

## FCC Test Report (Part 27)

**Report No.:** RFBBGM-WTW-P21116011-2

**FCC ID:** WIYLE910C1NF

**Test Model:** LE910C1-NF

**Received Date:** Dec. 01, 2021

**Test Date:** Dec. 02 ~ Dec. 07, 2021

**Issued Date:** Jan. 04, 2022

**Applicant:** CASTLES TECHNOLOGY CO., LTD.

**Address:** 6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY  
23143, TAIWAN (R. O. C.)

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location (1):** No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

### FCC Registration /

**Designation Number(1):** 788550 / TW0003

**Test Location(2):** No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan

### FCC Registration /

**Designation Number(2):** 281270 / TW0032



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### Release Control Record

| Issue No.              | Description      | Date Issued   |
|------------------------|------------------|---------------|
| RFBBGM-WTW-P21116011-2 | Original release | Jan. 04, 2022 |

## 1 Certificate of Conformity

**Product:** WCDMA and LTE cellular wireless module

**Brand:**  **CASTLES  
TECHNOLOGY**

**Test Model:** LE910C1-NF

**Sample Status:** Identical Prototype

**Applicant:** CASTLES TECHNOLOGY CO., LTD.

**Test Date:** Dec. 02 ~ Dec. 07, 2021

**Standards:** FCC Part 27, Subpart C, D, F, H, L

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 RF characteristics under the conditions specified in this report.

**Prepared by :**  , **Date:** Jan. 04, 2022  
Pettie Chen / Senior Specialist

**Approved by :**  , **Date:** Jan. 04, 2022  
Jeremy Lin / Project Engineer

## 2 Summary of Test Results

| Applied Standard: FCC Part 27 & Part 2 |                    |                       |                           |                                                                          |        |                                                                                       |
|----------------------------------------|--------------------|-----------------------|---------------------------|--------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------|
| FCC Clause                             |                    |                       |                           | Test Item                                                                | Result | Remarks                                                                               |
| WCDMA B4 /<br>LTE B4                   | LTE B12            | LTE B13               | LTE B66                   |                                                                          |        |                                                                                       |
| 2.1046<br>27.50(d)                     | 2.1046<br>27.50(c) | 2.1046<br>27.50(b)    | 2.1046<br>27.50<br>(d)(4) | Equivalent Isotropically<br>Radiated Power / Effective<br>Radiated Power | Pass   | Meet the requirement of limit.                                                        |
| 2.1047                                 | 2.1047             | 2.1047                | 2.1047                    | Modulation characteristics                                               | N/A    | Refer to Note                                                                         |
| 2.1055<br>27.54                        | 2.1055<br>27.54    | 2.1055<br>27.54       | 2.1055<br>27.54           | Frequency Stability                                                      | N/A    | Refer to Note                                                                         |
| 2.1049                                 | 2.1049             | 2.1049                | 2.1049                    | Emission Bandwidth                                                       | N/A    | Refer to Note                                                                         |
| 2.1051<br>27.53(h)                     | 2.1051<br>27.53(g) | 2.1051<br>27.53(c)    | 2.1051<br>27.53(h)        | Out of Band Emission<br>Measurements                                     | N/A    | Refer to Note                                                                         |
| 27.50(d)(5)                            | --                 | --                    | 27.50<br>(d)(5)           | Peak To Average Ratio                                                    | N/A    | Refer to Note                                                                         |
| 2.1051<br>27.53(h)                     | 2.1051<br>27.53(g) | 2.1051<br>27.53(c)(f) | 2.1051<br>27.53(h)        | Conducted Spurious<br>Emissions                                          | N/A    | Refer to Note                                                                         |
| 2.1053<br>27.53(h)                     | 2.1053<br>27.53(g) | 2.1053<br>27.53(c)(f) | 2.1053<br>27.53(h)        | Radiated Spurious Emissions                                              | Pass   | Meet the requirement of limit.<br>Minimum passing margin is<br>-3.68dB at 1564.00MHz. |

### Note:

1. This report is a partial report. Therefore, only test item of Effective Radiated Power / Equivalent Isotropically Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to DEKRA report no.: 1980255R-HPUSP17V00-B & 1980255R-HPUSP17V00-C (LTE Module, Brand: Telit, Model: LE910C1-NF, FCC ID: WIYLE910C1NF).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 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<br>(k=2) ( $\pm$ ) |
|--------------------------------|------------------|-----------------------------------------|
| Radiated Emissions up to 1 GHz | 9kHz ~ 30MHz     | 3.00 dB                                 |
|                                | 30MHz ~ 200MHz   | 2.91 dB                                 |
|                                | 200MHz ~ 1000MHz | 2.93 dB                                 |
| Radiated Emissions above 1 GHz | 1GHz ~ 18GHz     | 1.76 dB                                 |
|                                | 18GHz ~ 40GHz    | 1.77 dB                                 |

## 2.2 Test Site and Instruments

| Description & Manufacturer               | Model No.                          | Serial No.                                          | Cal. Date     | Cal. Due      |
|------------------------------------------|------------------------------------|-----------------------------------------------------|---------------|---------------|
| Test Receiver<br>Rohde & Schwarz         | ESR3                               | 102782                                              | Dec. 21, 2020 | Dec. 20, 2021 |
| Spectrum Analyzer<br>Rohde & Schwarz     | FSW43                              | 101582                                              | Apr. 01, 2021 | Mar. 31, 2022 |
| BILOG Antenna<br>SCHWARZBECK             | VULB9168                           | 9168-1213                                           | Oct. 27, 2021 | Oct. 26, 2022 |
| HORN Antenna<br>RF SPIN                  | DRH18-E                            | 210103A18E                                          | Nov. 14, 2021 | Nov. 13, 2022 |
| HORN Antenna<br>SCHWARZBECK              | BBHA 9170                          | 9170-1048                                           | Nov. 14, 2021 | Nov. 13, 2022 |
| Preamplifier<br>EMCI                     | EMC330N                            | 980782                                              | Jan. 19, 2021 | Jan. 18, 2022 |
| Preamplifier<br>EMCI                     | EMC118A45SE                        | 980808                                              | Jan. 03, 2021 | Jan. 02, 2022 |
| Preamplifier<br>EMCI                     | EMC184045SE                        | 980788                                              | Jan. 18, 2021 | Jan. 17, 2022 |
| RF signal cable<br>EMCI                  | EMC104-SM-SM-(9<br>000+2000+1000)  | 201243+ 201231+ 210102                              | Jan. 18, 2021 | Jan. 17, 2022 |
| RF signal cable<br>EMCI                  | EMCCFD400-NM-N<br>M-(9000+300+500) | 201236+ 201235+ 201233                              | Jan. 18, 2021 | Jan. 17, 2022 |
| RF signal cable<br>EMCI                  | EMC101G-KM-KM-<br>(5000+3000+2000) | 201260+201257+201254                                | Jan. 18, 2021 | Jan. 17, 2022 |
| Software<br>BV ADT                       | ADT_Radiated_V7.<br>6.15.9.5       | NA                                                  | NA            | NA            |
| Antenna Tower<br>Max-Full                | MFT-151SS-0.5T                     | NA                                                  | NA            | NA            |
| Turn Table<br>Max-Full                   | MF-7802BS                          | NA                                                  | NA            | NA            |
| Turn Table Controller<br>Max-Full        | MF-7802BS                          | MF780208674                                         | NA            | NA            |
| USB Wideband Power<br>Sensor<br>KEYSIGHT | U2021XA                            | MY55050005/MY5519000<br>4/MY55190007/MY55210<br>005 | Jul. 12, 2021 | Jul. 11, 2022 |

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 WM Chamber 8.

### 3 General Information

#### 3.1 General Description of EUT

|                     |                                                                                   |                          |                       |
|---------------------|-----------------------------------------------------------------------------------|--------------------------|-----------------------|
| Product             | WCDMA and LTE cellular wireless module                                            |                          |                       |
| Brand               |  |                          |                       |
| Test Model          | LE910C1-NF                                                                        |                          |                       |
| Status of EUT       | Identical Prototype                                                               |                          |                       |
| Power Supply Rating | 5.0 Vdc (host equipment)<br>3.8 Vdc                                               |                          |                       |
| Modulation Type     | WCDMA: BPSK, QPSK<br>HSDPA: BPSK<br>HSUPA: QPSK<br>LTE: QPSK, 16QAM               |                          |                       |
| Operating Frequency | WCDMA Band 4                                                                      |                          | 1712.4MHz ~ 1752.6MHz |
|                     | LTE Band 4                                                                        | Channel Bandwidth 1.4MHz | 1710.7MHz ~ 1754.3MHz |
|                     |                                                                                   | Channel Bandwidth 3MHz   | 1711.5MHz ~ 1753.5MHz |
|                     |                                                                                   | Channel Bandwidth 5MHz   | 1712.5MHz ~ 1752.5MHz |
|                     |                                                                                   | Channel Bandwidth 10MHz  | 1715.0MHz ~ 1750.0MHz |
|                     |                                                                                   | Channel Bandwidth 15MHz  | 1717.5MHz ~ 1747.5MHz |
|                     |                                                                                   | Channel Bandwidth 20MHz  | 1720.0MHz ~ 1745.0MHz |
|                     | LTE Band 12                                                                       | Channel Bandwidth 1.4MHz | 699.7MHz ~ 715.3MHz   |
|                     |                                                                                   | Channel Bandwidth 3MHz   | 700.5MHz ~ 714.5MHz   |
|                     |                                                                                   | Channel Bandwidth 5MHz   | 701.5MHz ~ 713.5MHz   |
|                     |                                                                                   | Channel Bandwidth 10MHz  | 704.0MHz ~ 711.0MHz   |
|                     | LTE Band 13                                                                       | Channel Bandwidth 5MHz   | 779.5MHz ~ 784.5MHz   |
|                     |                                                                                   | Channel Bandwidth 10MHz  | 782.0MHz              |
|                     | LTE Band 66                                                                       | Channel Bandwidth 1.4MHz | 1710.7MHz ~ 1779.3MHz |
|                     |                                                                                   | Channel Bandwidth 3MHz   | 1711.5MHz ~ 1778.5MHz |
|                     |                                                                                   | Channel Bandwidth 5MHz   | 1712.5MHz ~ 1777.5MHz |
|                     |                                                                                   | Channel Bandwidth 10MHz  | 1715.0MHz ~ 1775.0MHz |
|                     |                                                                                   | Channel Bandwidth 15MHz  | 1717.5MHz ~ 1772.5MHz |
|                     |                                                                                   | Channel Bandwidth 20MHz  | 1720.0MHz ~ 1770.0MHz |

