

# TEST REPORT



**Dt&C Co., Ltd.**

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1. Report No : DRTFCC2307-0092

2. Customer

- Name (FCC) : Point Mobile Co., LTD. / Name (IC) : POINTMOBILE CO.,LTD
- Address (FCC) : B-9F Kabul Great Valley, 32, Digital-ro 9-gil, Geumcheon-gu, Seoul, South Korea, 08512  
Address (IC) : B-9F Kabul Great Valley, 32, Digital-ro 9-gil, Geumcheon-gu Seoul Korea (Republic Of)

3. Use of Report : FCC & IC Certification

4. Product Name / Model Name : MOBILE COMPUTER / PM86

FCC ID : V2X-PM86

IC : 10664A-PM86

5. FCC Regulation(s): Part 2, 22, 24, 27

IC Standard(s): RSS-Gen Issue 5, 130 Issue 2, 132 Issue 4, 133 Issue 6, 139 Issue 4, 199 Issue 3

Test Method Used : KDB971168 D01v03, ANSI/TIA-603-E-2016, ANSI C63.26-2015

6. Date of Test : 2023.04.19 ~ 2023.07.10



7. Location of Test :  Permanent Testing Lab  On Site Testing

8. Testing Environment : See appended test report.

9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test report is not related to KOLAS accreditation.

Affirmation	Tested by	Technical Manager
	Name : JaeHyeok Bang 	Name : JaeJin Lee 

2023 . 07 . 17 .

**Dt&C Co., Ltd.**

If this report is required to confirmation of authenticity, please contact to [report@dtnc.net](mailto:report@dtnc.net)

## Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2307-0092	Jul. 17, 2023	Initial issue	JaeHyeok Bang	JaeJin Lee

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## 1. GENERAL INFORMATION

<b>Equipment Class</b>	PCS Licensed Transmitter held to ear (PCE)
<b>Product Name</b>	MOBILE COMPUTER
<b>Model Name</b>	PM86
<b>Add Model Name</b>	-
<b>FVIN(Firmware Version Identification Number)</b>	86.00
<b>EUT Serial Number</b>	Conducted: 23070A0070, Radiated: 23070A0111
<b>Supplying power</b>	DC 3.8 V
<b>Antenna Information</b>	Antenna Type: LDS Antenna Gain: -5.05 dBi (Band 12,17), -5.46 dBi (Band 13), -2.05 dBi (Band 26, 5), -0.06 dBi (Band 66, 4), 1.71 dBi (Band 25, 2), 4.58 dBi (Band 7, 41, 38)

Mode	TX Frequency (MHz)	Emission Designator	Modulation	ERP	
				Max power (dBm)	Max power (W)
LTE Band 12(17)	704 ~ 711	8M93G7D	QPSK	17.84	0.061
LTE Band 12(17)	704 ~ 711	8M91W7D	16QAM	16.77	0.048
LTE Band 12(17)	704 ~ 711	8M92W7D	64QAM	16.00	0.040
LTE Band 12(17)	701.5 ~ 713.5	4M47G7D	QPSK	17.96	0.063
LTE Band 12(17)	701.5 ~ 713.5	4M48W7D	16QAM	16.62	0.046
LTE Band 12(17)	701.5 ~ 713.5	4M47W7D	64QAM	16.31	0.043
LTE Band 12	700.5 ~ 714.5	2M69G7D	QPSK	18.04	0.064
LTE Band 12	700.5 ~ 714.5	2M68W7D	16QAM	16.81	0.048
LTE Band 12	700.5 ~ 714.5	2M68W7D	64QAM	15.88	0.039
LTE Band 12	699.7 ~ 715.3	1M08G7D	QPSK	17.69	0.059
LTE Band 12	699.7 ~ 715.3	1M08W7D	16QAM	16.51	0.045
LTE Band 12	699.7 ~ 715.3	1M08W7D	64QAM	15.95	0.039
LTE Band 13	782 ~ 782	8M91G7D	QPSK	17.96	0.063
LTE Band 13	782 ~ 782	8M89W7D	16QAM	16.63	0.046
LTE Band 13	782 ~ 782	8M93W7D	64QAM	15.73	0.037
LTE Band 13	779.5 ~ 784.5	4M48G7D	QPSK	17.82	0.061
LTE Band 13	779.5 ~ 784.5	4M46W7D	16QAM	16.85	0.048
LTE Band 13	779.5 ~ 784.5	4M48W7D	64QAM	15.77	0.038
LTE Band 26	831.5 ~ 841.5	13M3G7D	QPSK	19.55	0.090
LTE Band 26	831.5 ~ 841.5	13M3W7D	16QAM	18.36	0.069
LTE Band 26	831.5 ~ 841.5	13M4W7D	64QAM	18.20	0.066
LTE Band 26(5)	829 ~ 844	8M94G7D	QPSK	19.46	0.088
LTE Band 26(5)	829 ~ 844	8M93W7D	16QAM	18.44	0.070
LTE Band 26(5)	829 ~ 844	8M92W7D	64QAM	17.35	0.054
LTE Band 26(5)	826.5 ~ 846.5	4M46G7D	QPSK	19.98	0.100
LTE Band 26(5)	826.5 ~ 846.5	4M47W7D	16QAM	18.13	0.065
LTE Band 26(5)	826.5 ~ 846.5	4M47W7D	64QAM	17.92	0.062
LTE Band 26(5)	825.5 ~ 847.5	2M69G7D	QPSK	19.83	0.096
LTE Band 26(5)	825.5 ~ 847.5	2M69W7D	16QAM	18.23	0.067
LTE Band 26(5)	825.5 ~ 847.5	2M68W7D	64QAM	17.52	0.056
LTE Band 26(5)	824.7 ~ 848.3	1M08G7D	QPSK	19.77	0.095
LTE Band 26(5)	824.7 ~ 848.3	1M08W7D	16QAM	18.52	0.071
LTE Band 26(5)	824.7 ~ 848.3	1M08W7D	64QAM	17.84	0.061

