

# TEST REPORT

Reference No. .... : WTS17S0681214-4E  
FCC ID ..... : N2GSL505  
Applicant..... : DOPPIO MOBILE INTERNATIONAL LIMITED  
Address..... : ROOM 1708, 17/f HART AVENUE PLAZA, 5-9 HART AVENUE TISM  
SHA TSUI, Kowloon, Hongkong  
Manufacturer ..... : The same as above  
Address..... : The same as above  
Product Name ..... : Mobile Phone  
Model No. .... : Doppio SL505  
Brand..... : doppio  
Standards..... : FCC CFR47 Part 24 Subpart E: 2016  
FCC CFR47 Part 27 Subpart L:2016  
Date of Receipt sample .... : Jun. 06, 2017  
Date of Test ..... : Jun. 07 ~ 20, 2017  
Date of Issue..... : Jun. 21, 2017  
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 Test Group Ltd** is a professional third-party testing and certification organization with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by CNAS (China National Accreditation Service for Conformity Assessment) AQSIQ, CMA and IECEE for CBTL. 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), CPSC(Consumer Product Safety Commission), CEC(California energy efficiency), IC(Industry Canada) and ELI(Efficient Lighting Initiative). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as UL, Intertek(ETL-SEMKO), CSA, TÜV Rheinland, TÜV SÜD, etc.



**Waltek Services Test Group Ltd.** is one of the largest and the most comprehensive third party testing organizations in China, our headquarter located in Shenzhen and have branches in Foshan, Dongguan, Zhongshan, Suzhou, Ningbo and Hong Kong, Our test capability covered four large fields: safety test. ElectroMagnetic Compatibility(EMC), reliability and energy performance, Chemical test. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

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## 4 Revision History

| Test report No.  | Date of Receipt sample | Date of Test       | Date of Issue | Purpose  | Comment | Approved |
|------------------|------------------------|--------------------|---------------|----------|---------|----------|
| WTS17S0681214-4E | Jun. 06, 2017          | Jun. 07 ~ 20, 2017 | Jun. 21, 2017 | original | -       | Valid    |

## 5 General Information

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

|                                       |                              |
|---------------------------------------|------------------------------|
| Product Name:                         | Mobile Phone                 |
| Model No.:                            | Doppio SL505                 |
| Model Description:                    | N/A                          |
| GSM Band(s):                          | GSM 850/900/1800/1900MHz     |
| GPRS/EGPRS Class:                     | 12                           |
| WCDMA Band(s):                        | FDD Band I/II/V              |
| LTE Band(s):                          | FDD Band 2/4/7               |
| 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:                     | SWW1631_0301_V5156           |
| Software Version:                     | SWW1631_Mainboard_P2         |
| 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<br>PCS/GPRS/EDGE 1900: 1850~1910MHz<br>WCDMA Band II: 1850~1910MHz<br>WCDMA Band V: 824~849MHz<br>LTE Band 2: 1850~1910MHz<br>LTE Band 4: 1710~1755MHz<br>LTE Band 7: 2500-2570MHz<br>WiFi:<br>802.11b/g/n HT20: 2412~2462MHz<br>802.11n HT40: 2422~2452MHz<br>Bluetooth: 2402~2480MHz |
| Max. RF output power: | GSM 850: 32.94dBm<br>PCS1900: 29.99dBm<br>WCDMA Band II: 22.72dBm<br>WCDMA Band V: 22.85dBm<br>LTE Band 2: 22.99dBm                                                                                                                                                                                                  |

|                       |                                                      |
|-----------------------|------------------------------------------------------|
|                       | LTE Band 4: 24.82dBm                                 |
|                       | LTE Band 7: 23.85dBm                                 |
|                       | WiFi(2.4G): 9.46dBm                                  |
|                       | Bluetooth: 3.89dBm                                   |
| 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: -2.0dBi                                     |
|                       | PCS1900: -1.1dBi                                     |
|                       | WCDMA Band II: -1.1dBi                               |
|                       | WCDMA Band V: -2.0dBi                                |
|                       | LTE Band 2: -1.1dBi                                  |
|                       | LTE Band 4: -1.4dBi                                  |
|                       | LTE Band 7: -1.2dBi                                  |
|                       | WiFi(2.4G): 1.9dBi                                   |
|                       | Bluetooth: 1.9dBi                                    |
| Technical Data:       | Battery DC 3.85V, 3000mAh                            |
|                       | DC 5V, 2.0A, charging from adapter                   |
|                       | (Adapter Input: 100-240V~50/60Hz 0.35A)              |
| Adapter:              | Manufacture: Dongguan Aohai Power Technology Co.,Ltd |
|                       | Model No.: A8A-050200U-US1                           |
| Type of Emission:     | LTE Band 2 1.4MHz: 1M10G7D(QPSK), 1M09W7D(16QAM)     |
|                       | LTE Band 2 3MHz: 2M73G7D(QPSK), 2M73W7D(16QAM)       |
|                       | LTE Band 2 5MHz: 4M51G7D(QPSK), 4M50W7D(16QAM)       |
|                       | LTE Band 2 10 MHz: 8M93G7D(QPSK), 8M92W7D(16QAM)     |
|                       | LTE Band 2 15MHz: 13M5G7D(QPSK), 13M5W7D(16QAM)      |
|                       | LTE Band 2 20MHz: 17M9G7D(QPSK), 17M9W7D(16QAM)      |
|                       | LTE Band 4 1.4MHz: 1M09G7D(QPSK), 1M09W7D(16QAM)     |
|                       | LTE Band 4 3MHz: 2M73G7D(QPSK), 2M73W7D(16QAM)       |
|                       | LTE Band 4 5MHz: 4M50G7D(QPSK), 4M50W7D(16QAM)       |
|                       | LTE Band 4 10 MHz: 8M93G7D(QPSK), 8M92W7D(16QAM)     |
|                       | LTE Band 4 15MHz: 13M5G7D(QPSK), 13M5W7D(16QAM)      |
|                       | LTE Band 4 20MHz: 17M9G7D(QPSK), 17M9W7D(16QAM)      |
|                       | LTE Band 7 5MHz: 4M51G7D(QPSK), 4M50W7D(16QAM)       |
|                       | LTE Band 7 10 MHz: 8M94G7D(QPSK), 8M92W7D(16QAM)     |
|                       | LTE Band 7 15MHz: 13M5G7D(QPSK), 13M5W7D(16QAM)      |

LTE Band 7 20MHz: 17M9G7D(QPSK), 17M9W7D(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 7   | 5                 | 2502.5 MHz        | 20775          |
|              |                   | 2535 MHz          | 21100          |

|                                                                  |    |            |       |
|------------------------------------------------------------------|----|------------|-------|
|                                                                  | 10 | 2567.5 MHz | 21425 |
|                                                                  |    | 2505.0 MHz | 20800 |
|                                                                  |    | 2535 MHz   | 21100 |
|                                                                  |    | 2565.0 MHz | 21400 |
|                                                                  | 15 | 2507.5 MHz | 20825 |
|                                                                  |    | 2535 MHz   | 21100 |
|                                                                  |    | 2562.5 MHz | 21375 |
|                                                                  | 20 | 2510.0 MHz | 20850 |
|                                                                  |    | 2535 MHz   | 21100 |
|                                                                  |    | 2560.0 MHz | 21350 |
| Remark: All mode(s) were tested and the worst data was recorded. |    |            |       |

#### 5.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A**

Waltek Services(Shenzhen) Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2015.

- **FCC Test Site 1#– Registration No.: 880581**

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 328995, December 3, 2014.

## 6 Test Summary

| Test Items                             | Test Requirement                                 | Result |
|----------------------------------------|--------------------------------------------------|--------|
| RF Output Power                        | 2.1046<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>24.238<br>27.53(a)                     | PASS   |
| Spurious Emissions at Antenna Terminal | 2.1051<br>24.238 (a)<br>27.53(h)<br>27.53(m)(4)  | PASS   |
| Field Strength of Spurious Radiation   | 2.1053<br>24.238 (a)<br>27.53(h)<br>27.53(m)(4)  | PASS   |
| Out of band emission                   | 24.238 (a)<br>27.53(h)<br>27.53(m)(4)            | PASS   |
| Frequency Stability                    | 2.1055<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          | Sep.12,2016           | Sep.11,2017          |
| 2.                                                            | LISN                       | R&S                  | ENV216       | 101215          | Sep.12,2016           | Sep.11,2017          |
| 3.                                                            | Cable                      | Top                  | TYPE16(3.5M) | -               | Sep.12,2016           | Sep.11,2017          |
| 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          | Sep.12,2016           | Sep.11,2017          |
| 2.                                                            | LISN                       | SCHWARZBECK          | NSLK 8128    | 8128-289        | Sep.12,2016           | Sep.11,2017          |
| 3.                                                            | Limiter                    | York                 | MTS-IMP-136  | 261115-001-0024 | Sep.12,2016           | Sep.11,2017          |
| 4.                                                            | Cable                      | LARGE                | RF300        | -               | Sep.12,2016           | Sep.11,2017          |
| 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          | Apr.29, 2017          | Apr.28, 2018         |
| 2                                                             | Active Loop Antenna        | Beijing Dazhi        | ZN30900A     | -               | Apr.09,2017           | Apr.08,2018          |
| 3                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9163     | 336             | Apr.09,2017           | Apr.08,2018          |
| 4                                                             | Coaxial Cable (below 1GHz) | Top                  | TYPE16(13M)  | -               | Sep.12,2016           | Sep.11,2017          |
| 5                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9120 D  | 667             | Apr.09,2017           | Apr.08,2018          |
| 6                                                             | Broad-band Horn Antenna    | SCHWARZBECK          | BBHA 9170    | 335             | Apr.09,2017           | Apr.08,2018          |
| 7                                                             | Broadband Preamplifier     | COMPLIANCE DIRECTION | PAP-1G18     | 2004            | Apr.13,2017           | Apr.12,2018          |
| 8                                                             | Coaxial Cable (above 1GHz) | Top                  | 1GHz-25GHz   | EW02014-7       | Apr.13,2017           | Apr.12,2018          |
| 9                                                             | Signal Generator           | R&S                  | SMR20        | 100046          | Sep.12,2016           | Sep.11,2017          |
| 10                                                            | Smart Antenna              | SCHWARZBECK          | HA08         | -               | Apr.09,2017           | Apr.08,2018          |
| 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          | Apr.13,2017           | Apr.12,2018          |
| 2                                                             | Trilog Broadband Antenna   | SCHWARZBECK          | VULB9160     | 9160-3325       | Apr.09,2017           | Apr.08,2018          |

| 3                           | Amplifier                                  | Compliance<br>pirection<br>systems inc | PAP-0203  | 22024      | Apr.13,2017                 | Apr.12,2018             |
|-----------------------------|--------------------------------------------|----------------------------------------|-----------|------------|-----------------------------|-------------------------|
| 4                           | Cable                                      | HUBER+SUHNER                           | CBL2      | 525178     | Apr.13,2017                 | Apr.12,2018             |
| <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 | Sep.12,2016                 | Sep.11,2017             |
| 2.                          | Spectrum Analyzer                          | Agilent                                | N9020A    | MY49100060 | Sep.12,2016                 | Sep.11,2017             |
| 3.                          | Universal Radio<br>Communication<br>Tester | R&S                                    | CMW 500   | 127818     | Apr.13,2017                 | Apr.12,2018             |
| 4                           | Signal Analyzer<br>(9k~26.5GHz)            | Agilent                                | N9010A    | MY50520207 | Sep.12,2016                 | Sep.11,2017             |

## 7.2 Measurement Uncertainty

| Parameter                                       | Uncertainty                                    |
|-------------------------------------------------|------------------------------------------------|
| Radio Frequency                                 | $\pm 1 \times 10^{-6}$                         |
| RF Power                                        | $\pm 1.0$ dB                                   |
| RF Power Density                                | $\pm 2.2$ dB                                   |
| Radiated Spurious Emissions test                | $\pm 5.03$ dB (Bilog antenna 30M~1000MHz)      |
|                                                 | $\pm 5.47$ dB (Horn antenna 1000M~25000MHz)    |
| Conducted Spurious Emissions test               | $\pm 3.64$ dB (Active Loop antenna 9kHz~30MHz) |
| 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, 24.232 (c), 27.50(h.2); 27.50(d.4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02          |
| Test Mode:        | TX transmitting                                     |

### 8.1 EUT Operation

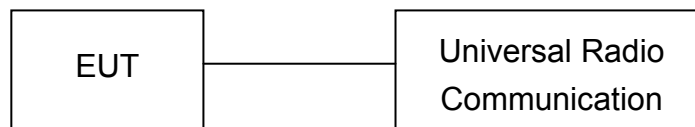
Operating Environment :