|                  |               |                          |                      |                     |
|------------------|---------------|--------------------------|----------------------|---------------------|
| Max. EIRP Power  | WCDMA Band 4  |                          | 225.424mW (23.53dBm) |                     |
|                  |               |                          | QPSK                 | 16QAM               |
|                  | LTE Band 4    | Channel Bandwidth 1.4MHz | 177.828mW(22.50dBm)  | 146.555mW(21.66dBm) |
|                  |               | Channel Bandwidth 3MHz   | 188.799mW(22.76dBm)  | 143.219mW(21.56dBm) |
|                  |               | Channel Bandwidth 5MHz   | 172.584mW(22.37dBm)  | 138.357mW(21.41dBm) |
|                  |               | Channel Bandwidth 10MHz  | 172.187mW(22.36dBm)  | 138.357mW(21.41dBm) |
|                  |               | Channel Bandwidth 15MHz  | 171.396mW(22.34dBm)  | 141.254mW(21.50dBm) |
|                  |               | Channel Bandwidth 20MHz  | 172.982mW(22.38dBm)  | 141.254mW(21.50dBm) |
|                  | LTE Band 66   | Channel Bandwidth 1.4MHz | 232.274mW(23.66dBm)  | 190.985mW(22.81dBm) |
|                  |               | Channel Bandwidth 3MHz   | 234.963mW(23.71dBm)  | 190.985mW(22.81dBm) |
|                  |               | Channel Bandwidth 5MHz   | 197.697mW(22.96dBm)  | 163.305mW(22.13dBm) |
|                  |               | Channel Bandwidth 10MHz  | 205.116mW(23.12dBm)  | 171.396mW(22.34dBm) |
|                  |               | Channel Bandwidth 15MHz  | 224.905mW(23.52dBm)  | 174.985mW(22.43dBm) |
|                  |               | Channel Bandwidth 20MHz  | 255.859mW(24.08dBm)  | 199.526mW(23.00dBm) |
| Max. ERP Power   |               |                          | QPSK                 | 16QAM               |
|                  | LTE Band 12   | Channel Bandwidth 1.4MHz | 208.930mW(23.20dBm)  | 172.187mW(22.36dBm) |
|                  |               | Channel Bandwidth 3MHz   | 225.944mW(23.54dBm)  | 155.597mW(21.92dBm) |
|                  |               | Channel Bandwidth 5MHz   | 220.800mW(23.44dBm)  | 164.437mW(22.16dBm) |
|                  |               | Channel Bandwidth 10MHz  | 211.836mW(23.26dBm)  | 169.434mW(22.29dBm) |
|                  | LTE Band 13   | Channel Bandwidth 5MHz   | 207.491mW(23.17dBm)  | 167.109mW(22.23dBm) |
|                  |               | Channel Bandwidth 10MHz  | 230.675mW(23.63dBm)  | 190.546mW(22.80dBm) |
| Antenna Type     | Refer to Note |                          |                      |                     |
| Accessory Device | NA            |                          |                      |                     |
| Cable Supplied   | NA            |                          |                      |                     |

**Note:**

- The EUT was installed in POS Terminal (Brand:  CASTLES TECHNOLOGY, Model: UPT1000F).
- The antenna information of POS Terminal is listed as below.

| Antenna Type       | Dipole       | Brand | Aristotle           |
|--------------------|--------------|-------|---------------------|
| Antenna Connector  | SMA R/A PLUG | Model | RFA-US-T1000G-2M-A5 |
| Antenna Gain (dBi) | WCDMA Band 4 |       | 0.7                 |
|                    | LTE Band 4   |       | 0.7                 |
|                    | LTE Band 12  |       | 2                   |
|                    | LTE Band 13  |       | 2                   |
|                    | LTE Band 66  |       | 0.7                 |

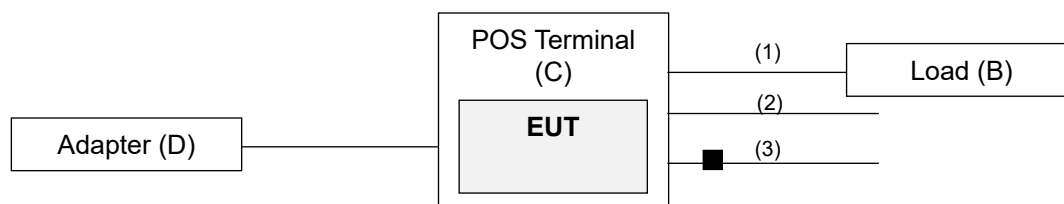
\*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

- The adapter information of POS Terminal is listed as below.

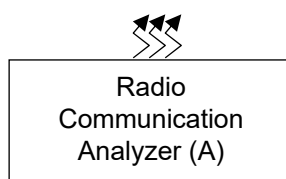
|                        |                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------|
| Adapter (Support unit) |                                                                                                        |
| Brand                  |  CASTLES TECHNOLOGY |
| Model                  | FSP040-DRAN2                                                                                           |
| Input Power            | 100-240 Vac, 50-60 Hz, 1.4 A                                                                           |
| Output Power           | 9.0 Vdc, 4.44 A MAX                                                                                    |
| Power Line:            | 1.45 m cable w/o core                                                                                  |

- 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.

### 3.2 Configuration of System under Test



Remote site



### 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. | Radio Communication Analyzer | Anritsu                                                                                              | MT8821C      | 6261806803 | NA     | -       |
| B. | Load                         | NA                                                                                                   | NA           | NA         | NA     | -       |
| C. | POS Terminal                 |  CASTLES TECHNOLOGY | UPT1000F     | NA         | NA     | -       |
| D. | Adapter                      |  CASTLES TECHNOLOGY | FSP040-DRAN2 | NA         | NA     | -       |

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

| ID | Descriptions | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks            |
|----|--------------|------|------------|--------------------|--------------|--------------------|
| 1. | LAN cable    | 1    | 1.5        | N                  | 0            | RJ45               |
| 2. | Audio cable  | 1    | 1.5        | Y                  | 0            | Provided by client |
| 3. | USB cable    | 1    | 1.5        | Y                  | 1            | Provided by lab    |

### 3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Z-plane. Following channel(s) was (were) selected for the final test as listed below.

#### WCDMA Band 4

| EUT Configure Mode | Test Item                       | Available Channel | Tested Channel                                          | Mode  |
|--------------------|---------------------------------|-------------------|---------------------------------------------------------|-------|
| -                  | EIRP                            | 1312 to 1513      | 1312(1712.4MHz),<br>1413(1732.6MHz),<br>1513(1752.6MHz) | WCDMA |
| -                  | Radiated Emission<br>Below 1GHz | 1312 to 1513      | 1312(1712.4MHz)                                         | WCDMA |
| -                  | Radiated Emission<br>Above 1GHz | 1312 to 1513      | 1312(1712.4MHz)                                         | WCDMA |

#### LTE Band 4

| EUT Configure Mode | Test Item | Available Channel | Tested Channel                                             | Channel Bandwidth | Modulation   | Mode                                                                                                                                                            |
|--------------------|-----------|-------------------|------------------------------------------------------------|-------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -                  | EIRP      | 19957 to 20393    | 19957(1710.7MHz),<br>20175(1732.5MHz),<br>20393(1754.3MHz) | 1.4MHz            | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 2 RB Offset<br>1 RB / 5 RB Offset<br>3 RB / 0 RB Offset<br>3 RB / 1 RB Offset<br>3 RB / 3 RB Offset<br>6 RB / 0 RB Offset          |
|                    |           | 19965 to 20385    | 19965(1711.5MHz),<br>20175(1732.5MHz),<br>20385(1753.5MHz) | 3MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 7 RB Offset<br>1 RB / 14 RB Offset<br>8 RB / 0 RB Offset<br>8 RB / 3 RB Offset<br>8 RB / 7 RB Offset<br>15 RB / 0 RB Offset        |
|                    |           | 19975 to 20375    | 19975(1712.5MHz),<br>20175(1732.5MHz),<br>20375(1752.5MHz) | 5MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 12 RB Offset<br>1 RB / 24 RB Offset<br>12 RB / 0 RB Offset<br>12 RB / 6 RB Offset<br>12 RB / 13 RB Offset<br>25 RB / 0 RB Offset   |
|                    |           | 20000 to 20350    | 20000(1715.0MHz),<br>20175(1732.5MHz),<br>20350(1750.0MHz) | 10MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 24 RB Offset<br>1 RB / 49 RB Offset<br>25 RB / 0 RB Offset<br>25 RB / 12 RB Offset<br>25 RB / 25 RB Offset<br>50 RB / 0 RB Offset  |
|                    |           | 20025 to 20325    | 20025(1717.5MHz),<br>20175(1732.5MHz),<br>20325(1747.5MHz) | 15MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 37 RB Offset<br>1 RB / 74 RB Offset<br>36 RB / 0 RB Offset<br>36 RB / 19 RB Offset<br>36 RB / 39 RB Offset<br>75 RB / 0 RB Offset  |
|                    |           | 20050 to 20300    | 20050(1720.0MHz),<br>20175(1732.5MHz),<br>20300(1745.0MHz) | 20MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 50 RB Offset<br>1 RB / 99 RB Offset<br>50 RB / 0 RB Offset<br>50 RB / 25 RB Offset<br>50 RB / 50 RB Offset<br>100 RB / 0 RB Offset |

## LTE Band 12

| EUT Configure Mode | Test item | Available channel | Tested channel                                            | Channel Bandwidth | Modulation   | Mode                                                                                                                                                           |
|--------------------|-----------|-------------------|-----------------------------------------------------------|-------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -                  | ERP       | 23017 to 23173    | 23017(699.7MHz),<br>23095(707.5MHz),<br>23173(715.3MHz)   | 1.4MHz            | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 2 RB Offset<br>1 RB / 5 RB Offset<br>3 RB / 0 RB Offset<br>3 RB / 1 RB Offset<br>3 RB / 3 RB Offset<br>6 RB / 0 RB Offset         |
|                    |           | 23025 to 23165    | 23025(700.5MHz),<br>23095(707.5MHz),<br>23165(714.5MHz)   | 3MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 7 RB Offset<br>1 RB / 14 RB Offset<br>8 RB / 0 RB Offset<br>8 RB / 3 RB Offset<br>8 RB / 7 RB Offset<br>15 RB / 0 RB Offset       |
|                    |           | 23035 to 23155    | 23035(701.5MHz),<br>23095(707.5MHz),<br>23155(713.5MHz)   | 5MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 12 RB Offset<br>1 RB / 24 RB Offset<br>12 RB / 0 RB Offset<br>12 RB / 6 RB Offset<br>12 RB / 13 RB Offset<br>25 RB / 0 RB Offset  |
|                    |           | 23060 to 23130    | 23060(704.0MHz),<br>23095(707.5 MHz),<br>23130(711.0 MHz) | 10MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 24 RB Offset<br>1 RB / 49 RB Offset<br>25 RB / 0 RB Offset<br>25 RB / 12 RB Offset<br>25 RB / 25 RB Offset<br>50 RB / 0 RB Offset |

## LTE Band 13

| EUT Configure Mode | Test item                    | Available channel | Tested channel                                          | Channel Bandwidth | Modulation   | Mode                                                                                                                                                           |
|--------------------|------------------------------|-------------------|---------------------------------------------------------|-------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -                  | ERP                          | 23205 to 23255    | 23205(779.5MHz),<br>23230(782.0MHz),<br>23255(784.5MHz) | 5MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 12 RB Offset<br>1 RB / 24 RB Offset<br>12 RB / 0 RB Offset<br>12 RB / 6 RB Offset<br>12 RB / 13 RB Offset<br>25 RB / 0 RB Offset  |
|                    |                              | 23230             | 23230(782.0MHz)                                         | 10MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 24 RB Offset<br>1 RB / 49 RB Offset<br>25 RB / 0 RB Offset<br>25 RB / 12 RB Offset<br>25 RB / 25 RB Offset<br>50 RB / 0 RB Offset |
| -                  | Radiated Emission Below 1GHz | 23205 to 23255    | 23230(782.0MHz)                                         | 5MHz              | QPSK         | 1 RB / 12 RB Offset                                                                                                                                            |
| -                  | Radiated Emission Above 1GHz | 23205 to 23255    | 23230(782.0MHz)                                         | 5MHz              | QPSK         | 1 RB / 12 RB Offset                                                                                                                                            |

