



# RF TEST REPORT

**Applicant** ZTE Corporation  
**FCC ID** SRQ-A31PLUS2  
**Product** LTE/WCDMA/GSM(GPRS)  
Multi-Mode Digital Mobile Phone  
**Model** ZTE Blade A31 Plus  
**Report No.** R2205A0397-R3  
**Issue Date** June 9, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 2 (2021)/ FCC CFR47 Part 27C (2021)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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## Summary of Measurement Results

| Number                                                                                                                                                                                                                                                                                                                                                                                                                                             | Test Case                                              | Clause in FCC rules                                  | Verdict |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|---------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                  | RF Power Output and Effective Isotropic Radiated Power | 2.1046<br>27.50(d)(4)<br>27.50(c)(10)<br>27.50(h)(2) | PASS    |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Occupied Bandwidth                                     | 2.1049                                               | PASS    |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Band Edge Compliance                                   | 27.53(h)<br>27.53(g)<br>27.53(m)                     | PASS    |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Peak-to-Average Power Ratio                            | 27.50(d)/KDB971168 D01(5.7)                          | PASS    |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Frequency Stability                                    | 2.1055 / 27.54                                       | PASS    |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Spurious Emissions at Antenna Terminals                | 2.1051<br>27.53(h)<br>27.53(g)<br>27.53(m)           | PASS    |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Radiates Spurious Emission                             | 2.1053<br>27.53(h)<br>27.53(g)<br>27.53(m)           | PASS    |
| Date of Testing: (Original) August 4, 2021~ August 10, 2021<br>(Variant 1) November 15, 2021 ~ November 24, 2021<br>Date of Sample Received: August 1, 2021                                                                                                                                                                                                                                                                                        |                                                        |                                                      |         |
| Note: PASS: The EUT complies with the essential requirements in the standard.<br>FAIL: The EUT does not comply with the essential requirements in the standard.<br>All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. |                                                        |                                                      |         |



**ZTE Blade A31 Plus (Report No.: R2205A0397-R3) is a variant model (Variant 2) of ZTE Blade A31 Plus (Report No.: R2110A0943-R3). There is only tested RF Power Output and Radiates Spurious Emission (LTE Band 7), the power of new variant is varied due to measurement uncertainty, and sample tolerance of the acceptance range. Radiates Spurious Emission did not worsen, so they were not recorded in the report. The detailed product change description please refers to the Difference Declaration Letter.**

**ZTE Blade A31 Plus (Report No.: R2110A0943-R3) is a variant model (Variant 1) of ZTE Blade A31 Plus (Report No.: R2108A0671-R3V1). This product only added LTE Band 12/17, changed Software Version and changed to dual card slots. This variant report added the data of LTE Band 12/17, retested LTE Band 38 and retest the worst Radiates Spurious Emission (LTE Band 7). The other bands all verified the power and there is no worse than the original, so it didn't record in this report. The detailed product change description please refers to the Difference Declaration Letter.**



# 1 Test Laboratory

## 1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

## 1.2. Test facility

### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

### **A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

## 1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
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## 2 General Description of Equipment under Test

### 2.1 Applicant and Manufacturer Information

|                      |                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------|
| Applicant            | ZTE Corporation                                                                            |
| Applicant address    | ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China |
| Manufacturer         | ZTE Corporation                                                                            |
| Manufacturer address | ZTE Plaza, #55 Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China |

### 2.2 General information

| EUT Description          |                                                       |          |
|--------------------------|-------------------------------------------------------|----------|
| Model                    | ZTE Blade A31 Plus                                    |          |
| IMEI                     | IMEI 1: 866591060000396<br>IMEI 2: 866591060001543    |          |
| Hardware Version         | z1kA                                                  |          |
| Software Version         | GEN_LA_A31_Plus_V1.0                                  |          |
| Power Supply             | Battery / AC adapter                                  |          |
| Antenna Type             | Internal Antenna                                      |          |
| Antenna Gain             | Mode                                                  | dBi      |
|                          | WCDMA Band IV                                         | -1.1     |
|                          | LTE Band 4                                            | -1.1     |
|                          | LTE Band 7                                            | 1.0      |
|                          | LTE Band 12                                           | -5.1     |
|                          | LTE Band 17                                           | -5.1     |
|                          | LTE Band 38                                           | 1.0      |
|                          | LTE Band 66                                           | -1.1     |
| Test Mode(s)             | WCDMA Band IV;<br>LTE Band 4/7/12/17/38/66;           |          |
| Test Modulation          | (WCDMA) BPSK, QPSK, 16QAM;<br>(LTE) QPSK 16QAM 64QAM; |          |
| HSDPA UE Category        | 24                                                    |          |
| HSUPA UE Category        | 7                                                     |          |
| LTE Category             | 5                                                     |          |
| Maximum E.I.R.P./ E.R.P. | WCDMA Band IV:                                        | 22.30dBm |
|                          | LTE Band 4:                                           | 22.02dBm |
|                          | LTE Band 7:                                           | 23.29dBm |
|                          | LTE Band 12:                                          | 15.55dBm |
|                          | LTE Band 17:                                          | 15.32dBm |



RF Test Report

Report No.: R2203A0397-1

|                                                                                                                                                                                                                                           |                                                                                     |             |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------|-------------|
|                                                                                                                                                                                                                                           | LTE Band 38:                                                                        | 22.73dBm    |             |
|                                                                                                                                                                                                                                           | LTE Band 66:                                                                        | 22.34dBm    |             |
| Rated Power Supply Voltage                                                                                                                                                                                                                | 3.8V                                                                                |             |             |
| Operating Voltage                                                                                                                                                                                                                         | Minimum: 3.4V     Maximum: 4.35V                                                    |             |             |
| Operating Temperature                                                                                                                                                                                                                     | Lowest: -10°C     Highest: +55°C                                                    |             |             |
| Extreme Temperature                                                                                                                                                                                                                       | Lowest: -30°C     Highest: +50°C                                                    |             |             |
| Operating Frequency Range(s)                                                                                                                                                                                                              | Mode                                                                                | Tx (MHz)    | Rx (MHz)    |
|                                                                                                                                                                                                                                           | WCDMA Band IV                                                                       | 1710 ~ 1755 | 2110 ~ 2155 |
|                                                                                                                                                                                                                                           | LTE Band 4                                                                          | 1710 ~ 1755 | 2110 ~ 2155 |
|                                                                                                                                                                                                                                           | LTE Band 7                                                                          | 2500 ~ 2570 | 2620 ~ 2690 |
|                                                                                                                                                                                                                                           | LTE Band 12                                                                         | 699 ~ 716   | 729 ~ 746   |
|                                                                                                                                                                                                                                           | LTE Band 17                                                                         | 704~716     | 734~746     |
|                                                                                                                                                                                                                                           | LTE Band 38                                                                         | 2570 ~ 2620 | 2570 ~ 2620 |
|                                                                                                                                                                                                                                           | LTE Band 66                                                                         | 1710 ~ 1780 | 2110 ~ 2180 |
| EUT Accessory                                                                                                                                                                                                                             |                                                                                     |             |             |
| Adapter 1                                                                                                                                                                                                                                 | Manufacturer: Shenzhen Ruijing Industrial Co Ltd<br>Model: STC-A51D-Z               |             |             |
| Adapter 2                                                                                                                                                                                                                                 | Manufacturer: HUIZHOU PUAN ELECTRONICS CO.,LTD<br>Model: STC-A51D-Z                 |             |             |
| Battery                                                                                                                                                                                                                                   | Manufacturer: Guangdong Fenghua New Energy Co.,Ltd.<br>Model: Li3830T43P8h486375    |             |             |
| Earphone 1                                                                                                                                                                                                                                | Manufacturer: Shenzhen FDC Electronics Co. ,Ltd.<br>Model: DEM-8A                   |             |             |
| Earphone 2                                                                                                                                                                                                                                | Manufacturer: JUWEI ELECTRONICS CO., LTD<br>Model: JWEP1091-Z01                     |             |             |
| USB Cable 1                                                                                                                                                                                                                               | Manufacturer: Dongguan Guojun Plastic Electronic Co.,Ltd<br>Model: USB-MU5-B-70-M-L |             |             |
| USB Cable 2                                                                                                                                                                                                                               | Manufacturer: Shenzhen Yihuaxing Electronic Co., Ltd.<br>Model: USB-MU5-B-70-M-L    |             |             |
| Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.                                                                                                                            |                                                                                     |             |             |
| 2. There are more than one Adapter, Earphone and USB Cable, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter 1, Earphone 2 and USB Cable 1) will be recorded in this report. |                                                                                     |             |             |



### 3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test standards:**

**FCC CFR47 Part 27C (2021)**

**ANSI C63.26 (2015)**

**Reference standard:**

**FCC CFR47 Part 2 (2021)**

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

## 4 Test Configuration

There is more than one SIM card slot, each one should be applied throughout the compliance test respectively, and however, only the worst case (SIM 1) will be recorded in this report

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (horizontal and vertical), the worst emission was found in position (Z axis, horizontal polarization) and the worst case was recorded.

All mode and data rates and positions and RB size and modulations were investigated.

Subsequently, only the worst case emissions are reported.

The following testing in WCDMA/LTE is set based on the maximum RF Output Power.

The following testing in different Bandwidth is set to detail in the following table:

Test modes are chosen to be reported as the worst case configuration below:

| Test items                                             | Modes/Modulation                         |
|--------------------------------------------------------|------------------------------------------|
|                                                        | WCDMA Band IV                            |
| RF Power Output and Effective Isotropic Radiated Power | RMC/AMR<br>HSDPA/HSUPA<br>DC-HSDPA/HSPA+ |
| Occupied Bandwidth                                     | RMC                                      |
| Band Edge Compliance                                   | RMC                                      |
| Peak-to-Average Power Ratio                            | RMC                                      |
| Frequency Stability                                    | RMC                                      |
| Spurious Emissions at Antenna Terminals                | RMC                                      |
| Radiates Spurious Emission                             | RMC                                      |



Test modes are chosen to be reported as the worst case configuration below for LTE Band

4/7/12/17/38/66:

| Test items                                             | Modes  | Bandwidth (MHz) |   |   |    |    |    | Modulation |       |       | RB |     |      | Test Channel |   |   |
|--------------------------------------------------------|--------|-----------------|---|---|----|----|----|------------|-------|-------|----|-----|------|--------------|---|---|
|                                                        |        | 1.4             | 3 | 5 | 10 | 15 | 20 | QPSK       | 16QAM | 64QAM | 1  | 50% | 100% | L            | M | H |
| RF Power Output and Effective Isotropic Radiated Power | LTE 4  | O               | O | O | O  | O  | O  | O          | O     | O     | O  | O   | O    | O            | O | O |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | O     | O     | O  | O   | O    | O            | O | O |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | O     | O     | O  | O   | O    | O            | O | O |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | O     | O     | O  | O   | O    | O            | O | O |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | O     | O     | O  | O   | O    | O            | O | O |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | O     | O     | O  | O   | O    | O            | O | O |
| Occupied Bandwidth                                     | LTE 4  | O               | O | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
| Band Edge Compliance                                   | LTE 4  | O               | O | O | O  | O  | O  | O          | O     | O     | O  | -   | O    | O            | - | O |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | O     | O     | O  | -   | O    | O            | - | O |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | O     | O     | O  | -   | O    | O            | - | O |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | O     | O     | O  | -   | O    | O            | - | O |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | O     | O     | O  | -   | O    | O            | - | O |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | O     | O     | O  | -   | O    | O            | - | O |
| Peak-to-Average Power Ratio                            | LTE 4  | O               | O | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | O     | O     | -  | -   | O    | O            | O | O |
| Frequency Stability                                    | LTE 4  | O               | O | O | O  | O  | O  | O          | O     | O     | O  | -   | -    | -            | O | - |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | O     | O     | O  | -   | -    | -            | O | - |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | O     | O     | O  | -   | -    | -            | O | - |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | O     | O     | O  | -   | -    | -            | O | - |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | O     | O     | O  | -   | -    | -            | O | - |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | O     | O     | O  | -   | -    | -            | O | - |
| Spurious Emissions at Antenna Terminals                | LTE 4  | O               | O | O | O  | O  | O  | O          | -     | -     | O  | -   | -    | O            | O | O |
|                                                        | LTE 7  | -               | - | O | O  | O  | O  | O          | -     | -     | O  | -   | -    | O            | O | O |
|                                                        | LTE 12 | O               | O | O | O  | -  | -  | O          | -     | -     | O  | -   | -    | O            | O | O |
|                                                        | LTE 17 | -               | - | O | O  | -  | -  | O          | -     | -     | O  | -   | -    | O            | O | O |
|                                                        | LTE 38 | -               | - | O | O  | O  | O  | O          | -     | -     | O  | -   | -    | O            | O | O |
|                                                        | LTE 66 | O               | O | O | O  | O  | O  | O          | -     | -     | O  | -   | -    | O            | O | O |
| Radiates                                               | LTE 4  | O               | - | O | -  | -  | O  | O          | -     | -     | O  | -   | -    | -            | O | - |



|                      |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spurious<br>Emission | LTE 7  | - | - | O | - | - | O | O | - | - | O | - | - | - | O | - |
|                      | LTE 12 | O | - | O | O | - | - | O | - | - | O | - | - | - | O | - |
|                      | LTE 17 | - | - | O | O | - | - | O | - | - | O | - | - | - | O | - |
|                      | LTE 38 | - | - | O | - | - | O | O | - | - | O | - | - | - | O | - |
|                      | LTE 66 | O | - | O | - | - | O | O | - | - | O | - | - | - | O | - |

## Note

1. The mark "O" means that this configuration is chosen for testing.
2. The mark "-" means that this configuration is not testing.

## 5 Test Case Results

### 5.1 RF Power Output and Effective Isotropic Radiated Power

#### Ambient condition

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C ~25°C  | 45%~50%           | 101.5kPa |

#### Methods of Measurement

During the process of the testing, The EUT was connected to the Base Station Simulator with a known loss. The EUT is controlled by the Base Station Simulator test set to ensure max power transmission with proper modulation.

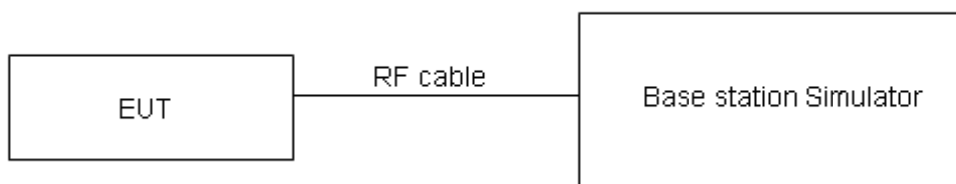
ERP can then be calculated as follows:

$EIRP \text{ (dBm)} = \text{Output Power (dBm)} - \text{Losses (dB)} + \text{Antenna Gain (dBi)}$

where: dBd refers to gain relative to an ideal dipole.

$EIRP \text{ (dBm)} = ERP \text{ (dBm)} + 2.15 \text{ (dB.)}$

#### Test Setup



#### Limits

No specific RF power output requirements in part 2.1046.

Rule Part 27.50(c) (10) specifies that “Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP”

Rule Part 27.50(d) (4) specifies that “Fixed, mobile and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP”

Rule Part 27.50(h) (2) specifies that “Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.”

|                        |                                |
|------------------------|--------------------------------|
| Part 27.50(c)(10)Limit | $\leq 3 \text{ W}$ (34.77 dBm) |
| Part 27.50(d)(4)Limit  | $\leq 1 \text{ W}$ (30 dBm)    |
| Part 27.50(h)(2) Limit | $\leq 2 \text{ W}$ (33 dBm)    |

### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U=0.4 \text{ dB}$  for RF power output,  $k = 2$ ,  $U= 1.19 \text{ dB}$  for ERP/EIRP.

## Test Results

| WCDMA Band IV |              | Maximum Output Power (dBm) |                 |                 | EIRP (dBm)      |                 |                 |
|---------------|--------------|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|               |              | Channel<br>1312            | Channel<br>1413 | Channel<br>1513 | Channel<br>1312 | Channel<br>1413 | Channel<br>1513 |
|               |              | 1712.4<br>(MHz)            | 1732.6<br>(MHz) | 1752.6<br>(MHz) | 1712.4<br>(MHz) | 1732.6<br>(MHz) | 1752.6<br>(MHz) |
| RMC           |              | 23.33                      | 23.30           | 23.30           | 22.23           | 22.20           | 22.20           |
| AMR           |              | 23.37                      | 23.40           | 23.26           | 22.27           | 22.30           | 22.16           |
| HSDPA         | Sub - Test 1 | 22.99                      | 22.70           | 22.74           | 21.89           | 21.60           | 21.64           |
|               | Sub - Test 2 | 22.91                      | 22.92           | 22.86           | 21.81           | 21.82           | 21.76           |
|               | Sub - Test 3 | 22.27                      | 22.24           | 22.42           | 21.17           | 21.14           | 21.32           |
|               | Sub - Test 4 | 22.43                      | 22.44           | 22.24           | 21.33           | 21.34           | 21.14           |
| HSUPA         | Sub - Test 1 | 22.69                      | 22.80           | 22.88           | 21.59           | 21.70           | 21.78           |
|               | Sub - Test 2 | 21.67                      | 21.80           | 21.90           | 20.57           | 20.70           | 20.80           |
|               | Sub - Test 3 | 22.33                      | 22.40           | 22.30           | 21.23           | 21.30           | 21.20           |
|               | Sub - Test 4 | 21.77                      | 21.68           | 21.86           | 20.67           | 20.58           | 20.76           |
|               | Sub - Test 5 | 22.91                      | 22.74           | 22.76           | 21.81           | 21.64           | 21.66           |
| DC-HSDPA      | Sub - Test 1 | 22.73                      | 22.96           | 22.84           | 21.63           | 21.86           | 21.74           |
|               | Sub - Test 2 | 22.75                      | 22.88           | 22.72           | 21.65           | 21.78           | 21.62           |
|               | Sub - Test 3 | 22.45                      | 22.18           | 22.24           | 21.35           | 21.08           | 21.14           |
|               | Sub - Test 4 | 22.33                      | 22.22           | 22.14           | 21.23           | 21.12           | 21.04           |
| HSPA+         | 16QAM        | 22.49                      | 22.36           | 22.36           | 21.39           | 21.26           | 21.26           |



| LTE Band 4 |            |         |           | Maximum Output Power(dBm) |              |              | EIRP (dBm)   |              |              |
|------------|------------|---------|-----------|---------------------------|--------------|--------------|--------------|--------------|--------------|
| BW         | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |              |              |              |              |              |
|            |            |         |           | 19957/1710.7              | 20175/1732.5 | 20393/1754.3 | 19957/1710.7 | 20175/1732.5 | 20393/1754.3 |
| 1.4MHz     | QPSK       | 1       | 0         | 23.10                     | 22.85        | 22.92        | 22.00        | 21.75        | 21.82        |
|            |            | 1       | 2         | 23.07                     | 22.83        | 22.74        | 21.97        | 21.73        | 21.64        |
|            |            | 1       | 5         | 22.90                     | 22.62        | 22.76        | 21.80        | 21.52        | 21.66        |
|            |            | 3       | 0         | 22.72                     | 22.77        | 22.78        | 21.62        | 21.67        | 21.68        |
|            |            | 3       | 2         | 22.65                     | 22.72        | 22.72        | 21.55        | 21.62        | 21.62        |
|            |            | 3       | 3         | 22.68                     | 22.68        | 22.71        | 21.58        | 21.58        | 21.61        |
|            |            | 6       | 0         | 21.70                     | 21.75        | 21.67        | 20.60        | 20.65        | 20.57        |
|            | 16QAM      | 1       | 0         | 22.18                     | 22.14        | 22.17        | 21.08        | 21.04        | 21.07        |
|            |            | 1       | 2         | 22.16                     | 22.31        | 22.12        | 21.06        | 21.21        | 21.02        |
|            |            | 1       | 5         | 22.29                     | 22.22        | 22.18        | 21.19        | 21.12        | 21.08        |
|            |            | 3       | 0         | 21.73                     | 21.72        | 21.82        | 20.63        | 20.62        | 20.72        |
|            |            | 3       | 2         | 21.73                     | 21.70        | 21.77        | 20.63        | 20.60        | 20.67        |
|            |            | 3       | 3         | 21.74                     | 21.69        | 21.67        | 20.64        | 20.59        | 20.57        |
|            |            | 6       | 0         | 20.72                     | 20.87        | 20.88        | 19.62        | 19.77        | 19.78        |
|            | 64QAM      | 1       | 0         | 21.46                     | 21.37        | 21.41        | 20.36        | 20.27        | 20.31        |
|            |            | 1       | 2         | 21.53                     | 21.47        | 21.50        | 20.43        | 20.37        | 20.40        |
|            |            | 1       | 5         | 21.14                     | 21.14        | 21.12        | 20.04        | 20.04        | 20.02        |
|            |            | 3       | 0         | 21.55                     | 21.46        | 21.51        | 20.45        | 20.36        | 20.41        |
|            |            | 3       | 2         | 21.22                     | 21.16        | 21.19        | 20.12        | 20.06        | 20.09        |
|            |            | 3       | 3         | 21.21                     | 21.14        | 21.16        | 20.11        | 20.04        | 20.06        |
|            |            | 6       | 0         | 20.53                     | 20.49        | 20.54        | 19.43        | 19.39        | 19.44        |
| BW         | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |              |              |              |              |              |
|            |            |         |           | 19965/1711.5              | 20175/1732.5 | 20385/1753.5 | 19965/1711.5 | 20175/1732.5 | 20385/1753.5 |
| 3MHz       | QPSK       | 1       | 0         | 23.12                     | 22.89        | 22.95        | 22.02        | 21.79        | 21.85        |
|            |            | 1       | 7         | 23.05                     | 22.86        | 22.78        | 21.95        | 21.76        | 21.68        |
|            |            | 1       | 14        | 22.93                     | 22.67        | 22.80        | 21.83        | 21.57        | 21.70        |
|            |            | 8       | 0         | 21.82                     | 21.89        | 21.91        | 20.72        | 20.79        | 20.81        |
|            |            | 8       | 4         | 21.77                     | 21.82        | 21.84        | 20.67        | 20.72        | 20.74        |
|            |            | 8       | 7         | 21.78                     | 21.79        | 21.81        | 20.68        | 20.69        | 20.71        |
|            |            | 15      | 0         | 21.70                     | 21.79        | 21.70        | 20.60        | 20.69        | 20.60        |



|      | 16QAM      | 1       | 0         | 22.21                  | 22.16            | 22.20            | 21.11            | 21.06            | 21.10            |
|------|------------|---------|-----------|------------------------|------------------|------------------|------------------|------------------|------------------|
|      |            | 1       | 7         | 22.19                  | 22.31            | 22.16            | 21.09            | 21.21            | 21.06            |
|      |            | 1       | 14        | 22.31                  | 22.26            | 22.21            | 21.21            | 21.16            | 21.11            |
|      |            | 8       | 0         | 20.84                  | 20.85            | 20.94            | 19.74            | 19.75            | 19.84            |
|      |            | 8       | 4         | 20.84                  | 20.83            | 20.89            | 19.74            | 19.73            | 19.79            |
|      |            | 8       | 7         | 20.84                  | 20.81            | 20.80            | 19.74            | 19.71            | 19.70            |
|      |            | 15      | 0         | 20.75                  | 20.91            | 20.91            | 19.65            | 19.81            | 19.81            |
|      | 64QAM      | 1       | 0         | 21.49                  | 21.39            | 21.44            | 20.39            | 20.29            | 20.34            |
|      |            | 1       | 7         | 21.56                  | 21.47            | 21.52            | 20.46            | 20.37            | 20.42            |
|      |            | 1       | 14        | 21.16                  | 21.13            | 21.15            | 20.06            | 20.03            | 20.05            |
|      |            | 8       | 0         | 20.66                  | 20.59            | 20.63            | 19.56            | 19.49            | 19.53            |
|      |            | 8       | 4         | 20.33                  | 20.29            | 20.31            | 19.23            | 19.19            | 19.21            |
|      |            | 8       | 7         | 20.31                  | 20.26            | 20.29            | 19.21            | 19.16            | 19.19            |
|      |            | 15      | 0         | 20.56                  | 20.53            | 20.57            | 19.46            | 19.43            | 19.47            |
| BW   | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                  |                  |                  |                  |                  |
|      |            |         |           | 19975/<br>1712.5       | 20175/<br>1732.5 | 20375/<br>1752.5 | 19975/<br>1712.5 | 20175/<br>1732.5 | 20375/<br>1752.5 |
| 5MHz | QPSK       | 1       | 0         | 23.09                  | 22.87            | 22.91            | 21.99            | 21.77            | 21.81            |
|      |            | 1       | 13        | 23.03                  | 22.82            | 22.75            | 21.93            | 21.72            | 21.65            |
|      |            | 1       | 24        | 22.90                  | 22.62            | 22.76            | 21.80            | 21.52            | 21.66            |
|      |            | 12      | 0         | 21.79                  | 21.84            | 21.87            | 20.69            | 20.74            | 20.77            |
|      |            | 12      | 6         | 21.75                  | 21.78            | 21.79            | 20.65            | 20.68            | 20.69            |
|      |            | 12      | 13        | 21.76                  | 21.77            | 21.77            | 20.66            | 20.67            | 20.67            |
|      |            | 25      | 0         | 21.70                  | 21.78            | 21.68            | 20.60            | 20.68            | 20.58            |
|      | 16QAM      | 1       | 0         | 22.18                  | 22.12            | 22.17            | 21.08            | 21.02            | 21.07            |
|      |            | 1       | 13        | 22.16                  | 22.29            | 22.13            | 21.06            | 21.19            | 21.03            |
|      |            | 1       | 24        | 22.28                  | 22.24            | 22.17            | 21.18            | 21.14            | 21.07            |
|      |            | 12      | 0         | 20.82                  | 20.81            | 20.91            | 19.72            | 19.71            | 19.81            |
|      |            | 12      | 6         | 20.81                  | 20.78            | 20.85            | 19.71            | 19.68            | 19.75            |
|      |            | 12      | 13        | 20.81                  | 20.76            | 20.76            | 19.71            | 19.66            | 19.66            |
|      |            | 25      | 0         | 20.73                  | 20.87            | 20.86            | 19.63            | 19.77            | 19.76            |
|      | 64QAM      | 1       | 0         | 21.46                  | 21.39            | 21.41            | 20.36            | 20.29            | 20.31            |
|      |            | 1       | 13        | 21.53                  | 21.49            | 21.49            | 20.43            | 20.39            | 20.39            |
|      |            | 1       | 24        | 21.17                  | 21.11            | 21.11            | 20.07            | 20.01            | 20.01            |
|      |            | 12      | 0         | 20.64                  | 20.55            | 20.64            | 19.54            | 19.45            | 19.54            |
|      |            | 12      | 6         | 20.30                  | 20.24            | 20.27            | 19.20            | 19.14            | 19.17            |
|      |            | 12      | 13        | 20.28                  | 20.21            | 20.25            | 19.18            | 19.11            | 19.15            |