Mode	TX Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max power (dBm)	Max power (W)
LTE Band 66(4)	1 720 ~ 1 770	17M8G7D	QPSK	23.47	0.222
LTE Band 66(4)	1 720 ~ 1 770	17M8W7D	16QAM	22.35	0.172
LTE Band 66(4)	1 720 ~ 1 770	17M8W7D	64QAM	21.54	0.143
LTE Band 66(4)	1 717.5 ~ 1 772.5	13M4G7D	QPSK	23.58	0.228
LTE Band 66(4)	1 717.5 ~ 1 772.5	13M4W7D	16QAM	21.15	0.130
LTE Band 66(4)	1 717.5 ~ 1 772.5	13M4W7D	64QAM	21.87	0.154
LTE Band 66(4)	1 715 ~ 1 775	8M95G7D	QPSK	23.81	0.240
LTE Band 66(4)	1 715 ~ 1 775	8M92W7D	16QAM	22.50	0.178
LTE Band 66(4)	1 715 ~ 1 775	8M92W7D	64QAM	21.40	0.138
LTE Band 66(4)	1 712.5 ~ 1 777.5	4M48G7D	QPSK	23.33	0.215
LTE Band 66(4)	1 712.5 ~ 1 777.5	4M47W7D	16QAM	21.97	0.157
LTE Band 66(4)	1 712.5 ~ 1 777.5	4M48W7D	64QAM	21.15	0.130
LTE Band 66(4)	1 711.5 ~ 1 778.5	2M69G7D	QPSK	23.81	0.240
LTE Band 66(4)	1 711.5 ~ 1 778.5	2M69W7D	16QAM	22.39	0.173
LTE Band 66(4)	1 711.5 ~ 1 778.5	2M69W7D	64QAM	21.32	0.136
LTE Band 66(4)	1 710.7 ~ 1 779.3	1M08G7D	QPSK	23.74	0.237
LTE Band 66(4)	1 710.7 ~ 1 779.3	1M08W7D	16QAM	22.47	0.177
LTE Band 66(4)	1 710.7 ~ 1 779.3	1M08W7D	64QAM	21.58	0.144
LTE Band 25(2)	1 860 ~ 1 905	17M9G7D	QPSK	23.63	0.231
LTE Band 25(2)	1 860 ~ 1 905	17M8W7D	16QAM	22.09	0.162
LTE Band 25(2)	1 860 ~ 1 905	17M8W7D	64QAM	21.57	0.144
LTE Band 25(2)	1 857.5 ~ 1 907.5	13M4G7D	QPSK	23.71	0.235
LTE Band 25(2)	1 857.5 ~ 1 907.5	13M4W7D	16QAM	21.86	0.153
LTE Band 25(2)	1 857.5 ~ 1 907.5	13M3W7D	64QAM	21.31	0.135
LTE Band 25(2)	1 855 ~ 1 910	8M94G7D	QPSK	23.87	0.244
LTE Band 25(2)	1 855 ~ 1 910	8M93W7D	16QAM	22.32	0.171
LTE Band 25(2)	1 855 ~ 1 910	8M94W7D	64QAM	21.26	0.134
LTE Band 25(2)	1 852.5 ~ 1 912.5	4M47G7D	QPSK	23.12	0.205
LTE Band 25(2)	1 852.5 ~ 1 912.5	4M47W7D	16QAM	21.98	0.158
LTE Band 25(2)	1 852.5 ~ 1 912.5	4M50W7D	64QAM	21.40	0.138
LTE Band 25(2)	1 851.5 ~ 1 913.5	2M69G7D	QPSK	23.43	0.220
LTE Band 25(2)	1 851.5 ~ 1 913.5	2M69W7D	16QAM	22.23	0.167
LTE Band 25(2)	1 851.5 ~ 1 913.5	2M69W7D	64QAM	22.00	0.158
LTE Band 25(2)	1 850.7 ~ 1 914.3	1M08G7D	QPSK	23.31	0.214
LTE Band 25(2)	1 850.7 ~ 1 914.3	1M08W7D	16QAM	21.74	0.149
LTE Band 25(2)	1 850.7 ~ 1 914.3	1M08W7D	64QAM	21.27	0.134

Mode	TX Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max power (dBm)	Max power (W)
LTE Band 41(38)	2 506 ~ 2 680	17M7G7D	QPSK	25.41	0.348
LTE Band 41(38)	2 506 ~ 2 680	17M8W7D	16QAM	24.43	0.277
LTE Band 41(38)	2 506 ~ 2 680	17M9W7D	64QAM	23.36	0.217
LTE Band 41(38)	2 503.5 ~ 2 682.5	13M3G7D	QPSK	25.74	0.375
LTE Band 41(38)	2 503.5 ~ 2 682.5	13M2W7D	16QAM	24.63	0.290
LTE Band 41(38)	2 503.5 ~ 2 682.5	13M4W7D	64QAM	23.72	0.235
LTE Band 41(38)	2 501 ~ 2 685	8M93G7D	QPSK	26.18	0.415
LTE Band 41(38)	2 501 ~ 2 685	8M97W7D	16QAM	25.05	0.320
LTE Band 41(38)	2 501 ~ 2 685	8M88W7D	64QAM	23.92	0.246
LTE Band 41(38)	2 498.5 ~ 2 687.5	4M46G7D	QPSK	25.70	0.371
LTE Band 41(38)	2 498.5 ~ 2 687.5	4M49W7D	16QAM	24.32	0.270
LTE Band 41(38)	2 498.5 ~ 2 687.5	4M46W7D	64QAM	24.22	0.264
LTE Band 7	2 510 ~ 2 560	17M8G7D	QPSK	24.75	0.299
LTE Band 7	2 510 ~ 2 560	17M8W7D	16QAM	23.94	0.248
LTE Band 7	2 510 ~ 2 560	17M8W7D	64QAM	22.94	0.197
LTE Band 7	2 507.5 ~ 2 562.5	13M4G7D	QPSK	24.80	0.302
LTE Band 7	2 507.5 ~ 2 562.5	13M4W7D	16QAM	23.77	0.238
LTE Band 7	2 507.5 ~ 2 562.5	13M4W7D	64QAM	23.08	0.203
LTE Band 7	2 505 ~ 2 565	8M94G7D	QPSK	24.70	0.295
LTE Band 7	2 505 ~ 2 565	8M94W7D	16QAM	23.54	0.226
LTE Band 7	2 505 ~ 2 565	8M93W7D	64QAM	22.46	0.176
LTE Band 7	2 502.5 ~ 2 567.5	4M47G7D	QPSK	24.72	0.296
LTE Band 7	2 502.5 ~ 2 567.5	4M47W7D	16QAM	23.50	0.224
LTE Band 7	2 502.5 ~ 2 567.5	4M48W7D	64QAM	22.60	0.182



## 2. INTRODUCTION

### 2.1. EUT DESCRIPTION

The Equipment Under Test (EUT) supports 850/1900 GSM, 850/1700/1900 WCDMA, Multi-band LTE, 802.11b/g/n/ac/ax WLAN(2.4GHz), 802.11a/n/ac/ax WLAN(5GHz), Bluetooth(BDR, EDR, LE) and NFC.

### 2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+22 °C ~ +25 °C
▪ Relative Humidity	41 % ~ 45 %

### 2.3. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 2.4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C 63.4-2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Radiated Disturbance (Below 1 GHz)	4.8 dB (The confidence level is about 95 %, $k = 2$ )
Radiated Disturbance (1 GHz ~ 18 GHz)	5.0 dB (The confidence level is about 95 %, $k = 2$ )
Radiated Disturbance (Above 18 GHz)	5.2 dB (The confidence level is about 95 %, $k = 2$ )

