

# TEST REPORT

**Reference No.**..... : WTS18S06115304-5W V1  
**FCC ID** ..... : 2AM9L-SFT57216  
**Applicant**..... : SCHOK, LLC.  
**Address**..... : 5850 Town and country blvd, Suite 203, Frisco, TX 75034, USA  
**Manufacturer** ..... : Huizhou Lingyun Technology Co.,Ltd  
**Address**..... : No.13 Jinda Road,Huinan Hi-tech Industrial Park, Huiao Avenue,Huizhou,China  
**Product**..... : Smart phone  
**Model(s)** ..... : freedom turbo XL  
**Brand Name**..... : SCHOK  
**Standards**..... : FCC CFR47 Part 22 Subpart H: 2017  
FCC CFR47 Part 24 Subpart E: 2017  
FCC CFR47 Part 27 Subpart L: 2017  
**Date of Receipt sample** .... : 2018-06-20  
**Date of Test** ..... : 2018-06-21 to 2018-07-06  
**Date of Issue**..... : 2018-07-16  
**Test Result**..... : Pass

**Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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## 2 Laboratories Introduction

**Waltek Services (Shenzhen) Co., Ltd** is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation) of USA, Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), IC(Industry Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.



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**Test Facility:****A. Accreditations for Conformity Assessment (International)**

| Country/Region                                                      | Accreditation Body                               | Scope                         | Note |
|---------------------------------------------------------------------|--------------------------------------------------|-------------------------------|------|
| USA                                                                 | <b>A2LA</b><br><b>(Certificate No.: 4243.01)</b> | FCC ID \ DOC \ VOC            | 1    |
| Canada                                                              |                                                  | IC ID \ VOC                   | 2    |
| Japan                                                               |                                                  | MIC-T \ MIC-R                 | -    |
| Europe                                                              |                                                  | EMCD \ RED                    | -    |
| Taiwan                                                              |                                                  | NCC                           | -    |
| Hong Kong                                                           |                                                  | OFCA                          | -    |
| Australia                                                           |                                                  | RCM                           | -    |
| India                                                               |                                                  | <b>International Services</b> | WPC  |
| Thailand                                                            | NTC                                              |                               | -    |
| Singapore                                                           | IDA                                              |                               | -    |
| Note:                                                               |                                                  |                               |      |
| 1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476. |                                                  |                               |      |
| 2. IC Canada Registration No.: 7760A                                |                                                  |                               |      |

**B. TCBs and Notify Bodies Recognized Testing Laboratory.**

| Recognized Testing Laboratory of ...     | Notify body number |
|------------------------------------------|--------------------|
| TUV Rheinland                            | Optional.          |
| Intertek                                 |                    |
| TUV SUD                                  |                    |
| SGS                                      |                    |
| Phoenix Testlab GmbH                     | 0700               |
| Element Materials Technology Warwick Ltd | 0891               |
| Timco Engineering, Inc.                  | 1177               |
| Eurofins Product Service GmbH            | 0681               |

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#### 4 Revision History

| Test report No.          | Date of Receipt sample | Date of Test                | Date of Issue | Purpose   | Comment | Approved |
|--------------------------|------------------------|-----------------------------|---------------|-----------|---------|----------|
| WTS18S06115<br>304-5W    | 2018-06-20             | 2018-06-21<br>to 2018-07-06 | 2018-07-07    | original  | -       | Replaced |
| WTS18S06115<br>304-5W V1 | 2018-06-20             | 2018-06-21<br>to 2018-07-06 | 2018-07-16    | Version 1 | Updated | Valid    |

## 5 General Information

### 5.1 General Description of E.U.T.

|                                       |                              |
|---------------------------------------|------------------------------|
| Product:                              | Smart phone                  |
| Model(s):                             | freedom turbo XL             |
| Model Description:                    | N/A                          |
| GSM Band(s):                          | GSM 850/900/1800/1900MHz     |
| GPRS/EGPRS Class:                     | 12                           |
| WCDMA Band(s):                        | FDD Band II/IV/V             |
| LTE Band(s):                          | FDD Band 2/4/5/12/17         |
| Wi-Fi Specification:                  | 2.4G-802.11b/g/n HT20/n HT40 |
| Bluetooth Version:                    | Bluetooth v4.0 with BLE      |
| GPS:                                  | Support                      |
| NFC:                                  | N/A                          |
| Hardware Version:                     | HCT-S179MB-A1                |
| Software Version:                     | R05_20180612                 |
| Highest frequency<br>(Exclude Radio): | 1.25GHz                      |
| Storage Location:                     | Internal Storage             |

Note: This EUT has two SIM card slots, and use same one RF module. We found that RF parameters are the same, when we insert the card 1 and card 2. So we usually performed the test under main card slot 1.

### 5.2 Details of E.U.T.

|                       |                                  |
|-----------------------|----------------------------------|
| Operation Frequency:  | GSM/GPRS/EDGE 850: 824~849MHz    |
|                       | PCS/GPRS/EDGE 1900: 1850~1910MHz |
|                       | WCDMA Band II: 1850~1910MHz      |
|                       | WCDMA Band V: 824~849MHz         |
|                       | WCDMA Band IV: 1710~1755MHz      |
|                       | LTE Band 2: 1850~1910MHz         |
|                       | LTE Band 4: 1710~1755MHz         |
|                       | LTE Band 5: 824~849MHz           |
|                       | LTE Band 12: 699~716MHz          |
|                       | LTE Band 17: 704~716MHz          |
|                       | WiFi:                            |
|                       | 802.11b/g/n HT20: 2412~2462MHz   |
|                       | 802.11n HT40: 2422~2452MHz       |
|                       | Bluetooth: 2402~2480MHz          |
| Max. RF output power: | GSM 850: 32.73dBm                |
|                       | PCS1900: 29.84dBm                |

|                       |                                                  |
|-----------------------|--------------------------------------------------|
|                       | WCDMA Band II: 22.66dBm                          |
|                       | WCDMA Band V: 22.66dBm                           |
|                       | WCDMA Band IV: 22.58dBm                          |
|                       | LTE Band 2: 23.82dBm                             |
|                       | LTE Band 4: 23.73dBm                             |
|                       | LTE Band 5: 23.77dBm                             |
|                       | LTE Band 12: 23.85dBm                            |
|                       | LTE Band 17: 23.81dBm                            |
|                       | WiFi(2.4G): 9.46dBm                              |
|                       | Bluetooth: 2.69dBm                               |
| Type of Modulation:   | GSM,GPRS: GMSK                                   |
|                       | EDGE: GMSK, 8PSK                                 |
|                       | WCDMA: BPSK, 16QAM                               |
|                       | LTE: QPSK, 16QAM                                 |
|                       | WiFi: CCK, OFDM                                  |
|                       | Bluetooth: GFSK, Pi/4 DQPSK, 8DPSK               |
| Antenna installation: | GSM/WCDMA/LTE: internal permanent antenna        |
|                       | WiFi/Bluetooth: internal permanent antenna       |
| Antenna Gain:         | GSM 850: 0.62dBi                                 |
|                       | PCS1900: -0.15dBi                                |
|                       | WCDMA Band II: -0.15dBi                          |
|                       | WCDMA Band V: 0.62dBi                            |
|                       | WCDMA Band IV: -0.19dBi                          |
|                       | LTE Band 2: -0.15dBi                             |
|                       | LTE Band 4: -0.19dBi                             |
|                       | LTE Band 5: 0.62dBi                              |
|                       | LTE Band 12: 0.52dBi                             |
|                       | LTE Band 17: 0.54dBi                             |
|                       | WiFi(2.4G): 2.4dBi                               |
|                       | Bluetooth: 2.4dBi                                |
| Ratings:              | Battery DC 3.8V, 3000mAh                         |
|                       | DC 5V, 1.0A, charging from adapter               |
|                       | (Adapter Input: 100-240V~50/60Hz 0.3A)           |
| Adapter:              | Manufacturer: Schok, LLC.                        |
|                       | Model No.: DCS10-0501000F                        |
| Type of Emission:     | LTE Band 2 1.4MHz: 1M09G7D(QPSK), 1M09W7D(16QAM) |
|                       | LTE Band 2 3MHz: 2M73G7D(QPSK), 2M72W7D(16QAM)   |
|                       | LTE Band 2 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)   |
|                       | LTE Band 2 10 MHz: 8M92G7D(QPSK), 8M92W7D(16QAM) |
|                       | LTE Band 2 15MHz: 13M5G7D(QPSK), 13M4W7D(16QAM)  |
|                       | LTE Band 2 20MHz: 17M9G7D(QPSK), 17M9W7D(16QAM)  |



LTE Band 4 1.4MHz: 1M09G7D(QPSK), 1M09W7D(16QAM)  
LTE Band 4 3MHz: 2M73G7D(QPSK), 2M72W7D(16QAM)  
LTE Band 4 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)  
LTE Band 4 10 MHz: 8M92G7D(QPSK), 8M92W7D(16QAM)  
LTE Band 4 15MHz: 13M5G7D(QPSK), 13M5W7D(16QAM)  
LTE Band 4 20MHz: 17M9G7D(QPSK), 17M9W7D(16QAM)  
LTE Band 5 1.4MHz: 1M09G7D(QPSK), 1M08W7D(16QAM)  
LTE Band 5 3MHz: 2M72G7D(QPSK), 2M72W7D(16QAM)  
LTE Band 5 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)  
LTE Band 5 10 MHz: 8M94G7D(QPSK), 8M93W7D(16QAM)  
LTE Band 12 1.4MHz: 1M09G7D(QPSK), 1M08W7D(16QAM)  
LTE Band 12 3MHz: 2M72G7D(QPSK), 2M72W7D(16QAM)  
LTE Band 12 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)  
LTE Band 12 10MHz: 8M93G7D(QPSK), 8M93W7D(16QAM)  
LTE Band 17 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)  
LTE Band 17 10 MHz: 8M93G7D(QPSK), 8M93W7D(16QAM)

### 5.3 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

| Support Band | Test Mode BW(MHz) | Channel Frequency | Channel Number |
|--------------|-------------------|-------------------|----------------|
| LTE Band 2   | 1.4               | 1850.7 MHz        | 18607          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1909.3 MHz        | 19193          |
|              | 3                 | 1851.5 MHz        | 18615          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1908.5 MHz        | 19185          |
|              | 5                 | 1852.5 MHz        | 18625          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1907.5 MHz        | 19175          |
|              | 10                | 1855.0 MHz        | 18650          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1905.0 MHz        | 19150          |
|              | 15                | 1857.5 MHz        | 18675          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1902.5 MHz        | 19125          |
|              | 20                | 1860.0 MHz        | 18700          |
|              |                   | 1880.0 MHz        | 18900          |
|              |                   | 1900.0 MHz        | 19100          |
| LTE Band 4   | 1.4               | 1710.7 MHz        | 19957          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1754.3 MHz        | 20393          |
|              | 3                 | 1711.5 MHz        | 19965          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1753.5 MHz        | 20385          |
|              | 5                 | 1712.5 MHz        | 19975          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1752.5 MHz        | 20375          |
|              | 10                | 1715.0 MHz        | 20000          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1750.0 MHz        | 20350          |
|              | 15                | 1717.5 MHz        | 20025          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1747.5 MHz        | 20325          |
|              | 20                | 1720.0 MHz        | 20050          |
|              |                   | 1732.5 MHz        | 20175          |
|              |                   | 1745.0 MHz        | 20300          |
| LTE Band 5   | 1.4               | 824.7 MHz         | 20407          |
|              |                   | 836.5 MHz         | 20525          |
|              |                   | 848.3 MHz         | 20643          |

|                                                                  |     |           |       |
|------------------------------------------------------------------|-----|-----------|-------|
|                                                                  | 3   | 825.5 MHz | 20415 |
|                                                                  |     | 836.5 MHz | 20525 |
|                                                                  |     | 847.5 MHz | 20635 |
|                                                                  | 5   | 826.5 MHz | 20425 |
|                                                                  |     | 836.5 MHz | 20525 |
|                                                                  |     | 846.5 MHz | 20625 |
|                                                                  | 10  | 829.0 MHz | 20450 |
|                                                                  |     | 836.5 MHz | 20525 |
|                                                                  |     | 844.0 MHz | 20600 |
| LTE Band 12                                                      | 1.4 | 699.7 MHz | 23017 |
|                                                                  |     | 707.5 MHz | 23095 |
|                                                                  |     | 715.3 MHz | 23173 |
|                                                                  | 3   | 700.5 MHz | 23025 |
|                                                                  |     | 707.5 MHz | 23095 |
|                                                                  |     | 714.5 MHz | 23165 |
|                                                                  | 5   | 701.5 MHz | 23035 |
|                                                                  |     | 707.5 MHz | 23095 |
|                                                                  |     | 713.5 MHz | 23155 |
|                                                                  | 10  | 704.0 MHz | 23060 |
|                                                                  |     | 707.5 MHz | 23095 |
|                                                                  |     | 711.0 MHz | 23130 |
| LTE Band 17                                                      | 5   | 706.5 MHz | 23755 |
|                                                                  |     | 710.0 MHz | 23790 |
|                                                                  |     | 713.5 MHz | 23825 |
|                                                                  | 10  | 709.0 MHz | 23780 |
|                                                                  |     | 710.0 MHz | 23790 |
|                                                                  |     | 711.0 MHz | 23800 |
| Remark: All mode(s) were tested and the worst data was recorded. |     |           |       |

## 6 Test Summary

| Test Items                             | Test Requirement                                               | Result |
|----------------------------------------|----------------------------------------------------------------|--------|
| RF Output Power                        | 2.1046<br>22.913 (a)<br>24.232 (c)<br>27.50(h.2)<br>27.50(d.4) | PASS   |
| Peak-to-Average Ratio                  | 24.232 (d)<br>27.50(d)                                         | PASS   |
| Bandwidth                              | 2.1049<br>22.905<br>22.917<br>24.238<br>27.53(a)               | PASS   |
| Spurious Emissions at Antenna Terminal | 2.1051<br>22.917 (a)<br>24.238 (a)<br>27.53(h)<br>27.53(m)(4)  | PASS   |
| Field Strength of Spurious Radiation   | 2.1053<br>22.917 (a)<br>24.238 (a)<br>27.53(h)<br>27.53(m)(4)  | PASS   |
| Out of band emission                   | 22.917 (a)<br>24.238 (a)<br>27.53(h)<br>27.53(m)(4)            | PASS   |
| Frequency Stability                    | 2.1055<br>22.355<br>24.235<br>27.5(h)<br>27.54                 | PASS   |
| Maximum Permissible Exposure<br>(SAR)  | 1.1307<br>2.1093                                               | PASS   |

## 7 Equipment Used during Test

### 7.1 Equipments List

| Conducted Emissions Test Site 1#                              |                            |                      |              |                 |                       |                      |
|---------------------------------------------------------------|----------------------------|----------------------|--------------|-----------------|-----------------------|----------------------|
| Item                                                          | Equipment                  | Manufacturer         | Model No.    | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1.                                                            | EMI Test Receiver          | R&S                  | ESCI         | 100947          | 2017-09-12            | 2018-09-11           |
| 2.                                                            | LISN                       | R&S                  | ENV216       | 101215          | 2017-09-12            | 2018-09-11           |
| 3.                                                            | Cable                      | Top                  | TYPE16(3.5M) | -               | 2017-09-12            | 2018-09-11           |
| Conducted Emissions Test Site 2#                              |                            |                      |              |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.    | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1.                                                            | EMI Test Receiver          | R&S                  | ESCI         | 101155          | 2017-09-12            | 2018-09-11           |
| 2.                                                            | LISN                       | SCHWARZBECK          | NSLK 8128    | 8128-289        | 2017-09-12            | 2018-09-11           |
| 3.                                                            | Limiter                    | York                 | MTS-IMP-136  | 261115-001-0024 | 2017-09-12            | 2018-09-11           |
| 4.                                                            | Cable                      | LARGE                | RF300        | -               | 2017-09-12            | 2018-09-11           |
| 3m Semi-anechoic Chamber for Radiation Emissions Test site 1# |                            |                      |              |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.    | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1                                                             | Spectrum Analyzer          | R&S                  | FSP          | 100091          | 2018-04-29            | 2019-04-28           |
| 2                                                             | Active Loop Antenna        | Beijing Dazhi        | ZN30900A     | -               | 2018-04-09            | 2019-04-08           |
| 3                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9163     | 336             | 2018-04-09            | 2019-04-08           |
| 4                                                             | Coaxial Cable (below 1GHz) | Top                  | TYPE16(13M)  | -               | 2017-09-12            | 2018-09-11           |
| 5                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9120 D  | 667             | 2018-04-09            | 2019-04-08           |
| 6                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9170    | 335             | 2018-04-09            | 2019-04-08           |
| 7                                                             | Broadband Preamplifier     | COMPLIANCE DIRECTION | PAP-1G18     | 2004            | 2018-04-13            | 2019-04-12           |
| 8                                                             | Coaxial Cable (above 1GHz) | Top                  | 1GHz-25GHz   | EW02014-7       | 2018-04-13            | 2019-04-12           |
| 9                                                             | Signal Generator           | R&S                  | SMR20        | 100046          | 2017-09-12            | 2018-09-11           |
| 10                                                            | Smart Antenna              | SCHWARZBECK          | HA08         | -               | 2018-04-09            | 2019-04-08           |
| 3m Semi-anechoic Chamber for Radiation Emissions Test site 2# |                            |                      |              |                 |                       |                      |
| Item                                                          | Equipment                  | Manufacturer         | Model No.    | Serial No.      | Last Calibration Date | Calibration Due Date |
| 1                                                             | Test Receiver              | R&S                  | ESCI         | 101296          | 2018-04-13            | 2019-04-12           |
| 2                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9160     | 9160-3325       | 2018-04-09            | 2019-04-08           |

| 3                           | Amplifier                                  | Compliance<br>pirection<br>systems inc | PAP-0203  | 22024      | 2018-04-13                  | 2019-04-12              |
|-----------------------------|--------------------------------------------|----------------------------------------|-----------|------------|-----------------------------|-------------------------|
| 4                           | Cable                                      | HUBER+SUHNER                           | CBL2      | 525178     | 2018-04-13                  | 2019-04-12              |
| <b>RF Conducted Testing</b> |                                            |                                        |           |            |                             |                         |
| Item                        | Equipment                                  | Manufacturer                           | Model No. | Serial No. | Last<br>Calibration<br>Date | Calibration<br>Due Date |
| 1.                          | EMC Analyzer<br>(9k~26.5GHz)               | Agilent                                | E7405A    | MY45114943 | 2017-09-12                  | 2018-09-11              |
| 2.                          | Spectrum Analyzer                          | Agilent                                | N9020A    | MY49100060 | 2017-09-12                  | 2018-09-11              |
| 3.                          | Universal Radio<br>Communication<br>Tester | R&S                                    | CMW 500   | 127818     | 2018-04-13                  | 2019-04-12              |
| 4                           | Signal Analyzer<br>(9k~26.5GHz)            | Agilent                                | N9010A    | MY50520207 | 2017-09-12                  | 2018-09-11              |

## 7.2 Measurement Uncertainty

| Parameter                                       | Uncertainty                             |
|-------------------------------------------------|-----------------------------------------|
| Conducted Emission                              | ± 3.64 dB(AC mains 150KHz~30MHz)        |
| Radiated Spurious Emissions                     | ± 5.08 dB (Bilog antenna 30M~1000MHz)   |
|                                                 | ± 5.47 dB (Horn antenna 1000M~25000MHz) |
| Radio Frequency                                 | ± 1 x 10 <sup>-7</sup> Hz               |
| RF Power                                        | ± 0.42 dB                               |
| RF Power Density                                | ± 0.7dB                                 |
| Conducted Spurious Emissions                    | ± 2.76 dB (9kHz~26500MHz)               |
| Confidence interval: 95%. Confidence factor:k=2 |                                         |

## 7.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

## 8 RF OUTPUT POWER

|                   |                                                                 |
|-------------------|-----------------------------------------------------------------|
| Test Requirement: | FCC Part 2.1046, 22.913 (a), 24.232 (c), 27.50(h.2); 27.50(d.4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03                         |
| Test Mode:        | TX transmitting                                                 |

### 8.1 EUT Operation

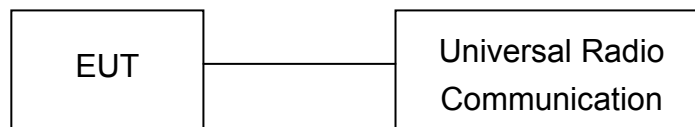
Operating Environment :

|                       |           |
|-----------------------|-----------|
| Temperature:          | 22.5 °C   |
| Humidity:             | 52.1 % RH |
| Atmospheric Pressure: | 101.2kPa  |

### 8.2 Test Procedure

Conducted method:

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.



Radiated method:

1. The setup of EUT is according with per TIA/EIA Standard 603D:2010.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

### 8.3 Test Result

#### Conducted Power

##### LTE Band 2:

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 1.4MHz  | 18607 | 1850.7    | QPSK  | 1                | 0            | 23.21               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.25               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.22               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.33               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.34               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.25               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.42               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.37               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.43               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.4                | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.33               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.39               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.69               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.72               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.69               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.55               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.5                | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.55               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.21               | 22.0±1               | 1.0      |
|         | 19193 | 1909.3    | QPSK  | 1                | 0            | 23.13               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.2                | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.15               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.18               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.15               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.21               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.14               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.09               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.13               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.12               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.27               | 22.0±1               | 1.0      |



|  |  |  |  |   |   |       |        |     |
|--|--|--|--|---|---|-------|--------|-----|
|  |  |  |  | 6 | 0 | 21.25 | 22.0±1 | 1.0 |
|--|--|--|--|---|---|-------|--------|-----|

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 3MHz    | 18615 | 1851.5    | QPSK  | 1                | 0            | 23.26               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.26               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.22               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.33               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.34               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.21               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.48               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.48               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.41               | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.34               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.32               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.35               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.7                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.72               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.67               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.47               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.48               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.46               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.37               | 22.0±1               | 1.0      |
|         | 19185 | 1908.5    | QPSK  | 1                | 0            | 23.17               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.18               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.15               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.19               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.18               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.1                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.1                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.08               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.2                | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.22               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.2                | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.1                | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 5MHz    | 18625 | 1852.5    | QPSK  | 1                | 0            | 23.37               | 23.0±1               | /        |
|         |       |           |       | 1                | 12           | 23.37               | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.33               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.36               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.57               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 22.58               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.53               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.53               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.41               | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.44               | 23.0±1               | /        |
|         |       |           |       | 1                | 12           | 23.42               | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.38               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.37               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.93               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 22.9                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.85               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.56               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.54               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.54               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.43               | 22.0±1               | 1.0      |
|         | 19175 | 1907.5    | QPSK  | 1                | 0            | 23.23               | 23.0±1               | /        |
|         |       |           |       | 1                | 12           | 23.2                | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.17               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.16               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.25               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.23               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.22               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.21               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.09               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 18650 | 1855      | QPSK  | 1                | 0            | 23.38               | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.35               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 22.37               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.41               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.47               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.41               | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.45               | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.44               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.34               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.39               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.81               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.77               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.72               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.43               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.42               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.42               | 22.0±1               | 1.0      |
|         | 19150 | 1905      | QPSK  | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 24           | 23.27               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.18               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.19               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 22.15               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.18               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 22.15               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.16               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.26               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.21               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.24               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.19               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 15MHz   | 18675 | 1857.5    | QPSK  | 1                | 0            | 23.44               | 23.0±1               | /        |
|         |       |           |       | 1                | 37           | 23.37               | 23.0±1               | /        |
|         |       |           |       | 1                | 74           | 23.39               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 22.44               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.44               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 22.34               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 21.46               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.45               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 21.46               | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.51               | 23.0±1               | /        |
|         |       |           |       | 1                | 37           | 23.44               | 23.0±1               | /        |
|         |       |           |       | 1                | 74           | 23.39               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 22.48               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.49               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.85               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 22.8                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 22.77               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 21.54               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.49               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 21.49               | 22.0±1               | 1.0      |
|         | 19125 | 1902.5    | QPSK  | 1                | 0            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 1                | 37           | 23.24               | 23.0±1               | /        |
|         |       |           |       | 1                | 74           | 23.18               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 22.28               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.31               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.67               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 22.5                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 21.27               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.21               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.19               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 21.26               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 20MHz   | 18700 | 1860      | QPSK  | 1                | 0            | 23.54               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.45               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.49               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 22.48               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.86               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.96               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.89               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.53               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.49               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.48               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.5                | 22.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 23.6                | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.82               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.46               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 22.87               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.99               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.42               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.46               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.98               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.88               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.86               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.46               | 22.0±1               | 1.0      |
|         | 19100 | 1900      | QPSK  | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.06               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.75               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.03               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.01               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.04               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.52               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.23               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.09               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.01               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 20.99               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.05               | 22.0±1               | 1.0      |

**LTE Band 4:**

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 1.4MHz  | 19957 | 1710.7    | QPSK  | 1                | 0            | 23.02               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.06               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.03               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.04               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.04               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.06               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.04               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.11               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.12               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.06               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.06               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.09               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.15               | 22.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 23.11               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.14               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.13               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.15               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.17               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.17               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.1                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.5                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.52               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.33               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.03               | 22.0±1               | 1.0      |
|         | 20393 | 1754.3    | QPSK  | 1                | 0            | 23.02               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.08               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.05               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.08               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.1                | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.12               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.01               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.06               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.11               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.21               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.21               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 3MHz    | 19965 | 1711.5    | QPSK  | 1                | 0            | 23.01               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.01               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23                  | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.09               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.08               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.04               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.91               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 21.92               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 21.9                | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 21.16               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 21.18               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 21.16               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.06               | 22.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 23.11               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.12               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.09               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.19               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.12               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.26               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.3                | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.25               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.17               | 22.0±1               | 1.0      |
|         | 20385 | 1753.5    | QPSK  | 1                | 0            | 23.04               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.07               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.03               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.1                | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 22.13               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.06               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.06               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.08               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.05               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 21.13               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 21.13               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 21.09               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.01               | 22.0±1               | 1.0      |

| BW(MHz) | Ch | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|----|-----------|------|------------------|--------------|---------------------|----------------------|----------|
|---------|----|-----------|------|------------------|--------------|---------------------|----------------------|----------|

|      |       |        |       |    |    |       |        |     |
|------|-------|--------|-------|----|----|-------|--------|-----|
| 5MHz | 19975 | 1712.5 | QPSK  | 1  | 0  | 23.11 | 23.0±1 | /   |
|      |       |        |       | 1  | 49 | 23.1  | 23.0±1 | /   |
|      |       |        |       | 1  | 99 | 23.04 | 23.0±1 | /   |
|      |       |        |       | 12 | 0  | 22.1  | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 22.09 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 22.07 | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 22.05 | 22.0±1 | 1.0 |
|      |       |        | 16QAM | 1  | 0  | 22.25 | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 49 | 22.25 | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 99 | 22.22 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 0  | 21.14 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 21.13 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 21.15 | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 21.05 | 22.0±1 | 1.0 |
|      | 20175 | 1732.5 | QPSK  | 1  | 0  | 23.17 | 23.0±1 | /   |
|      |       |        |       | 1  | 49 | 23.18 | 23.0±1 | /   |
|      |       |        |       | 1  | 99 | 23.14 | 23.0±1 | /   |
|      |       |        |       | 12 | 0  | 22.18 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 22.16 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 22.17 | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 22.15 | 22.0±1 | 1.0 |
|      |       |        | 16QAM | 1  | 0  | 22.67 | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 49 | 22.67 | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 99 | 22.63 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 0  | 21.31 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 21.31 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 21.3  | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 21.22 | 22.0±1 | 1.0 |
|      | 20375 | 1752.5 | QPSK  | 1  | 0  | 23.09 | 23.0±1 | /   |
|      |       |        |       | 1  | 49 | 23.1  | 23.0±1 | /   |
|      |       |        |       | 1  | 99 | 23.07 | 23.0±1 | /   |
|      |       |        |       | 12 | 0  | 22.1  | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 22.1  | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 22.1  | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 22.06 | 22.0±1 | 1.0 |
|      |       |        | 16QAM | 1  | 0  | 22.2  | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 49 | 22.21 | 22.0±1 | 1.0 |
|      |       |        |       | 1  | 99 | 22.2  | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 0  | 21.13 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 24 | 21.14 | 22.0±1 | 1.0 |
|      |       |        |       | 12 | 49 | 21.12 | 22.0±1 | 1.0 |
|      |       |        |       | 25 | 0  | 20.99 | 22.0±1 | 1.0 |

| BW(MHz) | Ch    | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 20000 | 1715      | QPSK | 1                | 0            | 23.11               | 23.0±1               | /        |
|         |       |           |      | 1                | 49           | 23.08               | 23.0±1               | /        |