|       |            | 25      | 0         | 20.54                  | 20.49            | 20.52            | 19.44            | 19.39            | 19.42            |
|-------|------------|---------|-----------|------------------------|------------------|------------------|------------------|------------------|------------------|
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                  |                  |                  |                  |                  |
|       |            |         |           | 20000/<br>1715         | 20175/<br>1732.5 | 20350/<br>1750   | 20000/<br>1715   | 20175/<br>1732.5 | 20350/<br>1750   |
| 10MHz | QPSK       | 1       | 0         | 23.11                  | 22.88            | 22.94            | 22.01            | 21.78            | 21.84            |
|       |            | 1       | 25        | 23.06                  | 22.87            | 22.79            | 21.96            | 21.77            | 21.69            |
|       |            | 1       | 49        | 22.92                  | 22.66            | 22.79            | 21.82            | 21.56            | 21.69            |
|       |            | 25      | 0         | 21.82                  | 21.89            | 21.91            | 20.72            | 20.79            | 20.81            |
|       |            | 25      | 13        | 21.78                  | 21.83            | 21.83            | 20.68            | 20.73            | 20.73            |
|       |            | 25      | 25        | 21.78                  | 21.81            | 21.82            | 20.68            | 20.71            | 20.72            |
|       |            | 50      | 0         | 21.74                  | 21.80            | 21.72            | 20.64            | 20.70            | 20.62            |
|       | 16QAM      | 1       | 0         | 22.20                  | 22.15            | 22.19            | 21.10            | 21.05            | 21.09            |
|       |            | 1       | 25        | 22.19                  | 22.33            | 22.16            | 21.09            | 21.23            | 21.06            |
|       |            | 1       | 49        | 22.31                  | 22.26            | 22.20            | 21.21            | 21.16            | 21.10            |
|       |            | 25      | 0         | 20.85                  | 20.86            | 20.95            | 19.75            | 19.76            | 19.85            |
|       |            | 25      | 13        | 20.83                  | 20.82            | 20.88            | 19.73            | 19.72            | 19.78            |
|       |            | 25      | 25        | 20.84                  | 20.81            | 20.80            | 19.74            | 19.71            | 19.70            |
|       |            | 50      | 0         | 20.76                  | 20.92            | 20.90            | 19.66            | 19.82            | 19.80            |
|       | 64QAM      | 1       | 0         | 21.48                  | 21.38            | 21.43            | 20.38            | 20.28            | 20.33            |
|       |            | 1       | 25        | 21.56                  | 21.49            | 21.52            | 20.46            | 20.39            | 20.42            |
|       |            | 1       | 49        | 21.16                  | 21.13            | 21.14            | 20.06            | 20.03            | 20.04            |
|       |            | 25      | 0         | 20.67                  | 20.60            | 20.64            | 19.57            | 19.50            | 19.54            |
|       |            | 25      | 13        | 20.32                  | 20.28            | 20.30            | 19.22            | 19.18            | 19.20            |
|       |            | 25      | 25        | 20.31                  | 20.26            | 20.29            | 19.21            | 19.16            | 19.19            |
|       |            | 50      | 0         | 20.57                  | 20.54            | 20.56            | 19.47            | 19.44            | 19.46            |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                  |                  |                  |                  |                  |
|       |            |         |           | 20025/<br>1717.5       | 20175/<br>1732.5 | 20325/<br>1747.5 | 20025/<br>1717.5 | 20175/<br>1732.5 | 20325/<br>1747.5 |
| 15MHz | QPSK       | 1       | 0         | 23.10                  | 22.84            | 22.92            | 22.00            | 21.74            | 21.82            |
|       |            | 1       | 38        | 23.04                  | 22.86            | 22.76            | 21.94            | 21.76            | 21.66            |
|       |            | 1       | 74        | 22.89                  | 22.61            | 22.75            | 21.79            | 21.51            | 21.65            |
|       |            | 36      | 0         | 21.80                  | 21.85            | 21.88            | 20.70            | 20.75            | 20.78            |
|       |            | 36      | 18        | 21.75                  | 21.78            | 21.79            | 20.65            | 20.68            | 20.69            |
|       |            | 36      | 39        | 21.75                  | 21.78            | 21.78            | 20.65            | 20.68            | 20.68            |
|       |            | 75      | 0         | 21.72                  | 21.76            | 21.67            | 20.62            | 20.66            | 20.57            |
|       | 16QAM      | 1       | 0         | 22.15                  | 22.13            | 22.17            | 21.05            | 21.03            | 21.07            |
|       |            | 1       | 38        | 22.17                  | 22.30            | 22.14            | 21.07            | 21.20            | 21.04            |



|       |            | 1       | 74        | 22.28                  | 22.22            | 22.17          | 21.18          | 21.12            | 21.07          |
|-------|------------|---------|-----------|------------------------|------------------|----------------|----------------|------------------|----------------|
|       |            | 36      | 0         | 20.82                  | 20.84            | 20.92          | 19.72          | 19.74            | 19.82          |
|       |            | 36      | 18        | 20.80                  | 20.77            | 20.84          | 19.70          | 19.67            | 19.74          |
|       |            | 36      | 39        | 20.82                  | 20.77            | 20.77          | 19.72          | 19.67            | 19.67          |
|       |            | 75      | 0         | 20.73                  | 20.87            | 20.86          | 19.63          | 19.77            | 19.76          |
|       | 64QAM      | 1       | 0         | 21.43                  | 21.36            | 21.41          | 20.33          | 20.26            | 20.31          |
|       |            | 1       | 38        | 21.54                  | 21.46            | 21.50          | 20.44          | 20.36            | 20.40          |
|       |            | 1       | 74        | 21.17                  | 21.12            | 21.15          | 20.07          | 20.02            | 20.05          |
|       |            | 36      | 0         | 20.66                  | 20.62            | 20.65          | 19.56          | 19.52            | 19.55          |
|       |            | 36      | 18        | 20.30                  | 20.25            | 20.29          | 19.20          | 19.15            | 19.19          |
|       |            | 36      | 39        | 20.29                  | 20.22            | 20.26          | 19.19          | 19.12            | 19.16          |
|       |            | 75      | 0         | 20.54                  | 20.49            | 20.52          | 19.44          | 19.39            | 19.42          |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                  |                |                |                  |                |
|       |            |         |           | 20050/<br>1720         | 20175/<br>1732.5 | 20300/<br>1745 | 20050/<br>1720 | 20175/<br>1732.5 | 20300/<br>1745 |
| 20MHz | QPSK       | 1       | 0         | 23.07                  | 22.80            | 22.89          | 21.97          | 21.70            | 21.79          |
|       |            | 1       | 50        | 23.03                  | 22.82            | 22.74          | 21.93          | 21.72            | 21.64          |
|       |            | 1       | 99        | 22.87                  | 22.60            | 22.72          | 21.77          | 21.50            | 21.62          |
|       |            | 50      | 0         | 21.77                  | 21.80            | 21.84          | 20.67          | 20.70            | 20.74          |
|       |            | 50      | 25        | 21.73                  | 21.74            | 21.76          | 20.63          | 20.64            | 20.66          |
|       |            | 50      | 50        | 21.72                  | 21.73            | 21.74          | 20.62          | 20.63            | 20.64          |
|       |            | 100     | 0         | 21.69                  | 21.71            | 21.63          | 20.59          | 20.61            | 20.53          |
|       | 16QAM      | 1       | 0         | 22.05                  | 22.09            | 22.12          | 20.95          | 20.99            | 21.02          |
|       |            | 1       | 50        | 22.13                  | 22.28            | 22.10          | 21.03          | 21.18            | 21.00          |
|       |            | 1       | 99        | 22.26                  | 22.19            | 22.15          | 21.16          | 21.09            | 21.05          |
|       |            | 50      | 0         | 20.79                  | 20.80            | 20.89          | 19.69          | 19.70            | 19.79          |
|       |            | 50      | 25        | 20.77                  | 20.75            | 20.81          | 19.67          | 19.65            | 19.71          |
|       |            | 50      | 50        | 20.79                  | 20.72            | 20.73          | 19.69          | 19.62            | 19.63          |
|       |            | 100     | 0         | 20.71                  | 20.83            | 20.83          | 19.61          | 19.73            | 19.73          |
|       | 64QAM      | 1       | 0         | 21.41                  | 21.32            | 21.36          | 20.31          | 20.22            | 20.26          |
|       |            | 1       | 50        | 21.50                  | 21.44            | 21.46          | 20.40          | 20.34            | 20.36          |
|       |            | 1       | 99        | 21.11                  | 21.06            | 21.09          | 20.01          | 19.96            | 19.99          |
|       |            | 50      | 0         | 20.61                  | 20.54            | 20.58          | 19.51          | 19.44            | 19.48          |
|       |            | 50      | 25        | 20.26                  | 20.21            | 20.23          | 19.16          | 19.11            | 19.13          |
|       |            | 50      | 50        | 20.26                  | 20.17            | 20.22          | 19.16          | 19.07            | 19.12          |
|       |            | 100     | 0         | 20.52                  | 20.45            | 20.49          | 19.42          | 19.35            | 19.39          |



| LTE Band 7 |            |         |           | Maximum Output Power(dBm) |            |              | EIRP (dBm)   |            |              |
|------------|------------|---------|-----------|---------------------------|------------|--------------|--------------|------------|--------------|
| BW         | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |            |              |              |            |              |
|            |            |         |           | 20775/2502.5              | 21100/2535 | 21425/2567.5 | 20775/2502.5 | 21100/2535 | 21425/2567.5 |
| 5MHz       | QPSK       | 1       | 0         | 22.15                     | 22.16      | 22.10        | 23.15        | 23.16      | 23.10        |
|            |            | 1       | 13        | 22.08                     | 22.24      | 21.94        | 23.08        | 23.24      | 22.94        |
|            |            | 1       | 24        | 21.99                     | 22.25      | 22.29        | 22.99        | 23.25      | 23.29        |
|            |            | 12      | 0         | 21.07                     | 21.19      | 20.98        | 22.07        | 22.19      | 21.98        |
|            |            | 12      | 6         | 20.98                     | 21.00      | 21.15        | 21.98        | 22.00      | 22.15        |
|            |            | 12      | 13        | 20.97                     | 21.02      | 21.13        | 21.97        | 22.02      | 22.13        |
|            |            | 25      | 0         | 20.93                     | 21.09      | 21.23        | 21.93        | 22.09      | 22.23        |
|            | 16QAM      | 1       | 0         | 21.75                     | 21.43      | 21.58        | 22.75        | 22.43      | 22.58        |
|            |            | 1       | 13        | 21.73                     | 21.52      | 21.57        | 22.73        | 22.52      | 22.57        |
|            |            | 1       | 24        | 21.75                     | 21.54      | 21.41        | 22.75        | 22.54      | 22.41        |
|            |            | 12      | 0         | 20.18                     | 20.16      | 20.29        | 21.18        | 21.16      | 21.29        |
|            |            | 12      | 6         | 20.22                     | 20.15      | 20.32        | 21.22        | 21.15      | 21.32        |
|            |            | 12      | 13        | 20.24                     | 20.19      | 20.39        | 21.24        | 21.19      | 21.39        |
|            |            | 25      | 0         | 20.16                     | 20.26      | 20.38        | 21.16        | 21.26      | 21.38        |
|            | 64QAM      | 1       | 0         | 21.05                     | 21.02      | 21.09        | 22.05        | 22.02      | 22.09        |
|            |            | 1       | 13        | 20.93                     | 20.89      | 20.93        | 21.93        | 21.89      | 21.93        |
|            |            | 1       | 24        | 20.91                     | 20.85      | 20.87        | 21.91        | 21.85      | 21.87        |
|            |            | 12      | 0         | 20.02                     | 19.92      | 20.04        | 21.02        | 20.92      | 21.04        |
|            |            | 12      | 6         | 19.99                     | 19.91      | 19.97        | 20.99        | 20.91      | 20.97        |
|            |            | 12      | 13        | 19.24                     | 19.21      | 19.29        | 20.24        | 20.21      | 20.29        |
|            |            | 25      | 0         | 18.61                     | 18.56      | 18.62        | 19.61        | 19.56      | 19.62        |
| BW         | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |            |              |              |            |              |
|            |            |         |           | 20800/2505                | 21100/2535 | 21400/2565   | 20800/2505   | 21100/2535 | 21400/2565   |
| 10MHz      | QPSK       | 1       | 0         | 22.17                     | 22.17      | 22.13        | 23.17        | 23.17      | 23.13        |
|            |            | 1       | 25        | 22.11                     | 22.29      | 21.98        | 23.11        | 23.29      | 22.98        |
|            |            | 1       | 49        | 22.01                     | 22.29      | 22.10        | 23.01        | 23.29      | 23.10        |
|            |            | 25      | 0         | 21.10                     | 21.24      | 21.02        | 22.10        | 22.24      | 22.02        |
|            |            | 25      | 13        | 21.01                     | 21.05      | 21.19        | 22.01        | 22.05      | 22.19        |
|            |            | 25      | 25        | 20.99                     | 21.06      | 21.18        | 21.99        | 22.06      | 22.18        |
|            |            | 50      | 0         | 20.97                     | 21.11      | 21.27        | 21.97        | 22.11      | 22.27        |
|            | 16QAM      | 1       | 0         | 21.77                     | 21.46      | 21.60        | 22.77        | 22.46      | 22.60        |
|            |            | 1       | 25        | 21.76                     | 21.56      | 21.60        | 22.76        | 22.56      | 22.60        |



|       |            | 1       | 49        | 21.78                  | 21.56          | 21.44            | 22.78            | 22.56          | 22.44            |
|-------|------------|---------|-----------|------------------------|----------------|------------------|------------------|----------------|------------------|
|       |            | 25      | 0         | 20.21                  | 20.21          | 20.33            | 21.21            | 21.21          | 21.33            |
|       |            | 25      | 13        | 20.24                  | 20.19          | 20.35            | 21.24            | 21.19          | 21.35            |
|       |            | 25      | 25        | 20.27                  | 20.24          | 20.43            | 21.27            | 21.24          | 21.43            |
|       |            | 50      | 0         | 20.19                  | 20.31          | 20.42            | 21.19            | 21.31          | 21.42            |
|       | 64QAM      | 1       | 0         | 21.07                  | 21.01          | 21.11            | 22.07            | 22.01          | 22.11            |
|       |            | 1       | 25        | 20.96                  | 20.89          | 20.96            | 21.96            | 21.89          | 21.96            |
|       |            | 1       | 49        | 20.90                  | 20.87          | 20.90            | 21.90            | 21.87          | 21.90            |
|       |            | 25      | 0         | 20.05                  | 19.97          | 20.04            | 21.05            | 20.97          | 21.04            |
|       |            | 25      | 13        | 20.01                  | 19.95          | 20.00            | 21.01            | 20.95          | 21.00            |
|       |            | 25      | 25        | 19.27                  | 19.26          | 19.33            | 20.27            | 20.26          | 20.33            |
|       |            | 50      | 0         | 18.64                  | 18.61          | 18.66            | 19.64            | 19.61          | 19.66            |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                |                  |                  |                |                  |
|       |            |         |           | 20825/<br>2507.5       | 21100/<br>2535 | 21375/<br>2562.5 | 20825/<br>2507.5 | 21100/<br>2535 | 21375/<br>2562.5 |
| 15MHz | QPSK       | 1       | 0         | 22.16                  | 22.13          | 22.11            | 23.16            | 23.13          | 23.11            |
|       |            | 1       | 38        | 22.09                  | 22.28          | 21.95            | 23.09            | 23.28          | 22.95            |
|       |            | 1       | 74        | 21.98                  | 22.24          | 22.28            | 22.98            | 23.24          | 23.28            |
|       |            | 36      | 0         | 21.08                  | 21.20          | 20.99            | 22.08            | 22.20          | 21.99            |
|       |            | 36      | 18        | 20.98                  | 21.00          | 21.15            | 21.98            | 22.00          | 22.15            |
|       |            | 36      | 39        | 20.96                  | 21.03          | 21.14            | 21.96            | 22.03          | 22.14            |
|       |            | 75      | 0         | 20.95                  | 21.07          | 21.22            | 21.95            | 22.07          | 22.22            |
|       | 16QAM      | 1       | 0         | 21.72                  | 21.44          | 21.58            | 22.72            | 22.44          | 22.58            |
|       |            | 1       | 38        | 21.74                  | 21.53          | 21.58            | 22.74            | 22.53          | 22.58            |
|       |            | 1       | 74        | 21.75                  | 21.52          | 21.41            | 22.75            | 22.52          | 22.41            |
|       |            | 36      | 0         | 20.18                  | 20.19          | 20.30            | 21.18            | 21.19          | 21.30            |
|       |            | 36      | 18        | 20.21                  | 20.14          | 20.31            | 21.21            | 21.14          | 21.31            |
|       |            | 36      | 39        | 20.25                  | 20.20          | 20.40            | 21.25            | 21.20          | 21.40            |
|       |            | 75      | 0         | 20.16                  | 20.26          | 20.38            | 21.16            | 21.26          | 21.38            |
|       | 64QAM      | 1       | 0         | 21.02                  | 20.99          | 21.09            | 22.02            | 21.99          | 22.09            |
|       |            | 1       | 38        | 20.94                  | 20.86          | 20.94            | 21.94            | 21.86          | 21.94            |
|       |            | 1       | 74        | 20.91                  | 20.86          | 20.91            | 21.91            | 21.86          | 21.91            |
|       |            | 36      | 0         | 20.04                  | 19.99          | 20.05            | 21.04            | 20.99          | 21.05            |
|       |            | 36      | 18        | 19.99                  | 19.92          | 19.99            | 20.99            | 20.92          | 20.99            |
|       |            | 36      | 39        | 19.25                  | 19.22          | 19.30            | 20.25            | 20.22          | 20.30            |
|       |            | 75      | 0         | 18.61                  | 18.56          | 18.62            | 19.61            | 19.56          | 19.62            |



| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                |                |                |                |                |
|-------|------------|---------|-----------|------------------------|----------------|----------------|----------------|----------------|----------------|
|       |            |         |           | 20850/<br>2510         | 21100/<br>2535 | 21350/<br>2560 | 20850/<br>2510 | 21100/<br>2535 | 21350/<br>2560 |
| 20MHz | QPSK       | 1       | 0         | 22.13                  | 22.09          | 22.08          | 23.13          | 23.09          | 23.08          |
|       |            | 1       | 50        | 22.08                  | 22.24          | 21.93          | 23.08          | 23.24          | 22.93          |
|       |            | 1       | 99        | 21.96                  | 22.23          | 22.25          | 22.96          | 23.23          | 23.25          |
|       |            | 50      | 0         | 21.05                  | 21.15          | 20.95          | 22.05          | 22.15          | 21.95          |
|       |            | 50      | 25        | 20.96                  | 20.96          | 21.12          | 21.96          | 21.96          | 22.12          |
|       |            | 50      | 50        | 20.93                  | 20.98          | 21.10          | 21.93          | 21.98          | 22.10          |
|       |            | 100     | 0         | 20.92                  | 21.02          | 21.18          | 21.92          | 22.02          | 22.18          |
|       | 16QAM      | 1       | 0         | 21.67                  | 21.40          | 21.53          | 22.67          | 22.40          | 22.53          |
|       |            | 1       | 50        | 21.70                  | 21.51          | 21.54          | 22.70          | 22.51          | 22.54          |
|       |            | 1       | 99        | 21.73                  | 21.49          | 21.39          | 22.73          | 22.49          | 22.39          |
|       |            | 50      | 0         | 20.15                  | 20.15          | 20.27          | 21.15          | 21.15          | 21.27          |
|       |            | 50      | 25        | 20.18                  | 20.12          | 20.28          | 21.18          | 21.12          | 21.28          |
|       |            | 50      | 50        | 20.22                  | 20.15          | 20.36          | 21.22          | 21.15          | 21.36          |
|       |            | 100     | 0         | 20.14                  | 20.22          | 20.35          | 21.14          | 21.22          | 21.35          |
|       | 64QAM      | 1       | 0         | 21.00                  | 20.95          | 21.04          | 22.00          | 21.95          | 22.04          |
|       |            | 1       | 50        | 20.90                  | 20.84          | 20.90          | 21.90          | 21.84          | 21.90          |
|       |            | 1       | 99        | 20.85                  | 20.80          | 20.85          | 21.85          | 21.80          | 21.85          |
|       |            | 50      | 0         | 19.99                  | 19.91          | 19.98          | 20.99          | 20.91          | 20.98          |
|       |            | 50      | 25        | 19.95                  | 19.88          | 19.93          | 20.95          | 20.88          | 20.93          |
|       |            | 50      | 50        | 19.22                  | 19.17          | 19.26          | 20.22          | 20.17          | 20.26          |
|       |            | 100     | 0         | 18.59                  | 18.52          | 18.59          | 19.59          | 19.52          | 19.59          |

| LTE Band 12 |            |         |           | Maximum Output Power(dBm) |             |             | ERP (dBm)   |             |             |
|-------------|------------|---------|-----------|---------------------------|-------------|-------------|-------------|-------------|-------------|
| BW          | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |             |             |             |             |             |
|             |            |         |           | 23017/699.7               | 23095/707.5 | 23173/715.3 | 23017/699.7 | 23095/707.5 | 23173/715.3 |
| 1.4MHz      | QPSK       | 1       | 0         | 22.28                     | 22.41       | 22.53       | 15.03       | 15.16       | 15.28       |
|             |            | 1       | 2         | 22.30                     | 22.38       | 22.53       | 15.05       | 15.13       | 15.28       |
|             |            | 1       | 5         | 22.43                     | 22.54       | 22.72       | 15.18       | 15.29       | 15.47       |
|             |            | 3       | 0         | 22.33                     | 22.44       | 22.77       | 15.08       | 15.19       | 15.52       |
|             |            | 3       | 2         | 22.17                     | 22.80       | 22.43       | 14.92       | 15.55       | 15.18       |
|             |            | 3       | 3         | 22.36                     | 22.43       | 22.39       | 15.11       | 15.18       | 15.14       |
|             |            | 6       | 0         | 21.45                     | 21.85       | 21.46       | 14.20       | 14.60       | 14.21       |
|             | 16QAM      | 1       | 0         | 21.84                     | 21.95       | 21.71       | 14.59       | 14.70       | 14.46       |



|      |            | 1       | 2         | 21.82                  | 22.18           | 21.79           | 14.57           | 14.93           | 14.54           |
|------|------------|---------|-----------|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|      |            | 1       | 5         | 22.21                  | 21.84           | 22.01           | 14.96           | 14.59           | 14.76           |
|      |            | 3       | 0         | 21.21                  | 21.32           | 21.67           | 13.96           | 14.07           | 14.42           |
|      |            | 3       | 2         | 21.77                  | 21.68           | 21.27           | 14.52           | 14.43           | 14.02           |
|      |            | 3       | 3         | 21.47                  | 21.30           | 21.16           | 14.22           | 14.05           | 13.91           |
|      |            | 6       | 0         | 20.76                  | 20.86           | 20.32           | 13.51           | 13.61           | 13.07           |
|      |            | 6       | 0         | 20.76                  | 20.86           | 20.32           | 13.51           | 13.61           | 13.07           |
|      | 64QAM      | 1       | 0         | 21.17                  | 21.15           | 21.68           | 13.92           | 13.90           | 14.43           |
|      |            | 1       | 2         | 21.44                  | 21.41           | 21.50           | 14.19           | 14.16           | 14.25           |
|      |            | 1       | 5         | 21.11                  | 21.14           | 21.47           | 13.86           | 13.89           | 14.22           |
|      |            | 3       | 0         | 20.13                  | 20.12           | 21.48           | 12.88           | 12.87           | 14.23           |
|      |            | 3       | 2         | 20.02                  | 20.13           | 21.74           | 12.77           | 12.88           | 14.49           |
|      |            | 3       | 3         | 20.36                  | 20.33           | 20.79           | 13.11           | 13.08           | 13.54           |
|      |            | 6       | 0         | 19.30                  | 19.26           | 19.21           | 12.05           | 12.01           | 11.96           |
| BW   | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                 |                 |                 |                 |
|      |            |         |           | 23025/<br>700.5        | 23095/<br>707.5 | 23165/<br>714.5 | 23025/<br>700.5 | 23095/<br>707.5 | 23165/<br>714.5 |
| 3MHz | QPSK       | 1       | 0         | 22.30                  | 22.45           | 22.56           | 15.05           | 15.20           | 15.31           |
|      |            | 1       | 7         | 22.28                  | 22.41           | 22.57           | 15.03           | 15.16           | 15.32           |
|      |            | 1       | 14        | 22.46                  | 22.59           | 22.76           | 15.21           | 15.34           | 15.51           |
|      |            | 8       | 0         | 21.43                  | 21.56           | 21.90           | 14.18           | 14.31           | 14.65           |
|      |            | 8       | 4         | 21.29                  | 21.90           | 21.55           | 14.04           | 14.65           | 14.30           |
|      |            | 8       | 7         | 21.46                  | 21.54           | 21.49           | 14.21           | 14.29           | 14.24           |
|      |            | 15      | 0         | 21.45                  | 21.89           | 21.49           | 14.20           | 14.64           | 14.24           |
|      | 16QAM      | 1       | 0         | 21.87                  | 21.97           | 21.74           | 14.62           | 14.72           | 14.49           |
|      |            | 1       | 7         | 21.85                  | 22.18           | 21.83           | 14.60           | 14.93           | 14.58           |
|      |            | 1       | 14        | 22.23                  | 21.88           | 22.04           | 14.98           | 14.63           | 14.79           |
|      |            | 8       | 0         | 20.32                  | 20.45           | 20.79           | 13.07           | 13.20           | 13.54           |
|      |            | 8       | 4         | 20.88                  | 20.81           | 20.39           | 13.63           | 13.56           | 13.14           |
|      |            | 8       | 7         | 20.57                  | 20.42           | 20.29           | 13.32           | 13.17           | 13.04           |
|      |            | 15      | 0         | 20.79                  | 20.90           | 20.35           | 13.54           | 13.65           | 13.10           |
|      | 64QAM      | 1       | 0         | 21.20                  | 21.17           | 21.71           | 13.95           | 13.92           | 14.46           |
|      |            | 1       | 7         | 21.47                  | 21.41           | 21.52           | 14.22           | 14.16           | 14.27           |
|      |            | 1       | 14        | 21.13                  | 21.13           | 21.50           | 13.88           | 13.88           | 14.25           |
|      |            | 8       | 0         | 19.09                  | 19.04           | 19.42           | 11.84           | 11.79           | 12.17           |
|      |            | 8       | 4         | 19.13                  | 19.10           | 18.92           | 11.88           | 11.85           | 11.67           |
|      |            | 8       | 7         | 19.46                  | 19.45           | 19.92           | 12.21           | 12.20           | 12.67           |
|      |            | 15      | 0         | 19.33                  | 19.30           | 19.24           | 12.08           | 12.05           | 11.99           |



| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                 |                 |                 |                 |
|-------|------------|---------|-----------|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|       |            |         |           | 23035/<br>701.5        | 23095/<br>707.5 | 23155/<br>713.5 | 23035/<br>701.5 | 23095/<br>707.5 | 23155/<br>713.5 |
| 5MHz  | QPSK       | 1       | 0         | 22.28                  | 22.40           | 22.53           | 15.03           | 15.15           | 15.28           |
|       |            | 1       | 13        | 22.27                  | 22.41           | 22.55           | 15.02           | 15.16           | 15.30           |
|       |            | 1       | 24        | 22.42                  | 22.53           | 22.71           | 15.17           | 15.28           | 15.46           |
|       |            | 12      | 0         | 21.41                  | 21.52           | 21.87           | 14.16           | 14.27           | 14.62           |
|       |            | 12      | 6         | 21.27                  | 21.86           | 21.50           | 14.02           | 14.61           | 14.25           |
|       |            | 12      | 13        | 21.43                  | 21.53           | 21.46           | 14.18           | 14.28           | 14.21           |
|       |            | 25      | 0         | 21.47                  | 21.86           | 21.46           | 14.22           | 14.61           | 14.21           |
|       | 16QAM      | 1       | 0         | 21.81                  | 21.94           | 21.71           | 14.56           | 14.69           | 14.46           |
|       |            | 1       | 13        | 21.83                  | 22.17           | 21.81           | 14.58           | 14.92           | 14.56           |
|       |            | 1       | 24        | 22.20                  | 21.84           | 22.00           | 14.95           | 14.59           | 14.75           |
|       |            | 12      | 0         | 20.30                  | 20.44           | 20.77           | 13.05           | 13.19           | 13.52           |
|       |            | 12      | 6         | 20.84                  | 20.75           | 20.34           | 13.59           | 13.50           | 13.09           |
|       |            | 12      | 13        | 20.55                  | 20.38           | 20.26           | 13.30           | 13.13           | 13.01           |
|       |            | 25      | 0         | 20.77                  | 20.86           | 20.30           | 13.52           | 13.61           | 13.05           |
|       | 64QAM      | 1       | 0         | 21.14                  | 21.14           | 21.68           | 13.89           | 13.89           | 14.43           |
|       |            | 1       | 13        | 21.45                  | 21.40           | 21.50           | 14.20           | 14.15           | 14.25           |
|       |            | 1       | 24        | 21.14                  | 21.12           | 21.50           | 13.89           | 13.87           | 14.25           |
|       |            | 12      | 0         | 19.09                  | 19.07           | 19.52           | 11.84           | 11.82           | 12.27           |
|       |            | 12      | 6         | 19.10                  | 19.06           | 18.84           | 11.85           | 11.81           | 11.59           |
|       |            | 12      | 13        | 19.44                  | 19.41           | 19.89           | 12.19           | 12.16           | 12.64           |
|       |            | 25      | 0         | 19.31                  | 19.26           | 19.19           | 12.06           | 12.01           | 11.94           |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                 |                 |                 |                 |
|       |            |         |           | 23060/<br>704          | 23095/<br>707.5 | 23130/<br>711   | 23060/<br>704   | 23095/<br>707.5 | 23130/<br>711   |
| 10MHz | QPSK       | 1       | 0         | 22.25                  | 22.36           | 22.50           | 15.00           | 15.11           | 15.25           |
|       |            | 1       | 25        | 22.26                  | 22.37           | 22.53           | 15.01           | 15.12           | 15.28           |
|       |            | 1       | 49        | 22.40                  | 22.52           | 22.68           | 15.15           | 15.27           | 15.43           |
|       |            | 25      | 0         | 21.38                  | 21.47           | 21.83           | 14.13           | 14.22           | 14.58           |
|       |            | 25      | 13        | 21.25                  | 21.82           | 21.47           | 14.00           | 14.57           | 14.22           |
|       |            | 25      | 25        | 21.40                  | 21.48           | 21.42           | 14.15           | 14.23           | 14.17           |
|       |            | 50      | 0         | 21.44                  | 21.81           | 21.42           | 14.19           | 14.56           | 14.17           |
|       | 16QAM      | 1       | 0         | 21.67                  | 21.90           | 21.66           | 14.42           | 14.65           | 14.41           |
|       |            | 1       | 25        | 21.79                  | 22.15           | 21.77           | 14.54           | 14.90           | 14.52           |
|       |            | 1       | 49        | 22.18                  | 21.81           | 21.98           | 14.93           | 14.56           | 14.73           |



|  |       |    |    |       |       |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|-------|-------|
|  |       | 25 | 0  | 20.27 | 20.40 | 20.74 | 13.02 | 13.15 | 13.49 |
|  |       | 25 | 13 | 20.81 | 20.73 | 20.31 | 13.56 | 13.48 | 13.06 |
|  |       | 25 | 25 | 20.52 | 20.33 | 20.22 | 13.27 | 13.08 | 12.97 |
|  |       | 50 | 0  | 20.75 | 20.82 | 20.27 | 13.50 | 13.57 | 13.02 |
|  | 64QAM | 1  | 0  | 21.12 | 21.10 | 21.63 | 13.87 | 13.85 | 14.38 |
|  |       | 1  | 25 | 21.41 | 21.38 | 21.46 | 14.16 | 14.13 | 14.21 |
|  |       | 1  | 49 | 21.08 | 21.06 | 21.44 | 13.83 | 13.81 | 14.19 |
|  |       | 25 | 0  | 19.04 | 18.99 | 19.55 | 11.79 | 11.74 | 12.30 |
|  |       | 25 | 13 | 19.06 | 19.02 | 19.38 | 11.81 | 11.77 | 12.13 |
|  |       | 25 | 25 | 19.41 | 19.36 | 18.85 | 12.16 | 12.11 | 11.60 |
|  |       | 50 | 0  | 19.29 | 19.22 | 19.16 | 12.04 | 11.97 | 11.91 |

| LTE Band 17 |            |         |           | Maximum Output Power(dBm) |               |                 | ERP (dBm)       |               |                 |
|-------------|------------|---------|-----------|---------------------------|---------------|-----------------|-----------------|---------------|-----------------|
| BW          | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |               |                 |                 |               |                 |
|             |            |         |           | 23755/<br>706.5           | 23790/<br>710 | 23825/<br>713.5 | 23755/<br>706.5 | 23790/<br>710 | 23825/<br>713.5 |
| 5MHz        | QPSK       | 1       | 0         | 22.28                     | 22.52         | 22.41           | 15.03           | 15.27         | 15.16           |
|             |            | 1       | 13        | 22.37                     | 22.55         | 22.46           | 15.12           | 15.30         | 15.21           |
|             |            | 1       | 24        | 22.45                     | 22.51         | 22.57           | 15.20           | 15.26         | 15.32           |
|             |            | 12      | 0         | 21.72                     | 22.02         | 22.12           | 14.47           | 14.77         | 14.87           |
|             |            | 12      | 6         | 21.70                     | 21.82         | 21.71           | 14.45           | 14.57         | 14.46           |
|             |            | 12      | 13        | 22.09                     | 21.65         | 21.63           | 14.84           | 14.40         | 14.38           |
|             |            | 25      | 0         | 21.62                     | 21.71         | 21.76           | 14.37           | 14.46         | 14.51           |
|             | 16QAM      | 1       | 0         | 22.17                     | 21.78         | 21.65           | 14.92           | 14.53         | 14.40           |
|             |            | 1       | 13        | 22.15                     | 21.84         | 21.76           | 14.90           | 14.59         | 14.51           |
|             |            | 1       | 24        | 21.86                     | 21.90         | 21.94           | 14.61           | 14.65         | 14.69           |
|             |            | 12      | 0         | 20.43                     | 20.72         | 20.74           | 13.18           | 13.47         | 13.49           |
|             |            | 12      | 6         | 20.76                     | 20.43         | 20.65           | 13.51           | 13.18         | 13.40           |
|             |            | 12      | 13        | 20.70                     | 20.52         | 20.62           | 13.45           | 13.27         | 13.37           |
|             |            | 25      | 0         | 20.72                     | 20.39         | 20.49           | 13.47           | 13.14         | 13.24           |
|             | 64QAM      | 1       | 0         | 21.13                     | 21.13         | 21.18           | 13.88           | 13.88         | 13.93           |
|             |            | 1       | 13        | 21.16                     | 21.15         | 21.16           | 13.91           | 13.90         | 13.91           |
|             |            | 1       | 24        | 21.03                     | 21.00         | 21.04           | 13.78           | 13.75         | 13.79           |
|             |            | 12      | 0         | 18.94                     | 18.87         | 18.97           | 11.69           | 11.62         | 11.72           |
|             |            | 12      | 6         | 19.13                     | 19.08         | 19.17           | 11.88           | 11.83         | 11.92           |
|             |            | 12      | 13        | 19.17                     | 19.14         | 19.22           | 11.92           | 11.89         | 11.97           |



|       |            | 25      | 0         | 19.06                  | 19.01         | 19.08         | 11.81         | 11.76         | 11.83         |
|-------|------------|---------|-----------|------------------------|---------------|---------------|---------------|---------------|---------------|
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |               |               |               |               |               |
|       |            |         |           | 23780/<br>709          | 23790/<br>710 | 23800/<br>711 | 23780/<br>709 | 23790/<br>710 | 23800/<br>711 |
| 10MHz | QPSK       | 1       | 0         | 22.26                  | 22.45         | 22.39         | 15.01         | 15.20         | 15.14         |
|       |            | 1       | 25        | 22.37                  | 22.55         | 22.45         | 15.12         | 15.30         | 15.20         |
|       |            | 1       | 49        | 22.42                  | 22.49         | 22.53         | 15.17         | 15.24         | 15.28         |
|       |            | 25      | 0         | 21.70                  | 21.98         | 22.09         | 14.45         | 14.73         | 14.84         |
|       |            | 25      | 13        | 21.68                  | 21.78         | 21.68         | 14.43         | 14.53         | 14.43         |
|       |            | 25      | 25        | 22.05                  | 21.61         | 21.60         | 14.80         | 14.36         | 14.35         |
|       |            | 50      | 0         | 21.61                  | 21.64         | 21.71         | 14.36         | 14.39         | 14.46         |
|       | 16QAM      | 1       | 0         | 21.63                  | 21.75         | 21.60         | 14.38         | 14.50         | 14.35         |
|       |            | 1       | 25        | 22.12                  | 21.83         | 21.73         | 14.87         | 14.58         | 14.48         |
|       |            | 1       | 49        | 21.84                  | 21.85         | 21.92         | 14.59         | 14.60         | 14.67         |
|       |            | 25      | 0         | 20.40                  | 20.71         | 20.72         | 13.15         | 13.46         | 13.47         |
|       |            | 25      | 13        | 20.72                  | 20.40         | 20.61         | 13.47         | 13.15         | 13.36         |
|       |            | 25      | 25        | 20.68                  | 20.48         | 20.59         | 13.43         | 13.23         | 13.34         |
|       |            | 50      | 0         | 20.70                  | 20.35         | 20.46         | 13.45         | 13.10         | 13.21         |
|       | 64QAM      | 1       | 0         | 21.08                  | 21.06         | 21.13         | 13.83         | 13.81         | 13.88         |
|       |            | 1       | 25        | 21.13                  | 21.10         | 21.13         | 13.88         | 13.85         | 13.88         |
|       |            | 1       | 49        | 20.97                  | 20.95         | 21.02         | 13.72         | 13.70         | 13.77         |
|       |            | 25      | 0         | 19.41                  | 19.36         | 19.41         | 12.16         | 12.11         | 12.16         |
|       |            | 25      | 13        | 19.59                  | 19.55         | 19.63         | 12.34         | 12.30         | 12.38         |
|       |            | 25      | 25        | 19.65                  | 19.60         | 19.69         | 12.40         | 12.35         | 12.44         |
|       |            | 50      | 0         | 19.54                  | 19.47         | 19.55         | 12.29         | 12.22         | 12.30         |

| LTE Band 38 |            |         |           | Maximum Output Power(dBm) |                |                  | EIRP (dBm)       |                |                  |
|-------------|------------|---------|-----------|---------------------------|----------------|------------------|------------------|----------------|------------------|
| BW          | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |                |                  |                  |                |                  |
|             |            |         |           | 37775/<br>2572.5          | 38000/<br>2595 | 38225/<br>2617.5 | 37775/<br>2572.5 | 38000/<br>2595 | 38225/<br>2617.5 |
| 5MHz        | QPSK       | 1       | 0         | 21.56                     | 21.47          | 21.51            | 22.56            | 22.47          | 22.51            |
|             |            | 1       | 13        | 21.51                     | 21.13          | 21.49            | 22.51            | 22.13          | 22.49            |
|             |            | 1       | 24        | 21.59                     | 21.35          | 21.70            | 22.59            | 22.35          | 22.70            |
|             |            | 12      | 0         | 20.51                     | 20.26          | 20.41            | 21.51            | 21.26          | 21.41            |
|             |            | 12      | 6         | 20.43                     | 20.37          | 20.44            | 21.43            | 21.37          | 21.44            |
|             |            | 12      | 13        | 20.33                     | 20.43          | 20.56            | 21.33            | 21.43          | 21.56            |
|             |            | 25      | 0         | 20.44                     | 20.26          | 20.49            | 21.44            | 21.26          | 21.49            |



|       | 16QAM      | 1       | 0         | 20.26                  | 20.19          | 20.43          | 21.26          | 21.19          | 21.43          |
|-------|------------|---------|-----------|------------------------|----------------|----------------|----------------|----------------|----------------|
|       |            | 1       | 13        | 20.24                  | 20.16          | 20.34          | 21.24          | 21.16          | 21.34          |
|       |            | 1       | 24        | 20.40                  | 20.36          | 20.52          | 21.40          | 21.36          | 21.52          |
|       |            | 12      | 0         | 20.65                  | 20.56          | 20.78          | 21.65          | 21.56          | 21.78          |
|       |            | 12      | 6         | 20.84                  | 20.74          | 20.99          | 21.84          | 21.74          | 21.99          |
|       |            | 12      | 13        | 21.04                  | 20.97          | 21.16          | 22.04          | 21.97          | 22.16          |
|       |            | 25      | 0         | 20.82                  | 20.76          | 20.95          | 21.82          | 21.76          | 21.95          |
|       | 64QAM      | 1       | 0         | 20.70                  | 20.75          | 20.85          | 21.70          | 21.75          | 21.85          |
|       |            | 1       | 13        | 20.67                  | 20.60          | 20.76          | 21.67          | 21.60          | 21.76          |
|       |            | 1       | 24        | 20.75                  | 20.67          | 20.83          | 21.75          | 21.67          | 21.83          |
|       |            | 12      | 0         | 20.02                  | 19.88          | 20.15          | 21.02          | 20.88          | 21.15          |
|       |            | 12      | 6         | 19.79                  | 19.68          | 19.94          | 20.79          | 20.68          | 20.94          |
|       |            | 12      | 13        | 19.76                  | 19.70          | 19.91          | 20.76          | 20.70          | 20.91          |
|       |            | 25      | 0         | 19.82                  | 19.76          | 19.95          | 20.82          | 20.76          | 20.95          |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                |                |                |                |                |
|       |            |         |           | 37800/<br>2575         | 38000/<br>2595 | 38200/<br>2615 | 37800/<br>2575 | 38000/<br>2595 | 38200/<br>2615 |
| 10MHz | QPSK       | 1       | 0         | 21.58                  | 21.48          | 21.54          | 22.58          | 22.48          | 22.54          |
|       |            | 1       | 25        | 21.54                  | 21.18          | 21.53          | 22.54          | 22.18          | 22.53          |
|       |            | 1       | 49        | 21.61                  | 21.39          | 21.73          | 22.61          | 22.39          | 22.73          |
|       |            | 25      | 0         | 20.54                  | 20.31          | 20.45          | 21.54          | 21.31          | 21.45          |
|       |            | 25      | 13        | 20.46                  | 20.42          | 20.48          | 21.46          | 21.42          | 21.48          |
|       |            | 25      | 25        | 20.35                  | 20.47          | 20.61          | 21.35          | 21.47          | 21.61          |
|       |            | 50      | 0         | 20.48                  | 20.28          | 20.53          | 21.48          | 21.28          | 21.53          |
|       | 16QAM      | 1       | 0         | 20.28                  | 20.22          | 20.45          | 21.28          | 21.22          | 21.45          |
|       |            | 1       | 25        | 20.27                  | 20.20          | 20.37          | 21.27          | 21.20          | 21.37          |
|       |            | 1       | 49        | 20.43                  | 20.38          | 20.55          | 21.43          | 21.38          | 21.55          |
|       |            | 25      | 0         | 20.68                  | 20.61          | 20.82          | 21.68          | 21.61          | 21.82          |
|       |            | 25      | 13        | 20.86                  | 20.78          | 21.02          | 21.86          | 21.78          | 22.02          |
|       |            | 25      | 25        | 21.07                  | 21.02          | 21.20          | 22.07          | 22.02          | 22.20          |
|       |            | 50      | 0         | 20.85                  | 20.81          | 20.99          | 21.85          | 21.81          | 21.99          |
|       | 64QAM      | 1       | 0         | 20.72                  | 20.74          | 20.87          | 21.72          | 21.74          | 21.87          |
|       |            | 1       | 25        | 20.70                  | 20.60          | 20.79          | 21.70          | 21.60          | 21.79          |
|       |            | 1       | 49        | 20.74                  | 20.69          | 20.86          | 21.74          | 21.69          | 21.86          |
|       |            | 25      | 0         | 20.05                  | 19.93          | 20.15          | 21.05          | 20.93          | 21.15          |
|       |            | 25      | 13        | 19.81                  | 19.72          | 19.97          | 20.81          | 20.72          | 20.97          |
|       |            | 25      | 25        | 19.79                  | 19.75          | 19.95          | 20.79          | 20.75          | 20.95          |
|       |            | 50      | 0         | 19.85                  | 19.81          | 19.99          | 20.85          | 20.81          | 20.99          |



| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                |                  |                  |                |                  |
|-------|------------|---------|-----------|------------------------|----------------|------------------|------------------|----------------|------------------|
|       |            |         |           | 37825/<br>2577.5       | 38000/<br>2595 | 38175/<br>2612.5 | 37825/<br>2577.5 | 38000/<br>2595 | 38175/<br>2612.5 |
| 15MHz | QPSK       | 1       | 0         | 21.57                  | 21.44          | 21.52            | 22.57            | 22.44          | 22.52            |
|       |            | 1       | 38        | 21.52                  | 21.17          | 21.50            | 22.52            | 22.17          | 22.50            |
|       |            | 1       | 74        | 21.58                  | 21.34          | 21.69            | 22.58            | 22.34          | 22.69            |
|       |            | 36      | 0         | 20.52                  | 20.27          | 20.42            | 21.52            | 21.27          | 21.42            |
|       |            | 36      | 18        | 20.43                  | 20.37          | 20.44            | 21.43            | 21.37          | 21.44            |
|       |            | 36      | 39        | 20.32                  | 20.44          | 20.57            | 21.32            | 21.44          | 21.57            |
|       |            | 75      | 0         | 20.46                  | 20.24          | 20.48            | 21.46            | 21.24          | 21.48            |
|       | 16QAM      | 1       | 0         | 20.23                  | 20.20          | 20.43            | 21.23            | 21.20          | 21.43            |
|       |            | 1       | 38        | 20.25                  | 20.17          | 20.35            | 21.25            | 21.17          | 21.35            |
|       |            | 1       | 74        | 20.40                  | 20.34          | 20.52            | 21.40            | 21.34          | 21.52            |
|       |            | 36      | 0         | 20.65                  | 20.59          | 20.79            | 21.65            | 21.59          | 21.79            |
|       |            | 36      | 18        | 20.83                  | 20.73          | 20.98            | 21.83            | 21.73          | 21.98            |
|       |            | 36      | 39        | 21.05                  | 20.98          | 21.17            | 22.05            | 21.98          | 22.17            |
|       |            | 75      | 0         | 20.82                  | 20.76          | 20.95            | 21.82            | 21.76          | 21.95            |
|       | 64QAM      | 1       | 0         | 20.67                  | 20.72          | 20.85            | 21.67            | 21.72          | 21.85            |
|       |            | 1       | 38        | 20.68                  | 20.57          | 20.77            | 21.68            | 21.57          | 21.77            |
|       |            | 1       | 74        | 20.75                  | 20.68          | 20.87            | 21.75            | 21.68          | 21.87            |
|       |            | 36      | 0         | 20.04                  | 19.95          | 20.16            | 21.04            | 20.95          | 21.16            |
|       |            | 36      | 18        | 19.79                  | 19.69          | 19.96            | 20.79            | 20.69          | 20.96            |
|       |            | 36      | 39        | 19.77                  | 19.71          | 19.92            | 20.77            | 20.71          | 20.92            |
|       |            | 75      | 0         | 19.82                  | 19.76          | 19.95            | 20.82            | 20.76          | 20.95            |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                |                  |                  |                |                  |
|       |            |         |           | 37850/<br>2580         | 38000/<br>2595 | 38150/<br>2610   | 37850/<br>2580   | 38000/<br>2595 | 38150/<br>2610   |
| 20MHz | QPSK       | 1       | 0         | 21.54                  | <b>21.40</b>   | 21.49            | 22.54            | 22.40          | 22.49            |
|       |            | 1       | 50        | 21.51                  | 21.13          | 21.48            | 22.51            | 22.13          | 22.48            |
|       |            | 1       | 99        | <b>21.56</b>           | 21.33          | <b>21.66</b>     | 22.56            | 22.33          | 22.66            |
|       |            | 50      | 0         | <b>20.49</b>           | 20.22          | 20.38            | 21.49            | 21.22          | 21.38            |
|       |            | 50      | 25        | 20.41                  | 20.33          | 20.41            | 21.41            | 21.33          | 21.41            |
|       |            | 50      | 50        | 20.29                  | <b>20.39</b>   | <b>20.53</b>     | 21.29            | 21.39          | 21.53            |
|       |            | 100     | 0         | 20.43                  | 20.19          | <b>20.44</b>     | 21.43            | 21.19          | 21.44            |
|       | 16QAM      | 1       | 0         | 20.25                  | 20.16          | 20.38            | 21.25            | 21.16          | 21.38            |
|       |            | 1       | 50        | 20.21                  | 20.15          | 20.31            | 21.21            | 21.15          | 21.31            |
|       |            | 1       | 99        | 20.38                  | 20.31          | 20.50            | 21.38            | 21.31          | 21.50            |
|       |            | 50      | 0         | 20.62                  | 20.55          | 20.76            | 21.62            | 21.55          | 21.76            |
|       |            | 50      | 25        | 20.80                  | 20.71          | 20.95            | 21.80            | 21.71          | 21.95            |
|       |            | 50      | 50        | 21.02                  | 20.93          | 21.13            | 22.02            | 21.93          | 22.13            |



|  |       |     |    |       |       |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|-------|-------|
|  | 64QAM | 100 | 0  | 20.80 | 20.72 | 20.92 | 21.80 | 21.72 | 21.92 |
|  |       | 1   | 0  | 20.65 | 20.68 | 20.80 | 21.65 | 21.68 | 21.80 |
|  |       | 1   | 50 | 20.64 | 20.55 | 20.73 | 21.64 | 21.55 | 21.73 |
|  |       | 1   | 99 | 20.69 | 20.62 | 20.81 | 21.69 | 21.62 | 21.81 |
|  |       | 50  | 0  | 19.99 | 19.87 | 20.09 | 20.99 | 20.87 | 21.09 |
|  |       | 50  | 25 | 19.75 | 19.65 | 19.90 | 20.75 | 20.65 | 20.90 |
|  |       | 50  | 50 | 19.74 | 19.66 | 19.88 | 20.74 | 20.66 | 20.88 |
|  |       | 100 | 0  | 19.80 | 19.72 | 19.92 | 20.80 | 20.72 | 20.92 |

| LTE Band 66 |            |         |           | Maximum Output Power(dBm) |                 |                   | EIRP (dBm)        |                 |                   |
|-------------|------------|---------|-----------|---------------------------|-----------------|-------------------|-------------------|-----------------|-------------------|
| BW          | Modulation | RB size | RB offset | Channel/Frequency(MHz)    |                 |                   |                   |                 |                   |
|             |            |         |           | 131979/<br>1710.7         | 132322/<br>1745 | 132665/<br>1779.3 | 131979/<br>1710.7 | 132322/<br>1745 | 132665/<br>1779.3 |
| 1.4MHz      | QPSK       | 1       | 0         | 23.34                     | 23.26           | 23.17             | 22.24             | 22.16           | 22.07             |
|             |            | 1       | 2         | 23.24                     | 23.40           | 23.11             | 22.14             | 22.30           | 22.01             |
|             |            | 1       | 5         | 23.36                     | 23.37           | 23.13             | 22.26             | 22.27           | 22.03             |
|             |            | 3       | 0         | 23.14                     | 23.13           | 23.10             | 22.04             | 22.03           | 22.00             |
|             |            | 3       | 2         | 23.07                     | 23.14           | 23.16             | 21.97             | 22.04           | 22.06             |
|             |            | 3       | 3         | 23.17                     | 23.14           | 23.15             | 22.07             | 22.04           | 22.05             |
|             |            | 6       | 0         | 22.26                     | 22.13           | 22.16             | 21.16             | 21.03           | 21.06             |
|             | 16QAM      | 1       | 0         | 21.75                     | 21.55           | 21.92             | 20.65             | 20.45           | 20.82             |
|             |            | 1       | 2         | 21.73                     | 21.66           | 21.70             | 20.63             | 20.56           | 20.60             |
|             |            | 1       | 5         | 21.82                     | 21.62           | 21.69             | 20.72             | 20.52           | 20.59             |
|             |            | 3       | 0         | 22.31                     | 22.22           | 22.25             | 21.21             | 21.12           | 21.15             |
|             |            | 3       | 2         | 22.27                     | 22.30           | 22.36             | 21.17             | 21.20           | 21.26             |
|             |            | 3       | 3         | 22.26                     | 22.33           | 22.21             | 21.16             | 21.23           | 21.11             |
|             |            | 6       | 0         | 21.34                     | 21.32           | 21.30             | 20.24             | 20.22           | 20.20             |
|             | 64QAM      | 1       | 0         | 21.42                     | 21.33           | 21.35             | 20.32             | 20.23           | 20.25             |
|             |            | 1       | 2         | 21.54                     | 21.47           | 21.51             | 20.44             | 20.37           | 20.41             |
|             |            | 1       | 5         | 21.66                     | 21.66           | 21.63             | 20.56             | 20.56           | 20.53             |
|             |            | 3       | 0         | 21.08                     | 21.06           | 21.03             | 19.98             | 19.96           | 19.93             |
|             |            | 3       | 2         | 21.11                     | 21.06           | 21.11             | 20.01             | 19.96           | 20.01             |
|             |            | 3       | 3         | 21.26                     | 21.20           | 21.22             | 20.16             | 20.10           | 20.12             |
|             |            | 6       | 0         | 20.60                     | 20.55           | 20.63             | 19.50             | 19.45           | 19.53             |



