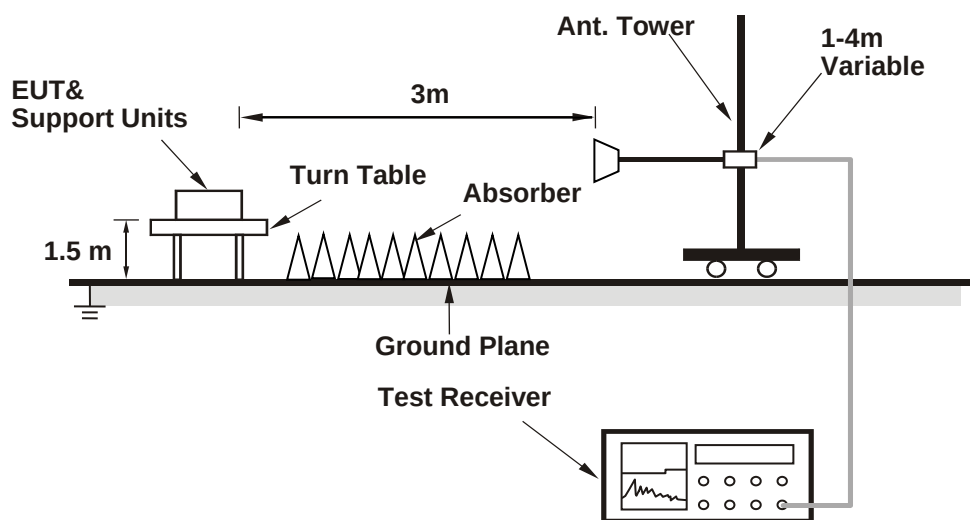
### 4.2.3 Deviation from Test Standard

No deviation.

#### 4.2.4 Test Setup For Below 1GHz



#### For Above 1GHz:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.5 Test Results

##### Below 1GHz

##### LTE Band 5: 1.4MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20407 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.59       | 29.01                  | -95.26                 | -66.25               | -13         | -53.25      |
| 2                                                   | 109.01      | 22.46                  | -95.26                 | -72.80               | -13         | -59.80      |
| 3                                                   | 148.93      | 23.35                  | -95.26                 | -71.91               | -13         | -58.91      |
| 4                                                   | 197.33      | 26.49                  | -95.26                 | -68.77               | -13         | -55.77      |
| 5                                                   | 310.57      | 23.6                   | -95.26                 | -71.66               | -13         | -58.66      |
| 6                                                   | 485.6       | 27.88                  | -95.26                 | -67.38               | -13         | -54.38      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.41       | 32.07                  | -95.26                 | -63.19               | -13         | -50.19      |
| 2                                                   | 48.41       | 29.37                  | -95.26                 | -65.89               | -13         | -52.89      |
| 3                                                   | 105.68      | 24.95                  | -95.26                 | -70.31               | -13         | -57.31      |
| 4                                                   | 159.64      | 25.44                  | -95.26                 | -69.82               | -13         | -56.82      |
| 5                                                   | 197.4       | 22.29                  | -95.26                 | -72.97               | -13         | -59.97      |
| 6                                                   | 379.51      | 25.64                  | -95.26                 | -69.62               | -13         | -56.62      |

##### Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.76       | 29                     | -95.26                 | -66.26               | -13         | -53.26      |
| 2                                                   | 109.16      | 23.88                  | -95.26                 | -71.38               | -13         | -58.38      |
| 3                                                   | 148.85      | 23.94                  | -95.26                 | -71.32               | -13         | -58.32      |
| 4                                                   | 197.06      | 26.92                  | -95.26                 | -68.34               | -13         | -55.34      |
| 5                                                   | 310.41      | 23.51                  | -95.26                 | -71.75               | -13         | -58.75      |
| 6                                                   | 485.71      | 27.25                  | -95.26                 | -68.01               | -13         | -55.01      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.5        | 32.71                  | -95.26                 | -62.55               | -13         | -49.55      |
| 2                                                   | 48.29       | 30.05                  | -95.26                 | -65.21               | -13         | -52.21      |
| 3                                                   | 105.22      | 24.4                   | -95.26                 | -70.86               | -13         | -57.86      |
| 4                                                   | 159.82      | 25.48                  | -95.26                 | -69.78               | -13         | -56.78      |
| 5                                                   | 197.83      | 22.53                  | -95.26                 | -72.73               | -13         | -59.73      |
| 6                                                   | 379.6       | 25.78                  | -95.26                 | -69.48               | -13         | -56.48      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20643 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.81       | 29.22                  | -95.26                 | -66.04               | -13         | -53.04      |
| 2                                                   | 109.34      | 23.62                  | -95.26                 | -71.64               | -13         | -58.64      |
| 3                                                   | 148.55      | 22.87                  | -95.26                 | -72.39               | -13         | -59.39      |
| 4                                                   | 196.97      | 26.51                  | -95.26                 | -68.75               | -13         | -55.75      |
| 5                                                   | 310.68      | 23.71                  | -95.26                 | -71.55               | -13         | -58.55      |
| 6                                                   | 485.93      | 27.89                  | -95.26                 | -67.37               | -13         | -54.37      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.65       | 31.16                  | -95.26                 | -64.10               | -13         | -51.10      |
| 2                                                   | 48.1        | 29.54                  | -95.26                 | -65.72               | -13         | -52.72      |
| 3                                                   | 105.54      | 24.37                  | -95.26                 | -70.89               | -13         | -57.89      |
| 4                                                   | 160.1       | 25.26                  | -95.26                 | -70.00               | -13         | -57.00      |
| 5                                                   | 197.9       | 22.58                  | -95.26                 | -72.68               | -13         | -59.68      |
| 6                                                   | 379.97      | 25.35                  | -95.26                 | -69.91               | -13         | -56.91      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# LTE Band 5: 3MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20415 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.7        | 29.35                  | -95.26                 | -65.91               | -13         | -52.91      |
| 2                                                   | 108.73      | 22.94                  | -95.26                 | -72.32               | -13         | -59.32      |
| 3                                                   | 149.25      | 23.07                  | -95.26                 | -72.19               | -13         | -59.19      |
| 4                                                   | 197.78      | 26.62                  | -95.26                 | -68.64               | -13         | -55.64      |
| 5                                                   | 310.81      | 23.54                  | -95.26                 | -71.72               | -13         | -58.72      |
| 6                                                   | 486.01      | 27.92                  | -95.26                 | -67.34               | -13         | -54.34      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.51       | 31.9                   | -95.26                 | -63.36               | -13         | -50.36      |
| 2                                                   | 48.29       | 29.6                   | -95.26                 | -65.66               | -13         | -52.66      |
| 3                                                   | 105.74      | 24.92                  | -95.26                 | -70.34               | -13         | -57.34      |
| 4                                                   | 159.24      | 25.1                   | -95.26                 | -70.16               | -13         | -57.16      |
| 5                                                   | 197.05      | 22.78                  | -95.26                 | -72.48               | -13         | -59.48      |
| 6                                                   | 379.13      | 25.51                  | -95.26                 | -69.75               | -13         | -56.75      |