|                       |           |
|-----------------------|-----------|
| 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            | 22.28               | 22.0±1               | /        |
|         |       |           |       | 1                | 2            | 22.34               | 22.0±1               | /        |
|         |       |           |       | 1                | 5            | 22.31               | 22.0±1               | /        |
|         |       |           |       | 3                | 0            | 21.3                | 21.0±1               | /        |
|         |       |           |       | 3                | 1            | 21.3                | 21.0±1               | /        |
|         |       |           |       | 3                | 2            | 21.28               | 21.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.25               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.33               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 21.37               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 21.33               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 21.31               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 20.45               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.92               | 22.0±1               | /        |
|         |       |           |       | 1                | 2            | 22.90               | 22.0±1               | /        |
|         |       |           |       | 1                | 5            | 22.94               | 22.0±1               | /        |
|         |       |           |       | 3                | 0            | 21                  | 21.0±1               | /        |
|         |       |           |       | 3                | 1            | 21.1                | 21.0±1               | /        |
|         |       |           |       | 3                | 2            | 21.3                | 21.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.92               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.28               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 21.33               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 21.26               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 21.15               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 21.11               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 21.14               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 20.9                | 21.0±1               | 1.0      |
|         | 19193 | 1909.3    | QPSK  | 1                | 0            | 21.93               | 22.0±1               | /        |
|         |       |           |       | 1                | 2            | 21.99               | 22.0±1               | /        |
|         |       |           |       | 1                | 5            | 21.92               | 22.0±1               | /        |
|         |       |           |       | 3                | 0            | 21.03               | 21.0±1               | /        |
|         |       |           |       | 3                | 1            | 21.02               | 21.0±1               | /        |
|         |       |           |       | 3                | 2            | 21.02               | 21.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.03               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.04               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 21.07               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 21.04               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 21.25               | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 21.2                | 21.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 21.2                | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 20.17               | 21.0±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            | 22.24               | 22.0±1               | /        |
|         |       |           |       | 1                | 8            | 22.32               | 22.0±1               | /        |
|         |       |           |       | 1                | 14           | 22.23               | 22.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.27               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.09               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 21.13               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 21.07               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 20.43               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 20.42               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 20.43               | 21.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 20.32               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.82               | 22.0±1               | /        |
|         |       |           |       | 1                | 8            | 22.91               | 22.0±1               | /        |
|         |       |           |       | 1                | 14           | 22.81               | 22.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.92               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.91               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.91               | 21.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 21.86               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.16               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 21.23               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 21.16               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 21.05               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.06               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.04               | 21.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 20.96               | 21.0±1               | 1.0      |
|         | 19185 | 1908.5    | QPSK  | 1                | 0            | 21.95               | 22.0±1               | /        |
|         |       |           |       | 1                | 8            | 21.94               | 22.0±1               | /        |
|         |       |           |       | 1                | 14           | 21.86               | 22.0±1               | /        |
|         |       |           |       | 6                | 0            | 21.13               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 21.11               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 21.1                | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 15               | 0            | 21.06               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 21.06               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 21.04               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 20.96               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 20.14               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 20.12               | 21.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 20.11               | 21.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 20.98               | 21.0±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            | 22.3                | 22.0±1               | /        |
|         |       |           |       | 1                | 12           | 22.31               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 22.3                | 22.0±1               | /        |
|         |       |           |       | 12               | 0            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.31               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.23               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.22               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 21.25               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.25               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 20.35               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 20.35               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 20.35               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.38               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.89               | 22.0±1               | /        |
|         |       |           |       | 1                | 12           | 22.96               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 22.81               | 22.0±1               | /        |
|         |       |           |       | 12               | 0            | 21.88               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.93               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.88               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.83               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.1                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 21.22               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.08               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.04               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.07               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.02               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.92               | 21.0±1               | 1.0      |
|         | 19175 | 1907.5    | QPSK  | 1                | 0            | 22.06               | 22.0±1               | /        |
|         |       |           |       | 1                | 12           | 22.02               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 21.91               | 22.0±1               | /        |
|         |       |           |       | 12               | 0            | 21.16               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 21.11               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 21.08               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 25               | 0            | 21.09               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 21.81               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 12           | 21.8                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.71               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 20.16               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 6            | 20.12               | 21.0±1               | 1.0      |
|         |       |           |       | 12               | 11           | 20.06               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.01               | 21.0±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            | 22.42               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 22.45               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 22.51               | 22.0±1               | /        |
|         |       |           |       | 25               | 0            | 21.31               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.34               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.38               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.37               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.25               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.25               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.38               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 20.4                | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 20.45               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.38               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.86               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 22.72               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 22.78               | 22.0±1               | /        |
|         |       |           |       | 25               | 0            | 21.88               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.91               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.84               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.89               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.15               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.34               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.13               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.96               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.01               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 20.95               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.95               | 21.0±1               | 1.0      |
|         | 19150 | 1905      | QPSK  | 1                | 0            | 22.22               | 22.0±1               | /        |
|         |       |           |       | 1                | 24           | 22.12               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 21.94               | 22.0±1               | /        |
|         |       |           |       | 25               | 0            | 21.17               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 21.08               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 21.11               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 50               | 0            | 21.1                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 21.22               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 24           | 21.08               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.03               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.29               | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 12           | 20.2                | 21.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 20.14               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.17               | 21.0±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            | 22.43               | 22.0±1               | /        |
|         |       |           |       | 1                | 37           | 22.51               | 22.0±1               | /        |
|         |       |           |       | 1                | 74           | 22.65               | 22.0±1               | /        |
|         |       |           |       | 36               | 0            | 21.5                | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.55               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.63               | 21.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 21.58               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.3                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 21.37               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 21.5                | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 20.54               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 20.57               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 20.65               | 21.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 20.59               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.78               | 22.0±1               | /        |
|         |       |           |       | 1                | 37           | 22.99               | 22.0±1               | /        |
|         |       |           |       | 1                | 74           | 22.67               | 22.0±1               | /        |
|         |       |           |       | 36               | 0            | 21.85               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.93               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.79               | 21.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 21.89               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.09               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 21.32               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 21.01               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 20.94               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.01               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 20.88               | 21.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 20.92               | 21.0±1               | 1.0      |
|         | 19125 | 1902.5    | QPSK  | 1                | 0            | 22.78               | 22.0±1               | /        |
|         |       |           |       | 1                | 37           | 22.63               | 22.0±1               | /        |
|         |       |           |       | 1                | 74           | 22.42               | 22.0±1               | /        |
|         |       |           |       | 36               | 0            | 21.64               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 21.59               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 21.54               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 75               | 0            | 21.63               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 21.16               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 37           | 21.91               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 74           | 21.67               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 20.67               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 16           | 20.57               | 21.0±1               | 1.0      |
|         |       |           |       | 36               | 35           | 20.5                | 21.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 20.61               | 21.0±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            | 22.44               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 22.54               | 22.0±1               | /        |
|         |       |           |       | 1                | 99           | 22.63               | 22.0±1               | /        |
|         |       |           |       | 50               | 0            | 21.44               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.48               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.58               | 21.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.5                | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.93               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.03               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 21.13               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.52               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 20.55               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 20.66               | 21.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 20.57               | 21.0±1               | 1.0      |
|         | 18900 | 1880      | QPSK  | 1                | 0            | 22.81               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 22.99               | 22.0±1               | /        |
|         |       |           |       | 1                | 99           | 22.6                | 22.0±1               | /        |
|         |       |           |       | 50               | 0            | 21.84               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.92               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.78               | 21.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.79               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.19               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.4                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 21.08               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.92               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 20.94               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 20.84               | 21.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 20.85               | 21.0±1               | 1.0      |
|         | 19100 | 1900      | QPSK  | 1                | 0            | 22.01               | 22.0±1               | /        |
|         |       |           |       | 1                | 49           | 22.6                | 22.0±1               | /        |
|         |       |           |       | 1                | 99           | 22.42               | 22.0±1               | /        |
|         |       |           |       | 50               | 0            | 21.74               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.56               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.48               | 21.0±1               | 1.0      |
|         |       |           | 16QAM | 100              | 0            | 21.61               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 21.4                | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.95               | 21.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 21.74               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 20.79               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 20.61               | 21.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 20.54               | 21.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 20.68               | 21.0±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            | 24.21               | 24.0±1               | /        |
|         |       |           |       | 1                | 2            | 24.21               | 24.0±1               | /        |
|         |       |           |       | 1                | 5            | 24.24               | 24.0±1               | /        |
|         |       |           |       | 3                | 0            | 24.2                | 24.0±1               | /        |
|         |       |           |       | 3                | 1            | 24.24               | 24.0±1               | /        |
|         |       |           |       | 3                | 2            | 24.23               | 24.0±1               | /        |
|         |       |           | 16QAM | 6                | 0            | 23.2                | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.17               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 23.23               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 23.2                | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 23.19               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 23.81               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 23.88               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 23.92               | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 24.9                | 24.0±1               | /        |
|         |       |           |       | 1                | 2            | 24.9                | 24.0±1               | /        |
|         |       |           |       | 1                | 5            | 24.97               | 24.0±1               | /        |
|         |       |           |       | 3                | 0            | 23.97               | 24.0±1               | /        |
|         |       |           |       | 3                | 1            | 24.03               | 24.0±1               | /        |
|         |       |           |       | 3                | 2            | 24.14               | 24.0±1               | /        |
|         |       |           | 16QAM | 6                | 0            | 23.09               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.11               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 23.11               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 23.14               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 23.23               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 23.57               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 23.64               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 23.55               | 23.0±1               | 1.0      |
|         | 20393 | 1754.3    | QPSK  | 1                | 0            | 24.55               | 24.0±1               | /        |
|         |       |           |       | 1                | 2            | 24.55               | 24.0±1               | /        |
|         |       |           |       | 1                | 5            | 24.55               | 24.0±1               | /        |
|         |       |           |       | 3                | 0            | 24.59               | 24.0±1               | /        |
|         |       |           |       | 3                | 1            | 24.8                | 24.0±1               | /        |
|         |       |           |       | 3                | 2            | 24.87               | 24.0±1               | /        |
|         |       |           | 16QAM | 6                | 0            | 23.8                | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.71               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 2            | 23.69               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 5            | 23.73               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 0            | 23.45               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 1            | 23.94               | 23.0±1               | 1.0      |
|         |       |           |       | 3                | 2            | 23                  | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 23.89               | 23.0±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            | 24.21               | 24.0±1               | /        |
|         |       |           |       | 1                | 8            | 24.32               | 24.0±1               | /        |
|         |       |           |       | 1                | 14           | 24.26               | 24.0±1               | /        |
|         |       |           |       | 6                | 0            | 23.26               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 23.27               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 23.29               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 23.2                | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.93               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 23.02               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 23.98               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 23.33               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 23.32               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 23.33               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 23.2                | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 24.61               | 24.0±1               | /        |
|         |       |           |       | 1                | 8            | 24.63               | 24.0±1               | /        |
|         |       |           |       | 1                | 14           | 24.58               | 24.0±1               | /        |
|         |       |           |       | 6                | 0            | 23.66               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 23.69               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 23.66               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 23.57               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.77               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 23.85               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 23.76               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 0            | 23.66               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 23.67               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 23.65               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 23.57               | 23.0±1               | 1.0      |
|         | 20385 | 1753.5    | QPSK  | 1                | 0            | 24                  | 24.0±1               | /        |
|         |       |           |       | 1                | 8            | 24.96               | 24.0±1               | /        |
|         |       |           |       | 1                | 14           | 24.82               | 24.0±1               | /        |
|         |       |           |       | 6                | 0            | 23.05               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 4            | 23.02               | 23.0±1               | 1.0      |
|         |       |           |       | 6                | 9            | 23.98               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 23.9                | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.79               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 8            | 23.73               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 14           | 23.61               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 0            | 22.94               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 4            | 22.91               | 23.0±1               | 1.0      |
|         |       |           |       | 8                | 9            | 22.86               | 23.0±1               | 1.0      |
|         |       |           |       | 15               | 0            | 22.76               | 23.0±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            | 24.18               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.23               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.35               | 24.0±1               | /        |
|         |       |           |       | 12               | 0            | 23.19               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 23.19               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 23.23               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 23.15               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.04               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.06               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.11               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 23.18               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 23.18               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 23.2                | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 23.23               | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 24.65               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.05               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.32               | 24.0±1               | /        |
|         |       |           |       | 12               | 0            | 23.45               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 23.15               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 23.13               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 23.24               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.63               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.24               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.51               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 22.53               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.3                | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.28               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.31               | 23.0±1               | 1.0      |
|         | 20375 | 1752.5    | QPSK  | 1                | 0            | 24.09               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.97               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.83               | 24.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.93               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.85               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.8                | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 25               | 0            | 22.79               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.51               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.36               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.25               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 22.84               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.77               | 23.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.72               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.65               | 23.0±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            | 24.17               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.31               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.4                | 24.0±1               | /        |
|         |       |           |       | 25               | 0            | 23.07               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 23.05               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 23.11               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 23.04               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.91               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.96               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.03               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.95               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.91               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.85               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.89               | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 23.84               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.45               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.46               | 24.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.8                | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.51               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.35               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.54               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.3                | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.96               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.62               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.8                | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.77               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.59               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.68               | 23.0±1               | 1.0      |
|         | 20350 | 1750      | QPSK  | 1                | 0            | 24.37               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.17               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.67               | 24.0±1               | /        |
|         |       |           |       | 25               | 0            | 23.24               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 23.04               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.92               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 50               | 0            | 23.04               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.25               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.95               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.67               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.26               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.09               | 23.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.94               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.04               | 23.0±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            | 24.23               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.43               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.46               | 24.0±1               | /        |
|         |       |           |       | 36               | 0            | 23.39               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 23.47               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 23.56               | 23.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 23.47               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23                  | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.1                | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.26               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 22.3                | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.37               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.43               | 23.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.37               | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 24.65               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.9                | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.94               | 24.0±1               | /        |
|         |       |           |       | 36               | 0            | 23.48               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 23.07               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.9                | 23.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 23.17               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.75               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.24               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.27               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 22.58               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.18               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.01               | 23.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.29               | 23.0±1               | 1.0      |
|         | 20325 | 1747.5    | QPSK  | 1                | 0            | 24.41               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.34               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.93               | 24.0±1               | /        |
|         |       |           |       | 36               | 0            | 23.51               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 23.41               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 23.22               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 75               | 0            | 23.4                | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.49               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.43               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.97               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 22.45               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.27               | 23.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.08               | 23.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.28               | 23.0±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            | 24.23               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.42               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.09               | 24.0±1               | /        |
|         |       |           |       | 50               | 0            | 23.31               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 23.38               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 23.46               | 23.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 23.36               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.66               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.79               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.63               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.3                | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.35               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.43               | 23.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.35               | 23.0±1               | 1.0      |
|         | 20175 | 1732.5    | QPSK  | 1                | 0            | 24.65               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.82               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 24.02               | 24.0±1               | /        |
|         |       |           |       | 50               | 0            | 23.49               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 23.92               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.84               | 23.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 23.16               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 23.74               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.17               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.36               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.5                | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.09               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.84               | 23.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.18               | 23.0±1               | 1.0      |
|         | 20300 | 1745      | QPSK  | 1                | 0            | 24.16               | 24.0±1               | /        |
|         |       |           |       | 1                | 49           | 24.19               | 24.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.82               | 24.0±1               | /        |
|         |       |           |       | 50               | 0            | 23.22               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 23.27               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 23.07               | 23.0±1               | 1.0      |
|         |       |           | 16QAM | 100              | 0            | 23.25               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 23.39               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 23.46               | 23.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 23.01               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 23.14               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.25               | 23.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.01               | 23.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.21               | 23.0±1               | 1.0      |

**LTE Band 7:**

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 5MHz    | 20775 | 2502.5    | QPSK  | 1                | 0            | 23.04               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.39               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 22.98               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.51               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.14               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.81               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.49               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.16               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.55               | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 24           | 21.36               | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 49           | 21.21               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 0            | 21.25               | 21.0±1               | 2.0      |
|         | 21100 | 2535      | QPSK  | 1                | 0            | 22.92               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.05               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.15               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.04               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.1                | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.04               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.67               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.78               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.86               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.04               | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 24           | 21.1                | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 49           | 21.18               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 0            | 21.95               | 21.0±1               | 2.0      |
|         | 21425 | 2567.5    | QPSK  | 1                | 0            | 23.23               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.21               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.15               | 23.0±1               | /        |
|         |       |           |       | 12               | 0            | 22.16               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 24           | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 49           | 22.21               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 22.16               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.06               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.09               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.04               | 22.0±1               | 1.0      |
|         |       |           |       | 12               | 0            | 21.2                | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 24           | 21.17               | 21.0±1               | 2.0      |
|         |       |           |       | 12               | 49           | 21.13               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 0            | 21.2                | 21.0±1               | 2.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 10MHz   | 20800 | 2505      | QPSK  | 1                | 0            | 23.84               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.07               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 22.8                | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.29               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22                  | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 21.87               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.1                | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.5                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 21.86               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 21.67               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.3                | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 24           | 21.01               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 49           | 20.89               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 0            | 21.06               | 21.0±1               | 2.0      |
|         | 21100 | 2535      | QPSK  | 1                | 0            | 22.92               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.14               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.38               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 21.95               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 22.09               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.67               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 20.96               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 24           | 21.08               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 49           | 21.23               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 0            | 21.08               | 21.0±1               | 2.0      |
|         | 21400 | 2565      | QPSK  | 1                | 0            | 23.5                | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.33               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.21               | 23.0±1               | /        |
|         |       |           |       | 25               | 0            | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 24           | 22.22               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 49           | 22.18               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 50               | 0            | 22.24               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.15               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.05               | 22.0±1               | 1.0      |
|         |       |           |       | 25               | 0            | 21.42               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 24           | 21.32               | 21.0±1               | 2.0      |
|         |       |           |       | 25               | 49           | 21.28               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 0            | 21.29               | 21.0±1               | 2.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 15MHz   | 20825 | 2507.5    | QPSK  | 1                | 0            | 22.85               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.02               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.21               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.76               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.42               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.57               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 22.43               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 24           | 22.48               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 49           | 22.69               | 21.0±1               | 2.0      |
|         |       |           |       | 75               | 0            | 22.44               | 21.0±1               | 2.0      |
|         | 21100 | 2535      | QPSK  | 1                | 0            | 23.36               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.44               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.38               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.43               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.85               | 22.0±1               | 1.0      |
|         |       |           |       | 75               | 0            | 22.02               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.21               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.4                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 21.76               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 24           | 21.42               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 49           | 21.31               | 21.0±1               | 2.0      |
|         |       |           |       | 75               | 0            | 21.57               | 21.0±1               | 2.0      |
|         | 21375 | 2562.5    | QPSK  | 1                | 0            | 23.4                | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.43               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.48               | 23.0±1               | /        |
|         |       |           |       | 36               | 0            | 22.69               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 24           | 22.44               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 49           | 22.36               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 75               | 0            | 22.44               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.32               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.43               | 22.0±1               | 1.0      |
|         |       |           |       | 36               | 0            | 22.85               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 24           | 21.02               | 21.0±1               | 2.0      |
|         |       |           |       | 36               | 49           | 21.21               | 21.0±1               | 2.0      |
|         |       |           |       | 75               | 0            | 21.4                | 21.0±1               | 2.0      |

| BW(MHz) | Ch    | Freq(MHz) | Mode  | UL RB Allocation | UL RB Offset | Average Power (dbm) | Tune up limited(dBm) | MPR (dB) |
|---------|-------|-----------|-------|------------------|--------------|---------------------|----------------------|----------|
| 20MHz   | 20850 | 2510      | QPSK  | 1                | 0            | 23.56               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.71               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.55               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 21.98               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 21.68               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 21.56               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 21.76               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 21.99               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.21               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21                  | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 24           | 20.7                | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 49           | 20.57               | 21.0±1               | 2.0      |
|         |       |           |       | 100              | 0            | 20.79               | 21.0±1               | 2.0      |
|         | 21100 | 2535      | QPSK  | 1                | 0            | 23.82               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.85               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.76               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 22.94               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.94               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.45               | 22.0±1               | 1.0      |
|         |       |           |       | 100              | 0            | 22.17               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 1                | 0            | 22.2                | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.47               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.07               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.94               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 24           | 21.12               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 49           | 21.44               | 21.0±1               | 2.0      |
|         |       |           |       | 100              | 0            | 21.15               | 21.0±1               | 2.0      |
|         | 21350 | 2560      | QPSK  | 1                | 0            | 23.46               | 23.0±1               | /        |
|         |       |           |       | 1                | 49           | 23.23               | 23.0±1               | /        |
|         |       |           |       | 1                | 99           | 23.17               | 23.0±1               | /        |
|         |       |           |       | 50               | 0            | 22.53               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 24           | 22.69               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 49           | 22.29               | 22.0±1               | 1.0      |
|         |       |           | 16QAM | 100              | 0            | 22.85               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 0            | 22.38               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 49           | 22.35               | 22.0±1               | 1.0      |
|         |       |           |       | 1                | 99           | 22.31               | 22.0±1               | 1.0      |
|         |       |           |       | 50               | 0            | 21.37               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 24           | 21.19               | 21.0±1               | 2.0      |
|         |       |           |       | 50               | 49           | 21.21               | 21.0±1               | 2.0      |
|         |       |           |       | 100              | 0            | 21.3                | 21.0±1               | 2.0      |

**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                                   | 79.54            | 301              | 2.3        | H     | 5.57        | 0.31  | 10.40        | 15.66          | 33       | -17.34 |
| 1850.70                                   | 84.68            | 78               | 1.4        | V     | 11.40       | 0.31  | 10.40        | 21.49          | 33       | -11.51 |
| LTE Band 2 Channel 18900 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 76.72            | 108              | 1.5        | H     | 2.87        | 0.31  | 10.40        | 12.96          | 33       | -20.04 |
| 1880.00                                   | 84.79            | 141              | 1.5        | V     | 11.67       | 0.31  | 10.40        | 21.76          | 33       | -11.24 |
| LTE Band 2 Channel 19193 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |          |        |
| 1909.30                                   | 77.51            | 338              | 1.9        | H     | 3.78        | 0.32  | 10.40        | 13.86          | 33       | -19.14 |
| 1909.30                                   | 84.29            | 338              | 1.9        | V     | 11.33       | 0.32  | 10.40        | 21.41          | 33       | -11.59 |
| LTE Band 2 Channel 18607 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1850.70                                   | 76.67            | 178              | 1.4        | H     | 2.70        | 0.31  | 10.40        | 12.79          | 33       | -20.21 |
| 1850.70                                   | 84.57            | 74               | 2.1        | V     | 11.29       | 0.31  | 10.40        | 21.38          | 33       | -11.62 |
| LTE Band 2 Channel 18900 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 76.86            | 83               | 1.8        | H     | 3.01        | 0.31  | 10.40        | 13.10          | 33       | -19.90 |
| 1880.00                                   | 84.80            | 251              | 1.8        | V     | 11.68       | 0.31  | 10.40        | 21.77          | 33       | -11.23 |
| LTE Band 2 Channel 19193 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |          |        |
| 1909.30                                   | 77.04            | 234              | 2.4        | H     | 3.31        | 0.32  | 10.40        | 13.39          | 33       | -19.61 |
| 1909.30                                   | 84.24            | 32               | 2.4        | V     | 11.28       | 0.32  | 10.40        | 21.36          | 33       | -11.64 |
| LTE Band 2 Channel 18615 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1851.50                                   | 78.78            | 110              | 2.4        | H     | 4.81        | 0.31  | 10.40        | 14.90          | 33       | -18.10 |
| 1851.50                                   | 84.15            | 73               | 1.4        | V     | 10.87       | 0.31  | 10.40        | 20.96          | 33       | -12.04 |
| LTE Band 2 Channel 18900 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 78.68            | 56               | 2.4        | H     | 4.83        | 0.31  | 10.40        | 14.92          | 33       | -18.08 |
| 1880.00                                   | 84.73            | 253              | 1.5        | V     | 11.61       | 0.31  | 10.40        | 21.70          | 33       | -11.30 |
| LTE Band 2 Channel 19185 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1908.50                                   | 78.51            | 180              | 1.8        | H     | 4.78        | 0.32  | 10.40        | 14.86          | 33       | -18.14 |
| 1908.50                                   | 84.24            | 166              | 1.3        | V     | 11.28       | 0.32  | 10.40        | 21.36          | 33       | -11.64 |
| LTE Band 2 Channel 18615 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1851.50                                   | 77.25            | 234              | 2.1        | H     | 3.28        | 0.31  | 10.40        | 13.37          | 33       | -19.63 |
| 1851.50                                   | 84.82            | 69               | 2.2        | V     | 11.54       | 0.31  | 10.40        | 21.63          | 33       | -11.37 |
| LTE Band 2 Channel 18900 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1880.00                                   | 76.80            | 88               | 2.4        | H     | 2.95        | 0.31  | 10.40        | 13.04          | 33       | -19.96 |
| 1880.00                                   | 84.47            | 263              | 2.0        | V     | 11.35       | 0.31  | 10.40        | 21.44          | 33       | -11.56 |
| LTE Band 2 Channel 19185 – 3MHz – 16QAM   |                  |                  |            |       |             |       |              |                |          |        |
| 1908.50                                   | 76.52            | 98               | 1.0        | H     | 2.79        | 0.32  | 10.40        | 12.87          | 33       | -20.13 |
| 1908.50                                   | 84.16            | 118              | 1.9        | V     | 11.20       | 0.32  | 10.40        | 21.28          | 33       | -11.72 |
| LTE Band 2 Channel 18625 – 5MHz – QPSK    |                  |                  |            |       |             |       |              |                |          |        |
| 1852.50                                   | 78.95            | 87               | 2.4        | H     | 4.98        | 0.31  | 10.40        | 15.07          | 33       | -17.93 |
| 1852.50                                   | 84.35            | 321              | 1.7        | V     | 11.07       | 0.31  | 10.40        | 21.16          | 33       | -11.84 |