# LTE Band 66

| EUT Configure Mode | Test Item | Available Channel | Tested Channel                                                   | Channel Bandwidth | Modulation   | Mode                                                                                                                                                            |
|--------------------|-----------|-------------------|------------------------------------------------------------------|-------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -                  | EIRP      | 131979 to 132665  | 131979 (1710.7MHz),<br>132322 (1745.0MHz),<br>132665 (1779.3MHz) | 1.4MHz            | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 2 RB Offset<br>1 RB / 5 RB Offset<br>3 RB / 0 RB Offset<br>3 RB / 1 RB Offset<br>3 RB / 3 RB Offset<br>6 RB / 0 RB Offset          |
|                    |           | 131987 to 132657  | 131987 (1711.5MHz),<br>132322 (1745.0MHz),<br>132657 (1778.5MHz) | 3MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 7 RB Offset<br>1 RB / 14 RB Offset<br>8 RB / 0 RB Offset<br>8 RB / 3 RB Offset<br>8 RB / 7 RB Offset<br>15 RB / 0 RB Offset        |
|                    |           | 131997 to 132647  | 131997 (1712.5MHz),<br>132322 (1745.0MHz),<br>132647 (1777.5MHz) | 5MHz              | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 12 RB Offset<br>1 RB / 24 RB Offset<br>12 RB / 0 RB Offset<br>12 RB / 6 RB Offset<br>12 RB / 13 RB Offset<br>25 RB / 0 RB Offset   |
|                    |           | 132022 to 132622  | 132022 (1715.0MHz),<br>132322 (1745.0MHz),<br>132622 (1775.0MHz) | 10MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 24 RB Offset<br>1 RB / 49 RB Offset<br>25 RB / 0 RB Offset<br>25 RB / 12 RB Offset<br>25 RB / 25 RB Offset<br>50 RB / 0 RB Offset  |
|                    |           | 132047 to 132597  | 132047 (1717.5MHz),<br>132322 (1745.0MHz),<br>132597 (1772.5MHz) | 15MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 37 RB Offset<br>1 RB / 74 RB Offset<br>36 RB / 0 RB Offset<br>36 RB / 19 RB Offset<br>36 RB / 39 RB Offset<br>75 RB / 0 RB Offset  |
|                    |           | 132072 to 132572  | 132072 (1720.0MHz),<br>132322 (1745.0MHz),<br>132572 (1770.0MHz) | 20MHz             | QPSK / 16QAM | 1 RB / 0 RB Offset<br>1 RB / 50 RB Offset<br>1 RB / 99 RB Offset<br>50 RB / 0 RB Offset<br>50 RB / 25 RB Offset<br>50 RB / 50 RB Offset<br>100 RB / 0 RB Offset |

## Test Condition:

| Test Item         | Environmental Conditions | Input Power  | Tested By  |
|-------------------|--------------------------|--------------|------------|
| EIRP / ERP        | 23deg. C, 70%RH          | 120Vac, 60Hz | Rui Chan   |
| Radiated Emission | 23deg. C, 68%RH          | 120Vac, 60Hz | Edison Lee |

### **3.4 EUT Operating Conditions**

The EUT makes a call to the communication simulator. 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 27**

**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

WCDMA, LTE Band 4, LTE Band 66:

Mobile / Portable station are limited to 1 watts e.i.r.p.

LTE Band 12, LTE Band 13:

Control and mobile stations in the 698-746 MHz, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 30 watts ERP.

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 3 watts ERP.

#### 4.1.2 Test Procedures

##### Conducted Power Measurement:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

##### EIRP / ERP Measurement:

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\text{EIRP} = P_{\text{Meas}} + G_T$$

$$\text{ERP} = P_{\text{Meas}} + G_T - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as  $P_{\text{Meas}}$ , e.g., dBm or dBW)

$P_{\text{Meas}}$  measured transmitter output power or PSD, in dBm or dBW

$G_T$  gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

#### 4.1.3 Test Setup

Conducted Power Measurement:



#### 4.1.4 Test Results

##### Conducted Output Power (dBm)

| Band            | WCDMA Band 4 |        |        |
|-----------------|--------------|--------|--------|
| Channel         | 1312         | 1413   | 1513   |
| Frequency (MHz) | 1712.4       | 1732.6 | 1752.6 |
| RMC 12.2K       | 22.83        | 22.75  | 22.73  |

| LTE Band 4 |           |                 |           |       |        |       |
|------------|-----------|-----------------|-----------|-------|--------|-------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid    | High  |
|            |           | Channel         |           | 20050 | 20175  | 20300 |
|            |           | Frequency (MHz) |           | 1720  | 1732.5 | 1745  |
| 20M        | QPSK      | 1               | 0         | 21.57 | 21.04  | 21.44 |
|            |           | 1               | 50        | 21.68 | 21.13  | 21.64 |
|            |           | 1               | 99        | 21.43 | 20.85  | 21.21 |
|            |           | 50              | 0         | 20.48 | 19.87  | 20.34 |
|            |           | 50              | 25        | 20.48 | 19.91  | 20.60 |
|            |           | 50              | 50        | 20.41 | 19.90  | 20.46 |
|            |           | 100             | 0         | 20.73 | 19.99  | 20.36 |
| 20M        | 16QAM     | 1               | 0         | 20.44 | 19.70  | 20.40 |
|            |           | 1               | 50        | 20.80 | 20.13  | 20.57 |
|            |           | 1               | 99        | 20.20 | 19.84  | 20.21 |
|            |           | 50              | 0         | 19.68 | 18.90  | 19.56 |
|            |           | 50              | 25        | 19.50 | 19.05  | 19.65 |
|            |           | 50              | 50        | 19.11 | 19.09  | 19.49 |
|            |           | 100             | 0         | 19.81 | 18.76  | 19.08 |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 20025  | 20175  | 20325  |
|            |           | Frequency (MHz) |           | 1717.5 | 1732.5 | 1747.5 |
| 15M        | QPSK      | 1               | 0         | 21.41  | 21.36  | 21.32  |
|            |           | 1               | 37        | 21.64  | 21.57  | 21.43  |
|            |           | 1               | 74        | 21.36  | 21.14  | 21.15  |
|            |           | 36              | 0         | 20.33  | 20.17  | 20.41  |
|            |           | 36              | 19        | 20.26  | 20.15  | 20.31  |
|            |           | 36              | 39        | 20.10  | 20.13  | 20.36  |
|            |           | 75              | 0         | 20.16  | 20.21  | 20.35  |
| 15M        | 16QAM     | 1               | 0         | 20.54  | 20.03  | 20.17  |
|            |           | 1               | 37        | 20.80  | 20.56  | 20.59  |
|            |           | 1               | 74        | 20.09  | 20.31  | 19.80  |
|            |           | 36              | 0         | 19.35  | 19.30  | 19.61  |
|            |           | 36              | 19        | 19.04  | 18.95  | 19.38  |
|            |           | 36              | 39        | 18.84  | 19.19  | 19.53  |
|            |           | 75              | 0         | 19.34  | 18.96  | 19.13  |