## Remarks:

- Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
- Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.76       | 28.74                  | -95.26                 | -66.52               | -13         | -53.52      |
| 2                                                   | 108.96      | 23.73                  | -95.26                 | -71.53               | -13         | -58.53      |
| 3                                                   | 148.61      | 24.18                  | -95.26                 | -71.08               | -13         | -58.08      |
| 4                                                   | 197.43      | 26.69                  | -95.26                 | -68.57               | -13         | -55.57      |
| 5                                                   | 310.07      | 23.56                  | -95.26                 | -71.70               | -13         | -58.70      |
| 6                                                   | 485.68      | 27.02                  | -95.26                 | -68.24               | -13         | -55.24      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.65       | 32.46                  | -95.26                 | -62.80               | -13         | -49.80      |
| 2                                                   | 47.95       | 30.45                  | -95.26                 | -64.81               | -13         | -51.81      |
| 3                                                   | 105.58      | 24.34                  | -95.26                 | -70.92               | -13         | -57.92      |
| 4                                                   | 159.3       | 25.86                  | -95.26                 | -69.40               | -13         | -56.40      |
| 5                                                   | 197.27      | 22.5                   | -95.26                 | -72.76               | -13         | -59.76      |
| 6                                                   | 379.92      | 25.88                  | -95.26                 | -69.38               | -13         | -56.38      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20635 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.84       | 28.98                  | -95.26                 | -66.28               | -13         | -53.28      |
| 2                                                   | 109.15      | 23.94                  | -95.26                 | -71.32               | -13         | -58.32      |
| 3                                                   | 148.74      | 23.29                  | -95.26                 | -71.97               | -13         | -58.97      |
| 4                                                   | 197.37      | 26.52                  | -95.26                 | -68.74               | -13         | -55.74      |
| 5                                                   | 310.35      | 23.85                  | -95.26                 | -71.41               | -13         | -58.41      |
| 6                                                   | 486.05      | 28.08                  | -95.26                 | -67.18               | -13         | -54.18      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.63       | 31.41                  | -95.26                 | -63.85               | -13         | -50.85      |
| 2                                                   | 48.2        | 29.38                  | -95.26                 | -65.88               | -13         | -52.88      |
| 3                                                   | 105.55      | 24.87                  | -95.26                 | -70.39               | -13         | -57.39      |
| 4                                                   | 159.66      | 25.74                  | -95.26                 | -69.52               | -13         | -56.52      |
| 5                                                   | 197.73      | 22.64                  | -95.26                 | -72.62               | -13         | -59.62      |
| 6                                                   | 379.6       | 24.93                  | -95.26                 | -70.33               | -13         | -57.33      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# LTE Band 5: 5MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20425 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.68       | 29.24                  | -95.26                 | -66.02               | -13         | -53.02      |
| 2                                                   | 108.78      | 22.86                  | -95.26                 | -72.40               | -13         | -59.40      |
| 3                                                   | 148.74      | 23.49                  | -95.26                 | -71.77               | -13         | -58.77      |
| 4                                                   | 197.74      | 26.16                  | -95.26                 | -69.10               | -13         | -56.10      |
| 5                                                   | 310.43      | 23.63                  | -95.26                 | -71.63               | -13         | -58.63      |
| 6                                                   | 485.51      | 27.7                   | -95.26                 | -67.56               | -13         | -54.56      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.48       | 32.35                  | -95.26                 | -62.91               | -13         | -49.91      |
| 2                                                   | 48.15       | 29.72                  | -95.26                 | -65.54               | -13         | -52.54      |
| 3                                                   | 105.3       | 25.19                  | -95.26                 | -70.07               | -13         | -57.07      |
| 4                                                   | 160.03      | 25.8                   | -95.26                 | -69.46               | -13         | -56.46      |
| 5                                                   | 196.98      | 21.85                  | -95.26                 | -73.41               | -13         | -60.41      |
| 6                                                   | 379.1       | 25.39                  | -95.26                 | -69.87               | -13         | -56.87      |

## Remarks:

- Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
- Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

Antenna Polarity & Test Distance: Horizontal at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 30.77          | 29.18                     | -95.26                    | -66.08                  | -13            | -53.08      |
| 2   | 109.24         | 24.01                     | -95.26                    | -71.25                  | -13            | -58.25      |
| 3   | 148.47         | 23.52                     | -95.26                    | -71.74                  | -13            | -58.74      |
| 4   | 197.5          | 27.01                     | -95.26                    | -68.25                  | -13            | -55.25      |
| 5   | 310.42         | 23.4                      | -95.26                    | -71.86                  | -13            | -58.86      |
| 6   | 485.22         | 27.23                     | -95.26                    | -68.03                  | -13            | -55.03      |