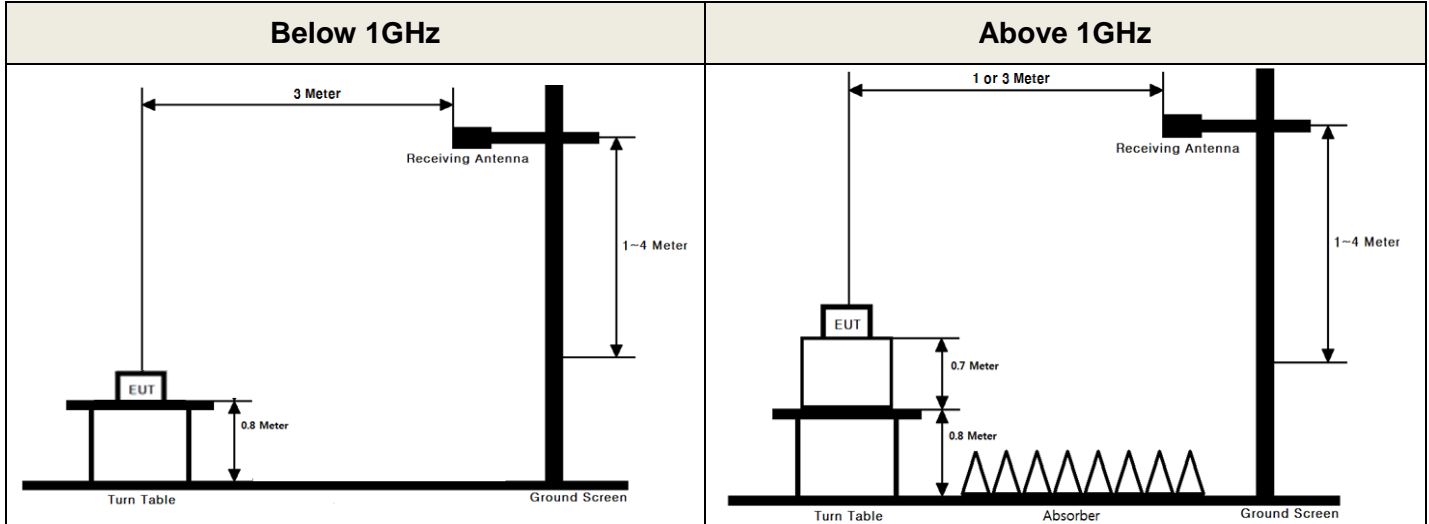
### 2.5. TEST FACILITY

<b>Dt&amp;C Co., Ltd.</b>		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042.		
The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014.		
- FCC & IC MRA Designation No. : KR0034		
- ISED#: 5740A		
<a href="http://www.dtnet.net">www.dtnet.net</a>		
Telephone	:	+ 82-31-321-2664
FAX	:	+ 82-31-321-1664

### 3. DESCRIPTION OF TESTS

#### 3.1. ERP & EIRP (Effective Radiated Power & Equivalent Isotropic Radiated Power)

##### Test Set-up



These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5-meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

##### Test Procedure

For the FDD band, the following test procedure was used.

- ANSI/TIA-603-E-2016 - Section 2.2.17
- KDB971168 D01v03 - Section 5.2.2
- ANSI C63.26-2015 – Section 5.2.4.4.1

##### Test setting

1. Set span to 2 x to 3 x the OBW.
2. Set RBW = 1 % to 5 % of the OBW.
3. Set VBW  $\geq$  3 x RBW.
4. Set number of points in sweep  $\geq$  2 x span / RBW.
5. Sweep time:
  - 1) Set = auto-couple, or
  - 2) Set  $\geq$   $[10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$  for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.
6. Detector = power averaging (rms).
7. If the EUT can be configured to transmit continuously, then set the trigger to free run.
8. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full-power transmissions).
9. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over multiple symbols, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.

10. Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

For the TDD band, the following test procedure was used.

- **ANSI/TIA-603-E-2016 - Section 2.2.17**
- **KDB971168 D01v03 - Section 5.2.3**
- **ANSI C63.26-2015 – Section 5.2.4.4.2**

#### Test setting

1. Set span to 2 x to 3 x the OBW.
2. Set RBW = 1 % to 5 % of the OBW.
3. Set VBW  $\geq$  3 x RBW.
4. Set number of points in sweep  $\geq$  2 x span / RBW.
5. Sweep time:
  - 1) Set = auto-couple, or
  - 2) Set  $\geq$  [10  $\times$  (number of points in sweep)  $\times$  (transmission period)] for single sweep (automation-compatible) measurement.
6. Detector = power averaging (rms).
7. Set sweep trigger to "free run."
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.
10. Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
11. Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission. For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is a constant 25 %.

#### **EUT duty cycle**

Band	Frequency(MHz)	T <sub>on</sub> (ms)	T <sub>on+off</sub> (ms)	Duty cycle = T <sub>on</sub> / (T <sub>on+off</sub> )	10 log (1/duty cycle)
Band41	2501.00	1.998	4.998	0.40	3.98 dB

The receiver antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer.

A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminal of the substitute antenna is measured.

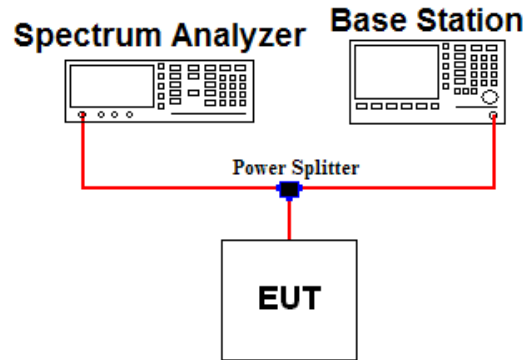
The ERP/EIRP is calculated using the following formula:

**ERP/EIRP = The conducted power at the substitute antenna's terminal [dBm] + Substitute Antenna gain [dBd for ERP , dBi for EIRP]**

For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn antenna and an isotropic antenna are taken into consideration.

## 3.2. PEAK TO AVERAGE RATIO

### Test set-up



### Test Procedure

- KDB971168 D01v03 - Section 5.7.2
- ANSI C63.26-2015 – Section 5.2.3.4

A peak to average ratio measurement is performed at the conducted port of the EUT.

The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The present of time the signal spends at or above the level defines the probability for that particular power level.

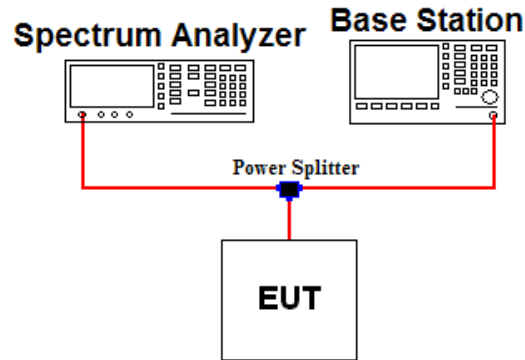
### Test setting

The spectrum Analyzer`s CCDF measurement function is enabled.

1. Set resolution/measurement bandwidth  $\geq$  OBW or specified reference bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Set the measurement interval as follows:
  - 1) For continuous transmissions, set to the greater of  $[10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$  or 1 ms.
  - 2) For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize. Set the measurement interval to a time that is less than or equal to the burst duration.
  - 3) If there are several carriers in a single antenna port, the peak power shall be determined for each individual carrier (by disabling the other carriers while measuring the required carrier) and the total peak power calculated from the sum of the individual carrier peak powers.
4. Record the maximum PAPR level associated with a probability of 0.1 %.
5. The peak power level is calculated form the sum of the PAPR value from step d) to the measured average power.

### 3.3. OCCUPIED BANDWIDTH

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 4.3
- ANSI C63.26-2015 – Section 5.4.4

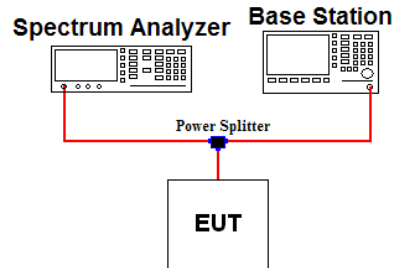
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

#### Test setting

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2.  $RBW = 1 \% \sim 5 \%$  of the expected OBW &  $VBW \geq 3 \times RBW$
3. Detector = Peak
4. Trance mode = Max hold
5. Sweep = Auto couple
6. The trace was allowed to stabilize
7. If necessary, step 2 ~ 6 were repeated after changing the RBW such that it would be within 1 % ~ 5 % of the 99 % occupied bandwidth observed in step 6.

### 3.4. BAND EDGE EMISSIONS AT ANTENNA TERMINAL

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.7

All out of band emissions are measured by means of a calibrated spectrum analyzer. The EUT was setup to maximum output power at its lowest and highest channel with all bandwidths, modulations and RB configurations.