|  |       |        |       |    |    |       |        |     |
|--|-------|--------|-------|----|----|-------|--------|-----|
|  |       |        |       | 1  | 99 | 23.09 | 23.0±1 | /   |
|  |       |        |       | 25 | 0  | 22.06 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 22.07 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 22.1  | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 22.09 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1  | 0  | 22.02 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22    | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.07 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 0  | 21.07 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 21.06 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 21.14 | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 21.08 | 22.0±1 | 1.0 |
|  | 20175 | 1732.5 | QPSK  | 1  | 0  | 23.15 | 23.0±1 | /   |
|  |       |        |       | 1  | 49 | 23.17 | 23.0±1 | /   |
|  |       |        |       | 1  | 99 | 23.2  | 23.0±1 | /   |
|  |       |        |       | 25 | 0  | 22.16 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 22.15 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 22.17 | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 22.19 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1  | 0  | 22.54 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22.52 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.53 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 0  | 21.2  | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 21.19 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 21.19 | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 21.21 | 22.0±1 | 1.0 |
|  | 20350 | 1750   | QPSK  | 1  | 0  | 23.19 | 23.0±1 | /   |
|  |       |        |       | 1  | 49 | 23.12 | 23.0±1 | /   |
|  |       |        |       | 1  | 99 | 23.1  | 23.0±1 | /   |
|  |       |        |       | 25 | 0  | 22.09 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 22.08 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 22.1  | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 22.09 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1  | 0  | 22.11 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22.09 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.1  | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 0  | 21.15 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 24 | 21.13 | 22.0±1 | 1.0 |
|  |       |        |       | 25 | 49 | 21.15 | 22.0±1 | 1.0 |
|  |       |        |       | 50 | 0  | 21.09 | 22.0±1 | 1.0 |

| BW(MHz) | Ch    | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|------|------------------|--------------|---------------------|----------------------|----------|
| 15MHz   | 20025 | 1717.5    | QPSK | 1                | 0            | 23.11               | 23.0±1               | /        |
|         |       |           |      | 1                | 49           | 23.09               | 23.0±1               | /        |
|         |       |           |      | 1                | 99           | 23.14               | 23.0±1               | /        |
|         |       |           |      | 36               | 0            | 22.12               | 22.0±1               | 1.0      |

|  |       |        |       |    |    |       |        |     |
|--|-------|--------|-------|----|----|-------|--------|-----|
|  |       |        | 16QAM | 36 | 24 | 22.13 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 22.17 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 22.15 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 0  | 22.02 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22.06 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.1  | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 0  | 21.11 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 24 | 21.13 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 21.17 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 21.15 | 22.0±1 | 1.0 |
|  | 20175 | 1732.5 | QPSK  | 1  | 0  | 23.21 | 23.0±1 | /   |
|  |       |        |       | 1  | 49 | 23.17 | 23.0±1 | /   |
|  |       |        |       | 1  | 99 | 23.19 | 23.0±1 | /   |
|  |       |        |       | 36 | 0  | 22.19 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 24 | 22.21 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 22.27 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 22.23 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1  | 0  | 22.59 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22.55 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.52 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 0  | 21.25 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 24 | 21.26 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 21.28 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 21.23 | 22.0±1 | 1.0 |
|  | 20325 | 1747.5 | QPSK  | 1  | 0  | 23.23 | 23.0±1 | /   |
|  |       |        |       | 1  | 49 | 23.17 | 23.0±1 | /   |
|  |       |        |       | 1  | 99 | 23.13 | 23.0±1 | /   |
|  |       |        |       | 36 | 0  | 22.23 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 24 | 22.16 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 22.15 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 22.21 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1  | 0  | 22.53 | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 49 | 22.5  | 22.0±1 | 1.0 |
|  |       |        |       | 1  | 99 | 22.53 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 0  | 21.16 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 24 | 21.13 | 22.0±1 | 1.0 |
|  |       |        |       | 36 | 49 | 21.11 | 22.0±1 | 1.0 |
|  |       |        |       | 75 | 0  | 21.15 | 22.0±1 | 1.0 |

| BW(MHz) | Ch    | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|------|------------------|--------------|---------------------|----------------------|----------|
| 20MHz   | 20050 | 1720      | QPSK | 1                | 0            | 23.15               | 23.0±1               | /        |
|         |       |           |      | 1                | 49           | 23.15               | 23.0±1               | /        |
|         |       |           |      | 1                | 99           | 23.23               | 23.0±1               | /        |
|         |       |           |      | 50               | 0            | 22.14               | 22.0±1               | 1.0      |
|         |       |           |      | 50               | 24           | 22.13               | 22.0±1               | 1.0      |
|         |       |           |      | 50               | 49           | 22.19               | 22.0±1               | 1.0      |

|  |       |        |       |     |    |       |        |     |
|--|-------|--------|-------|-----|----|-------|--------|-----|
|  |       |        | 16QAM | 100 | 0  | 22.16 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 0  | 22.64 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 49 | 22.69 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 99 | 22.77 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 0  | 21.17 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 24 | 21.18 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 49 | 21.24 | 22.0±1 | 1.0 |
|  |       |        |       | 100 | 0  | 21.2  | 22.0±1 | 1.0 |
|  | 20175 | 1732.5 | QPSK  | 1   | 0  | 23.65 | 23.0±1 | /   |
|  |       |        |       | 1   | 49 | 23.73 | 23.0±1 | /   |
|  |       |        |       | 1   | 99 | 23.26 | 23.0±1 | /   |
|  |       |        |       | 50  | 0  | 22.71 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 24 | 22.97 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 49 | 22.82 | 22.0±1 | 1.0 |
|  |       |        |       | 100 | 0  | 22.59 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1   | 0  | 22.69 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 49 | 22.63 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 99 | 22.62 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 0  | 21.26 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 24 | 21.19 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 49 | 21.21 | 22.0±1 | 1.0 |
|  |       |        |       | 100 | 0  | 21.2  | 22.0±1 | 1.0 |
|  | 20300 | 1745   | QPSK  | 1   | 0  | 23.21 | 23.0±1 | /   |
|  |       |        |       | 1   | 49 | 23.15 | 23.0±1 | /   |
|  |       |        |       | 1   | 99 | 23.04 | 23.0±1 | /   |
|  |       |        |       | 50  | 0  | 22.17 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 24 | 22.11 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 49 | 22.14 | 22.0±1 | 1.0 |
|  |       |        |       | 100 | 0  | 22.14 | 22.0±1 | 1.0 |
|  |       |        | 16QAM | 1   | 0  | 22.57 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 49 | 22.49 | 22.0±1 | 1.0 |
|  |       |        |       | 1   | 99 | 22.52 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 0  | 21.14 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 24 | 21.11 | 22.0±1 | 1.0 |
|  |       |        |       | 50  | 49 | 21.1  | 22.0±1 | 1.0 |
|  |       |        |       | 100 | 0  | 21.13 | 22.0±1 | 1.0 |

**LTE Band 5:**

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 1.4MHz  | 20407 | 824.7     | QPSK  | 1                | 0            | 23.2                | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.25               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.22               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.29               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.29               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.3                | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.24               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.41               | 22.0±1               | 1.0      |
|         | 20525 | 836.5     | QPSK  | 1                | 0            | 23.18               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.19               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.18               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.28               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.28               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.28               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.17               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.58               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.58               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.58               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.44               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.13               | 22.0±1               | 1.0      |
|         | 20634 | 848.3     | QPSK  | 1                | 0            | 23.15               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.22               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.16               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.19               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.21               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.23               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.1                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.09               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.12               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.15               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.3                | 22.0±1               | 1.0      |

| BW(MHz) | Ch | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|----|-----------|------|------------------|--------------|---------------------|----------------------|----------|
|---------|----|-----------|------|------------------|--------------|---------------------|----------------------|----------|

|      |       |       |       |    |    |       |        |     |
|------|-------|-------|-------|----|----|-------|--------|-----|
| 3MHz | 20415 | 825.5 | QPSK  | 1  | 0  | 23.24 | 23.0±1 | /   |
|      |       |       |       | 1  | 8  | 23.28 | 23.0±1 | /   |
|      |       |       |       | 1  | 14 | 23.27 | 23.0±1 | /   |
|      |       |       |       | 6  | 0  | 22.34 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 4  | 22.37 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 9  | 22.36 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 22.33 | 22.0±1 | 1.0 |
|      |       |       | 16QAM | 1  | 0  | 22.16 | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 8  | 22.22 | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 14 | 22.17 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 0  | 21.46 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 4  | 21.49 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 9  | 21.46 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 21.37 | 22.0±1 | 1.0 |
|      | 20525 | 836.5 | QPSK  | 1  | 0  | 23.22 | 23.0±1 | /   |
|      |       |       |       | 1  | 8  | 23.2  | 23.0±1 | /   |
|      |       |       |       | 1  | 14 | 23.13 | 23.0±1 | /   |
|      |       |       |       | 6  | 0  | 22.27 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 4  | 22.25 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 9  | 22.23 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 22.27 | 22.0±1 | 1.0 |
|      |       |       | 16QAM | 1  | 0  | 22.55 | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 8  | 22.56 | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 14 | 22.54 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 0  | 21.38 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 4  | 21.37 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 9  | 21.38 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 21.34 | 22.0±1 | 1.0 |
|      | 20635 | 847.5 | QPSK  | 1  | 0  | 23.14 | 23.0±1 | /   |
|      |       |       |       | 1  | 8  | 23.19 | 23.0±1 | /   |
|      |       |       |       | 1  | 14 | 23.15 | 23.0±1 | /   |
|      |       |       |       | 6  | 0  | 22.2  | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 4  | 22.21 | 22.0±1 | 1.0 |
|      |       |       |       | 6  | 9  | 22.21 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 22.17 | 22.0±1 | 1.0 |
|      |       |       | 16QAM | 1  | 0  | 22.1  | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 8  | 22.11 | 22.0±1 | 1.0 |
|      |       |       |       | 1  | 14 | 22.07 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 0  | 21.21 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 4  | 21.23 | 22.0±1 | 1.0 |
|      |       |       |       | 8  | 9  | 21.24 | 22.0±1 | 1.0 |
|      |       |       |       | 15 | 0  | 21.11 | 22.0±1 | 1.0 |

| BW(MHz) | Ch    | Freq(MHz) | Mode | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|------|------------------|--------------|---------------------|----------------------|----------|
| 5MHz    | 20425 | 826.5     | QPSK | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |      | 1                | 49           | 23.36               | 23.0±1               | /        |

|  |       |       |       |    |    |       |        |     |
|--|-------|-------|-------|----|----|-------|--------|-----|
|  |       |       |       | 1  | 99 | 23.32 | 23.0±1 | /   |
|  |       |       |       | 12 | 0  | 22.38 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 22.38 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 22.38 | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 22.36 | 22.0±1 | 1.0 |
|  |       |       | 16QAM | 1  | 0  | 22.51 | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 49 | 22.51 | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 99 | 22.48 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 0  | 21.47 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 21.48 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 21.46 | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 21.38 | 22.0±1 | 1.0 |
|  | 20525 | 836.5 | QPSK  | 1  | 0  | 23.35 | 23.0±1 | /   |
|  |       |       |       | 1  | 49 | 23.24 | 23.0±1 | /   |
|  |       |       |       | 1  | 99 | 23.18 | 23.0±1 | /   |
|  |       |       |       | 12 | 0  | 22.33 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 22.29 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 22.26 | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 22.28 | 22.0±1 | 1.0 |
|  |       |       | 16QAM | 1  | 0  | 22.81 | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 49 | 22.75 | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 99 | 22.73 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 0  | 21.5  | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 21.48 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 21.5  | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 21.39 | 22.0±1 | 1.0 |
|  | 20625 | 846.5 | QPSK  | 1  | 0  | 23.18 | 23.0±1 | /   |
|  |       |       |       | 1  | 49 | 23.18 | 23.0±1 | /   |
|  |       |       |       | 1  | 99 | 23.16 | 23.0±1 | /   |
|  |       |       |       | 12 | 0  | 22.22 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 22.19 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 22.22 | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 22.16 | 22.0±1 | 1.0 |
|  |       |       | 16QAM | 1  | 0  | 22.3  | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 49 | 22.23 | 22.0±1 | 1.0 |
|  |       |       |       | 1  | 99 | 22.24 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 0  | 21.28 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 24 | 21.24 | 22.0±1 | 1.0 |
|  |       |       |       | 12 | 49 | 21.27 | 22.0±1 | 1.0 |
|  |       |       |       | 25 | 0  | 21.13 | 22.0±1 | 1.0 |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 20450 | 829       | QPSK  | 1                | 0            | 23.37               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.42               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.38               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.39               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.28               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.4                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.38               | 22.0±1               | 1.0      |
|         | 20525 | 836.5     | QPSK  | 1                | 0            | 23.58               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.77               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.19               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.75               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.92               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.79               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.34               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.65               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.62               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.64               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.4                | 22.0±1               | 1.0      |
|         | 20600 | 844       | QPSK  | 1                | 0            | 23.21               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.22               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.23               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.24               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.28               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.23               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.17               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.38               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.33               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.28               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.31               | 22.0±1               | 1.0      |

LTE Band 12:

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 1.4MHz  | 23017 | 699.7     | QPSK  | 1                | 0            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.34               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.39               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.37               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.37               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.5                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.44               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.42               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.43               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.49               | 22.0±1               | 1.0      |
|         | 23095 | 707.5     | QPSK  | 1                | 0            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.34               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.34               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.35               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.62               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.64               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.63               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.2                | 22.0±1               | 1.0      |
|         | 23173 | 715.3     | QPSK  | 1                | 0            | 23.33               | 23.0±1               | /        |
|         |       |           |       | 1                | 2            | 23.4                | 23.0±1               | /        |
|         |       |           |       | 1                | 5            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 3                | 1            | 23.33               | 23.0±1               | /        |
|         |       |           |       | 3                | 2            | 23.32               | 23.0±1               | /        |
|         |       |           |       | 6                | 0            | 22.3                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 22.39               | 22.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.42               | 22.0±1               | 1.0      |



| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 3MHz    | 23025 | 700.5     | QPSK  | 1                | 0            | 23.28               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.28               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.25               | 23.0±1               | /        |
|         |       |           |       | 8                | 0            | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.31               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.23               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.15               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 21.47               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 21.47               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.34               | 22.0±1               | 1.0      |
|         | 23095 | 707.5     | QPSK  | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.32               | 23.0±1               | /        |
|         |       |           |       | 8                | 0            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.33               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.56               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.62               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.63               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 21.41               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 21.43               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 21.43               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.33               | 22.0±1               | 1.0      |
|         | 23165 | 714.5     | QPSK  | 1                | 0            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 8            | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 14           | 23.3                | 23.0±1               | /        |
|         |       |           |       | 8                | 0            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 22.33               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.3                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 22.17               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 21.36               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 21.34               | 22.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 21.31               | 22.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.22               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 5MHz    | 23035 | 701.5     | QPSK  | 1                | 0            | 23.35               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.33               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.3                | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.34               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.34               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.31               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.52               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.41               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.43               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.4                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.4                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.33               | 22.0±1               | 1.0      |
|         | 23095 | 707.5     | QPSK  | 1                | 0            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.35               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.33               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.34               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.33               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.74               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.78               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.79               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.43               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.44               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.49               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.32               | 22.0±1               | 1.0      |
|         | 23155 | 713.5     | QPSK  | 1                | 0            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.31               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.26               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.26               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.39               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.34               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.32               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.21               | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 23060 | 704       | QPSK  | 1                | 0            | 23.29               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.34               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.37               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.3                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.27               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.17               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.23               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.29               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.24               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.27               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.27               | 22.0±1               | 1.0      |
|         | 23095 | 707.5     | QPSK  | 1                | 0            | 23.81               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.85               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.31               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.78               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.93               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.82               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.28               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.57               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.6                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.65               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.26               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.29               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.34               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.27               | 22.0±1               | 1.0      |
|         | 23130 | 711       | QPSK  | 1                | 0            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.3                | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.3                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.29               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.25               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.18               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.37               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.39               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.34               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.3                | 22.0±1               | 1.0      |

LTE Band 17:

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 5MHz    | 23755 | 706.5     | QPSK  | 1                | 0            | 23.53               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.52               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.47               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.54               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.52               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.47               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.64               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.61               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.62               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.57               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.53               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.56               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.46               | 22.0±1               | 1.0      |
|         | 23790 | 710       | QPSK  | 1                | 0            | 23.54               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.52               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.48               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.53               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.47               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.94               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.96               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.92               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.63               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.64               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.64               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.52               | 22.0±1               | 1.0      |
|         | 23825 | 713.5     | QPSK  | 1                | 0            | 23.52               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.49               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.4                | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.48               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.44               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.61               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.56               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 21.52               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 21.48               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.4                | 22.0±1               | 1.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 23780 | 709       | QPSK  | 1                | 0            | 23.52               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.5                | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.45               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.48               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.48               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.34               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.37               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.45               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.45               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.5                | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.45               | 22.0±1               | 1.0      |
|         | 23790 | 710       | QPSK  | 1                | 0            | 23.53               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.81               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.47               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.96               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.74               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.8                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.72               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.45               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.49               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.49               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.45               | 22.0±1               | 1.0      |
|         | 23800 | 711       | QPSK  | 1                | 0            | 23.56               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.53               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.5                | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.46               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.48               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.47               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.36               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.54               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.55               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.53               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.48               | 22.0±1               | 1.0      |

**ERP and EIRP****LTE Band 2**

| Frequency                                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Part 24E |        |
|-------------------------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|----------|--------|
|                                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit    | Margin |
| (MHz)                                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)    | (dB)   |
| LTE Band 2 Channel 18607 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 1850.70                                   | 87.69            | 273              | 1.2        | H     | 13.72       | 0.31  | 10.40        | 23.81          | 33       | -9.19  |
| 1850.70                                   | 87.03            | 136              | 1.9        | V     | 13.75       | 0.31  | 10.40        | 23.84          | 33       | -9.16  |
| LTE Band 2 Channel 18900 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 87.57            | 182              | 2.2        | H     | 13.72       | 0.31  | 10.40        | 23.81          | 33       | -9.19  |
| 1880.00                                   | 86.98            | 326              | 1.2        | V     | 13.86       | 0.31  | 10.40        | 23.95          | 33       | -9.05  |
| LTE Band 2 Channel 19193 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 1909.30                                   | 87.54            | 38               | 1.8        | H     | 13.81       | 0.32  | 10.40        | 23.89          | 33       | -9.11  |
| 1909.30                                   | 86.87            | 144              | 1.6        | V     | 13.91       | 0.32  | 10.40        | 23.99          | 33       | -9.01  |
| LTE Band 2 Channel 18607 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1850.70                                   | 87.60            | 324              | 2.1        | H     | 13.63       | 0.31  | 10.40        | 23.72          | 33       | -9.28  |
| 1850.70                                   | 86.79            | 290              | 1.2        | V     | 13.51       | 0.31  | 10.40        | 23.60          | 33       | -9.40  |
| LTE Band 2 Channel 18900 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 87.55            | 29               | 2.1        | H     | 13.70       | 0.31  | 10.40        | 23.79          | 33       | -9.21  |
| 1880.00                                   | 86.74            | 208              | 1.6        | V     | 13.62       | 0.31  | 10.40        | 23.71          | 33       | -9.29  |
| LTE Band 2 Channel 19193 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1909.30                                   | 87.36            | 140              | 1.8        | H     | 13.63       | 0.32  | 10.40        | 23.71          | 33       | -9.29  |
| 1909.30                                   | 86.77            | 280              | 1.5        | V     | 13.81       | 0.32  | 10.40        | 23.89          | 33       | -9.11  |
| LTE Band 2 Channel 18615 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1851.50                                   | 87.30            | 127              | 1.9        | H     | 13.33       | 0.31  | 10.40        | 23.42          | 33       | -9.58  |
| 1851.50                                   | 86.76            | 193              | 2.3        | V     | 13.48       | 0.31  | 10.40        | 23.57          | 33       | -9.43  |
| LTE Band 2 Channel 18900 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 87.48            | 83               | 1.4        | H     | 13.63       | 0.31  | 10.40        | 23.72          | 33       | -9.28  |
| 1880.00                                   | 86.88            | 26               | 1.3        | V     | 13.76       | 0.31  | 10.40        | 23.85          | 33       | -9.15  |
| LTE Band 2 Channel 19185 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1908.50                                   | 87.45            | 29               | 1.6        | H     | 13.72       | 0.32  | 10.40        | 23.80          | 33       | -9.20  |
| 1908.50                                   | 86.59            | 150              | 1.2        | V     | 13.63       | 0.32  | 10.40        | 23.71          | 33       | -9.29  |
| LTE Band 2 Channel 18615 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1851.50                                   | 87.75            | 283              | 1.6        | H     | 13.78       | 0.31  | 10.40        | 23.87          | 33       | -9.13  |
| 1851.50                                   | 86.52            | 122              | 2.2        | V     | 13.24       | 0.31  | 10.40        | 23.33          | 33       | -9.67  |
| LTE Band 2 Channel 18900 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 87.71            | 350              | 2.1        | H     | 13.86       | 0.31  | 10.40        | 23.95          | 33       | -9.05  |
| 1880.00                                   | 86.55            | 174              | 2.5        | V     | 13.43       | 0.31  | 10.40        | 23.52          | 33       | -9.48  |
| LTE Band 2 Channel 19185 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1908.50                                   | 87.79            | 122              | 1.3        | H     | 14.06       | 0.32  | 10.40        | 24.14          | 33       | -8.86  |
| 1908.50                                   | 86.65            | 224              | 1.2        | V     | 13.69       | 0.32  | 10.40        | 23.77          | 33       | -9.23  |
| LTE Band 2 Channel 18625 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1852.50                                   | 87.84            | 172              | 1.9        | H     | 13.87       | 0.31  | 10.40        | 23.96          | 33       | -9.04  |
| 1852.50                                   | 86.68            | 351              | 1.4        | V     | 13.40       | 0.31  | 10.40        | 23.49          | 33       | -9.51  |
| LTE Band 2 Channel 18900 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |

|                                          |       |     |     |   |       |      |       |       |    |       |
|------------------------------------------|-------|-----|-----|---|-------|------|-------|-------|----|-------|
| 1880.00                                  | 87.82 | 242 | 2.1 | H | 13.97 | 0.31 | 10.40 | 24.06 | 33 | -8.94 |
| 1880.00                                  | 86.93 | 290 | 1.0 | V | 13.81 | 0.31 | 10.40 | 23.90 | 33 | -9.10 |
| LTE Band 2 Channel 19175 – 5MHz – QPSK   |       |     |     |   |       |      |       |       |    |       |
| 1907.50                                  | 86.86 | 228 | 1.8 | H | 13.13 | 0.32 | 10.40 | 23.21 | 33 | -9.79 |
| 1907.50                                  | 86.34 | 289 | 1.5 | V | 13.38 | 0.32 | 10.40 | 23.46 | 33 | -9.54 |
| LTE Band 2 Channel 18625 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |       |
| 1852.50                                  | 86.97 | 318 | 2.5 | H | 13.00 | 0.31 | 10.40 | 23.09 | 33 | -9.91 |
| 1852.50                                  | 86.44 | 20  | 1.6 | V | 13.16 | 0.31 | 10.40 | 23.25 | 33 | -9.75 |
| LTE Band 2 Channel 18900 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.63 | 358 | 2.3 | H | 13.78 | 0.31 | 10.40 | 23.87 | 33 | -9.13 |
| 1880.00                                  | 86.50 | 358 | 2.3 | V | 13.38 | 0.31 | 10.40 | 23.47 | 33 | -9.53 |
| LTE Band 2 Channel 19175 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |       |
| 1907.50                                  | 87.82 | 151 | 2.3 | H | 14.09 | 0.32 | 10.40 | 24.17 | 33 | -8.83 |
| 1907.50                                  | 86.47 | 208 | 1.8 | V | 13.51 | 0.32 | 10.40 | 23.59 | 33 | -9.41 |
| LTE Band 2 Channel 18650 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1855.00                                  | 87.81 | 111 | 1.3 | H | 13.84 | 0.31 | 10.40 | 23.93 | 33 | -9.07 |
| 1855.00                                  | 86.49 | 122 | 2.4 | V | 13.21 | 0.31 | 10.40 | 23.30 | 33 | -9.70 |
| LTE Band 2 Channel 18900 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.88 | 342 | 1.5 | H | 14.03 | 0.31 | 10.40 | 24.12 | 33 | -8.88 |
| 1880.00                                  | 86.35 | 67  | 2.5 | V | 13.23 | 0.31 | 10.40 | 23.32 | 33 | -9.68 |
| LTE Band 2 Channel 19150 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1905.00                                  | 87.19 | 290 | 2.3 | H | 13.46 | 0.32 | 10.40 | 23.54 | 33 | -9.46 |
| 1905.00                                  | 86.72 | 288 | 2.3 | V | 13.76 | 0.32 | 10.40 | 23.84 | 33 | -9.16 |
| LTE Band 2 Channel 18650 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1855.00                                  | 87.40 | 117 | 1.2 | H | 13.43 | 0.31 | 10.40 | 23.52 | 33 | -9.48 |
| 1855.00                                  | 86.52 | 313 | 1.4 | V | 13.24 | 0.31 | 10.40 | 23.33 | 33 | -9.67 |
| LTE Band 2 Channel 18900 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.41 | 184 | 1.2 | H | 13.56 | 0.31 | 10.40 | 23.65 | 33 | -9.35 |
| 1880.00                                  | 86.89 | 73  | 1.6 | V | 13.77 | 0.31 | 10.40 | 23.86 | 33 | -9.14 |
| LTE Band 2 Channel 19150 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1905.00                                  | 87.46 | 168 | 2.1 | H | 13.73 | 0.32 | 10.40 | 23.81 | 33 | -9.19 |
| 1905.00                                  | 86.92 | 28  | 1.2 | V | 13.96 | 0.32 | 10.40 | 24.04 | 33 | -8.96 |
| LTE Band 2 Channel 18675 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1857.50                                  | 87.43 | 204 | 1.1 | H | 13.46 | 0.31 | 10.40 | 23.55 | 33 | -9.45 |
| 1857.50                                  | 87.02 | 193 | 1.6 | V | 13.74 | 0.31 | 10.40 | 23.83 | 33 | -9.17 |
| LTE Band 2 Channel 18900 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.46 | 129 | 1.5 | H | 13.61 | 0.31 | 10.40 | 23.70 | 33 | -9.30 |
| 1880.00                                  | 86.84 | 242 | 1.8 | V | 13.72 | 0.31 | 10.40 | 23.81 | 33 | -9.19 |
| LTE Band 2 Channel 19125 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1902.50                                  | 87.41 | 312 | 2.1 | H | 13.68 | 0.32 | 10.40 | 23.76 | 33 | -9.24 |
| 1902.50                                  | 86.39 | 105 | 1.5 | V | 13.43 | 0.32 | 10.40 | 23.51 | 33 | -9.49 |
| LTE Band 2 Channel 18675 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1857.50                                  | 87.61 | 329 | 1.6 | H | 13.64 | 0.31 | 10.40 | 23.73 | 33 | -9.27 |
| 1857.50                                  | 96.95 | 132 | 2.0 | V | 23.67 | 0.31 | 10.40 | 33.76 | 33 | 0.76  |
| LTE Band 2 Channel 18900 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 86.96 | 130 | 1.9 | H | 13.11 | 0.31 | 10.40 | 23.20 | 33 | -9.80 |
| 1880.00                                  | 86.74 | 80  | 1.4 | V | 13.62 | 0.31 | 10.40 | 23.71 | 33 | -9.29 |

| LTE Band 2 Channel 19125 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
|------------------------------------------|-------|-----|-----|---|-------|------|-------|-------|----|-------|
| 1902.50                                  | 87.49 | 171 | 1.0 | H | 13.76 | 0.32 | 10.40 | 23.84 | 33 | -9.16 |
| 1902.50                                  | 86.59 | 353 | 2.2 | V | 13.63 | 0.32 | 10.40 | 23.71 | 33 | -9.29 |
| LTE Band 2 Channel 18700 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1860.00                                  | 87.55 | 49  | 1.6 | H | 13.58 | 0.31 | 10.40 | 23.67 | 33 | -9.33 |
| 1860.00                                  | 87.06 | 165 | 1.3 | V | 13.78 | 0.31 | 10.40 | 23.87 | 33 | -9.13 |
| LTE Band 2 Channel 18900 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.33 | 135 | 2.3 | H | 13.48 | 0.31 | 10.40 | 23.57 | 33 | -9.43 |
| 1880.00                                  | 86.72 | 147 | 1.3 | V | 13.60 | 0.31 | 10.40 | 23.69 | 33 | -9.31 |
| LTE Band 2 Channel 19100 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |       |
| 1900.00                                  | 87.36 | 27  | 1.6 | H | 13.63 | 0.32 | 10.40 | 23.71 | 33 | -9.29 |
| 1900.00                                  | 86.48 | 345 | 2.1 | V | 13.52 | 0.32 | 10.40 | 23.60 | 33 | -9.40 |
| LTE Band 2 Channel 18670 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1860.00                                  | 87.77 | 128 | 1.0 | H | 13.80 | 0.31 | 10.40 | 23.89 | 33 | -9.11 |
| 1860.00                                  | 86.51 | 121 | 1.7 | V | 13.23 | 0.31 | 10.40 | 23.32 | 33 | -9.68 |
| LTE Band 2 Channel 18900 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1880.00                                  | 87.35 | 72  | 2.3 | H | 13.50 | 0.31 | 10.40 | 23.59 | 33 | -9.41 |
| 1880.00                                  | 86.71 | 126 | 1.3 | V | 13.59 | 0.31 | 10.40 | 23.68 | 33 | -9.32 |
| LTE Band 2 Channel 19100 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |       |
| 1900.00                                  | 87.26 | 261 | 1.7 | H | 13.53 | 0.32 | 10.40 | 23.61 | 33 | -9.39 |
| 1900.00                                  | 86.44 | 319 | 2.1 | V | 13.48 | 0.32 | 10.40 | 23.56 | 33 | -9.44 |