Antenna Polarity & Test Distance: Vertical at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 30.5           | 32.65                     | -95.26                    | -62.61                  | -13            | -49.61      |
| 2   | 48.14          | 30.06                     | -95.26                    | -65.20                  | -13            | -52.20      |
| 3   | 105.89         | 24.87                     | -95.26                    | -70.39                  | -13            | -57.39      |
| 4   | 159.38         | 25.28                     | -95.26                    | -69.98                  | -13            | -56.98      |
| 5   | 197.33         | 22.75                     | -95.26                    | -72.51                  | -13            | -59.51      |
| 6   | 379.82         | 25.99                     | -95.26                    | -69.27                  | -13            | -56.27      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20625 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.82       | 29.21                  | -95.26                 | -66.05               | -13         | -53.05      |
| 2                                                   | 109.12      | 23.13                  | -95.26                 | -72.13               | -13         | -59.13      |
| 3                                                   | 148.67      | 23.11                  | -95.26                 | -72.15               | -13         | -59.15      |
| 4                                                   | 197         | 26.95                  | -95.26                 | -68.31               | -13         | -55.31      |
| 5                                                   | 310.43      | 23.61                  | -95.26                 | -71.65               | -13         | -58.65      |
| 6                                                   | 486.01      | 27.45                  | -95.26                 | -67.81               | -13         | -54.81      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.64       | 30.77                  | -95.26                 | -64.49               | -13         | -51.49      |
| 2                                                   | 48.02       | 29.87                  | -95.26                 | -65.39               | -13         | -52.39      |
| 3                                                   | 106.1       | 24.71                  | -95.26                 | -70.55               | -13         | -57.55      |
| 4                                                   | 159.2       | 25.18                  | -95.26                 | -70.08               | -13         | -57.08      |
| 5                                                   | 197.64      | 22.82                  | -95.26                 | -72.44               | -13         | -59.44      |
| 6                                                   | 379.46      | 24.87                  | -95.26                 | -70.39               | -13         | -57.39      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# LTE Band 5: 10MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20450 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.7        | 29.16                  | -95.26                 | -66.10               | -13         | -53.10      |
| 2                                                   | 108.96      | 22.73                  | -95.26                 | -72.53               | -13         | -59.53      |
| 3                                                   | 148.89      | 23.84                  | -95.26                 | -71.42               | -13         | -58.42      |
| 4                                                   | 197.51      | 26.79                  | -95.26                 | -68.47               | -13         | -55.47      |
| 5                                                   | 311.02      | 23.13                  | -95.26                 | -72.13               | -13         | -59.13      |
| 6                                                   | 485.95      | 27.46                  | -95.26                 | -67.80               | -13         | -54.80      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.45       | 32.3                   | -95.26                 | -62.96               | -13         | -49.96      |
| 2                                                   | 48.23       | 29.66                  | -95.26                 | -65.60               | -13         | -52.60      |
| 3                                                   | 105.67      | 24.88                  | -95.26                 | -70.38               | -13         | -57.38      |
| 4                                                   | 159.19      | 25.73                  | -95.26                 | -69.53               | -13         | -56.53      |
| 5                                                   | 197.89      | 22.02                  | -95.26                 | -73.24               | -13         | -60.24      |
| 6                                                   | 379.45      | 25.83                  | -95.26                 | -69.43               | -13         | -56.43      |

## Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.73       | 29.42                  | -95.26                 | -65.84               | -13         | -52.84      |
| 2                                                   | 108.86      | 23.96                  | -95.26                 | -71.30               | -13         | -58.30      |
| 3                                                   | 148.88      | 24.35                  | -95.26                 | -70.91               | -13         | -57.91      |
| 4                                                   | 197.5       | 27.38                  | -95.26                 | -67.88               | -13         | -54.88      |
| 5                                                   | 310.82      | 23.54                  | -95.26                 | -71.72               | -13         | -58.72      |
| 6                                                   | 485.28      | 26.98                  | -95.26                 | -68.28               | -13         | -55.28      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.61       | 33.18                  | -95.26                 | -62.08               | -13         | -49.08      |
| 2                                                   | 48.02       | 30.14                  | -95.26                 | -65.12               | -13         | -52.12      |
| 3                                                   | 105.9       | 24.77                  | -95.26                 | -70.49               | -13         | -57.49      |
| 4                                                   | 159.29      | 25.65                  | -95.26                 | -69.61               | -13         | -56.61      |
| 5                                                   | 197.67      | 22.5                   | -95.26                 | -72.76               | -13         | -59.76      |
| 6                                                   | 379.93      | 25.52                  | -95.26                 | -69.74               | -13         | -56.74      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20600 | Frequency Range | Below 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.82       | 29.64                  | -95.26                 | -65.62               | -13         | -52.62      |
| 2                                                   | 109.24      | 23.67                  | -95.26                 | -71.59               | -13         | -58.59      |
| 3                                                   | 148.85      | 23.08                  | -95.26                 | -72.18               | -13         | -59.18      |
| 4                                                   | 197.71      | 26.84                  | -95.26                 | -68.42               | -13         | -55.42      |
| 5                                                   | 310.4       | 23.61                  | -95.26                 | -71.65               | -13         | -58.65      |
| 6                                                   | 485.25      | 28.28                  | -95.26                 | -66.98               | -13         | -53.98      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 30.59       | 30.7                   | -95.26                 | -64.56               | -13         | -51.56      |
| 2                                                   | 48.18       | 29.36                  | -95.26                 | -65.90               | -13         | -52.90      |
| 3                                                   | 105.5       | 24.25                  | -95.26                 | -71.01               | -13         | -58.01      |
| 4                                                   | 159.81      | 24.83                  | -95.26                 | -70.43               | -13         | -57.43      |
| 5                                                   | 197.05      | 22.4                   | -95.26                 | -72.86               | -13         | -59.86      |
| 6                                                   | 379.17      | 24.99                  | -95.26                 | -70.27               | -13         | -57.27      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# Above 1GHz

## LTE Band 5: 1.4MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20407 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