|                                          |       |     |     |   |       |      |       |       |    |        |
|------------------------------------------|-------|-----|-----|---|-------|------|-------|-------|----|--------|
| LTE Band 2 Channel 18900 – 5MHz – QPSK   |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 79.51 | 298 | 1.6 | H | 5.66  | 0.31 | 10.40 | 15.75 | 33 | -17.25 |
| 1880.00                                  | 84.36 | 11  | 1.4 | V | 11.24 | 0.31 | 10.40 | 21.33 | 33 | -11.67 |
| LTE Band 2 Channel 19175 – 5MHz – QPSK   |       |     |     |   |       |      |       |       |    |        |
| 1907.50                                  | 76.70 | 211 | 1.3 | H | 2.97  | 0.32 | 10.40 | 13.05 | 33 | -19.95 |
| 1907.50                                  | 84.05 | 20  | 1.8 | V | 11.09 | 0.32 | 10.40 | 21.17 | 33 | -11.83 |
| LTE Band 2 Channel 18625 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |        |
| 1852.50                                  | 76.21 | 107 | 1.4 | H | 2.24  | 0.31 | 10.40 | 12.33 | 33 | -20.67 |
| 1852.50                                  | 84.60 | 261 | 1.2 | V | 11.32 | 0.31 | 10.40 | 21.41 | 33 | -11.59 |
| LTE Band 2 Channel 18900 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 76.23 | 346 | 1.9 | H | 2.38  | 0.31 | 10.40 | 12.47 | 33 | -20.53 |
| 1880.00                                  | 84.04 | 134 | 2.2 | V | 10.92 | 0.31 | 10.40 | 21.01 | 33 | -11.99 |
| LTE Band 2 Channel 19175 – 5MHz – 16QAM  |       |     |     |   |       |      |       |       |    |        |
| 1907.50                                  | 78.67 | 204 | 1.6 | H | 4.94  | 0.32 | 10.40 | 15.02 | 33 | -17.98 |
| 1907.50                                  | 85.00 | 316 | 2.2 | V | 12.04 | 0.32 | 10.40 | 22.12 | 33 | -10.88 |
| LTE Band 2 Channel 18650 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1855.00                                  | 76.51 | 108 | 1.3 | H | 2.54  | 0.31 | 10.40 | 12.63 | 33 | -20.37 |
| 1855.00                                  | 84.21 | 35  | 2.2 | V | 10.93 | 0.31 | 10.40 | 21.02 | 33 | -11.98 |
| LTE Band 2 Channel 18900 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 78.53 | 132 | 1.3 | H | 4.68  | 0.31 | 10.40 | 14.77 | 33 | -18.23 |
| 1880.00                                  | 84.65 | 173 | 1.5 | V | 11.53 | 0.31 | 10.40 | 21.62 | 33 | -11.38 |
| LTE Band 2 Channel 19150 – 10MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1905.00                                  | 79.61 | 52  | 1.7 | H | 5.88  | 0.32 | 10.40 | 15.96 | 33 | -17.04 |
| 1905.00                                  | 84.13 | 44  | 1.6 | V | 11.17 | 0.32 | 10.40 | 21.25 | 33 | -11.75 |
| LTE Band 2 Channel 18650 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1855.00                                  | 76.38 | 34  | 1.1 | H | 2.41  | 0.31 | 10.40 | 12.50 | 33 | -20.50 |
| 1855.00                                  | 84.22 | 174 | 2.4 | V | 10.94 | 0.31 | 10.40 | 21.03 | 33 | -11.97 |
| LTE Band 2 Channel 18900 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 77.68 | 153 | 2.0 | H | 3.83  | 0.31 | 10.40 | 13.92 | 33 | -19.08 |
| 1880.00                                  | 84.07 | 288 | 1.4 | V | 10.95 | 0.31 | 10.40 | 21.04 | 33 | -11.96 |
| LTE Band 2 Channel 19150 – 10MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1905.00                                  | 79.06 | 113 | 1.7 | H | 5.33  | 0.32 | 10.40 | 15.41 | 33 | -17.59 |
| 1905.00                                  | 84.28 | 224 | 2.5 | V | 11.32 | 0.32 | 10.40 | 21.40 | 33 | -11.60 |
| LTE Band 2 Channel 18675 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1857.50                                  | 79.48 | 274 | 1.8 | H | 5.51  | 0.31 | 10.40 | 15.60 | 33 | -17.40 |
| 1857.50                                  | 84.45 | 5   | 1.4 | V | 11.17 | 0.31 | 10.40 | 21.26 | 33 | -11.74 |
| LTE Band 2 Channel 18900 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 79.80 | 206 | 1.8 | H | 5.95  | 0.31 | 10.40 | 16.04 | 33 | -16.96 |
| 1880.00                                  | 84.66 | 145 | 1.3 | V | 11.54 | 0.31 | 10.40 | 21.63 | 33 | -11.37 |
| LTE Band 2 Channel 19125 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1902.50                                  | 77.88 | 142 | 1.4 | H | 4.15  | 0.32 | 10.40 | 14.23 | 33 | -18.77 |
| 1902.50                                  | 84.50 | 205 | 1.2 | V | 11.54 | 0.32 | 10.40 | 21.62 | 33 | -11.38 |
| LTE Band 2 Channel 18675 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1857.50                                  | 77.83 | 87  | 1.4 | H | 3.86  | 0.31 | 10.40 | 13.95 | 33 | -19.05 |
| 1857.50                                  | 84.85 | 169 | 2.5 | V | 11.57 | 0.31 | 10.40 | 21.66 | 33 | -11.34 |
| LTE Band 2 Channel 18900 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 78.64 | 75  | 1.6 | H | 4.79  | 0.31 | 10.40 | 14.88 | 33 | -18.12 |

|                                          |       |     |     |   |       |      |       |       |    |        |
|------------------------------------------|-------|-----|-----|---|-------|------|-------|-------|----|--------|
| 1880.00                                  | 84.29 | 315 | 1.1 | V | 11.17 | 0.31 | 10.40 | 21.26 | 33 | -11.74 |
| LTE Band 2 Channel 19125 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1902.50                                  | 76.83 | 168 | 2.3 | H | 3.10  | 0.32 | 10.40 | 13.18 | 33 | -19.82 |
| 1902.50                                  | 84.36 | 157 | 1.2 | V | 11.40 | 0.32 | 10.40 | 21.48 | 33 | -11.52 |
| LTE Band 2 Channel 18700 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1860.00                                  | 76.09 | 59  | 1.3 | H | 2.12  | 0.31 | 10.40 | 12.21 | 33 | -20.79 |
| 1860.00                                  | 84.08 | 152 | 1.7 | V | 10.80 | 0.31 | 10.40 | 20.89 | 33 | -12.11 |
| LTE Band 2 Channel 18900 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 78.15 | 12  | 1.2 | H | 4.30  | 0.31 | 10.40 | 14.39 | 33 | -18.61 |
| 1880.00                                  | 84.79 | 210 | 1.5 | V | 11.67 | 0.31 | 10.40 | 21.76 | 33 | -11.24 |
| LTE Band 2 Channel 19100 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 1900.00                                  | 76.28 | 257 | 2.4 | H | 2.55  | 0.32 | 10.40 | 12.63 | 33 | -20.37 |
| 1900.00                                  | 84.36 | 88  | 1.6 | V | 11.40 | 0.32 | 10.40 | 21.48 | 33 | -11.52 |
| LTE Band 2 Channel 18670 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1860.00                                  | 77.12 | 133 | 1.2 | H | 3.15  | 0.31 | 10.40 | 13.24 | 33 | -19.76 |
| 1860.00                                  | 84.10 | 18  | 1.6 | V | 10.82 | 0.31 | 10.40 | 20.91 | 33 | -12.09 |
| LTE Band 2 Channel 18900 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1880.00                                  | 76.76 | 349 | 2.3 | H | 2.91  | 0.31 | 10.40 | 13.00 | 33 | -20.00 |
| 1880.00                                  | 84.73 | 347 | 1.9 | V | 11.61 | 0.31 | 10.40 | 21.70 | 33 | -11.30 |
| LTE Band 2 Channel 19100 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 1900.00                                  | 77.57 | 195 | 1.3 | H | 3.84  | 0.32 | 10.40 | 13.92 | 33 | -19.08 |
| 1900.00                                  | 84.67 | 194 | 2.4 | V | 11.71 | 0.32 | 10.40 | 21.79 | 33 | -11.21 |

**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                                   | 77.56            | 204              | 1.3        | H     | 3.45        | 0.30  | 9.40         | 12.55          | 30      | -17.45 |
| 1710.70                                   | 84.43            | 91               | 1.1        | V     | 10.90       | 0.30  | 9.40         | 20.00          | 30      | -10.00 |
| LTE Band 4 Channel 20175 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 1732.50                                   | 78.43            | 37               | 1.2        | H     | 4.32        | 0.30  | 9.40         | 13.42          | 30      | -16.58 |
| 1732.50                                   | 84.11            | 175              | 2.1        | V     | 10.58       | 0.30  | 9.40         | 19.68          | 30      | -10.32 |
| LTE Band 4 Channel 20393 – 1.4MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 1754.30                                   | 79.67            | 63               | 1.3        | H     | 5.56        | 0.30  | 9.40         | 14.66          | 30      | -15.34 |
| 1754.30                                   | 84.02            | 248              | 1.7        | V     | 10.49       | 0.30  | 9.40         | 19.59          | 30      | -10.41 |
| LTE Band 4 Channel 19957 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1710.70                                   | 78.70            | 357              | 2.1        | H     | 4.59        | 0.30  | 9.40         | 13.69          | 30      | -16.31 |
| 1710.70                                   | 84.63            | 74               | 1.8        | V     | 11.10       | 0.30  | 9.40         | 20.20          | 30      | -9.80  |
| LTE Band 4 Channel 20175 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1732.50                                   | 78.64            | 188              | 2.2        | H     | 4.53        | 0.30  | 9.40         | 13.63          | 30      | -16.37 |
| 1732.50                                   | 84.22            | 254              | 1.4        | V     | 10.69       | 0.30  | 9.40         | 19.79          | 30      | -10.21 |
| LTE Band 4 Channel 20393 – 1.4MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 1754.30                                   | 77.74            | 169              | 1.9        | H     | 3.63        | 0.30  | 9.40         | 12.73          | 30      | -17.27 |
| 1754.30                                   | 84.96            | 32               | 1.6        | V     | 11.43       | 0.30  | 9.40         | 20.53          | 30      | -9.47  |
| LTE Band 4 Channel 19965 – 3MHz – QPSK    |                  |                  |            |       |             |       |              |                |         |        |

|                                          |       |     |     |   |       |      |      |       |    |        |
|------------------------------------------|-------|-----|-----|---|-------|------|------|-------|----|--------|
| 1711.50                                  | 77.45 | 105 | 1.5 | H | 3.34  | 0.30 | 9.40 | 12.44 | 30 | -17.56 |
| 1711.50                                  | 84.85 | 19  | 2.2 | V | 11.32 | 0.30 | 9.40 | 20.42 | 30 | -9.58  |
| LTE Band 4 Channel 20175 – 3MHz – QPSK   |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 79.93 | 80  | 1.1 | H | 5.82  | 0.30 | 9.40 | 14.92 | 30 | -15.08 |
| 1732.50                                  | 84.89 | 240 | 1.4 | V | 11.36 | 0.30 | 9.40 | 20.46 | 30 | -9.54  |
| LTE Band 4 Channel 20385 – 3MHz – QPSK   |       |     |     |   |       |      |      |       |    |        |
| 1753.50                                  | 76.83 | 165 | 1.1 | H | 2.72  | 0.30 | 9.40 | 11.82 | 30 | -18.18 |
| 1753.50                                  | 84.89 | 136 | 1.0 | V | 11.36 | 0.30 | 9.40 | 20.46 | 30 | -9.54  |
| LTE Band 4 Channel 19965 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1711.50                                  | 78.20 | 188 | 1.5 | H | 4.09  | 0.30 | 9.40 | 13.19 | 30 | -16.81 |
| 1711.50                                  | 84.19 | 317 | 1.1 | V | 10.66 | 0.30 | 9.40 | 19.76 | 30 | -10.24 |
| LTE Band 4 Channel 20175 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 76.31 | 185 | 1.1 | H | 2.20  | 0.30 | 9.40 | 11.30 | 30 | -18.70 |
| 1732.50                                  | 84.75 | 254 | 1.7 | V | 11.22 | 0.30 | 9.40 | 20.32 | 30 | -9.68  |
| LTE Band 4 Channel 20385 – 3MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1753.50                                  | 78.39 | 41  | 1.0 | H | 4.28  | 0.30 | 9.40 | 13.38 | 30 | -16.62 |
| 1753.50                                  | 84.61 | 272 | 1.8 | V | 11.08 | 0.30 | 9.40 | 20.18 | 30 | -9.82  |
| LTE Band 4 Channel 19975 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |        |
| 1712.50                                  | 78.81 | 187 | 1.6 | H | 4.70  | 0.30 | 9.40 | 13.80 | 30 | -16.20 |
| 1712.50                                  | 84.22 | 308 | 1.7 | V | 10.69 | 0.30 | 9.40 | 19.79 | 30 | -10.21 |
| LTE Band 4 Channel 20175 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 76.02 | 273 | 1.4 | H | 1.91  | 0.30 | 9.40 | 11.01 | 30 | -18.99 |
| 1732.50                                  | 84.16 | 239 | 1.9 | V | 10.63 | 0.30 | 9.40 | 19.73 | 30 | -10.27 |
| LTE Band 4 Channel 20375 – 5MHz – QPSK   |       |     |     |   |       |      |      |       |    |        |
| 1752.50                                  | 76.94 | 156 | 1.2 | H | 2.83  | 0.30 | 9.40 | 11.93 | 30 | -18.07 |
| 1752.50                                  | 84.86 | 278 | 1.0 | V | 11.33 | 0.30 | 9.40 | 20.43 | 30 | -9.57  |
| LTE Band 4 Channel 19975 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1712.50                                  | 78.64 | 151 | 1.8 | H | 4.53  | 0.30 | 9.40 | 13.63 | 30 | -16.37 |
| 1712.50                                  | 84.13 | 20  | 2.0 | V | 10.60 | 0.30 | 9.40 | 19.70 | 30 | -10.30 |
| LTE Band 4 Channel 20175 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 77.83 | 275 | 2.1 | H | 3.72  | 0.30 | 9.40 | 12.82 | 30 | -17.18 |
| 1732.50                                  | 84.14 | 332 | 1.7 | V | 10.61 | 0.30 | 9.40 | 19.71 | 30 | -10.29 |
| LTE Band 4 Channel 20375 – 5MHz – 16QAM  |       |     |     |   |       |      |      |       |    |        |
| 1752.50                                  | 77.19 | 28  | 1.7 | H | 3.08  | 0.30 | 9.40 | 12.18 | 30 | -17.82 |
| 1752.50                                  | 84.30 | 278 | 1.6 | V | 10.77 | 0.30 | 9.40 | 19.87 | 30 | -10.13 |
| LTE Band 4 Channel 20000 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1715.00                                  | 79.39 | 335 | 2.5 | H | 5.28  | 0.30 | 9.40 | 14.38 | 30 | -15.62 |
| 1715.00                                  | 84.45 | 321 | 2.2 | V | 10.92 | 0.30 | 9.40 | 20.02 | 30 | -9.98  |
| LTE Band 4 Channel 20175 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 76.78 | 129 | 1.4 | H | 2.67  | 0.30 | 9.40 | 11.77 | 30 | -18.23 |
| 1732.50                                  | 84.51 | 4   | 1.9 | V | 10.98 | 0.30 | 9.40 | 20.08 | 30 | -9.92  |
| LTE Band 4 Channel 20350 – 10MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1750.00                                  | 79.35 | 324 | 1.8 | H | 5.24  | 0.30 | 9.40 | 14.34 | 30 | -15.66 |
| 1750.00                                  | 84.84 | 214 | 1.1 | V | 11.31 | 0.30 | 9.40 | 20.41 | 30 | -9.59  |
| LTE Band 4 Channel 20000 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1715.00                                  | 79.38 | 42  | 1.8 | H | 5.27  | 0.30 | 9.40 | 14.37 | 30 | -15.63 |
| 1715.00                                  | 84.38 | 289 | 1.4 | V | 10.85 | 0.30 | 9.40 | 19.95 | 30 | -10.05 |

|                                          |       |     |     |   |       |      |      |       |    |        |
|------------------------------------------|-------|-----|-----|---|-------|------|------|-------|----|--------|
| LTE Band 4 Channel 20175 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 78.66 | 240 | 2.5 | H | 4.55  | 0.30 | 9.40 | 13.65 | 30 | -16.35 |
| 1732.50                                  | 84.64 | 196 | 2.1 | V | 11.11 | 0.30 | 9.40 | 20.21 | 30 | -9.79  |
| LTE Band 4 Channel 20350 – 10MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1750.00                                  | 76.88 | 307 | 2.3 | H | 2.77  | 0.30 | 9.40 | 11.87 | 30 | -18.13 |
| 1750.00                                  | 84.76 | 86  | 1.6 | V | 11.23 | 0.30 | 9.40 | 20.33 | 30 | -9.67  |
| LTE Band 4 Channel 20025 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1717.50                                  | 76.44 | 238 | 1.3 | H | 2.33  | 0.30 | 9.40 | 11.43 | 30 | -18.57 |
| 1717.50                                  | 84.79 | 347 | 1.4 | V | 11.26 | 0.30 | 9.40 | 20.36 | 30 | -9.64  |
| LTE Band 4 Channel 20175 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 78.63 | 212 | 1.2 | H | 4.52  | 0.30 | 9.40 | 13.62 | 30 | -16.38 |
| 1732.50                                  | 84.21 | 15  | 1.5 | V | 10.68 | 0.30 | 9.40 | 19.78 | 30 | -10.22 |
| LTE Band 4 Channel 20325 – 15MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1747.50                                  | 78.88 | 139 | 1.7 | H | 4.77  | 0.30 | 9.40 | 13.87 | 30 | -16.13 |
| 1747.50                                  | 84.52 | 257 | 1.3 | V | 10.99 | 0.30 | 9.40 | 20.09 | 30 | -9.91  |
| LTE Band 4 Channel 20025 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1717.50                                  | 79.30 | 63  | 1.2 | H | 5.19  | 0.30 | 9.40 | 14.29 | 30 | -15.71 |
| 1717.50                                  | 84.96 | 246 | 2.4 | V | 11.43 | 0.30 | 9.40 | 20.53 | 30 | -9.47  |
| LTE Band 4 Channel 20175 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 78.19 | 56  | 2.4 | H | 4.08  | 0.30 | 9.40 | 13.18 | 30 | -16.82 |
| 1732.50                                  | 84.48 | 87  | 1.3 | V | 10.95 | 0.30 | 9.40 | 20.05 | 30 | -9.95  |
| LTE Band 4 Channel 20325 – 15MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1747.50                                  | 77.82 | 177 | 2.2 | H | 3.71  | 0.30 | 9.40 | 12.81 | 30 | -17.19 |
| 1747.50                                  | 84.20 | 17  | 1.2 | V | 10.67 | 0.30 | 9.40 | 19.77 | 30 | -10.23 |
| LTE Band 4 Channel 20050 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1720.00                                  | 76.63 | 57  | 2.5 | H | 2.52  | 0.30 | 9.40 | 11.62 | 30 | -18.38 |
| 1720.00                                  | 84.73 | 120 | 1.2 | V | 11.20 | 0.30 | 9.40 | 20.30 | 30 | -9.70  |
| LTE Band 4 Channel 20175 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 78.40 | 182 | 2.0 | H | 4.29  | 0.30 | 9.40 | 13.39 | 30 | -16.61 |
| 1732.50                                  | 84.40 | 344 | 1.5 | V | 10.87 | 0.30 | 9.40 | 19.97 | 30 | -10.03 |
| LTE Band 4 Channel 20300 – 20MHz – QPSK  |       |     |     |   |       |      |      |       |    |        |
| 1745.00                                  | 76.18 | 268 | 2.1 | H | 2.07  | 0.30 | 9.40 | 11.17 | 30 | -18.83 |
| 1745.00                                  | 84.92 | 54  | 1.4 | V | 11.39 | 0.30 | 9.40 | 20.49 | 30 | -9.51  |
| LTE Band 4 Channel 20050 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1720.00                                  | 78.07 | 296 | 1.9 | H | 3.96  | 0.30 | 9.40 | 13.06 | 30 | -16.94 |
| 1720.00                                  | 84.48 | 270 | 1.8 | V | 10.95 | 0.30 | 9.40 | 20.05 | 30 | -9.95  |
| LTE Band 4 Channel 20175 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1732.50                                  | 76.75 | 118 | 1.8 | H | 2.64  | 0.30 | 9.40 | 11.74 | 30 | -18.26 |
| 1732.50                                  | 84.13 | 9   | 1.9 | V | 10.60 | 0.30 | 9.40 | 19.70 | 30 | -10.30 |
| LTE Band 4 Channel 20300 – 20MHz – 16QAM |       |     |     |   |       |      |      |       |    |        |
| 1745.00                                  | 76.38 | 62  | 1.6 | H | 2.27  | 0.30 | 9.40 | 11.37 | 30 | -18.63 |
| 1745.00                                  | 84.11 | 193 | 1.4 | V | 10.58 | 0.30 | 9.40 | 19.68 | 30 | -10.32 |