## LTE Band 4

| Frequency                                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Part 27 |        |
|-------------------------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|---------|--------|
|                                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit   | Margin |
| (MHz)                                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)   | (dB)   |
| LTE Band 4 Channel 19957 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 1710.70                                   | 88.64            | 82               | 2.0        | H     | 14.53       | 0.30  | 9.40         | 23.63          | 30      | -6.37  |
| 1710.70                                   | 87.65            | 63               | 1.1        | V     | 14.12       | 0.30  | 9.40         | 23.22          | 30      | -6.78  |
| LTE Band 4 Channel 20175 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 1732.50                                   | 88.71            | 160              | 1.1        | H     | 14.60       | 0.30  | 9.40         | 23.70          | 30      | -6.30  |
| 1732.50                                   | 87.46            | 99               | 2.0        | V     | 13.93       | 0.30  | 9.40         | 23.03          | 30      | -6.97  |
| LTE Band 4 Channel 20393 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 1754.30                                   | 88.62            | 98               | 2.1        | H     | 14.51       | 0.30  | 9.40         | 23.61          | 30      | -6.39  |
| 1754.30                                   | 87.67            | 94               | 2.0        | V     | 14.14       | 0.30  | 9.40         | 23.24          | 30      | -6.76  |
| LTE Band 4 Channel 19957 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1710.70                                   | 88.79            | 31               | 2.0        | H     | 14.68       | 0.30  | 9.40         | 23.78          | 30      | -6.22  |
| 1710.70                                   | 87.81            | 80               | 1.4        | V     | 14.28       | 0.30  | 9.40         | 23.38          | 30      | -6.62  |
| LTE Band 4 Channel 20175 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1732.50                                   | 88.74            | 320              | 1.2        | H     | 14.63       | 0.30  | 9.40         | 23.73          | 30      | -6.27  |
| 1732.50                                   | 87.80            | 154              | 1.2        | V     | 14.27       | 0.30  | 9.40         | 23.37          | 30      | -6.63  |
| LTE Band 4 Channel 20393 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1754.30                                   | 88.68            | 134              | 2.1        | H     | 14.57       | 0.30  | 9.40         | 23.67          | 30      | -6.33  |
| 1754.30                                   | 87.79            | 101              | 1.6        | V     | 14.26       | 0.30  | 9.40         | 23.36          | 30      | -6.64  |
| LTE Band 4 Channel 19965 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 1711.50                                   | 88.61            | 181              | 1.2        | H     | 14.50       | 0.30  | 9.40         | 23.60          | 30      | -6.40  |

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|                                          |       |     |     |   |       |      |      |       |    |       |
|------------------------------------------|-------|-----|-----|---|-------|------|------|-------|----|-------|
| 1711.50                                  | 87.75 | 222 | 2.2 | V | 14.22 | 0.30 | 9.40 | 23.32 | 30 | -6.68 |
| LTE Band 4 Channel 20175 – 3MHz – QPSK   |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.65 | 277 | 1.8 | H | 14.54 | 0.30 | 9.40 | 23.64 | 30 | -6.36 |
| 1732.50                                  | 87.73 | 312 | 1.0 | V | 14.20 | 0.30 | 9.40 | 23.30 | 30 | -6.70 |
| LTE Band 4 Channel 20385 – 3MHz – QPSK   |       |     |     |   |       |      |      |       |    |       |
| 1753.50                                  | 88.77 | 91  | 1.0 | H | 14.66 | 0.30 | 9.40 | 23.76 | 30 | -6.24 |
| 1753.50                                  | 87.78 | 69  | 2.3 | V | 14.25 | 0.30 | 9.40 | 23.35 | 30 | -6.65 |
| LTE Band 4 Channel 19965 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1711.50                                  | 88.76 | 91  | 1.6 | H | 14.65 | 0.30 | 9.40 | 23.75 | 30 | -6.25 |
| 1711.50                                  | 87.73 | 274 | 2.0 | V | 14.20 | 0.30 | 9.40 | 23.30 | 30 | -6.70 |
| LTE Band 4 Channel 20175 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.64 | 25  | 1.4 | H | 14.53 | 0.30 | 9.40 | 23.63 | 30 | -6.37 |
| 1732.50                                  | 87.82 | 239 | 2.4 | V | 14.29 | 0.30 | 9.40 | 23.39 | 30 | -6.61 |
| LTE Band 4 Channel 20385 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1753.50                                  | 88.63 | 39  | 2.4 | H | 14.52 | 0.30 | 9.40 | 23.62 | 30 | -6.38 |
| 1753.50                                  | 87.52 | 229 | 2.0 | V | 13.99 | 0.30 | 9.40 | 23.09 | 30 | -6.91 |
| LTE Band 4 Channel 19975 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |       |
| 1712.50                                  | 88.62 | 150 | 2.4 | H | 14.51 | 0.30 | 9.40 | 23.61 | 30 | -6.39 |
| 1712.50                                  | 87.66 | 87  | 1.7 | V | 14.13 | 0.30 | 9.40 | 23.23 | 30 | -6.77 |
| LTE Band 4 Channel 20175 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.75 | 349 | 2.1 | H | 14.64 | 0.30 | 9.40 | 23.74 | 30 | -6.26 |
| 1732.50                                  | 87.69 | 92  | 1.9 | V | 14.16 | 0.30 | 9.40 | 23.26 | 30 | -6.74 |
| LTE Band 4 Channel 20375 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |       |
| 1752.50                                  | 88.89 | 255 | 2.3 | H | 14.78 | 0.30 | 9.40 | 23.88 | 30 | -6.12 |
| 1752.50                                  | 87.72 | 91  | 1.2 | V | 14.19 | 0.30 | 9.40 | 23.29 | 30 | -6.71 |
| LTE Band 4 Channel 19975 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1712.50                                  | 88.74 | 341 | 2.0 | H | 14.63 | 0.30 | 9.40 | 23.73 | 30 | -6.27 |
| 1712.50                                  | 87.62 | 203 | 2.0 | V | 14.09 | 0.30 | 9.40 | 23.19 | 30 | -6.81 |
| LTE Band 4 Channel 20175 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.79 | 80  | 1.7 | H | 14.68 | 0.30 | 9.40 | 23.78 | 30 | -6.22 |
| 1732.50                                  | 87.61 | 310 | 1.1 | V | 14.08 | 0.30 | 9.40 | 23.18 | 30 | -6.82 |
| LTE Band 4 Channel 20375 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |       |
| 1752.50                                  | 88.77 | 6   | 1.2 | H | 14.66 | 0.30 | 9.40 | 23.76 | 30 | -6.24 |
| 1752.50                                  | 87.60 | 188 | 2.0 | V | 14.07 | 0.30 | 9.40 | 23.17 | 30 | -6.83 |
| LTE Band 4 Channel 20000 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1715.00                                  | 88.90 | 50  | 1.0 | H | 14.79 | 0.30 | 9.40 | 23.89 | 30 | -6.11 |
| 1715.00                                  | 87.42 | 215 | 1.9 | V | 13.89 | 0.30 | 9.40 | 22.99 | 30 | -7.01 |
| LTE Band 4 Channel 20175 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.81 | 92  | 2.4 | H | 14.70 | 0.30 | 9.40 | 23.80 | 30 | -6.20 |
| 1732.50                                  | 87.43 | 287 | 1.4 | V | 13.90 | 0.30 | 9.40 | 23.00 | 30 | -7.00 |
| LTE Band 4 Channel 20350 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1750.00                                  | 88.75 | 139 | 2.2 | H | 14.64 | 0.30 | 9.40 | 23.74 | 30 | -6.26 |
| 1750.00                                  | 87.46 | 309 | 1.3 | V | 13.93 | 0.30 | 9.40 | 23.03 | 30 | -6.97 |
| LTE Band 4 Channel 20000 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1715.00                                  | 88.76 | 195 | 2.0 | H | 14.65 | 0.30 | 9.40 | 23.75 | 30 | -6.25 |
| 1715.00                                  | 87.45 | 187 | 2.2 | V | 13.92 | 0.30 | 9.40 | 23.02 | 30 | -6.98 |
| LTE Band 4 Channel 20175 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |

|                                          |       |     |     |   |       |      |      |       |    |       |
|------------------------------------------|-------|-----|-----|---|-------|------|------|-------|----|-------|
| 1732.50                                  | 88.76 | 223 | 2.4 | H | 14.65 | 0.30 | 9.40 | 23.75 | 30 | -6.25 |
| 1732.50                                  | 87.40 | 84  | 2.3 | V | 13.87 | 0.30 | 9.40 | 22.97 | 30 | -7.03 |
| LTE Band 4 Channel 20350 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1750.00                                  | 88.93 | 33  | 2.4 | H | 14.82 | 0.30 | 9.40 | 23.92 | 30 | -6.08 |
| 1750.00                                  | 87.32 | 311 | 2.2 | V | 13.79 | 0.30 | 9.40 | 22.89 | 30 | -7.11 |
| LTE Band 4 Channel 20025 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1717.50                                  | 88.60 | 323 | 1.8 | H | 14.49 | 0.30 | 9.40 | 23.59 | 30 | -6.41 |
| 1717.50                                  | 87.58 | 226 | 2.3 | V | 14.05 | 0.30 | 9.40 | 23.15 | 30 | -6.85 |
| LTE Band 4 Channel 20175 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.70 | 245 | 1.7 | H | 14.59 | 0.30 | 9.40 | 23.69 | 30 | -6.31 |
| 1732.50                                  | 87.75 | 236 | 1.7 | V | 14.22 | 0.30 | 9.40 | 23.32 | 30 | -6.68 |
| LTE Band 4 Channel 20325 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1747.50                                  | 88.82 | 61  | 1.6 | H | 14.71 | 0.30 | 9.40 | 23.81 | 30 | -6.19 |
| 1747.50                                  | 87.61 | 83  | 1.7 | V | 14.08 | 0.30 | 9.40 | 23.18 | 30 | -6.82 |
| LTE Band 4 Channel 20025 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1717.50                                  | 88.83 | 324 | 1.4 | H | 14.72 | 0.30 | 9.40 | 23.82 | 30 | -6.18 |
| 1717.50                                  | 87.82 | 292 | 1.4 | V | 14.29 | 0.30 | 9.40 | 23.39 | 30 | -6.61 |
| LTE Band 4 Channel 20175 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.65 | 326 | 1.5 | H | 14.54 | 0.30 | 9.40 | 23.64 | 30 | -6.36 |
| 1732.50                                  | 87.84 | 232 | 1.6 | V | 14.31 | 0.30 | 9.40 | 23.41 | 30 | -6.59 |
| LTE Band 4 Channel 20325 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1747.50                                  | 88.67 | 278 | 1.8 | H | 14.56 | 0.30 | 9.40 | 23.66 | 30 | -6.34 |
| 1747.50                                  | 87.80 | 276 | 2.2 | V | 14.27 | 0.30 | 9.40 | 23.37 | 30 | -6.63 |
| LTE Band 4 Channel 20050 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1720.00                                  | 88.87 | 137 | 1.1 | H | 14.76 | 0.30 | 9.40 | 23.86 | 30 | -6.14 |
| 1720.00                                  | 87.71 | 258 | 2.0 | V | 14.18 | 0.30 | 9.40 | 23.28 | 30 | -6.72 |
| LTE Band 4 Channel 20175 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.82 | 186 | 1.8 | H | 14.71 | 0.30 | 9.40 | 23.81 | 30 | -6.19 |
| 1732.50                                  | 87.63 | 291 | 1.5 | V | 14.10 | 0.30 | 9.40 | 23.20 | 30 | -6.80 |
| LTE Band 4 Channel 20300 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |       |
| 1745.00                                  | 88.89 | 76  | 2.4 | H | 14.78 | 0.30 | 9.40 | 23.88 | 30 | -6.12 |
| 1745.00                                  | 87.79 | 145 | 2.3 | V | 14.26 | 0.30 | 9.40 | 23.36 | 30 | -6.64 |
| LTE Band 4 Channel 20050 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1720.00                                  | 88.72 | 189 | 1.2 | H | 14.61 | 0.30 | 9.40 | 23.71 | 30 | -6.29 |
| 1720.00                                  | 87.74 | 10  | 2.5 | V | 14.21 | 0.30 | 9.40 | 23.31 | 30 | -6.69 |
| LTE Band 4 Channel 20175 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1732.50                                  | 88.76 | 14  | 2.2 | H | 14.65 | 0.30 | 9.40 | 23.75 | 30 | -6.25 |
| 1732.50                                  | 87.66 | 149 | 1.3 | V | 14.13 | 0.30 | 9.40 | 23.23 | 30 | -6.77 |
| LTE Band 4 Channel 20300 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |       |
| 1745.00                                  | 88.70 | 172 | 1.4 | H | 14.59 | 0.30 | 9.40 | 23.69 | 30 | -6.31 |
| 1745.00                                  | 87.63 | 36  | 1.8 | V | 14.10 | 0.30 | 9.40 | 23.20 | 30 | -6.80 |

**LTE Band 5**

| Frequency                                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Part 22H |        |
|-------------------------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|----------|--------|
|                                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit    | Margin |
| (MHz)                                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)    | (dB)   |
| LTE Band 5 Channel 20407 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 824.70                                    | 81.25            | 334              | 1.8        | H     | 14.14       | 0.30  | 9.40         | 23.24          | 38.45    | -15.21 |
| 824.70                                    | 81.85            | 357              | 2.4        | V     | 14.32       | 0.30  | 9.40         | 23.42          | 38.45    | -15.03 |
| LTE Band 5 Channel 20525 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 836.50                                    | 81.23            | 100              | 1.2        | H     | 14.12       | 0.30  | 9.40         | 23.22          | 38.45    | -15.23 |
| 836.50                                    | 81.75            | 242              | 1.8        | V     | 14.22       | 0.30  | 9.40         | 23.32          | 38.45    | -15.13 |
| LTE Band 5 Channel 20643 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 848.30                                    | 81.20            | 124              | 1.2        | H     | 14.09       | 0.30  | 9.40         | 23.19          | 38.45    | -15.26 |
| 848.30                                    | 81.64            | 103              | 1.8        | V     | 14.11       | 0.30  | 9.40         | 23.21          | 38.45    | -15.24 |
| LTE Band 5 Channel 20407 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 824.70                                    | 81.15            | 327              | 2.1        | H     | 14.04       | 0.30  | 9.40         | 23.14          | 38.45    | -15.31 |
| 824.70                                    | 81.69            | 3                | 1.3        | V     | 14.16       | 0.30  | 9.40         | 23.26          | 38.45    | -15.19 |
| LTE Band 5 Channel 20525 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 836.50                                    | 81.13            | 81               | 1.9        | H     | 14.02       | 0.30  | 9.40         | 23.12          | 38.45    | -15.33 |
| 836.50                                    | 81.64            | 319              | 1.3        | V     | 14.11       | 0.30  | 9.40         | 23.21          | 38.45    | -15.24 |
| LTE Band 5 Channel 20643 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 848.30                                    | 81.16            | 270              | 2.4        | H     | 14.05       | 0.30  | 9.40         | 23.15          | 38.45    | -15.30 |
| 848.30                                    | 81.67            | 45               | 2.2        | V     | 14.14       | 0.30  | 9.40         | 23.24          | 38.45    | -15.21 |
| LTE Band 5 Channel 20415 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 825.50                                    | 81.23            | 228              | 2.0        | H     | 14.12       | 0.30  | 9.40         | 23.22          | 38.45    | -15.23 |
| 825.50                                    | 81.69            | 354              | 2.2        | V     | 14.16       | 0.30  | 9.40         | 23.26          | 38.45    | -15.19 |
| LTE Band 5 Channel 20525 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 836.50                                    | 81.22            | 326              | 1.0        | H     | 14.11       | 0.30  | 9.40         | 23.21          | 38.45    | -15.24 |
| 836.50                                    | 81.65            | 38               | 1.8        | V     | 14.12       | 0.30  | 9.40         | 23.22          | 38.45    | -15.23 |
| LTE Band 5 Channel 20635 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 847.50                                    | 81.26            | 19               | 2.0        | H     | 14.15       | 0.30  | 9.40         | 23.25          | 38.45    | -15.20 |
| 847.50                                    | 81.67            | 17               | 1.5        | V     | 14.14       | 0.30  | 9.40         | 23.24          | 38.45    | -15.21 |
| LTE Band 5 Channel 20415 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 825.50                                    | 81.30            | 358              | 1.1        | H     | 14.19       | 0.30  | 9.40         | 23.29          | 38.45    | -15.16 |
| 825.50                                    | 81.66            | 67               | 1.7        | V     | 14.13       | 0.30  | 9.40         | 23.23          | 38.45    | -15.22 |
| LTE Band 5 Channel 20525 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 836.50                                    | 81.25            | 179              | 2.3        | H     | 14.14       | 0.30  | 9.40         | 23.24          | 38.45    | -15.21 |
| 836.50                                    | 81.63            | 165              | 1.1        | V     | 14.10       | 0.30  | 9.40         | 23.20          | 38.45    | -15.25 |
| LTE Band 5 Channel 20635 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 847.50                                    | 81.27            | 205              | 2.0        | H     | 14.16       | 0.30  | 9.40         | 23.26          | 38.45    | -15.19 |
| 847.50                                    | 81.59            | 189              | 2.1        | V     | 14.06       | 0.30  | 9.40         | 23.16          | 38.45    | -15.29 |
| LTE Band 5 Channel 20425 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 826.50                                    | 81.24            | 336              | 1.9        | H     | 14.13       | 0.30  | 9.40         | 23.23          | 38.45    | -15.22 |
| 826.50                                    | 81.56            | 49               | 1.8        | V     | 14.03       | 0.30  | 9.40         | 23.13          | 38.45    | -15.32 |
| LTE Band 5 Channel 20525 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 836.50                                    | 81.29            | 217              | 1.5        | H     | 14.18       | 0.30  | 9.40         | 23.28          | 38.45    | -15.17 |

|                                          |       |     |     |   |       |      |      |       |       |        |
|------------------------------------------|-------|-----|-----|---|-------|------|------|-------|-------|--------|
| 836.50                                   | 81.55 | 235 | 1.7 | V | 14.02 | 0.30 | 9.40 | 23.12 | 38.45 | -15.33 |
| LTE Band 5 Channel 20625 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |       |        |
| 846.50                                   | 81.27 | 285 | 1.8 | H | 14.16 | 0.30 | 9.40 | 23.26 | 38.45 | -15.19 |
| 846.50                                   | 81.57 | 347 | 1.2 | V | 14.04 | 0.30 | 9.40 | 23.14 | 38.45 | -15.31 |
| LTE Band 5 Channel 20425 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 826.50                                   | 81.31 | 328 | 2.2 | H | 14.20 | 0.30 | 9.40 | 23.30 | 38.45 | -15.15 |
| 826.50                                   | 81.49 | 120 | 2.1 | V | 13.96 | 0.30 | 9.40 | 23.06 | 38.45 | -15.39 |
| LTE Band 5 Channel 20525 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 836.50                                   | 81.27 | 198 | 1.3 | H | 14.16 | 0.30 | 9.40 | 23.26 | 38.45 | -15.19 |
| 836.50                                   | 81.57 | 53  | 1.5 | V | 14.04 | 0.30 | 9.40 | 23.14 | 38.45 | -15.31 |
| LTE Band 5 Channel 20625 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 846.50                                   | 81.22 | 356 | 2.5 | H | 14.11 | 0.30 | 9.40 | 23.21 | 38.45 | -15.24 |
| 846.50                                   | 81.56 | 55  | 2.2 | V | 14.03 | 0.30 | 9.40 | 23.13 | 38.45 | -15.32 |
| LTE Band 5 Channel 20450 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 829.00                                   | 81.31 | 238 | 1.3 | H | 14.20 | 0.30 | 9.40 | 23.30 | 38.45 | -15.15 |
| 829.00                                   | 81.62 | 234 | 1.5 | V | 14.09 | 0.30 | 9.40 | 23.19 | 38.45 | -15.26 |
| LTE Band 5 Channel 20525 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 836.50                                   | 81.30 | 28  | 2.0 | H | 14.19 | 0.30 | 9.40 | 23.29 | 38.45 | -15.16 |
| 836.50                                   | 81.71 | 202 | 1.0 | V | 14.18 | 0.30 | 9.40 | 23.28 | 38.45 | -15.17 |
| LTE Band 5 Channel 20600 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 844.00                                   | 81.55 | 183 | 2.1 | H | 14.44 | 0.30 | 9.40 | 23.54 | 38.45 | -14.91 |
| 844.00                                   | 81.64 | 16  | 1.6 | V | 14.11 | 0.30 | 9.40 | 23.21 | 38.45 | -15.24 |
| LTE Band 5 Channel 20450 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 829.00                                   | 81.34 | 202 | 2.0 | H | 14.23 | 0.30 | 9.40 | 23.33 | 38.45 | -15.12 |
| 829.00                                   | 81.70 | 110 | 1.1 | V | 14.17 | 0.30 | 9.40 | 23.27 | 38.45 | -15.18 |
| LTE Band 5 Channel 20525 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 836.50                                   | 81.36 | 7   | 2.0 | H | 14.25 | 0.30 | 9.40 | 23.35 | 38.45 | -15.10 |
| 836.50                                   | 81.60 | 92  | 1.6 | V | 14.07 | 0.30 | 9.40 | 23.17 | 38.45 | -15.28 |
| LTE Band 5 Channel 20600 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 844.00                                   | 81.38 | 201 | 2.5 | H | 14.27 | 0.30 | 9.40 | 23.37 | 38.45 | -15.08 |
| 844.00                                   | 81.40 | 335 | 1.1 | V | 13.87 | 0.30 | 9.40 | 22.97 | 38.45 | -15.48 |

**LTE Band 12**

| Frequency                                  | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Part 27 |        |
|--------------------------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|---------|--------|
|                                            |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit   | Margin |
| (MHz)                                      | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)   | (dB)   |
| LTE Band 12 Channel 23017 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 699.70                                     | 94.65            | 57               | 2.0        | H     | 23.65       | 0.20  | 0.00         | 23.45          | 34.77   | -11.32 |
| 699.70                                     | 95.86            | 50               | 2.0        | V     | 23.58       | 0.20  | 0.00         | 23.38          | 34.77   | -11.39 |
| LTE Band 12 Channel 23095 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 707.50                                     | 94.71            | 274              | 1.1        | H     | 23.71       | 0.20  | 0.00         | 23.51          | 34.77   | -11.26 |
| 707.50                                     | 95.82            | 132              | 1.7        | V     | 23.54       | 0.20  | 0.00         | 23.34          | 34.77   | -11.43 |
| LTE Band 12 Channel 23173 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 715.30                                     | 94.70            | 153              | 1.8        | H     | 23.70       | 0.20  | 0.00         | 23.50          | 34.77   | -11.27 |
| 715.30                                     | 95.70            | 272              | 1.3        | V     | 23.42       | 0.20  | 0.00         | 23.22          | 34.77   | -11.55 |
| LTE Band 12 Channel 23017 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 699.70                                     | 94.76            | 38               | 2.4        | H     | 23.76       | 0.20  | 0.00         | 23.56          | 34.77   | -11.21 |
| 699.70                                     | 95.73            | 183              | 1.1        | V     | 23.45       | 0.20  | 0.00         | 23.25          | 34.77   | -11.52 |
| LTE Band 12 Channel 23095 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 707.50                                     | 94.78            | 337              | 2.4        | H     | 23.78       | 0.20  | 0.00         | 23.58          | 34.77   | -11.19 |
| 707.50                                     | 95.74            | 164              | 2.3        | V     | 23.46       | 0.20  | 0.00         | 23.26          | 34.77   | -11.51 |
| LTE Band 12 Channel 23173 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 715.30                                     | 94.81            | 96               | 1.2        | H     | 23.81       | 0.20  | 0.00         | 23.61          | 34.77   | -11.16 |
| 715.30                                     | 95.69            | 325              | 1.9        | V     | 23.41       | 0.20  | 0.00         | 23.21          | 34.77   | -11.56 |
| LTE Band 12 Channel 23025 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 700.50                                     | 94.76            | 259              | 1.7        | H     | 23.76       | 0.20  | 0.00         | 23.56          | 34.77   | -11.21 |
| 700.50                                     | 95.73            | 89               | 2.0        | V     | 23.45       | 0.20  | 0.00         | 23.25          | 34.77   | -11.52 |
| LTE Band 12 Channel 23095 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 707.50                                     | 94.83            | 4                | 2.1        | H     | 23.83       | 0.20  | 0.00         | 23.63          | 34.77   | -11.14 |
| 707.50                                     | 95.71            | 294              | 2.0        | V     | 23.43       | 0.20  | 0.00         | 23.23          | 34.77   | -11.54 |
| LTE Band 12 Channel 23165 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 714.50                                     | 94.80            | 172              | 1.1        | H     | 23.80       | 0.20  | 0.00         | 23.60          | 34.77   | -11.17 |
| 714.50                                     | 95.43            | 49               | 1.3        | V     | 23.15       | 0.20  | 0.00         | 22.95          | 34.77   | -11.82 |
| LTE Band 12 Channel 23025 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |         |        |
| 700.50                                     | 94.89            | 84               | 2.1        | H     | 23.89       | 0.20  | 0.00         | 23.69          | 34.77   | -11.08 |
| 700.50                                     | 95.73            | 327              | 1.2        | V     | 23.45       | 0.20  | 0.00         | 23.25          | 34.77   | -11.52 |
| LTE Band 12 Channel 23095 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |         |        |
| 707.50                                     | 94.77            | 329              | 1.5        | H     | 23.77       | 0.20  | 0.00         | 23.57          | 34.77   | -11.20 |
| 707.50                                     | 95.57            | 26               | 1.5        | V     | 23.29       | 0.20  | 0.00         | 23.09          | 34.77   | -11.68 |
| LTE Band 12 Channel 23165 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |         |        |
| 714.50                                     | 94.89            | 10               | 1.8        | H     | 23.89       | 0.20  | 0.00         | 23.69          | 34.77   | -11.08 |
| 714.50                                     | 95.72            | 165              | 1.2        | V     | 23.44       | 0.20  | 0.00         | 23.24          | 34.77   | -11.53 |
| LTE Band 12 Channel 23035 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 701.50                                     | 94.70            | 55               | 2.1        | H     | 23.70       | 0.20  | 0.00         | 23.50          | 34.77   | -11.27 |
| 701.50                                     | 95.59            | 114              | 1.2        | V     | 23.31       | 0.20  | 0.00         | 23.11          | 34.77   | -11.66 |
| LTE Band 12 Channel 23095 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |
| 707.50                                     | 94.58            | 90               | 1.1        | H     | 23.58       | 0.20  | 0.00         | 23.38          | 34.77   | -11.39 |

|                                           |       |     |     |   |       |      |      |       |       |        |
|-------------------------------------------|-------|-----|-----|---|-------|------|------|-------|-------|--------|
| 707.50                                    | 95.75 | 251 | 1.8 | V | 23.47 | 0.20 | 0.00 | 23.27 | 34.77 | -11.50 |
| LTE Band 12 Channel 23155 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |       |        |
| 713.50                                    | 94.92 | 161 | 1.1 | H | 23.92 | 0.20 | 0.00 | 23.72 | 34.77 | -11.05 |
| 713.50                                    | 95.78 | 180 | 1.4 | V | 23.50 | 0.20 | 0.00 | 23.30 | 34.77 | -11.47 |
| LTE Band 12 Channel 23035 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 701.50                                    | 94.86 | 213 | 2.1 | H | 23.86 | 0.20 | 0.00 | 23.66 | 34.77 | -11.11 |
| 701.50                                    | 95.61 | 66  | 1.0 | V | 23.33 | 0.20 | 0.00 | 23.13 | 34.77 | -11.64 |
| LTE Band 12 Channel 23095 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 707.50                                    | 94.87 | 326 | 1.2 | H | 23.87 | 0.20 | 0.00 | 23.67 | 34.77 | -11.10 |
| 707.50                                    | 95.86 | 119 | 1.8 | V | 23.58 | 0.20 | 0.00 | 23.38 | 34.77 | -11.39 |
| LTE Band 12 Channel 23155 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |       |        |
| 713.50                                    | 94.50 | 346 | 2.5 | H | 23.50 | 0.20 | 0.00 | 23.30 | 34.77 | -11.47 |
| 713.50                                    | 95.56 | 346 | 1.8 | V | 23.28 | 0.20 | 0.00 | 23.08 | 34.77 | -11.69 |
| LTE Band 12 Channel 23060 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 704.00                                    | 94.81 | 264 | 2.1 | H | 23.81 | 0.20 | 0.00 | 23.61 | 34.77 | -11.16 |
| 704.00                                    | 95.49 | 69  | 1.8 | V | 23.21 | 0.20 | 0.00 | 23.01 | 34.77 | -11.76 |
| LTE Band 12 Channel 23095 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 707.50                                    | 94.74 | 39  | 2.2 | H | 23.74 | 0.20 | 0.00 | 23.54 | 34.77 | -11.23 |
| 707.50                                    | 95.83 | 154 | 1.3 | V | 23.55 | 0.20 | 0.00 | 23.35 | 34.77 | -11.42 |
| LTE Band 12 Channel 23130 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |       |        |
| 711.00                                    | 94.72 | 292 | 1.5 | H | 23.72 | 0.20 | 0.00 | 23.52 | 34.77 | -11.25 |
| 711.00                                    | 95.75 | 76  | 1.7 | V | 23.47 | 0.20 | 0.00 | 23.27 | 34.77 | -11.50 |
| LTE Band 12 Channel 23060 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 704.00                                    | 94.69 | 70  | 1.6 | H | 23.69 | 0.20 | 0.00 | 23.49 | 34.77 | -11.28 |
| 704.00                                    | 95.50 | 177 | 1.9 | V | 23.22 | 0.20 | 0.00 | 23.02 | 34.77 | -11.75 |
| LTE Band 12 Channel 23095 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 707.50                                    | 94.82 | 276 | 2.5 | H | 23.82 | 0.20 | 0.00 | 23.62 | 34.77 | -11.15 |
| 707.50                                    | 95.74 | 102 | 2.1 | V | 23.46 | 0.20 | 0.00 | 23.26 | 34.77 | -11.51 |
| LTE Band 12 Channel 23130 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |       |        |
| 711.00                                    | 94.60 | 128 | 2.3 | H | 23.60 | 0.20 | 0.00 | 23.40 | 34.77 | -11.37 |
| 711.00                                    | 95.61 | 66  | 2.1 | V | 23.33 | 0.20 | 0.00 | 23.13 | 34.77 | -11.64 |