### Antenna Polarity & Test Distance: Horizontal at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1649.4         | 31.38                     | -95.26                    | -63.88                  | -13            | -50.88      |
| 2   | 2061.75        | 31.81                     | -95.26                    | -63.45                  | -13            | -50.45      |
| 3   | 2474.1         | 32.46                     | -95.26                    | -62.80                  | -13            | -49.80      |
| 4   | 2886.45        | 32.84                     | -95.26                    | -62.42                  | -13            | -49.42      |
| 5   | 3298.8         | 32.28                     | -95.26                    | -62.98                  | -13            | -49.98      |
| 6   | 3711.15        | 33.36                     | -95.26                    | -61.90                  | -13            | -48.90      |

### Antenna Polarity & Test Distance: Vertical at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1649.4         | 31.45                     | -95.26                    | -63.81                  | -13            | -50.81      |
| 2   | 2061.75        | 32.4                      | -95.26                    | -62.86                  | -13            | -49.86      |
| 3   | 2474.1         | 32.52                     | -95.26                    | -62.74                  | -13            | -49.74      |
| 4   | 2886.45        | 32.17                     | -95.26                    | -63.09                  | -13            | -50.09      |
| 5   | 3298.8         | 32.53                     | -95.26                    | -62.73                  | -13            | -49.73      |
| 6   | 3711.15        | 32.68                     | -95.26                    | -62.58                  | -13            | -49.58      |

#### Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

**Antenna Polarity & Test Distance: Horizontal at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1673           | 31.81                     | -95.26                    | -63.45                  | -13            | -50.45      |
| 2   | 2091.25        | 32.56                     | -95.26                    | -62.70                  | -13            | -49.70      |
| 3   | 2509.5         | 32.21                     | -95.26                    | -63.05                  | -13            | -50.05      |
| 4   | 2927.75        | 32.38                     | -95.26                    | -62.88                  | -13            | -49.88      |
| 5   | 3346           | 32.81                     | -95.26                    | -62.45                  | -13            | -49.45      |
| 6   | 3764.25        | 33.38                     | -95.26                    | -61.88                  | -13            | -48.88      |

**Antenna Polarity & Test Distance: Vertical at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1673           | 31.35                     | -95.26                    | -63.91                  | -13            | -50.91      |
| 2   | 2091.25        | 31.81                     | -95.26                    | -63.45                  | -13            | -50.45      |
| 3   | 2509.5         | 32.47                     | -95.26                    | -62.79                  | -13            | -49.79      |
| 4   | 2927.75        | 32.57                     | -95.26                    | -62.69                  | -13            | -49.69      |
| 5   | 3346           | 32.38                     | -95.26                    | -62.88                  | -13            | -49.88      |
| 6   | 3764.25        | 33.47                     | -95.26                    | -61.79                  | -13            | -48.79      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20643 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

**Antenna Polarity & Test Distance: Horizontal at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1696.6         | 31.84                     | -95.26                    | -63.42                  | -13            | -50.42      |
| 2   | 2120.75        | 32.31                     | -95.26                    | -62.95                  | -13            | -49.95      |
| 3   | 2544.9         | 31.98                     | -95.26                    | -63.28                  | -13            | -50.28      |
| 4   | 2969.05        | 32.27                     | -95.26                    | -62.99                  | -13            | -49.99      |
| 5   | 3393.2         | 32.6                      | -95.26                    | -62.66                  | -13            | -49.66      |
| 6   | 3817.35        | 32.99                     | -95.26                    | -62.27                  | -13            | -49.27      |