**LTE Band 7**

| 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 7 Channel 20775 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 2502.50                                  | 76.10            | 52               | 1.3        | H     | 2.10        | 0.43  | 10.60        | 12.27          | 33      | -20.73 |
| 2502.50                                  | 81.13            | 339              | 2.4        | V     | 10.85       | 0.43  | 10.60        | 21.02          | 33      | -11.98 |
| LTE Band 7 Channel 21100 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 2535.00                                  | 79.83            | 319              | 2.3        | H     | 5.83        | 0.43  | 10.60        | 16.00          | 33      | -17.00 |
| 2535.00                                  | 81.81            | 248              | 1.6        | V     | 11.53       | 0.43  | 10.60        | 21.70          | 33      | -11.30 |
| LTE Band 7 Channel 21425 – 5MHz – QPSK   |                  |                  |            |       |             |       |              |                |         |        |
| 2567.50                                  | 78.82            | 239              | 2.2        | H     | 4.71        | 0.43  | 10.60        | 14.88          | 33      | -18.12 |
| 2567.50                                  | 81.47            | 132              | 2.0        | V     | 11.28       | 0.43  | 10.60        | 21.45          | 33      | -11.55 |
| LTE Band 7 Channel 20775 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 2502.50                                  | 77.33            | 110              | 1.0        | H     | 3.33        | 0.43  | 10.60        | 13.50          | 33      | -19.50 |
| 2502.50                                  | 81.21            | 289              | 2.4        | V     | 10.93       | 0.43  | 10.60        | 21.10          | 33      | -11.90 |
| LTE Band 7 Channel 21100 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 2535.00                                  | 79.21            | 351              | 1.2        | H     | 5.21        | 0.43  | 10.60        | 15.38          | 33      | -17.62 |
| 2535.00                                  | 81.21            | 236              | 2.4        | V     | 10.93       | 0.43  | 10.60        | 21.10          | 33      | -11.90 |
| LTE Band 7 Channel 21425 – 5MHz – 16QAM  |                  |                  |            |       |             |       |              |                |         |        |
| 2567.50                                  | 76.72            | 337              | 2.3        | H     | 2.61        | 0.43  | 10.60        | 12.78          | 33      | -20.22 |
| 2567.50                                  | 81.63            | 228              | 2.2        | V     | 11.44       | 0.43  | 10.60        | 21.61          | 33      | -11.39 |
| LTE Band 7 Channel 20800 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 2505.00                                  | 76.92            | 278              | 1.5        | H     | 2.92        | 0.43  | 10.60        | 13.09          | 33      | -19.91 |
| 2505.00                                  | 81.88            | 147              | 1.6        | V     | 11.60       | 0.43  | 10.60        | 21.77          | 33      | -11.23 |
| LTE Band 7 Channel 21100 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 2535.00                                  | 77.22            | 22               | 1.8        | H     | 3.22        | 0.43  | 10.60        | 13.39          | 33      | -19.61 |
| 2535.00                                  | 81.47            | 190              | 1.7        | V     | 11.19       | 0.43  | 10.60        | 21.36          | 33      | -11.64 |
| LTE Band 7 Channel 21400 – 10MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 2565.00                                  | 76.65            | 103              | 2.0        | H     | 2.54        | 0.43  | 10.60        | 12.71          | 33      | -20.29 |
| 2565.00                                  | 81.00            | 150              | 1.5        | V     | 10.81       | 0.43  | 10.60        | 20.98          | 33      | -12.02 |
| LTE Band 7 Channel 20800 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 2505.00                                  | 79.99            | 300              | 1.4        | H     | 5.99        | 0.43  | 10.60        | 16.16          | 33      | -16.84 |
| 2505.00                                  | 81.48            | 143              | 1.7        | V     | 11.20       | 0.43  | 10.60        | 21.37          | 33      | -11.63 |
| LTE Band 7 Channel 21100 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 2535.00                                  | 78.66            | 250              | 1.0        | H     | 4.66        | 0.43  | 10.60        | 14.83          | 33      | -18.17 |
| 2535.00                                  | 81.05            | 344              | 1.3        | V     | 10.77       | 0.43  | 10.60        | 20.94          | 33      | -12.06 |
| LTE Band 7 Channel 21400 – 10MHz – 16QAM |                  |                  |            |       |             |       |              |                |         |        |
| 2565.00                                  | 77.79            | 325              | 2.3        | H     | 3.68        | 0.43  | 10.60        | 13.85          | 33      | -19.15 |
| 2565.00                                  | 81.99            | 65               | 1.1        | V     | 11.80       | 0.43  | 10.60        | 21.97          | 33      | -11.03 |
| LTE Band 7 Channel 20825 – 15MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |
| 2507.50                                  | 79.07            | 334              | 2.3        | H     | 5.07        | 0.43  | 10.60        | 15.24          | 33      | -17.76 |
| 2507.50                                  | 81.45            | 14               | 2.0        | V     | 11.17       | 0.43  | 10.60        | 21.34          | 33      | -11.66 |
| LTE Band 7 Channel 21100 – 15MHz – QPSK  |                  |                  |            |       |             |       |              |                |         |        |

|                                          |       |     |     |   |       |      |       |       |    |        |
|------------------------------------------|-------|-----|-----|---|-------|------|-------|-------|----|--------|
| 2535.00                                  | 77.78 | 340 | 2.1 | H | 3.78  | 0.43 | 10.60 | 13.95 | 33 | -19.05 |
| 2535.00                                  | 81.77 | 341 | 2.0 | V | 11.49 | 0.43 | 10.60 | 21.66 | 33 | -11.34 |
| LTE Band 7 Channel 21375 – 15MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 2562.50                                  | 76.27 | 101 | 2.5 | H | 2.16  | 0.43 | 10.60 | 12.33 | 33 | -20.67 |
| 2562.50                                  | 81.52 | 276 | 2.4 | V | 11.33 | 0.43 | 10.60 | 21.50 | 33 | -11.50 |
| LTE Band 7 Channel 20825 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2507.50                                  | 79.39 | 336 | 2.4 | H | 5.39  | 0.43 | 10.60 | 15.56 | 33 | -17.44 |
| 2507.50                                  | 81.53 | 190 | 1.8 | V | 11.25 | 0.43 | 10.60 | 21.42 | 33 | -11.58 |
| LTE Band 7 Channel 21100 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2535.00                                  | 76.49 | 90  | 2.4 | H | 2.49  | 0.43 | 10.60 | 12.66 | 33 | -20.34 |
| 2535.00                                  | 81.79 | 283 | 1.0 | V | 11.51 | 0.43 | 10.60 | 21.68 | 33 | -11.32 |
| LTE Band 7 Channel 21375 – 15MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2562.50                                  | 78.55 | 66  | 1.6 | H | 4.44  | 0.43 | 10.60 | 14.61 | 33 | -18.39 |
| 2562.50                                  | 81.84 | 118 | 1.1 | V | 11.65 | 0.43 | 10.60 | 21.82 | 33 | -11.18 |
| LTE Band 7 Channel 20850 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 2510.00                                  | 78.91 | 265 | 1.7 | H | 4.91  | 0.43 | 10.60 | 15.08 | 33 | -17.92 |
| 2510.00                                  | 81.52 | 350 | 1.1 | V | 11.24 | 0.43 | 10.60 | 21.41 | 33 | -11.59 |
| LTE Band 7 Channel 21100 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 2535.00                                  | 77.94 | 312 | 2.4 | H | 3.94  | 0.43 | 10.60 | 14.11 | 33 | -18.89 |
| 2535.00                                  | 81.63 | 285 | 1.6 | V | 11.35 | 0.43 | 10.60 | 21.52 | 33 | -11.48 |
| LTE Band 7 Channel 21350 – 20MHz – QPSK  |       |     |     |   |       |      |       |       |    |        |
| 2560.00                                  | 78.42 | 59  | 2.2 | H | 4.31  | 0.43 | 10.60 | 14.48 | 33 | -18.52 |
| 2560.00                                  | 81.80 | 172 | 1.0 | V | 11.61 | 0.43 | 10.60 | 21.78 | 33 | -11.22 |
| LTE Band 7 Channel 20850 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2510.00                                  | 76.26 | 54  | 1.6 | H | 2.26  | 0.43 | 10.60 | 12.43 | 33 | -20.57 |
| 2510.00                                  | 81.20 | 58  | 1.5 | V | 10.92 | 0.43 | 10.60 | 21.09 | 33 | -11.91 |
| LTE Band 7 Channel 21100 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2535.00                                  | 78.06 | 26  | 2.2 | H | 4.06  | 0.43 | 10.60 | 14.23 | 33 | -18.77 |
| 2535.00                                  | 81.08 | 281 | 2.4 | V | 10.80 | 0.43 | 10.60 | 20.97 | 33 | -12.03 |
| LTE Band 7 Channel 21350 – 20MHz – 16QAM |       |     |     |   |       |      |       |       |    |        |
| 2560.00                                  | 77.71 | 172 | 2.1 | H | 3.60  | 0.43 | 10.60 | 13.77 | 33 | -19.23 |
| 2560.00                                  | 81.98 | 0   | 1.7 | V | 11.79 | 0.43 | 10.60 | 21.96 | 33 | -11.04 |

## 9 Peak-to-Average Ratio

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

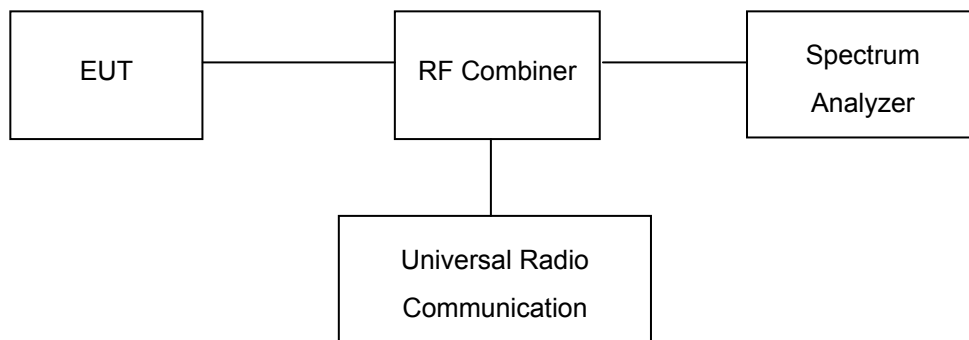
### 9.1 EUT Operation

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 2/4/7 LTE Peak to Average Ratio.

## 10 BANDWIDTH

|                   |                                            |
|-------------------|--------------------------------------------|
| Test Requirement: | FCC Part 2.1049, 24.238, 27.53(a)          |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02 |
| Test Mode:        | TX transmitting                            |

### 10.1 EUT Operation

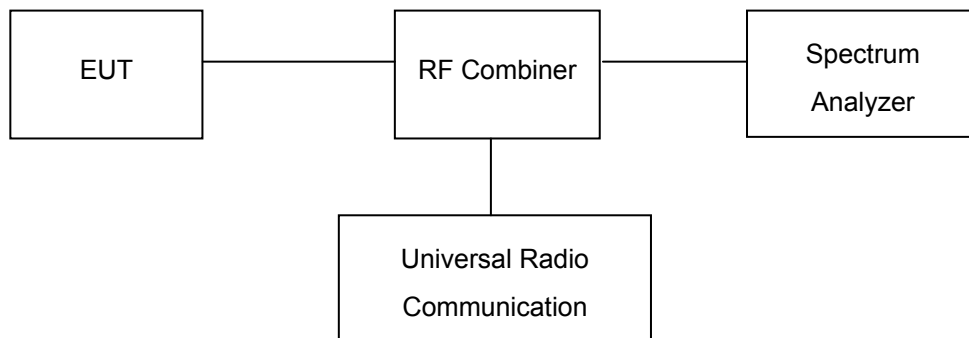
Operating Environment :

|                       |          |
|-----------------------|----------|
| 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                         | 1.25                  |
|         |         |                 | 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       | 1.1                          | 1.37                  |
|         |         |                 | 16QAM      | 1.09                         | 1.27                  |
| 3       | 18615   | 1851.5          | QPSK       | 2.72                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.95                  |
| 3       | 18900   | 1880            | QPSK       | 2.73                         | 2.97                  |
|         |         |                 | 16QAM      | 2.73                         | 2.97                  |
| 3       | 19185   | 1908.5          | QPSK       | 2.73                         | 3                     |
|         |         |                 | 16QAM      | 2.72                         | 2.98                  |
| 5       | 18625   | 1852.5          | QPSK       | 4.5                          | 4.85                  |
|         |         |                 | 16QAM      | 4.5                          | 4.84                  |
| 5       | 18900   | 1880            | QPSK       | 4.51                         | 4.86                  |
|         |         |                 | 16QAM      | 4.49                         | 4.86                  |
| 5       | 19175   | 1907.5          | QPSK       | 4.5                          | 4.88                  |
|         |         |                 | 16QAM      | 4.49                         | 4.84                  |
| 10      | 18650   | 1855            | QPSK       | 8.93                         | 9.4                   |
|         |         |                 | 16QAM      | 8.92                         | 9.38                  |
| 10      | 18900   | 1880            | QPSK       | 8.92                         | 9.39                  |
|         |         |                 | 16QAM      | 8.92                         | 9.37                  |
| 10      | 19150   | 1905            | QPSK       | 8.92                         | 9.37                  |
|         |         |                 | 16QAM      | 8.91                         | 9.36                  |
| 15      | 18675   | 1857.5          | QPSK       | 13.46                        | 14.28                 |
|         |         |                 | 16QAM      | 13.45                        | 14.26                 |
| 15      | 18900   | 1880            | QPSK       | 13.47                        | 14.29                 |
|         |         |                 | 16QAM      | 13.45                        | 14.27                 |

|    |       |        |       |       |       |
|----|-------|--------|-------|-------|-------|
| 15 | 19125 | 1902.5 | QPSK  | 13.44 | 14.3  |
|    |       |        | 16QAM | 13.44 | 14.26 |
| 20 | 18700 | 1860   | QPSK  | 17.89 | 18.77 |
|    |       |        | 16QAM | 17.9  | 18.77 |
| 20 | 18900 | 1880   | QPSK  | 17.89 | 18.78 |
|    |       |        | 16QAM | 17.89 | 18.78 |
| 20 | 19100 | 1900   | QPSK  | 17.88 | 18.78 |
|    |       |        | 16QAM | 17.89 | 18.78 |

**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                         | 1.24                  |
|         |         |                 | 16QAM      | 1.09                         | 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                         | 1.3                   |
|         |         |                 | 16QAM      | 1.09                         | 1.26                  |
| 3       | 19965   | 1711.5          | QPSK       | 2.72                         | 2.96                  |
|         |         |                 | 16QAM      | 2.72                         | 2.96                  |
| 3       | 2.175   | 1732.5          | QPSK       | 2.72                         | 2.96                  |
|         |         |                 | 16QAM      | 2.73                         | 2.96                  |
| 3       | 2.385   | 1753.5          | QPSK       | 2.73                         | 3                     |
|         |         |                 | 16QAM      | 2.72                         | 2.99                  |
| 5       | 19975   | 1712.5          | QPSK       | 4.5                          | 4.87                  |
|         |         |                 | 16QAM      | 4.5                          | 4.84                  |
| 5       | 20175   | 1732.5          | QPSK       | 4.5                          | 4.84                  |
|         |         |                 | 16QAM      | 4.49                         | 4.85                  |
| 5       | 20375   | 1752.5          | QPSK       | 4.5                          | 4.94                  |
|         |         |                 | 16QAM      | 4.5                          | 4.89                  |
| 10      | 2000    | 1715            | QPSK       | 8.93                         | 9.44                  |
|         |         |                 | 16QAM      | 8.92                         | 9.39                  |

|    |       |        |       |       |       |
|----|-------|--------|-------|-------|-------|
| 10 | 20175 | 1732.5 | QPSK  | 8.92  | 9.37  |
|    |       |        | 16QAM | 8.91  | 9.35  |
| 10 | 20350 | 1750   | QPSK  | 8.93  | 9.53  |
|    |       |        | 16QAM | 8.92  | 9.41  |
| 15 | 20025 | 1717.5 | QPSK  | 13.46 | 14.32 |
|    |       |        | 16QAM | 13.45 | 14.28 |
| 15 | 20175 | 1732.5 | QPSK  | 13.47 | 14.24 |
|    |       |        | 16QAM | 13.45 | 14.25 |
| 15 | 20325 | 1747.5 | QPSK  | 13.46 | 14.33 |
|    |       |        | 16QAM | 13.47 | 14.28 |
| 20 | 20050 | 1720   | QPSK  | 17.87 | 18.78 |
|    |       |        | 16QAM | 17.87 | 18.76 |
| 20 | 20175 | 1732.5 | QPSK  | 17.89 | 18.75 |
|    |       |        | 16QAM | 17.89 | 18.76 |
| 20 | 20300 | 1745   | QPSK  | 17.9  | 18.83 |
|    |       |        | 16QAM | 17.91 | 18.78 |

**LTE Band 7 (Part 27):**

| BW(MHz) | Channel | Frequency (MHz) | Modulation | 99% Occupied Bandwidth (MHz) | 26 dB Bandwidth (MHz) |
|---------|---------|-----------------|------------|------------------------------|-----------------------|
| 5       | 20775   | 2502.5          | QPSK       | 4.5                          | 4.94                  |
|         |         |                 | 16QAM      | 4.5                          | 4.89                  |
| 5       | 21100   | 2535            | QPSK       | 4.51                         | 4.88                  |
|         |         |                 | 16QAM      | 4.49                         | 4.86                  |
| 5       | 21425   | 2567.5          | QPSK       | 4.5                          | 4.86                  |
|         |         |                 | 16QAM      | 4.49                         | 4.85                  |
| 10      | 20850   | 2510            | QPSK       | 8.94                         | 9.56                  |
|         |         |                 | 16QAM      | 8.92                         | 9.45                  |
| 10      | 21100   | 2535            | QPSK       | 8.92                         | 9.4                   |
|         |         |                 | 16QAM      | 8.92                         | 9.37                  |
| 10      | 21400   | 2565            | QPSK       | 8.92                         | 9.39                  |
|         |         |                 | 16QAM      | 8.92                         | 9.39                  |

|    |       |        |       |       |       |
|----|-------|--------|-------|-------|-------|
| 15 | 20800 | 2505   | QPSK  | 13.48 | 14.72 |
|    |       |        | 16QAM | 13.47 | 14.33 |
| 15 | 21100 | 2535   | QPSK  | 13.48 | 14.35 |
|    |       |        | 16QAM | 13.45 | 14.27 |
| 15 | 21375 | 2562.5 | QPSK  | 13.46 | 14.26 |
|    |       |        | 16QAM | 13.46 | 14.25 |
| 20 | 20825 | 2507.5 | QPSK  | 17.9  | 18.81 |
|    |       |        | 16QAM | 17.88 | 18.78 |
| 20 | 21100 | 2535   | QPSK  | 17.89 | 18.78 |
|    |       |        | 16QAM | 17.88 | 18.77 |
| 20 | 21350 | 2560   | QPSK  | 17.9  | 18.8  |
|    |       |        | 16QAM | 17.91 | 18.77 |