#### Test setting

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW  $\geq 1\%$  of the emission bandwidth
4. VBW  $\geq 3 \times$  RBW
5. Detector = RMS & Trace mode = Max hold
6. Sweep time = Auto couple or 1 s for band edge
7. Number of sweep point  $\geq 2 \times$  span / RBW
8. The trace was allowed to stabilize

Note 1: Per Part 22.917(b)(1) / 24.238(b) / 27.53(h) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Note 2: Per Part 27(g) for operations in the 600 MHz band and the 698-746 MHz band, compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

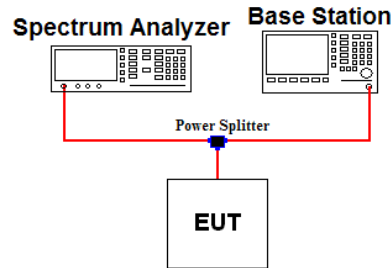
Note 3: Per Part 27.53(c.4) for all frequencies between 763 MHz - 775 MHz and 793 MHz - 805 MHz, the FCC limit is  $65 + 10 \log_{10}(P[\text{Watts}]) = -35$  dBm in a 6.25 kHz bandwidth.

Note 4: For part 27.53(m)(4) the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log(P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log(P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log(P)$  dB on all frequencies between 2 490.5 MHz and 2 496 MHz and  $55 + 10 \log(P)$  dB at or below 2 490.5 MHz.

Note 5: Per part 27.53(m)(6) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 MHz band is 2 495 MHz - 2 496 MHz, in which case a resolution bandwidth of at least one percent may be employed.

### 3.5. SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL

#### Test set-up



#### Test Procedure

- KDB971168 D01v03 - Section 6
- ANSI C63.26-2015 – Section 5.7

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The EUT was setup to maximum output power at its low, middle, high channel with all bandwidths, modulations and RB configurations. The spectrum is scanned from 9 kHz up to a frequency including its 10<sup>th</sup> harmonic.

#### Test setting

For FDD band, the instrument setting was set as follows.

1. RBW = 100 kHz or 1 MHz & VBW  $\geq$  3 X RBW
2. Detector = RMS & Trace mode = Max hold
3. Sweep time = Auto couple
4. Number of sweep point  $\geq$  2 X span / RBW
5. The trace was allowed to stabilize

For TDD band, the instrument setting was set as follows.

1. RBW = 100 kHz or 1 MHz & VBW  $\geq$  3 X RBW
2. Detector = RMS & Trace mode = power averaging (rms).
3. Sweep time = Auto couple
4. Number of sweep point  $\geq$  2 X span / RBW
5. The trace was allowed to stabilize
6. Add  $10 \log (1/\text{duty cycle})$  to the measured power level to compute the average power during continuous transmission. For example, add  $[10 \log (1/0.25)] = 6 \text{ dB}$  if the duty cycle is a constant 25 %.

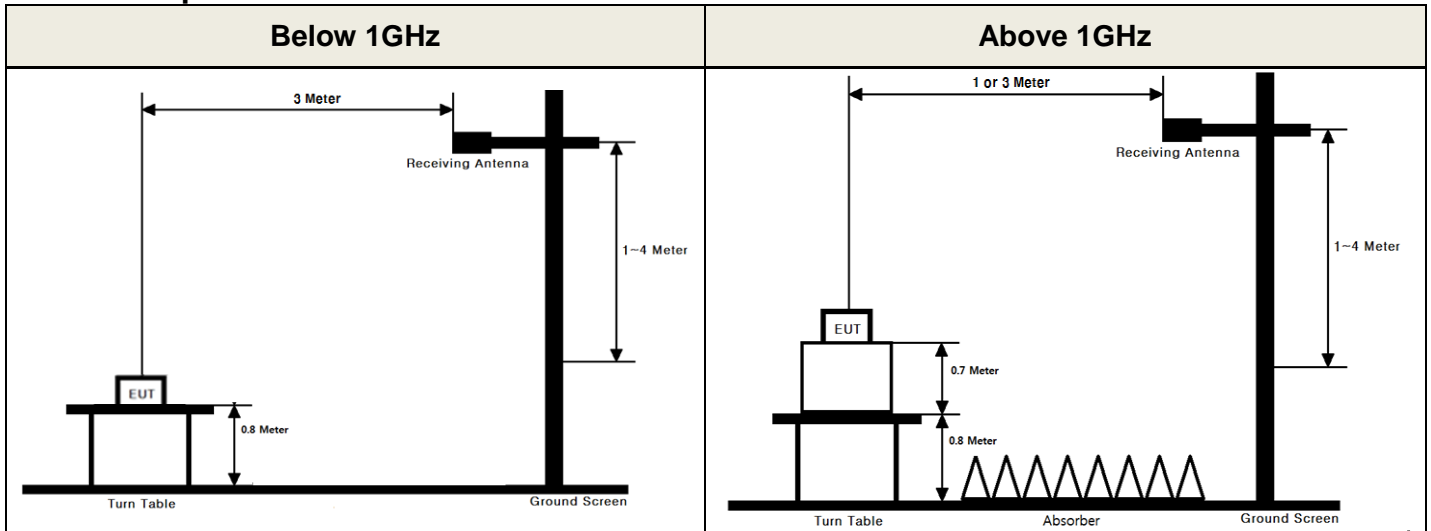
#### EUT duty cycle

Band	Frequency(MHz)	T <sub>on</sub> (ms)	T <sub>on+off</sub> (ms)	Duty cycle = T <sub>on</sub> / (T <sub>on+off</sub> )	10 log (1/duty cycle)
Band41	2501.00	1.998	4.998	0.40	3.98 dB

Note 1: Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1GHz.

### 3.6. UNDESIRABLE EMISSIONS

#### Test Set-up



These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

#### Test Procedure

- ANSI/TIA-603-E-2016 - Section 2.2.12
- KDB971168 D01v03 - Section 5.8
- ANSI C63.26-2015 – Section 5.5

#### Test setting

1. RBW = 100 kHz for below 1 GHz and 1 MHz for above 1 GHz / VBW ≥ 3 X RBW
2. Detector = RMS & Trace mode = power averaging (rms)
3. Sweep time = Auto couple
4. Number of sweep point ≥ 2 X span / RBW
5. The trace was allowed to stabilize

Note. For TDD band, add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

#### EUT duty cycle

Band	Frequency(MHz)	T <sub>on</sub> (ms)	T <sub>on+off</sub> (ms)	Duty cycle = T <sub>on</sub> / (T <sub>on+off</sub> )	10 log (1/duty cycle)
Band41	2501.00	1.998	4.998	0.40	3.98 dB

The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. For radiated power measurements below 1 GHz, a half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading.

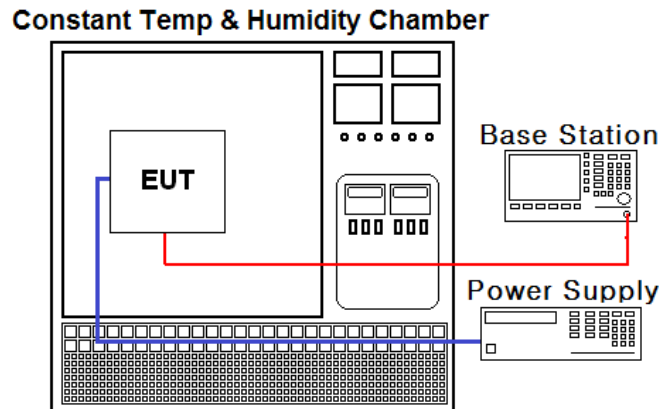
For radiated power measurements above 1 GHz, a Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. The difference between the gain of the horn and an isotropic antenna are taken into consideration.