**Antenna Polarity & Test Distance: Vertical at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1696.6         | 31.36                     | -95.26                    | -63.90                  | -13            | -50.90      |
| 2   | 2120.75        | 32.23                     | -95.26                    | -63.03                  | -13            | -50.03      |
| 3   | 2544.9         | 32.71                     | -95.26                    | -62.55                  | -13            | -49.55      |
| 4   | 2969.05        | 32.32                     | -95.26                    | -62.94                  | -13            | -49.94      |
| 5   | 3393.2         | 32.88                     | -95.26                    | -62.38                  | -13            | -49.38      |
| 6   | 3817.35        | 33.3                      | -95.26                    | -61.96                  | -13            | -48.96      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# LTE Band 5: 3MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20415 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1651        | 31.51                  | -95.26                 | -63.75               | -13         | -50.75      |
| 2                                                   | 2063.75     | 31.4                   | -95.26                 | -63.86               | -13         | -50.86      |
| 3                                                   | 2476.5      | 32.23                  | -95.26                 | -63.03               | -13         | -50.03      |
| 4                                                   | 2889.25     | 33.31                  | -95.26                 | -61.95               | -13         | -48.95      |
| 5                                                   | 3302        | 32.53                  | -95.26                 | -62.73               | -13         | -49.73      |
| 6                                                   | 3714.75     | 32.96                  | -95.26                 | -62.30               | -13         | -49.30      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1651        | 31.58                  | -95.26                 | -63.68               | -13         | -50.68      |
| 2                                                   | 2063.75     | 32.44                  | -95.26                 | -62.82               | -13         | -49.82      |
| 3                                                   | 2476.5      | 32.58                  | -95.26                 | -62.68               | -13         | -49.68      |
| 4                                                   | 2889.25     | 32.29                  | -95.26                 | -62.97               | -13         | -49.97      |
| 5                                                   | 3302        | 32.62                  | -95.26                 | -62.64               | -13         | -49.64      |
| 6                                                   | 3714.75     | 32.68                  | -95.26                 | -62.58               | -13         | -49.58      |

## Remarks:

- Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
- Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.93                  | -95.26                 | -63.33               | -13         | -50.33      |
| 2                                                   | 2091.25     | 32.75                  | -95.26                 | -62.51               | -13         | -49.51      |
| 3                                                   | 2509.5      | 32.22                  | -95.26                 | -63.04               | -13         | -50.04      |
| 4                                                   | 2927.75     | 32.45                  | -95.26                 | -62.81               | -13         | -49.81      |
| 5                                                   | 3346        | 33.01                  | -95.26                 | -62.25               | -13         | -49.25      |
| 6                                                   | 3764.25     | 33.51                  | -95.26                 | -61.75               | -13         | -48.75      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.38                  | -95.26                 | -63.88               | -13         | -50.88      |
| 2                                                   | 2091.25     | 31.87                  | -95.26                 | -63.39               | -13         | -50.39      |
| 3                                                   | 2509.5      | 32.55                  | -95.26                 | -62.71               | -13         | -49.71      |
| 4                                                   | 2927.75     | 32.8                   | -95.26                 | -62.46               | -13         | -49.46      |
| 5                                                   | 3346        | 32.53                  | -95.26                 | -62.73               | -13         | -49.73      |
| 6                                                   | 3764.25     | 33.57                  | -95.26                 | -61.69               | -13         | -48.69      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20635 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

Antenna Polarity & Test Distance: Horizontal at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1695           | 32.01                     | -95.26                    | -63.25                  | -13            | -50.25      |
| 2   | 2118.75        | 32.36                     | -95.26                    | -62.90                  | -13            | -49.90      |
| 3   | 2542.5         | 32.19                     | -95.26                    | -63.07                  | -13            | -50.07      |
| 4   | 2966.25        | 32.5                      | -95.26                    | -62.76                  | -13            | -49.76      |
| 5   | 3390           | 32.77                     | -95.26                    | -62.49                  | -13            | -49.49      |
| 6   | 3813.75        | 33.03                     | -95.26                    | -62.23                  | -13            | -49.23      |

Antenna Polarity & Test Distance: Vertical at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1695           | 31.54                     | -95.26                    | -63.72                  | -13            | -50.72      |
| 2   | 2118.75        | 32.39                     | -95.26                    | -62.87                  | -13            | -49.87      |
| 3   | 2542.5         | 32.75                     | -95.26                    | -62.51                  | -13            | -49.51      |
| 4   | 2966.25        | 32.4                      | -95.26                    | -62.86                  | -13            | -49.86      |
| 5   | 3390           | 33.03                     | -95.26                    | -62.23                  | -13            | -49.23      |
| 6   | 3813.75        | 33.5                      | -95.26                    | -61.76                  | -13            | -48.76      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

### LTE Band 5: 5MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20425 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

#### Antenna Polarity & Test Distance: Horizontal at 3 M

| No. | Freq. (MHz)    | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB)   |
|-----|----------------|------------------------|------------------------|----------------------|-------------|---------------|
| 1   | 1653           | 31.61                  | -95.26                 | -63.65               | -13         | -50.65        |
| 2   | 2066.25        | 31.9                   | -95.26                 | -63.36               | -13         | -50.36        |
| 3   | 2479.5         | 32.11                  | -95.26                 | -63.15               | -13         | -50.15        |
| 4   | 2892.75        | 33.17                  | -95.26                 | -62.09               | -13         | -49.09        |
| 5   | 3306           | 31.89                  | -95.26                 | -63.37               | -13         | -50.37        |
| 6   | <b>3719.25</b> | <b>33.83</b>           | <b>-95.26</b>          | <b>-61.43</b>        | <b>-13</b>  | <b>-48.43</b> |