**LTE Band 17**

| Frequency                                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Part 27 |        |
|-------------------------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|---------|--------|
|                                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit   | Margin |
| (MHz)                                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)   | (dB)   |
| LTE Band 17 Channel 23755 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 706.50                                    | 94.63            | 20               | 2.0        | H     | 23.63       | 0.20  | 0.00         | 23.43          | 34.77   | -11.34 |
| 706.50                                    | 95.60            | 131              | 1.0        | V     | 23.32       | 0.20  | 0.00         | 23.12          | 34.77   | -11.65 |
| LTE Band 17 Channel 23790 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 710.00                                    | 94.76            | 184              | 1.5        | H     | 23.76       | 0.20  | 0.00         | 23.56          | 34.77   | -11.21 |
| 710.00                                    | 95.70            | 328              | 1.6        | V     | 23.42       | 0.20  | 0.00         | 23.22          | 34.77   | -11.55 |
| LTE Band 17 Channel 23825 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 713.50                                    | 94.81            | 120              | 1.1        | H     | 23.81       | 0.20  | 0.00         | 23.61          | 34.77   | -11.16 |
| 713.50                                    | 95.76            | 264              | 1.5        | V     | 23.48       | 0.20  | 0.00         | 23.28          | 34.77   | -11.49 |
| LTE Band 17 Channel 23755 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 706.50                                    | 94.85            | 144              | 1.4        | H     | 23.85       | 0.20  | 0.00         | 23.65          | 34.77   | -11.12 |
| 706.50                                    | 95.73            | 40               | 2.0        | V     | 23.45       | 0.20  | 0.00         | 23.25          | 34.77   | -11.52 |
| LTE Band 17 Channel 23790 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 710.00                                    | 94.82            | 26               | 1.2        | H     | 23.82       | 0.20  | 0.00         | 23.62          | 34.77   | -11.15 |
| 710.00                                    | 95.71            | 251              | 1.1        | V     | 23.43       | 0.20  | 0.00         | 23.23          | 34.77   | -11.54 |
| LTE Band 17 Channel 23825 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 713.50                                    | 94.81            | 38               | 1.6        | H     | 23.81       | 0.20  | 0.00         | 23.61          | 34.77   | -11.16 |
| 713.50                                    | 95.64            | 314              | 1.6        | V     | 23.36       | 0.20  | 0.00         | 23.16          | 34.77   | -11.61 |
| LTE Band 17 Channel 23780 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 709.00                                    | 94.70            | 17               | 1.8        | H     | 23.70       | 0.20  | 0.00         | 23.50          | 34.77   | -11.27 |
| 709.00                                    | 95.53            | 285              | 2.4        | V     | 23.25       | 0.20  | 0.00         | 23.05          | 34.77   | -11.72 |
| LTE Band 17 Channel 23790 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 710.00                                    | 94.75            | 179              | 2.2        | H     | 23.75       | 0.20  | 0.00         | 23.55          | 34.77   | -11.22 |
| 710.00                                    | 95.71            | 178              | 1.5        | V     | 23.43       | 0.20  | 0.00         | 23.23          | 34.77   | -11.54 |
| LTE Band 17 Channel 23800 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 711.00                                    | 94.78            | 49               | 2.1        | H     | 23.78       | 0.20  | 0.00         | 23.58          | 34.77   | -11.19 |
| 711.00                                    | 95.56            | 144              | 1.7        | V     | 23.28       | 0.20  | 0.00         | 23.08          | 34.77   | -11.69 |
| LTE Band 17 Channel 23780 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 709.00                                    | 94.82            | 320              | 1.3        | H     | 23.82       | 0.20  | 0.00         | 23.62          | 34.77   | -11.15 |
| 709.00                                    | 95.66            | 122              | 2.5        | V     | 23.38       | 0.20  | 0.00         | 23.18          | 34.77   | -11.59 |
| LTE Band 17 Channel 23790 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 710.00                                    | 94.71            | 272              | 2.0        | H     | 23.71       | 0.20  | 0.00         | 23.51          | 34.77   | -11.26 |
| 710.00                                    | 95.43            | 80               | 2.1        | V     | 23.15       | 0.20  | 0.00         | 22.95          | 34.77   | -11.82 |
| LTE Band 17 Channel 23800 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 711.00                                    | 94.85            | 152              | 1.3        | H     | 23.85       | 0.20  | 0.00         | 23.65          | 34.77   | -11.12 |
| 711.00                                    | 95.49            | 351              | 2.0        | V     | 23.21       | 0.20  | 0.00         | 23.01          | 34.77   | -11.76 |

## 9 Peak-to-Average Ratio

|                   |                      |
|-------------------|----------------------|
| Test Requirement: | 24.232 (d), 27.50(d) |
| Test Method:      | N/A                  |
| Test Mode:        | TX transmitting      |

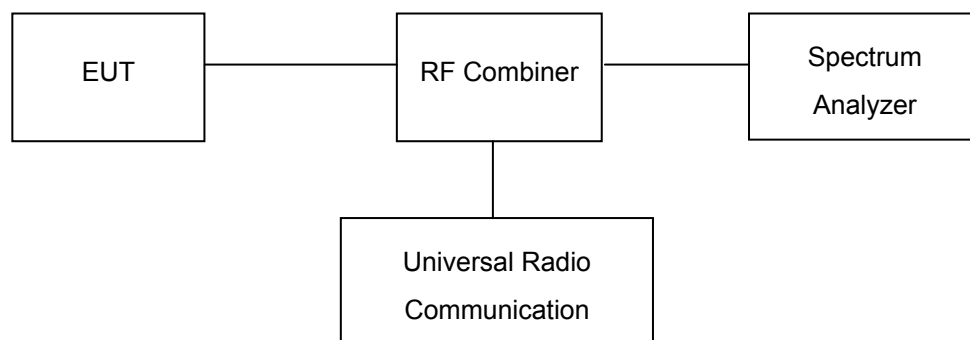
### 9.1 EUT Operation

Operating Environment :

|                       |          |
|-----------------------|----------|
| Temperature:          | 22.5 °C  |
| Humidity:             | 52.3% RH |
| Atmospheric Pressure: | 101.2kPa |

### 9.2 Test Procedure

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. Set EUT to transmit at maximum output power.
3. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.



### 9.3 Test Result

PASS

#### LTE Band

Please refer to the Appendix Band 2/4/5/12/17 LTE Peak to Average Ratio.



## 10 BANDWIDTH

|                   |                                                   |
|-------------------|---------------------------------------------------|
| Test Requirement: | FCC Part 2.1049, 22.917, 22.905, 24.238, 27.53(a) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03           |
| Test Mode:        | TX transmitting                                   |

### 10.1 EUT Operation

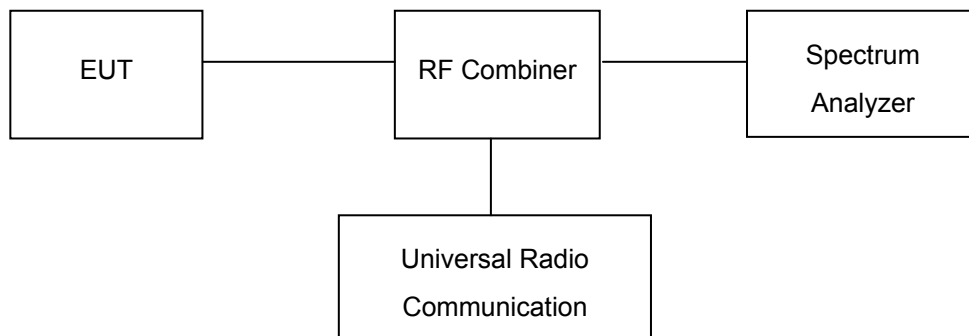
Operating Environment :

|                       |          |
|-----------------------|----------|
| Temperature:          | 22.5 °C  |
| Humidity:             | 52.3% RH |
| Atmospheric Pressure: | 101.2kPa |

### 10.2 Test Procedure

The RF output of the transmitter was connected to the wireless test set and the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set in the range of 1 to 5 % of the anticipated OBW and the 26 dB & 99%bandwidth was recorded.



### 10.3 Test Result

#### LTE Band 2 (Part 24E):

| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 1.4     | 18607   | 1850.7          | QPSK       | 1.09                         | 1.23                  |
|         |         |                 | 16QAM      | 1.09                         | 1.25                  |
| 1.4     | 18900   | 1880            | QPSK       | 1.09                         | 1.24                  |
|         |         |                 | 16QAM      | 1.09                         | 1.24                  |
| 1.4     | 19193   | 1909.3          | QPSK       | 1.09                         | 1.25                  |
|         |         |                 | 16QAM      | 1.09                         | 1.26                  |
| 3       | 18615   | 1851.5          | QPSK       | 2.72                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 3       | 18900   | 1880            | QPSK       | 2.72                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 3       | 19185   | 1908.5          | QPSK       | 2.73                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 5       | 18625   | 1852.5          | QPSK       | 4.5                          | 4.87                  |
|         |         |                 | 16QAM      | 4.5                          | 4.85                  |
| 5       | 18900   | 1880            | QPSK       | 4.5                          | 4.85                  |
|         |         |                 | 16QAM      | 4.5                          | 4.88                  |
| 5       | 19175   | 1907.5          | QPSK       | 4.49                         | 4.86                  |
|         |         |                 | 16QAM      | 4.5                          | 4.84                  |
| 10      | 18650   | 1855            | QPSK       | 8.92                         | 9.39                  |
|         |         |                 | 16QAM      | 8.91                         | 9.39                  |
| 10      | 18900   | 1880            | QPSK       | 8.91                         | 9.36                  |
|         |         |                 | 16QAM      | 8.92                         | 9.37                  |
| 10      | 19150   | 1905            | QPSK       | 8.91                         | 9.37                  |
|         |         |                 | 16QAM      | 8.91                         | 9.38                  |
| 15      | 18675   | 1857.5          | QPSK       | 13.44                        | 14.25                 |
|         |         |                 | 16QAM      | 13.44                        | 14.25                 |
| 15      | 18900   | 1880            | QPSK       | 13.46                        | 14.23                 |
|         |         |                 | 16QAM      | 13.44                        | 14.25                 |
| 15      | 19125   | 1902.5          | QPSK       | 13.43                        | 14.25                 |
|         |         |                 | 16QAM      | 13.44                        | 14.24                 |
| 20      | 18700   | 1860            | QPSK       | 17.87                        | 18.73                 |

|    |       |      |       |       |       |
|----|-------|------|-------|-------|-------|
|    |       |      | 16QAM | 17.87 | 18.76 |
| 20 | 18900 | 1880 | QPSK  | 17.88 | 18.75 |
|    |       |      | 16QAM | 17.88 | 18.76 |
| 20 | 19100 | 1900 | QPSK  | 17.86 | 18.77 |
|    |       |      | 16QAM | 17.87 | 18.77 |

**LTE Band 4 (Part 27):**

| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 1.4     | 19957   | 1710.7          | QPSK       | 1.09                         | 1.23                  |
|         |         |                 | 16QAM      | 1.08                         | 1.25                  |
| 1.4     | 2.175   | 1732.5          | QPSK       | 1.09                         | 1.24                  |
|         |         |                 | 16QAM      | 1.09                         | 1.23                  |
| 1.4     | 20393   | 1754.3          | QPSK       | 1.09                         | 1.24                  |
|         |         |                 | 16QAM      | 1.09                         | 1.25                  |
| 3       | 19965   | 1711.5          | QPSK       | 2.72                         | 2.95                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 3       | 2.175   | 1732.5          | QPSK       | 2.73                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 3       | 2.385   | 1753.5          | QPSK       | 2.73                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 5       | 19975   | 1712.5          | QPSK       | 4.5                          | 4.86                  |
|         |         |                 | 16QAM      | 4.5                          | 4.83                  |
| 5       | 20175   | 1732.5          | QPSK       | 4.5                          | 4.85                  |
|         |         |                 | 16QAM      | 4.5                          | 4.86                  |
| 5       | 20375   | 1752.5          | QPSK       | 4.49                         | 4.84                  |
|         |         |                 | 16QAM      | 4.5                          | 4.86                  |
| 10      | 2000    | 1715            | QPSK       | 8.92                         | 9.37                  |
|         |         |                 | 16QAM      | 8.92                         | 9.36                  |
| 10      | 20175   | 1732.5          | QPSK       | 8.91                         | 9.33                  |
|         |         |                 | 16QAM      | 8.91                         | 9.36                  |
| 10      | 20350   | 1750            | QPSK       | 8.92                         | 9.33                  |
|         |         |                 | 16QAM      | 8.91                         | 9.35                  |
| 15      | 20025   | 1717.5          | QPSK       | 13.46                        | 14.24                 |
|         |         |                 | 16QAM      | 13.46                        | 14.25                 |
| 15      | 20175   | 1732.5          | QPSK       | 13.46                        | 14.24                 |

|    |       |        |       |       |       |
|----|-------|--------|-------|-------|-------|
|    |       |        | 16QAM | 13.45 | 14.24 |
| 15 | 20325 | 1747.5 | QPSK  | 13.43 | 14.23 |
|    |       |        | 16QAM | 13.44 | 14.23 |
| 20 | 20050 | 1720   | QPSK  | 17.91 | 18.75 |
|    |       |        | 16QAM | 17.91 | 18.76 |
| 20 | 20175 | 1732.5 | QPSK  | 17.88 | 18.75 |
|    |       |        | 16QAM | 17.88 | 18.75 |
| 20 | 20300 | 1745   | QPSK  | 17.85 | 18.74 |
|    |       |        | 16QAM | 17.86 | 18.75 |

**LTE Band 5 (Part 22H):**

| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 1.4     | 20407   | 824.7           | QPSK       | 1.08                         | 1.22                  |
|         |         |                 | 16QAM      | 1.08                         | 1.24                  |
| 1.4     | 20525   | 836.5           | QPSK       | 1.08                         | 1.23                  |
|         |         |                 | 16QAM      | 1.08                         | 1.23                  |
| 1.4     | 20643   | 848.3           | QPSK       | 1.09                         | 1.23                  |
|         |         |                 | 16QAM      | 1.08                         | 1.23                  |
| 3       | 20415   | 825.5           | QPSK       | 2.71                         | 2.94                  |
|         |         |                 | 16QAM      | 2.72                         | 2.94                  |
| 3       | 20525   | 836.5           | QPSK       | 2.72                         | 2.94                  |
|         |         |                 | 16QAM      | 2.72                         | 2.95                  |
| 3       | 20635   | 847.5           | QPSK       | 2.72                         | 2.95                  |
|         |         |                 | 16QAM      | 2.72                         | 2.95                  |
| 5       | 20425   | 826.5           | QPSK       | 4.49                         | 4.82                  |
|         |         |                 | 16QAM      | 4.49                         | 4.79                  |
| 5       | 20525   | 836.5           | QPSK       | 4.49                         | 4.82                  |
|         |         |                 | 16QAM      | 4.49                         | 4.83                  |
| 5       | 20625   | 846.5           | QPSK       | 4.49                         | 4.79                  |
|         |         |                 | 16QAM      | 4.49                         | 4.81                  |
| 10      | 20450   | 829.0           | QPSK       | 8.9                          | 9.32                  |
|         |         |                 | 16QAM      | 8.91                         | 9.34                  |
| 10      | 20525   | 836.5           | QPSK       | 8.94                         | 9.35                  |
|         |         |                 | 16QAM      | 8.93                         | 9.31                  |
| 10      | 20600   | 844.0           | QPSK       | 8.91                         | 9.28                  |

|  |  |  |       |      |     |
|--|--|--|-------|------|-----|
|  |  |  | 16QAM | 8.91 | 9.3 |
|--|--|--|-------|------|-----|

**LTE Band 12 (Part 27):**

| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 1.4     | 23017   | 699.7           | QPSK       | 1.08                         | 1.23                  |
|         |         |                 | 16QAM      | 1.08                         | 1.24                  |
| 1.4     | 23095   | 707.5           | QPSK       | 1.08                         | 1.23                  |
|         |         |                 | 16QAM      | 1.08                         | 1.23                  |
| 1.4     | 23173   | 715.3           | QPSK       | 1.09                         | 1.24                  |
|         |         |                 | 16QAM      | 1.08                         | 1.25                  |
| 3       | 23025   | 700.5           | QPSK       | 2.71                         | 2.94                  |
|         |         |                 | 16QAM      | 2.71                         | 2.94                  |
| 3       | 23095   | 707.5           | QPSK       | 2.72                         | 2.94                  |
|         |         |                 | 16QAM      | 2.72                         | 2.94                  |
| 3       | 23165   | 714.5           | QPSK       | 2.72                         | 2.95                  |
|         |         |                 | 16QAM      | 2.72                         | 2.95                  |
| 5       | 23035   | 701.5           | QPSK       | 4.48                         | 4.85                  |
|         |         |                 | 16QAM      | 4.49                         | 4.8                   |
| 5       | 23095   | 707.5           | QPSK       | 4.49                         | 4.82                  |
|         |         |                 | 16QAM      | 4.49                         | 4.81                  |
| 5       | 23155   | 713.5           | QPSK       | 4.48                         | 4.81                  |
|         |         |                 | 16QAM      | 4.48                         | 4.82                  |
| 10      | 23060   | 704             | QPSK       | 8.91                         | 9.33                  |
|         |         |                 | 16QAM      | 8.91                         | 9.3                   |
| 10      | 23095   | 707.5           | QPSK       | 8.93                         | 9.33                  |
|         |         |                 | 16QAM      | 8.93                         | 9.27                  |
| 10      | 23130   | 711             | QPSK       | 8.91                         | 9.35                  |
|         |         |                 | 16QAM      | 8.91                         | 9.34                  |

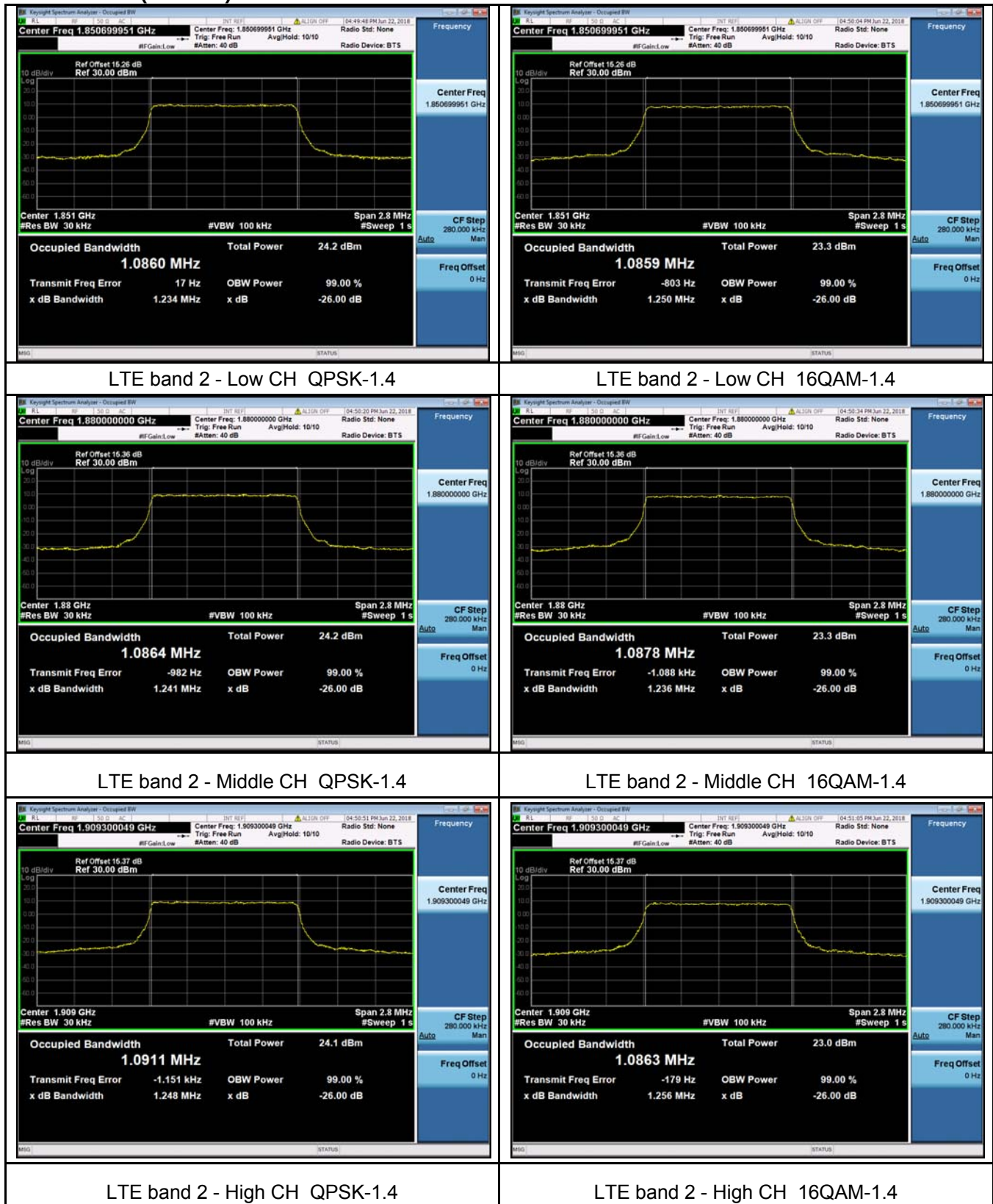
**LTE Band 17 (Part 27):**

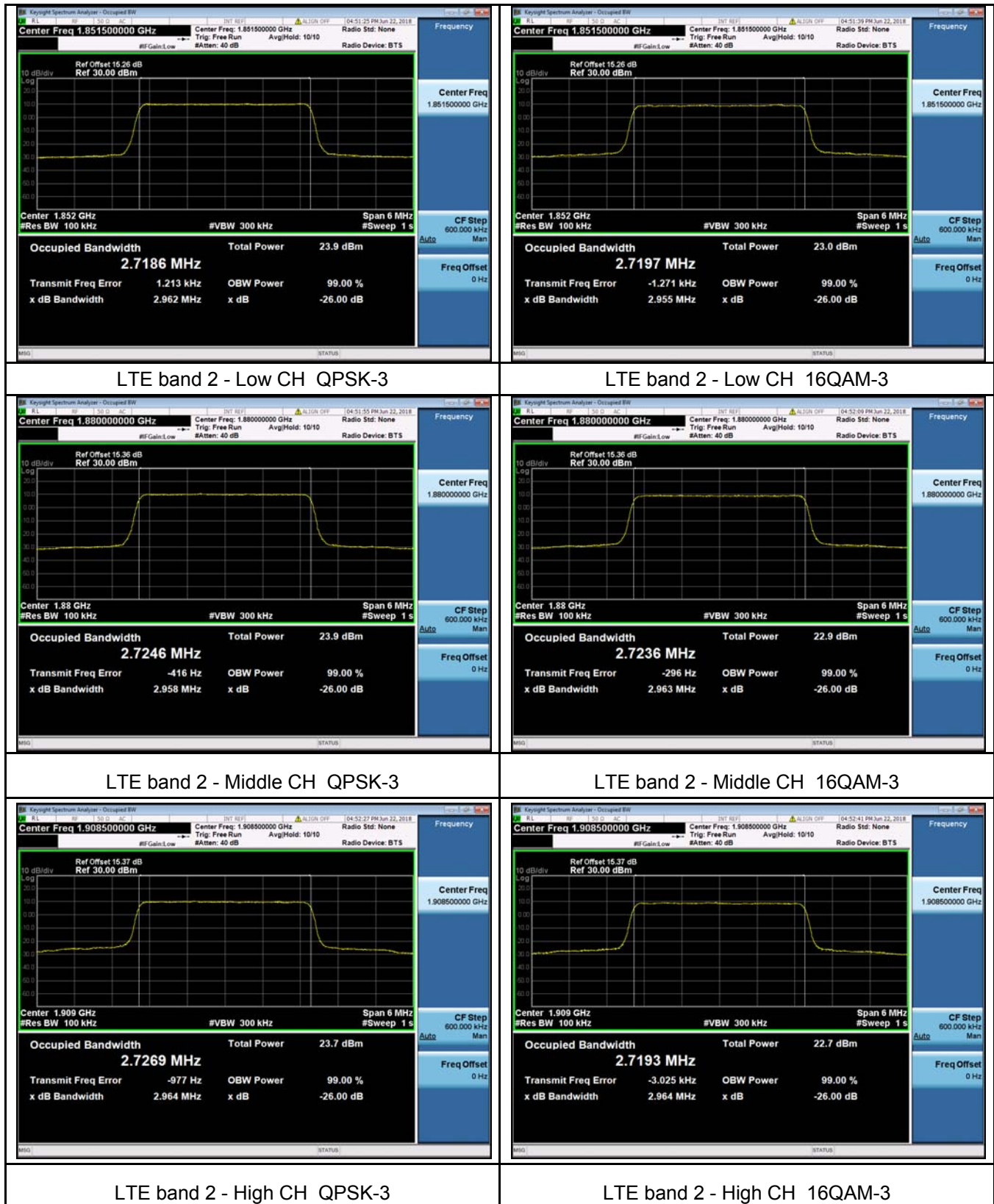
| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 5       | 23755   | 706.5           | QPSK       | 4.49                         | 4.83                  |
|         |         |                 | 16QAM      | 4.49                         | 4.84                  |
| 5       | 23790   | 710             | QPSK       | 4.49                         | 4.81                  |
|         |         |                 | 16QAM      | 4.5                          | 4.82                  |

|    |       |       |       |      |      |
|----|-------|-------|-------|------|------|
| 5  | 23825 | 713.5 | QPSK  | 4.48 | 4.78 |
|    |       |       | 16QAM | 4.49 | 4.8  |
| 10 | 23780 | 709   | QPSK  | 8.93 | 9.33 |
|    |       |       | 16QAM | 8.93 | 9.35 |
| 10 | 23790 | 710   | QPSK  | 8.93 | 9.34 |
|    |       |       | 16QAM | 8.92 | 9.34 |
| 10 | 23800 | 711   | QPSK  | 8.92 | 9.36 |
|    |       |       | 16QAM | 8.92 | 9.38 |