This measurement was performed with the EUT oriented in 3 orthogonal axis.



### 3.7. FREQUENCY STABILITY

#### Test Set-up



#### Test Procedure

- ANSI/TIA-603-E-2016
- KDB971168 D01v03 - Section 9

The frequency stability of the transmitter is measured by:

a.) **Temperature:**

The temperature is varied from -30 °C to +50 °C using an environmental chamber.

b.) **Primary Supply Voltage:**

The primary supply voltage is varied from 85 % to 115 % of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

#### Specification:

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block for Part 24, 27. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency for Part 22.

#### Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature.  
(20 °C to provide a reference)
2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C.  
A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

#### 4. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal. Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	22/12/16	23/12/16	MY50110097
Spectrum Analyzer	Agilent Technologies	N9020A	22/12/16	23/12/16	MY48011700
Spectrum Analyzer	Agilent Technologies	N9020A	22/12/16	23/12/16	MY50410163
Spectrum Analyzer	KEYSIGHT	N9030B	22/12/16	23/12/16	MY55480168
DC power supply	Agilent Technologies	66332A	23/06/23	24/06/23	US37474125
Multimeter	FLUKE	17B+	22/12/16	23/12/16	36390701WS
Power Splitter	Anritsu	K241B	23/06/23	24/06/23	020611
Temp & Humi	ESPEC	SU-261	23/06/23	24/06/23	92006578
Radio Communication Analyzer	Anritsu	MT8820C	23/06/23	24/06/23	6200951873
Thermohygrometer	BODYCOM	BJ5478	22/12/16	23/12/16	120612-1
Thermohygrometer	BODYCOM	BJ5478	22/12/16	23/12/16	120612-2
Signal Generator	Rohde Schwarz	SMBV100A	22/12/16	23/12/16	255571
Signal Generator	ANRITSU	MG3695C	22/12/16	23/12/16	173501
Loop Antenna	ETS-Lindgren	6502	22/04/22	24/04/22	203480
Bilog Antenna	Schwarzbeck	VULB 9160	22/12/16	23/12/16	3362
Dipole Antenna	Schwarzbeck	UHA 9105	22/12/16	24/12/16	2262
HORN ANT	ETS	3117	22/12/16	23/12/16	00140394
HORN ANT	A.H.Systems	SAS-574	23/06/23	24/06/23	155
PreAmplifier	H.P	8447D	22/12/16	23/12/16	2944A07774
PreAmplifier	Agilent	8449B	22/12/16	23/12/16	3008A02108
PreAmplifier	A.H.Systems Inc.	PAM-1840VH	23/06/23	24/06/23	163
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	22/12/16	23/12/16	7
High-pass filter	Wainwright	WHKX10-2838-3300-18000-60SS	22/12/16	23/12/16	2
High-pass filter	Wainwright	WHKX6-6320-8000-26500-40CC	22/12/16	23/12/16	2
Cable	HUBER+SUHNER	SUCOFLEX100	23/01/04	24/01/04	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	23/01/04	24/01/04	M-2
Cable	Junkosah	MWX241/B	23/01/04	24/01/04	M-3
Cable	Junkosah	MWX221	23/01/04	24/01/04	M-4
Cable	Junkosah	MWX221	23/01/04	24/01/04	M-5
Cable	DTNC	Cable	23/01/04	24/01/04	M-6
Cable	JUNFLON	J12J101757-00	23/01/04	24/01/04	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	23/01/04	24/01/04	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	23/01/04	24/01/04	M-9
Cable	Junkosha	MWX342	23/01/04	24/01/04	RFC-72

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.

Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

## 5. SUMMARY OF TEST RESULTS

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Status Note 1
2.1046	-	Conducted Output Power	N/A	Conducted	C Note2
2.1049	RSS-GEN[6.7]	Occupied Bandwidth	N/A		C
24.232(d) 27.50(d.5)	RSS-130 [4.6] RSS-132 [5.4] RSS-133 [6.4] RSS-139 [5.5] RSS-199 [4.5]	Peak to Average Ratio	< 13 dB		C
2.1051 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	RSS-130 [4.7] RSS-132 [5.5] RSS-133 [6.5] RSS-139 [5.6]	Band Edge / Conducted Spurious Emissions	> 43 + 10log <sub>10</sub> (P) dB at Band edge and for all out-of-band emissions		C
27.53(c.4)	RSS-130 [4.7.2]	Undesirable emissions in 763 ~ 775MHz & 793 ~ 806MHz	>65 + 10 log (P) dB in a 6.25 kHz band segment frequencies between 763-775 MHz and 793-805 MHz		C
27.53(m)	RSS-199 [4.5]	Band Edge / Conducted Spurious Emissions	> 40 + 10log <sub>10</sub> (P) dB at channel edge and 5 MHz from the channel edge > 43 + 10log <sub>10</sub> (P) dB at 5 MHz and X MHz from the channel edge > 55 + 10log <sub>10</sub> (P) dB at all frequencies more than X MHz from the channel edge		C
2.1055 22.355 24.235 27.54	RSS-130 [4.5] RSS-132 [5.3] RSS-133 [6.3] RSS-139 [5.4] RSS-199 [4.3]	Frequency Stability	< 2.5 ppm (Part 22) or Fundamental emissions must stay within Authorized frequency block (Part 24, 27)		C
27.50(b.10) 27.50(c.10)	RSS-130 [4.6]	Radiated Output Power (B12, 13, 17)	< 3 Watts max. ERP (FCC & IC)		Radiated
22.913(a.5)	RSS-132 [5.4]	Radiated Output Power (B26, 5)	< 7 Watts max. ERP (FCC & IC)	C Note3	
27.50(d.4)	RSS-139 [5.5]	Radiated Output Power (B66, 4)	< 1 Watts max. EIRP (FCC & IC)	C Note3	
24.232(c) 27.50(h.2)	RSS-133 [6.4] RSS-199 [4.4]	Radiated Output Power (B25, 2, 7, 41, 38)	< 2 Watts max. EIRP (FCC & IC)	C Note3	
2.1053 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	RSS-130 [4.7] RSS-132 [5.5] RSS-133 [6.5] RSS-139 [5.6]	Undesirable Emissions	> 43 + 10log <sub>10</sub> (P) dB for all out-of-band emissions	C Note3	
27.53(m)	RSS-199 [4.5]	Undesirable Emissions (B7, 41, 38)	> 55 + 10log <sub>10</sub> (P) dB for all out-of-band emissions	C Note3	
27.53(f)	RSS-130 [4.7.2]	Undesirable Emissions in 1559 ~ 1610 MHz (B13)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions of less than 700 Hz bandwidth)	C Note3	
Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: Refer to RF Exposure Report (Test Report SAR) Note 3: This test item was performed in three orthogonal EUT positions and the worst case data was reported.					