| BW   | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                   |                   |                 |                   |
|------|------------|---------|-----------|------------------------|-----------------|-------------------|-------------------|-----------------|-------------------|
|      |            |         |           | 131987/<br>1711.5      | 132322/<br>1745 | 132657/<br>1778.5 | 131987/<br>1711.5 | 132322/<br>1745 | 132657/<br>1778.5 |
| 3MHz | QPSK       | 1       | 0         | 23.36                  | 23.30           | 23.20             | 22.26             | 22.20           | 22.10             |
|      |            | 1       | 7         | 23.22                  | 23.43           | 23.15             | 22.12             | 22.33           | 22.05             |
|      |            | 1       | 14        | 23.39                  | 23.42           | 23.17             | 22.29             | 22.32           | 22.07             |
|      |            | 8       | 0         | 22.24                  | 22.25           | 22.23             | 21.14             | 21.15           | 21.13             |
|      |            | 8       | 4         | 22.19                  | 22.24           | 22.28             | 21.09             | 21.14           | 21.18             |
|      |            | 8       | 7         | 22.27                  | 22.25           | 22.25             | 21.17             | 21.15           | 21.15             |
|      |            | 15      | 0         | 22.26                  | 22.17           | 22.19             | 21.16             | 21.07           | 21.09             |
|      | 16QAM      | 1       | 0         | 21.78                  | 21.57           | 21.95             | 20.68             | 20.47           | 20.85             |
|      |            | 1       | 7         | 21.76                  | 21.66           | 21.74             | 20.66             | 20.56           | 20.64             |
|      |            | 1       | 14        | 21.84                  | 21.66           | 21.72             | 20.74             | 20.56           | 20.62             |
|      |            | 8       | 0         | 21.42                  | 21.35           | 21.37             | 20.32             | 20.25           | 20.27             |
|      |            | 8       | 4         | 21.38                  | 21.43           | 21.48             | 20.28             | 20.33           | 20.38             |
|      |            | 8       | 7         | 21.36                  | 21.45           | 21.34             | 20.26             | 20.35           | 20.24             |
|      |            | 15      | 0         | 21.37                  | 21.36           | 21.33             | 20.27             | 20.26           | 20.23             |
|      | 64QAM      | 1       | 0         | 21.45                  | 21.35           | 21.38             | 20.35             | 20.25           | 20.28             |
|      |            | 1       | 7         | 21.57                  | 21.47           | 21.53             | 20.47             | 20.37           | 20.43             |
|      |            | 1       | 14        | 21.68                  | 21.65           | 21.66             | 20.58             | 20.55           | 20.56             |
|      |            | 8       | 0         | 19.89                  | 19.80           | 19.85             | 18.79             | 18.70           | 18.75             |
|      |            | 8       | 4         | 20.22                  | 20.19           | 20.23             | 19.12             | 19.09           | 19.13             |
|      |            | 8       | 7         | 20.36                  | 20.32           | 20.35             | 19.26             | 19.22           | 19.25             |
|      |            | 15      | 0         | 20.63                  | 20.59           | 20.66             | 19.53             | 19.49           | 19.56             |
| BW   | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                   |                   |                 |                   |
|      |            |         |           | 131987/<br>1711.5      | 132322/<br>1745 | 132657/<br>1778.5 | 131987/<br>1711.5 | 132322/<br>1745 | 132657/<br>1778.5 |
| 5MHz | QPSK       | 1       | 0         | 23.36                  | 23.30           | 23.20             | 22.26             | 22.20           | 22.10             |
|      |            | 1       | 7         | 23.22                  | 23.43           | 23.15             | 22.12             | 22.33           | 22.05             |
|      |            | 1       | 14        | 23.39                  | 23.42           | 23.17             | 22.29             | 22.32           | 22.07             |
|      |            | 8       | 0         | 22.24                  | 22.25           | 22.23             | 21.14             | 21.15           | 21.13             |
|      |            | 8       | 4         | 22.19                  | 22.24           | 22.28             | 21.09             | 21.14           | 21.18             |
|      |            | 8       | 7         | 22.27                  | 22.25           | 22.25             | 21.17             | 21.15           | 21.15             |
|      |            | 15      | 0         | 22.26                  | 22.17           | 22.19             | 21.16             | 21.07           | 21.09             |
|      | 16QAM      | 1       | 0         | 21.78                  | 21.57           | 21.95             | 20.68             | 20.47           | 20.85             |
|      |            | 1       | 7         | 21.76                  | 21.66           | 21.74             | 20.66             | 20.56           | 20.64             |
|      |            | 1       | 14        | 21.84                  | 21.66           | 21.72             | 20.74             | 20.56           | 20.62             |



|       |            | 8       | 0         | 21.42                  | 21.35           | 21.37             | 20.32             | 20.25           | 20.27             |
|-------|------------|---------|-----------|------------------------|-----------------|-------------------|-------------------|-----------------|-------------------|
|       |            | 8       | 4         | 21.38                  | 21.43           | 21.48             | 20.28             | 20.33           | 20.38             |
|       |            | 8       | 7         | 21.36                  | 21.45           | 21.34             | 20.26             | 20.35           | 20.24             |
|       |            | 15      | 0         | 21.37                  | 21.36           | 21.33             | 20.27             | 20.26           | 20.23             |
|       | 64QAM      | 1       | 0         | 21.45                  | 21.35           | 21.38             | 20.35             | 20.25           | 20.28             |
|       |            | 1       | 7         | 21.57                  | 21.47           | 21.53             | 20.47             | 20.37           | 20.43             |
|       |            | 1       | 14        | 21.68                  | 21.65           | 21.66             | 20.58             | 20.55           | 20.56             |
|       |            | 8       | 0         | 19.89                  | 19.80           | 19.85             | 18.79             | 18.70           | 18.75             |
|       |            | 8       | 4         | 20.22                  | 20.19           | 20.23             | 19.12             | 19.09           | 19.13             |
|       |            | 8       | 7         | 20.36                  | 20.32           | 20.35             | 19.26             | 19.22           | 19.25             |
|       |            | 15      | 0         | 20.63                  | 20.59           | 20.66             | 19.53             | 19.49           | 19.56             |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                   |                   |                 |                   |
|       |            |         |           | 131997/<br>1712.5      | 132322/<br>1745 | 132647/<br>1777.5 | 131997/<br>1712.5 | 132322/<br>1745 | 132647/<br>1777.5 |
| 10MHz | QPSK       | 1       | 0         | 23.35                  | 23.29           | 23.19             | 22.25             | 22.19           | 22.09             |
|       |            | 1       | 25        | 23.23                  | 23.44           | 23.16             | 22.13             | 22.34           | 22.06             |
|       |            | 1       | 49        | 23.38                  | 23.41           | 23.16             | 22.28             | 22.31           | 22.06             |
|       |            | 25      | 0         | 22.24                  | 22.25           | 22.23             | 21.14             | 21.15           | 21.13             |
|       |            | 25      | 13        | 22.20                  | 22.25           | 22.27             | 21.10             | 21.15           | 21.17             |
|       |            | 25      | 25        | 22.27                  | 22.27           | 22.26             | 21.17             | 21.17           | 21.16             |
|       |            | 50      | 0         | 22.30                  | 22.18           | 22.21             | 21.20             | 21.08           | 21.11             |
|       | 16QAM      | 1       | 0         | 21.77                  | 21.56           | 21.94             | 20.67             | 20.46           | 20.84             |
|       |            | 1       | 25        | 21.76                  | 21.68           | 21.74             | 20.66             | 20.58           | 20.64             |
|       |            | 1       | 49        | 21.84                  | 21.66           | 21.71             | 20.74             | 20.56           | 20.61             |
|       |            | 25      | 0         | 21.43                  | 21.36           | 21.38             | 20.33             | 20.26           | 20.28             |
|       |            | 25      | 13        | 21.37                  | 21.42           | 21.47             | 20.27             | 20.32           | 20.37             |
|       |            | 25      | 25        | 21.36                  | 21.45           | 21.34             | 20.26             | 20.35           | 20.24             |
|       |            | 50      | 0         | 21.38                  | 21.37           | 21.32             | 20.28             | 20.27           | 20.22             |
|       | 64QAM      | 1       | 0         | 21.44                  | 21.34           | 21.37             | 20.34             | 20.24           | 20.27             |
|       |            | 1       | 25        | 21.57                  | 21.49           | 21.53             | 20.47             | 20.39           | 20.43             |
|       |            | 1       | 49        | 21.68                  | 21.65           | 21.65             | 20.58             | 20.55           | 20.55             |
|       |            | 25      | 0         | 19.90                  | 19.81           | 19.86             | 18.80             | 18.71           | 18.76             |
|       |            | 25      | 13        | 20.21                  | 20.18           | 20.22             | 19.11             | 19.08           | 19.12             |
|       |            | 25      | 25        | 20.36                  | 20.32           | 20.35             | 19.26             | 19.22           | 19.25             |
|       |            | 50      | 0         | 20.64                  | 20.60           | 20.65             | 19.54             | 19.50           | 19.55             |



| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                   |                   |                 |                   |
|-------|------------|---------|-----------|------------------------|-----------------|-------------------|-------------------|-----------------|-------------------|
|       |            |         |           | 132047/<br>1717.5      | 132322/<br>1745 | 132597/<br>1772.5 | 132047/<br>1717.5 | 132322/<br>1745 | 132597/<br>1772.5 |
| 15MHz | QPSK       | 1       | 0         | 23.34                  | 23.25           | 23.17             | 22.24             | 22.15           | 22.07             |
|       |            | 1       | 38        | 23.21                  | 23.43           | 23.13             | 22.11             | 22.33           | 22.03             |
|       |            | 1       | 74        | 23.35                  | 23.36           | 23.12             | 22.25             | 22.26           | 22.02             |
|       |            | 36      | 0         | 22.22                  | 22.21           | 22.20             | 21.12             | 21.11           | 21.10             |
|       |            | 36      | 18        | 22.17                  | 22.20           | 22.23             | 21.07             | 21.10           | 21.13             |
|       |            | 36      | 39        | 22.24                  | 22.24           | 22.22             | 21.14             | 21.14           | 21.12             |
|       |            | 75      | 0         | 22.28                  | 22.14           | 22.16             | 21.18             | 21.04           | 21.06             |
|       | 16QAM      | 1       | 0         | 21.72                  | 21.54           | 21.92             | 20.62             | 20.44           | 20.82             |
|       |            | 1       | 38        | 21.74                  | 21.65           | 21.72             | 20.64             | 20.55           | 20.62             |
|       |            | 1       | 74        | 21.81                  | 21.62           | 21.68             | 20.71             | 20.52           | 20.58             |
|       |            | 36      | 0         | 21.40                  | 21.34           | 21.35             | 20.30             | 20.24           | 20.25             |
|       |            | 36      | 18        | 21.34                  | 21.37           | 21.43             | 20.24             | 20.27           | 20.33             |
|       |            | 36      | 39        | 21.34                  | 21.41           | 21.31             | 20.24             | 20.31           | 20.21             |
|       |            | 75      | 0         | 21.35                  | 21.32           | 21.28             | 20.25             | 20.22           | 20.18             |
|       | 64QAM      | 1       | 0         | 21.39                  | 21.32           | 21.35             | 20.29             | 20.22           | 20.25             |
|       |            | 1       | 38        | 21.55                  | 21.46           | 21.51             | 20.45             | 20.36           | 20.41             |
|       |            | 1       | 74        | 21.69                  | 21.64           | 21.66             | 20.59             | 20.54           | 20.56             |
|       |            | 36      | 0         | 19.89                  | 19.83           | 19.87             | 18.79             | 18.73           | 18.77             |
|       |            | 36      | 18        | 20.19                  | 20.15           | 20.21             | 19.09             | 19.05           | 19.11             |
|       |            | 36      | 39        | 20.34                  | 20.28           | 20.32             | 19.24             | 19.18           | 19.22             |
|       |            | 75      | 0         | 20.61                  | 20.55           | 20.61             | 19.51             | 19.45           | 19.51             |
| BW    | Modulation | RB size | RB offset | Channel/Frequency(MHz) |                 |                   |                   |                 |                   |
|       |            |         |           | 132072/<br>1720        | 132322/<br>1745 | 132572/<br>1770   | 132072/<br>1720   | 132322/<br>1745 | 132572/<br>1770   |
| 20MHz | QPSK       | 1       | 0         | 23.31                  | 23.21           | 23.14             | 22.21             | 22.11           | 22.04             |
|       |            | 1       | 50        | 23.20                  | 23.39           | 23.11             | 22.10             | 22.29           | 22.01             |
|       |            | 1       | 99        | 23.33                  | 23.35           | 23.09             | 22.23             | 22.25           | 21.99             |
|       |            | 50      | 0         | 22.19                  | 22.16           | 22.16             | 21.09             | 21.06           | 21.06             |
|       |            | 50      | 25        | 22.15                  | 22.16           | 22.20             | 21.05             | 21.06           | 21.10             |
|       |            | 50      | 50        | 22.21                  | 22.19           | 22.18             | 21.11             | 21.09           | 21.08             |
|       |            | 100     | 0         | 22.25                  | 22.09           | 22.12             | 21.15             | 20.99           | 21.02             |
|       | 16QAM      | 1       | 0         | 21.65                  | 21.50           | 21.87             | 20.55             | 20.40           | 20.77             |
|       |            | 1       | 50        | 21.70                  | 21.63           | 21.68             | 20.60             | 20.53           | 20.58             |
|       |            | 1       | 99        | 21.79                  | 21.59           | 21.66             | 20.69             | 20.49           | 20.56             |



|  |       |     |    |       |       |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|-------|-------|
|  |       | 50  | 0  | 21.37 | 21.30 | 21.32 | 20.27 | 20.20 | 20.22 |
|  |       | 50  | 25 | 21.31 | 21.35 | 21.40 | 20.21 | 20.25 | 20.30 |
|  |       | 50  | 50 | 21.31 | 21.36 | 21.27 | 20.21 | 20.26 | 20.17 |
|  |       | 100 | 0  | 21.33 | 21.28 | 21.25 | 20.23 | 20.18 | 20.15 |
|  | 64QAM | 1   | 0  | 21.37 | 21.28 | 21.30 | 20.27 | 20.18 | 20.20 |
|  |       | 1   | 50 | 21.51 | 21.44 | 21.47 | 20.41 | 20.34 | 20.37 |
|  |       | 1   | 99 | 21.63 | 21.58 | 21.60 | 20.53 | 20.48 | 20.50 |
|  |       | 50  | 0  | 19.84 | 19.75 | 19.80 | 18.74 | 18.65 | 18.70 |
|  |       | 50  | 25 | 20.15 | 20.11 | 20.15 | 19.05 | 19.01 | 19.05 |
|  |       | 50  | 50 | 20.31 | 20.23 | 20.28 | 19.21 | 19.13 | 19.18 |
|  |       | 100 | 0  | 20.59 | 20.51 | 20.58 | 19.49 | 19.41 | 19.48 |

## 5.2 Occupied Bandwidth

### Ambient condition

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C ~25°C  | 45%~50%           | 101.5kPa |

### Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The occupied bandwidth is measured using spectrum analyzer.

RBW is set to 51 kHz, VBW is set to 160 kHz for WCDMA Band IV.

RBW is set to 30 kHz, VBW is set to 91 kHz for LTE Band 4/12/66 (1.4MHz).

RBW is set to 62 kHz, VBW is set to 180 kHz for LTE Band 4/12/66 (3MHz).

RBW is set to 100 kHz, VBW is set to 300 kHz for LTE Band 4/7/12/17/38/66 (5MHz).

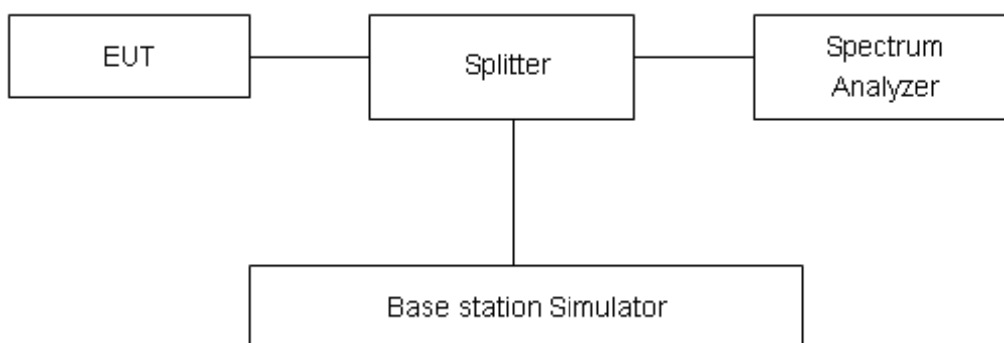
RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4/7/12/17/38/66(10MHz).

RBW is set to 300 kHz, VBW is set to 910 kHz for LTE Band 4/7/38/66 (15MHz).

RBW is set to 430 kHz, VBW is set to 1.2MHz for LTE Band 4/7/38/66(20MHz).

99% power and -26dBc occupied bandwidths are recorded. Spectrum analyzer plots are included on the following pages.

### Test Setup



### Limits

No specific occupied bandwidth requirements in part 2.1049.

### Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor  $k = 2$ ,  $U=624\text{Hz}$ .



## Test Result

| Mode                | Channel | Frequency (MHz) | 99% Power Bandwidth (MHz) | -26dBc Bandwidth(MHz) |
|---------------------|---------|-----------------|---------------------------|-----------------------|
| WCDMA Band IV (RMC) | 1312    | 1712.4          | 4.1543                    | 4.659                 |
|                     | 1413    | 1732.6          | 4.1386                    | 4.642                 |
|                     | 1513    | 1752.6          | 4.1479                    | 4.623                 |

| LTE Band 4 |            |                 |         |                 |                          |                       |
|------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB         | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%       | QPSK       | 1.4             | 19957   | 1710.7          | 1.095                    | 1.238                 |
|            |            |                 | 20175   | 1732.5          | 1.102                    | 1.244                 |
|            |            |                 | 20393   | 1754.3          | 1.092                    | 1.243                 |
|            |            | 3               | 19965   | 1711.5          | 2.719                    | 3.074                 |
|            |            |                 | 20175   | 1732.5          | 2.720                    | 3.023                 |
|            |            |                 | 20385   | 1753.5          | 2.716                    | 3.039                 |
|            |            | 5               | 19975   | 1712.5          | 4.511                    | 4.930                 |
|            |            |                 | 20175   | 1732.5          | 4.519                    | 4.982                 |
|            |            |                 | 20375   | 1752.5          | 4.508                    | 4.934                 |
|            |            | 10              | 20000   | 1715            | 8.981                    | 9.776                 |
|            |            |                 | 20175   | 1732.5          | 8.981                    | 9.747                 |
|            |            |                 | 20350   | 1750            | 9.013                    | 9.764                 |
|            |            | 15              | 20025   | 1717.5          | 13.493                   | 14.875                |
|            |            |                 | 20175   | 1732.5          | 13.503                   | 14.926                |
|            |            |                 | 20325   | 1747.5          | 13.509                   | 14.885                |
|            |            | 20              | 20050   | 1720            | 18.007                   | 19.531                |
|            |            |                 | 20175   | 1732.5          | 18.015                   | 19.527                |
|            |            |                 | 20300   | 1745            | 18.070                   | 19.804                |
|            | 16QAM      | 1.4             | 19957   | 1710.7          | 1.103                    | 1.242                 |
|            |            |                 | 20175   | 1732.5          | 1.092                    | 1.245                 |
|            |            |                 | 20393   | 1754.3          | 1.100                    | 1.255                 |
|            |            | 3               | 19965   | 1711.5          | 2.697                    | 3.042                 |
|            |            |                 | 20175   | 1732.5          | 2.708                    | 3.053                 |
|            |            |                 | 20385   | 1753.5          | 2.704                    | 3.027                 |
|            |            | 5               | 19975   | 1712.5          | 4.522                    | 4.969                 |
|            |            |                 | 20175   | 1732.5          | 4.535                    | 4.983                 |
|            |            |                 | 20375   | 1752.5          | 4.509                    | 4.952                 |
|            |            | 10              | 20000   | 1715            | 8.988                    | 9.896                 |
|            |            |                 | 20175   | 1732.5          | 8.992                    | 9.689                 |



|  |       |     |       |        |        |        |
|--|-------|-----|-------|--------|--------|--------|
|  |       | 15  | 20350 | 1750   | 9.018  | 9.808  |
|  |       |     | 20025 | 1717.5 | 13.443 | 14.751 |
|  |       |     | 20175 | 1732.5 | 13.482 | 14.866 |
|  |       |     | 20325 | 1747.5 | 13.478 | 14.863 |
|  |       | 20  | 20050 | 1720   | 17.939 | 19.621 |
|  |       |     | 20175 | 1732.5 | 18.017 | 19.581 |
|  |       |     | 20300 | 1745   | 18.081 | 19.487 |
|  | 64QAM | 1.4 | 19957 | 1710.7 | 1.099  | 1.258  |
|  |       |     | 20175 | 1732.5 | 1.096  | 1.243  |
|  |       |     | 20393 | 1754.3 | 1.097  | 1.248  |
|  |       | 3   | 19965 | 1711.5 | 2.694  | 3.038  |
|  |       |     | 20175 | 1732.5 | 2.707  | 3.054  |
|  |       |     | 20385 | 1753.5 | 2.709  | 3.039  |
|  |       | 5   | 19975 | 1712.5 | 4.513  | 4.963  |
|  |       |     | 20175 | 1732.5 | 4.533  | 4.961  |
|  |       |     | 20375 | 1752.5 | 4.515  | 4.986  |
|  |       | 10  | 20000 | 1715   | 8.966  | 9.781  |
|  |       |     | 20175 | 1732.5 | 8.996  | 9.806  |
|  |       |     | 20350 | 1750   | 9.011  | 9.747  |
|  |       | 15  | 20025 | 1717.5 | 13.458 | 14.679 |
|  |       |     | 20175 | 1732.5 | 13.509 | 14.840 |
|  |       |     | 20325 | 1747.5 | 13.504 | 14.837 |
|  |       | 20  | 20050 | 1720   | 17.936 | 19.641 |
|  |       |     | 20175 | 1732.5 | 18.011 | 19.522 |
|  |       |     | 20300 | 1745   | 18.043 | 19.497 |

| LTE Band 7 |            |                 |         |                 |                          |                       |
|------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB         | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%       | QPSK       | 5               | 20775   | 2502.5          | 4.507                    | 4.989                 |
|            |            |                 | 21100   | 2535            | 4.501                    | 4.932                 |
|            |            |                 | 21425   | 2567.5          | 4.496                    | 4.926                 |
|            |            | 10              | 20800   | 2505            | 8.993                    | 9.862                 |
|            |            |                 | 21100   | 2535            | 8.989                    | 9.822                 |
|            |            |                 | 21400   | 2565            | 8.970                    | 9.874                 |
|            |            | 15              | 20825   | 2507.5          | 13.505                   | 15.020                |
|            |            |                 | 21100   | 2535            | 13.466                   | 14.733                |
|            |            |                 | 21375   | 2562.5          | 13.507                   | 14.670                |
|            |            | 20              | 20850   | 2510            | 18.006                   | 19.709                |
|            |            |                 | 21100   | 2535            | 17.999                   | 19.612                |



|  |       |    |       |        |        |        |
|--|-------|----|-------|--------|--------|--------|
|  | 16QAM | 5  | 21350 | 2560   | 17.986 | 19.894 |
|  |       |    | 20775 | 2502.5 | 4.510  | 4.952  |
|  |       |    | 21100 | 2535   | 4.525  | 4.986  |
|  |       |    | 21425 | 2567.5 | 4.504  | 4.947  |
|  |       | 10 | 20800 | 2505   | 9.002  | 9.835  |
|  |       |    | 21100 | 2535   | 8.981  | 9.744  |
|  |       |    | 21400 | 2565   | 9.006  | 9.807  |
|  |       | 15 | 20825 | 2507.5 | 13.489 | 14.755 |
|  |       |    | 21100 | 2535   | 13.481 | 14.813 |
|  |       |    | 21375 | 2562.5 | 13.507 | 14.802 |
|  |       | 20 | 20850 | 2510   | 17.989 | 19.650 |
|  |       |    | 21100 | 2535   | 18.023 | 19.825 |
|  |       |    | 21350 | 2560   | 18.016 | 19.729 |
|  | 64QAM | 5  | 20775 | 2502.5 | 4.504  | 4.964  |
|  |       |    | 21100 | 2535   | 4.521  | 4.921  |
|  |       |    | 21425 | 2567.5 | 4.524  | 4.953  |
|  |       | 10 | 20800 | 2505   | 9.016  | 9.832  |
|  |       |    | 21100 | 2535   | 8.990  | 9.855  |
|  |       |    | 21400 | 2565   | 8.995  | 9.865  |
|  |       | 15 | 20825 | 2507.5 | 13.484 | 14.703 |
|  |       |    | 21100 | 2535   | 13.510 | 14.787 |
|  |       |    | 21375 | 2562.5 | 13.460 | 14.795 |
|  |       | 20 | 20850 | 2510   | 18.002 | 19.520 |
|  |       |    | 21100 | 2535   | 17.985 | 19.443 |
|  |       |    | 21350 | 2560   | 17.992 | 19.664 |

| LTE Band 12 |            |                 |         |                 |                          |                       |
|-------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB          | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%        | QPSK       | 1.4             | 23017   | 699.7           | 1.091                    | 1.239                 |
|             |            |                 | 23095   | 707.5           | 1.094                    | 1.245                 |
|             |            |                 | 23173   | 715.3           | 1.100                    | 1.250                 |
|             |            | 3               | 23025   | 700.5           | 2.703                    | 3.011                 |
|             |            |                 | 23095   | 707.5           | 2.710                    | 3.006                 |
|             |            |                 | 23165   | 714.5           | 2.714                    | 3.048                 |
|             |            | 5               | 23035   | 701.5           | 4.504                    | 4.941                 |
|             |            |                 | 23095   | 707.5           | 4.510                    | 4.933                 |
|             |            |                 | 23155   | 713.5           | 4.493                    | 4.920                 |
|             |            | 10              | 23060   | 704             | 8.972                    | 9.835                 |
|             |            |                 | 23095   | 707.5           | 8.974                    | 9.895                 |



|  |       |     |       |       |       |       |
|--|-------|-----|-------|-------|-------|-------|
|  | 16QAM | 1.4 | 23130 | 711   | 8.984 | 9.811 |
|  |       |     | 23017 | 699.7 | 1.105 | 1.253 |
|  |       |     | 23095 | 707.5 | 1.093 | 1.244 |
|  |       |     | 23173 | 715.3 | 1.102 | 1.254 |
|  |       | 3   | 23025 | 700.5 | 2.699 | 3.035 |
|  |       |     | 23095 | 707.5 | 2.700 | 3.037 |
|  |       |     | 23165 | 714.5 | 2.713 | 3.051 |
|  |       | 5   | 23035 | 701.5 | 4.499 | 4.942 |
|  |       |     | 23095 | 707.5 | 4.508 | 4.931 |
|  |       |     | 23155 | 713.5 | 4.509 | 4.959 |
|  |       | 10  | 23060 | 704   | 8.976 | 9.805 |
|  |       |     | 23095 | 707.5 | 8.990 | 9.865 |
|  |       |     | 23130 | 711   | 8.979 | 9.808 |
|  | 64QAM | 1.4 | 23017 | 699.7 | 1.103 | 1.259 |
|  |       |     | 23095 | 707.5 | 1.089 | 1.237 |
|  |       |     | 23173 | 715.3 | 1.102 | 1.251 |
|  |       | 3   | 23025 | 700.5 | 2.705 | 3.031 |
|  |       |     | 23095 | 707.5 | 2.697 | 3.028 |
|  |       |     | 23165 | 714.5 | 2.712 | 3.085 |
|  |       | 5   | 23035 | 701.5 | 4.513 | 4.930 |
|  |       |     | 23095 | 707.5 | 4.497 | 4.942 |
|  |       |     | 23155 | 713.5 | 4.501 | 4.957 |
|  |       | 10  | 23060 | 704   | 8.964 | 9.812 |
|  |       |     | 23095 | 707.5 | 8.987 | 9.837 |
|  |       |     | 23130 | 711   | 8.996 | 9.835 |

| LTE Band 17 |            |                 |         |                 |                          |                       |
|-------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB          | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%        | QPSK       | 5               | 23755   | 706.5           | 4.514                    | 4.962                 |
|             |            |                 | 23790   | 710             | 4.521                    | 4.959                 |
|             |            |                 | 23825   | 713.5           | 4.509                    | 4.955                 |
|             |            | 10              | 23780   | 709             | 9.002                    | 9.772                 |
|             |            |                 | 23790   | 710             | 8.990                    | 9.878                 |
|             |            |                 | 23800   | 711             | 8.982                    | 9.864                 |
|             | 16QAM      | 5               | 23755   | 706.5           | 4.511                    | 4.946                 |
|             |            |                 | 23790   | 710             | 4.504                    | 4.963                 |
|             |            |                 | 23825   | 713.5           | 4.515                    | 4.964                 |
|             |            | 10              | 23780   | 709             | 8.985                    | 9.841                 |
|             |            |                 | 23790   | 710             | 8.982                    | 9.831                 |



|  |       |    |       |       |       |       |
|--|-------|----|-------|-------|-------|-------|
|  | 64QAM | 5  | 23800 | 711   | 8.983 | 9.821 |
|  |       |    | 23755 | 706.5 | 4.501 | 4.919 |
|  |       |    | 23790 | 710   | 4.522 | 4.986 |
|  |       | 10 | 23825 | 713.5 | 4.509 | 4.985 |
|  |       |    | 23780 | 709   | 9.015 | 9.871 |
|  |       |    | 23790 | 710   | 8.984 | 9.837 |
|  |       |    | 23800 | 711   | 9.001 | 9.860 |