| LTE Band 4 |           |                 |           |       |        |       |
|------------|-----------|-----------------|-----------|-------|--------|-------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid    | High  |
|            |           | Channel         |           | 20000 | 20175  | 20350 |
|            |           | Frequency (MHz) |           | 1715  | 1732.5 | 1750  |
| 10M        | QPSK      | 1               | 0         | 21.47 | 21.23  | 21.45 |
|            |           | 1               | 24        | 21.41 | 21.26  | 21.66 |
|            |           | 1               | 49        | 21.29 | 21.06  | 21.42 |
|            |           | 25              | 0         | 20.50 | 20.22  | 20.51 |
|            |           | 25              | 12        | 20.40 | 20.21  | 20.62 |
|            |           | 25              | 25        | 20.27 | 20.06  | 20.48 |
|            |           | 50              | 0         | 20.26 | 20.12  | 20.50 |
| 10M        | 16QAM     | 1               | 0         | 20.24 | 19.99  | 20.20 |
|            |           | 1               | 24        | 20.36 | 20.25  | 20.71 |
|            |           | 1               | 49        | 20.36 | 19.94  | 20.62 |
|            |           | 25              | 0         | 19.74 | 19.20  | 19.36 |
|            |           | 25              | 12        | 19.45 | 18.97  | 19.32 |
|            |           | 25              | 25        | 19.00 | 19.12  | 19.15 |
|            |           | 50              | 0         | 19.17 | 19.11  | 19.51 |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19975  | 20175  | 20375  |
|            |           | Frequency (MHz) |           | 1712.5 | 1732.5 | 1752.5 |
| 5M         | QPSK      | 1               | 0         | 21.60  | 21.36  | 21.49  |
|            |           | 1               | 12        | 21.65  | 21.67  | 21.61  |
|            |           | 1               | 24        | 21.27  | 21.50  | 21.46  |
|            |           | 12              | 0         | 20.34  | 20.33  | 20.56  |
|            |           | 12              | 6         | 20.48  | 20.25  | 20.57  |
|            |           | 12              | 13        | 20.52  | 20.18  | 20.47  |
|            |           | 25              | 0         | 20.49  | 20.21  | 20.54  |
| 5M         | 16QAM     | 1               | 0         | 20.39  | 20.21  | 20.20  |
|            |           | 1               | 12        | 20.53  | 20.71  | 20.52  |
|            |           | 1               | 24        | 20.07  | 20.54  | 20.19  |
|            |           | 12              | 0         | 19.42  | 19.02  | 19.66  |
|            |           | 12              | 6         | 19.66  | 19.13  | 19.63  |
|            |           | 12              | 13        | 19.24  | 19.28  | 19.29  |
|            |           | 25              | 0         | 19.42  | 19.16  | 19.72  |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19965  | 20175  | 20385  |
|            |           | Frequency (MHz) |           | 1711.5 | 1732.5 | 1753.5 |
| 3M         | QPSK      | 1               | 0         | 21.76  | 22.03  | 21.63  |
|            |           | 1               | 7         | 21.96  | 22.06  | 21.68  |
|            |           | 1               | 14        | 21.73  | 21.82  | 21.73  |
|            |           | 8               | 0         | 20.71  | 20.83  | 20.55  |
|            |           | 8               | 3         | 20.73  | 20.76  | 20.54  |
|            |           | 8               | 7         | 20.64  | 20.63  | 20.52  |
|            |           | 15              | 0         | 20.68  | 20.62  | 20.52  |
| 3M         | 16QAM     | 1               | 0         | 20.83  | 20.73  | 20.71  |
|            |           | 1               | 7         | 20.71  | 20.86  | 20.76  |
|            |           | 1               | 14        | 20.61  | 20.52  | 20.59  |
|            |           | 8               | 0         | 19.70  | 19.81  | 19.58  |
|            |           | 8               | 3         | 19.87  | 19.62  | 19.67  |
|            |           | 8               | 7         | 19.32  | 19.39  | 19.77  |
|            |           | 15              | 0         | 19.49  | 19.64  | 19.76  |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19957  | 20175  | 20393  |
|            |           | Frequency (MHz) |           | 1710.7 | 1732.5 | 1754.3 |
| 1.4M       | QPSK      | 1               | 0         | 21.71  | 21.71  | 21.46  |
|            |           | 1               | 2         | 21.80  | 21.52  | 21.75  |
|            |           | 1               | 5         | 21.78  | 21.74  | 21.49  |
|            |           | 3               | 0         | 21.71  | 21.77  | 21.44  |
|            |           | 3               | 1         | 21.69  | 21.62  | 21.51  |
|            |           | 3               | 3         | 21.56  | 21.50  | 21.48  |
|            |           | 6               | 0         | 20.57  | 20.46  | 20.46  |
| 1.4M       | 16QAM     | 1               | 0         | 20.68  | 20.87  | 20.11  |
|            |           | 1               | 2         | 20.96  | 20.57  | 20.40  |
|            |           | 1               | 5         | 20.46  | 20.57  | 20.31  |
|            |           | 3               | 0         | 20.52  | 20.62  | 20.38  |
|            |           | 3               | 1         | 20.34  | 20.39  | 20.25  |
|            |           | 3               | 3         | 20.80  | 20.19  | 20.49  |
|            |           | 6               | 0         | 19.40  | 19.56  | 19.16  |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23060 | 23095 | 23130 |
|             |           | Frequency (MHz) |           | 704   | 707.5 | 711   |
| 10M         | QPSK      | 1               | 0         | 22.75 | 23.26 | 23.26 |
|             |           | 1               | 24        | 23.16 | 23.27 | 23.41 |
|             |           | 1               | 49        | 23.18 | 23.28 | 23.11 |
|             |           | 25              | 0         | 21.64 | 22.14 | 22.36 |
|             |           | 25              | 12        | 21.88 | 22.28 | 22.22 |
|             |           | 25              | 25        | 22.10 | 22.17 | 22.21 |
|             |           | 50              | 0         | 21.87 | 22.30 | 22.16 |
| 10M         | 16QAM     | 1               | 0         | 22.00 | 22.43 | 22.36 |
|             |           | 1               | 24        | 22.09 | 22.31 | 22.44 |
|             |           | 1               | 49        | 21.83 | 22.41 | 22.02 |
|             |           | 25              | 0         | 20.57 | 21.22 | 21.15 |
|             |           | 25              | 12        | 20.67 | 21.41 | 20.95 |
|             |           | 25              | 25        | 20.99 | 20.84 | 21.42 |
|             |           | 50              | 0         | 20.66 | 21.02 | 21.37 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23035 | 23095 | 23155 |
|             |           | Frequency (MHz) |           | 701.5 | 707.5 | 713.5 |
| 5M          | QPSK      | 1               | 0         | 22.51 | 23.08 | 23.27 |
|             |           | 1               | 12        | 22.95 | 23.59 | 23.31 |
|             |           | 1               | 24        | 22.91 | 23.19 | 23.02 |
|             |           | 12              | 0         | 21.49 | 22.04 | 22.18 |
|             |           | 12              | 6         | 21.57 | 22.09 | 22.13 |
|             |           | 12              | 13        | 21.69 | 22.16 | 22.14 |
|             |           | 25              | 0         | 21.71 | 22.29 | 22.24 |
| 5M          | 16QAM     | 1               | 0         | 21.83 | 21.63 | 21.81 |
|             |           | 1               | 12        | 21.81 | 22.31 | 21.76 |
|             |           | 1               | 24        | 22.21 | 22.16 | 22.01 |
|             |           | 12              | 0         | 21.03 | 21.01 | 21.12 |
|             |           | 12              | 6         | 21.17 | 21.08 | 21.23 |
|             |           | 12              | 13        | 20.86 | 21.06 | 21.12 |
|             |           | 25              | 0         | 21.20 | 21.15 | 21.32 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23025 | 23095 | 23165 |
|             |           | Frequency (MHz) |           | 700.5 | 707.5 | 714.5 |
| 3M          | QPSK      | 1               | 0         | 22.54 | 23.08 | 23.39 |
|             |           | 1               | 7         | 22.89 | 23.69 | 23.35 |
|             |           | 1               | 14        | 22.90 | 23.29 | 23.03 |
|             |           | 8               | 0         | 21.60 | 22.23 | 22.28 |
|             |           | 8               | 3         | 21.59 | 22.15 | 22.19 |
|             |           | 8               | 7         | 21.63 | 22.24 | 21.96 |
|             |           | 15              | 0         | 21.63 | 22.25 | 22.23 |
| 3M          | 16QAM     | 1               | 0         | 21.32 | 21.36 | 21.66 |
|             |           | 1               | 7         | 21.80 | 22.07 | 21.62 |
|             |           | 1               | 14        | 22.06 | 22.02 | 21.57 |
|             |           | 8               | 0         | 21.12 | 21.23 | 21.06 |
|             |           | 8               | 3         | 21.22 | 21.03 | 20.66 |
|             |           | 8               | 7         | 20.63 | 21.03 | 20.74 |
|             |           | 15              | 0         | 20.84 | 20.94 | 20.96 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23017 | 23095 | 23173 |
|             |           | Frequency (MHz) |           | 699.7 | 707.5 | 715.3 |
| 1.4M        | QPSK      | 1               | 0         | 22.97 | 23.27 | 23.18 |
|             |           | 1               | 2         | 22.89 | 23.35 | 23.07 |
|             |           | 1               | 5         | 22.91 | 23.07 | 23.12 |
|             |           | 3               | 0         | 22.89 | 23.14 | 23.12 |
|             |           | 3               | 1         | 22.92 | 23.26 | 23.05 |
|             |           | 3               | 3         | 22.84 | 23.20 | 23.01 |
|             |           | 6               | 0         | 22.06 | 22.35 | 22.16 |
| 1.4M        | 16QAM     | 1               | 0         | 21.65 | 22.32 | 22.22 |
|             |           | 1               | 2         | 21.56 | 22.51 | 22.03 |
|             |           | 1               | 5         | 21.80 | 21.89 | 21.99 |
|             |           | 3               | 0         | 22.00 | 21.80 | 22.00 |
|             |           | 3               | 1         | 22.09 | 22.50 | 21.89 |
|             |           | 3               | 3         | 21.72 | 22.02 | 22.14 |
|             |           | 6               | 0         | 21.15 | 21.57 | 21.07 |

| LTE Band 13 |           |                 |           |       |
|-------------|-----------|-----------------|-----------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Mid   |
|             |           | Channel         |           | 23230 |
|             |           | Frequency (MHz) |           | 782   |
| 10M         | QPSK      | 1               | 0         | 23.16 |
|             |           | 1               | 24        | 23.78 |
|             |           | 1               | 49        | 23.08 |
|             |           | 25              | 0         | 22.24 |
|             |           | 25              | 12        | 22.28 |
|             |           | 25              | 25        | 22.14 |
|             |           | 50              | 0         | 22.19 |
| 10M         | 16QAM     | 1               | 0         | 22.34 |
|             |           | 1               | 24        | 22.95 |
|             |           | 1               | 49        | 21.89 |
|             |           | 25              | 0         | 21.06 |
|             |           | 25              | 12        | 21.41 |
|             |           | 25              | 25        | 21.21 |
|             |           | 50              | 0         | 21.06 |