#### Antenna Polarity & Test Distance: Vertical at 3 M

| No. | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
|-----|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| 1   | 1653        | 31.68                  | -95.26                 | -63.58               | -13         | -50.58      |
| 2   | 2066.25     | 32.55                  | -95.26                 | -62.71               | -13         | -49.71      |
| 3   | 2479.5      | 32.65                  | -95.26                 | -62.61               | -13         | -49.61      |
| 4   | 2892.75     | 32.18                  | -95.26                 | -63.08               | -13         | -50.08      |
| 5   | 3306        | 32.65                  | -95.26                 | -62.61               | -13         | -49.61      |
| 6   | 3719.25     | 32.91                  | -95.26                 | -62.35               | -13         | -49.35      |

#### Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.86                  | -95.26                 | -63.40               | -13         | -50.40      |
| 2                                                   | 2091.25     | 32.75                  | -95.26                 | -62.51               | -13         | -49.51      |
| 3                                                   | 2509.5      | 32.33                  | -95.26                 | -62.93               | -13         | -49.93      |
| 4                                                   | 2927.75     | 32.52                  | -95.26                 | -62.74               | -13         | -49.74      |
| 5                                                   | 3346        | 32.98                  | -95.26                 | -62.28               | -13         | -49.28      |
| 6                                                   | 3764.25     | 33.55                  | -95.26                 | -61.71               | -13         | -48.71      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.53                  | -95.26                 | -63.73               | -13         | -50.73      |
| 2                                                   | 2091.25     | 32.05                  | -95.26                 | -63.21               | -13         | -50.21      |
| 3                                                   | 2509.5      | 32.55                  | -95.26                 | -62.71               | -13         | -49.71      |
| 4                                                   | 2927.75     | 32.77                  | -95.26                 | -62.49               | -13         | -49.49      |
| 5                                                   | 3346        | 32.53                  | -95.26                 | -62.73               | -13         | -49.73      |
| 6                                                   | 3764.25     | 33.62                  | -95.26                 | -61.64               | -13         | -48.64      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20625 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

Antenna Polarity & Test Distance: Horizontal at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1693           | 32.03                     | -95.26                    | -63.23                  | -13            | -50.23      |
| 2   | 2116.25        | 32.5                      | -95.26                    | -62.76                  | -13            | -49.76      |
| 3   | 2539.5         | 31.99                     | -95.26                    | -63.27                  | -13            | -50.27      |
| 4   | 2962.75        | 32.38                     | -95.26                    | -62.88                  | -13            | -49.88      |
| 5   | 3386           | 32.83                     | -95.26                    | -62.43                  | -13            | -49.43      |
| 6   | 3809.25        | 33.21                     | -95.26                    | -62.05                  | -13            | -49.05      |

Antenna Polarity & Test Distance: Vertical at 3 M

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1693           | 31.6                      | -95.26                    | -63.66                  | -13            | -50.66      |
| 2   | 2116.25        | 32.24                     | -95.26                    | -63.02                  | -13            | -50.02      |
| 3   | 2539.5         | 32.77                     | -95.26                    | -62.49                  | -13            | -49.49      |
| 4   | 2962.75        | 32.41                     | -95.26                    | -62.85                  | -13            | -49.85      |
| 5   | 3386           | 33.02                     | -95.26                    | -62.24                  | -13            | -49.24      |
| 6   | 3809.25        | 33.48                     | -95.26                    | -61.78                  | -13            | -48.78      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

# LTE Band 5: 10MHz

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20450 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1658        | 31.43                  | -95.26                 | -63.83               | -13         | -50.83      |
| 2                                                   | 2072.5      | 31.85                  | -95.26                 | -63.41               | -13         | -50.41      |
| 3                                                   | 2487        | 32.61                  | -95.26                 | -62.65               | -13         | -49.65      |
| 4                                                   | 2901.5      | 33.31                  | -95.26                 | -61.95               | -13         | -48.95      |
| 5                                                   | 3316        | 32.73                  | -95.26                 | -62.53               | -13         | -49.53      |
| 6                                                   | 3730.5      | 33.69                  | -95.26                 | -61.57               | -13         | -48.57      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1658        | 31.64                  | -95.26                 | -63.62               | -13         | -50.62      |
| 2                                                   | 2072.5      | 32.53                  | -95.26                 | -62.73               | -13         | -49.73      |
| 3                                                   | 2487        | 32.69                  | -95.26                 | -62.57               | -13         | -49.57      |
| 4                                                   | 2901.5      | 32.34                  | -95.26                 | -62.92               | -13         | -49.92      |
| 5                                                   | 3316        | 32.69                  | -95.26                 | -62.57               | -13         | -49.57      |
| 6                                                   | 3730.5      | 32.79                  | -95.26                 | -62.47               | -13         | -49.47      |