| LTE Band 38 |            |                 |         |                 |                          |                       |
|-------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB          | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%        | QPSK       | 5               | 37775   | 2572.5          | 4.510                    | 4.938                 |
|             |            |                 | 38000   | 2595            | 4.511                    | 4.924                 |
|             |            |                 | 38225   | 2617.5          | 4.503                    | 4.900                 |
|             |            | 10              | 37800   | 2575            | 9.018                    | 9.825                 |
|             |            |                 | 38000   | 2595            | 8.979                    | 9.741                 |
|             |            |                 | 38200   | 2615            | 9.020                    | 10.050                |
|             |            | 15              | 37825   | 2577.5          | 13.477                   | 15.048                |
|             |            |                 | 38000   | 2595            | 13.441                   | 14.888                |
|             |            |                 | 38175   | 2612.5          | 13.448                   | 15.162                |
|             |            | 20              | 37850   | 2580            | 18.041                   | 19.696                |
|             |            |                 | 38000   | 2595            | 18.009                   | 19.299                |
|             |            |                 | 38150   | 2610            | 17.942                   | 19.520                |
|             | 16QAM      | 5               | 37775   | 2572.5          | 4.506                    | 4.939                 |
|             |            |                 | 38000   | 2595            | 4.491                    | 4.970                 |
|             |            |                 | 38225   | 2617.5          | 4.507                    | 4.946                 |
|             |            | 10              | 37800   | 2575            | 8.993                    | 9.876                 |
|             |            |                 | 38000   | 2595            | 8.955                    | 9.805                 |
|             |            |                 | 38200   | 2615            | 9.021                    | 9.715                 |
|             |            | 15              | 37825   | 2577.5          | 13.492                   | 14.560                |
|             |            |                 | 38000   | 2595            | 13.499                   | 14.818                |
|             |            |                 | 38175   | 2612.5          | 13.473                   | 14.877                |
|             |            | 20              | 37850   | 2580            | 18.032                   | 19.462                |
|             |            |                 | 38000   | 2595            | 17.951                   | 19.668                |
|             |            |                 | 38150   | 2610            | 17.978                   | 19.493                |
|             | 64QAM      | 5               | 37775   | 2572.5          | 4.499                    | 5.015                 |
|             |            |                 | 38000   | 2595            | 4.500                    | 4.948                 |
|             |            |                 | 38225   | 2617.5          | 4.504                    | 4.887                 |
|             |            | 10              | 37800   | 2575            | 8.996                    | 9.890                 |
|             |            |                 | 38000   | 2595            | 8.992                    | 9.730                 |



|  |  |    |       |        |        |        |
|--|--|----|-------|--------|--------|--------|
|  |  |    | 38200 | 2615   | 8.995  | 9.768  |
|  |  | 15 | 37825 | 2577.5 | 13.464 | 14.695 |
|  |  |    | 38000 | 2595   | 13.493 | 14.643 |
|  |  |    | 38175 | 2612.5 | 13.465 | 14.749 |
|  |  |    | 37850 | 2580   | 17.977 | 19.646 |
|  |  | 20 | 38000 | 2595   | 17.994 | 19.552 |
|  |  |    | 38150 | 2610   | 17.931 | 19.443 |

| LTE Band 66 |            |                 |         |                 |                          |                       |
|-------------|------------|-----------------|---------|-----------------|--------------------------|-----------------------|
| RB          | Modulation | Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Power Bandwidth(MHz) | -26dBc Bandwidth(MHz) |
| 100%        | QPSK       | 1.4             | 131979  | 1710.7          | 1.091                    | 1.240                 |
|             |            |                 | 132322  | 1745            | 1.100                    | 1.257                 |
|             |            |                 | 132665  | 1779.3          | 1.098                    | 1.248                 |
|             |            | 3               | 131987  | 1711.5          | 2.720                    | 3.036                 |
|             |            |                 | 132322  | 1745            | 2.707                    | 3.049                 |
|             |            |                 | 132657  | 1778.5          | 2.711                    | 3.050                 |
|             |            | 5               | 131997  | 1712.5          | 4.508                    | 4.954                 |
|             |            |                 | 132322  | 1745            | 4.502                    | 4.934                 |
|             |            |                 | 132647  | 1777.5          | 4.519                    | 4.940                 |
|             |            | 10              | 132022  | 1715            | 8.989                    | 9.802                 |
|             |            |                 | 132322  | 1745            | 9.020                    | 9.799                 |
|             |            |                 | 132622  | 1775            | 9.017                    | 9.867                 |
|             |            | 15              | 132047  | 1717.5          | 13.482                   | 14.717                |
|             |            |                 | 132322  | 1745            | 13.468                   | 14.844                |
|             |            |                 | 132597  | 1772.5          | 13.475                   | 14.776                |
|             |            | 20              | 132072  | 1720            | 17.973                   | 19.534                |
|             |            |                 | 132322  | 1745            | 18.029                   | 19.603                |
|             |            |                 | 132572  | 1770            | 17.950                   | 19.647                |
|             | 16QAM      | 1.4             | 131979  | 1710.7          | 1.106                    | 1.245                 |
|             |            |                 | 132322  | 1745            | 1.093                    | 1.248                 |
|             |            |                 | 132665  | 1779.3          | 1.102                    | 1.250                 |
|             |            | 3               | 131987  | 1711.5          | 2.701                    | 3.006                 |
|             |            |                 | 132322  | 1745            | 2.708                    | 3.030                 |
|             |            |                 | 132657  | 1778.5          | 2.710                    | 3.044                 |
|             |            | 5               | 131997  | 1712.5          | 4.518                    | 4.937                 |
|             |            |                 | 132322  | 1745            | 4.549                    | 4.972                 |
|             |            |                 | 132647  | 1777.5          | 4.516                    | 4.940                 |
|             |            | 10              | 132022  | 1715            | 8.996                    | 9.795                 |
|             |            |                 | 132322  | 1745            | 9.012                    | 9.769                 |



|  |       |     |        |        |        |        |
|--|-------|-----|--------|--------|--------|--------|
|  |       | 15  | 132622 | 1775   | 8.990  | 9.867  |
|  |       |     | 132047 | 1717.5 | 13.440 | 14.794 |
|  |       |     | 132322 | 1745   | 13.479 | 14.837 |
|  |       |     | 132597 | 1772.5 | 13.499 | 14.720 |
|  |       | 20  | 132072 | 1720   | 17.944 | 19.530 |
|  |       |     | 132322 | 1745   | 18.049 | 19.792 |
|  |       |     | 132572 | 1770   | 17.993 | 19.454 |
|  | 64QAM | 1.4 | 131979 | 1710.7 | 1.101  | 1.254  |
|  |       |     | 132322 | 1745   | 1.097  | 1.251  |
|  |       |     | 132665 | 1779.3 | 1.094  | 1.257  |
|  |       | 3   | 131987 | 1711.5 | 2.703  | 3.044  |
|  |       |     | 132322 | 1745   | 2.704  | 3.038  |
|  |       |     | 132657 | 1778.5 | 2.703  | 3.028  |
|  |       | 5   | 131997 | 1712.5 | 4.494  | 4.921  |
|  |       |     | 132322 | 1745   | 4.524  | 4.969  |
|  |       |     | 132647 | 1777.5 | 4.507  | 4.967  |
|  |       | 10  | 132022 | 1715   | 8.991  | 9.912  |
|  |       |     | 132322 | 1745   | 9.008  | 9.823  |
|  |       |     | 132622 | 1775   | 9.002  | 9.831  |
|  |       | 15  | 132047 | 1717.5 | 13.460 | 14.749 |
|  |       |     | 132322 | 1745   | 13.484 | 14.875 |
|  |       |     | 132597 | 1772.5 | 13.477 | 14.675 |
|  |       | 20  | 132072 | 1720   | 17.955 | 19.537 |
|  |       |     | 132322 | 1745   | 17.995 | 19.867 |
|  |       |     | 132572 | 1770   | 18.013 | 19.755 |