| LTE Band 13 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23205 | 23230 | 23255 |
|             |           | Frequency (MHz) |           | 779.5 | 782   | 784.5 |
| 5M          | QPSK      | 1               | 0         | 22.95 | 23.24 | 23.06 |
|             |           | 1               | 12        | 23.28 | 23.32 | 22.56 |
|             |           | 1               | 24        | 23.01 | 23.28 | 23.24 |
|             |           | 12              | 0         | 21.72 | 22.12 | 21.92 |
|             |           | 12              | 6         | 21.65 | 22.02 | 22.15 |
|             |           | 12              | 13        | 21.93 | 22.08 | 22.07 |
|             |           | 25              | 0         | 21.78 | 22.01 | 22.21 |
| 5M          | 16QAM     | 1               | 0         | 21.67 | 22.26 | 22.29 |
|             |           | 1               | 12        | 22.14 | 22.38 | 21.77 |
|             |           | 1               | 24        | 22.19 | 22.15 | 22.08 |
|             |           | 12              | 0         | 20.94 | 21.21 | 21.12 |
|             |           | 12              | 6         | 20.60 | 21.14 | 21.10 |
|             |           | 12              | 13        | 21.06 | 20.82 | 20.89 |
|             |           | 25              | 0         | 20.82 | 20.68 | 21.25 |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132072 | 132322 | 132575 |
|             |           | Frequency (MHz) |           | 1720   | 1745   | 1770   |
| 20M         | QPSK      | 1               | 0         | 22.70  | 22.85  | 22.82  |
|             |           | 1               | 50        | 23.38  | 23.21  | 23.32  |
|             |           | 1               | 99        | 22.80  | 22.94  | 22.82  |
|             |           | 50              | 0         | 21.90  | 21.87  | 21.63  |
|             |           | 50              | 25        | 21.92  | 22.01  | 21.73  |
|             |           | 50              | 50        | 21.83  | 22.01  | 21.63  |
|             |           | 100             | 0         | 21.93  | 21.92  | 21.58  |
| 20M         | 16QAM     | 1               | 0         | 21.82  | 21.72  | 22.07  |
|             |           | 1               | 50        | 22.30  | 21.89  | 22.22  |
|             |           | 1               | 99        | 21.46  | 21.86  | 22.05  |
|             |           | 50              | 0         | 20.56  | 20.54  | 20.83  |
|             |           | 50              | 25        | 20.87  | 21.17  | 20.49  |
|             |           | 50              | 50        | 20.79  | 20.96  | 20.85  |
|             |           | 100             | 0         | 20.83  | 20.79  | 20.25  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132047 | 132322 | 132597 |
|             |           | Frequency (MHz) |           | 1717.5 | 1745   | 1772.5 |
| 15M         | QPSK      | 1               | 0         | 22.23  | 22.60  | 22.13  |
|             |           | 1               | 37        | 22.74  | 22.82  | 22.17  |
|             |           | 1               | 74        | 22.23  | 22.56  | 21.80  |
|             |           | 36              | 0         | 21.12  | 21.43  | 20.93  |
|             |           | 36              | 19        | 21.10  | 21.53  | 20.85  |
|             |           | 36              | 39        | 21.09  | 21.47  | 20.83  |
|             |           | 75              | 0         | 21.05  | 21.50  | 20.85  |
| 15M         | 16QAM     | 1               | 0         | 20.89  | 21.71  | 20.90  |
|             |           | 1               | 37        | 21.71  | 21.73  | 21.20  |
|             |           | 1               | 74        | 21.27  | 21.30  | 20.93  |
|             |           | 36              | 0         | 19.81  | 20.08  | 20.06  |
|             |           | 36              | 19        | 19.92  | 20.69  | 19.57  |
|             |           | 36              | 39        | 20.26  | 20.26  | 19.54  |
|             |           | 75              | 0         | 19.73  | 20.42  | 19.98  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132022 | 132322 | 132622 |
|             |           | Frequency (MHz) |           | 1715   | 1745   | 1775   |
| 10M         | QPSK      | 1               | 0         | 21.97  | 22.26  | 21.83  |
|             |           | 1               | 24        | 22.33  | 22.42  | 22.04  |
|             |           | 1               | 49        | 22.20  | 22.17  | 21.63  |
|             |           | 25              | 0         | 20.95  | 21.25  | 20.83  |
|             |           | 25              | 12        | 21.02  | 21.25  | 20.77  |
|             |           | 25              | 25        | 20.93  | 21.17  | 20.65  |
|             |           | 50              | 0         | 20.86  | 21.17  | 20.71  |
| 10M         | 16QAM     | 1               | 0         | 21.05  | 21.18  | 20.89  |
|             |           | 1               | 24        | 21.44  | 21.64  | 21.12  |
|             |           | 1               | 49        | 21.11  | 20.95  | 20.49  |
|             |           | 25              | 0         | 19.64  | 19.91  | 19.51  |
|             |           | 25              | 12        | 19.87  | 20.04  | 19.90  |
|             |           | 25              | 25        | 19.95  | 20.40  | 19.35  |
|             |           | 50              | 0         | 19.97  | 20.38  | 19.73  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131997 | 132322 | 132647 |
|             |           | Frequency (MHz) |           | 1712.5 | 1745   | 1777.5 |
| 5M          | QPSK      | 1               | 0         | 21.86  | 21.95  | 21.84  |
|             |           | 1               | 12        | 21.97  | 22.26  | 21.96  |
|             |           | 1               | 24        | 21.95  | 22.21  | 21.77  |
|             |           | 12              | 0         | 20.79  | 21.21  | 20.69  |
|             |           | 12              | 6         | 20.85  | 21.19  | 20.70  |
|             |           | 12              | 13        | 20.89  | 21.15  | 20.71  |
|             |           | 25              | 0         | 20.81  | 21.08  | 20.80  |
| 5M          | 16QAM     | 1               | 0         | 20.83  | 20.74  | 20.89  |
|             |           | 1               | 12        | 20.77  | 21.10  | 21.02  |
|             |           | 1               | 24        | 21.11  | 21.43  | 20.91  |
|             |           | 12              | 0         | 19.66  | 20.29  | 19.73  |
|             |           | 12              | 6         | 19.72  | 20.20  | 19.45  |
|             |           | 12              | 13        | 19.72  | 19.96  | 19.58  |
|             |           | 25              | 0         | 19.68  | 20.03  | 19.98  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131987 | 132322 | 132657 |
|             |           | Frequency (MHz) |           | 1711.5 | 1745   | 1778.5 |
| 3M          | QPSK      | 1               | 0         | 22.46  | 22.81  | 22.07  |
|             |           | 1               | 7         | 22.91  | 23.01  | 22.01  |
|             |           | 1               | 14        | 22.41  | 22.87  | 21.95  |
|             |           | 8               | 0         | 21.17  | 21.76  | 20.94  |
|             |           | 8               | 3         | 21.18  | 21.80  | 20.99  |
|             |           | 8               | 7         | 21.16  | 21.78  | 20.86  |
|             |           | 15              | 0         | 21.17  | 21.57  | 20.94  |
| 3M          | 16QAM     | 1               | 0         | 21.28  | 21.66  | 21.10  |
|             |           | 1               | 7         | 21.76  | 22.11  | 21.09  |
|             |           | 1               | 14        | 21.14  | 21.77  | 20.62  |
|             |           | 8               | 0         | 20.23  | 20.43  | 19.60  |
|             |           | 8               | 3         | 19.88  | 20.86  | 19.80  |
|             |           | 8               | 7         | 20.37  | 20.87  | 19.97  |
|             |           | 15              | 0         | 20.18  | 20.71  | 19.78  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131979 | 132322 | 132665 |
|             |           | Frequency (MHz) |           | 1710.7 | 1745   | 1779.3 |
| 1.4M        | QPSK      | 1               | 0         | 22.47  | 22.85  | 21.95  |
|             |           | 1               | 2         | 22.94  | 22.96  | 21.96  |
|             |           | 1               | 5         | 22.80  | 22.89  | 21.90  |
|             |           | 3               | 0         | 22.16  | 22.60  | 21.91  |
|             |           | 3               | 1         | 22.37  | 22.63  | 21.86  |
|             |           | 3               | 3         | 22.24  | 22.56  | 21.83  |
|             |           | 6               | 0         | 21.01  | 21.52  | 20.82  |
| 1.4M        | 16QAM     | 1               | 0         | 21.28  | 21.66  | 21.10  |
|             |           | 1               | 2         | 21.76  | 22.11  | 21.09  |
|             |           | 1               | 5         | 21.14  | 21.77  | 20.62  |
|             |           | 3               | 0         | 20.23  | 20.43  | 19.60  |
|             |           | 3               | 1         | 19.88  | 20.86  | 19.80  |
|             |           | 3               | 3         | 20.37  | 20.87  | 19.97  |
|             |           | 6               | 0         | 20.18  | 20.71  | 19.78  |

### EIRP Power (dBm)

| Band            | WCDMA Band 4 |        |        |
|-----------------|--------------|--------|--------|
| Channel         | 1312         | 1413   | 1513   |
| Frequency (MHz) | 1712.4       | 1732.6 | 1752.6 |
| RMC 12.2K       | 23.53        | 23.45  | 23.43  |

| LTE Band 4 |           |                 |           |       |        |       |
|------------|-----------|-----------------|-----------|-------|--------|-------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid    | High  |
|            |           | Channel         |           | 20050 | 20175  | 20300 |
|            |           | Frequency (MHz) |           | 1720  | 1732.5 | 1745  |
| 20M        | QPSK      | 1               | 0         | 22.27 | 21.74  | 22.14 |
|            |           | 1               | 50        | 22.38 | 21.83  | 22.34 |
|            |           | 1               | 99        | 22.13 | 21.55  | 21.91 |
|            |           | 50              | 0         | 21.18 | 20.57  | 21.04 |
|            |           | 50              | 25        | 21.18 | 20.61  | 21.30 |
|            |           | 50              | 50        | 21.11 | 20.60  | 21.16 |
|            |           | 100             | 0         | 21.43 | 20.69  | 21.06 |
| 20M        | 16QAM     | 1               | 0         | 21.14 | 20.40  | 21.10 |
|            |           | 1               | 50        | 21.50 | 20.83  | 21.27 |
|            |           | 1               | 99        | 20.90 | 20.54  | 20.91 |
|            |           | 50              | 0         | 20.38 | 19.60  | 20.26 |
|            |           | 50              | 25        | 20.20 | 19.75  | 20.35 |
|            |           | 50              | 50        | 19.81 | 19.79  | 20.19 |
|            |           | 100             | 0         | 20.51 | 19.46  | 19.78 |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 20025  | 20175  | 20325  |
|            |           | Frequency (MHz) |           | 1717.5 | 1732.5 | 1747.5 |
| 15M        | QPSK      | 1               | 0         | 22.11  | 22.06  | 22.02  |
|            |           | 1               | 37        | 22.34  | 22.27  | 22.13  |
|            |           | 1               | 74        | 22.06  | 21.84  | 21.85  |
|            |           | 36              | 0         | 21.03  | 20.87  | 21.11  |
|            |           | 36              | 19        | 20.96  | 20.85  | 21.01  |
|            |           | 36              | 39        | 20.80  | 20.83  | 21.06  |
|            |           | 75              | 0         | 20.86  | 20.91  | 21.05  |
| 15M        | 16QAM     | 1               | 0         | 21.24  | 20.73  | 20.87  |
|            |           | 1               | 37        | 21.50  | 21.26  | 21.29  |
|            |           | 1               | 74        | 20.79  | 21.01  | 20.50  |
|            |           | 36              | 0         | 20.05  | 20.00  | 20.31  |
|            |           | 36              | 19        | 19.74  | 19.65  | 20.08  |
|            |           | 36              | 39        | 19.54  | 19.89  | 20.23  |
|            |           | 75              | 0         | 20.04  | 19.66  | 19.83  |

| LTE Band 4 |           |                 |           |       |        |       |
|------------|-----------|-----------------|-----------|-------|--------|-------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid    | High  |
|            |           | Channel         |           | 20000 | 20175  | 20350 |
|            |           | Frequency (MHz) |           | 1715  | 1732.5 | 1750  |
| 10M        | QPSK      | 1               | 0         | 22.17 | 21.93  | 22.15 |
|            |           | 1               | 24        | 22.11 | 21.96  | 22.36 |
|            |           | 1               | 49        | 21.99 | 21.76  | 22.12 |
|            |           | 25              | 0         | 21.20 | 20.92  | 21.21 |
|            |           | 25              | 12        | 21.10 | 20.91  | 21.32 |
|            |           | 25              | 25        | 20.97 | 20.76  | 21.18 |
|            |           | 50              | 0         | 20.96 | 20.82  | 21.20 |
| 10M        | 16QAM     | 1               | 0         | 20.94 | 20.69  | 20.90 |
|            |           | 1               | 24        | 21.06 | 20.95  | 21.41 |
|            |           | 1               | 49        | 21.06 | 20.64  | 21.32 |
|            |           | 25              | 0         | 20.44 | 19.90  | 20.06 |
|            |           | 25              | 12        | 20.15 | 19.67  | 20.02 |
|            |           | 25              | 25        | 19.70 | 19.82  | 19.85 |
|            |           | 50              | 0         | 19.87 | 19.81  | 20.21 |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19975  | 20175  | 20375  |
|            |           | Frequency (MHz) |           | 1712.5 | 1732.5 | 1752.5 |
| 5M         | QPSK      | 1               | 0         | 22.30  | 22.06  | 22.19  |
|            |           | 1               | 12        | 22.35  | 22.37  | 22.31  |
|            |           | 1               | 24        | 21.97  | 22.20  | 22.16  |
|            |           | 12              | 0         | 21.04  | 21.03  | 21.26  |
|            |           | 12              | 6         | 21.18  | 20.95  | 21.27  |
|            |           | 12              | 13        | 21.22  | 20.88  | 21.17  |
|            |           | 25              | 0         | 21.19  | 20.91  | 21.24  |
| 5M         | 16QAM     | 1               | 0         | 21.09  | 20.91  | 20.90  |
|            |           | 1               | 12        | 21.23  | 21.41  | 21.22  |
|            |           | 1               | 24        | 20.77  | 21.24  | 20.89  |
|            |           | 12              | 0         | 20.12  | 19.72  | 20.36  |
|            |           | 12              | 6         | 20.36  | 19.83  | 20.33  |
|            |           | 12              | 13        | 19.94  | 19.98  | 19.99  |
|            |           | 25              | 0         | 20.12  | 19.86  | 20.42  |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19965  | 20175  | 20385  |
|            |           | Frequency (MHz) |           | 1711.5 | 1732.5 | 1753.5 |
| 3M         | QPSK      | 1               | 0         | 22.46  | 22.73  | 22.33  |
|            |           | 1               | 7         | 22.66  | 22.76  | 22.38  |
|            |           | 1               | 14        | 22.43  | 22.52  | 22.43  |
|            |           | 8               | 0         | 21.41  | 21.53  | 21.25  |
|            |           | 8               | 3         | 21.43  | 21.46  | 21.24  |
|            |           | 8               | 7         | 21.34  | 21.33  | 21.22  |
|            |           | 15              | 0         | 21.38  | 21.32  | 21.22  |
| 3M         | 16QAM     | 1               | 0         | 21.53  | 21.43  | 21.41  |
|            |           | 1               | 7         | 21.41  | 21.56  | 21.46  |
|            |           | 1               | 14        | 21.31  | 21.22  | 21.29  |
|            |           | 8               | 0         | 20.40  | 20.51  | 20.28  |
|            |           | 8               | 3         | 20.57  | 20.32  | 20.37  |
|            |           | 8               | 7         | 20.02  | 20.09  | 20.47  |
|            |           | 15              | 0         | 20.19  | 20.34  | 20.46  |