## Remarks:

- Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
- Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20525 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

| Antenna Polarity & Test Distance: Horizontal at 3 M |             |                        |                        |                      |             |             |
|-----------------------------------------------------|-------------|------------------------|------------------------|----------------------|-------------|-------------|
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.97                  | -95.26                 | -63.29               | -13         | -50.29      |
| 2                                                   | 2091.25     | 32.8                   | -95.26                 | -62.46               | -13         | -49.46      |
| 3                                                   | 2509.5      | 32.4                   | -95.26                 | -62.86               | -13         | -49.86      |
| 4                                                   | 2927.75     | 32.46                  | -95.26                 | -62.80               | -13         | -49.80      |
| 5                                                   | 3346        | 32.82                  | -95.26                 | -62.44               | -13         | -49.44      |
| 6                                                   | 3764.25     | 33.58                  | -95.26                 | -61.68               | -13         | -48.68      |
| Antenna Polarity & Test Distance: Vertical at 3 M   |             |                        |                        |                      |             |             |
| No.                                                 | Freq. (MHz) | Reading (dB $\mu$ V/m) | Correction Factor (dB) | Emission Value (dBm) | Limit (dBm) | Margin (dB) |
| 1                                                   | 1673        | 31.38                  | -95.26                 | -63.88               | -13         | -50.88      |
| 2                                                   | 2091.25     | 31.84                  | -95.26                 | -63.42               | -13         | -50.42      |
| 3                                                   | 2509.5      | 32.57                  | -95.26                 | -62.69               | -13         | -49.69      |
| 4                                                   | 2927.75     | 32.62                  | -95.26                 | -62.64               | -13         | -49.64      |
| 5                                                   | 3346        | 32.53                  | -95.26                 | -62.73               | -13         | -49.73      |
| 6                                                   | 3764.25     | 33.68                  | -95.26                 | -61.58               | -13         | -48.58      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

|      |                  |                 |                |
|------|------------------|-----------------|----------------|
| Mode | TX channel 20600 | Frequency Range | Above 1000 MHz |
|------|------------------|-----------------|----------------|

**Antenna Polarity & Test Distance: Horizontal at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1688           | 31.85                     | -95.26                    | -63.41                  | -13            | -50.41      |
| 2   | 2110           | 32.55                     | -95.26                    | -62.71                  | -13            | -49.71      |
| 3   | 2532           | 32.2                      | -95.26                    | -63.06                  | -13            | -50.06      |
| 4   | 2954           | 32.32                     | -95.26                    | -62.94                  | -13            | -49.94      |
| 5   | 3376           | 32.71                     | -95.26                    | -62.55                  | -13            | -49.55      |
| 6   | 3798           | 33.2                      | -95.26                    | -62.06                  | -13            | -49.06      |

**Antenna Polarity & Test Distance: Vertical at 3 M**

| No. | Freq.<br>(MHz) | Reading<br>(dB $\mu$ V/m) | Correction Factor<br>(dB) | Emission Value<br>(dBm) | Limit<br>(dBm) | Margin (dB) |
|-----|----------------|---------------------------|---------------------------|-------------------------|----------------|-------------|
| 1   | 1688           | 31.43                     | -95.26                    | -63.83                  | -13            | -50.83      |
| 2   | 2110           | 32.47                     | -95.26                    | -62.79                  | -13            | -49.79      |
| 3   | 2532           | 32.79                     | -95.26                    | -62.47                  | -13            | -49.47      |
| 4   | 2954           | 32.33                     | -95.26                    | -62.93                  | -13            | -49.93      |
| 5   | 3376           | 32.94                     | -95.26                    | -62.32                  | -13            | -49.32      |
| 6   | 3798           | 33.31                     | -95.26                    | -61.95                  | -13            | -48.95      |

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dB $\mu$ V/m) - Correction Factor @3m.
2. Correction Factor (dB) = 20log(D) - 104.8; where D is the measurement distance @3m.

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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