## WCDMA Band IV CH-Low



## WCDMA Band IV CH Middle

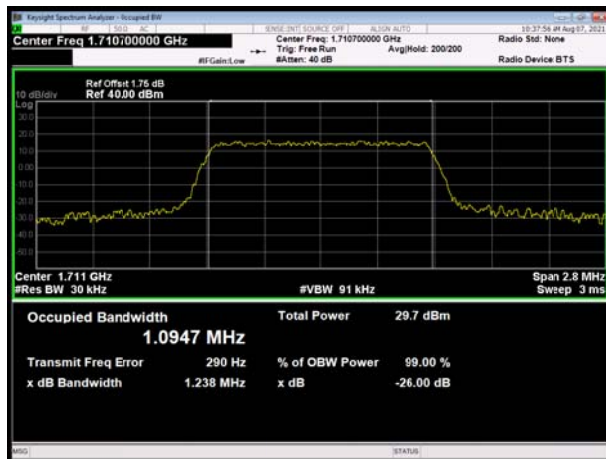


## WCDMA Band IV CH High

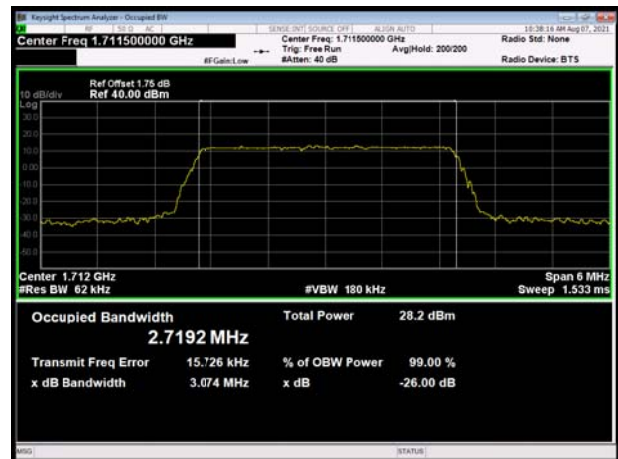




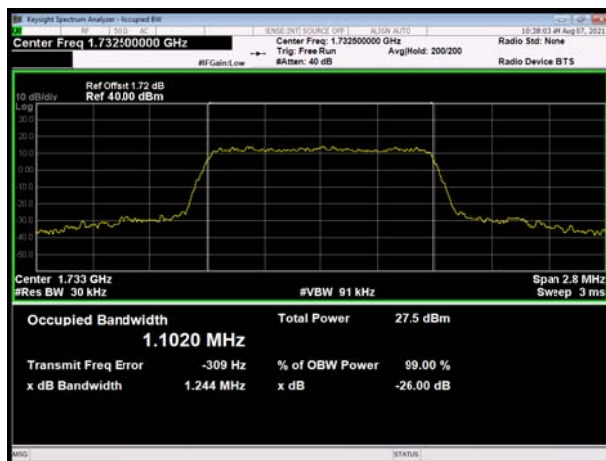
## LTE Band 4 QPSK 1.4MHz CH-Low



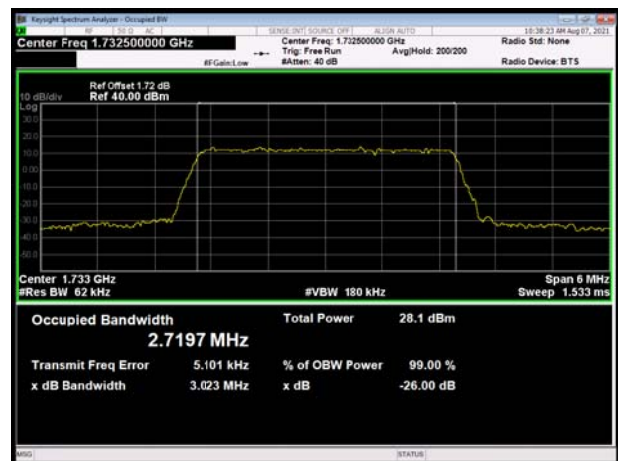
## LTE Band 4 QPSK 3MHz CH-Low



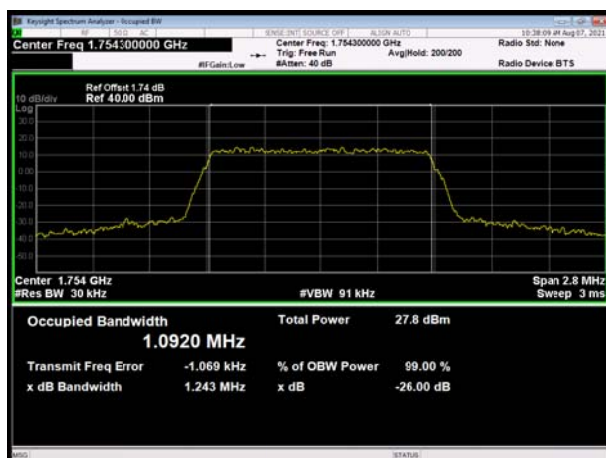
## LTE Band 4 QPSK 1.4MHz CH-Middle



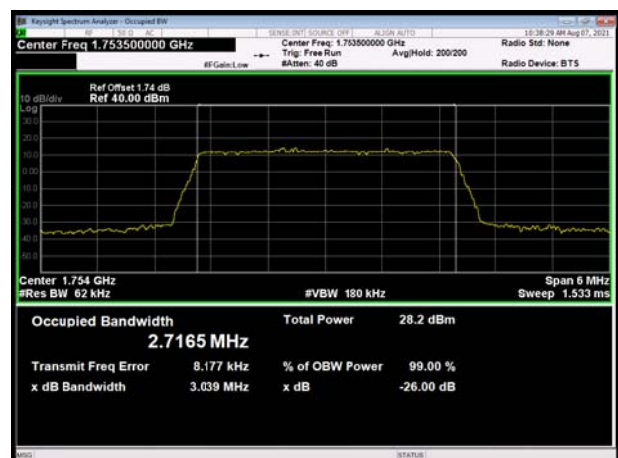
## LTE Band 4 QPSK 3MHz CH-Middle



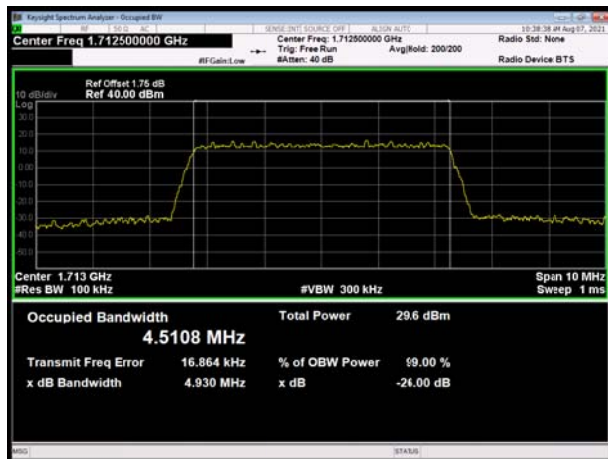
## LTE Band 4 QPSK 1.4MHz CH-High



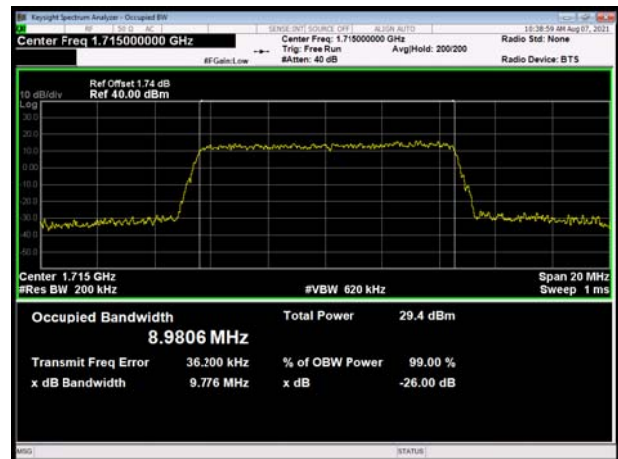
## LTE Band 4 QPSK 3MHz CH-High



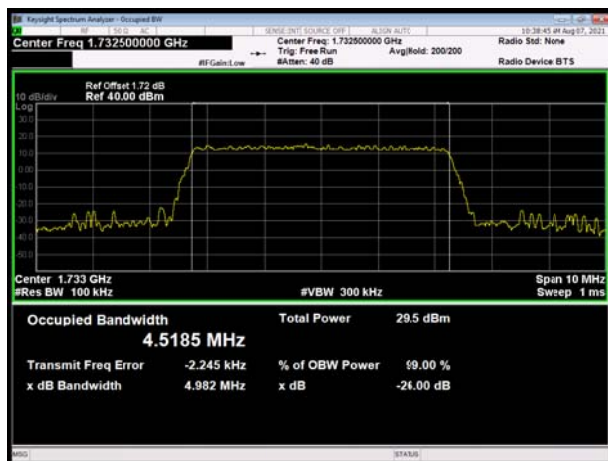
## LTE Band 4 QPSK 5MHz CH-Low



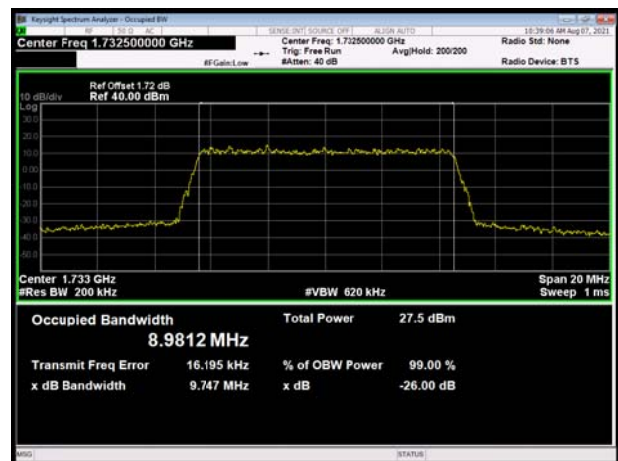
## LTE Band 4 QPSK 10MHz CH-Low



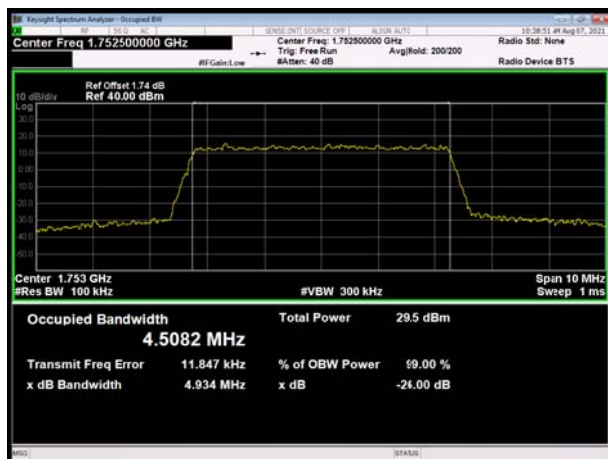
## LTE Band 4 QPSK 5MHz CH-Middle



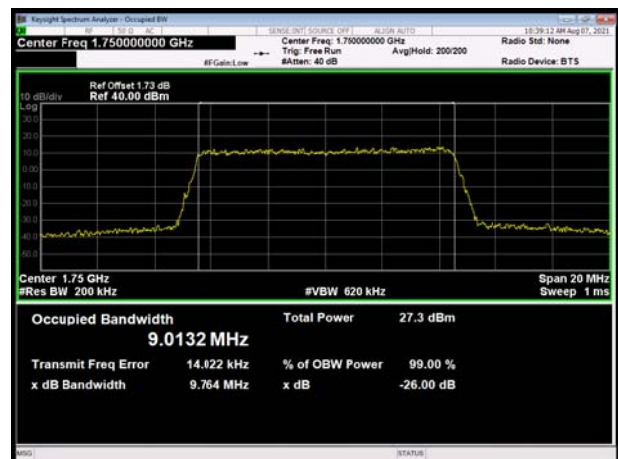
## LTE Band 4 QPSK 10MHz CH-Middle



## LTE Band 4 QPSK 5MHz CH-High

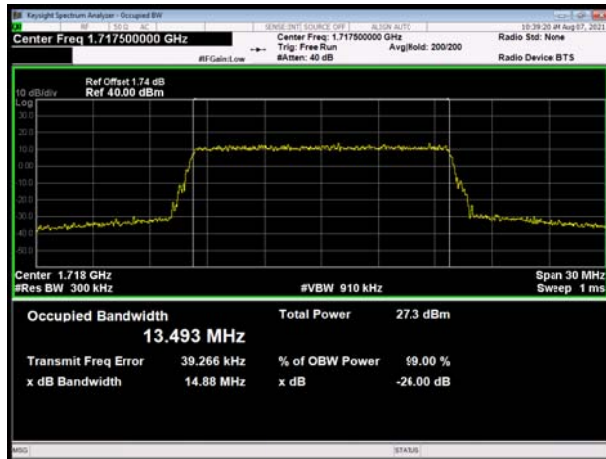


## LTE Band 4 QPSK 10MHz CH-High

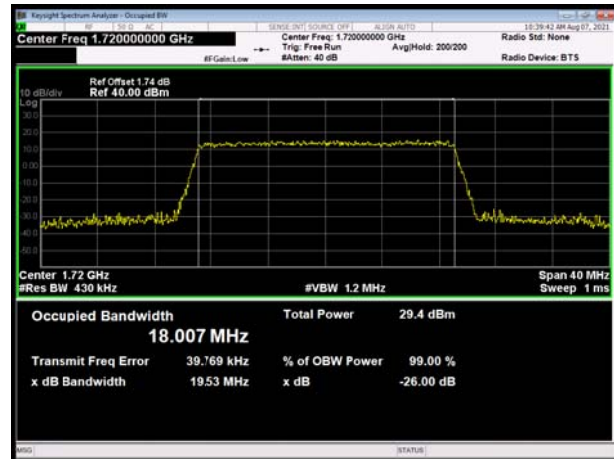




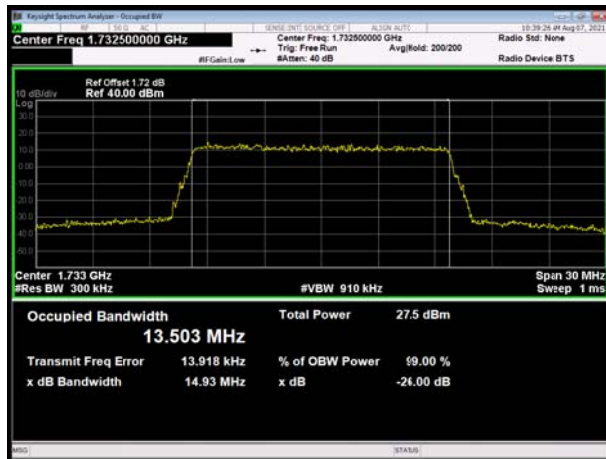
## LTE Band 4 QPSK 15MHz CH-Low



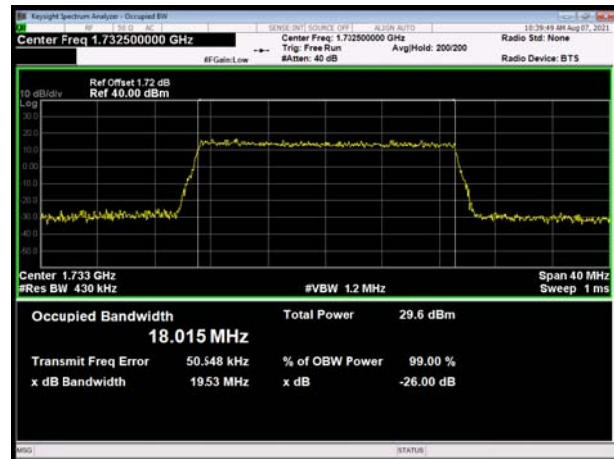
## LTE Band 4 QPSK 20MHz CH-Low



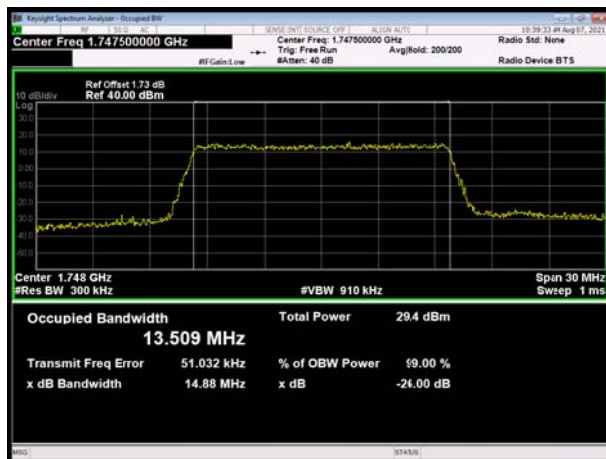
## LTE Band 4 QPSK 15MHz CH-Middle



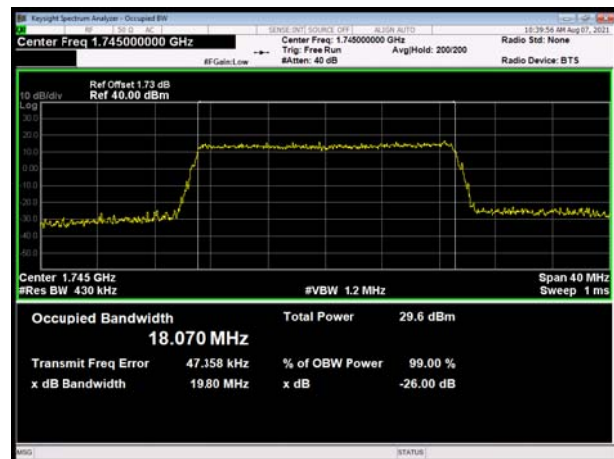
## LTE Band 4 QPSK 20MHz CH-Middle



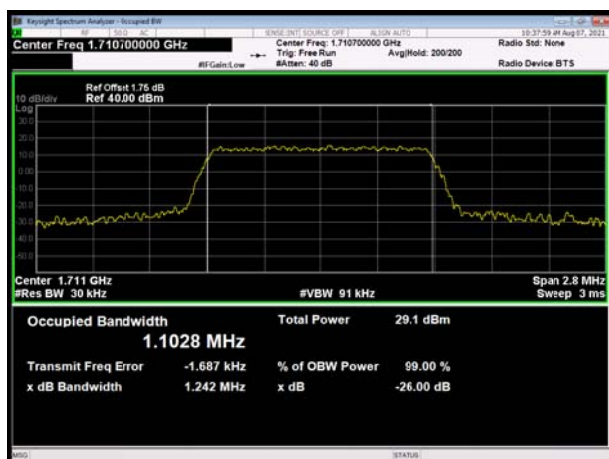
## LTE Band 4 QPSK 15MHz CH-High



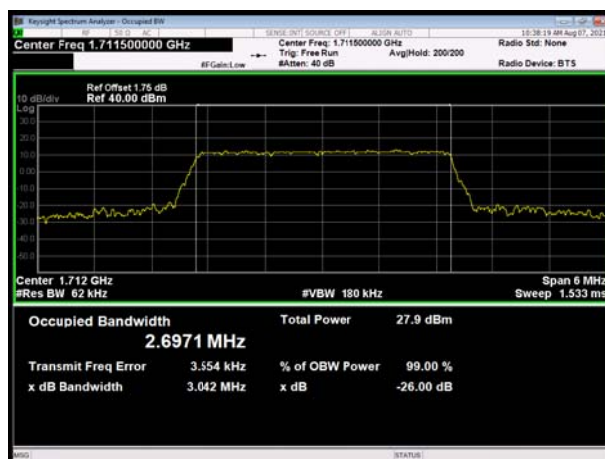
## LTE Band 4 QPSK 20MHz CH-High



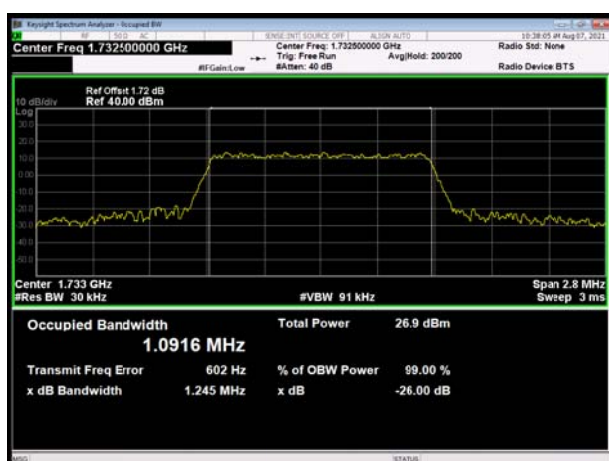
## LTE Band 4 16QAM 1.4MHz CH-Low



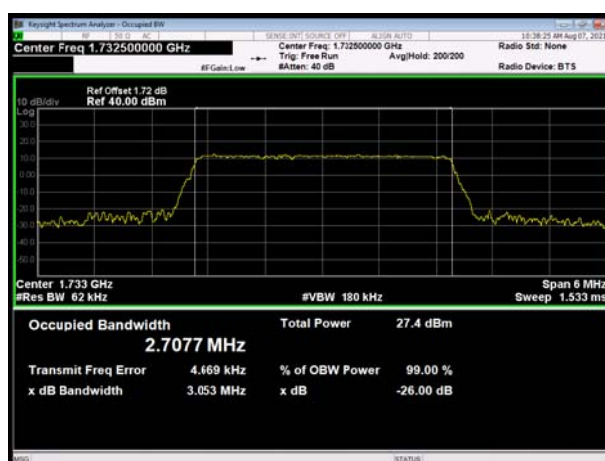
## LTE Band 4 16QAM 3MHz CH-Low



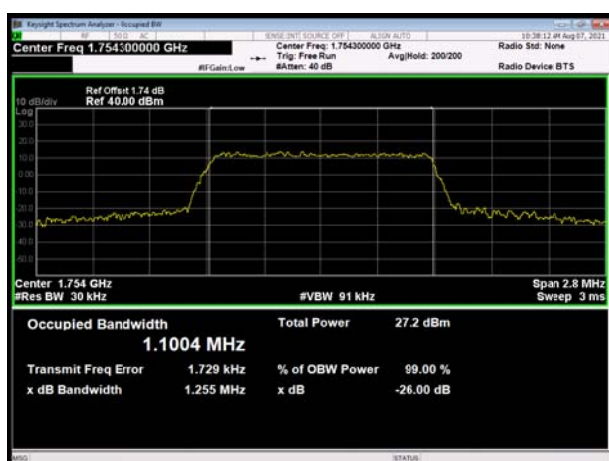
## LTE Band 4 16QAM 1.4MHz CH-Middle



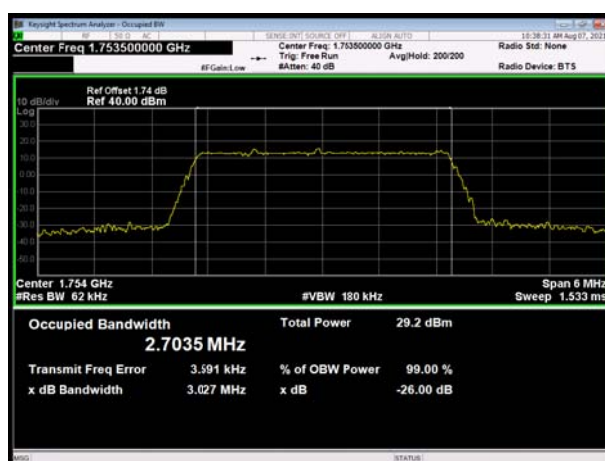
## LTE Band 4 16QAM 3MHz CH-Middle



## LTE Band 4 16QAM 1.4MHz CH-High

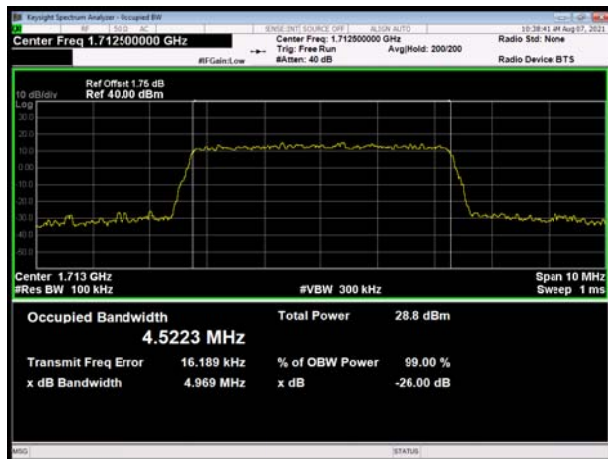


## LTE Band 4 16QAM 3MHz CH-High





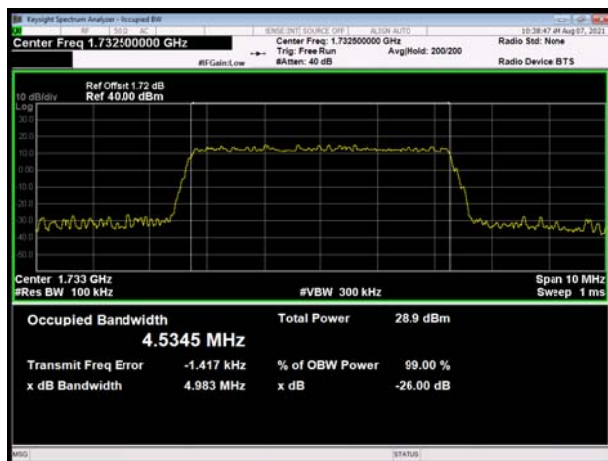
## LTE Band 4 16QAM 5MHz CH-Low



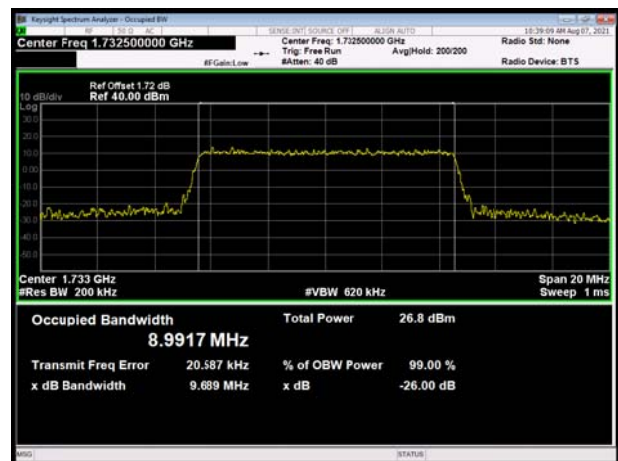
## LTE Band 4 16QAM 10MHz CH-Low



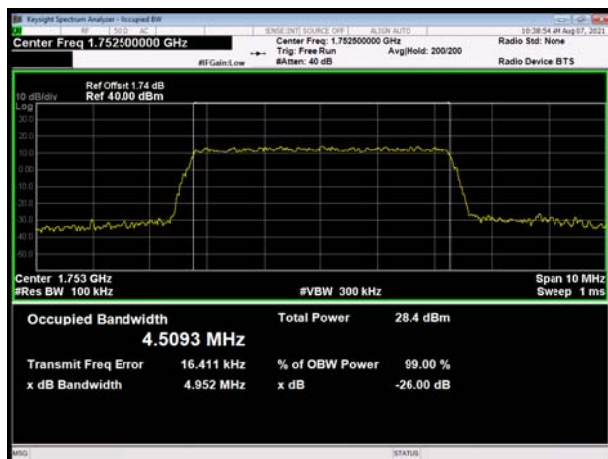
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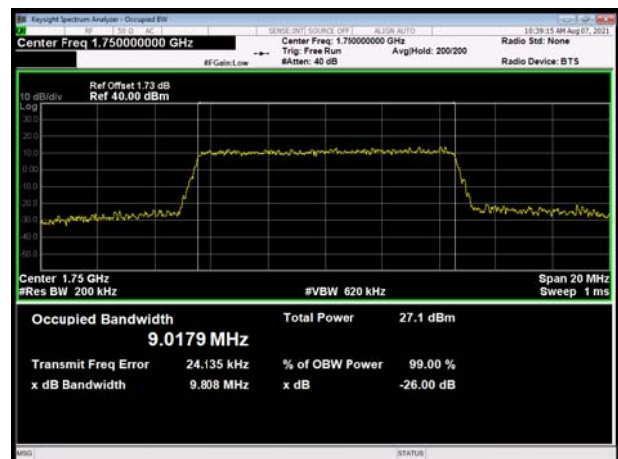
## LTE Band 4 16QAM 10MHz CH-Middle