| LTE Band 4 |           |                 |           |        |        |        |
|------------|-----------|-----------------|-----------|--------|--------|--------|
| BW         | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|            |           | Channel         |           | 19957  | 20175  | 20393  |
|            |           | Frequency (MHz) |           | 1710.7 | 1732.5 | 1754.3 |
| 1.4M       | QPSK      | 1               | 0         | 22.41  | 22.41  | 22.16  |
|            |           | 1               | 2         | 22.50  | 22.22  | 22.45  |
|            |           | 1               | 5         | 22.48  | 22.44  | 22.19  |
|            |           | 3               | 0         | 22.41  | 22.47  | 22.14  |
|            |           | 3               | 1         | 22.39  | 22.32  | 22.21  |
|            |           | 3               | 3         | 22.26  | 22.20  | 22.18  |
|            |           | 6               | 0         | 21.27  | 21.16  | 21.16  |
| 1.4M       | 16QAM     | 1               | 0         | 21.38  | 21.57  | 20.81  |
|            |           | 1               | 2         | 21.66  | 21.27  | 21.10  |
|            |           | 1               | 5         | 21.16  | 21.27  | 21.01  |
|            |           | 3               | 0         | 21.22  | 21.32  | 21.08  |
|            |           | 3               | 1         | 21.04  | 21.09  | 20.95  |
|            |           | 3               | 3         | 21.50  | 20.89  | 21.19  |
|            |           | 6               | 0         | 20.10  | 20.26  | 19.86  |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23060 | 23095 | 23130 |
|             |           | Frequency (MHz) |           | 704   | 707.5 | 711   |
| 10M         | QPSK      | 1               | 0         | 22.60 | 23.11 | 23.11 |
|             |           | 1               | 24        | 23.01 | 23.12 | 23.26 |
|             |           | 1               | 49        | 23.03 | 23.13 | 22.96 |
|             |           | 25              | 0         | 21.49 | 21.99 | 22.21 |
|             |           | 25              | 12        | 21.73 | 22.13 | 22.07 |
|             |           | 25              | 25        | 21.95 | 22.02 | 22.06 |
|             |           | 50              | 0         | 21.72 | 22.15 | 22.01 |
| 10M         | 16QAM     | 1               | 0         | 21.85 | 22.28 | 22.21 |
|             |           | 1               | 24        | 21.94 | 22.16 | 22.29 |
|             |           | 1               | 49        | 21.68 | 22.26 | 21.87 |
|             |           | 25              | 0         | 20.42 | 21.07 | 21.00 |
|             |           | 25              | 12        | 20.52 | 21.26 | 20.80 |
|             |           | 25              | 25        | 20.84 | 20.69 | 21.27 |
|             |           | 50              | 0         | 20.51 | 20.87 | 21.22 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23035 | 23095 | 23155 |
|             |           | Frequency (MHz) |           | 701.5 | 707.5 | 713.5 |
| 5M          | QPSK      | 1               | 0         | 22.36 | 22.93 | 23.12 |
|             |           | 1               | 12        | 22.80 | 23.44 | 23.16 |
|             |           | 1               | 24        | 22.76 | 23.04 | 22.87 |
|             |           | 12              | 0         | 21.34 | 21.89 | 22.03 |
|             |           | 12              | 6         | 21.42 | 21.94 | 21.98 |
|             |           | 12              | 13        | 21.54 | 22.01 | 21.99 |
|             |           | 25              | 0         | 21.56 | 22.14 | 22.09 |
| 5M          | 16QAM     | 1               | 0         | 21.68 | 21.48 | 21.66 |
|             |           | 1               | 12        | 21.66 | 22.16 | 21.61 |
|             |           | 1               | 24        | 22.06 | 22.01 | 21.86 |
|             |           | 12              | 0         | 20.88 | 20.86 | 20.97 |
|             |           | 12              | 6         | 21.02 | 20.93 | 21.08 |
|             |           | 12              | 13        | 20.71 | 20.91 | 20.97 |
|             |           | 25              | 0         | 21.05 | 21.00 | 21.17 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23025 | 23095 | 23165 |
|             |           | Frequency (MHz) |           | 700.5 | 707.5 | 714.5 |
| 3M          | QPSK      | 1               | 0         | 22.39 | 22.93 | 23.24 |
|             |           | 1               | 7         | 22.74 | 23.54 | 23.20 |
|             |           | 1               | 14        | 22.75 | 23.14 | 22.88 |
|             |           | 8               | 0         | 21.45 | 22.08 | 22.13 |
|             |           | 8               | 3         | 21.44 | 22.00 | 22.04 |
|             |           | 8               | 7         | 21.48 | 22.09 | 21.81 |
|             |           | 15              | 0         | 21.48 | 22.10 | 22.08 |
| 3M          | 16QAM     | 1               | 0         | 21.17 | 21.21 | 21.51 |
|             |           | 1               | 7         | 21.65 | 21.92 | 21.47 |
|             |           | 1               | 14        | 21.91 | 21.87 | 21.42 |
|             |           | 8               | 0         | 20.97 | 21.08 | 20.91 |
|             |           | 8               | 3         | 21.07 | 20.88 | 20.51 |
|             |           | 8               | 7         | 20.48 | 20.88 | 20.59 |
|             |           | 15              | 0         | 20.69 | 20.79 | 20.81 |

| LTE Band 12 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23017 | 23095 | 23173 |
|             |           | Frequency (MHz) |           | 699.7 | 707.5 | 715.3 |
| 1.4M        | QPSK      | 1               | 0         | 22.82 | 23.12 | 23.03 |
|             |           | 1               | 2         | 22.74 | 23.20 | 22.92 |
|             |           | 1               | 5         | 22.76 | 22.92 | 22.97 |
|             |           | 3               | 0         | 22.74 | 22.99 | 22.97 |
|             |           | 3               | 1         | 22.77 | 23.11 | 22.90 |
|             |           | 3               | 3         | 22.69 | 23.05 | 22.86 |
|             |           | 6               | 0         | 21.91 | 22.20 | 22.01 |
| 1.4M        | 16QAM     | 1               | 0         | 21.50 | 22.17 | 22.07 |
|             |           | 1               | 2         | 21.41 | 22.36 | 21.88 |
|             |           | 1               | 5         | 21.65 | 21.74 | 21.84 |
|             |           | 3               | 0         | 21.85 | 21.65 | 21.85 |
|             |           | 3               | 1         | 21.94 | 22.35 | 21.74 |
|             |           | 3               | 3         | 21.57 | 21.87 | 21.99 |
|             |           | 6               | 0         | 21.00 | 21.42 | 20.92 |

| LTE Band 13 |           |                 |           |       |
|-------------|-----------|-----------------|-----------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Mid   |
|             |           | Channel         |           | 23230 |
|             |           | Frequency (MHz) |           | 782   |
| 10M         | QPSK      | 1               | 0         | 23.01 |
|             |           | 1               | 24        | 23.63 |
|             |           | 1               | 49        | 22.93 |
|             |           | 25              | 0         | 22.09 |
|             |           | 25              | 12        | 22.13 |
|             |           | 25              | 25        | 21.99 |
|             |           | 50              | 0         | 22.04 |
| 10M         | 16QAM     | 1               | 0         | 22.19 |
|             |           | 1               | 24        | 22.80 |
|             |           | 1               | 49        | 21.74 |
|             |           | 25              | 0         | 20.91 |
|             |           | 25              | 12        | 21.26 |
|             |           | 25              | 25        | 21.06 |
|             |           | 50              | 0         | 20.91 |