## Test Plots

### LTE Band 2 (Part 24E)

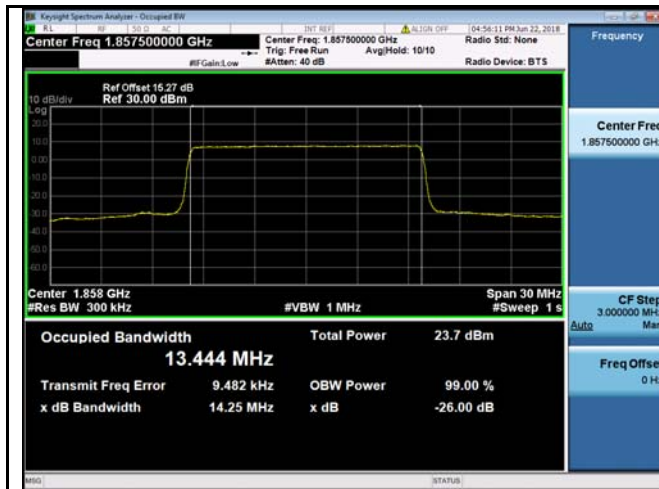




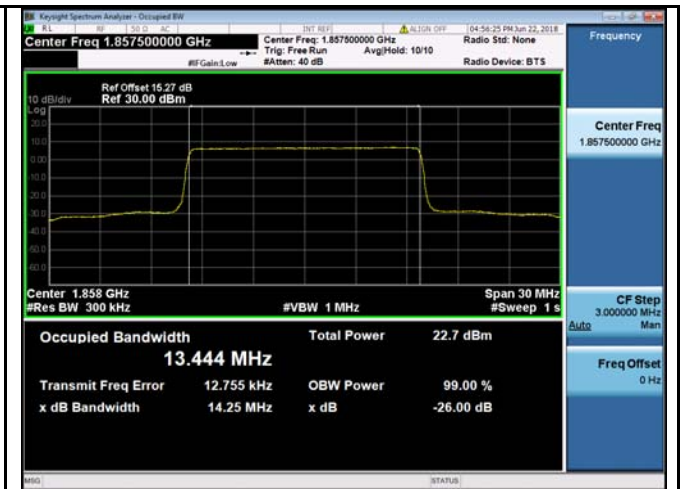




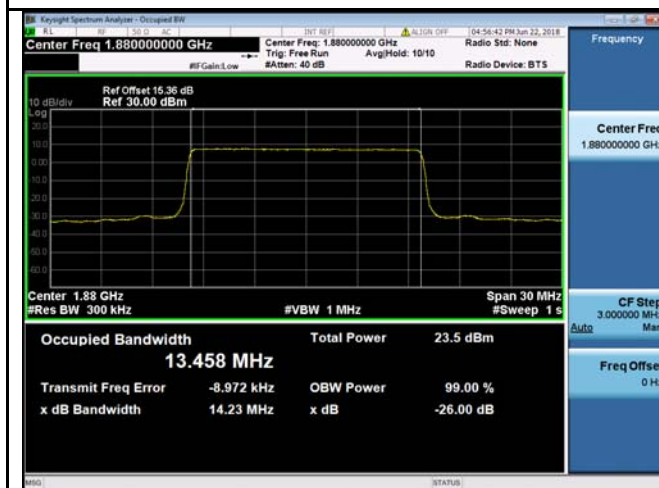




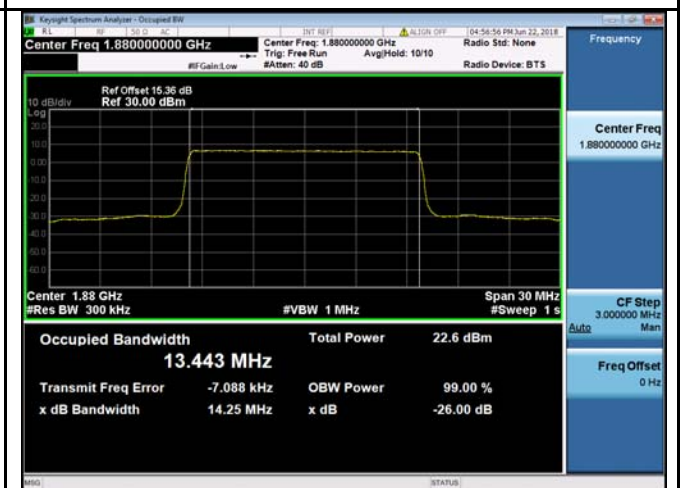
LTE band 2 - Low CH QPSK-15



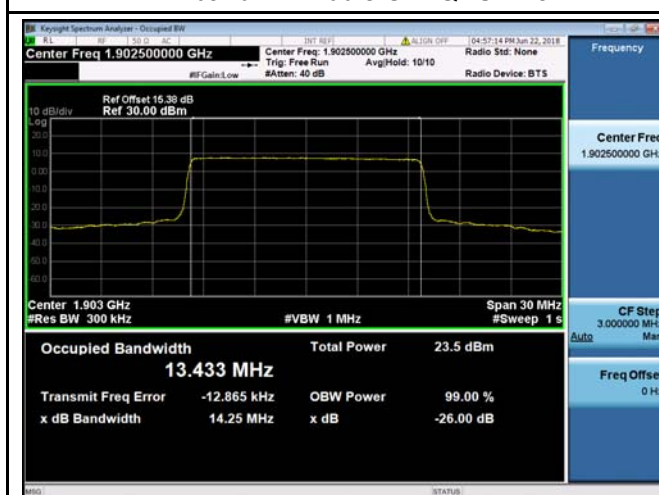
LTE band 2 - Low CH 16QAM-15



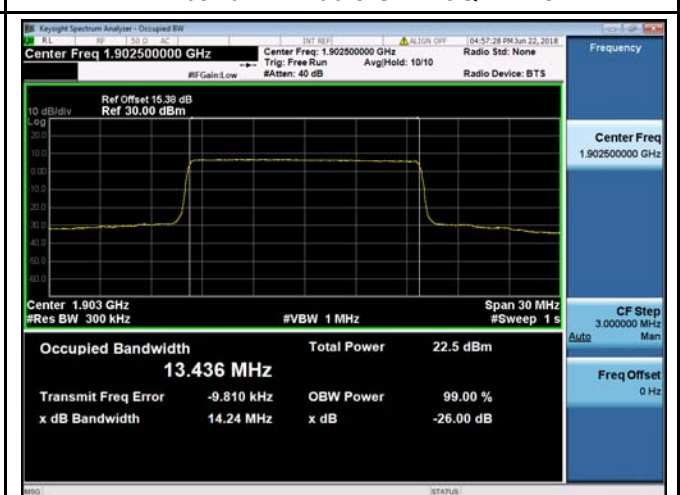
LTE band 2 - Middle CH QPSK-15



LTE band 2 - Middle CH 16QAM-15



LTE band 2 - High CH QPSK-15

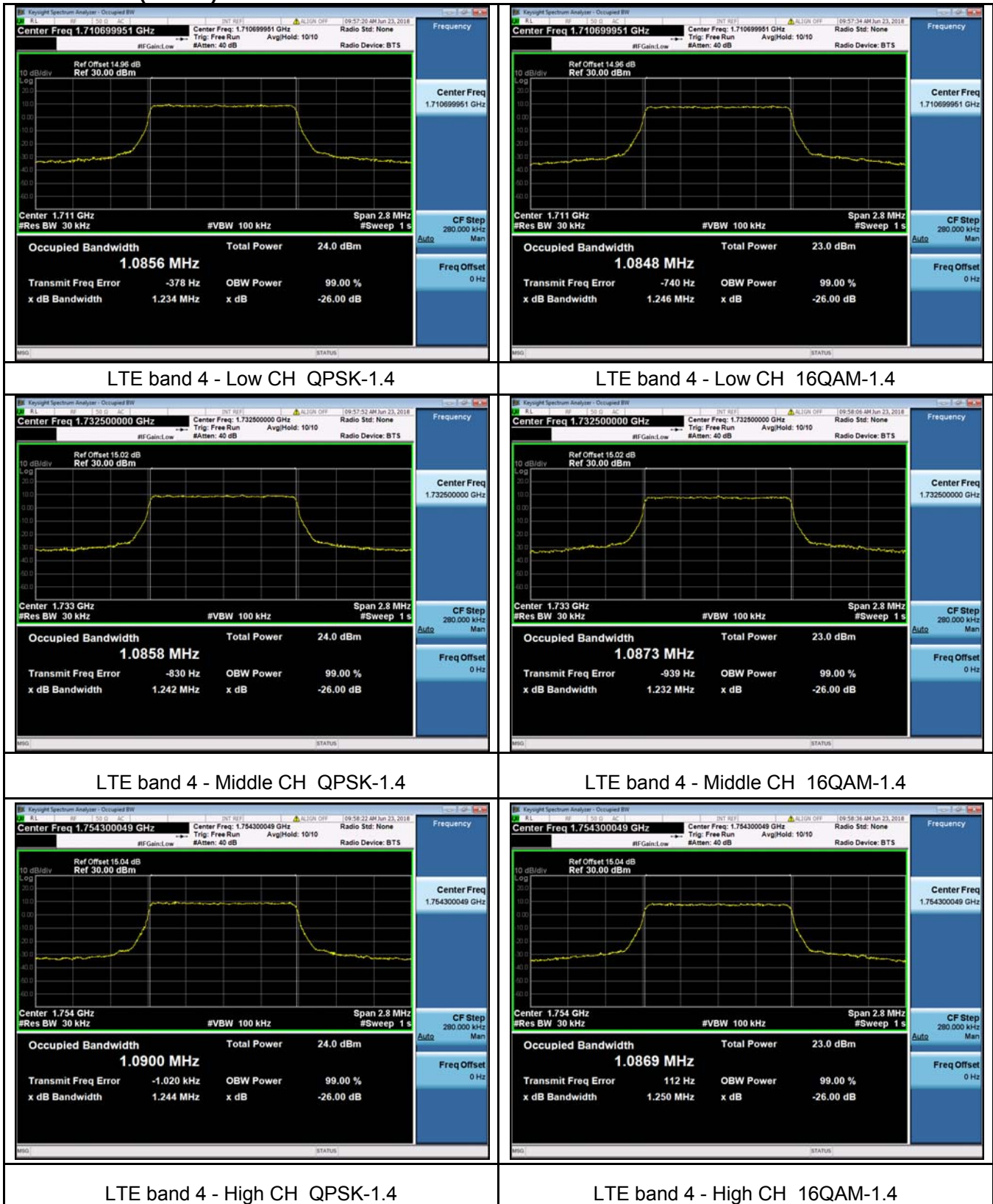


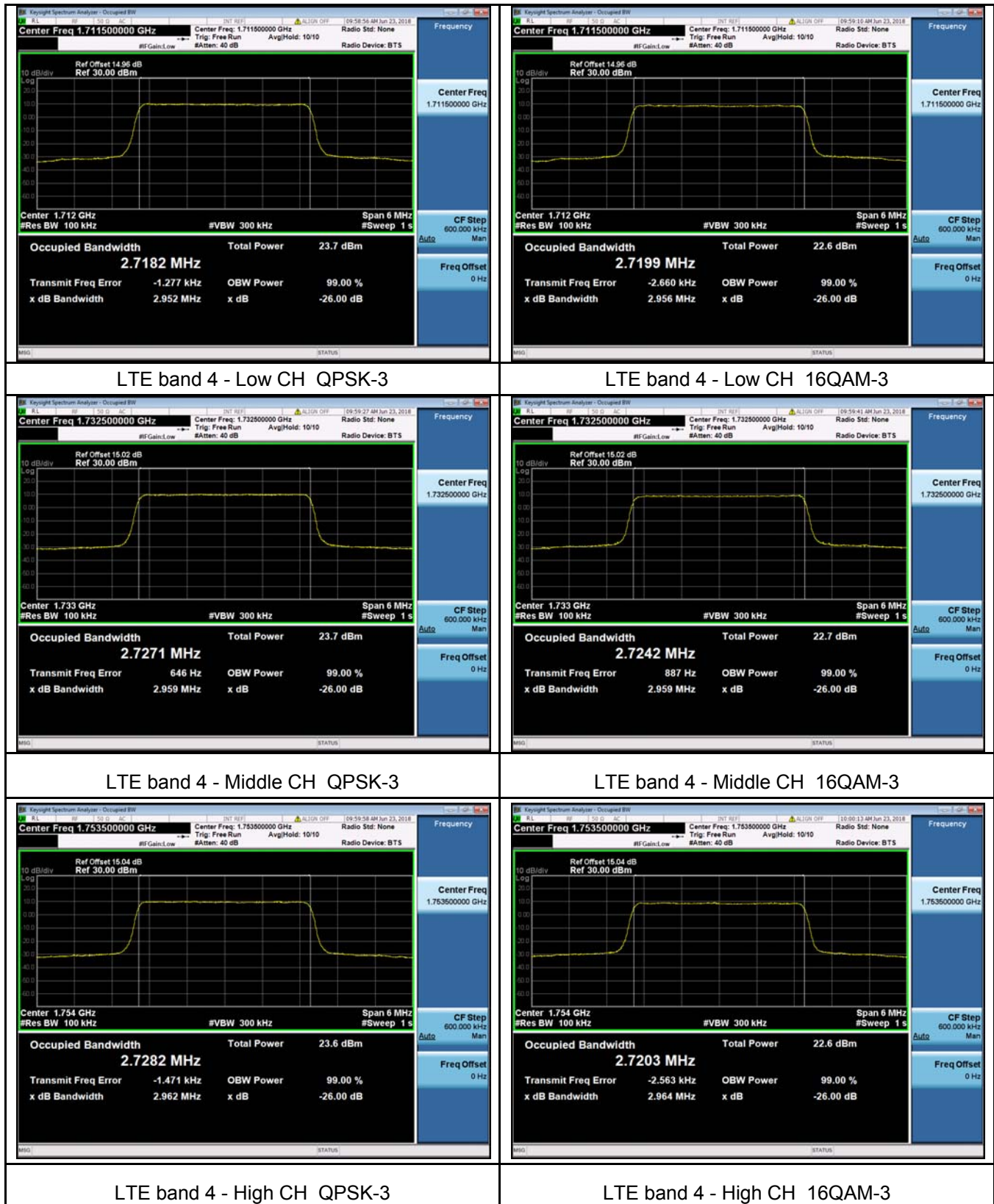
LTE band 2 - High CH 16QAM-15





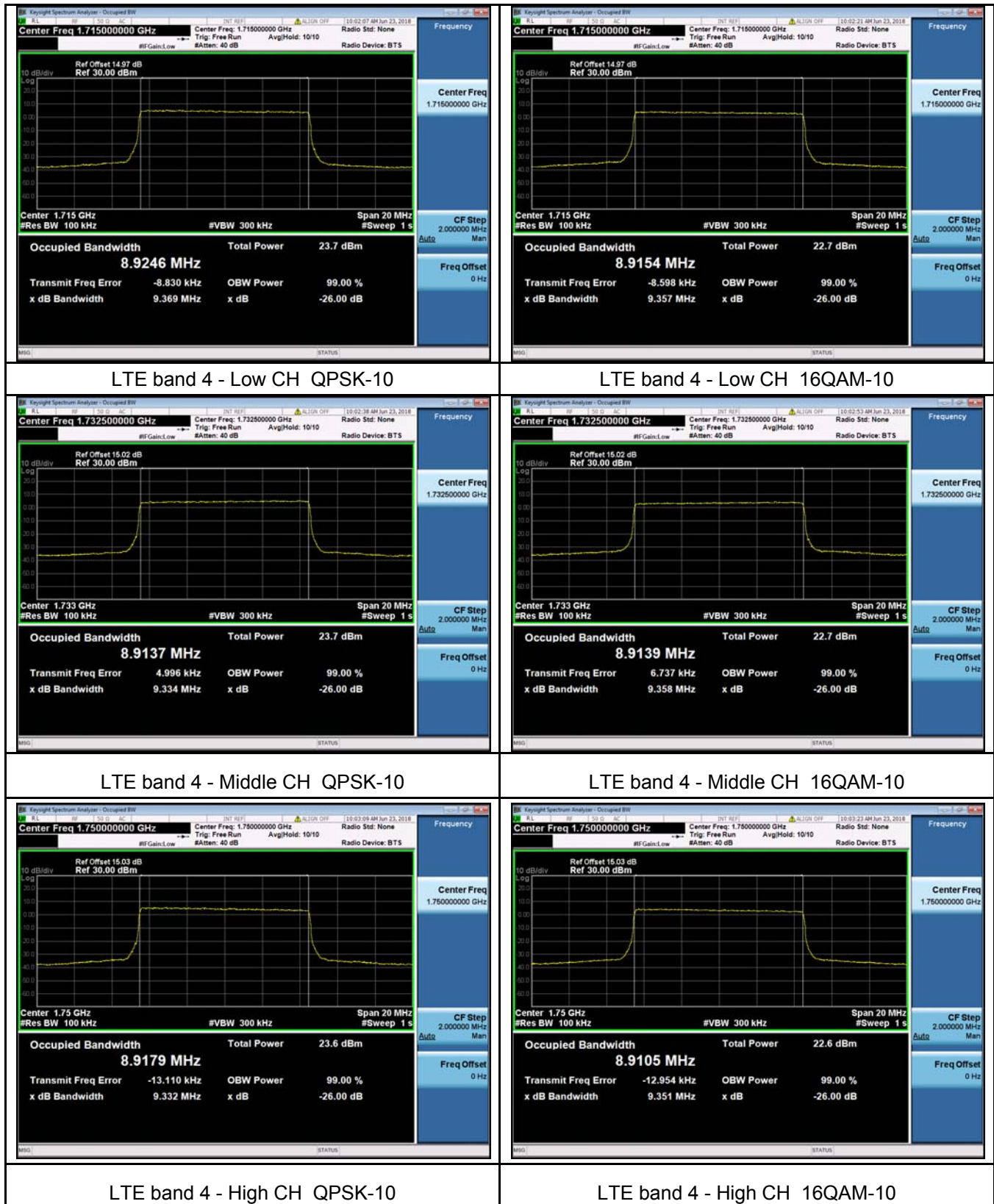
## LTE Band 4 (Part 27)









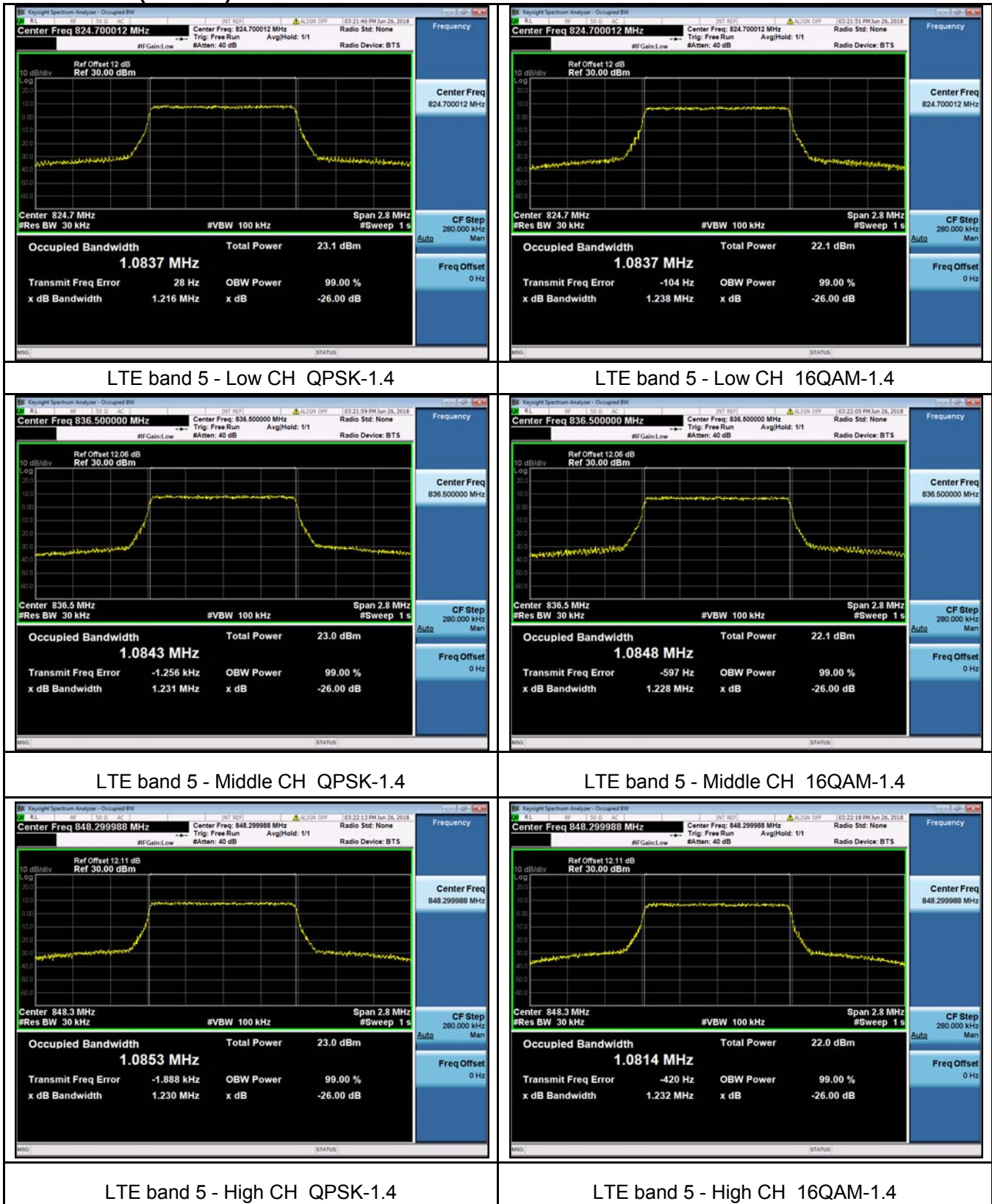




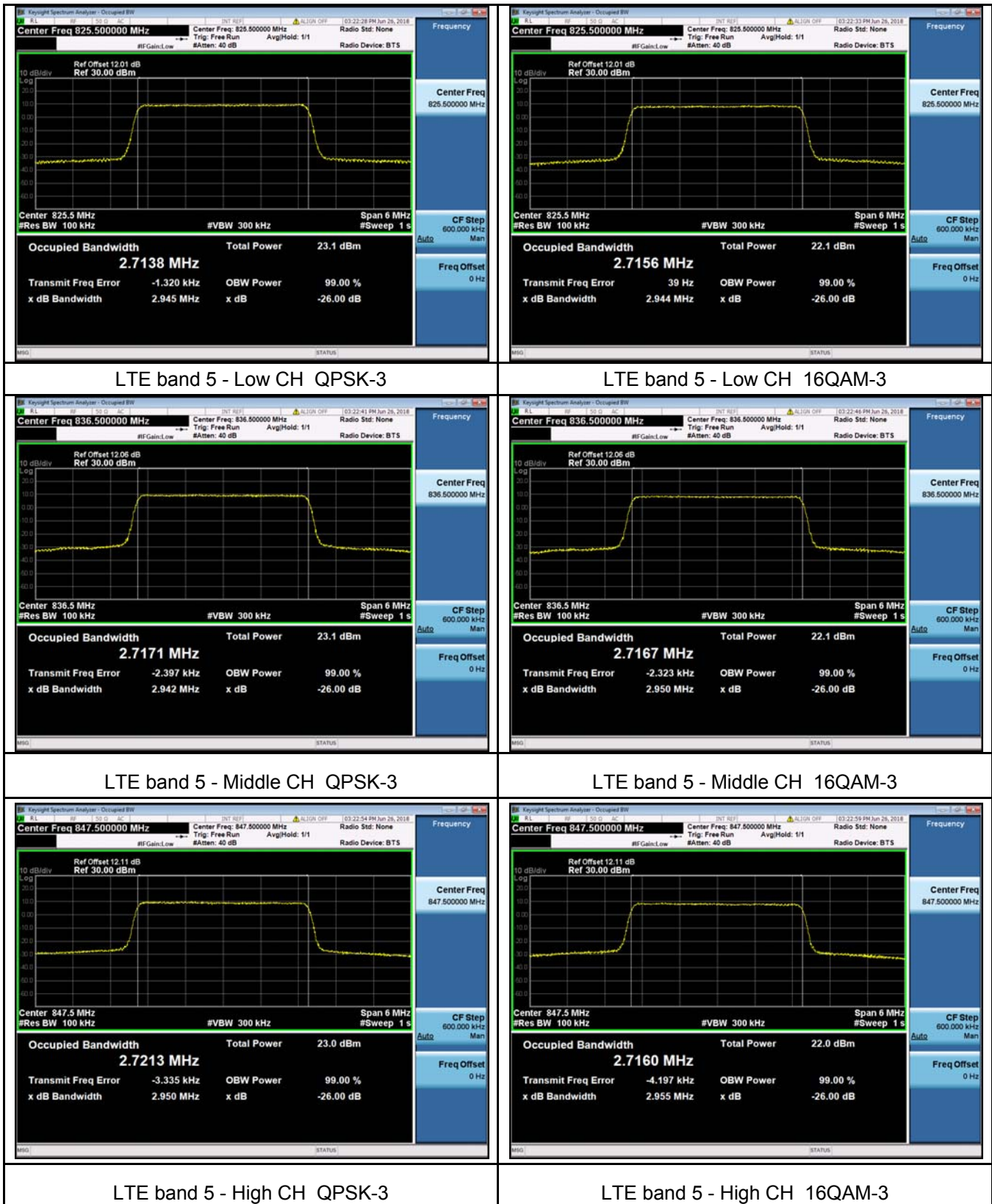


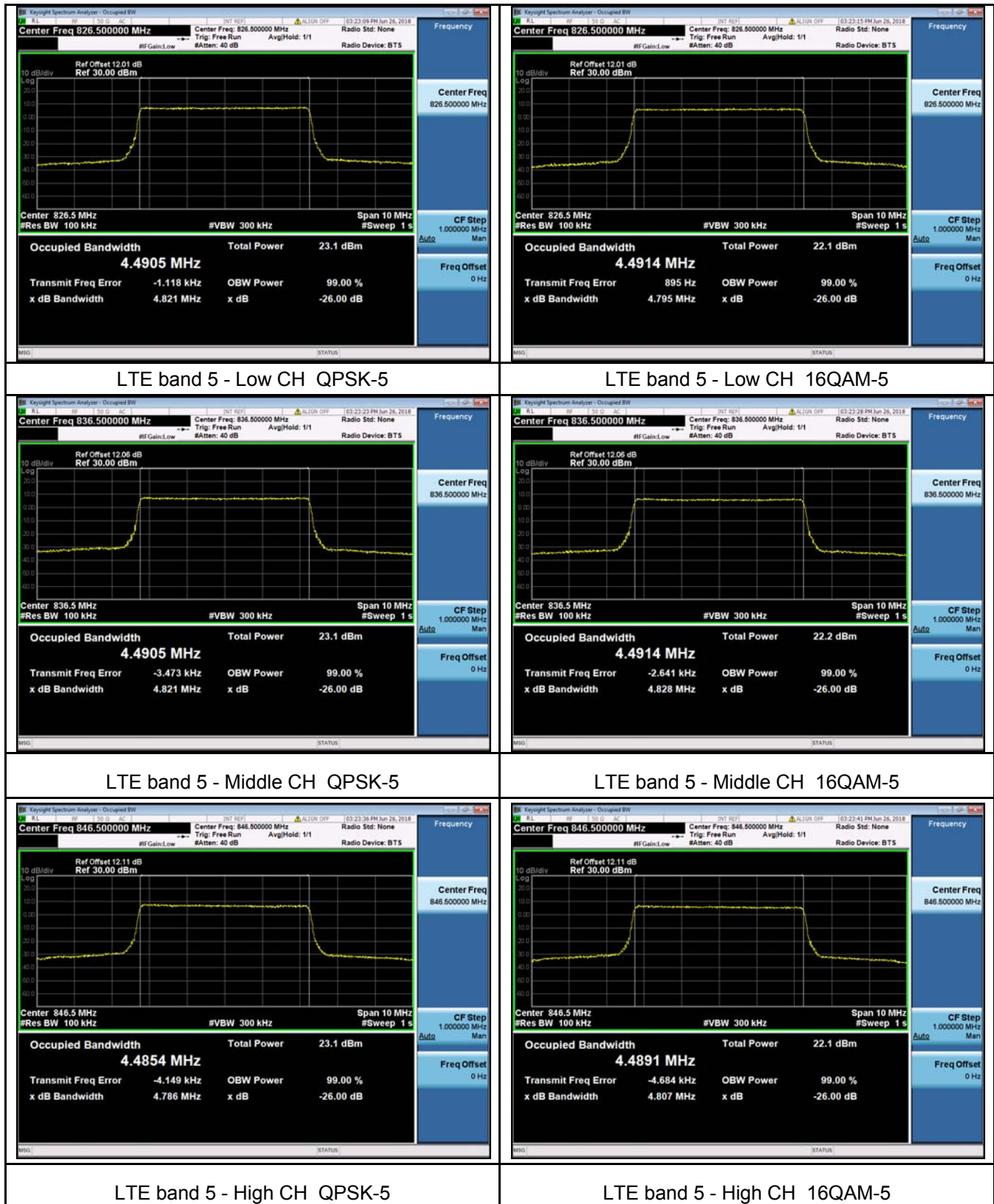


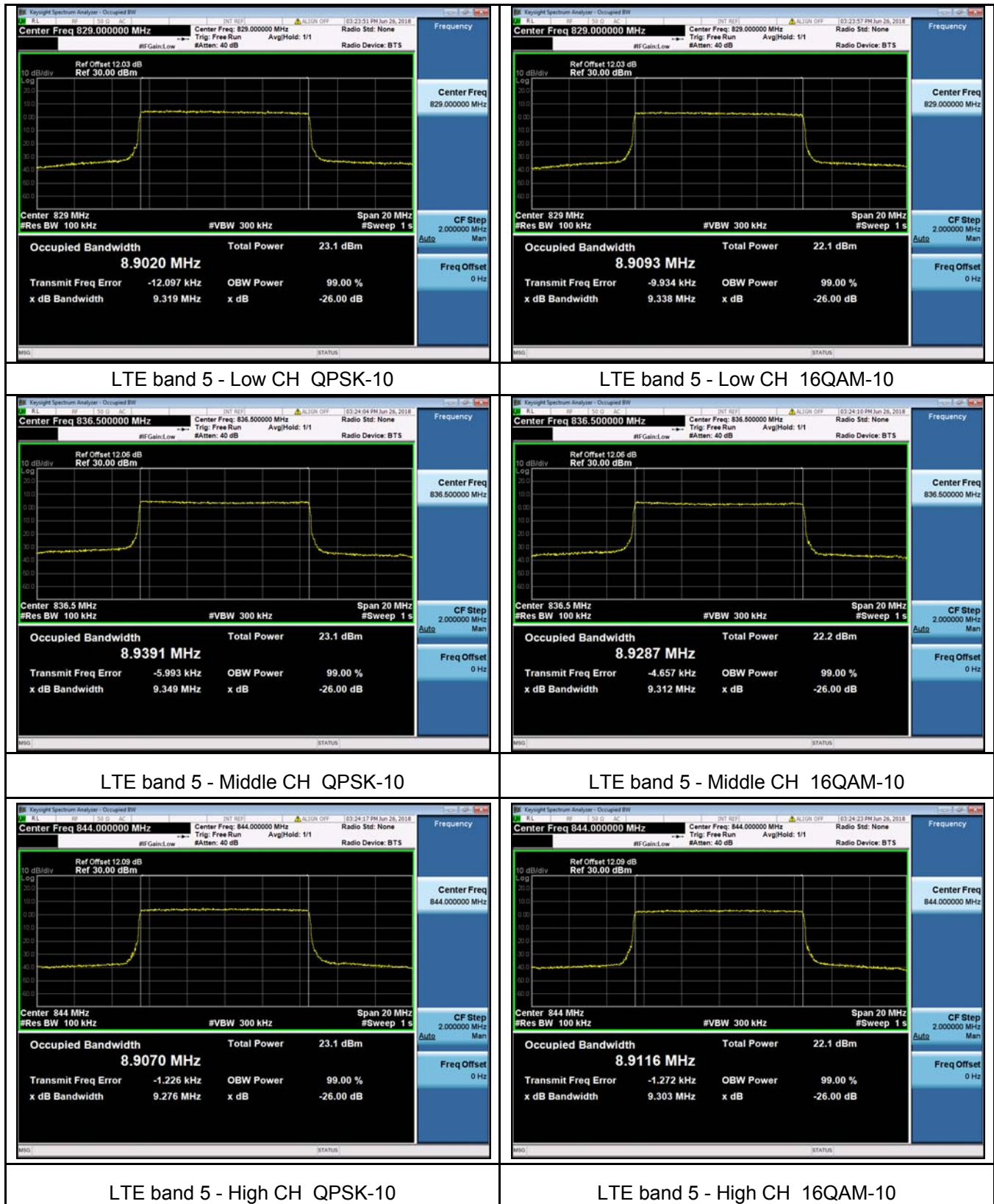
## LTE Band 5 (Part 22H)