### Test Plots LTE Band 2 (Part 24E)



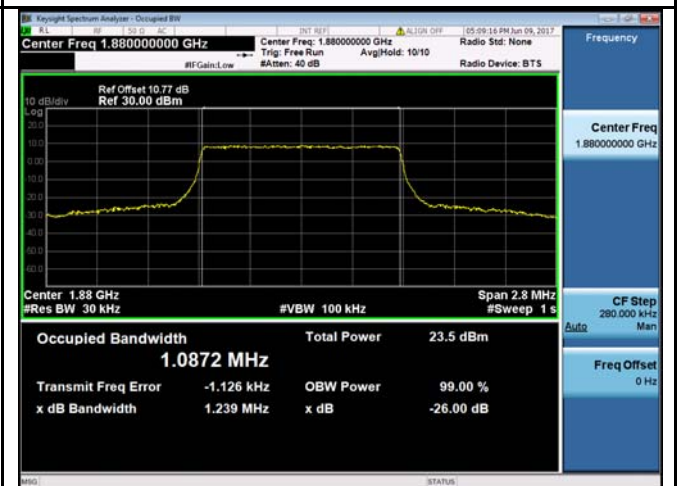
LTE band 2 - Low CH QPSK-1.4



LTE band 2 - Low CH 16QAM-1.4



LTE band 2 - Middle CH QPSK-1.4



LTE band 2 - Middle CH 16QAM-1.4

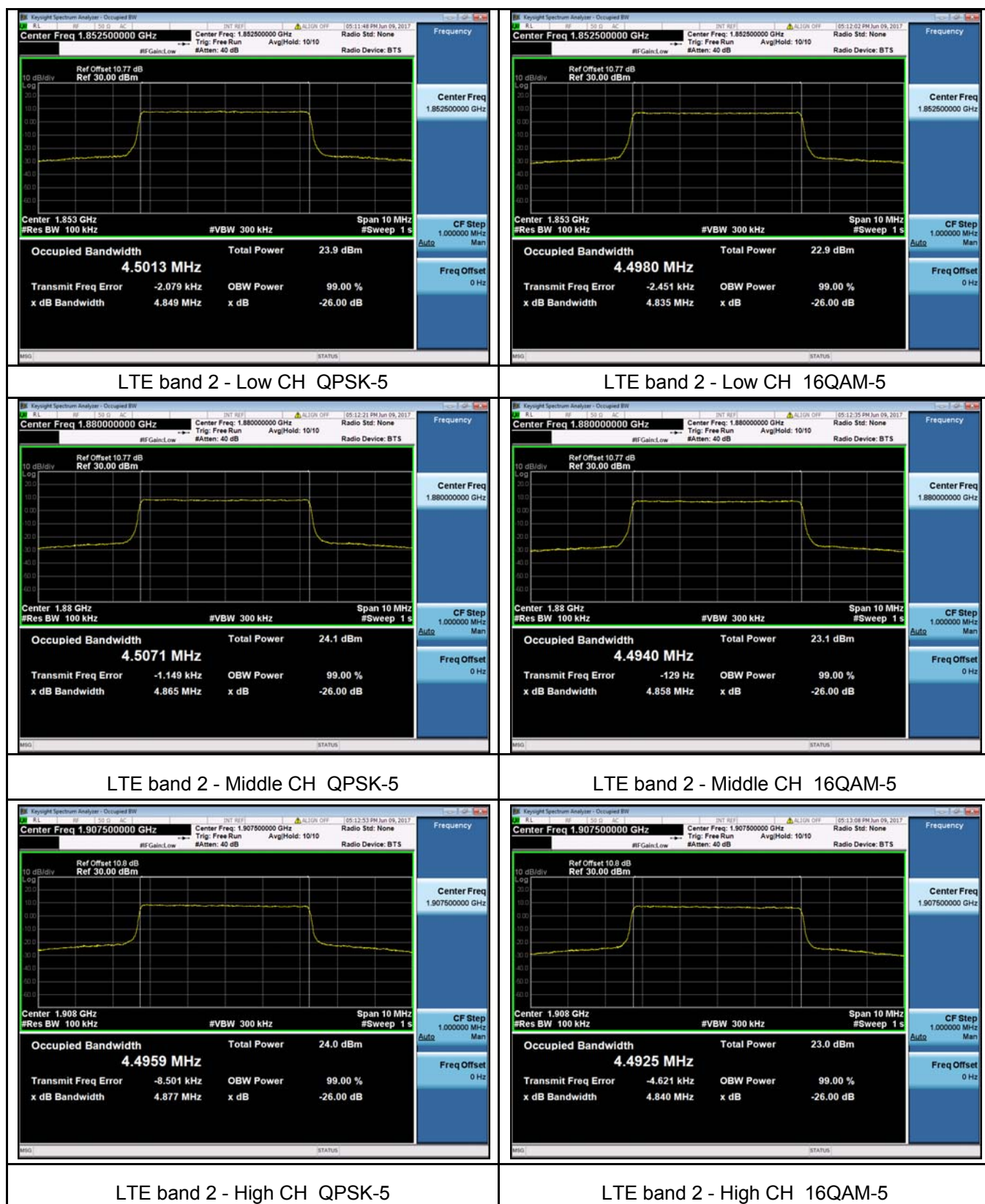


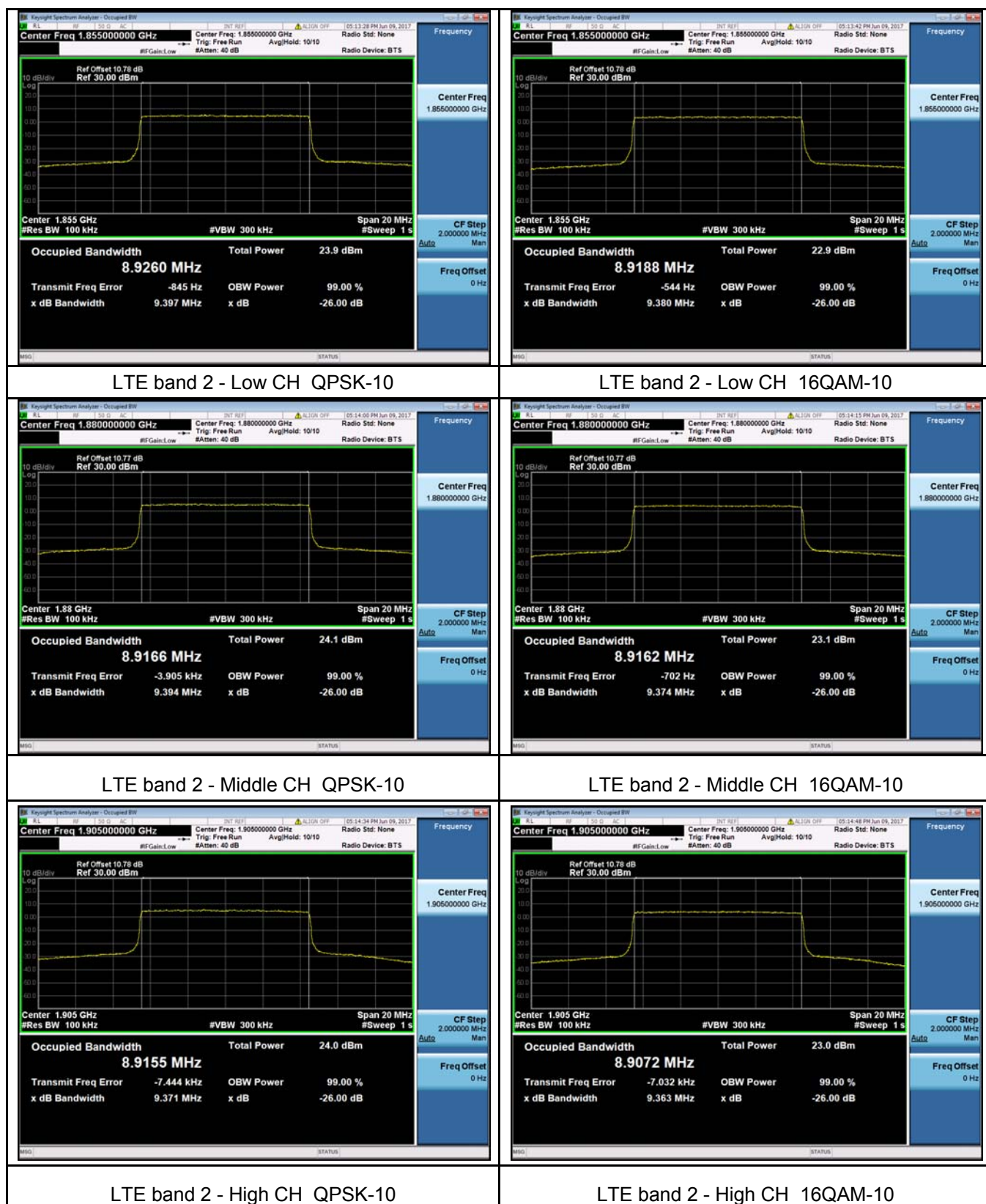
LTE band 2 - High CH QPSK-1.4

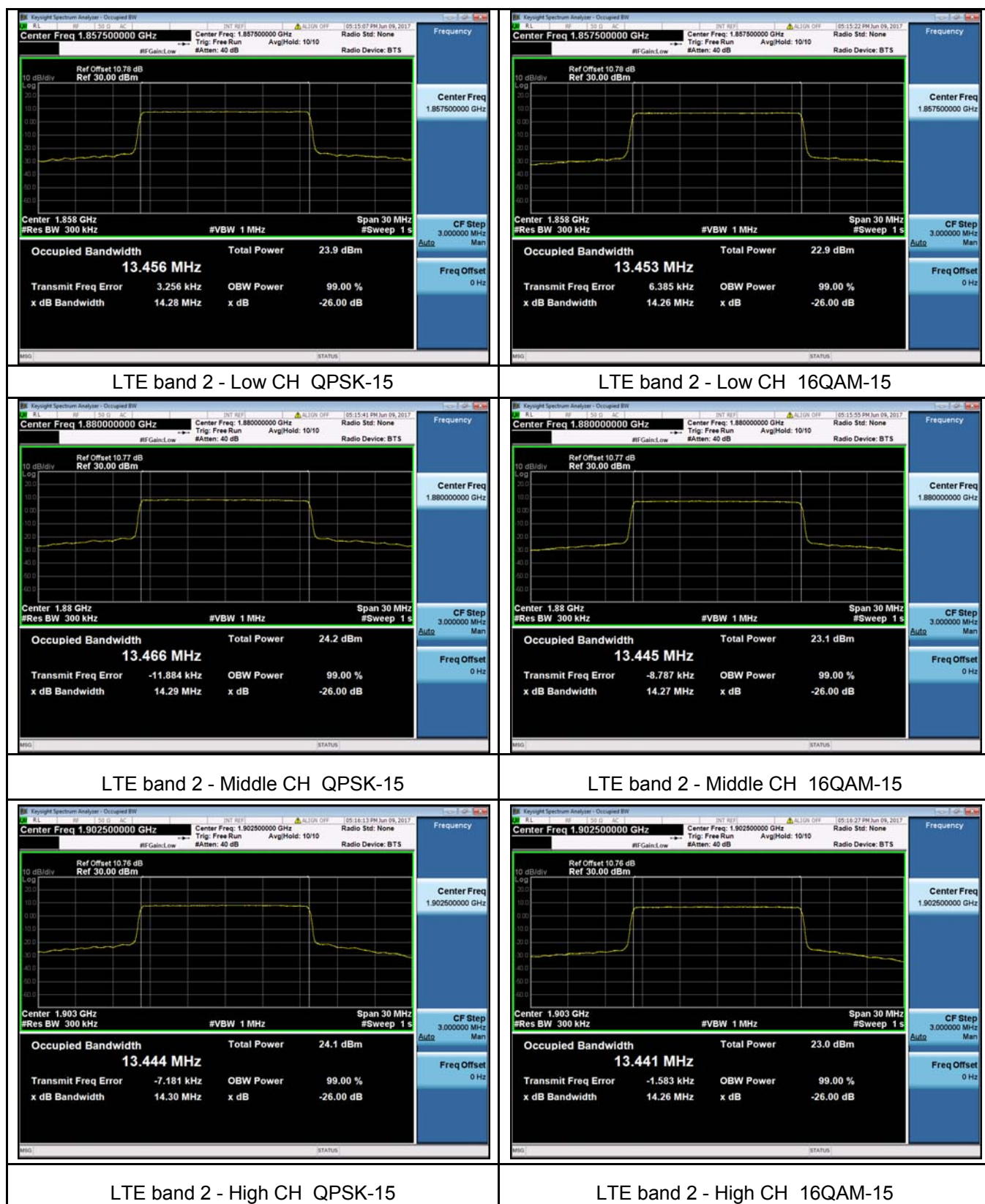


LTE band 2 - High CH 16QAM-1.4



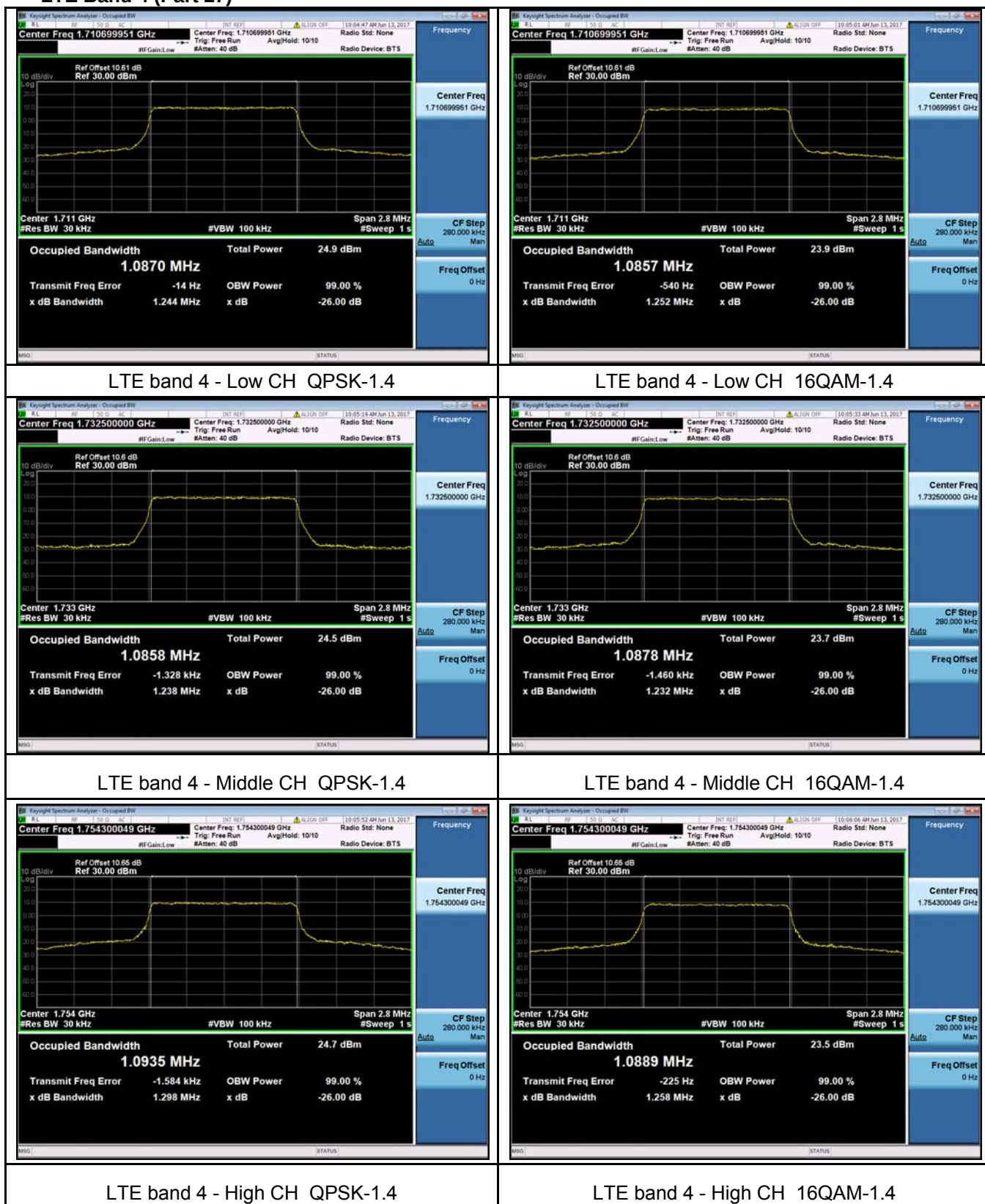


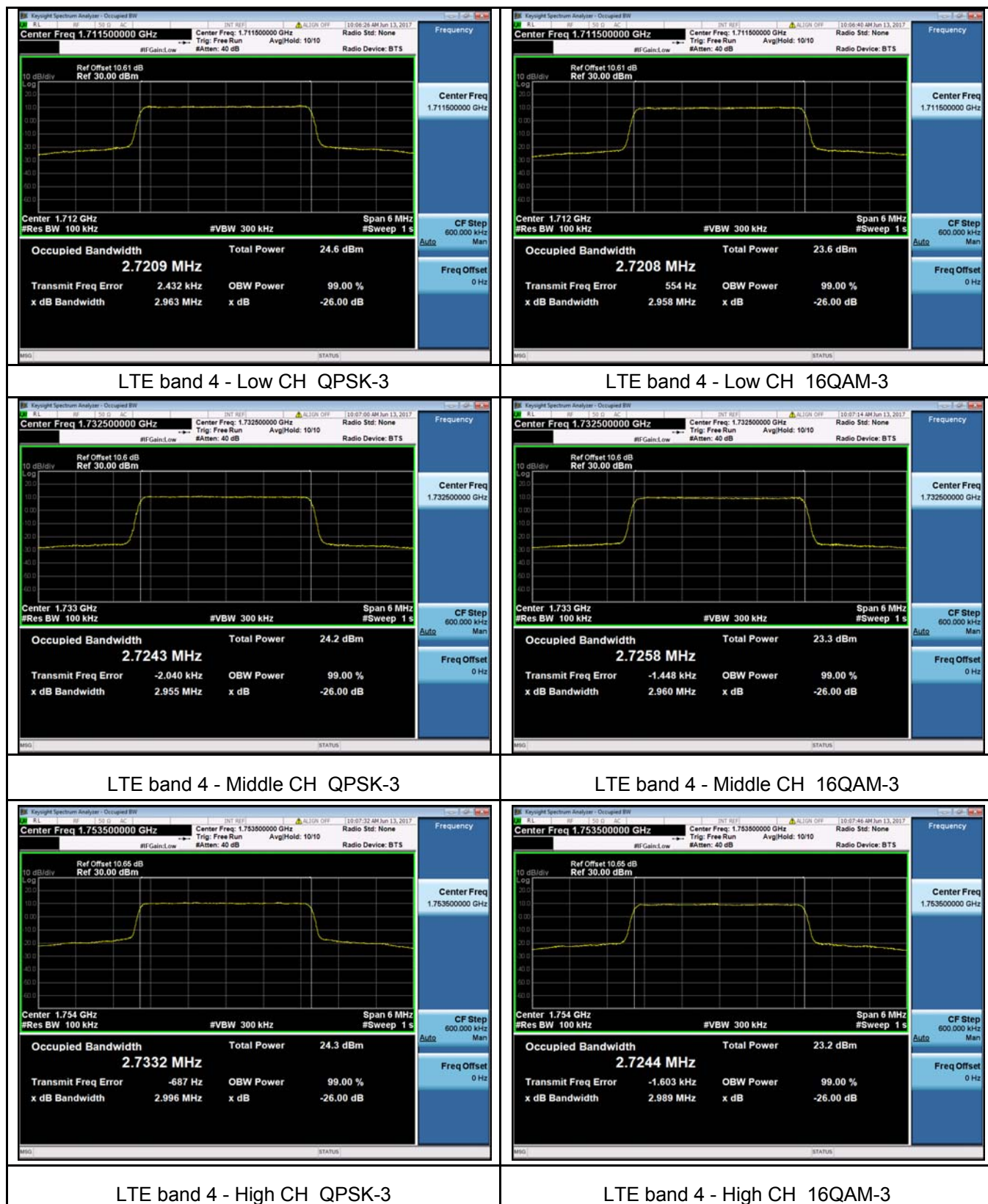


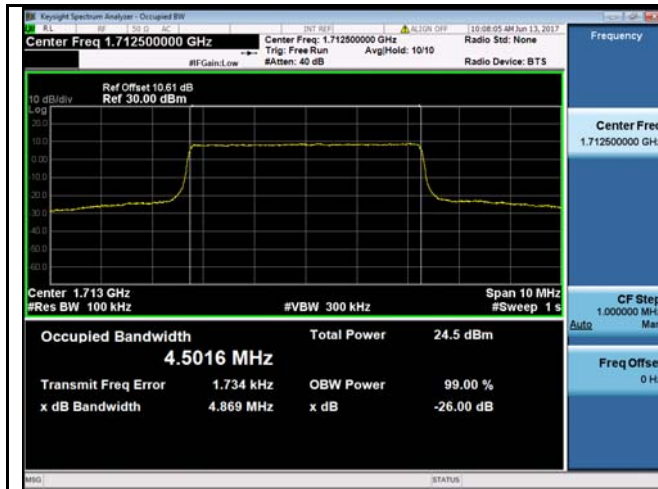




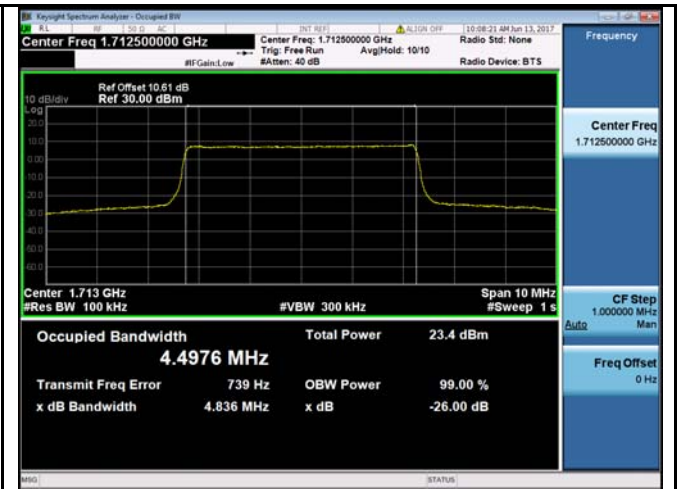
## LTE Band 4 (Part 27)