## LTE Band 4 16QAM 5MHz CH-High

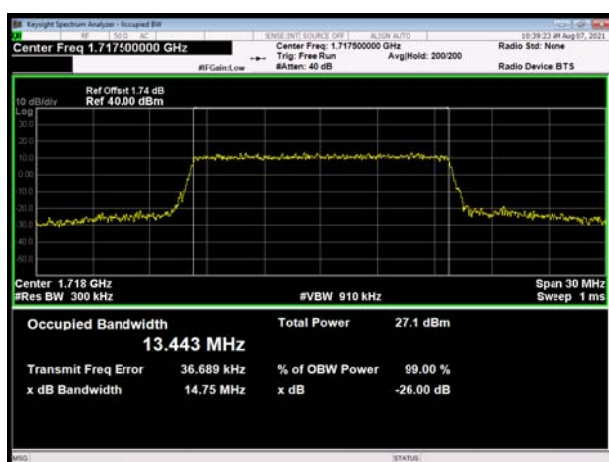


## LTE Band 4 16QAM 10MHz CH-High

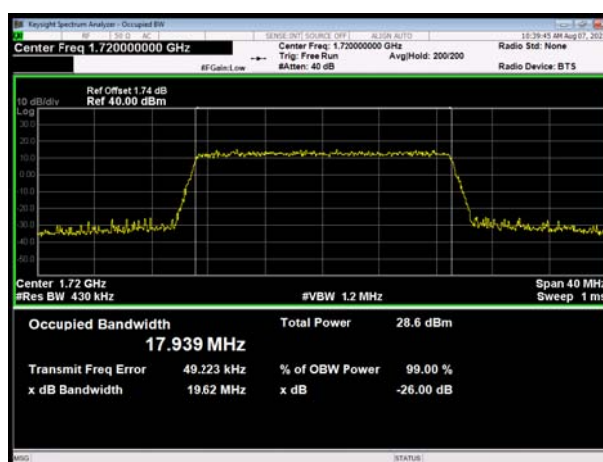




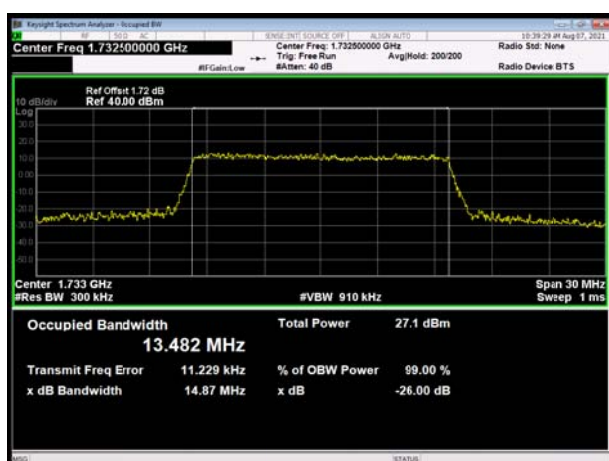
## LTE Band 4 16QAM 15MHz CH-Low



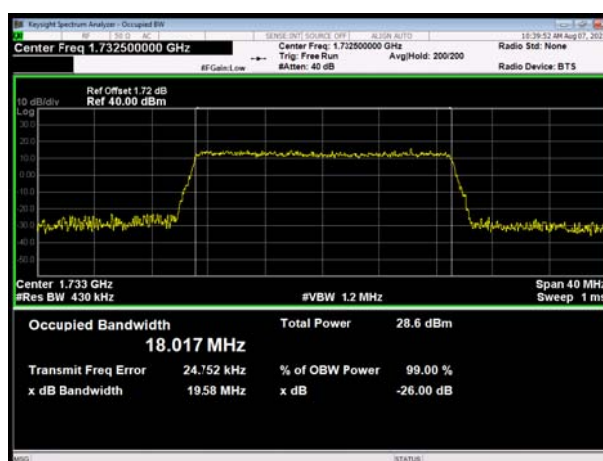
## LTE Band 4 16QAM 20MHz CH-Low



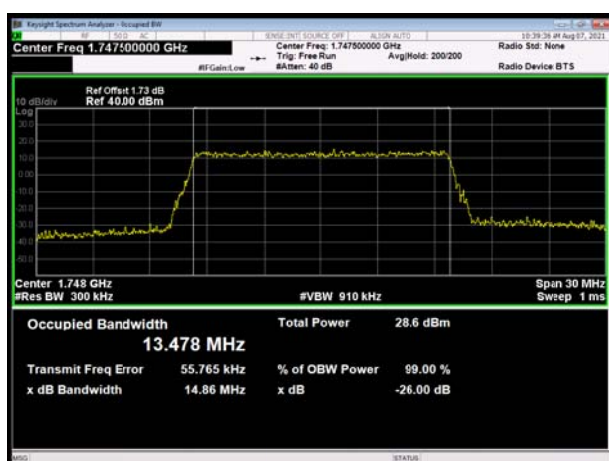
## LTE Band 4 16QAM 15MHz CH-Middle



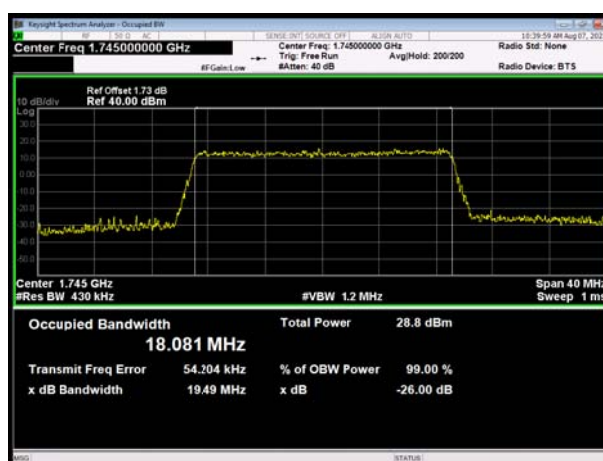
## LTE Band 4 16QAM 20MHz CH-Middle



## LTE Band 4 16QAM 15MHz CH-High

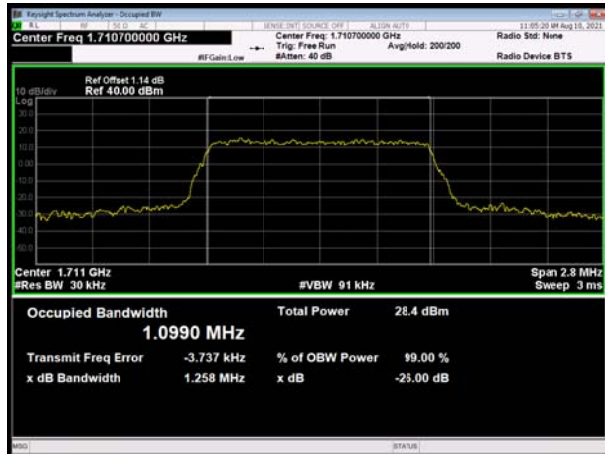


## LTE Band 4 16QAM 20MHz CH-High

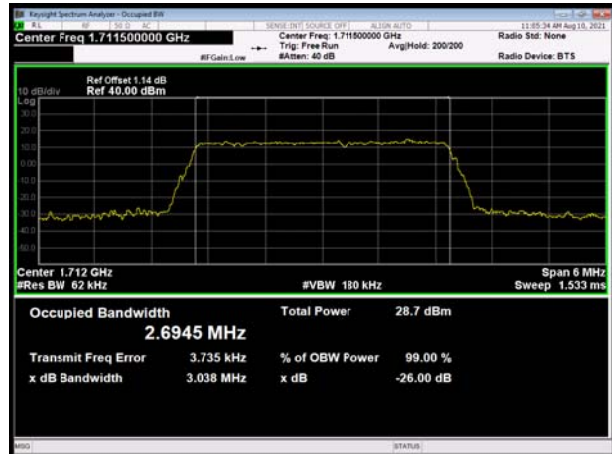




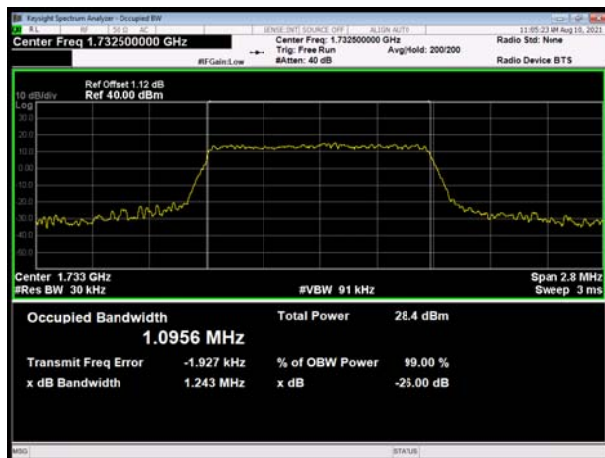
## LTE Band 4 1.4MHz 64QAM CH-Low



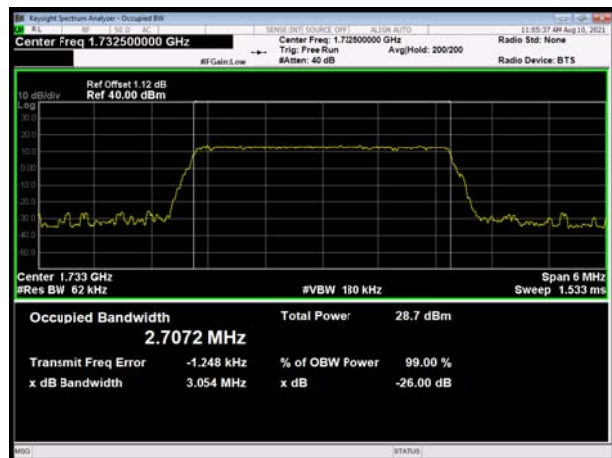
## LTE Band 4 3MHz 64QAM CH-Low



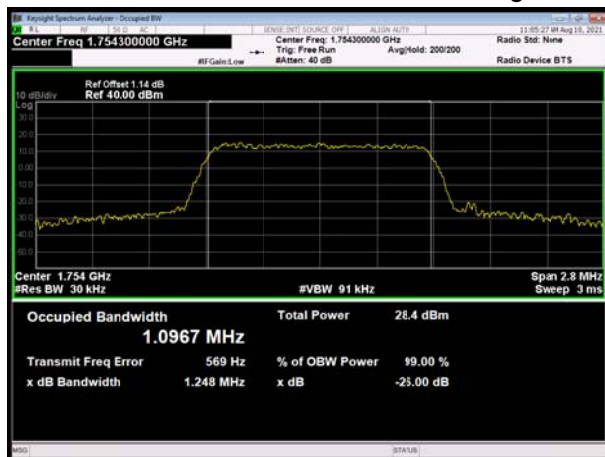
## LTE Band 4 1.4MHz 64QAM CH-Middle



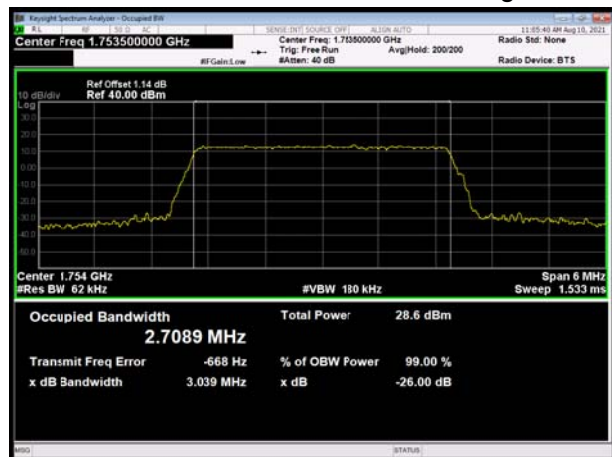
## LTE Band 4 3MHz 64QAM CH-Middle



## LTE Band 4 1.4MHz 64QAM CH-High

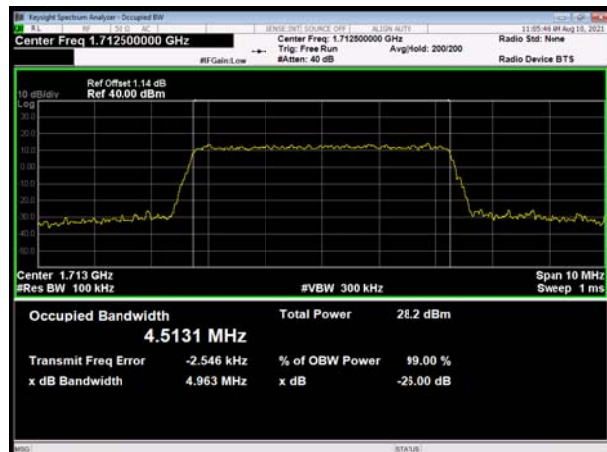


## LTE Band 4 3MHz 64QAM CH-High

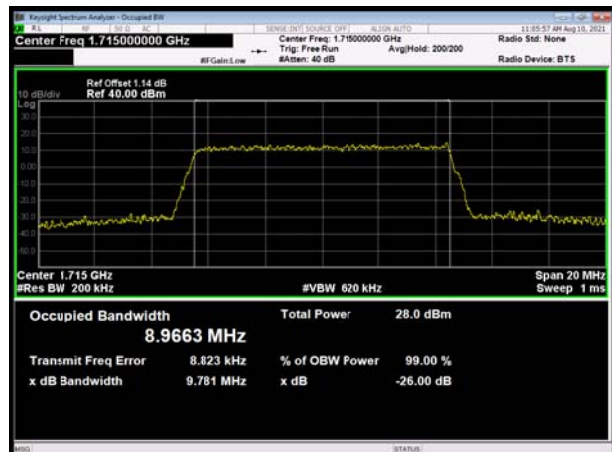




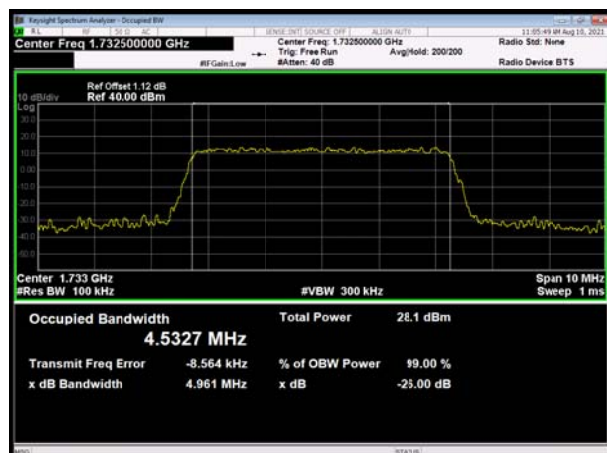
## LTE Band 4 5MHz 64QAM CH-Low



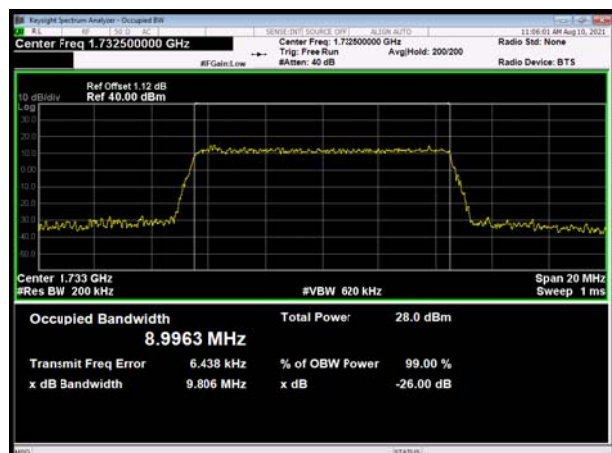
## LTE Band 4 10MHz 64QAM CH-Low



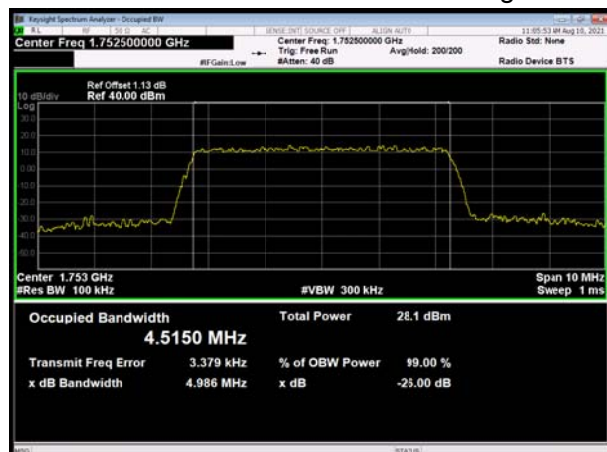
## LTE Band 4 5MHz 64QAM CH-Middle



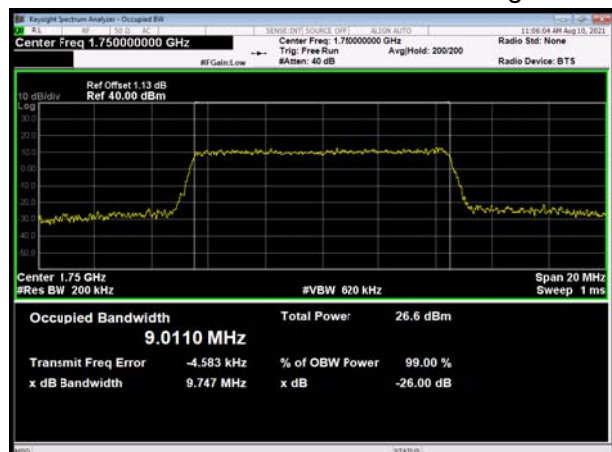
## LTE Band 4 10MHz 64QAM CH-Middle



## LTE Band 4 5MHz 64QAM CH-High

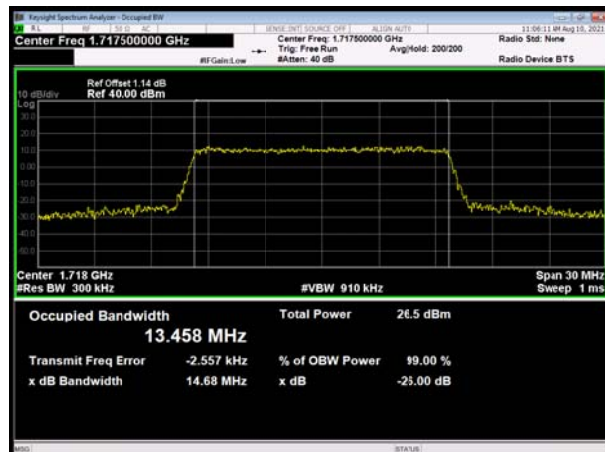


## LTE Band 4 10MHz 64QAM CH-High

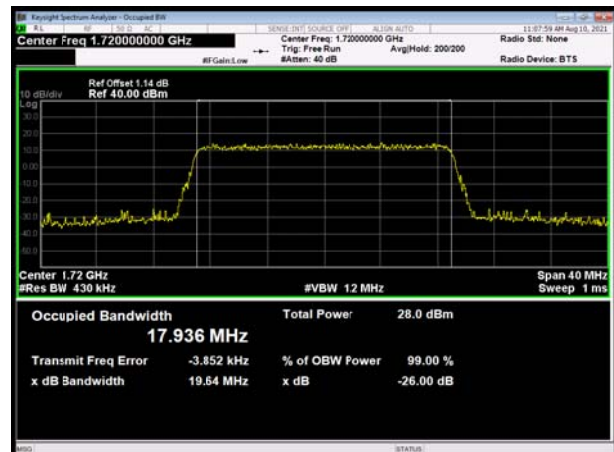




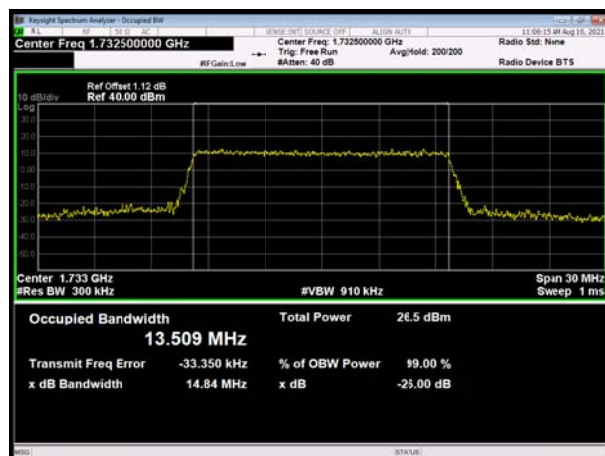
## LTE Band 4 15MHz 64QAM CH-Low



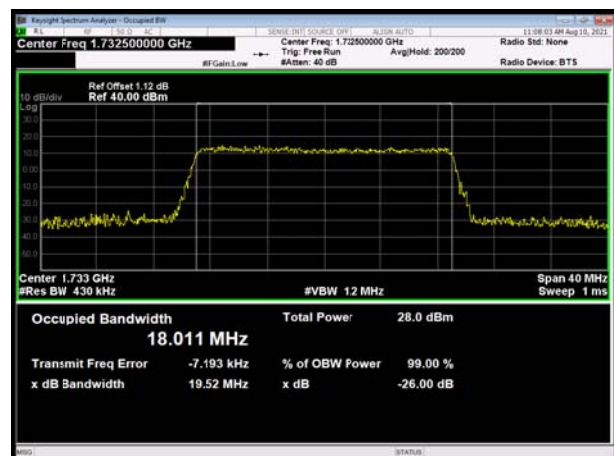
## LTE Band 4 20MHz 64QAM CH-Low



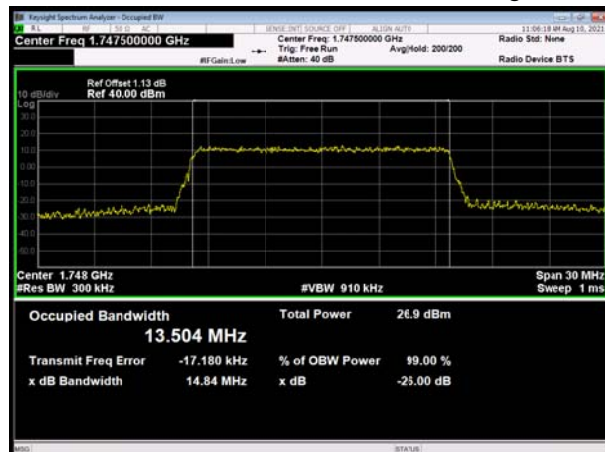
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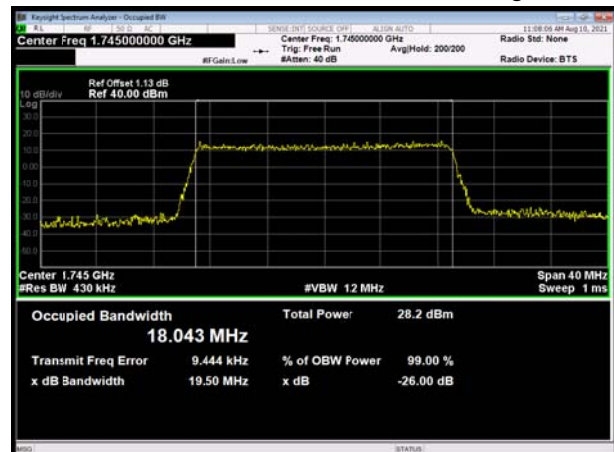
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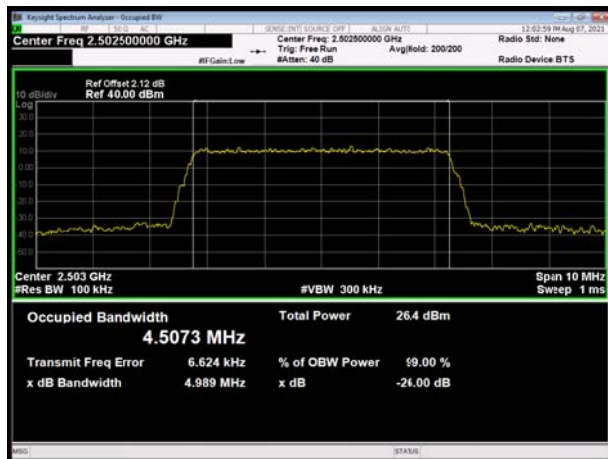
## LTE Band 4 15MHz 64QAM CH-High