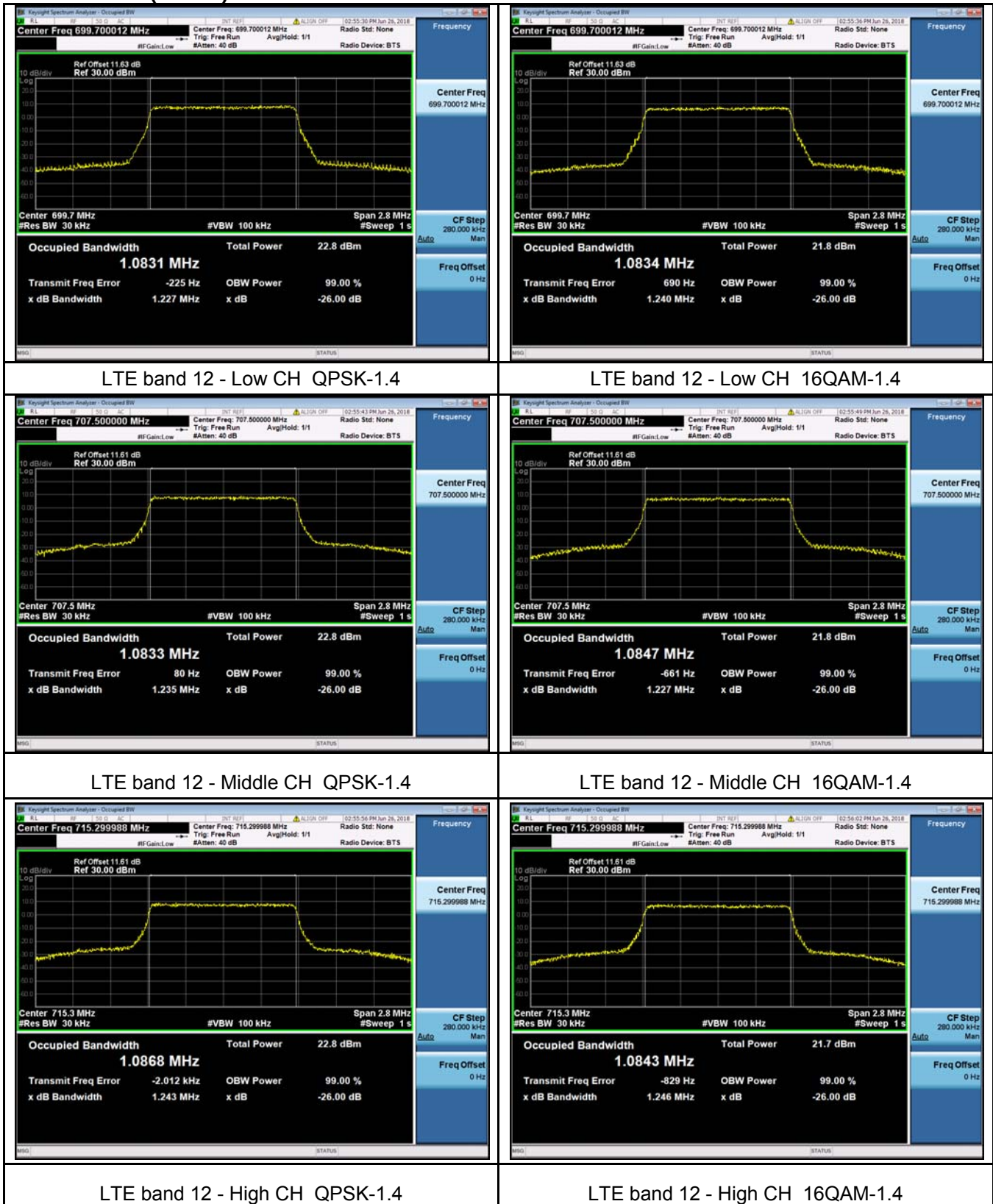


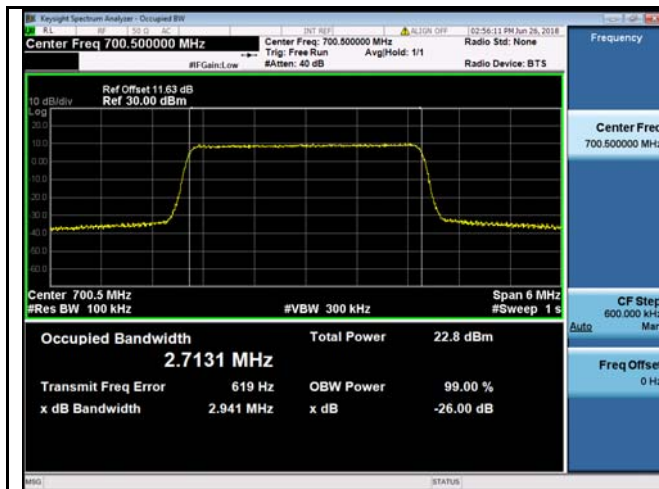






## LTE Band 12 (Part 27)

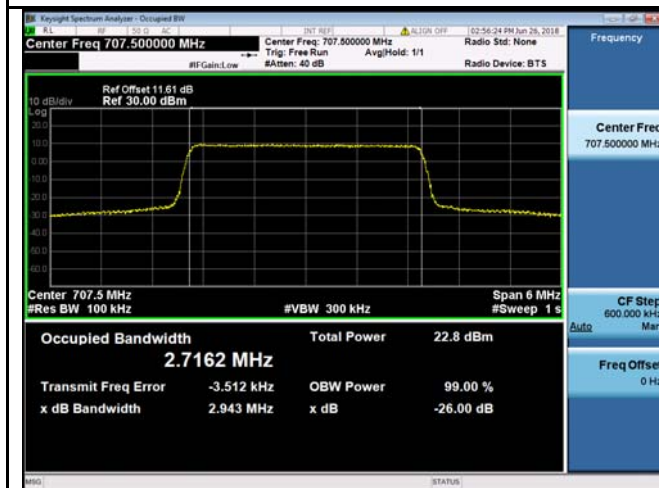




LTE band 12 - Low CH QPSK-3



LTE band 12 - Low CH 16QAM-3



LTE band 12 - Middle CH QPSK-3



LTE band 12 - Middle CH 16QAM-3

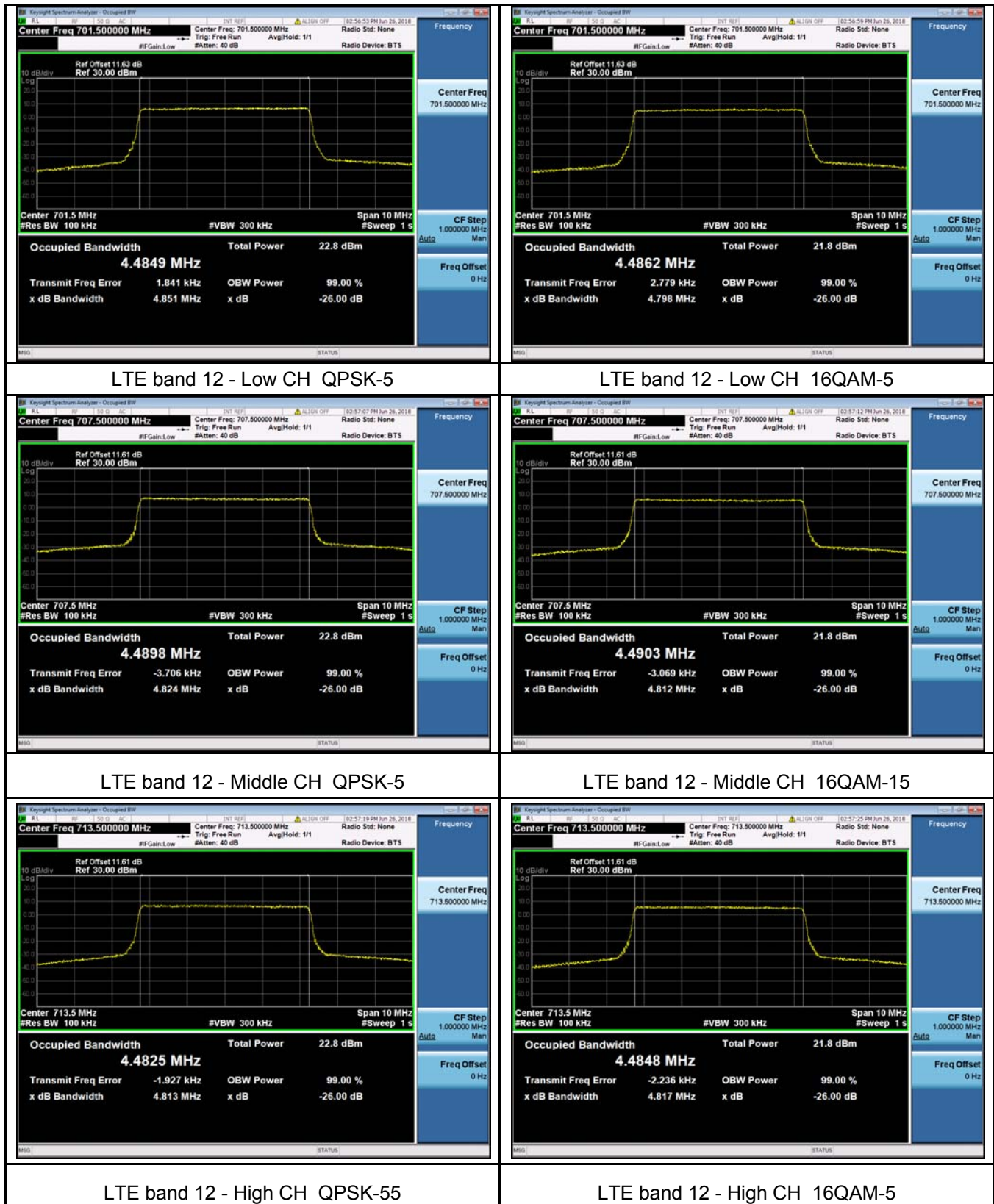


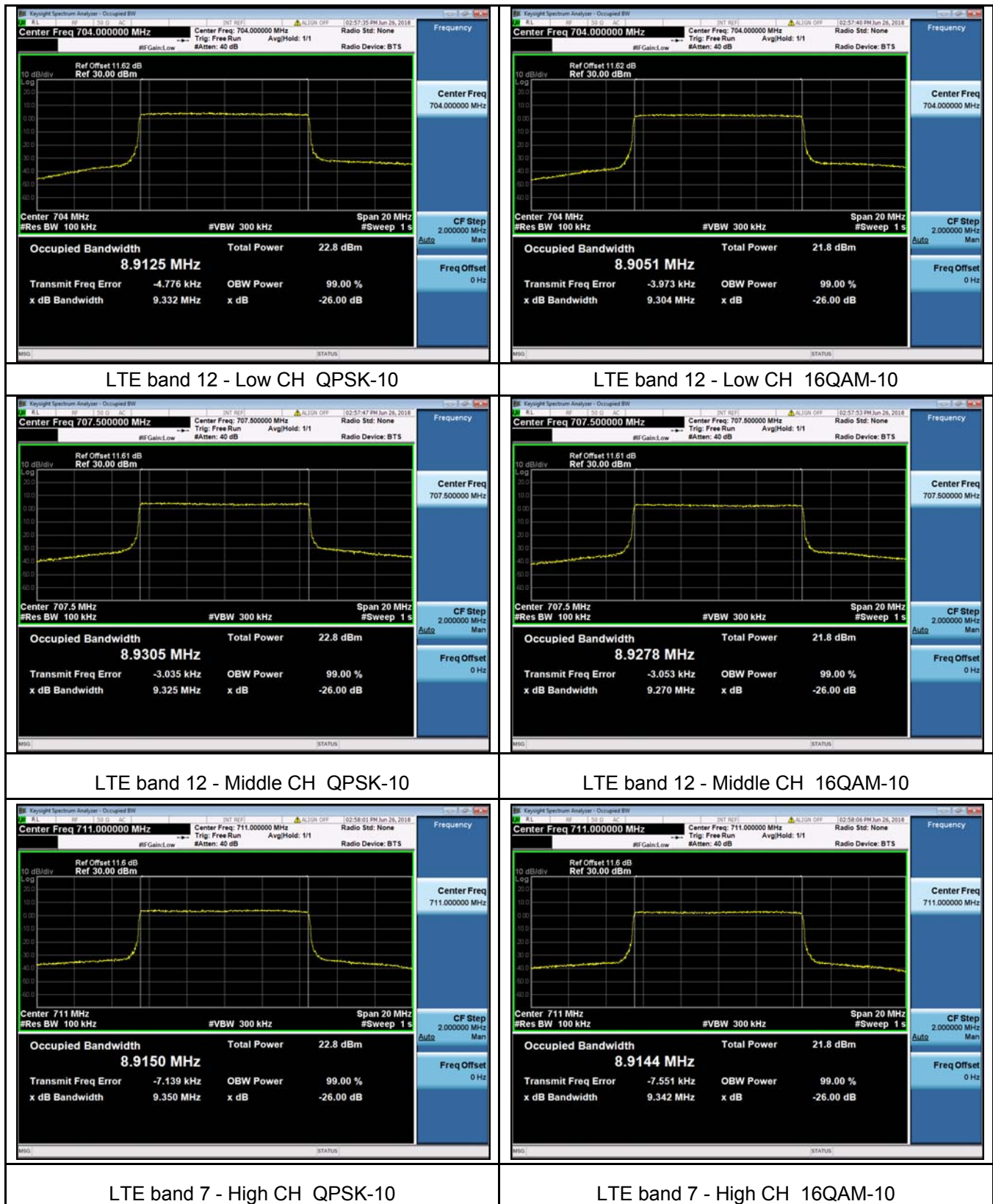
LTE band 12 - High CH QPSK-3



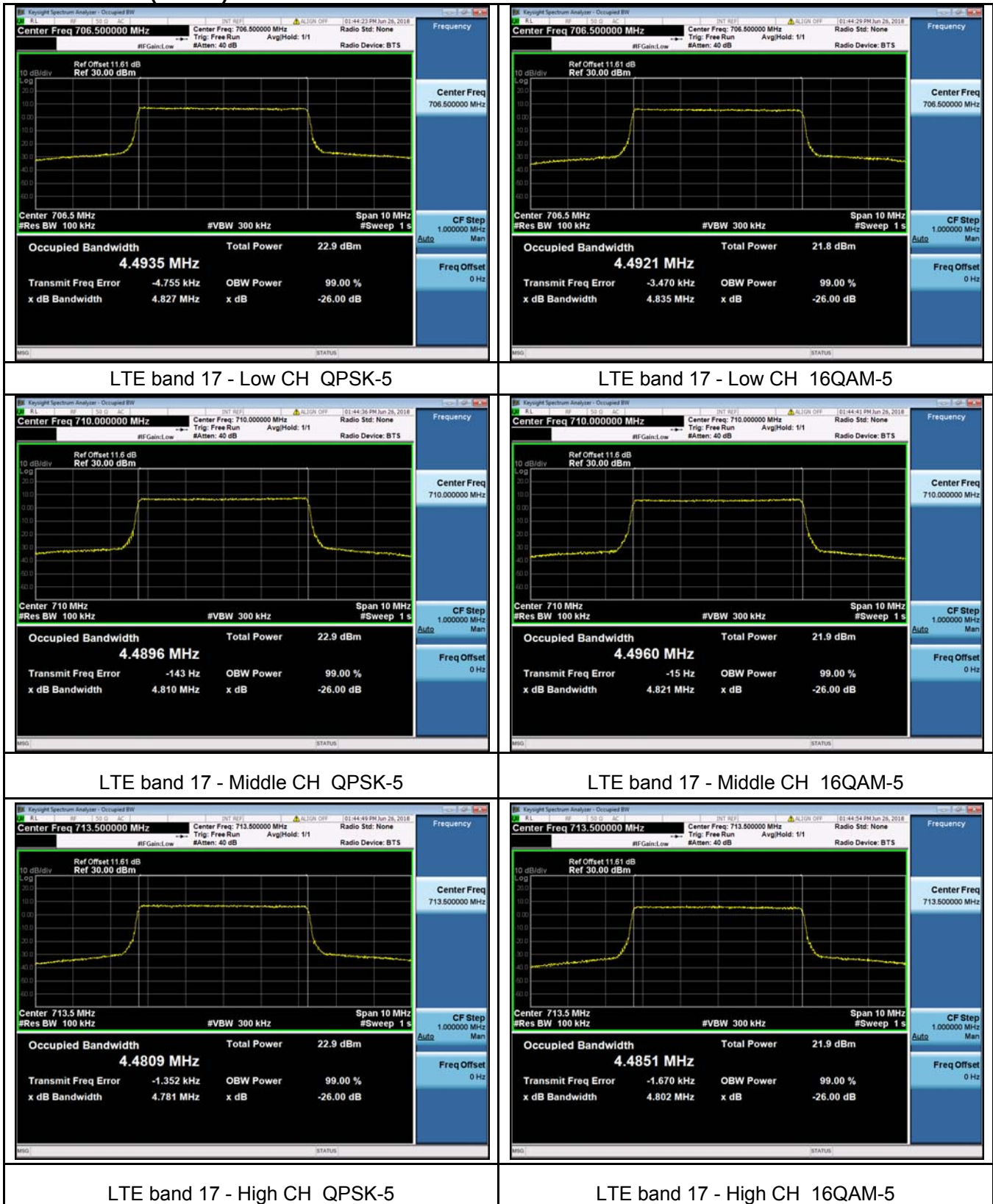
LTE band 12 - High CH 16QAM-3



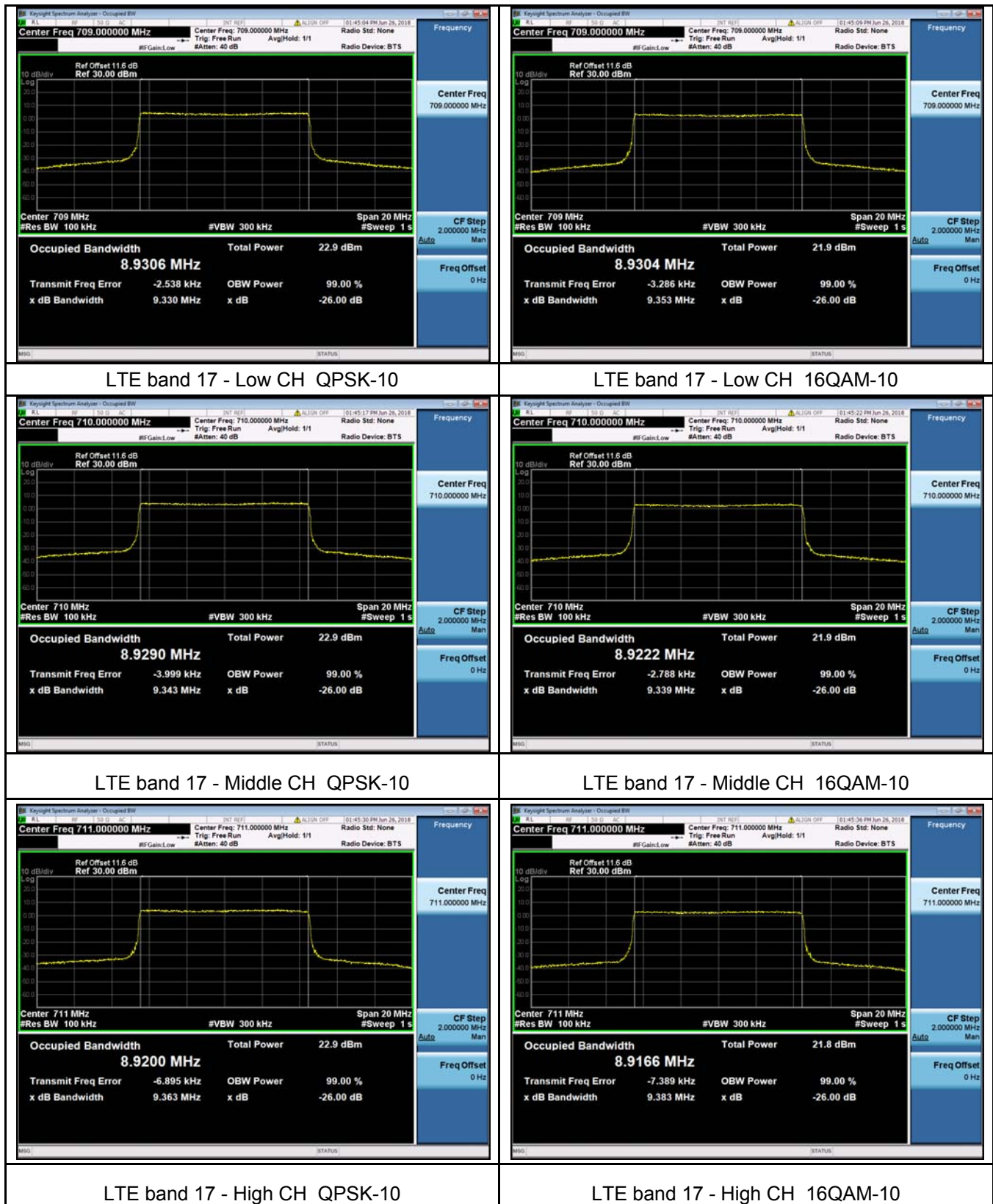




## LTE Band 17 (Part 27)







## 11 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Test Requirement: | FCC Part 2.1051, 22.917(a), 24.238(a), 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03                      |
| Test Mode:        | TX transmitting                                              |

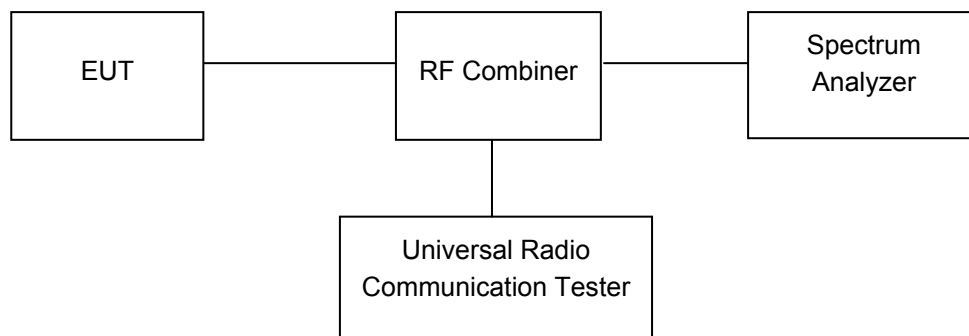
### 11.1 EUT Operation

Operating Environment :

|                       |           |
|-----------------------|-----------|
| Temperature:          | 23.5 °C   |
| Humidity:             | 52.1 % RH |
| Atmospheric Pressure: | 101.3kPa  |

### 11.2 Test Procedure

The RF output of the transceiver was connected to a spectrum analyzer and simulator through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonics.



### 11.3 Test Result

PASS

#### LTE Band

Please refer to the Appendix Band 2/4/5/12/17 LTE Transmitter Spurious Emissions.

## 12 SPURIOUS RADIATED EMISSIONS

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| Test Requirement: | FCC Part 2.1053, 22.917, 24.238, 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03                |
| Test Mode:        | TX transmitting                                        |

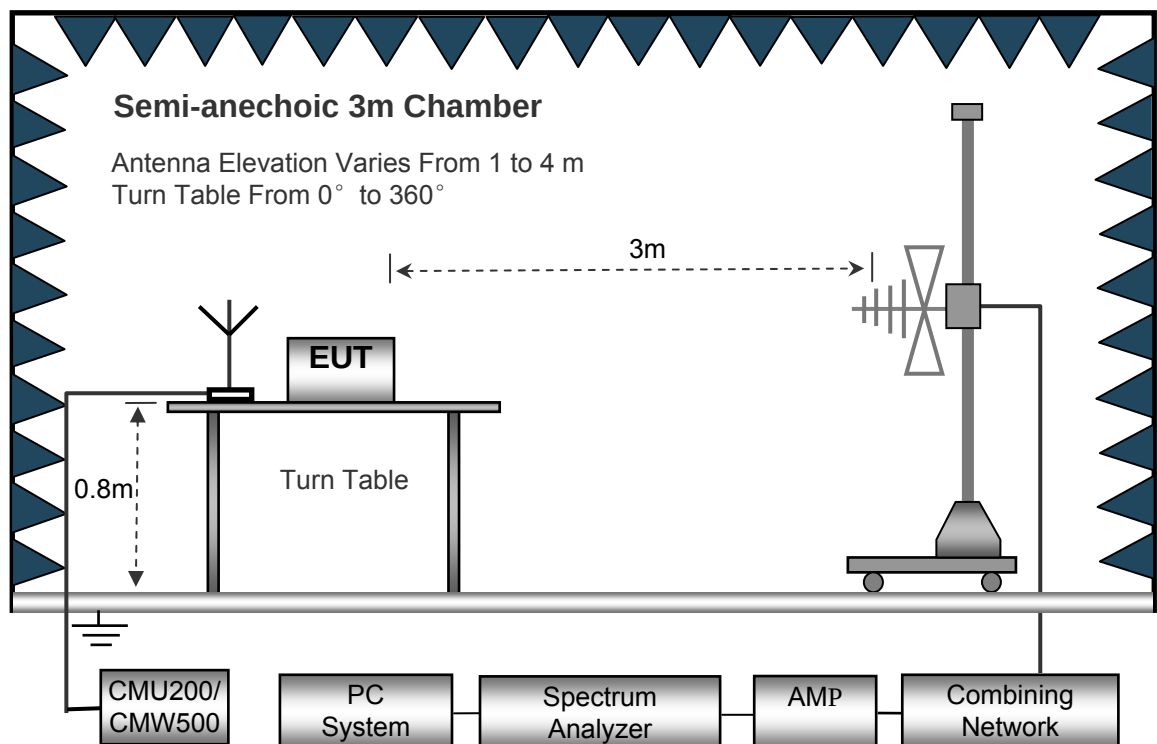
### 12.1 EUT Operation

Operating Environment :

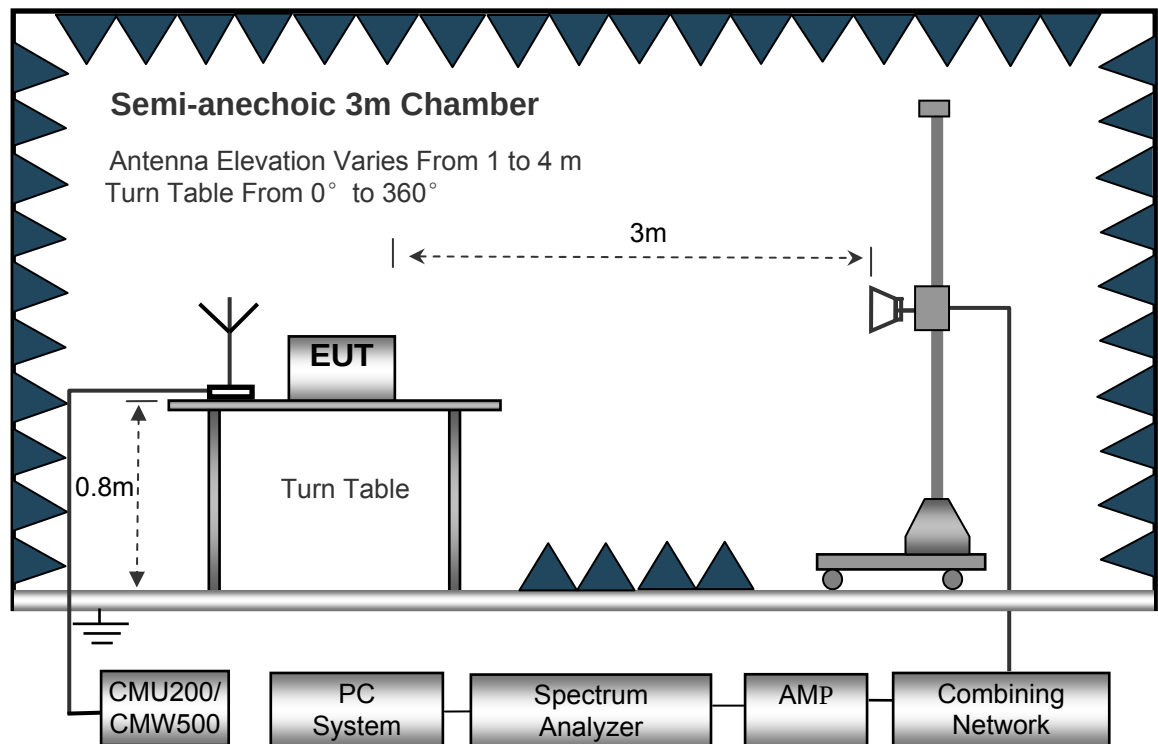
|                       |           |
|-----------------------|-----------|
| Temperature:          | 23.5 °C   |
| Humidity:             | 52.1 % RH |
| Atmospheric Pressure: | 101.2kPa  |

### 12.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site.  
The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



### 12.3 Spectrum Analyzer Setup

30MHz ~ 1GHz

Sweep Speed ..... Auto  
 Detector ..... PK  
 Resolution Bandwidth..... 100kHz  
 Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto  
 Detector ..... PK  
 Resolution Bandwidth..... 1MHz  
 Video Bandwidth..... 3MHz  
 Detector ..... Ave.  
 Resolution Bandwidth..... 1MHz  
 Video Bandwidth..... 10Hz



## 12.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from 30MHz up to the tenth harmonic of the highest fundamental frequency.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the Z position. So the data shown was the Z position only.
7. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB =  $10 \lg (\text{TXpwr in Watts}/0.001)$  – the absolute level

Spurious attenuation limit in dB =  $43 + 10 \lg (\text{power out in Watts})$

8. Repeat above procedures until the measurements for all frequencies are completed.

## 12.5 Summary of Test Results

Remark: Test performed from 30MHz to 10<sup>th</sup> harmonics with low/middle/high channels, only the worst data were recorded.