## 6. SAMPLE CALCULATION

### A. Emission Designator

#### LTE Band 12(QPSK)

Emission Designator = **8M93G7D**

LTE OBW = 8.927 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

#### LTE Band 12(16QAM)

Emission Designator = **8M91W7D**

LTE OBW = 8.914 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

#### LTE Band 12(64QAM)

Emission Designator = **8M92W7D**

LTE OBW = 8.924 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

### B. For substitution method

- 1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
- 2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
- 3) During the test, the turn table is rotated until the maximum signal is found.
- 4) Record the field strength meter's level. (ex. Spectrum reading level is -8.5 dBm)
- 5) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 6) Increase the signal generator output till the field strength meter's level is equal to the item (4).  
(ex. Signal generator level is -18.04 dBm)
- 7) The gain of the cable and amplifier between the signal generator and terminals of substituted antenna is 46.92 dB at test frequency.
- 8) Record the level at substituted antenna terminal. (ex. 28.88dBm)
- 9) The result is calculated as below;

$$\text{EIRP(dBm)} = \text{LEVLE@ANTENNA TERMINAL} + \text{TX Antenna Gain (dBi)}$$

$$\text{ERP(dBm)} = \text{LEVLE@ANTENNA TERMINAL} + \text{TX Antenna Gain (dBd)}$$

$$\text{Where, TX Antenna Gain (dBd)} = \text{TX Antenna Gain (dBi)} - 2.15 \text{ dB}$$

## 7. TEST DATA

### 7.1. OCCUPIED BANDWIDTH

- Plots of the EUT's Occupied Bandwidth are shown in Clause 8.1

### 7.2. PEAK TO AVERAGE RATIO

- Plots of the EUT's Peak- to- Average Ratio are shown in Clause 8.2

### 7.3. BAND EDGE EMISSIONS (Conducted)

- Plots of the EUT's Band Edge Emissions are shown in Clause 8.3

### 7.4. SPURIOUS AND HARMONICS EMISSIONS (Conducted)

- Plots of the EUT's Spurious Emissions are shown in Clause 8.4

## 7.5. ERP & EIRP

### - Test Notes

- 1) This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the below table.

### 7.5.1. LTE Band 12(17)

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBd)	ERP (dBm)	ERP (W)
10	704	QPSK	1/49	H	19.12	-1.28	17.84	0.061
		16QAM	1/49	H	18.05	-1.28	16.77	0.048
		64QAM	1/49	H	17.28	-1.28	16.00	0.040
	711	QPSK	1/49	H	18.84	-1.36	17.48	0.056
		16QAM	1/49	H	17.29	-1.36	15.93	0.039
		64QAM	1/49	H	16.78	-1.36	15.42	0.035
5	701.5	QPSK	1/24	H	19.22	-1.26	17.96	0.063
		16QAM	1/24	H	17.88	-1.26	16.62	0.046
		64QAM	1/24	H	17.57	-1.26	16.31	0.043
	707.5	QPSK	1/12	H	18.84	-1.32	17.52	0.056
		16QAM	1/12	H	17.29	-1.32	15.97	0.040
		64QAM	1/12	H	16.91	-1.32	15.59	0.036
	713.5	QPSK	1/12	H	18.33	-1.39	16.94	0.049
		16QAM	1/12	H	17.10	-1.39	15.71	0.037
		64QAM	1/12	H	16.23	-1.39	14.84	0.030

### 7.5.2. LTE Band 12

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBd)	ERP (dBm)	ERP (W)
3	700.5	QPSK	1/14	H	19.29	-1.25	18.04	0.064
		16QAM	1/14	H	18.06	-1.25	16.81	0.048
		64QAM	1/14	H	17.13	-1.25	15.88	0.039
	707.5	QPSK	1/14	H	18.66	-1.32	17.34	0.054
		16QAM	1/14	H	17.40	-1.32	16.08	0.041
		64QAM	1/14	H	16.67	-1.32	15.35	0.034
	714.5	QPSK	1/14	H	18.56	-1.40	17.16	0.052
		16QAM	1/14	H	17.37	-1.40	15.97	0.040
		64QAM	1/14	H	16.33	-1.40	14.93	0.031
1.4	699.7	QPSK	1/5	H	18.93	-1.24	17.69	0.059
		16QAM	1/5	H	17.75	-1.24	16.51	0.045
		64QAM	1/5	H	17.19	-1.24	15.95	0.039
	707.5	QPSK	1/5	H	18.90	-1.32	17.58	0.057
		16QAM	1/5	H	17.45	-1.32	16.13	0.041
		64QAM	1/5	H	17.23	-1.32	15.91	0.039
	715.3	QPSK	1/2	H	18.86	-1.41	17.45	0.056
		16QAM	1/2	H	17.11	-1.41	15.70	0.037
		64QAM	1/2	H	16.41	-1.41	15.00	0.032

**7.5.3. LTE Band 13**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
10	782	QPSK	1/0	H	19.37	-1.41	17.96	0.063
		16QAM	1/0	H	18.04	-1.41	16.63	0.046
		64QAM	1/0	H	17.14	-1.41	15.73	0.037
5	779.5	QPSK	1/12	H	19.23	-1.41	17.82	0.061
		16QAM	1/12	H	18.26	-1.41	16.85	0.048
		64QAM	1/12	H	17.18	-1.41	15.77	0.038
	784.5	QPSK	1/0	H	19.22	-1.41	17.81	0.060
		16QAM	1/0	H	17.81	-1.41	16.40	0.044
		64QAM	1/0	H	17.07	-1.41	15.66	0.037

**7.5.4. LTE Band 26**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
15	831.5	QPSK	1/0	H	20.99	-1.44	19.55	0.090
		16QAM	1/0	H	19.80	-1.44	18.36	0.069
		64QAM	1/0	H	19.64	-1.44	18.20	0.066
	841.5	QPSK	1/0	H	20.64	-1.45	19.19	0.083
		16QAM	1/0	H	19.39	-1.45	17.94	0.062
		64QAM	1/0	H	18.93	-1.45	17.48	0.056

**7.5.5. LTE Band 26(5)**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	ERP (dBm)	ERP (W)
10	829	QPSK	1/0	H	20.83	-1.43	19.40	0.087
		16QAM	1/0	H	19.87	-1.43	18.44	0.070
		64QAM	1/0	H	18.67	-1.43	17.24	0.053
	836.5	QPSK	1/0	H	20.90	-1.44	19.46	0.088
		16QAM	1/0	H	19.53	-1.44	18.09	0.064
		64QAM	1/0	H	18.79	-1.44	17.35	0.054
	844	QPSK	1/0	H	20.48	-1.45	19.03	0.080
		16QAM	1/0	H	19.24	-1.45	17.79	0.060
		64QAM	1/0	H	18.17	-1.45	16.72	0.047
5	826.5	QPSK	1/12	H	21.41	-1.43	19.98	0.100
		16QAM	1/12	H	19.56	-1.43	18.13	0.065
		64QAM	1/12	H	19.35	-1.43	17.92	0.062
	836.5	QPSK	1/12	H	20.50	-1.44	19.06	0.081
		16QAM	1/12	H	19.32	-1.44	17.88	0.061
		64QAM	1/12	H	18.60	-1.44	17.16	0.052
	846.5	QPSK	1/0	H	19.61	-1.46	18.15	0.065
		16QAM	1/0	H	17.78	-1.46	16.32	0.043
		64QAM	1/0	H	17.44	-1.46	15.98	0.040
3	825.5	QPSK	1/14	H	21.26	-1.43	19.83	0.096
		16QAM	1/14	H	19.66	-1.43	18.23	0.067
		64QAM	1/14	H	18.95	-1.43	17.52	0.056
	836.5	QPSK	1/7	H	20.76	-1.44	19.32	0.086
		16QAM	1/7	H	19.34	-1.44	17.90	0.062
		64QAM	1/7	H	18.70	-1.44	17.26	0.053
	847.5	QPSK	1/0	H	19.40	-1.46	17.94	0.062
		16QAM	1/0	H	17.95	-1.46	16.49	0.045
		64QAM	1/0	H	17.71	-1.46	16.25	0.042
1.4	824.7	QPSK	1/2	H	21.20	-1.43	19.77	0.095
		16QAM	1/2	H	19.95	-1.43	18.52	0.071
		64QAM	1/2	H	19.27	-1.43	17.84	0.061
	836.5	QPSK	1/2	H	20.88	-1.44	19.44	0.088
		16QAM	1/2	H	19.53	-1.44	18.09	0.064
		64QAM	1/2	H	18.91	-1.44	17.47	0.056
	848.3	QPSK	1/0	H	19.46	-1.46	18.00	0.063
		16QAM	1/0	H	18.41	-1.46	16.95	0.050
		64QAM	1/0	H	17.78	-1.46	16.32	0.043