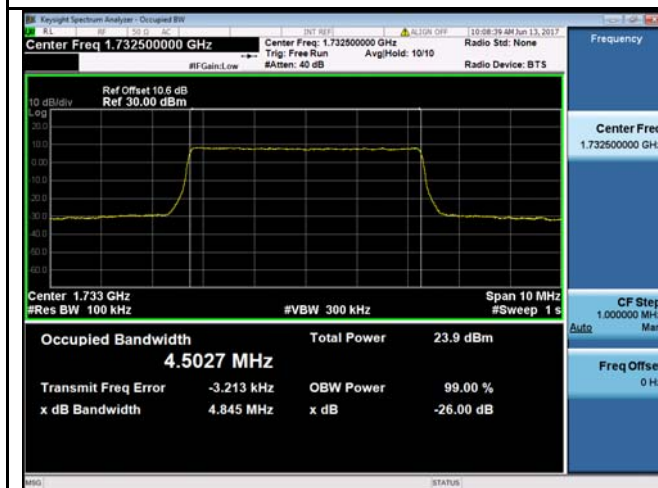




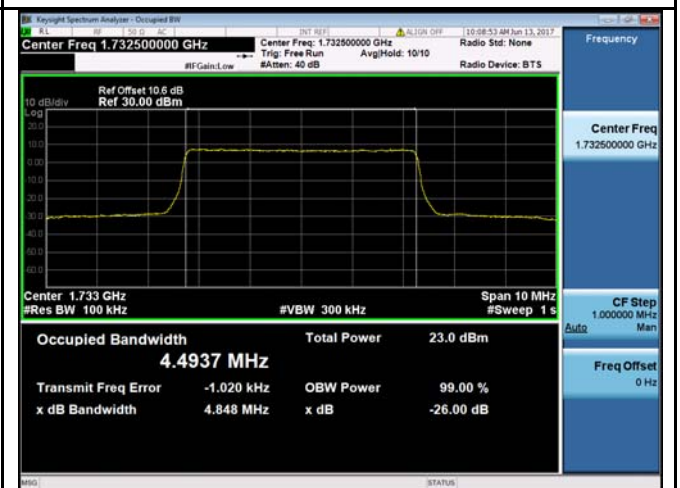
LTE band 4 - Low CH QPSK-5



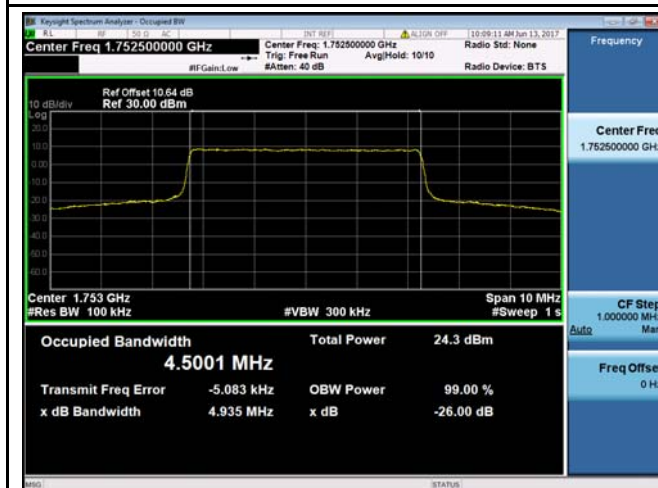
LTE band 4 - Low CH 16QAM-5



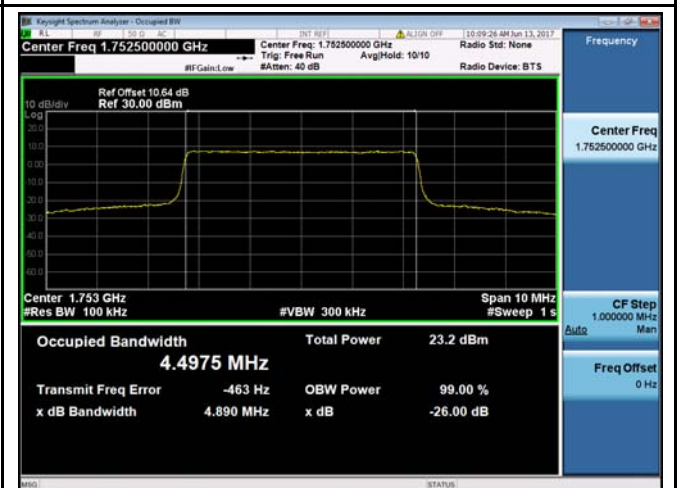
LTE band 4 - Middle CH QPSK-5



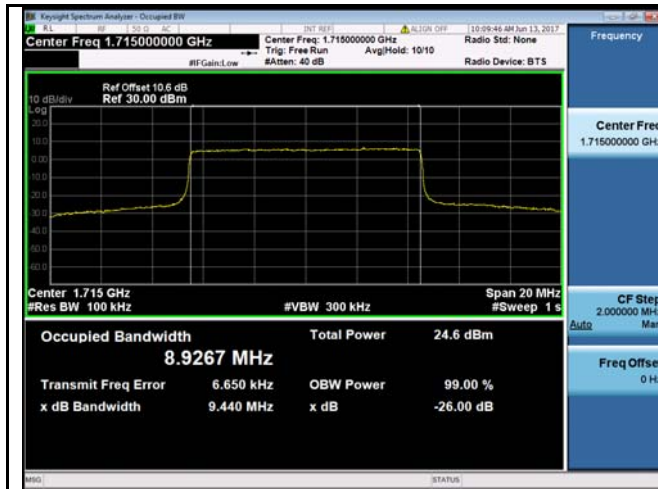
LTE band 4 - Middle CH 16QAM-5



LTE band 4 - High CH QPSK-5



LTE band 4 - High CH 16QAM-5



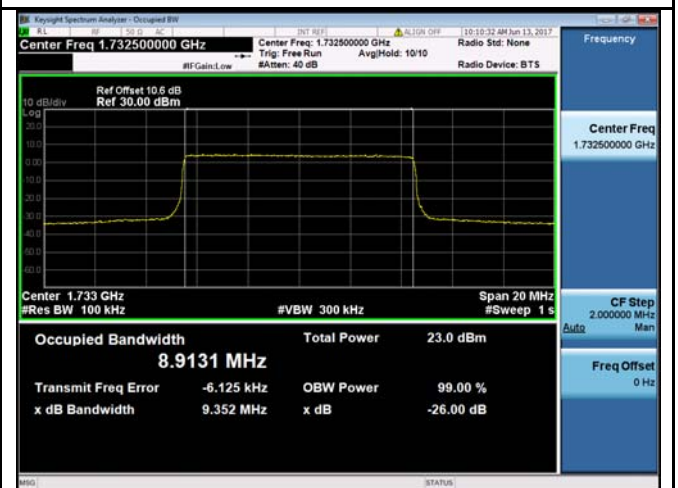
LTE band 4 - Low CH QPSK-10



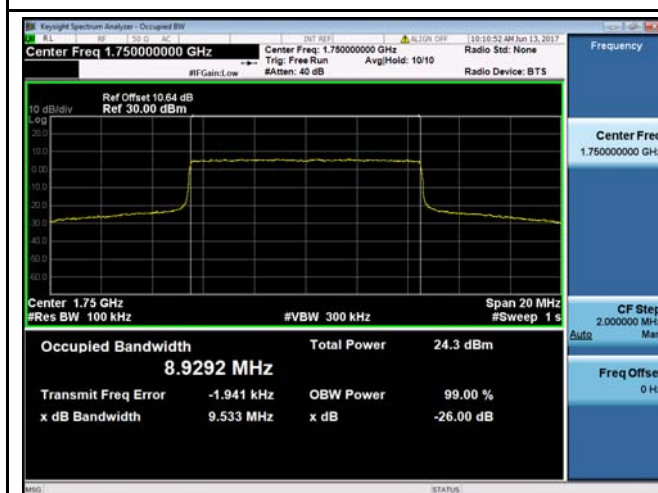
LTE band 4 - Low CH 16QAM-10



LTE band 4 - Middle CH QPSK-10



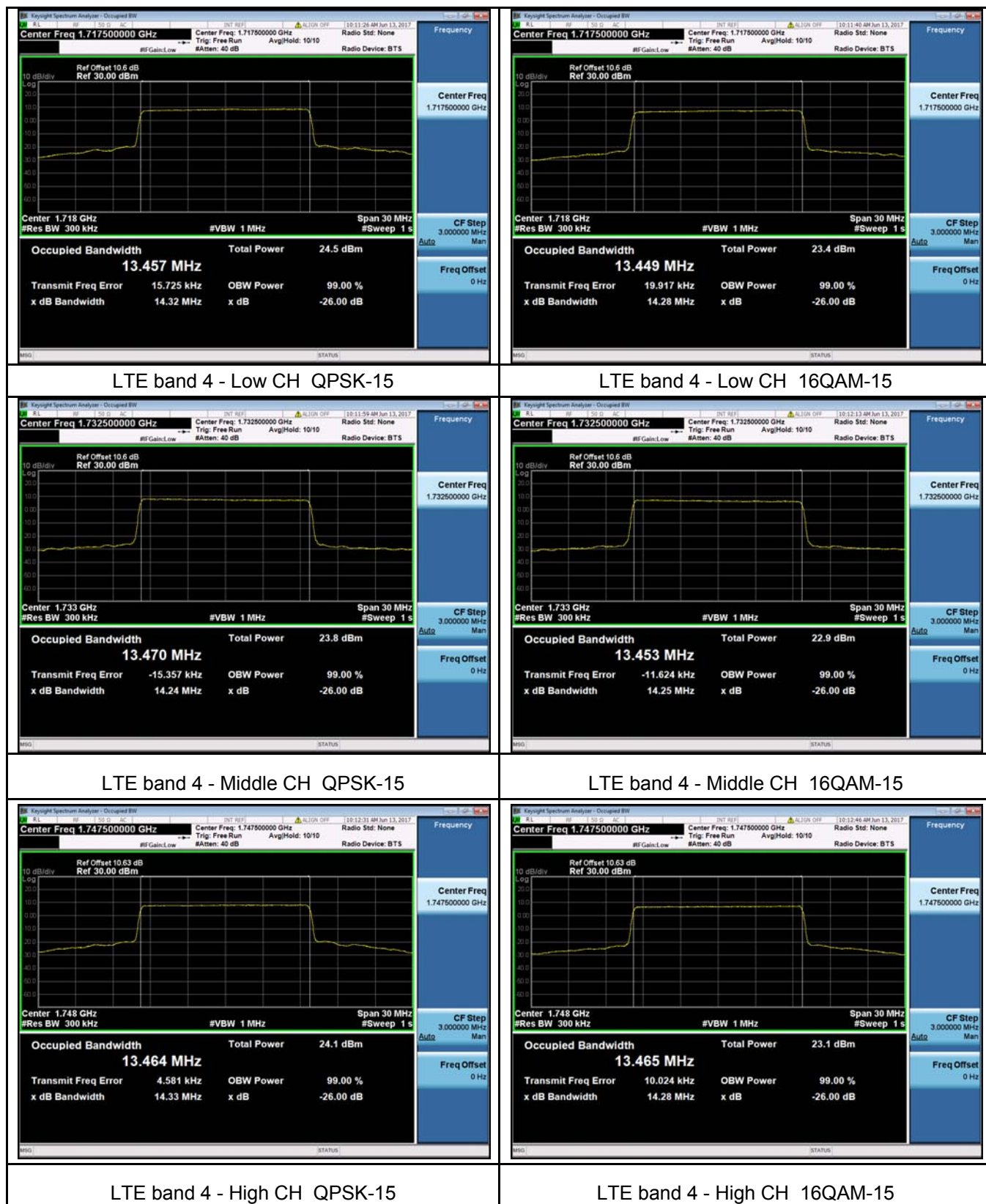
LTE band 4 - Middle CH 16QAM-10

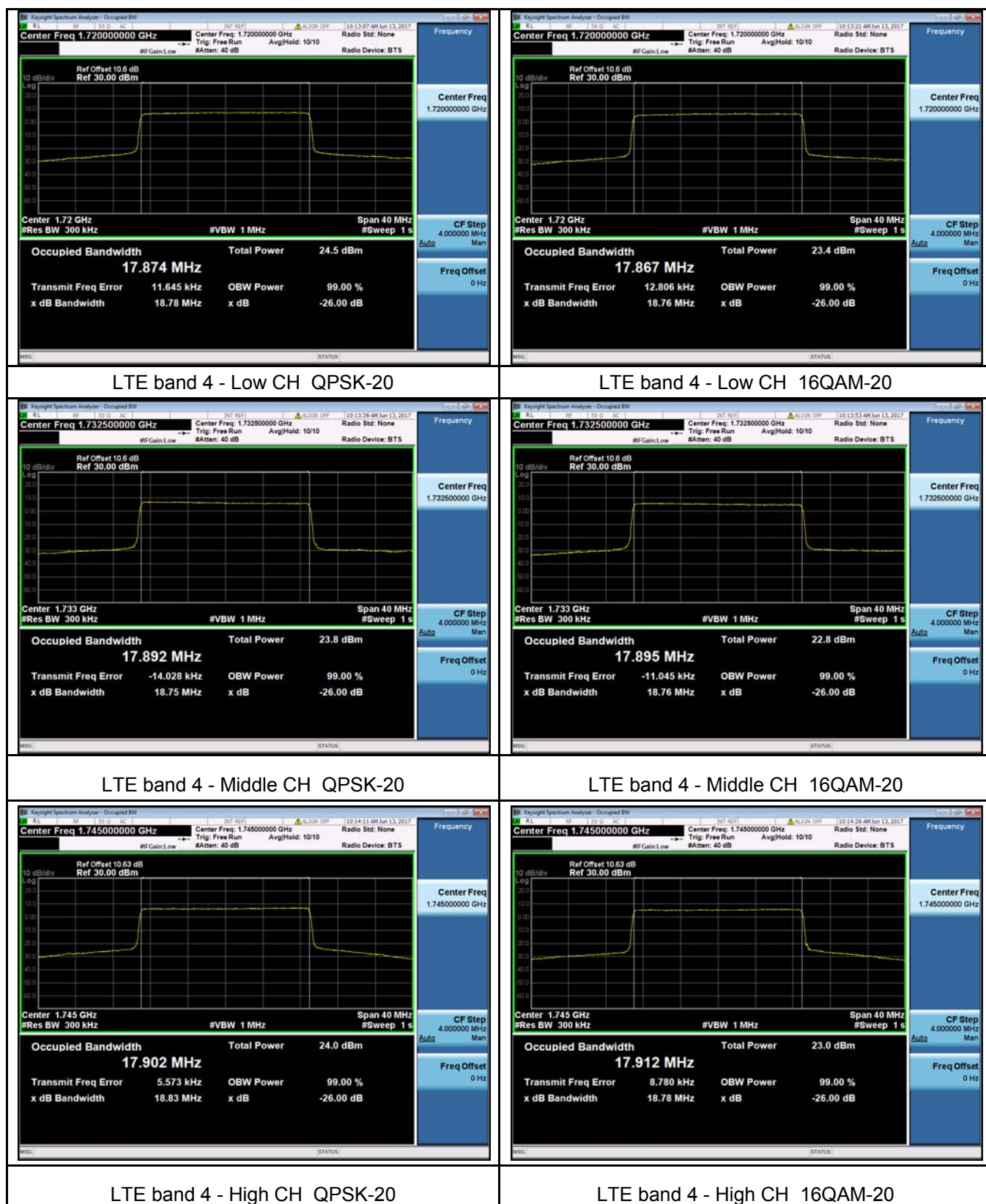


LTE band 4 - High CH QPSK-10



LTE band 4 - High CH 16QAM-10





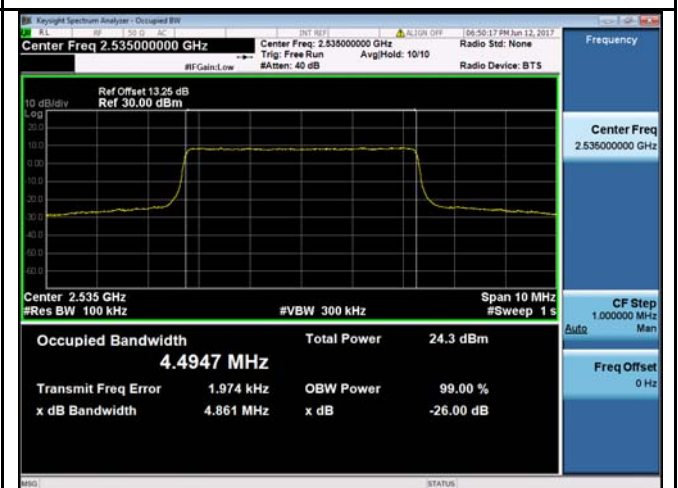
## LTE Band 7 (Part 27)