### LTE Band 2

| Frequency                | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Result |        |
|--------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|--------|--------|
|                          |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit  | Margin |
| (MHz)                    | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)  | (dB)   |
| LTE BAND 2 Channel 18607 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 46.65            | 149              | 1.9        | H     | -63.86      | 0.15  | 0.00         | -64.01         | -13.00 | -51.01 |
| 223.12                   | 38.95            | 228              | 1.6        | V     | -68.64      | 0.15  | 0.00         | -68.79         | -13.00 | -55.79 |
| 3701.40                  | 65.95            | 167              | 1.8        | H     | -45.59      | 2.37  | 12.50        | -35.46         | -13.00 | -22.46 |
| 3701.40                  | 59.98            | 31               | 2.0        | V     | -49.83      | 2.37  | 12.50        | -39.70         | -13.00 | -26.70 |
| 5552.10                  | 53.58            | 341              | 1.3        | H     | -56.03      | 2.86  | 12.90        | -45.99         | -13.00 | -32.99 |
| 5552.10                  | 44.73            | 311              | 1.4        | V     | -64.15      | 2.86  | 12.90        | -54.11         | -13.00 | -41.11 |
| LTE BAND 2 Channel 18900 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 46.27            | 191              | 1.6        | H     | -64.24      | 0.15  | 0.00         | -64.39         | -13.00 | -51.39 |
| 223.12                   | 38.50            | 212              | 1.4        | V     | -69.09      | 0.15  | 0.00         | -69.24         | -13.00 | -56.24 |
| 3760.00                  | 58.15            | 273              | 1.7        | H     | -53.39      | 2.37  | 12.50        | -43.26         | -13.00 | -30.26 |
| 3760.00                  | 53.51            | 200              | 2.1        | V     | -56.30      | 2.37  | 12.50        | -46.17         | -13.00 | -33.17 |
| 5640.00                  | 47.44            | 194              | 1.3        | H     | -62.17      | 2.86  | 12.90        | -52.13         | -13.00 | -39.13 |
| 5640.00                  | 37.20            | 253              | 1.3        | V     | -71.68      | 2.86  | 12.90        | -61.64         | -13.00 | -48.64 |
| LTE BAND 2 Channel 19193 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 46.63            | 158              | 1.5        | H     | -63.88      | 0.15  | 0.00         | -64.03         | -13.00 | -51.03 |
| 223.12                   | 38.88            | 193              | 1.3        | V     | -68.71      | 0.15  | 0.00         | -68.86         | -13.00 | -55.86 |
| 3818.60                  | 51.43            | 215              | 2.1        | H     | -59.42      | 2.37  | 12.60        | -49.19         | -13.00 | -36.19 |
| 3818.60                  | 47.09            | 280              | 1.9        | V     | -62.22      | 2.37  | 12.60        | -51.99         | -13.00 | -38.99 |
| 5727.90                  | 40.04            | 350              | 1.3        | H     | -69.31      | 2.86  | 12.90        | -59.27         | -13.00 | -46.27 |
| 5727.90                  | 29.97            | 272              | 2.2        | V     | -78.53      | 2.86  | 12.90        | -68.49         | -13.00 | -55.49 |

## LTE Band 4

| Frequency                | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Result |        |
|--------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|--------|--------|
|                          |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit  | Margin |
| (MHz)                    | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)  | (dB)   |
| LTE BAND 4 Channel 19957 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 39.27            | 143              | 1.9        | H     | -71.24      | 0.15  | 0.00         | -71.39         | -13.00 | -58.39 |
| 223.12                   | 30.59            | 175              | 2.1        | V     | -77.00      | 0.15  | 0.00         | -77.15         | -13.00 | -64.15 |
| 3421.40                  | 65.95            | 81               | 1.7        | H     | -47.10      | 2.34  | 12.40        | -37.04         | -13.00 | -24.04 |
| 3421.40                  | 59.98            | 106              | 2.2        | V     | -51.17      | 2.34  | 12.40        | -41.11         | -13.00 | -28.11 |
| 5132.10                  | 53.58            | 172              | 2.1        | H     | -55.83      | 2.79  | 12.70        | -45.92         | -13.00 | -32.92 |
| 5132.10                  | 44.73            | 64               | 2.1        | V     | -64.04      | 2.79  | 12.70        | -54.13         | -13.00 | -41.13 |
| LTE BAND 4 Channel 20175 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 40.00            | 59               | 1.3        | H     | -70.51      | 0.15  | 0.00         | -70.66         | -13.00 | -57.66 |
| 223.12                   | 31.52            | 211              | 1.6        | V     | -76.07      | 0.15  | 0.00         | -76.22         | -13.00 | -63.22 |
| 3465.00                  | 59.91            | 360              | 1.9        | H     | -53.14      | 2.37  | 12.50        | -43.01         | -13.00 | -30.01 |
| 3465.00                  | 53.18            | 148              | 1.1        | V     | -57.97      | 2.37  | 12.50        | -47.84         | -13.00 | -34.84 |
| 5197.50                  | 47.43            | 175              | 1.6        | H     | -61.98      | 2.79  | 12.70        | -52.07         | -13.00 | -39.07 |
| 5197.50                  | 37.87            | 163              | 2.0        | V     | -70.90      | 2.79  | 12.70        | -60.99         | -13.00 | -47.99 |
| LTE BAND 4 Channel 20393 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 39.66            | 92               | 2.0        | H     | -70.85      | 0.15  | 0.00         | -71.00         | -13.00 | -58.00 |
| 223.12                   | 31.67            | 100              | 2.0        | V     | -75.92      | 0.15  | 0.00         | -76.07         | -13.00 | -63.07 |
| 3508.60                  | 52.15            | 308              | 1.9        | H     | -60.49      | 2.37  | 12.50        | -50.36         | -13.00 | -37.36 |
| 3508.60                  | 45.22            | 84               | 1.5        | V     | -65.51      | 2.37  | 12.50        | -55.38         | -13.00 | -42.38 |
| 5262.90                  | 40.58            | 222              | 1.6        | H     | -69.00      | 2.81  | 12.80        | -59.01         | -13.00 | -46.01 |
| 5262.90                  | 29.88            | 173              | 1.7        | V     | -78.92      | 2.81  | 12.80        | -68.93         | -13.00 | -55.93 |

**LTE Band 5**

| frequency                | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Result |        |
|--------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|--------|--------|
|                          |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit  | Margin |
| (MHz)                    | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)  | (dB)   |
| LTE BAND 5 Channel 20407 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 39.74            | 14               | 1.4        | H     | -70.77      | 0.15  | 0.00         | -70.92         | -13.00 | -57.92 |
| 223.12                   | 29.19            | 108              | 1.9        | V     | -78.40      | 0.15  | 0.00         | -78.55         | -13.00 | -65.55 |
| 1649.40                  | 65.95            | 314              | 1.1        | H     | -47.10      | 2.34  | 12.40        | -37.04         | -13.00 | -24.04 |
| 1649.40                  | 59.98            | 68               | 1.6        | V     | -51.17      | 2.34  | 12.40        | -41.11         | -13.00 | -28.11 |
| 2474.10                  | 53.58            | 136              | 1.2        | H     | -55.83      | 2.79  | 12.70        | -45.92         | -13.00 | -32.92 |
| 2474.10                  | 44.73            | 248              | 2.0        | V     | -64.04      | 2.79  | 12.70        | -54.13         | -13.00 | -41.13 |
| LTE BAND 5 Channel 20525 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 38.96            | 130              | 1.0        | H     | -71.55      | 0.15  | 0.00         | -71.70         | -13.00 | -58.70 |
| 223.12                   | 28.76            | 284              | 1.8        | V     | -78.83      | 0.15  | 0.00         | -78.98         | -13.00 | -65.98 |
| 1673.00                  | 58.59            | 299              | 1.7        | H     | -54.46      | 2.37  | 12.50        | -44.33         | -13.00 | -31.33 |
| 1673.00                  | 52.41            | 92               | 1.5        | V     | -58.74      | 2.37  | 12.50        | -48.61         | -13.00 | -35.61 |
| 2509.50                  | 47.14            | 232              | 1.9        | H     | -62.27      | 2.79  | 12.70        | -52.36         | -13.00 | -39.36 |
| 2509.50                  | 37.47            | 226              | 1.4        | V     | -71.30      | 2.79  | 12.70        | -61.39         | -13.00 | -48.39 |
| LTE BAND 5 Channel 20643 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                   | 38.83            | 19               | 2.1        | H     | -71.68      | 0.15  | 0.00         | -71.83         | -13.00 | -58.83 |
| 223.12                   | 28.58            | 102              | 1.4        | V     | -79.01      | 0.15  | 0.00         | -79.16         | -13.00 | -66.16 |
| 1696.60                  | 50.92            | 43               | 1.2        | H     | -61.72      | 2.37  | 12.50        | -51.59         | -13.00 | -38.59 |
| 1696.60                  | 45.45            | 344              | 1.3        | V     | -65.28      | 2.37  | 12.50        | -55.15         | -13.00 | -42.15 |
| 2544.90                  | 40.11            | 95               | 1.6        | H     | -69.47      | 2.81  | 12.80        | -59.48         | -13.00 | -46.48 |
| 2544.90                  | 29.91            | 104              | 1.1        | V     | -78.89      | 2.81  | 12.80        | -68.90         | -13.00 | -55.90 |

**LTE Band 12**

| Frequency                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Result |        |
|---------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|--------|--------|
|                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit  | Margin |
| (MHz)                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)  | (dB)   |
| LTE BAND 12 Channel 23017 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 41.06            | 6                | 1.5        | H     | -69.45      | 0.15  | 0.00         | -69.60         | -25.00 | -44.60 |
| 223.12                    | 30.15            | 94               | 1.7        | V     | -77.44      | 0.15  | 0.00         | -77.59         | -25.00 | -52.59 |
| 5005.00                   | 58.24            | 115              | 2.1        | H     | -51.00      | 2.79  | 12.70        | -41.09         | -25.00 | -16.09 |
| 5005.00                   | 52.33            | 117              | 1.9        | V     | -56.44      | 2.79  | 12.70        | -46.53         | -25.00 | -21.53 |
| 7507.50                   | 45.64            | 228              | 2.0        | H     | -60.90      | 3.12  | 11.50        | -52.52         | -25.00 | -27.52 |
| 7507.50                   | 38.70            | 74               | 2.1        | V     | -66.73      | 3.12  | 11.50        | -58.35         | -25.00 | -33.35 |
| LTE BAND 12 Channel 23095 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 40.66            | 65               | 1.2        | H     | -69.85      | 0.15  | 0.00         | -70.00         | -25.00 | -45.00 |
| 223.12                    | 29.47            | 324              | 1.3        | V     | -78.12      | 0.15  | 0.00         | -78.27         | -25.00 | -53.27 |
| 5070.00                   | 50.26            | 286              | 1.4        | H     | -58.98      | 2.37  | 12.50        | -48.85         | -25.00 | -23.85 |
| 5070.00                   | 45.03            | 267              | 1.7        | V     | -63.74      | 2.37  | 12.50        | -53.61         | -25.00 | -28.61 |
| 7605.00                   | 37.89            | 36               | 1.5        | H     | -68.65      | 3.12  | 11.50        | -60.27         | -25.00 | -35.27 |
| 7605.00                   | 32.10            | 297              | 1.2        | V     | -73.33      | 3.12  | 11.50        | -64.95         | -25.00 | -39.95 |
| LTE BAND 12 Channel 23173 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 40.76            | 33               | 1.4        | H     | -69.75      | 0.15  | 0.00         | -69.90         | -25.00 | -44.90 |
| 223.12                    | 30.22            | 275              | 2.1        | V     | -77.37      | 0.15  | 0.00         | -77.52         | -25.00 | -52.52 |
| 5135.00                   | 44.09            | 8                | 1.4        | H     | -65.32      | 2.37  | 12.50        | -55.19         | -25.00 | -30.19 |
| 5135.00                   | 38.46            | 61               | 1.3        | V     | -70.31      | 2.37  | 12.50        | -60.18         | -25.00 | -35.18 |
| 7702.50                   | 29.93            | 248              | 1.3        | H     | -75.30      | 3.12  | 11.50        | -66.92         | -25.00 | -41.92 |
| 7702.50                   | 25.01            | 100              | 1.7        | V     | -79.88      | 3.12  | 11.50        | -71.50         | -25.00 | -46.50 |

**LTE Band 17**

| Frequency                 | Receiver Reading | Turn table Angle | RX Antenna |       | Substituted |       |              | Absolute Level | Result |        |
|---------------------------|------------------|------------------|------------|-------|-------------|-------|--------------|----------------|--------|--------|
|                           |                  |                  | Height     | Polar | SG Level    | Cable | Antenna Gain |                | Limit  | Margin |
| (MHz)                     | (dBμV)           | Degree           | (m)        | (H/V) | (dBm)       | (dB)  | (dB)         | (dBm)          | (dBm)  | (dB)   |
| LTE BAND 17 Channel 23755 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 39.81            | 118              | 1.4        | H     | -70.70      | 0.15  | 0.00         | -70.85         | -13.00 | -57.85 |
| 223.12                    | 30.91            | 190              | 2.1        | V     | -76.68      | 0.15  | 0.00         | -76.83         | -13.00 | -63.83 |
| 1413.00                   | 65.95            | 12               | 1.4        | H     | -44.29      | 2.79  | 12.70        | -34.38         | -13.00 | -21.38 |
| 1413.00                   | 59.98            | 107              | 1.0        | V     | -51.79      | 2.79  | 12.70        | -41.88         | -13.00 | -28.88 |
| 2119.50                   | 53.58            | 264              | 1.8        | H     | -58.96      | 3.12  | 11.50        | -50.58         | -13.00 | -37.58 |
| 2119.50                   | 44.73            | 160              | 1.8        | V     | -68.70      | 3.12  | 11.50        | -60.32         | -13.00 | -47.32 |
| LTE BAND 17 Channel 23790 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 39.15            | 202              | 1.1        | H     | -71.36      | 0.15  | 0.00         | -71.51         | -13.00 | -58.51 |
| 223.12                    | 30.90            | 16               | 1.9        | V     | -76.69      | 0.15  | 0.00         | -76.84         | -13.00 | -63.84 |
| 1420.00                   | 59.05            | 53               | 1.3        | H     | -51.19      | 2.37  | 12.50        | -41.06         | -13.00 | -28.06 |
| 1420.00                   | 53.62            | 255              | 1.4        | V     | -58.15      | 2.37  | 12.50        | -48.02         | -13.00 | -35.02 |
| 2130.00                   | 46.73            | 293              | 1.7        | H     | -65.81      | 3.12  | 11.50        | -57.43         | -13.00 | -44.43 |
| 2130.00                   | 36.78            | 334              | 1.0        | V     | -76.65      | 3.12  | 11.50        | -68.27         | -13.00 | -55.27 |
| LTE BAND 17 Channel 23825 |                  |                  |            |       |             |       |              |                |        |        |
| 223.12                    | 39.52            | 329              | 1.3        | H     | -70.99      | 0.15  | 0.00         | -71.14         | -13.00 | -58.14 |
| 223.12                    | 30.59            | 339              | 2.2        | V     | -77.00      | 0.15  | 0.00         | -77.15         | -13.00 | -64.15 |
| 1427.00                   | 51.47            | 44               | 1.2        | H     | -58.77      | 2.37  | 12.50        | -48.64         | -13.00 | -35.64 |
| 1427.00                   | 46.24            | 165              | 1.1        | V     | -65.53      | 2.37  | 12.50        | -55.40         | -13.00 | -42.40 |
| 2140.50                   | 38.74            | 53               | 2.0        | H     | -73.80      | 3.12  | 11.50        | -65.42         | -13.00 | -52.42 |
| 2140.50                   | 30.14            | 117              | 1.2        | V     | -83.29      | 3.12  | 11.50        | -74.91         | -13.00 | -61.91 |

Note: 1) Absolute Level = SG Level - Cable loss + Antenna Gain

2) Margin = Absolute Level - Limit

## 13 Band Edge Measurement

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Test Requirement: | FCC Part 2.1051, 22.917(a), 24.238(a), 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03                      |
| Test Mode:        | TX transmitting                                              |

### 13.1 EUT Operation

Operating Environment :

|                       |           |
|-----------------------|-----------|
| Temperature:          | 23.5 °C   |
| Humidity:             | 52.3 % RH |
| Atmospheric Pressure: | 101.3kPa  |

### 13.2 Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

According to FCC Part 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the TX transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

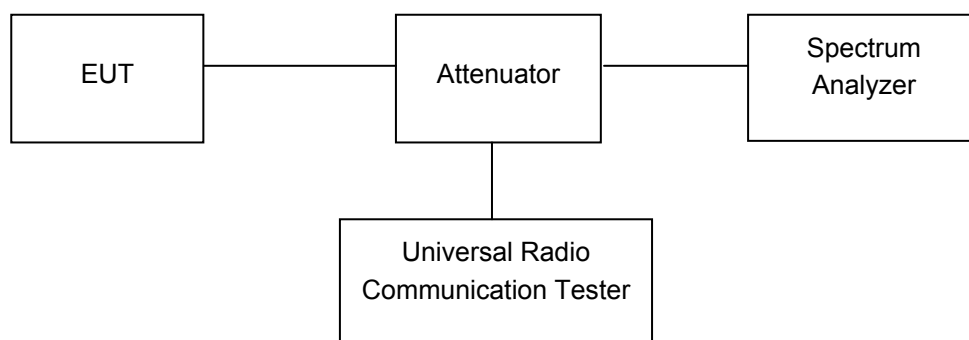
According to FCC Part 24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the TX transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

According to FCC Part 27.53(h), Except as otherwise specified below, 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  $43 + 10 \log_{10}(P)$  dB.

According to FCC Part 27.53(m)(4), For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log(P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log(P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

The center of the spectrum analyzer was set to block edge frequency  
Waltek Services (Shenzhen) Co.,Ltd.  
<http://www.waltek.com.cn>





### 13.3 Test Result

PASS

#### LTE Band

Please refer to the Appendix Band 2/4/5/12/17 LTE Band Edge.

## 14 FREQUENCY STABILITY

|                   |                                                |
|-------------------|------------------------------------------------|
| Test Requirement: | FCC Part 2.1055, 22.355, 24.235, 27.5(h),27.54 |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v03        |
| Test Mode:        | TX transmitting                                |

### 14.1 EUT Operation

Operating Environment :

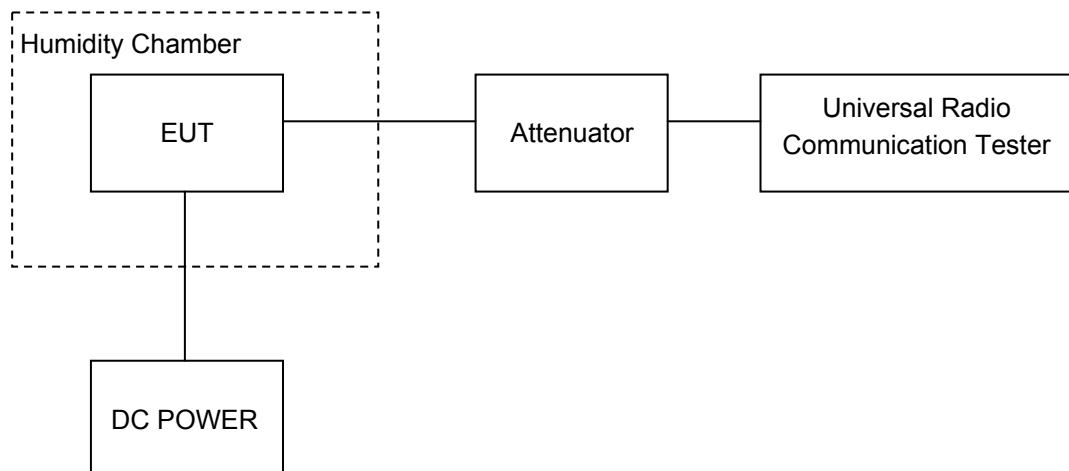
|                       |           |
|-----------------------|-----------|
| Temperature:          | 22.9 °C   |
| Humidity:             | 52.0 % RH |
| Atmospheric Pressure: | 101.3kPa  |

### 14.2 Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



### 14.3 Test Result

LTE Band 2

| Test Frequency:1880.0MHz QPSK 1.4MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | -5                   | -0.0027               | 2.5         |
| 40                                   |                    | 4                    | 0.0021                | 2.5         |
| 30                                   |                    | 6                    | 0.0032                | 2.5         |
| 20                                   |                    | 1                    | 0.0005                | 2.5         |
| 10                                   |                    | -3                   | -0.0016               | 2.5         |
| 0                                    |                    | -8                   | -0.0043               | 2.5         |
| -10                                  |                    | -2                   | -0.0011               | 2.5         |
| -20                                  |                    | 4                    | 0.0021                | 2.5         |
| -30                                  |                    | 3                    | 0.0016                | 2.5         |
| 20                                   | 3.3                | -1                   | -0.0005               | 2.5         |
| 20                                   | 4.2                | 3                    | 0.0016                | 2.5         |

| T Test Frequency:1880.0MHz 16QAM 1.4MHz |                    |                      |                       |             |
|-----------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                        | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                      | 3.8                | 3                    | 0.0016                | 2.5         |
| 40                                      |                    | 11                   | 0.0059                | 2.5         |
| 30                                      |                    | 3                    | 0.0016                | 2.5         |
| 20                                      |                    | 7                    | 0.0037                | 2.5         |
| 10                                      |                    | 5                    | 0.0027                | 2.5         |
| 0                                       |                    | 8                    | 0.0043                | 2.5         |
| -10                                     |                    | 3                    | 0.0016                | 2.5         |
| -20                                     |                    | 11                   | 0.0059                | 2.5         |
| -30                                     |                    | 14                   | 0.0074                | 2.5         |
| 20                                      | 3.3                | 0                    | 0.0000                | 2.5         |
| 20                                      | 4.2                | 0                    | 0.0000                | 2.5         |

## LTE Band 2

| Test Frequency:1880.0MHz QPSK 3MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 1                    | 0.0005                | 2.5         |
| 40                                 |                    | -1                   | -0.0005               | 2.5         |
| 30                                 |                    | 0                    | 0.0000                | 2.5         |
| 20                                 |                    | -4                   | -0.0021               | 2.5         |
| 10                                 |                    | -1                   | -0.0005               | 2.5         |
| 0                                  |                    | -10                  | -0.0053               | 2.5         |
| -10                                |                    | -11                  | -0.0059               | 2.5         |
| -20                                |                    | -13                  | -0.0069               | 2.5         |
| -30                                |                    | 3                    | 0.0016                | 2.5         |
| 20                                 | 3.3                | 1                    | 0.0005                | 2.5         |
| 20                                 | 4.2                | -7                   | -0.0037               | 2.5         |

| Test Frequency:1880.0MHz 16QAM 3MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 10                   | 0.0053                | 2.5         |
| 40                                  |                    | -4                   | -0.0021               | 2.5         |
| 30                                  |                    | 5                    | 0.0027                | 2.5         |
| 20                                  |                    | 2                    | 0.0011                | 2.5         |
| 10                                  |                    | 4                    | 0.0021                | 2.5         |
| 0                                   |                    | 11                   | 0.0059                | 2.5         |
| -10                                 |                    | 10                   | 0.0053                | 2.5         |
| -20                                 |                    | 1                    | 0.0005                | 2.5         |
| -30                                 |                    | 2                    | 0.0011                | 2.5         |
| 20                                  | 3.3                | 9                    | 0.0048                | 2.5         |
| 20                                  | 4.2                | 2                    | 0.0011                | 2.5         |

## LTE Band 2

| Test Frequency:1880.0MHz QPSK 5MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 5                    | 0.0027                | 2.5         |
| 40                                 |                    | 9                    | 0.0048                | 2.5         |
| 30                                 |                    | 9                    | 0.0048                | 2.5         |
| 20                                 |                    | 8                    | 0.0037                | 2.5         |
| 10                                 |                    | 10                   | 0.0053                | 2.5         |
| 0                                  |                    | 1                    | 0.0005                | 2.5         |
| -10                                |                    | -2                   | -0.0011               | 2.5         |
| -20                                |                    | 2                    | 0.0011                | 2.5         |
| -30                                |                    | 14                   | 0.0074                | 2.5         |
| 20                                 | 3.3                | -1                   | -0.0005               | 2.5         |
| 20                                 | 4.2                | 1                    | 0.0005                | 2.5         |

| Test Frequency:1880.0MHz 16QAM 5MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 3                    | 0.0016                | 2.5         |
| 40                                  |                    | -4                   | -0.0021               | 2.5         |
| 30                                  |                    | -1                   | -0.0005               | 2.5         |
| 20                                  |                    | -3                   | -0.0021               | 2.5         |
| 10                                  |                    | 1                    | 0.0005                | 2.5         |
| 0                                   |                    | -4                   | -0.0021               | 2.5         |
| -10                                 |                    | -6                   | -0.0032               | 2.5         |
| -20                                 |                    | 4                    | 0.0021                | 2.5         |
| -30                                 |                    | 1                    | 0.0005                | 2.5         |
| 20                                  | 3.3                | -12                  | -0.0064               | 2.5         |
| 20                                  | 4.2                | 5                    | 0.0027                | 2.5         |

## LTE Band 2

| Test Frequency:1880.0MHz QPSK 10MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 4                    | 0.0021                | 2.5         |
| 40                                  |                    | -6                   | -0.0032               | 2.5         |
| 30                                  |                    | 0                    | 0.0000                | 2.5         |
| 20                                  |                    | 4                    | 0.0011                | 2.5         |
| 10                                  |                    | 10                   | 0.0053                | 2.5         |
| 0                                   |                    | -4                   | -0.0021               | 2.5         |
| -10                                 |                    | 5                    | 0.0027                | 2.5         |
| -20                                 |                    | 2                    | 0.0011                | 2.5         |
| -30                                 |                    | 8                    | 0.0043                | 2.5         |
| 20                                  | 3.3                | -4                   | -0.0021               | 2.5         |
| 20                                  | 4.2                | 4                    | 0.0021                | 2.5         |

| Test Frequency:1880.0MHz 16QAM 10MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 15                   | 0.0080                | 2.5         |
| 40                                   |                    | 9                    | 0.0048                | 2.5         |
| 30                                   |                    | 3                    | 0.0016                | 2.5         |
| 20                                   |                    | 7                    | 0.0037                | 2.5         |
| 10                                   |                    | -1                   | -0.0005               | 2.5         |
| 0                                    |                    | -2                   | -0.0011               | 2.5         |
| -10                                  |                    | 4                    | 0.0021                | 2.5         |
| -20                                  |                    | 10                   | 0.0053                | 2.5         |
| -30                                  |                    | 0                    | 0.0000                | 2.5         |
| 20                                   | 3.3                | 0                    | 0.0000                | 2.5         |
| 20                                   | 4.2                | 6                    | 0.0032                | 2.5         |