| LTE Band 13 |           |                 |           |       |       |       |
|-------------|-----------|-----------------|-----------|-------|-------|-------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  |
|             |           | Channel         |           | 23205 | 23230 | 23255 |
|             |           | Frequency (MHz) |           | 779.5 | 782   | 784.5 |
| 5M          | QPSK      | 1               | 0         | 22.80 | 23.09 | 22.91 |
|             |           | 1               | 12        | 23.13 | 23.17 | 22.41 |
|             |           | 1               | 24        | 22.86 | 23.13 | 23.09 |
|             |           | 12              | 0         | 21.57 | 21.97 | 21.77 |
|             |           | 12              | 6         | 21.50 | 21.87 | 22.00 |
|             |           | 12              | 13        | 21.78 | 21.93 | 21.92 |
|             |           | 25              | 0         | 21.63 | 21.86 | 22.06 |
| 5M          | 16QAM     | 1               | 0         | 21.52 | 22.11 | 22.14 |
|             |           | 1               | 12        | 21.99 | 22.23 | 21.62 |
|             |           | 1               | 24        | 22.04 | 22.00 | 21.93 |
|             |           | 12              | 0         | 20.79 | 21.06 | 20.97 |
|             |           | 12              | 6         | 20.45 | 20.99 | 20.95 |
|             |           | 12              | 13        | 20.91 | 20.67 | 20.74 |
|             |           | 25              | 0         | 20.67 | 20.53 | 21.10 |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132072 | 132322 | 132575 |
|             |           | Frequency (MHz) |           | 1720   | 1745   | 1770   |
| 20M         | QPSK      | 1               | 0         | 23.40  | 23.55  | 23.52  |
|             |           | 1               | 50        | 24.08  | 23.91  | 24.02  |
|             |           | 1               | 99        | 23.50  | 23.64  | 23.52  |
|             |           | 50              | 0         | 22.60  | 22.57  | 22.33  |
|             |           | 50              | 25        | 22.62  | 22.71  | 22.43  |
|             |           | 50              | 50        | 22.53  | 22.71  | 22.33  |
|             |           | 100             | 0         | 22.63  | 22.62  | 22.28  |
| 20M         | 16QAM     | 1               | 0         | 22.52  | 22.42  | 22.77  |
|             |           | 1               | 50        | 23.00  | 22.59  | 22.92  |
|             |           | 1               | 99        | 22.16  | 22.56  | 22.75  |
|             |           | 50              | 0         | 21.26  | 21.24  | 21.53  |
|             |           | 50              | 25        | 21.57  | 21.87  | 21.19  |
|             |           | 50              | 50        | 21.49  | 21.66  | 21.55  |
|             |           | 100             | 0         | 21.53  | 21.49  | 20.95  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132047 | 132322 | 132597 |
|             |           | Frequency (MHz) |           | 1717.5 | 1745   | 1772.5 |
| 15M         | QPSK      | 1               | 0         | 22.93  | 23.30  | 22.83  |
|             |           | 1               | 37        | 23.44  | 23.52  | 22.87  |
|             |           | 1               | 74        | 22.93  | 23.26  | 22.50  |
|             |           | 36              | 0         | 21.82  | 22.13  | 21.63  |
|             |           | 36              | 19        | 21.80  | 22.23  | 21.55  |
|             |           | 36              | 39        | 21.79  | 22.17  | 21.53  |
|             |           | 75              | 0         | 21.75  | 22.20  | 21.55  |
| 15M         | 16QAM     | 1               | 0         | 21.59  | 22.41  | 21.60  |
|             |           | 1               | 37        | 22.41  | 22.43  | 21.90  |
|             |           | 1               | 74        | 21.97  | 22.00  | 21.63  |
|             |           | 36              | 0         | 20.51  | 20.78  | 20.76  |
|             |           | 36              | 19        | 20.62  | 21.39  | 20.27  |
|             |           | 36              | 39        | 20.96  | 20.96  | 20.24  |
|             |           | 75              | 0         | 20.43  | 21.12  | 20.68  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 132022 | 132322 | 132622 |
|             |           | Frequency (MHz) |           | 1715   | 1745   | 1775   |
| 10M         | QPSK      | 1               | 0         | 22.67  | 22.96  | 22.53  |
|             |           | 1               | 24        | 23.03  | 23.12  | 22.74  |
|             |           | 1               | 49        | 22.90  | 22.87  | 22.33  |
|             |           | 25              | 0         | 21.65  | 21.95  | 21.53  |
|             |           | 25              | 12        | 21.72  | 21.95  | 21.47  |
|             |           | 25              | 25        | 21.63  | 21.87  | 21.35  |
|             |           | 50              | 0         | 21.56  | 21.87  | 21.41  |
| 10M         | 16QAM     | 1               | 0         | 21.75  | 21.88  | 21.59  |
|             |           | 1               | 24        | 22.14  | 22.34  | 21.82  |
|             |           | 1               | 49        | 21.81  | 21.65  | 21.19  |
|             |           | 25              | 0         | 20.34  | 20.61  | 20.21  |
|             |           | 25              | 12        | 20.57  | 20.74  | 20.60  |
|             |           | 25              | 25        | 20.65  | 21.10  | 20.05  |
|             |           | 50              | 0         | 20.67  | 21.08  | 20.43  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131997 | 132322 | 132647 |
|             |           | Frequency (MHz) |           | 1712.5 | 1745   | 1777.5 |
| 5M          | QPSK      | 1               | 0         | 22.56  | 22.65  | 22.54  |
|             |           | 1               | 12        | 22.67  | 22.96  | 22.66  |
|             |           | 1               | 24        | 22.65  | 22.91  | 22.47  |
|             |           | 12              | 0         | 21.49  | 21.91  | 21.39  |
|             |           | 12              | 6         | 21.55  | 21.89  | 21.40  |
|             |           | 12              | 13        | 21.59  | 21.85  | 21.41  |
|             |           | 25              | 0         | 21.51  | 21.78  | 21.50  |
| 5M          | 16QAM     | 1               | 0         | 21.53  | 21.44  | 21.59  |
|             |           | 1               | 12        | 21.47  | 21.80  | 21.72  |
|             |           | 1               | 24        | 21.81  | 22.13  | 21.61  |
|             |           | 12              | 0         | 20.36  | 20.99  | 20.43  |
|             |           | 12              | 6         | 20.42  | 20.90  | 20.15  |
|             |           | 12              | 13        | 20.42  | 20.66  | 20.28  |
|             |           | 25              | 0         | 20.38  | 20.73  | 20.68  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131987 | 132322 | 132657 |
|             |           | Frequency (MHz) |           | 1711.5 | 1745   | 1778.5 |
| 3M          | QPSK      | 1               | 0         | 23.16  | 23.51  | 22.77  |
|             |           | 1               | 7         | 23.61  | 23.71  | 22.71  |
|             |           | 1               | 14        | 23.11  | 23.57  | 22.65  |
|             |           | 8               | 0         | 21.87  | 22.46  | 21.64  |
|             |           | 8               | 3         | 21.88  | 22.50  | 21.69  |
|             |           | 8               | 7         | 21.86  | 22.48  | 21.56  |
|             |           | 15              | 0         | 21.87  | 22.27  | 21.64  |
| 3M          | 16QAM     | 1               | 0         | 21.98  | 22.36  | 21.80  |
|             |           | 1               | 7         | 22.46  | 22.81  | 21.79  |
|             |           | 1               | 14        | 21.84  | 22.47  | 21.32  |
|             |           | 8               | 0         | 20.93  | 21.13  | 20.30  |
|             |           | 8               | 3         | 20.58  | 21.56  | 20.50  |
|             |           | 8               | 7         | 21.07  | 21.57  | 20.67  |
|             |           | 15              | 0         | 20.88  | 21.41  | 20.48  |

| LTE Band 66 |           |                 |           |        |        |        |
|-------------|-----------|-----------------|-----------|--------|--------|--------|
| BW          | MCS Index | RB Size         | RB Offset | Low    | Mid    | High   |
|             |           | Channel         |           | 131979 | 132322 | 132665 |
|             |           | Frequency (MHz) |           | 1710.7 | 1745   | 1779.3 |
| 1.4M        | QPSK      | 1               | 0         | 23.17  | 23.55  | 22.65  |
|             |           | 1               | 2         | 23.64  | 23.66  | 22.66  |
|             |           | 1               | 5         | 23.50  | 23.59  | 22.60  |
|             |           | 3               | 0         | 22.86  | 23.30  | 22.61  |
|             |           | 3               | 1         | 23.07  | 23.33  | 22.56  |
|             |           | 3               | 3         | 22.94  | 23.26  | 22.53  |
|             |           | 6               | 0         | 21.71  | 22.22  | 21.52  |
| 1.4M        | 16QAM     | 1               | 0         | 21.98  | 22.36  | 21.80  |
|             |           | 1               | 2         | 22.46  | 22.81  | 21.79  |
|             |           | 1               | 5         | 21.84  | 22.47  | 21.32  |
|             |           | 3               | 0         | 20.93  | 21.13  | 20.30  |
|             |           | 3               | 1         | 20.58  | 21.56  | 20.50  |
|             |           | 3               | 3         | 21.07  | 21.57  | 20.67  |
|             |           | 6               | 0         | 20.88  | 21.41  | 20.48  |

## 4.2 Radiated Emission Measurement

### 4.2.1 Limits of Radiated Emission Measurement

For WCDMA Band 4

According to FCC 27.53(h) for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log (P)$  dB.

For LTE Band 13

According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB.

According to FCC 27.53(f) for operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm

### 4.2.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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 spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following C63.26 section 5.5

$EIRP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$ ; where D is the measurement distance (in the far field region) in m.

$ERP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8 - 2.15$ ; where D is the measurement distance (in the far field region) in m.

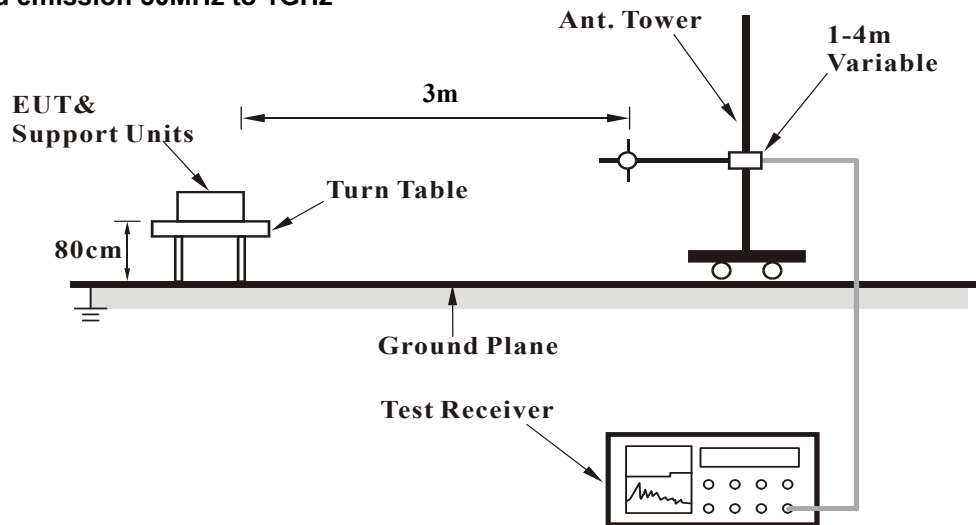
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.2.3 Deviation from Test Standard

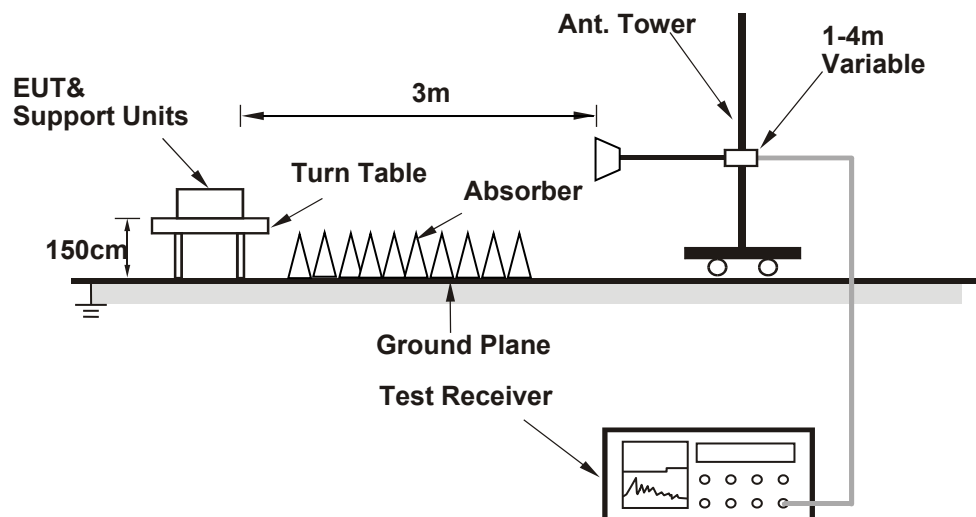
No deviation.