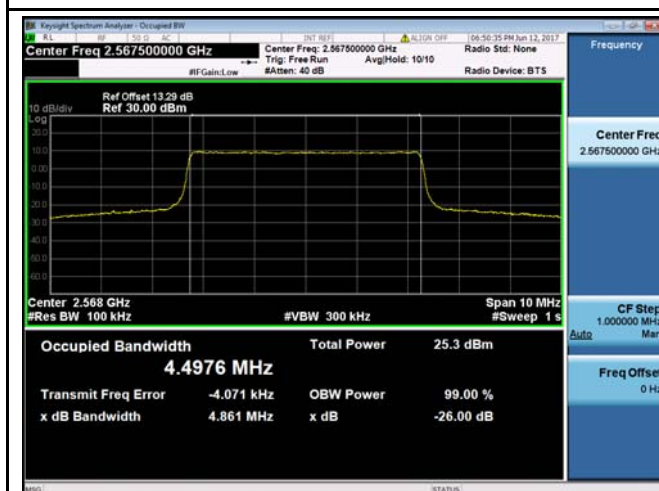
## LTE band 7 - Low CH QPSK-5



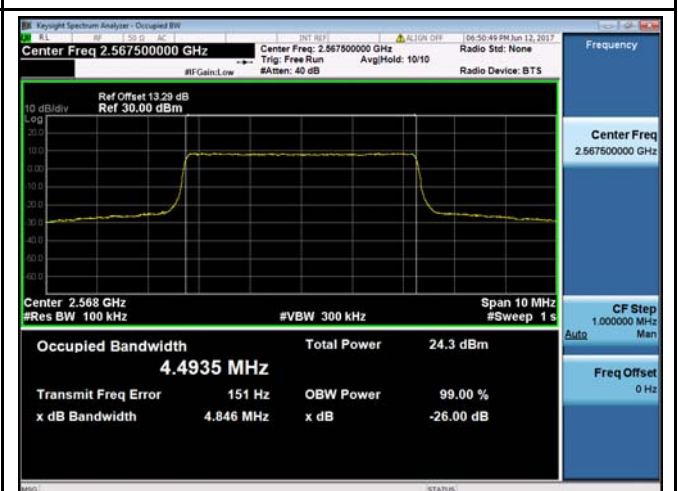
## LTE band 7 - Low CH 16QAM-5



## LTE band 7 - Middle CH QPSK-5



## LTE band 7 - Middle CH 16QAM-5



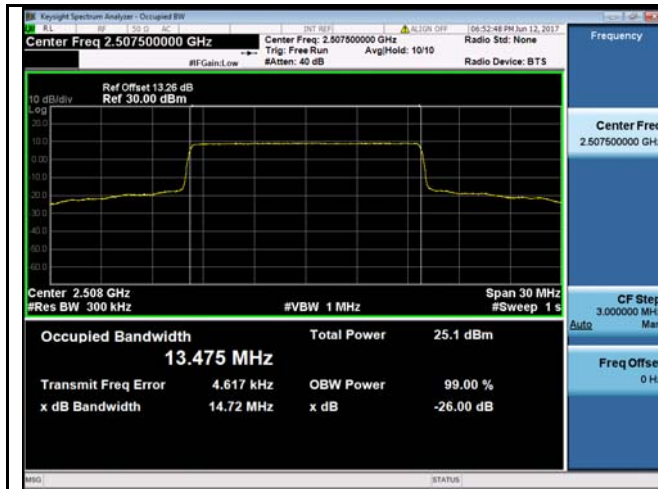
## LTE band 7 - High CH QPSK-5



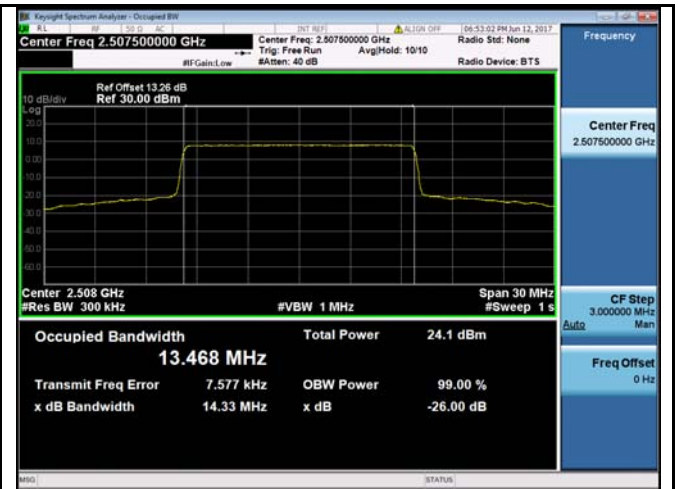
## LTE band 7 - High CH 16QAM-5



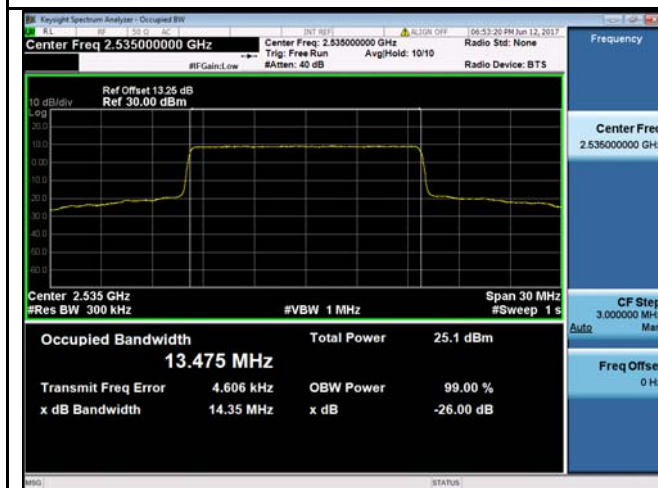




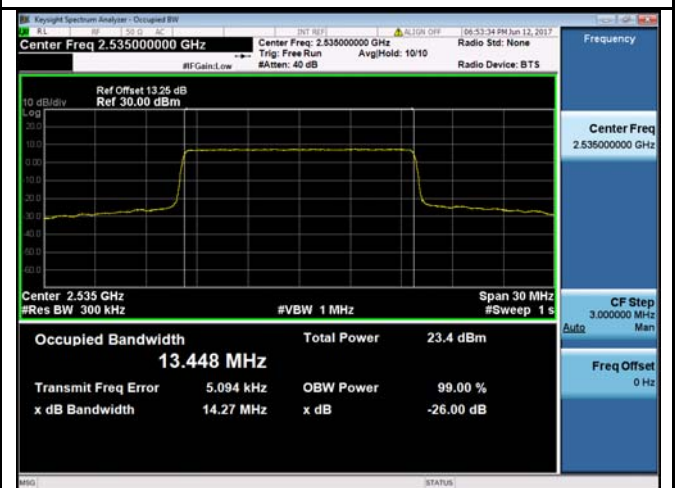
LTE band 7 - Low CH QPSK-15



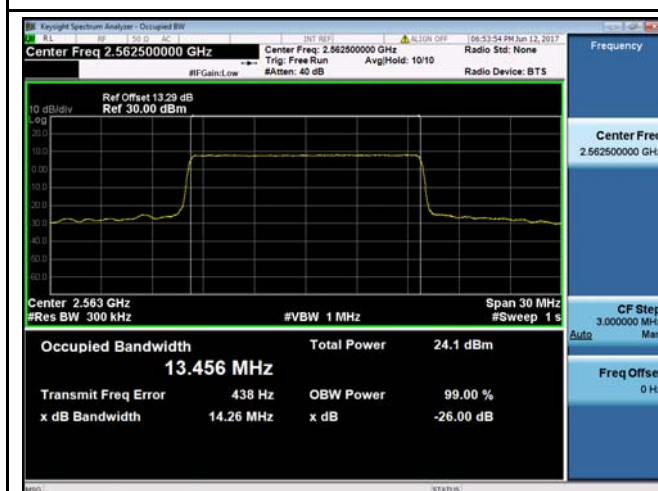
LTE band 7 - Low CH 16QAM-15



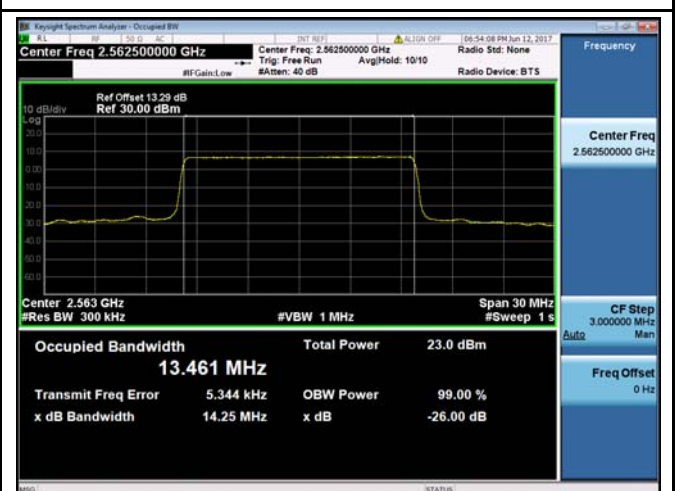
LTE band 7 - Middle CH QPSK-15



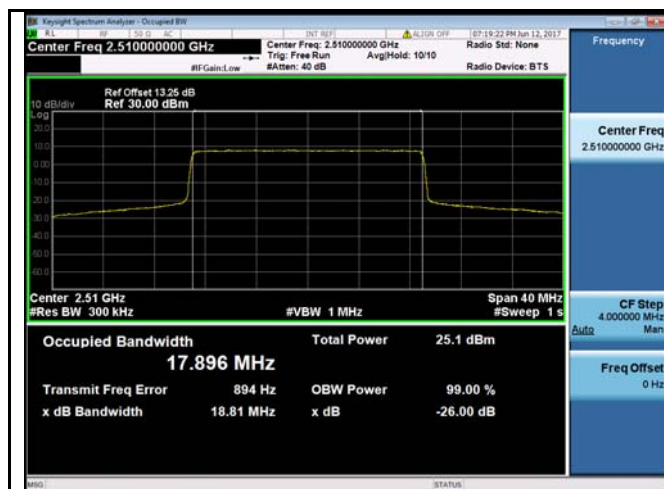
LTE band 7 - Middle CH 16QAM-15



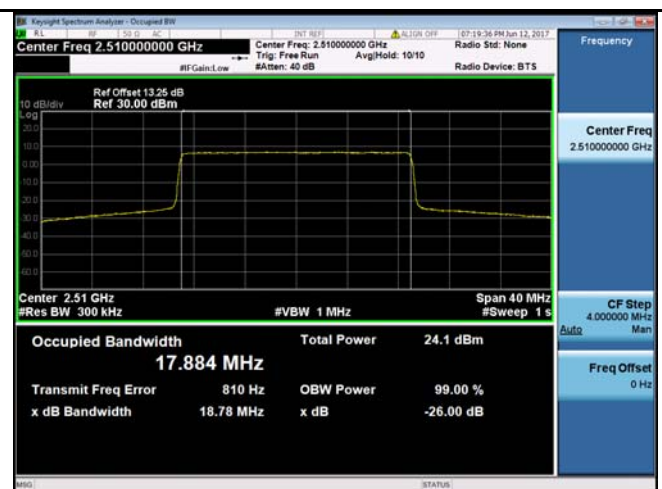
LTE band 7 - High CH QPSK-15



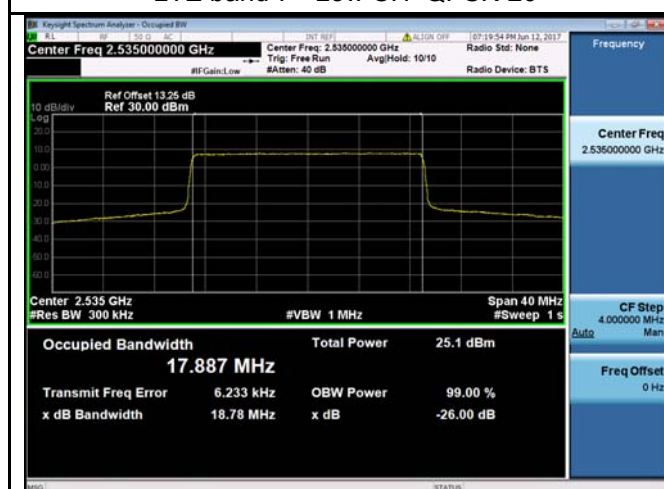
LTE band 7 - High CH 16QAM-15



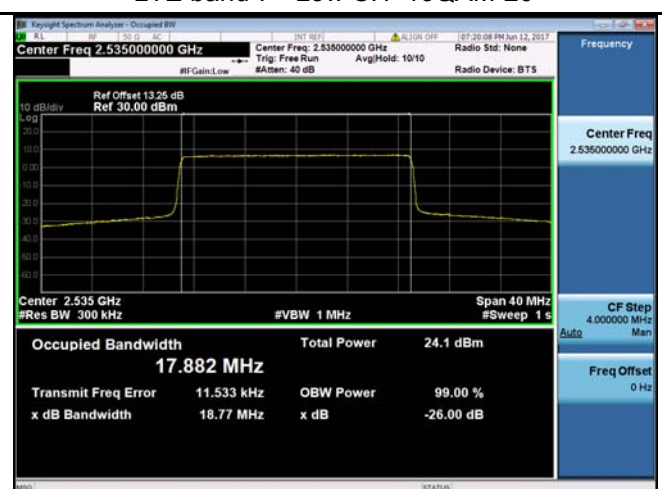
LTE band 7 - Low CH QPSK-20



LTE band 7 - Low CH 16QAM-20



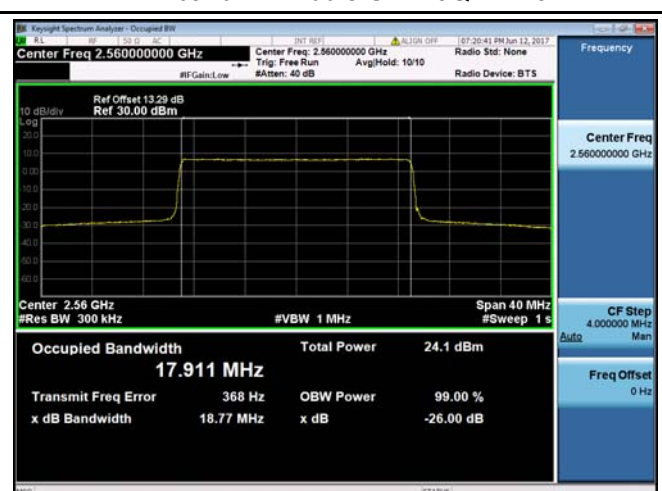
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20



LTE band 7 - High CH QPSK-20



LTE band 7 - High CH 16QAM-20

## 11 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

|                   |                                                   |
|-------------------|---------------------------------------------------|
| Test Requirement: | FCC Part 2.1051, 24.238(a), 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02        |
| Test Mode:        | TX transmitting                                   |

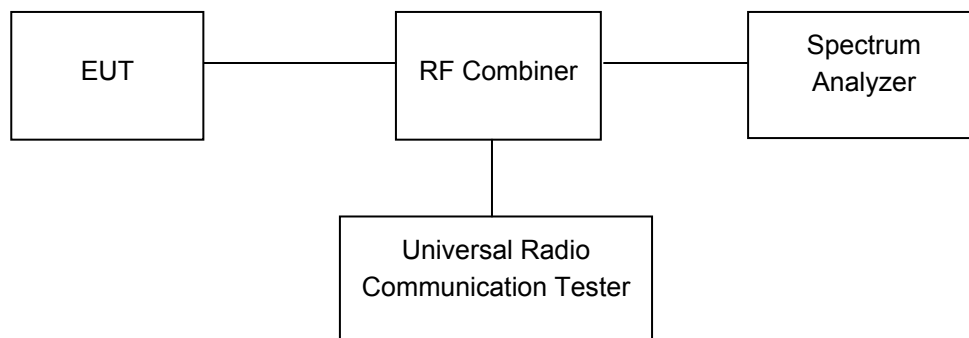
### 11.1 EUT Operation

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 2/4/7 LTE Transmitter Spurious Emissions.

## 12 SPURIOUS RADIATED EMISSIONS

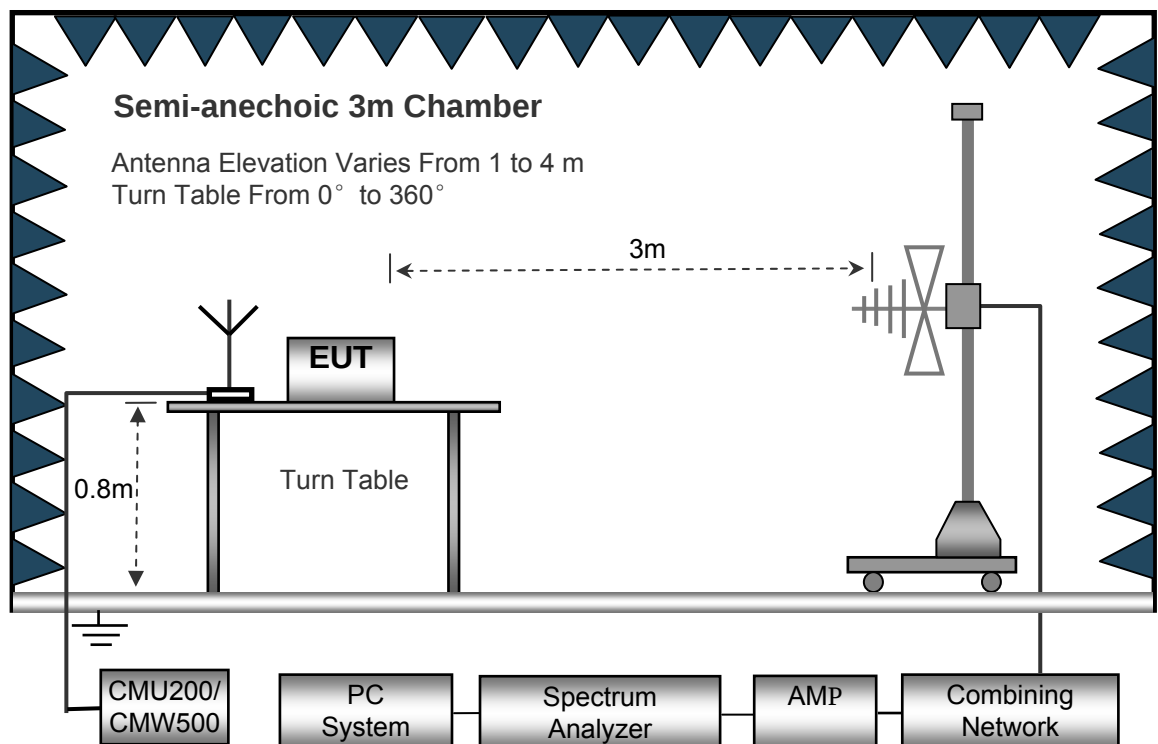
|                   |                                                |
|-------------------|------------------------------------------------|
| Test Requirement: | FCC Part 2.1053, 24.238, 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02     |
| Test Mode:        | TX transmitting                                |

### 12.1 EUT Operation

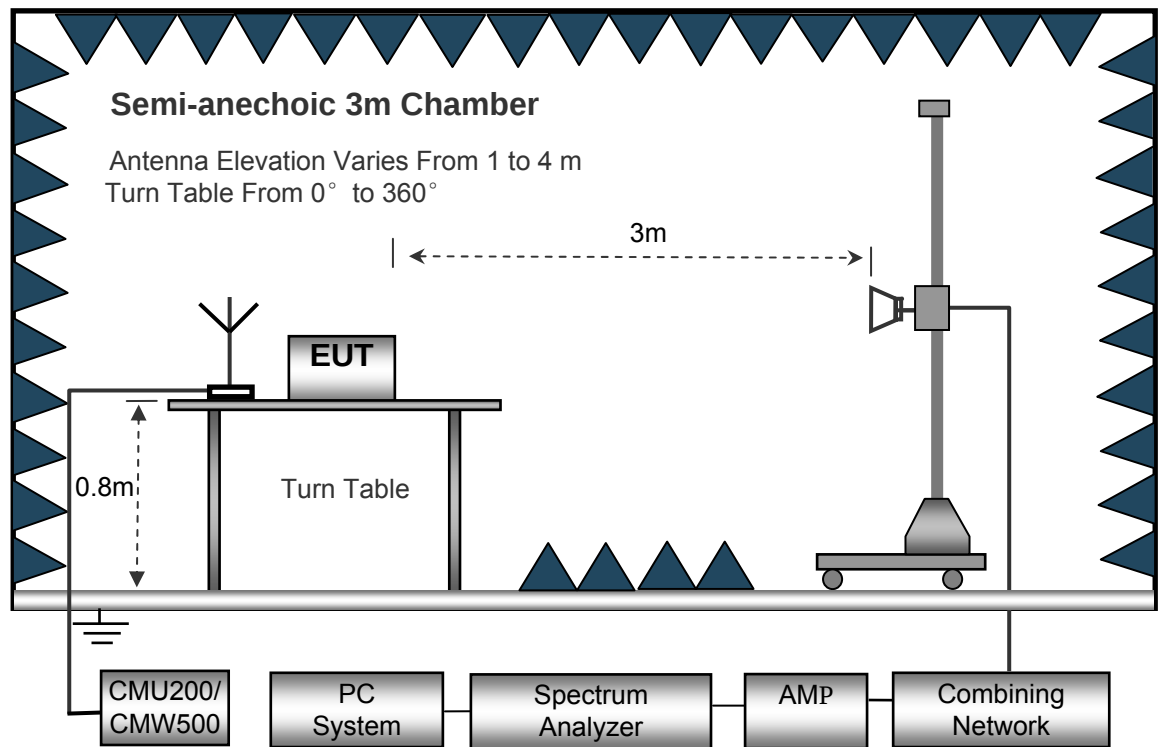
|                         |           |
|-------------------------|-----------|
| Operating Environment : |           |
| Temperature:            | 23.5 °C   |
| Humidity:               | 52.1 % RH |
| Atmospheric Pressure:   | 101.2kPa  |

### 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 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 47.13            | 167              | 1.2        | H     | -63.38      | 0.15  | 0.00         | -63.53         | -13.00 | -50.53 |
| 199.38                   | 36.91            | 353              | 1.4        | V     | -70.68      | 0.15  | 0.00         | -70.83         | -13.00 | -57.83 |
| 3701.40                  | 65.95            | 250              | 1.4        | H     | -45.59      | 2.37  | 12.50        | -35.46         | -13.00 | -22.46 |
| 3701.40                  | 59.98            | 105              | 1.5        | V     | -49.83      | 2.37  | 12.50        | -39.70         | -13.00 | -26.70 |
| 5552.10                  | 53.58            | 247              | 1.4        | H     | -56.03      | 2.86  | 12.90        | -45.99         | -13.00 | -32.99 |
| 5552.10                  | 44.73            | 354              | 2.0        | V     | -64.15      | 2.86  | 12.90        | -54.11         | -13.00 | -41.11 |
| LTE BAND 2 Channel 18900 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 46.43            | 277              | 2.0        | H     | -64.08      | 0.15  | 0.00         | -64.23         | -13.00 | -51.23 |
| 199.38                   | 36.09            | 68               | 2.1        | V     | -71.50      | 0.15  | 0.00         | -71.65         | -13.00 | -58.65 |
| 3760.00                  | 58.44            | 153              | 1.1        | H     | -53.10      | 2.37  | 12.50        | -42.97         | -13.00 | -29.97 |
| 3760.00                  | 53.61            | 47               | 1.0        | V     | -56.20      | 2.37  | 12.50        | -46.07         | -13.00 | -33.07 |
| 5640.00                  | 47.52            | 58               | 1.8        | H     | -62.09      | 2.86  | 12.90        | -52.05         | -13.00 | -39.05 |
| 5640.00                  | 38.64            | 184              | 1.3        | V     | -70.24      | 2.86  | 12.90        | -60.20         | -13.00 | -47.20 |
| LTE BAND 2 Channel 19193 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 46.05            | 174              | 1.4        | H     | -64.46      | 0.15  | 0.00         | -64.61         | -13.00 | -51.61 |
| 199.38                   | 36.05            | 161              | 1.9        | V     | -71.54      | 0.15  | 0.00         | -71.69         | -13.00 | -58.69 |
| 3818.60                  | 50.84            | 10               | 1.3        | H     | -60.01      | 2.37  | 12.60        | -49.78         | -13.00 | -36.78 |
| 3818.60                  | 45.65            | 193              | 1.4        | V     | -63.66      | 2.37  | 12.60        | -53.43         | -13.00 | -40.43 |
| 5727.90                  | 40.32            | 108              | 1.1        | H     | -69.03      | 2.86  | 12.90        | -58.99         | -13.00 | -45.99 |
| 5727.90                  | 32.01            | 35               | 1.8        | V     | -76.49      | 2.86  | 12.90        | -66.45         | -13.00 | -53.45 |