**7.5.6. LTE Band 66(4)**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
20	1 720	QPSK	1/0	H	17.61	5.86	23.47	0.222
		16QAM	1/0	H	16.49	5.86	22.35	0.172
		64QAM	1/0	H	15.68	5.86	21.54	0.143
	1 745	QPSK	1/0	H	17.11	5.60	22.71	0.187
		16QAM	1/0	H	15.51	5.60	21.11	0.129
		64QAM	1/0	H	14.92	5.60	20.52	0.113
	1 770	QPSK	1/0	H	17.23	5.29	22.52	0.179
		16QAM	1/0	H	15.94	5.29	21.23	0.133
		64QAM	1/0	H	15.10	5.29	20.39	0.109
15	1 717.5	QPSK	1/0	H	17.69	5.89	23.58	0.228
		16QAM	1/0	H	16.53	5.89	22.42	0.175
		64QAM	1/0	H	15.98	5.89	21.87	0.154
	1 745	QPSK	1/0	H	17.12	5.60	22.72	0.187
		16QAM	1/0	H	15.55	5.60	21.15	0.130
		64QAM	1/0	H	15.16	5.60	20.76	0.119
	1 772.5	QPSK	1/0	H	16.70	5.26	21.96	0.157
		16QAM	1/0	H	15.67	5.26	20.93	0.124
		64QAM	1/0	H	14.78	5.26	20.04	0.101
10	1 715	QPSK	1/0	H	17.90	5.91	23.81	0.240
		16QAM	1/0	H	16.59	5.91	22.50	0.178
		64QAM	1/0	H	15.49	5.91	21.40	0.138
	1 745	QPSK	1/0	H	16.98	5.60	22.58	0.181
		16QAM	1/0	H	15.40	5.60	21.00	0.126
		64QAM	1/0	H	14.56	5.60	20.16	0.104
	1 775	QPSK	1/0	H	16.48	5.23	21.71	0.148
		16QAM	1/0	H	15.36	5.23	20.59	0.115
		64QAM	1/0	H	14.46	5.23	19.69	0.093
5	1 712.5	QPSK	1/0	H	17.39	5.94	23.33	0.215
		16QAM	1/0	H	16.03	5.94	21.97	0.157
		64QAM	1/0	H	15.21	5.94	21.15	0.130
	1 745	QPSK	1/12	H	16.81	5.60	22.41	0.174
		16QAM	1/12	H	15.56	5.60	21.16	0.131
		64QAM	1/12	H	15.17	5.60	20.77	0.119
	1 777.5	QPSK	1/12	H	16.63	5.20	21.83	0.152
		16QAM	1/12	H	15.10	5.20	20.30	0.107
		64QAM	1/12	H	14.88	5.20	20.08	0.102

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
3	1 711.5	QPSK	1/7	H	17.86	5.95	23.81	0.240
		16QAM	1/7	H	16.44	5.95	22.39	0.173
		64QAM	1/7	H	15.37	5.95	21.32	0.136
	1 745	QPSK	1/0	H	17.03	5.60	22.63	0.183
		16QAM	1/0	H	15.72	5.60	21.32	0.136
		64QAM	1/0	H	14.82	5.60	20.42	0.110
	1 778.5	QPSK	1/0	H	16.81	5.19	22.00	0.158
		16QAM	1/0	H	15.40	5.19	20.59	0.115
		64QAM	1/0	H	14.83	5.19	20.02	0.100
1.4	1 710.7	QPSK	1/0	H	17.79	5.95	23.74	0.237
		16QAM	1/0	H	16.52	5.95	22.47	0.177
		64QAM	1/0	H	15.63	5.95	21.58	0.144
	1 745	QPSK	1/5	H	16.24	5.60	21.84	0.153
		16QAM	1/5	H	14.88	5.60	20.48	0.112
		64QAM	1/5	H	14.16	5.60	19.76	0.095
	1 779.3	QPSK	1/2	H	16.57	5.18	21.75	0.150
		16QAM	1/2	H	15.35	5.18	20.53	0.113
		64QAM	1/2	H	14.67	5.18	19.85	0.097

**7.5.7. LTE Band 25(2)**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
20	1 860	QPSK	1/0	H	17.99	4.31	22.30	0.170
		16QAM	1/0	H	16.31	4.31	20.62	0.115
		64QAM	1/0	H	15.94	4.31	20.25	0.106
	1 882.5	QPSK	1/50	H	18.04	4.25	22.29	0.169
		16QAM	1/50	H	17.01	4.25	21.26	0.134
		64QAM	1/50	H	15.95	4.25	20.20	0.105
	1 905	QPSK	1/0	H	19.41	4.22	23.63	0.231
		16QAM	1/0	H	17.87	4.22	22.09	0.162
		64QAM	1/0	H	17.35	4.22	21.57	0.144
15	1 857.5	QPSK	1/0	H	17.69	4.32	22.01	0.159
		16QAM	1/0	H	16.60	4.32	20.92	0.124
		64QAM	1/0	H	15.63	4.32	19.95	0.099
	1 882.5	QPSK	1/36	H	17.77	4.25	22.02	0.159
		16QAM	1/36	H	16.38	4.25	20.63	0.116
		64QAM	1/36	H	16.15	4.25	20.40	0.110
	1 907.5	QPSK	1/36	H	19.48	4.23	23.71	0.235
		16QAM	1/36	H	17.63	4.23	21.86	0.153
		64QAM	1/36	H	17.08	4.23	21.31	0.135
10	1 855	QPSK	1/25	H	17.75	4.33	22.08	0.161
		16QAM	1/25	H	16.19	4.33	20.52	0.113
		64QAM	1/25	H	15.50	4.33	19.83	0.096
	1 882.5	QPSK	1/49	H	17.62	4.25	21.87	0.154
		16QAM	1/49	H	16.35	4.25	20.60	0.115
		64QAM	1/49	H	15.67	4.25	19.92	0.098
	1 910	QPSK	1/25	H	19.63	4.24	23.87	0.244
		16QAM	1/25	H	18.08	4.24	22.32	0.171
		64QAM	1/25	H	17.02	4.24	21.26	0.134
5	1 852.5	QPSK	1/12	H	17.46	4.33	21.79	0.151
		16QAM	1/12	H	15.88	4.33	20.21	0.105
		64QAM	1/12	H	15.59	4.33	19.92	0.098
	1 882.5	QPSK	1/12	H	18.01	4.25	22.26	0.168
		16QAM	1/12	H	16.67	4.25	20.92	0.124
		64QAM	1/12	H	16.11	4.25	20.36	0.109
	1 912.5	QPSK	1/0	H	18.87	4.25	23.12	0.205
		16QAM	1/0	H	17.73	4.25	21.98	0.158
		64QAM	1/0	H	17.15	4.25	21.40	0.138