#### 4.2.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



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

#### 4.2.5 Test Results

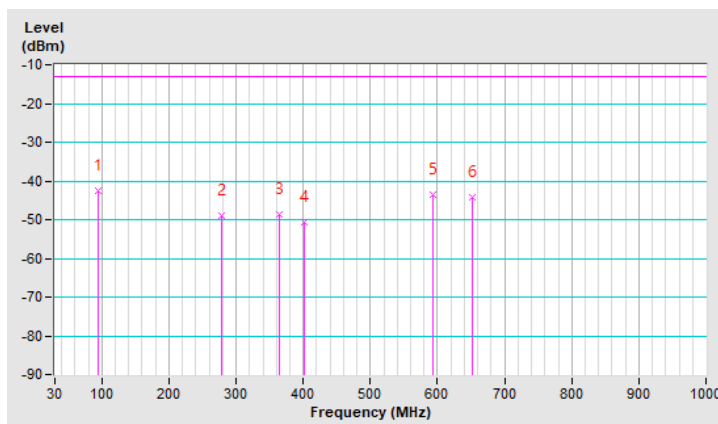
Below 1GHz  
WCDMA Band 4

|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 1312<br>(1712.4MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Edison Lee                     |                 |                |

| Antenna Polarity & Test Distance: Horizontal at 3 M |                 |            |             |             |                    |                      |                  |                          |
|-----------------------------------------------------|-----------------|------------|-------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No                                                  | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                   | 94.67           | -42.38     | -13.00      | -29.38      | 1.00 H             | 137                  | 76.88            | -119.26                  |
| 2                                                   | 278.83          | -48.92     | -13.00      | -35.92      | 1.00 H             | 140                  | 64.41            | -113.33                  |
| 3                                                   | 364.58          | -48.49     | -13.00      | -35.49      | 1.00 H             | 70                   | 62.89            | -111.38                  |
| 4                                                   | 402.54          | -50.56     | -13.00      | -37.56      | 1.00 H             | 273                  | 59.79            | -110.35                  |
| 5                                                   | 593.72          | -43.62     | -13.00      | -30.62      | 1.49 H             | 146                  | 62.07            | -105.69                  |
| 6                                                   | 652.77          | -44.27     | -13.00      | -31.27      | 1.00 H             | 322                  | 60.79            | -105.06                  |

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

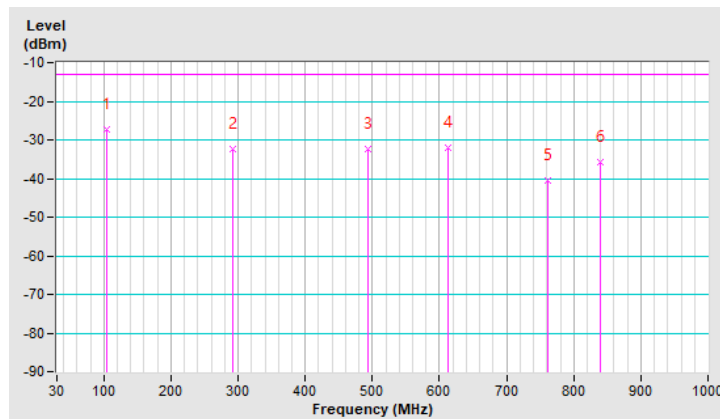


|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 1312<br>(1712.4MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Edison Lee                     |                 |                |

| Antenna Polarity & Test Distance: Vertical at 3 M |                    |               |                |                |                          |                            |                        |                                |
|---------------------------------------------------|--------------------|---------------|----------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No                                                | Frequency<br>(MHz) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                 | 104.51             | -27.32        | -13.00         | -14.32         | 1.50 V                   | 128                        | 89.84                  | -117.16                        |
| 2                                                 | 292.88             | -32.25        | -13.00         | -19.25         | 1.50 V                   | 128                        | 80.81                  | -113.06                        |
| 3                                                 | 493.91             | -32.22        | -13.00         | -19.22         | 1.01 V                   | 237                        | 75.95                  | -108.17                        |
| 4                                                 | 613.41             | -31.95        | -13.00         | -18.95         | 1.50 V                   | 136                        | 73.32                  | -105.27                        |
| 5                                                 | 761.01             | -40.34        | -13.00         | -27.34         | 1.01 V                   | 324                        | 62.91                  | -103.25                        |
| 6                                                 | 839.74             | -35.92        | -13.00         | -22.92         | 1.01 V                   | 324                        | 66.36                  | -102.28                        |

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



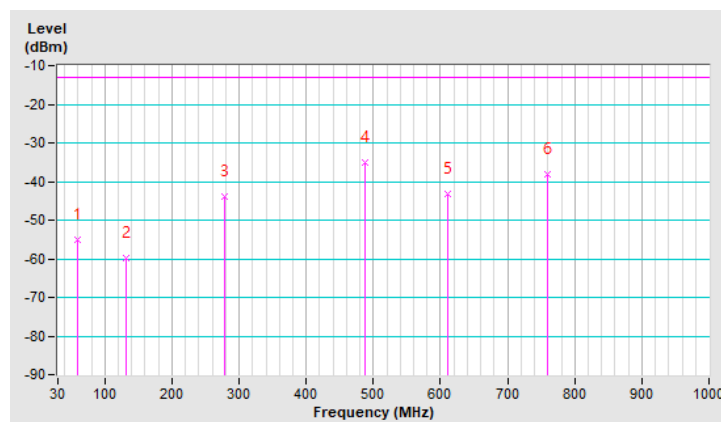
LTE Band 13, Channel Bandwidth: 10MHz

|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 23230<br>(782.0MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Edison Lee                     |                 |                |

| Antenna Polarity & Test Distance: Horizontal at 3 M |                    |              |                |                |                          |                            |                        |                                |
|-----------------------------------------------------|--------------------|--------------|----------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No                                                  | Frequency<br>(MHz) | ERP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                   | 59.52              | -55.11       | -13.00         | -42.11         | 1.50 H                   | 129                        | 61.43                  | -116.54                        |
| 2                                                   | 132.62             | -59.89       | -13.00         | -46.89         | 1.50 H                   | 324                        | 56.74                  | -116.63                        |
| 3                                                   | 278.83             | -43.98       | -13.00         | -30.98         | 1.00 H                   | 326                        | 71.50                  | -115.48                        |
| 4                                                   | 486.88             | -34.92       | -13.00         | -21.92         | 1.00 H                   | 35                         | 75.50                  | -110.42                        |
| 5                                                   | 610.59             | -43.25       | -13.00         | -30.25         | 2.00 H                   | 324                        | 64.14                  | -107.39                        |
| 6                                                   | 759.61             | -38.24       | -13.00         | -25.24         | 1.00 H                   | 36                         | 67.19                  | -105.43                        |

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

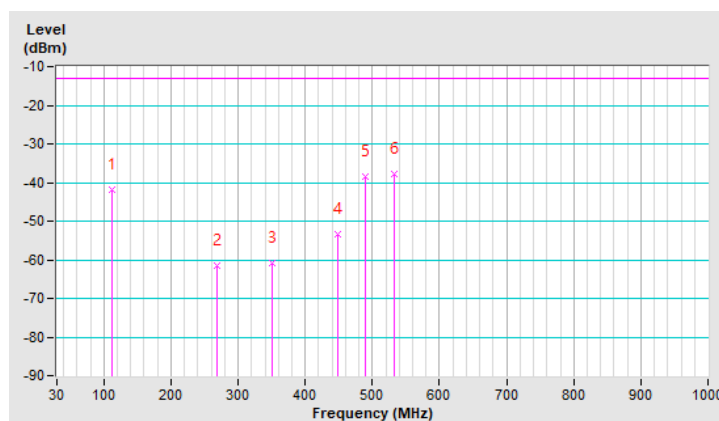


|                          |                                |                 |                |
|--------------------------|--------------------------------|-----------------|----------------|
| Mode                     | TX channel 23230<br>(782.0MHz) | Frequency Range | Below 1000 MHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz   |
| Tested By                | Edison Lee                     |                 |                |

| Antenna Polarity & Test Distance: Vertical at 3 M |                 |           |             |             |                    |                      |                  |                          |
|---------------------------------------------------|-----------------|-----------|-------------|-------------|--------------------|----------------------|------------------|--------------------------|
| No                                                | Frequency (MHz) | ERP (dBm) | Limit (dBm) | Margin (dB) | Antenna Height (m) | Table Angle (Degree) | Raw Value (dBuV) | Correction Factor (dB/m) |
| 1                                                 | 111.54          | -41.82    | -13.00      | -28.82      | 1.50 V             | 245                  | 76.79            | -118.61                  |
| 2                                                 | 268.99          | -61.44    | -13.00      | -48.44      | 1.00 V             | 59                   | 54.60            | -116.04                  |
| 3                                                 | 350.52          | -60.70    | -13.00      | -47.70      | 1.00 V             | 249                  | 53.24            | -113.94                  |
| 4                                                 | 448.93          | -53.49    | -13.00      | -40.49      | 1.00 V             | 304                  | 57.48            | -110.97                  |
| 5                                                 | 489.70          | -38.52    | -13.00      | -25.52      | 2.00 V             | 304                  | 71.82            | -110.34                  |
| 6                                                 | 531.87          | -37.89    | -13.00      | -24.89      | 1.00 V             | 243                  | 71.83            | -109.72                  |

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



Above 1GHz  
WCDMA Band 4

|                          |                                |                 |              |
|--------------------------|--------------------------------|-----------------|--------------|
| Mode                     | TX channel 1312<br>(1712.4MHz) | Frequency Range | 1GHz ~ 20GHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz |
| Tested By                | Edison Lee                     |                 |              |

| Antenna Polarity & Test Distance: Horizontal at 3 M |                    |               |                |                |                          |                            |                        |                                |
|-----------------------------------------------------|--------------------|---------------|----------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No.                                                 | Frequency<br>(MHz) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                   | 3424.80            | -48.95        | -13.00         | -35.95         | 2.98 H                   | 212                        | 48.20                  | -97.15                         |
| Antenna Polarity & Test Distance: Vertical at 3 M   |                    |               |                |                |                          |                            |                        |                                |
| No.                                                 | Frequency<br>(MHz) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                   | 3424.80            | -50.45        | -13.00         | -37.45         | 1.40 V                   | 101                        | 46.70                  | -97.15                         |

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 13, Channel Bandwidth: 10MHz

|                          |                                |                 |              |
|--------------------------|--------------------------------|-----------------|--------------|
| Mode                     | TX channel 23230<br>(782.0MHz) | Frequency Range | 1GHz ~ 18GHz |
| Environmental Conditions | 23deg. C, 68%RH                | Input Power     | 120Vac, 60Hz |
| Tested By                | Edison Lee                     |                 |              |

| Antenna Polarity & Test Distance: Horizontal at 3 M |                    |               |                |                |                          |                            |                        |                                |
|-----------------------------------------------------|--------------------|---------------|----------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| No.                                                 | Frequency<br>(MHz) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                   | 1564.00            | -43.68        | -40.00         | -3.68          | 3.30 H                   | 208                        | 58.60                  | -102.28                        |
| Antenna Polarity & Test Distance: Vertical at 3 M   |                    |               |                |                |                          |                            |                        |                                |
| No.                                                 | Frequency<br>(MHz) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) | Antenna<br>Height<br>(m) | Table<br>Angle<br>(Degree) | Raw<br>Value<br>(dBuV) | Correction<br>Factor<br>(dB/m) |
| 1                                                   | 1564.00            | -45.38        | -40.00         | -5.38          | 1.37 V                   | 122                        | 56.90                  | -102.28                        |

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV/m) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

## 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 FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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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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