**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 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 40.83            | 223              | 1.1        | H     | -69.68      | 0.15  | 0.00         | -69.83         | -13.00 | -56.83 |
| 199.38                   | 31.74            | 339              | 1.2        | V     | -75.85      | 0.15  | 0.00         | -76.00         | -13.00 | -63.00 |
| 3421.40                  | 65.95            | 119              | 1.7        | H     | -47.10      | 2.34  | 12.40        | -37.04         | -13.00 | -24.04 |
| 3421.40                  | 59.98            | 58               | 1.2        | V     | -51.17      | 2.34  | 12.40        | -41.11         | -13.00 | -28.11 |
| 5132.10                  | 53.58            | 315              | 2.1        | H     | -55.83      | 2.79  | 12.70        | -45.92         | -13.00 | -32.92 |
| 5132.10                  | 44.73            | 238              | 1.2        | V     | -64.04      | 2.79  | 12.70        | -54.13         | -13.00 | -41.13 |
| LTE BAND 4 Channel 20175 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 40.13            | 61               | 1.0        | H     | -70.38      | 0.15  | 0.00         | -70.53         | -13.00 | -57.53 |
| 199.38                   | 32.60            | 252              | 1.6        | V     | -74.99      | 0.15  | 0.00         | -75.14         | -13.00 | -62.14 |
| 3465.00                  | 59.00            | 234              | 1.2        | H     | -54.05      | 2.37  | 12.50        | -43.92         | -13.00 | -30.92 |
| 3465.00                  | 53.78            | 97               | 2.0        | V     | -57.37      | 2.37  | 12.50        | -47.24         | -13.00 | -34.24 |
| 5197.50                  | 47.20            | 353              | 2.0        | H     | -62.21      | 2.79  | 12.70        | -52.30         | -13.00 | -39.30 |
| 5197.50                  | 37.20            | 43               | 1.8        | V     | -71.57      | 2.79  | 12.70        | -61.66         | -13.00 | -48.66 |
| LTE BAND 4 Channel 20393 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 39.48            | 32               | 2.0        | H     | -71.03      | 0.15  | 0.00         | -71.18         | -13.00 | -58.18 |
| 199.38                   | 32.39            | 70               | 1.1        | V     | -75.20      | 0.15  | 0.00         | -75.35         | -13.00 | -62.35 |
| 3508.60                  | 52.11            | 200              | 2.1        | H     | -60.53      | 2.37  | 12.50        | -50.40         | -13.00 | -37.40 |
| 3508.60                  | 47.30            | 226              | 1.8        | V     | -63.43      | 2.37  | 12.50        | -53.30         | -13.00 | -40.30 |
| 5262.90                  | 39.71            | 313              | 2.1        | H     | -69.87      | 2.81  | 12.80        | -59.88         | -13.00 | -46.88 |
| 5262.90                  | 30.35            | 201              | 1.3        | V     | -78.45      | 2.81  | 12.80        | -68.46         | -13.00 | -55.46 |

**LTE Band 7**

| 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 7 Channel 20775 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 39.59            | 128              | 1.4        | H     | -70.92      | 0.15  | 0.00         | -71.07         | -25.00 | -46.07 |
| 199.38                   | 29.56            | 149              | 1.2        | V     | -78.03      | 0.15  | 0.00         | -78.18         | -25.00 | -53.18 |
| 5005.00                  | 65.95            | 244              | 1.2        | H     | -43.29      | 2.79  | 12.70        | -33.38         | -25.00 | -8.38  |
| 5005.00                  | 59.98            | 354              | 1.3        | V     | -48.79      | 2.79  | 12.70        | -38.88         | -25.00 | -13.88 |
| 7507.50                  | 53.58            | 143              | 1.5        | H     | -52.96      | 3.12  | 11.50        | -44.58         | -25.00 | -19.58 |
| 7507.50                  | 44.73            | 143              | 2.1        | V     | -60.70      | 3.12  | 11.50        | -52.32         | -25.00 | -27.32 |
| LTE BAND 7 Channel 21100 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 40.06            | 356              | 2.0        | H     | -70.45      | 0.15  | 0.00         | -70.60         | -25.00 | -45.60 |
| 199.38                   | 29.93            | 62               | 1.5        | V     | -77.66      | 0.15  | 0.00         | -77.81         | -25.00 | -52.81 |
| 5070.00                  | 59.77            | 222              | 2.2        | H     | -49.47      | 2.37  | 12.50        | -39.34         | -25.00 | -14.34 |
| 5070.00                  | 53.81            | 170              | 1.9        | V     | -54.96      | 2.37  | 12.50        | -44.83         | -25.00 | -19.83 |
| 7605.00                  | 46.74            | 181              | 1.5        | H     | -59.80      | 3.12  | 11.50        | -51.42         | -25.00 | -26.42 |
| 7605.00                  | 38.32            | 104              | 2.0        | V     | -67.11      | 3.12  | 11.50        | -58.73         | -25.00 | -33.73 |
| LTE BAND 7 Channel 21425 |                  |                  |            |       |             |       |              |                |        |        |
| 199.38                   | 39.66            | 60               | 1.8        | H     | -70.85      | 0.15  | 0.00         | -71.00         | -25.00 | -46.00 |
| 199.38                   | 29.10            | 302              | 1.2        | V     | -78.49      | 0.15  | 0.00         | -78.64         | -25.00 | -53.64 |
| 5135.00                  | 52.82            | 115              | 2.1        | H     | -56.59      | 2.37  | 12.50        | -46.46         | -25.00 | -21.46 |
| 5135.00                  | 46.23            | 171              | 1.4        | V     | -62.54      | 2.37  | 12.50        | -52.41         | -25.00 | -27.41 |
| 7702.50                  | 38.96            | 317              | 1.6        | H     | -66.27      | 3.12  | 11.50        | -57.89         | -25.00 | -32.89 |
| 7702.50                  | 30.54            | 174              | 1.1        | V     | -74.35      | 3.12  | 11.50        | -65.97         | -25.00 | -40.97 |

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, 24.238(a), 27.53(h), 27.53(m)(4) |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02        |
| 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.

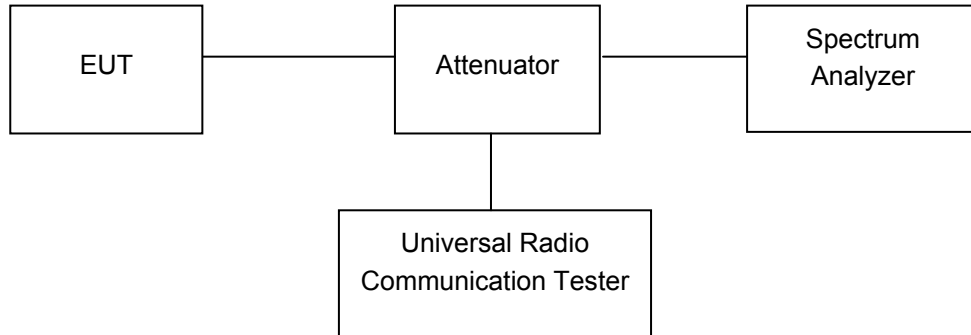
According to FCC Part 22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the TX transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

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



### 13.3 Test Result

PASS

#### LTE Band

Please refer to the Appendix Band 2/4/7 LTE Band Edge.

## 14 FREQUENCY STABILITY

|                   |                                            |
|-------------------|--------------------------------------------|
| Test Requirement: | FCC Part 2.1055, 24.235, 27.5(h),27.54     |
| Test Method:      | TIA/EIA-603-D:2010<br>KDB971168 D01 v02r02 |
| Test Mode:        | TX transmitting                            |

### 14.1 EUT Operation

Operating Environment :

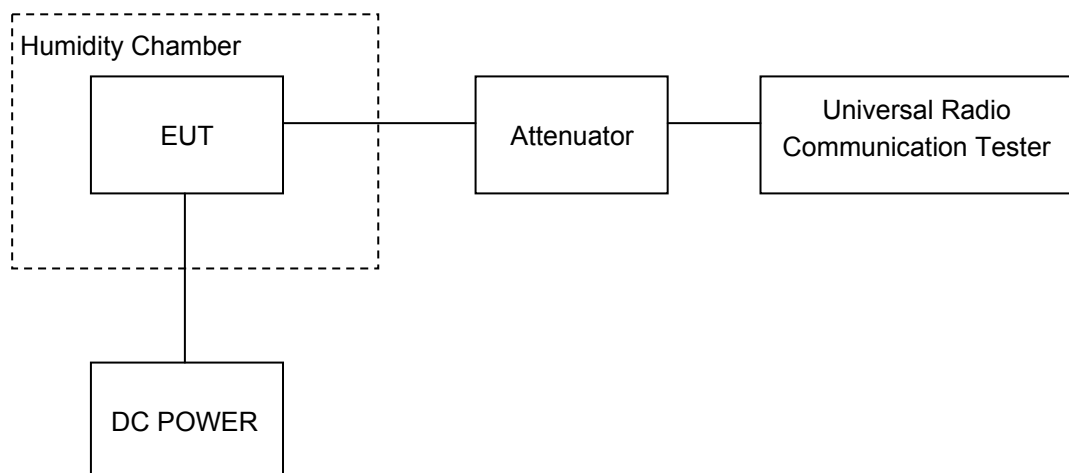
|                       |           |
|-----------------------|-----------|
| Temperature:          | 22.9 °C   |
| Humidity:             | 52.0 % RH |
| Atmospheric Pressure: | 101.3kPa  |

### 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                                   | 3.85               | 2                    | 0.0011                | 2.5         |
| 40                                   |                    | 7                    | 0.0037                | 2.5         |
| 30                                   |                    | 6                    | 0.0032                | 2.5         |
| 20                                   |                    | 1                    | 0.0005                | 2.5         |
| 10                                   |                    | 7                    | 0.0037                | 2.5         |
| 0                                    |                    | 4                    | 0.0021                | 2.5         |
| -10                                  |                    | 4                    | 0.0021                | 2.5         |
| -20                                  |                    | 3                    | 0.0016                | 2.5         |
| -30                                  |                    | -5                   | -0.0027               | 2.5         |
| 20                                   | 3.4                | -1                   | -0.0005               | 2.5         |
| 20                                   | 4.3                | 2                    | 0.0011                | 2.5         |

| T Test Frequency:1880.0MHz 16QAM 1.4MHz |                    |                      |                       |             |
|-----------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                        | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                      | 3.85               | -6                   | -0.0032               | 2.5         |
| 40                                      |                    | 8                    | 0.0043                | 2.5         |
| 30                                      |                    | -4                   | -0.0021               | 2.5         |
| 20                                      |                    | 0                    | 0.0000                | 2.5         |
| 10                                      |                    | 0                    | 0.0000                | 2.5         |
| 0                                       |                    | -6                   | -0.0032               | 2.5         |
| -10                                     |                    | -5                   | -0.0027               | 2.5         |
| -20                                     |                    | 8                    | 0.0043                | 2.5         |
| -30                                     |                    | -8                   | -0.0043               | 2.5         |
| 20                                      | 3.4                | 2                    | 0.0011                | 2.5         |
| 20                                      | 4.3                | 1                    | 0.0005                | 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                                 | 3.85               | -6                   | -0.0032               | 2.5         |
| 40                                 |                    | 11                   | 0.0059                | 2.5         |
| 30                                 |                    | 8                    | 0.0043                | 2.5         |
| 20                                 |                    | 3                    | 0.0016                | 2.5         |
| 10                                 |                    | -6                   | -0.0032               | 2.5         |
| 0                                  |                    | 1                    | 0.0005                | 2.5         |
| -10                                |                    | 1                    | 0.0005                | 2.5         |
| -20                                |                    | -2                   | -0.0011               | 2.5         |
| -30                                |                    | 0                    | 0.0000                | 2.5         |
| 20                                 | 3.4                | 3                    | 0.0016                | 2.5         |
| 20                                 | 4.3                | 11                   | 0.0059                | 2.5         |

| Test Frequency:1880.0MHz 16QAM 3MHz |                    |                      |                       |             |
|-------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                    | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                  | 3.85               | 7                    | 0.0037                | 2.5         |
| 40                                  |                    | 1                    | 0.0005                | 2.5         |
| 30                                  |                    | 9                    | 0.0048                | 2.5         |
| 20                                  |                    | 2                    | 0.0011                | 2.5         |
| 10                                  |                    | -5                   | -0.0027               | 2.5         |
| 0                                   |                    | 7                    | 0.0037                | 2.5         |
| -10                                 |                    | -3                   | -0.0016               | 2.5         |
| -20                                 |                    | -5                   | -0.0027               | 2.5         |
| -30                                 |                    | 3                    | 0.0016                | 2.5         |
| 20                                  | 3.4                | 5                    | 0.0027                | 2.5         |
| 20                                  | 4.3                | -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                                 | 3.85               | 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                                 | 3.4                | -1                   | -0.0005               | 2.5         |
| 20                                 | 4.3                | 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                                  | 3.85               | 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                                  | 3.4                | -12                  | -0.0064               | 2.5         |
| 20                                  | 4.3                | 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                                  | 3.85               | 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                                  | 3.4                | -4                   | -0.0021               | 2.5         |
| 20                                  | 4.3                | 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                                   | 3.85               | 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                                   | 3.4                | 0                    | 0.0000                | 2.5         |
| 20                                   | 4.3                | 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                                  | 3.85               | 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                                  | 3.4                | 4                    | 0.0021                | 2.5         |
| 20                                  | 4.3                | -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                                   | 3.85               | -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                                   | 3.4                | 6                    | 0.0032                | 2.5         |
| 20                                   | 4.3                | -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                                  | 3.85               | 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                                  | 3.4                | 2                    | 0.0011                | 2.5         |
| 20                                  | 4.3                | 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                                   | 3.85               | 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                                   | 3.4                | 8                    | 0.0043                | 2.5         |
| 20                                   | 4.3                | 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                                   | 3.85               | 1                    | 0.0006                | 2.5         |
| 40                                   |                    | -2                   | -0.0012               | 2.5         |
| 30                                   |                    | 5                    | 0.0029                | 2.5         |
| 20                                   |                    | 2                    | 0.0010                | 2.5         |
| 10                                   |                    | 6                    | 0.0035                | 2.5         |
| 0                                    |                    | 7                    | 0.0040                | 2.5         |
| -10                                  |                    | -1                   | -0.0006               | 2.5         |
| -20                                  |                    | 9                    | 0.0052                | 2.5         |
| -30                                  |                    | -5                   | -0.0029               | 2.5         |
| 20                                   | 3.4                | 5                    | 0.0029                | 2.5         |
| 20                                   | 4.3                | 3                    | 0.0017                | 2.5         |

| Test Frequency:1732.5MHz 16QAM 1.4MHz |                    |                      |                       |             |
|---------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                      | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                    | 3.85               | 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                                    | 3.4                | 4                    | 0.0023                | 2.5         |
| 20                                    | 4.3                | 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                                 | 3.85               | 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                                 | 3.4                | -4                   | -0.0023               | 2.5         |
| 20                                 | 4.3                | -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                                  | 3.85               | 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                                  | 3.4                | 3                    | 0.0017                | 2.5         |
| 20                                  | 4.3                | 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                                 | 3.85               | -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                                 | 3.4                | 5                    | 0.0029                | 2.5         |
| 20                                 | 4.3                | 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                                  | 3.85               | 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                                  | 3.4                | -2                   | -0.0012               | 2.5         |
| 20                                  | 4.3                | 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                                  | 3.85               | -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                                  | 3.4                | -1                   | -0.0006               | 2.5         |
| 20                                  | 4.3                | 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                                   | 3.85               | 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                                   | 3.4                | -4                   | -0.0023               | 2.5         |
| 20                                   | 4.3                | 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                                  | 3.85               | 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                                  | 3.4                | 4                    | 0.0023                | 2.5         |
| 20                                  | 4.3                | -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                                   | 3.85               | 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                                   | 3.4                | 11                   | 0.0063                | 2.5         |
| 20                                   | 4.3                | -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                                  | 3.85               | -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                                  | 3.4                | -5                   | -0.0029               | 2.5         |
| 20                                  | 4.3                | -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                                   | 3.85               | 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                                   | 3.4                | -12                  | -0.0069               | 2.5         |
| 20                                   | 4.3                | -3                   | -0.0017               | 2.5         |

## LTE Band 7

| Test Frequency:2535MHz QPSK 5MHz |                    |                      |                       |             |
|----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                 | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                               | 3.85               | 2                    | 0.0024                | 2.5         |
| 40                               |                    | 6                    | 0.0072                | 2.5         |
| 30                               |                    | 7                    | 0.0084                | 2.5         |
| 20                               |                    | 9                    | 0.0108                | 2.5         |
| 10                               |                    | 11                   | 0.0132                | 2.5         |
| 0                                |                    | 10                   | 0.0120                | 2.5         |
| -10                              |                    | 9                    | 0.0108                | 2.5         |
| -20                              |                    | 6                    | 0.0072                | 2.5         |
| -30                              |                    | 3                    | 0.0036                | 2.5         |
| 20                               | 3.4                | 3                    | 0.0036                | 2.5         |
| 20                               | 4.3                | 7                    | 0.0084                | 2.5         |

| Test Frequency:2535MHz 16QAM 5MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.85               | 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                                | 3.4                | -1                   | -0.0004               | 2.5         |
| 20                                | 4.3                | -5                   | -0.0020               | 2.5         |

## LTE Band 7

| Test Frequency:2535MHz QPSK 10MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.85               | 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                                | 3.4                | 7                    | 0.0028                | 2.5         |
| 20                                | 4.3                | -4                   | -0.0016               | 2.5         |

| Test Frequency:2535MHz 16QAM 10MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.85               | 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                                 | 3.4                | -5                   | -0.0020               | 2.5         |
| 20                                 | 4.3                | 9                    | 0.0036                | 2.5         |

## LTE Band 7

| Test Frequency:2535MHz QPSK 15MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.85               | 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                                | 3.4                | -5                   | -0.0020               | 2.5         |
| 20                                | 4.3                | 9                    | 0.0036                | 2.5         |

| Test Frequency:2535MHz 16QAM 15MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.85               | 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                                 | 3.4                | 5                    | 0.0020                | 2.5         |
| 20                                 | 4.3                | 14                   | 0.0055                | 2.5         |

## LTE Band 7

| Test Frequency:2535MHz QPSK 20MHz |                    |                      |                       |             |
|-----------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                  | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                | 3.85               | 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                                | 3.4                | -5                   | -0.0020               | 2.5         |
| 20                                | 4.3                | 10                   | 0.0039                | 2.5         |

| Test Frequency:2535MHz 16QAM 20MHz |                    |                      |                       |             |
|------------------------------------|--------------------|----------------------|-----------------------|-------------|
| Temperature (°C)                   | Power Supply (VDC) | Frequency Error (Hz) | Frequency Error (ppm) | Limit (ppm) |
| 50                                 | 3.85               | 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                                 | 3.4                | -10                  | -0.0039               | 2.5         |
| 20                                 | 4.3                | -1                   | -0.0004               | 2.5         |

## **15 RF Exposure**

Remark: refer to SAR test report: WTS17S0681217E.

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

Note: Please refer to appendix: WTS17S0681214E\_Photo.

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