## LTE Band 2

| Test Frequency:1880.0MHz QPSK 15MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 9                    | 0.0048                | 2.5         |
| 40                                  |                    | -2                   | -0.0011               | 2.5         |
| 30                                  |                    | 3                    | 0.0016                | 2.5         |
| 20                                  |                    | 2                    | 0.0011                | 2.5         |
| 10                                  |                    | -3                   | -0.0016               | 2.5         |
| 0                                   |                    | 10                   | 0.0053                | 2.5         |
| -10                                 |                    | 2                    | 0.0011                | 2.5         |
| -20                                 |                    | 4                    | 0.0021                | 2.5         |
| -30                                 |                    | 5                    | 0.0027                | 2.5         |
| 20                                  | 3.3                | 4                    | 0.0021                | 2.5         |
| 20                                  | 4.2                | -4                   | -0.0021               | 2.5         |

| Test Frequency:1880.0MHz 16QAM 15MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | -7                   | -0.0037               | 2.5         |
| 40                                   |                    | -1                   | -0.0005               | 2.5         |
| 30                                   |                    | -4                   | -0.0021               | 2.5         |
| 20                                   |                    | 1                    | 0.0005                | 2.5         |
| 10                                   |                    | -3                   | -0.0016               | 2.5         |
| 0                                    |                    | 3                    | 0.0016                | 2.5         |
| -10                                  |                    | 0                    | 0.0000                | 2.5         |
| -20                                  |                    | -6                   | -0.0032               | 2.5         |
| -30                                  |                    | -3                   | -0.0016               | 2.5         |
| 20                                   | 3.3                | 6                    | 0.0032                | 2.5         |
| 20                                   | 4.2                | -8                   | -0.0043               | 2.5         |



## LTE Band 2

| Test Frequency:1880.0MHz QPSK 20MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 0                    | 0.0000                | 2.5         |
| 40                                  |                    | -2                   | -0.0011               | 2.5         |
| 30                                  |                    | -6                   | -0.0032               | 2.5         |
| 20                                  |                    | 1                    | 0.0005                | 2.5         |
| 10                                  |                    | 3                    | 0.0016                | 2.5         |
| 0                                   |                    | -4                   | -0.0021               | 2.5         |
| -10                                 |                    | 7                    | 0.0037                | 2.5         |
| -20                                 |                    | -1                   | -0.0005               | 2.5         |
| -30                                 |                    | 1                    | 0.0005                | 2.5         |
| 20                                  | 3.3                | 2                    | 0.0011                | 2.5         |
| 20                                  | 4.2                | 9                    | 0.0048                | 2.5         |

| Test Frequency:1880.0MHz 16QAM 20MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 7                    | 0.0037                | 2.5         |
| 40                                   |                    | -3                   | -0.0016               | 2.5         |
| 30                                   |                    | 7                    | 0.0037                | 2.5         |
| 20                                   |                    | 0                    | 0.0000                | 2.5         |
| 10                                   |                    | 5                    | 0.0027                | 2.5         |
| 0                                    |                    | -4                   | -0.0021               | 2.5         |
| -10                                  |                    | -3                   | -0.0016               | 2.5         |
| -20                                  |                    | 8                    | 0.0043                | 2.5         |
| -30                                  |                    | 1                    | 0.0005                | 2.5         |
| 20                                   | 3.3                | 8                    | 0.0043                | 2.5         |
| 20                                   | 4.2                | 5                    | 0.0027                | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 1.4MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | -6                   | -0.0035               | 2.5         |
| 40                                   |                    | -6                   | -0.0035               | 2.5         |
| 30                                   |                    | 5                    | 0.0029                | 2.5         |
| 20                                   |                    | 2                    | 0.0010                | 2.5         |
| 10                                   |                    | 2                    | 0.0012                | 2.5         |
| 0                                    |                    | 3                    | 0.0017                | 2.5         |
| -10                                  |                    | -6                   | -0.0035               | 2.5         |
| -20                                  |                    | 0                    | 0.0000                | 2.5         |
| -30                                  |                    | 11                   | 0.0063                | 2.5         |
| 20                                   | 3.3                | 10                   | 0.0058                | 2.5         |
| 20                                   | 4.2                | -6                   | -0.0035               | 2.5         |

| Test Frequency:1732.5MHz 16QAM 1.4MHz |                    |                      |                       |             |
|---------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                      | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                    | 3.8                | 1                    | 0.0006                | 2.5         |
| 40                                    |                    | 14                   | 0.0081                | 2.5         |
| 30                                    |                    | 12                   | 0.0069                | 2.5         |
| 20                                    |                    | 7                    | 0.0040                | 2.5         |
| 10                                    |                    | 13                   | 0.0075                | 2.5         |
| 0                                     |                    | 11                   | 0.0063                | 2.5         |
| -10                                   |                    | 14                   | 0.0081                | 2.5         |
| -20                                   |                    | 2                    | 0.0012                | 2.5         |
| -30                                   |                    | 10                   | 0.0058                | 2.5         |
| 20                                    | 3.3                | 4                    | 0.0023                | 2.5         |
| 20                                    | 4.2                | 6                    | 0.0035                | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 3MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 2                    | 0.0012                | 2.5         |
| 40                                 |                    | -1                   | -0.0006               | 2.5         |
| 30                                 |                    | 1                    | 0.0006                | 2.5         |
| 20                                 |                    | 4                    | 0.0023                | 2.5         |
| 10                                 |                    | -1                   | -0.0006               | 2.5         |
| 0                                  |                    | -3                   | -0.0017               | 2.5         |
| -10                                |                    | -2                   | -0.0012               | 2.5         |
| -20                                |                    | 7                    | 0.0040                | 2.5         |
| -30                                |                    | 4                    | 0.0023                | 2.5         |
| 20                                 | 3.3                | -4                   | -0.0023               | 2.5         |
| 20                                 | 4.2                | -3                   | -0.0017               | 2.5         |

| Test Frequency:1732.5MHz 16QAM 3MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 9                    | 0.0052                | 2.5         |
| 40                                  |                    | 9                    | 0.0052                | 2.5         |
| 30                                  |                    | -6                   | -0.0035               | 2.5         |
| 20                                  |                    | 2                    | 0.0012                | 2.5         |
| 10                                  |                    | 4                    | 0.0023                | 2.5         |
| 0                                   |                    | 11                   | 0.0063                | 2.5         |
| -10                                 |                    | 0                    | 0.0000                | 2.5         |
| -20                                 |                    | 9                    | 0.0052                | 2.5         |
| -30                                 |                    | -2                   | -0.0012               | 2.5         |
| 20                                  | 3.3                | 3                    | 0.0017                | 2.5         |
| 20                                  | 4.2                | 2                    | 0.0012                | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 5MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | -3                   | -0.0017               | 2.5         |
| 40                                 |                    | -7                   | -0.0040               | 2.5         |
| 30                                 |                    | 2                    | 0.0012                | 2.5         |
| 20                                 |                    | 2                    | 0.0012                | 2.5         |
| 10                                 |                    | -6                   | -0.0035               | 2.5         |
| 0                                  |                    | -6                   | -0.0035               | 2.5         |
| -10                                |                    | -7                   | -0.0040               | 2.5         |
| -20                                |                    | -2                   | -0.0012               | 2.5         |
| -30                                |                    | -2                   | -0.0012               | 2.5         |
| 20                                 | 3.3                | 5                    | 0.0029                | 2.5         |
| 20                                 | 4.2                | 10                   | 0.0058                | 2.5         |

| Test Frequency:1732.5MHz 16QAM 5MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 0                    | 0.0000                | 2.5         |
| 40                                  |                    | 9                    | 0.0052                | 2.5         |
| 30                                  |                    | 9                    | 0.0052                | 2.5         |
| 20                                  |                    | 5                    | 0.0029                | 2.5         |
| 10                                  |                    | 4                    | 0.0023                | 2.5         |
| 0                                   |                    | 6                    | 0.0035                | 2.5         |
| -10                                 |                    | 6                    | 0.0035                | 2.5         |
| -20                                 |                    | 5                    | 0.0029                | 2.5         |
| -30                                 |                    | 9                    | 0.0052                | 2.5         |
| 20                                  | 3.3                | -2                   | -0.0012               | 2.5         |
| 20                                  | 4.2                | 12                   | 0.0069                | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 10MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | -6                   | -0.0035               | 2.5         |
| 40                                  |                    | -3                   | -0.0017               | 2.5         |
| 30                                  |                    | -4                   | -0.0023               | 2.5         |
| 20                                  |                    | 3                    | 0.0017                | 2.5         |
| 10                                  |                    | 7                    | 0.0040                | 2.5         |
| 0                                   |                    | -2                   | -0.0012               | 2.5         |
| -10                                 |                    | 3                    | 0.0017                | 2.5         |
| -20                                 |                    | -2                   | -0.0012               | 2.5         |
| -30                                 |                    | 5                    | 0.0029                | 2.5         |
| 20                                  | 3.3                | -1                   | -0.0006               | 2.5         |
| 20                                  | 4.2                | 0                    | 0.0000                | 2.5         |

| Test Frequency:1732.5MHz 16QAM 10MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 11                   | 0.0063                | 2.5         |
| 40                                   |                    | 2                    | 0.0012                | 2.5         |
| 30                                   |                    | 11                   | 0.0063                | 2.5         |
| 20                                   |                    | 3                    | 0.0017                | 2.5         |
| 10                                   |                    | 2                    | 0.0012                | 2.5         |
| 0                                    |                    | -1                   | -0.0006               | 2.5         |
| -10                                  |                    | 12                   | 0.0069                | 2.5         |
| -20                                  |                    | -5                   | -0.0029               | 2.5         |
| -30                                  |                    | 11                   | 0.0063                | 2.5         |
| 20                                   | 3.3                | -4                   | -0.0023               | 2.5         |
| 20                                   | 4.2                | 8                    | 0.0046                | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 15MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 1                    | 0.0006                | 2.5         |
| 40                                  |                    | 7                    | 0.0040                | 2.5         |
| 30                                  |                    | 1                    | 0.0006                | 2.5         |
| 20                                  |                    | 1                    | 0.0006                | 2.5         |
| 10                                  |                    | -5                   | -0.0029               | 2.5         |
| 0                                   |                    | 0                    | 0.0000                | 2.5         |
| -10                                 |                    | 6                    | 0.0035                | 2.5         |
| -20                                 |                    | -2                   | -0.0012               | 2.5         |
| -30                                 |                    | 0                    | 0.0000                | 2.5         |
| 20                                  | 3.3                | 4                    | 0.0023                | 2.5         |
| 20                                  | 4.2                | -4                   | -0.0023               | 2.5         |

| Test Frequency:1732.5MHz 16QAM 15MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 9                    | 0.0052                | 2.5         |
| 40                                   |                    | 6                    | 0.0035                | 2.5         |
| 30                                   |                    | 2                    | 0.0012                | 2.5         |
| 20                                   |                    | 4                    | 0.0023                | 2.5         |
| 10                                   |                    | -3                   | -0.0017               | 2.5         |
| 0                                    |                    | 13                   | 0.0075                | 2.5         |
| -10                                  |                    | 10                   | 0.0058                | 2.5         |
| -20                                  |                    | 7                    | 0.0040                | 2.5         |
| -30                                  |                    | 1                    | 0.0006                | 2.5         |
| 20                                   | 3.3                | 11                   | 0.0063                | 2.5         |
| 20                                   | 4.2                | -5                   | -0.0029               | 2.5         |

## LTE Band 4

| Test Frequency:1732.5MHz QPSK 20MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | -1                   | -0.0006               | 2.5         |
| 40                                  |                    | -4                   | -0.0023               | 2.5         |
| 30                                  |                    | -8                   | -0.0046               | 2.5         |
| 20                                  |                    | -5                   | -0.0029               | 2.5         |
| 10                                  |                    | -6                   | -0.0035               | 2.5         |
| 0                                   |                    | -11                  | -0.0063               | 2.5         |
| -10                                 |                    | -13                  | -0.0075               | 2.5         |
| -20                                 |                    | -8                   | -0.0046               | 2.5         |
| -30                                 |                    | 1                    | 0.0006                | 2.5         |
| 20                                  | 3.3                | -5                   | -0.0029               | 2.5         |
| 20                                  | 4.2                | -13                  | -0.0075               | 2.5         |

| Test Frequency:1732.5MHz 16QAM 20MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 3                    | 0.0017                | 2.5         |
| 40                                   |                    | 3                    | 0.0017                | 2.5         |
| 30                                   |                    | -10                  | -0.0058               | 2.5         |
| 20                                   |                    | -4                   | -0.0023               | 2.5         |
| 10                                   |                    | -9                   | -0.0052               | 2.5         |
| 0                                    |                    | 4                    | 0.0023                | 2.5         |
| -10                                  |                    | -4                   | -0.0023               | 2.5         |
| -20                                  |                    | -3                   | -0.0017               | 2.5         |
| -30                                  |                    | -13                  | -0.0075               | 2.5         |
| 20                                   | 3.3                | -12                  | -0.0069               | 2.5         |
| 20                                   | 4.2                | -3                   | -0.0017               | 2.5         |



## LTE Band 5

| Test Frequency:836.5MHz QPSK 1.4MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 5                    | 0.0060                | 2.5         |
| 40                                  |                    | 17                   | 0.0203                | 2.5         |
| 30                                  |                    | 9                    | 0.0108                | 2.5         |
| 20                                  |                    | 9                    | 0.0108                | 2.5         |
| 10                                  |                    | 15                   | 0.0179                | 2.5         |
| 0                                   |                    | 12                   | 0.0143                | 2.5         |
| -10                                 |                    | 10                   | 0.0120                | 2.5         |
| -20                                 |                    | 12                   | 0.0143                | 2.5         |
| -30                                 |                    | 15                   | 0.0179                | 2.5         |
| 20                                  | 3.3                | 4                    | 0.0048                | 2.5         |
| 20                                  | 4.2                | 6                    | 0.0072                | 2.5         |

| Test Frequency:836.5MHz 16QAM 1.4MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 6                    | 0.0024                | 2.5         |
| 40                                   |                    | 4                    | 0.0016                | 2.5         |
| 30                                   |                    | -6                   | -0.0024               | 2.5         |
| 20                                   |                    | 3                    | 0.0012                | 2.5         |
| 10                                   |                    | 11                   | 0.0043                | 2.5         |
| 0                                    |                    | -3                   | -0.0012               | 2.5         |
| -10                                  |                    | -5                   | -0.0020               | 2.5         |
| -20                                  |                    | 4                    | 0.0016                | 2.5         |
| -30                                  |                    | 8                    | 0.0032                | 2.5         |
| 20                                   | 3.3                | -1                   | -0.0004               | 2.5         |
| 20                                   | 4.2                | -5                   | -0.0020               | 2.5         |

## LTE Band 5

| Test Frequency:836.5MHz QPSK 3MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.8                | 1                    | 0.0004                | 2.5         |
| 40                                |                    | 7                    | 0.0028                | 2.5         |
| 30                                |                    | 10                   | 0.0039                | 2.5         |
| 20                                |                    | 1                    | 0.0004                | 2.5         |
| 10                                |                    | 7                    | 0.0028                | 2.5         |
| 0                                 |                    | 7                    | 0.0028                | 2.5         |
| -10                               |                    | 5                    | 0.0020                | 2.5         |
| -20                               |                    | -8                   | -0.0032               | 2.5         |
| -30                               |                    | -4                   | -0.0016               | 2.5         |
| 20                                | 3.3                | 7                    | 0.0028                | 2.5         |
| 20                                | 4.2                | -4                   | -0.0016               | 2.5         |

| Test Frequency:836.5MHz 16QAM 3MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 4                    | 0.0016                | 2.5         |
| 40                                 |                    | 0                    | 0.0000                | 2.5         |
| 30                                 |                    | -5                   | -0.0020               | 2.5         |
| 20                                 |                    | 3                    | 0.0012                | 2.5         |
| 10                                 |                    | 11                   | 0.0043                | 2.5         |
| 0                                  |                    | -5                   | -0.0020               | 2.5         |
| -10                                |                    | 4                    | 0.0016                | 2.5         |
| -20                                |                    | -4                   | -0.0016               | 2.5         |
| -30                                |                    | 11                   | 0.0043                | 2.5         |
| 20                                 | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                 | 4.2                | 9                    | 0.0036                | 2.5         |

## LTE Band 5

| Test Frequency:836.5MHz QPSK 5MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.8                | 4                    | 0.0016                | 2.5         |
| 40                                |                    | 4                    | 0.0016                | 2.5         |
| 30                                |                    | 0                    | 0.0000                | 2.5         |
| 20                                |                    | 3                    | 0.0012                | 2.5         |
| 10                                |                    | 4                    | 0.0016                | 2.5         |
| 0                                 |                    | 6                    | 0.0024                | 2.5         |
| -10                               |                    | 7                    | 0.0028                | 2.5         |
| -20                               |                    | 1                    | 0.0004                | 2.5         |
| -30                               |                    | 6                    | 0.0024                | 2.5         |
| 20                                | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                | 4.2                | 9                    | 0.0036                | 2.5         |

| Test Frequency:836.5MHz 16QAM 5MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 3                    | 0.0012                | 2.5         |
| 40                                 |                    | 8                    | 0.0032                | 2.5         |
| 30                                 |                    | 5                    | 0.0020                | 2.5         |
| 20                                 |                    | 6                    | 0.0024                | 2.5         |
| 10                                 |                    | -1                   | -0.0004               | 2.5         |
| 0                                  |                    | 13                   | 0.0051                | 2.5         |
| -10                                |                    | 6                    | 0.0024                | 2.5         |
| -20                                |                    | -1                   | -0.0004               | 2.5         |
| -30                                |                    | 12                   | 0.0047                | 2.5         |
| 20                                 | 3.3                | 5                    | 0.0020                | 2.5         |
| 20                                 | 4.2                | 14                   | 0.0055                | 2.5         |

## LTE Band 5

| Test Frequency:836.5MHz QPSK 10MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 10                   | 0.0039                | 2.5         |
| 40                                 |                    | -6                   | -0.0024               | 2.5         |
| 30                                 |                    | 11                   | 0.0043                | 2.5         |
| 20                                 |                    | 3                    | 0.0012                | 2.5         |
| 10                                 |                    | 6                    | 0.0024                | 2.5         |
| 0                                  |                    | -2                   | -0.0008               | 2.5         |
| -10                                |                    | 12                   | 0.0047                | 2.5         |
| -20                                |                    | 9                    | 0.0036                | 2.5         |
| -30                                |                    | 4                    | 0.0016                | 2.5         |
| 20                                 | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                 | 4.2                | 10                   | 0.0039                | 2.5         |

| Test Frequency:836.5MHz 16QAM 10MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 6                    | 0.0024                | 2.5         |
| 40                                  |                    | -5                   | -0.0020               | 2.5         |
| 30                                  |                    | -7                   | -0.0028               | 2.5         |
| 20                                  |                    | -2                   | -0.0008               | 2.5         |
| 10                                  |                    | 0                    | 0.0000                | 2.5         |
| 0                                   |                    | -1                   | -0.0004               | 2.5         |
| -10                                 |                    | -3                   | -0.0012               | 2.5         |
| -20                                 |                    | 0                    | 0.0000                | 2.5         |
| -30                                 |                    | 0                    | 0.0000                | 2.5         |
| 20                                  | 3.3                | -10                  | -0.0039               | 2.5         |
| 20                                  | 4.2                | -1                   | -0.0004               | 2.5         |

## LTE Band 12

| Test Frequency:7.7.5MHz QPSK 1.4MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 5                    | 0.0020                | 2.5         |
| 40                                  |                    | 7                    | 0.0028                | 2.5         |
| 30                                  |                    | -5                   | -0.0020               | 2.5         |
| 20                                  |                    | 3                    | 0.0012                | 2.5         |
| 10                                  |                    | 2                    | 0.0008                | 2.5         |
| 0                                   |                    | 11                   | 0.0043                | 2.5         |
| -10                                 |                    | 7                    | 0.0028                | 2.5         |
| -20                                 |                    | 6                    | 0.0024                | 2.5         |
| -30                                 |                    | -1                   | -0.0004               | 2.5         |
| 20                                  | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                  | 4.2                | 6                    | 0.0024                | 2.5         |

| Test Frequency:707.5MHz 16QAM 1.4MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 6                    | 0.0024                | 2.5         |
| 40                                   |                    | 4                    | 0.0016                | 2.5         |
| 30                                   |                    | -6                   | -0.0024               | 2.5         |
| 20                                   |                    | 3                    | 0.0012                | 2.5         |
| 10                                   |                    | 11                   | 0.0043                | 2.5         |
| 0                                    |                    | -3                   | -0.0012               | 2.5         |
| -10                                  |                    | -5                   | -0.0020               | 2.5         |
| -20                                  |                    | 4                    | 0.0016                | 2.5         |
| -30                                  |                    | 8                    | 0.0032                | 2.5         |
| 20                                   | 3.3                | -1                   | -0.0004               | 2.5         |
| 20                                   | 4.2                | -5                   | -0.0020               | 2.5         |

## LTE Band 12

| Test Frequency:707.5MHz QPSK 3MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.8                | 1                    | 0.0004                | 2.5         |
| 40                                |                    | 7                    | 0.0028                | 2.5         |
| 30                                |                    | 10                   | 0.0039                | 2.5         |
| 20                                |                    | 1                    | 0.0004                | 2.5         |
| 10                                |                    | 7                    | 0.0028                | 2.5         |
| 0                                 |                    | 7                    | 0.0028                | 2.5         |
| -10                               |                    | 5                    | 0.0020                | 2.5         |
| -20                               |                    | -8                   | -0.0032               | 2.5         |
| -30                               |                    | -4                   | -0.0016               | 2.5         |
| 20                                | 3.3                | 7                    | 0.0028                | 2.5         |
| 20                                | 4.2                | -4                   | -0.0016               | 2.5         |

| Test Frequency:707.5MHz 16QAM 3MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 4                    | 0.0016                | 2.5         |
| 40                                 |                    | 0                    | 0.0000                | 2.5         |
| 30                                 |                    | -5                   | -0.0020               | 2.5         |
| 20                                 |                    | 3                    | 0.0012                | 2.5         |
| 10                                 |                    | 11                   | 0.0043                | 2.5         |
| 0                                  |                    | -5                   | -0.0020               | 2.5         |
| -10                                |                    | 4                    | 0.0016                | 2.5         |
| -20                                |                    | -4                   | -0.0016               | 2.5         |
| -30                                |                    | 11                   | 0.0043                | 2.5         |
| 20                                 | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                 | 4.2                | 9                    | 0.0036                | 2.5         |

## LTE Band 12

| Test Frequency:707.5MHz QPSK 5MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.8                | 4                    | 0.0016                | 2.5         |
| 40                                |                    | 4                    | 0.0016                | 2.5         |
| 30                                |                    | 0                    | 0.0000                | 2.5         |
| 20                                |                    | 3                    | 0.0012                | 2.5         |
| 10                                |                    | 4                    | 0.0016                | 2.5         |
| 0                                 |                    | 6                    | 0.0024                | 2.5         |
| -10                               |                    | 7                    | 0.0028                | 2.5         |
| -20                               |                    | 1                    | 0.0004                | 2.5         |
| -30                               |                    | 6                    | 0.0024                | 2.5         |
| 20                                | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                | 4.2                | 9                    | 0.0036                | 2.5         |

| Test Frequency:707.5MHz 16QAM 5MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 3                    | 0.0012                | 2.5         |
| 40                                 |                    | 8                    | 0.0032                | 2.5         |
| 30                                 |                    | 5                    | 0.0020                | 2.5         |
| 20                                 |                    | 6                    | 0.0024                | 2.5         |
| 10                                 |                    | -1                   | -0.0004               | 2.5         |
| 0                                  |                    | 13                   | 0.0051                | 2.5         |
| -10                                |                    | 6                    | 0.0024                | 2.5         |
| -20                                |                    | -1                   | -0.0004               | 2.5         |
| -30                                |                    | 12                   | 0.0047                | 2.5         |
| 20                                 | 3.3                | 5                    | 0.0020                | 2.5         |
| 20                                 | 4.2                | 14                   | 0.0055                | 2.5         |

## LTE Band 12

| Test Frequency:707.5MHz QPSK 10MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 10                   | 0.0039                | 2.5         |
| 40                                 |                    | -6                   | -0.0024               | 2.5         |
| 30                                 |                    | 11                   | 0.0043                | 2.5         |
| 20                                 |                    | 3                    | 0.0012                | 2.5         |
| 10                                 |                    | 6                    | 0.0024                | 2.5         |
| 0                                  |                    | -2                   | -0.0008               | 2.5         |
| -10                                |                    | 12                   | 0.0047                | 2.5         |
| -20                                |                    | 9                    | 0.0036                | 2.5         |
| -30                                |                    | 4                    | 0.0016                | 2.5         |
| 20                                 | 3.3                | -5                   | -0.0020               | 2.5         |
| 20                                 | 4.2                | 10                   | 0.0039                | 2.5         |

| Test Frequency:707.5MHz 16QAM 10MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 6                    | 0.0024                | 2.5         |
| 40                                  |                    | -5                   | -0.0020               | 2.5         |
| 30                                  |                    | -7                   | -0.0028               | 2.5         |
| 20                                  |                    | -2                   | -0.0008               | 2.5         |
| 10                                  |                    | 0                    | 0.0000                | 2.5         |
| 0                                   |                    | -1                   | -0.0004               | 2.5         |
| -10                                 |                    | -3                   | -0.0012               | 2.5         |
| -20                                 |                    | 0                    | 0.0000                | 2.5         |
| -30                                 |                    | 0                    | 0.0000                | 2.5         |
| 20                                  | 3.3                | -10                  | -0.0039               | 2.5         |
| 20                                  | 4.2                | -1                   | -0.0004               | 2.5         |



## LTE Band 17

| Test Frequency: 710.0MHz QPSK 5MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.8                | 3                    | 0.0012                | 2.5         |
| 40                                 |                    | -6                   | -0.0024               | 2.5         |
| 30                                 |                    | 5                    | 0.0020                | 2.5         |
| 20                                 |                    | 2                    | 0.0008                | 2.5         |
| 10                                 |                    | 7                    | 0.0028                | 2.5         |
| 0                                  |                    | 3                    | 0.0012                | 2.5         |
| -10                                |                    | 8                    | 0.0032                | 2.5         |
| -20                                |                    | 7                    | 0.0028                | 2.5         |
| -30                                |                    | 5                    | 0.0020                | 2.5         |
| 20                                 | 3.3                | 3                    | 0.0012                | 2.5         |
| 20                                 | 4.2                | 9                    | 0.0036                | 2.5         |

| Test Frequency: 710.0MHz 16QAM 5MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 5                    | 0.0020                | 2.5         |
| 40                                  |                    | 1                    | 0.0004                | 2.5         |
| 30                                  |                    | 0                    | 0.0000                | 2.5         |
| 20                                  |                    | 5                    | 0.0020                | 2.5         |
| 10                                  |                    | 5                    | 0.0020                | 2.5         |
| 0                                   |                    | 0                    | 0.0000                | 2.5         |
| -10                                 |                    | 1                    | 0.0004                | 2.5         |
| -20                                 |                    | 0                    | 0.0000                | 2.5         |
| -30                                 |                    | 1                    | 0.0004                | 2.5         |
| 20                                  | 3.3                | 13                   | 0.0051                | 2.5         |
| 20                                  | 4.2                | -1                   | -0.0004               | 2.5         |

## LTE Band 17

| Test Frequency: 710.0MHz QPSK 10MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.8                | 3                    | 0.0012                | 2.5         |
| 40                                  |                    | 10                   | 0.0039                | 2.5         |
| 30                                  |                    | 17                   | 0.0067                | 2.5         |
| 20                                  |                    | 8                    | 0.0032                | 2.5         |
| 10                                  |                    | 1                    | 0.0004                | 2.5         |
| 0                                   |                    | 1                    | 0.0004                | 2.5         |
| -10                                 |                    | 15                   | 0.0059                | 2.5         |
| -20                                 |                    | 14                   | 0.0055                | 2.5         |
| -30                                 |                    | 7                    | 0.0028                | 2.5         |
| 20                                  | 3.3                | 3                    | 0.0012                | 2.5         |
| 20                                  | 4.2                | 1                    | 0.0004                | 2.5         |

| Test Frequency: 710.0MHz 16QAM 10MHz |                    |                      |                       |             |
|--------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                     | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                   | 3.8                | 7                    | 0.0028                | 2.5         |
| 40                                   |                    | 10                   | 0.0039                | 2.5         |
| 30                                   |                    | 3                    | 0.0012                | 2.5         |
| 20                                   |                    | 2                    | 0.0008                | 2.5         |
| 10                                   |                    | 1                    | 0.0004                | 2.5         |
| 0                                    |                    | 1                    | 0.0004                | 2.5         |
| -10                                  |                    | 7                    | 0.0028                | 2.5         |
| -20                                  |                    | 7                    | 0.0028                | 2.5         |
| -30                                  |                    | 10                   | 0.0039                | 2.5         |
| 20                                   | 3.3                | 5                    | 0.0020                | 2.5         |
| 20                                   | 4.2                | -5                   | -0.0020               | 2.5         |

## **15 RF Exposure**

Remark: refer to SAR test report: WTS18S06115304-1W.

## **16 Photographs of test setup and EUT.**

Note: Please refer to appendix: WTS18S06115304W\_Photo.

===== End of Report =====