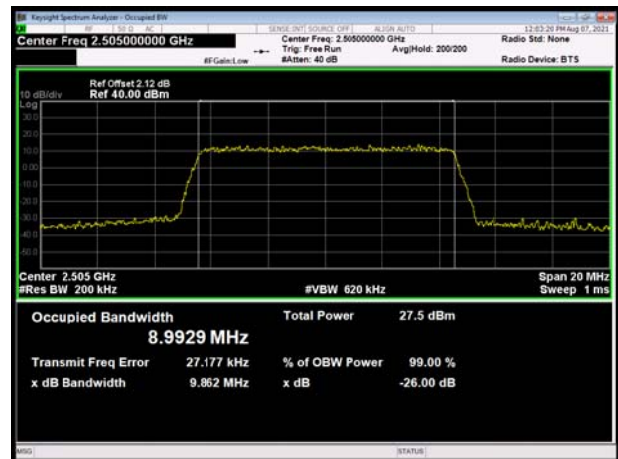
## LTE Band 4 20MHz 64QAM CH-High



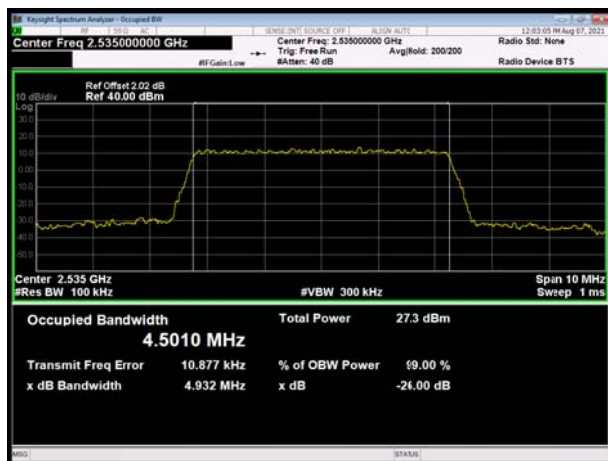
## LTE Band 7 QPSK 5MHz CH-Low



## LTE Band 7 QPSK 10MHz CH-Low



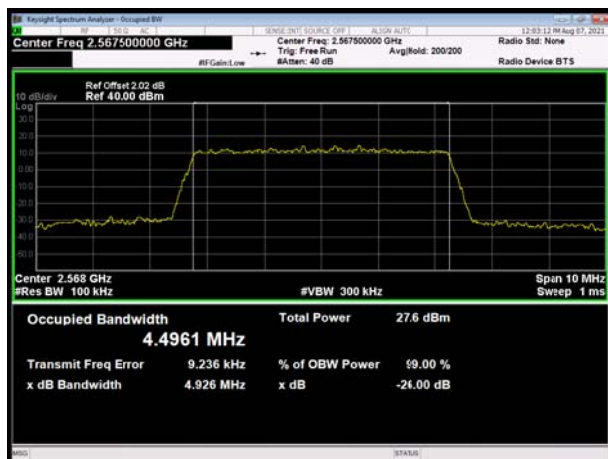
## LTE Band 7 QPSK 5MHz CH-Middle



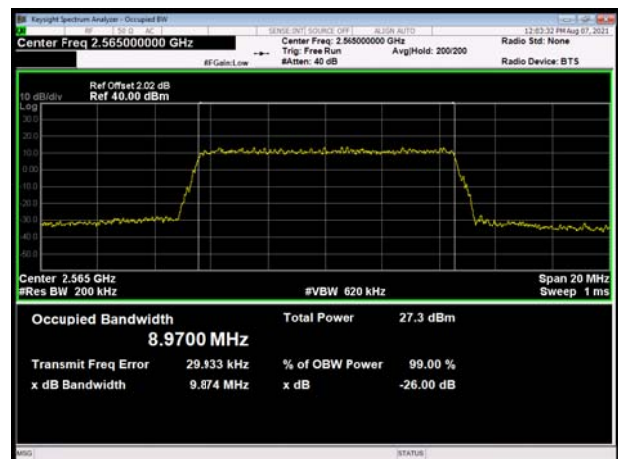
## LTE Band 7 QPSK 10MHz CH-Middle



## LTE Band 7 QPSK 5MHz CH-High

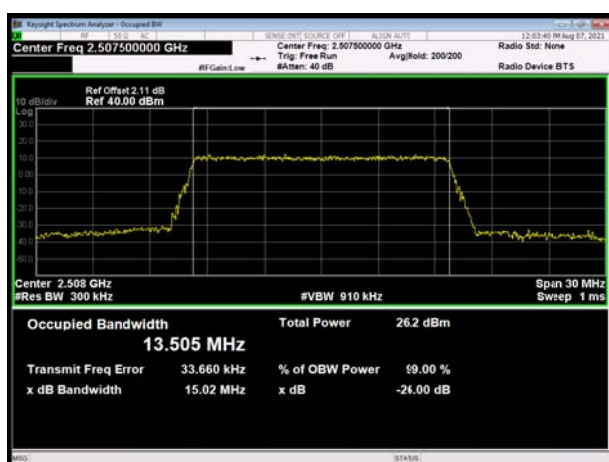


## LTE Band 7 QPSK 10MHz CH-High

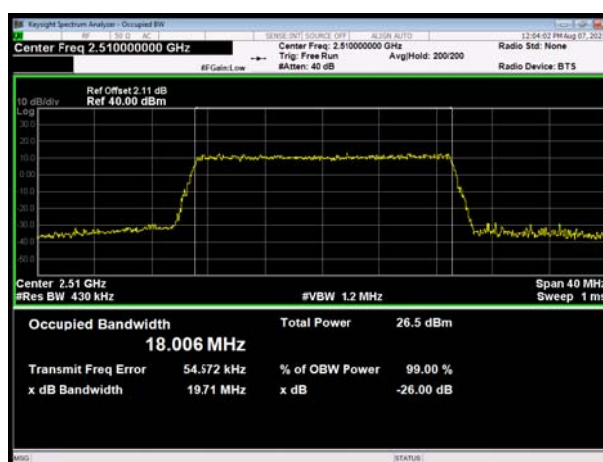




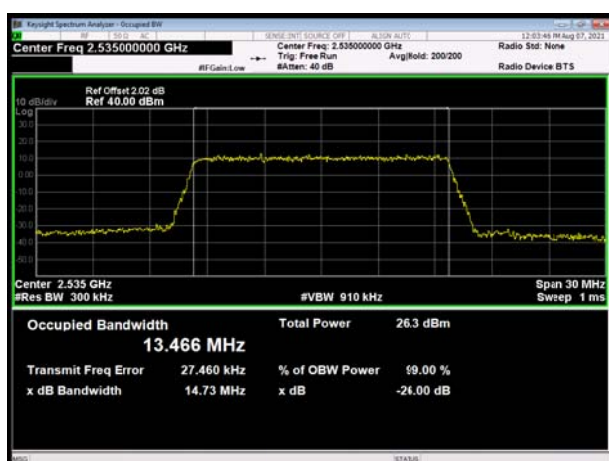
## LTE Band 7 QPSK 15MHz CH-Low



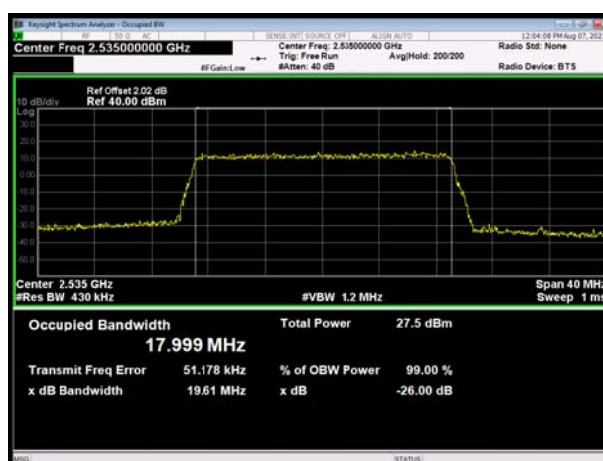
## LTE Band 7 QPSK 20MHz CH-Low



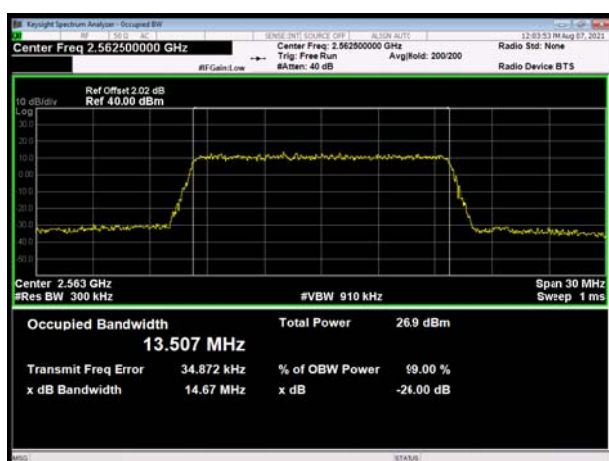
## LTE Band 7 QPSK 15MHz CH-Middle



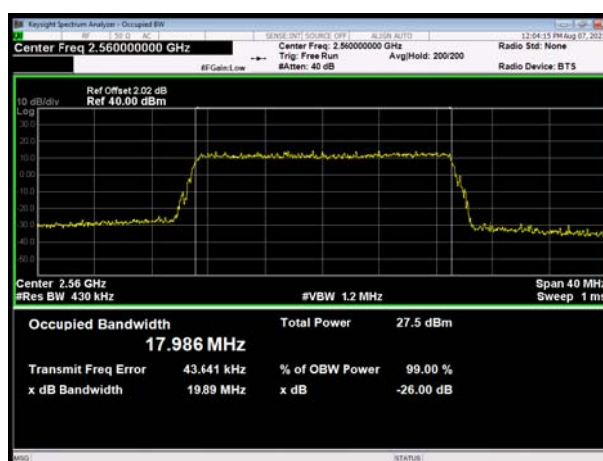
## LTE Band 7 QPSK 20MHz CH-Middle



## LTE Band 7 QPSK 15MHz CH-High



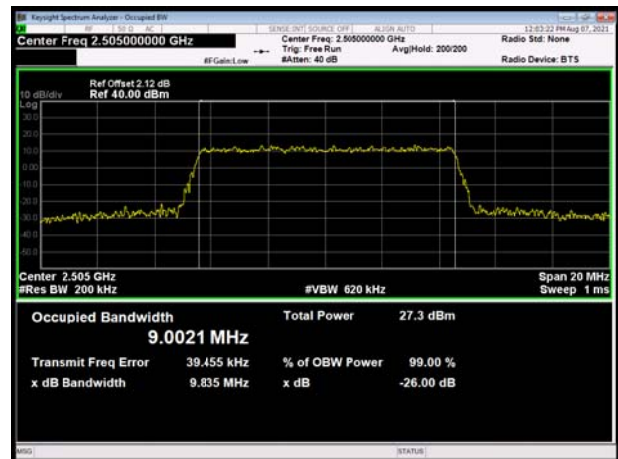
## LTE Band 7 QPSK 20MHz CH-High



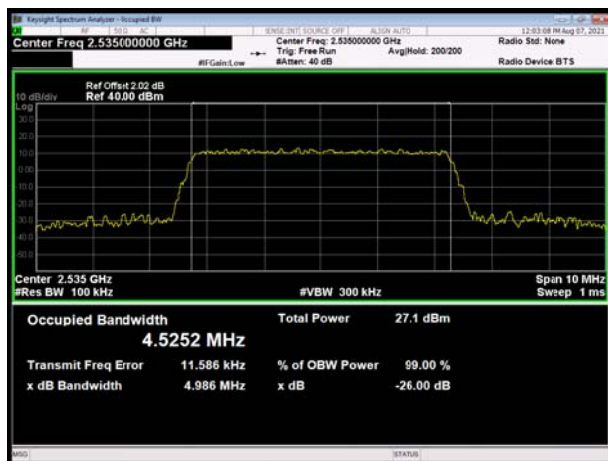
## LTE Band 7 16QAM 5MHz CH-Low



## LTE Band 7 16QAM 10MHz CH-Low



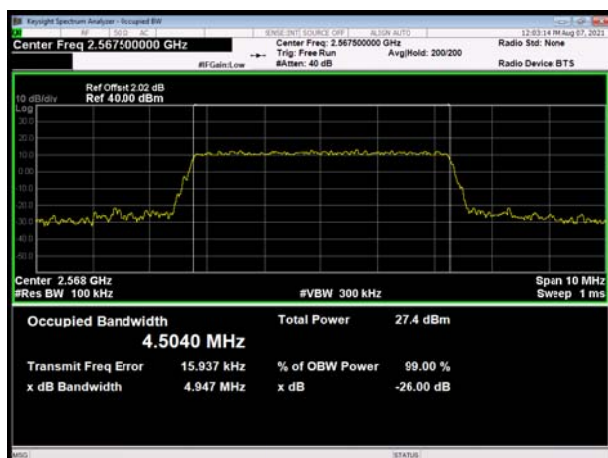
## LTE Band 7 16QAM 5MHz CH-Middle



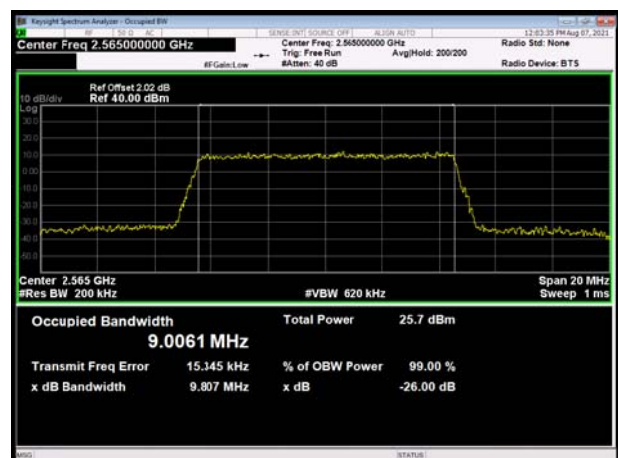
## LTE Band 7 16QAM 10MHz CH-Middle



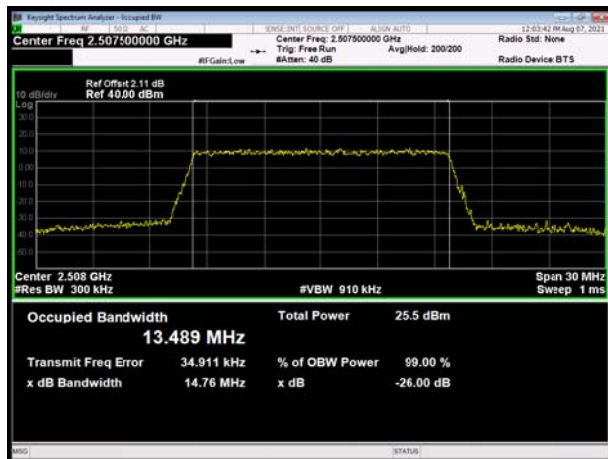
## LTE Band 7 16QAM 5MHz CH-High



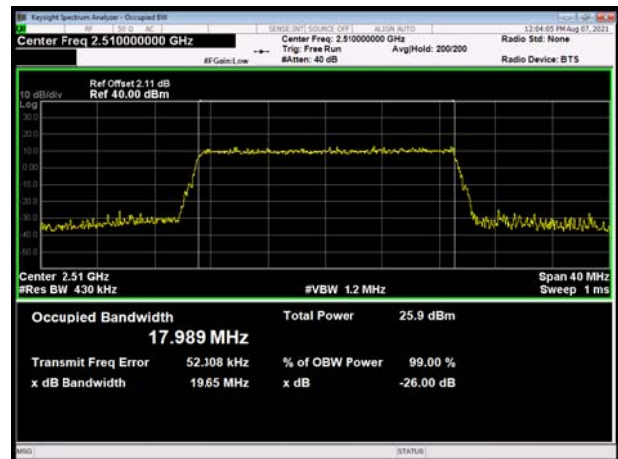
## LTE Band 7 16QAM 10MHz CH-High



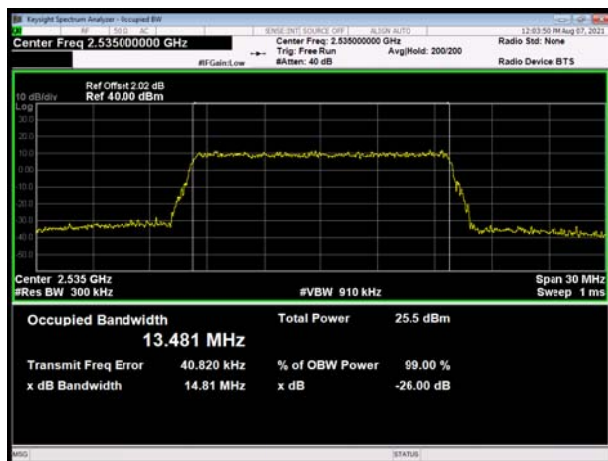
## LTE Band 7 16QAM 15MHz CH-Low



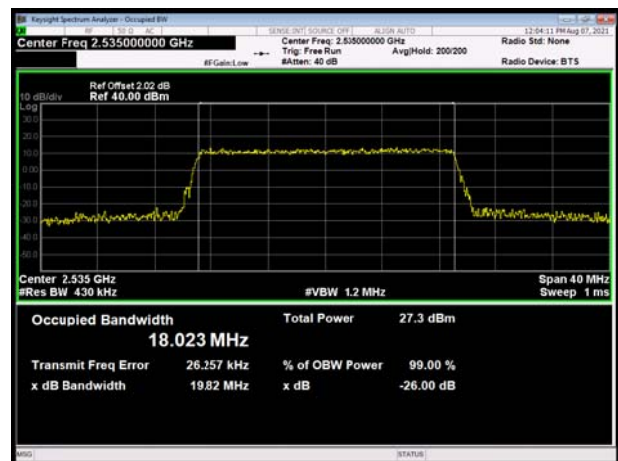
## LTE Band 7 16QAM 20MHz CH-Low



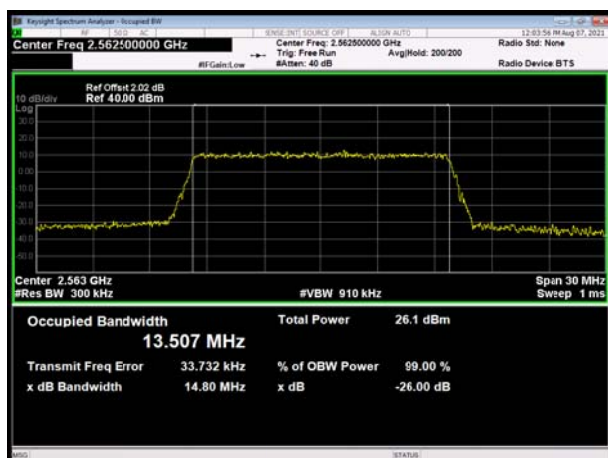
## LTE Band 7 16QAM 15MHz CH-Middle



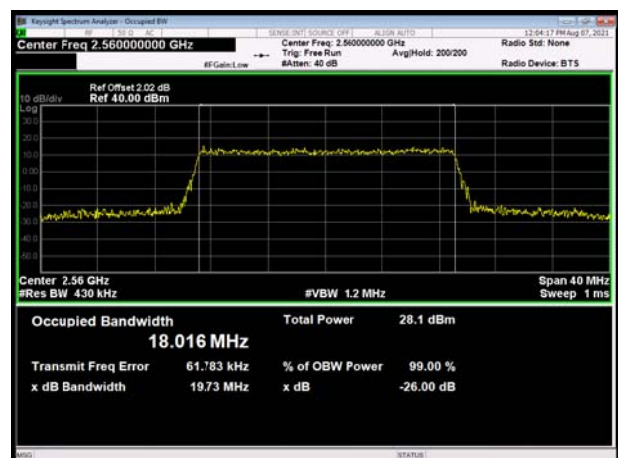
## LTE Band 7 16QAM 20MHz CH-Middle



## LTE Band 7 16QAM 15MHz CH-High

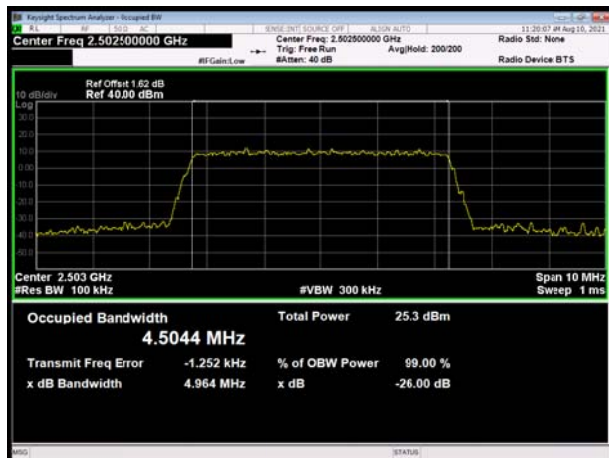


## LTE Band 7 16QAM 20MHz CH-High

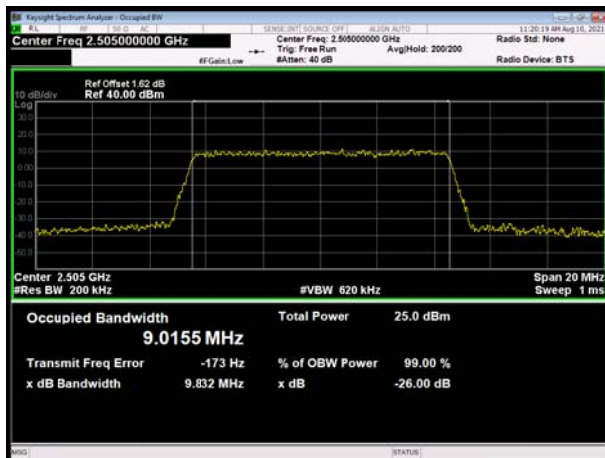




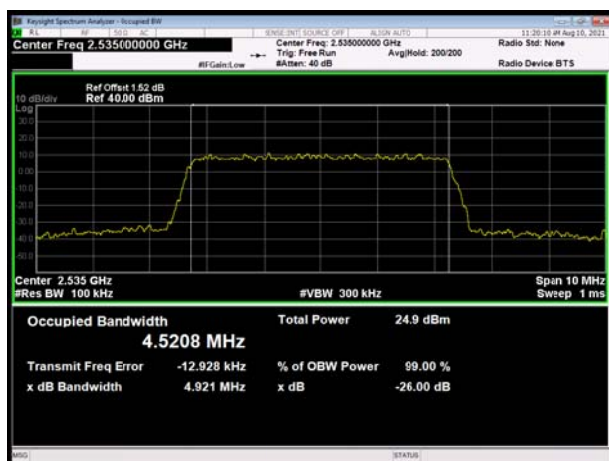
## LTE Band 7 64QAM 5MHz CH-Low



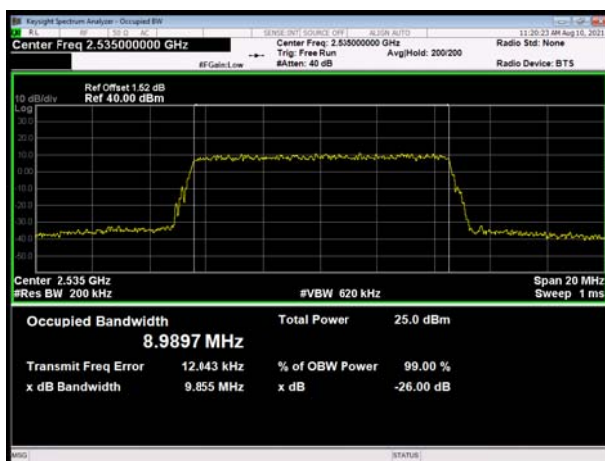
## LTE Band 7 64QAM 10MHz CH-Low



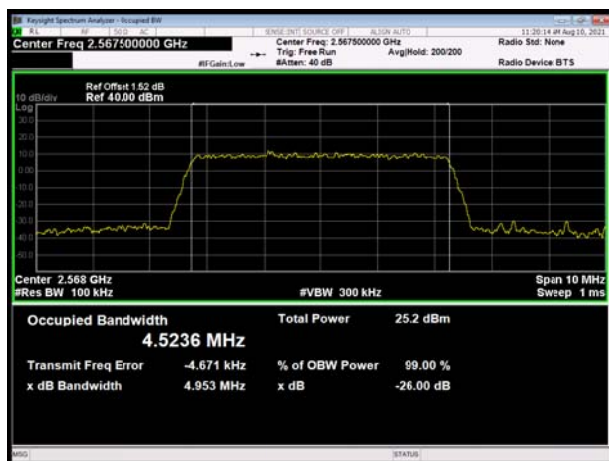
## LTE Band 7 64QAM 5MHz CH-Middle



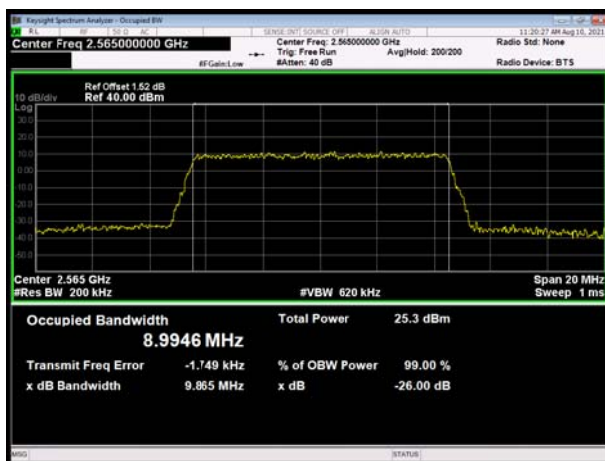
## LTE Band 7 64QAM 10MHz CH-Middle



## LTE Band 7 64QAM 5MHz CH-High

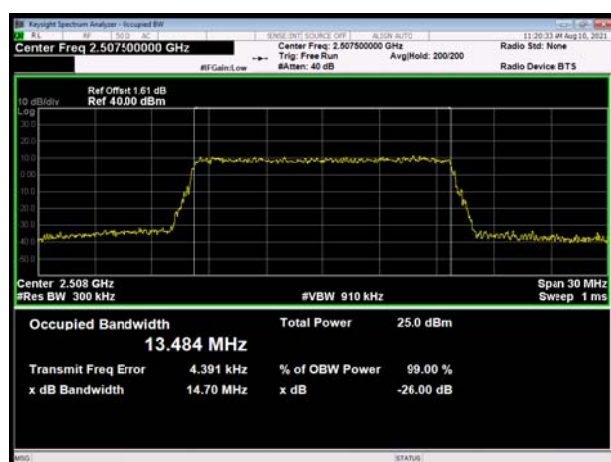


## LTE Band 7 64QAM 10MHz CH-High

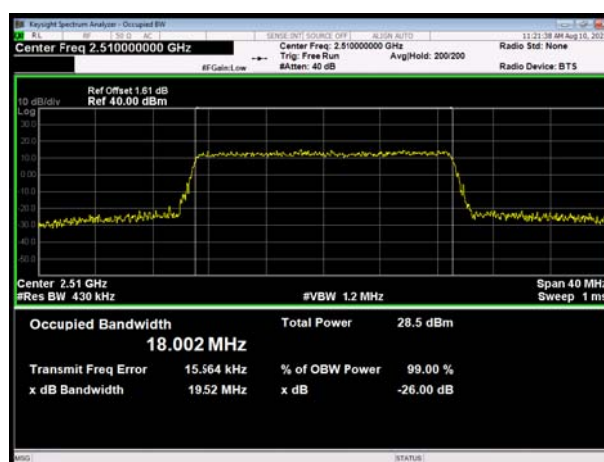




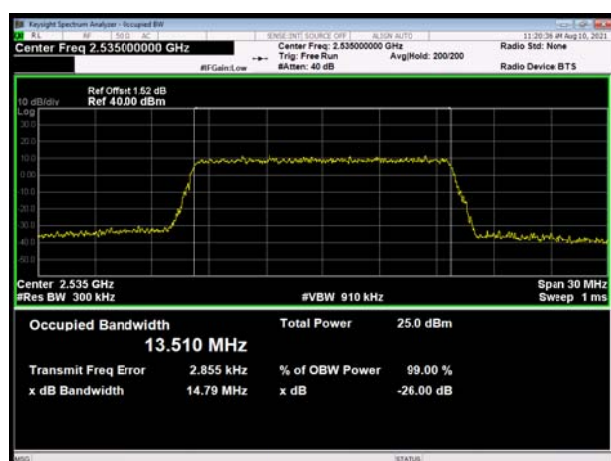
## LTE Band 7 64QAM 15MHz CH-Low



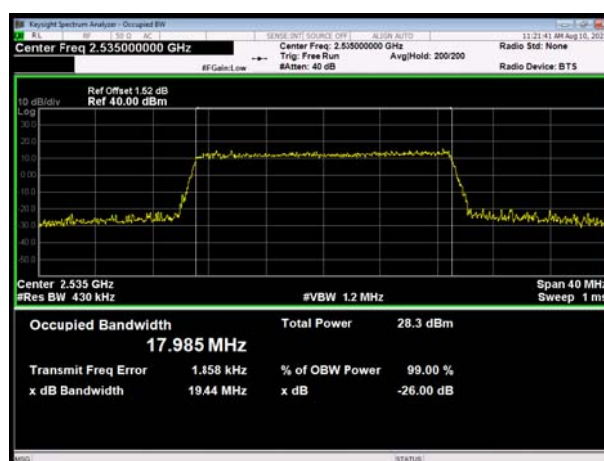
## LTE Band 7 64QAM 20MHz CH-Low



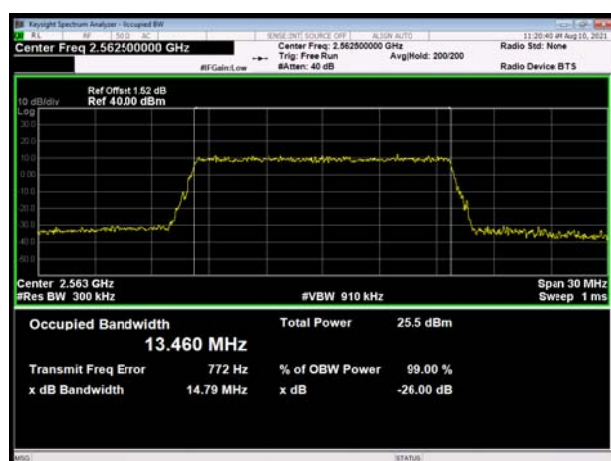
## LTE Band 7 64QAM 15MHz CH-Middle



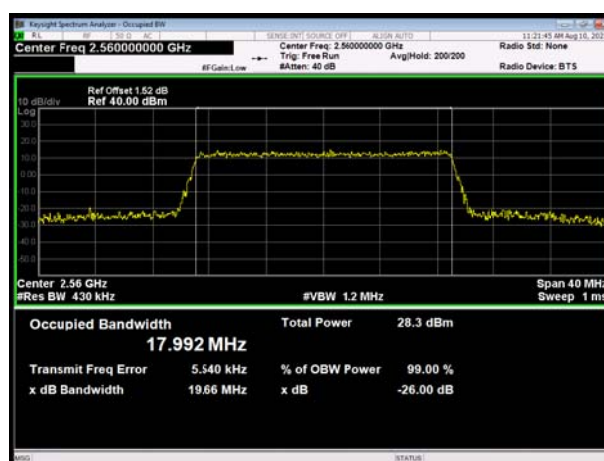
## LTE Band 7 64QAM 20MHz CH-Middle



## LTE Band 7 64QAM 15MHz CH-High

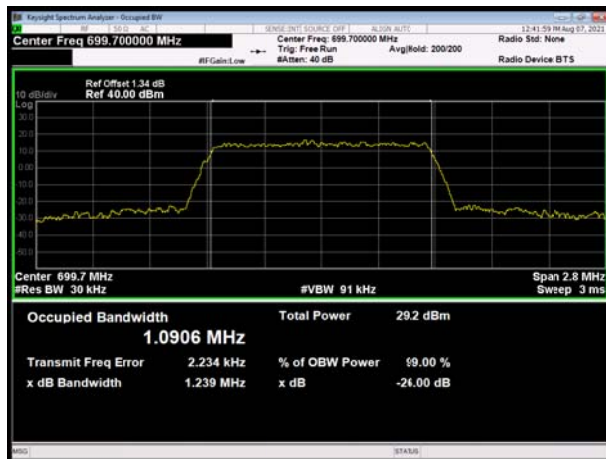


## LTE Band 7 64QAM 20MHz CH-High





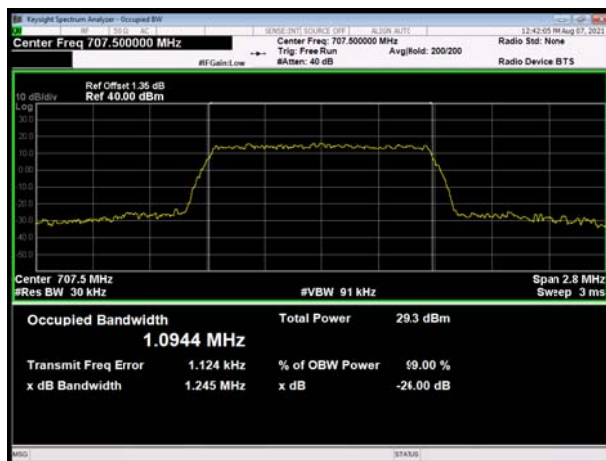
## LTE Band 12 QPSK 1.4MHz CH-Low



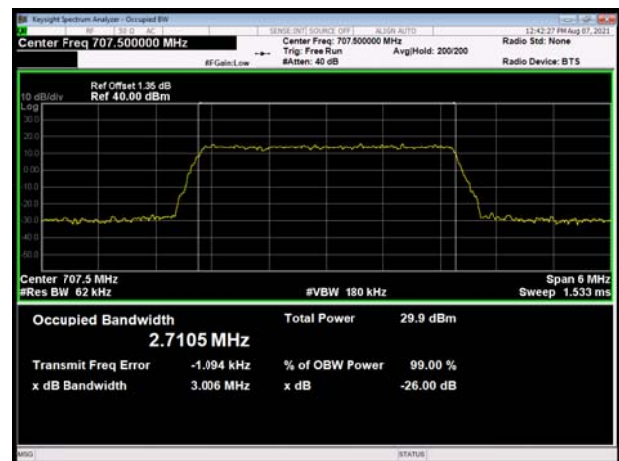
## LTE Band 12 QPSK 3MHz CH-Low



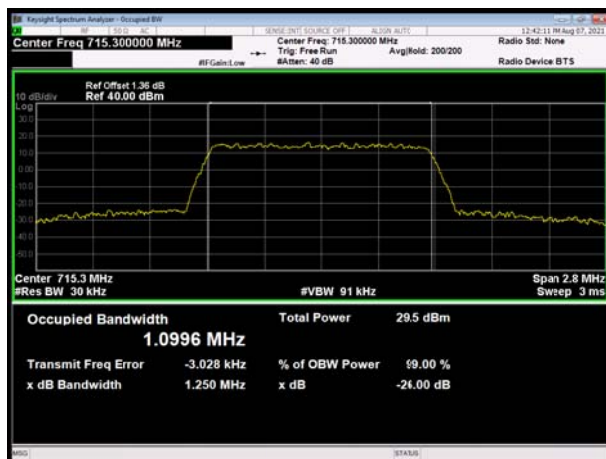
## LTE Band 12 QPSK 1.4MHz CH-Middle



## LTE Band 12 QPSK 3MHz CH-Middle



## LTE Band 12 QPSK 1.4MHz CH-High

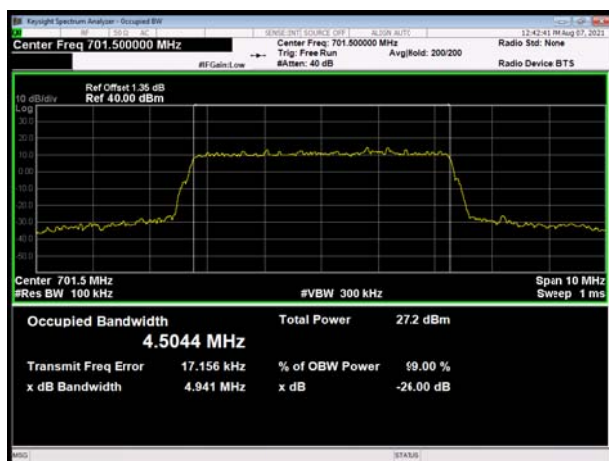


## LTE Band 12 QPSK 3MHz CH-High

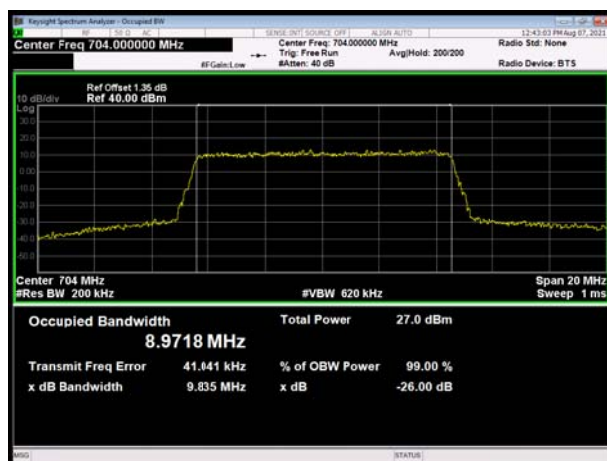




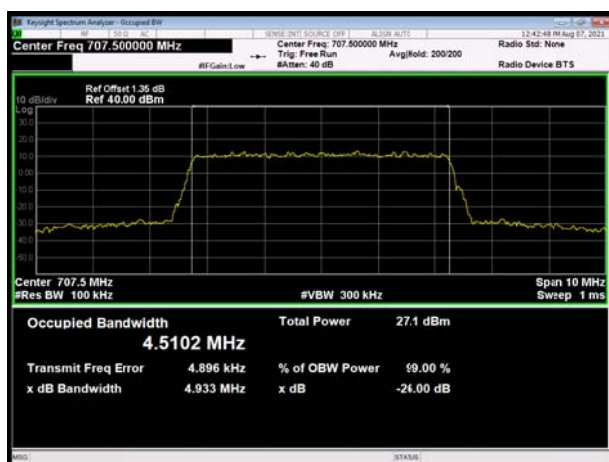
## LTE Band 12 QPSK 5MHz CH-Low



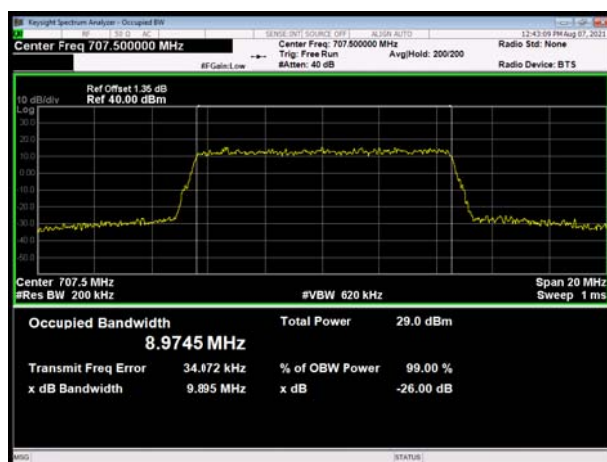
## LTE Band 12 QPSK 10MHz CH-Low



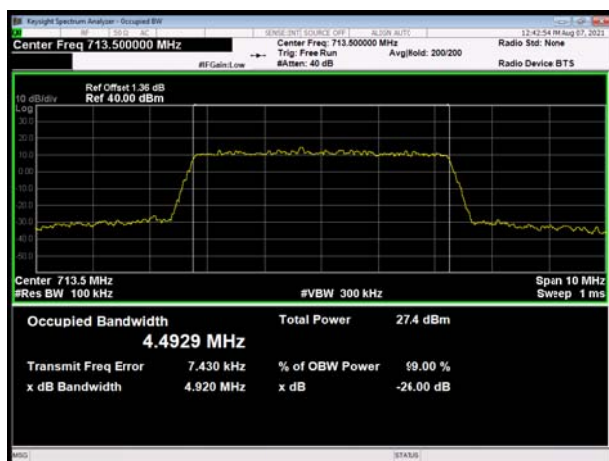
## LTE Band 12 QPSK 5MHz CH-Middle



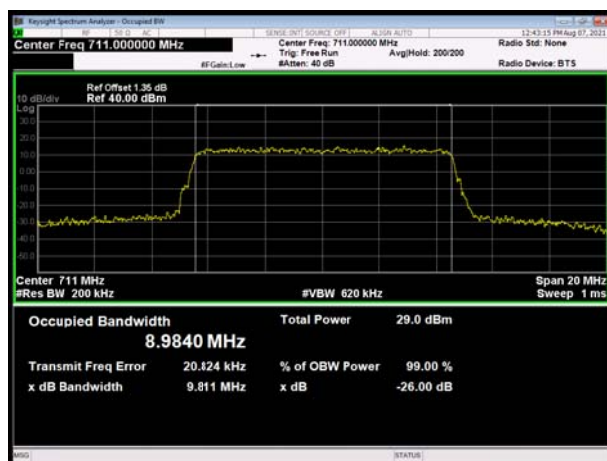
## LTE Band 12 QPSK 10MHz CH-Middle



## LTE Band 12 QPSK 5MHz CH-High

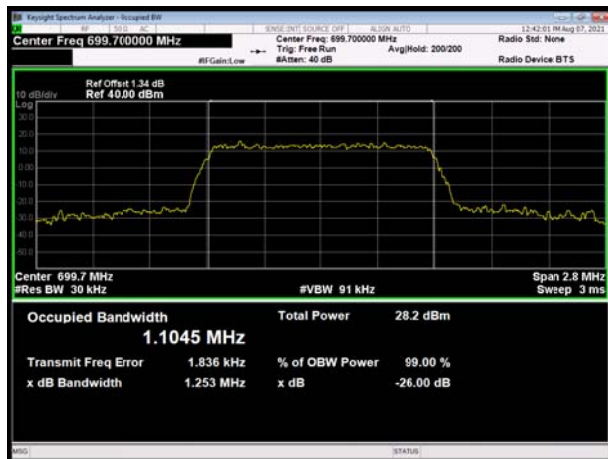


## LTE Band 12 QPSK 10MHz CH-High





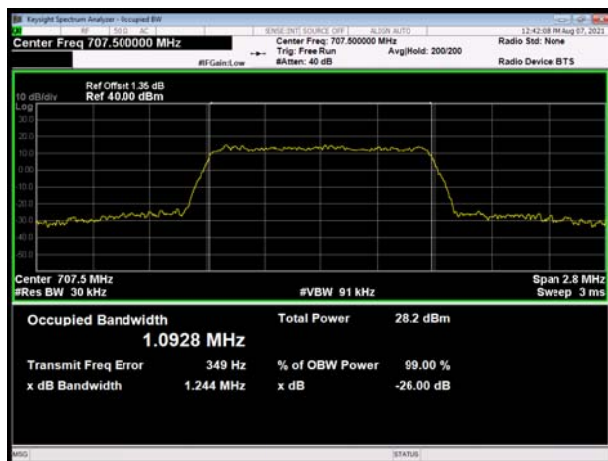
## LTE Band 12 16QAM 1.4MHz CH-Low



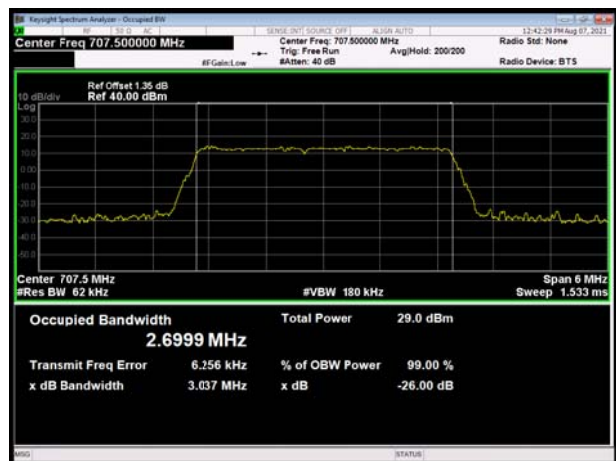
## LTE Band 12 16QAM 3MHz CH-Low



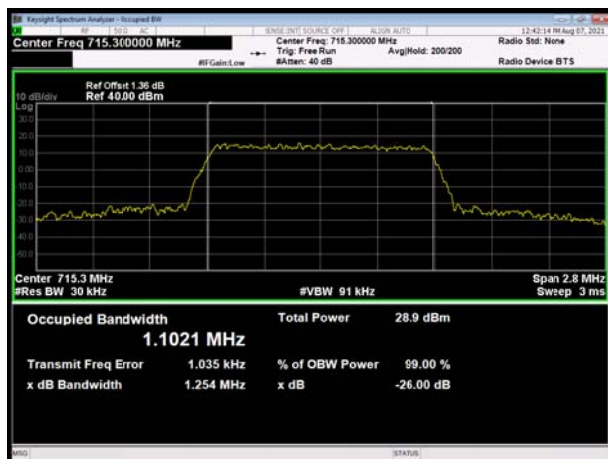
## LTE Band 12 16QAM 1.4MHz CH-Middle



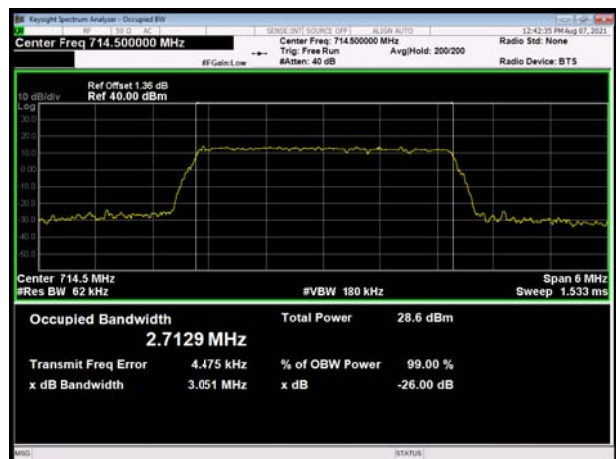
## LTE Band 12 16QAM 3MHz CH-Middle



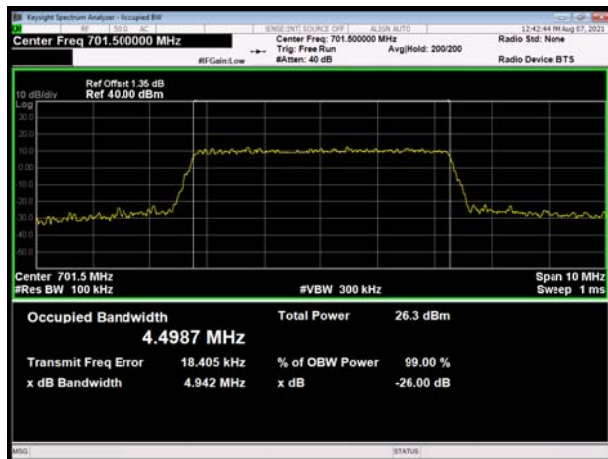
## LTE Band 12 16QAM 1.4MHz CH-High



## LTE Band 12 16QAM 3MHz CH-High



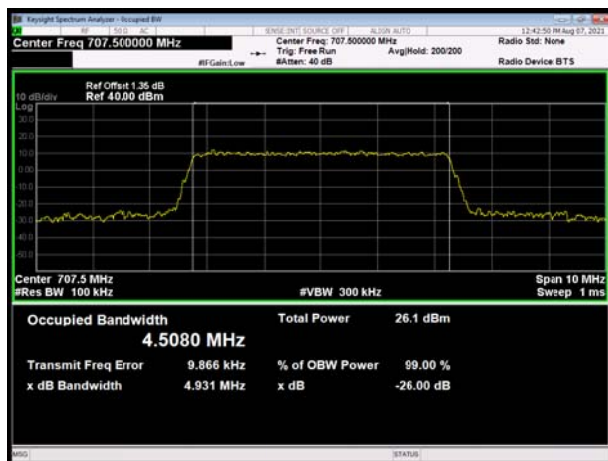
## LTE Band 12 16QAM 5MHz CH-Low



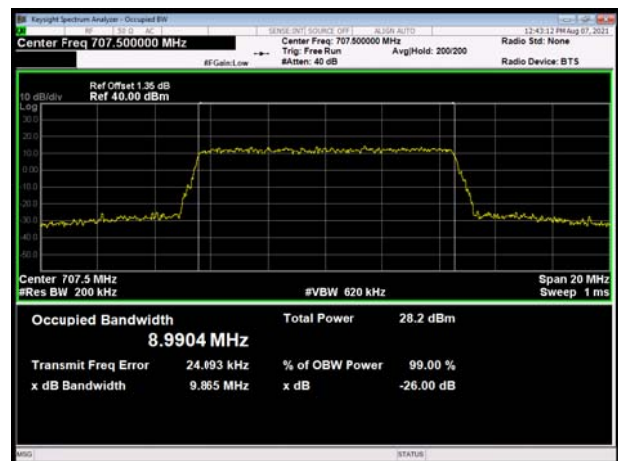
## LTE Band 12 16QAM 10MHz CH-Low



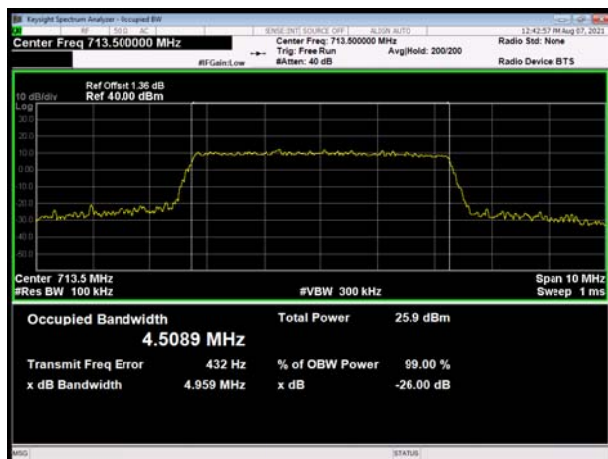
## LTE Band 12 16QAM 5MHz CH-Middle



## LTE Band 12 16QAM 10MHz CH-Middle



## LTE Band 12 16QAM 5MHz CH-High



## LTE Band 12 16QAM 10MHz CH-High