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
3	1 851.5	QPSK	1/7	H	17.13	4.34	21.47	0.140
		16QAM	1/7	H	16.10	4.34	20.44	0.111
		64QAM	1/7	H	14.95	4.34	19.29	0.085
	1 882.5	QPSK	1/0	H	17.81	4.25	22.06	0.161
		16QAM	1/0	H	16.82	4.25	21.07	0.128
		64QAM	1/0	H	16.05	4.25	20.30	0.107
	1 913.5	QPSK	1/0	H	19.18	4.25	23.43	0.220
		16QAM	1/0	H	17.98	4.25	22.23	0.167
		64QAM	1/0	H	17.75	4.25	22.00	0.158
1.4	1 850.7	QPSK	1/5	H	16.59	4.34	20.93	0.124
		16QAM	1/5	H	15.73	4.34	20.07	0.102
		64QAM	1/5	H	14.88	4.34	19.22	0.084
	1 882.5	QPSK	1/2	H	17.63	4.25	21.88	0.154
		16QAM	1/2	H	16.25	4.25	20.50	0.112
		64QAM	1/2	H	15.47	4.25	19.72	0.094
	1 914.3	QPSK	1/2	H	19.05	4.26	23.31	0.214
		16QAM	1/2	H	17.48	4.26	21.74	0.149
		64QAM	1/2	H	17.01	4.26	21.27	0.134

**7.5.8. LTE Band 41(38)**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
20	2 506	QPSK	1/50	H	19.65	5.76	25.41	0.348
		16QAM	1/50	H	18.67	5.76	24.43	0.277
		64QAM	1/50	H	17.60	5.76	23.36	0.217
	2 593	QPSK	1/50	H	17.16	6.14	23.30	0.214
		16QAM	1/50	H	16.33	6.14	22.47	0.177
		64QAM	1/50	H	15.58	6.14	21.72	0.149
	2 680	QPSK	1/50	H	15.82	6.29	22.11	0.163
		16QAM	1/50	H	13.48	6.29	19.77	0.095
		64QAM	1/50	H	12.89	6.29	19.18	0.083
15	2 503.5	QPSK	1/36	H	20.00	5.74	25.74	0.375
		16QAM	1/36	H	18.89	5.74	24.63	0.290
		64QAM	1/36	H	17.98	5.74	23.72	0.235
	2 593	QPSK	1/36	H	17.38	6.14	23.52	0.225
		16QAM	1/36	H	16.03	6.14	22.17	0.165
		64QAM	1/36	H	15.02	6.14	21.16	0.131
	2 682.5	QPSK	1/36	H	15.36	6.30	21.66	0.147
		16QAM	1/36	H	13.18	6.30	19.48	0.089
		64QAM	1/36	H	12.70	6.30	19.00	0.080
10	2 501	QPSK	1/25	H	20.46	5.72	26.18	0.415
		16QAM	1/25	H	19.33	5.72	25.05	0.320
		64QAM	1/25	H	18.20	5.72	23.92	0.246
	2 593	QPSK	1/25	H	17.92	6.14	24.06	0.255
		16QAM	1/25	H	16.26	6.14	22.40	0.174
		64QAM	1/25	H	15.56	6.14	21.70	0.148
	2 685	QPSK	1/25	H	14.95	6.32	21.27	0.134
		16QAM	1/25	H	13.38	6.32	19.70	0.093
		64QAM	1/25	H	12.92	6.32	19.24	0.084
5	2 498.5	QPSK	1/12	H	19.99	5.71	25.70	0.371
		16QAM	1/12	H	18.61	5.71	24.32	0.270
		64QAM	1/12	H	18.51	5.71	24.22	0.264
	2 593	QPSK	1/12	H	17.75	6.14	23.89	0.245
		16QAM	1/12	H	16.89	6.14	23.03	0.201
		64QAM	1/12	H	16.44	6.14	22.58	0.181
	2 687.5	QPSK	1/12	H	13.94	6.33	20.27	0.106
		16QAM	1/12	H	11.99	6.33	18.32	0.068
		64QAM	1/12	H	12.02	6.33	18.35	0.068

**7.5.9. LTE Band 7**

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	EIRP (dBm)	EIRP (W)
20	2 510	QPSK	1/0	H	18.80	5.79	24.59	0.288
		16QAM	1/0	H	17.84	5.79	23.63	0.231
		64QAM	1/0	H	16.81	5.79	22.60	0.182
	2 535	QPSK	1/0	H	18.76	5.99	24.75	0.299
		16QAM	1/0	H	17.95	5.99	23.94	0.248
		64QAM	1/0	H	16.95	5.99	22.94	0.197
	2 560	QPSK	1/0	H	18.41	6.12	24.53	0.284
		16QAM	1/0	H	17.55	6.12	23.67	0.233
		64QAM	1/0	H	16.57	6.12	22.69	0.186
15	2 507.5	QPSK	1/74	H	18.83	5.77	24.60	0.288
		16QAM	1/74	H	17.28	5.77	23.05	0.202
		64QAM	1/74	H	16.40	5.77	22.17	0.165
	2 535	QPSK	1/0	H	18.75	5.99	24.74	0.298
		16QAM	1/0	H	17.48	5.99	23.47	0.222
		64QAM	1/0	H	17.09	5.99	23.08	0.203
	2 562.5	QPSK	1/0	H	18.68	6.12	24.80	0.302
		16QAM	1/0	H	17.65	6.12	23.77	0.238
		64QAM	1/0	H	16.79	6.12	22.91	0.195
10	2 505	QPSK	1/0	H	18.61	5.75	24.36	0.273
		16QAM	1/0	H	17.79	5.75	23.54	0.226
		64QAM	1/0	H	15.75	5.75	21.50	0.141
	2 535	QPSK	1/0	H	18.71	5.99	24.70	0.295
		16QAM	1/0	H	17.22	5.99	23.21	0.209
		64QAM	1/0	H	16.40	5.99	22.39	0.173
	2 565	QPSK	1/0	H	18.32	6.13	24.45	0.279
		16QAM	1/0	H	17.25	6.13	23.38	0.218
		64QAM	1/0	H	16.33	6.13	22.46	0.176
5	2 502.5	QPSK	1/12	H	18.67	5.73	24.40	0.275
		16QAM	1/12	H	17.34	5.73	23.07	0.203
		64QAM	1/12	H	16.87	5.73	22.60	0.182
	2 535	QPSK	1/24	H	18.73	5.99	24.72	0.296
		16QAM	1/24	H	17.51	5.99	23.50	0.224
		64QAM	1/24	H	16.42	5.99	22.41	0.174
	2 567.5	QPSK	1/12	H	17.47	6.13	23.60	0.229
		16QAM	1/12	H	15.88	6.13	22.01	0.159
		64QAM	1/12	H	15.37	6.13	21.50	0.141

## 7.6. UNDESIRABLE EMISSIONS (Radiated)

### - Test Notes

- 1) This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported.
- 2) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter.  
No other spurious and harmonic emissions were reported greater than listed emissions.
- 3) Limit for Band 25(2)/66(4)/12(17)/13/26(5) = -13dBm  
Limit for Band 7/41(38) = -25dBm  
Limit for 1 559 MHz ~ 1 610 MHz in Band 13 = -40dBm/MHz  
(equivalent isotropically radiated power for wideband signals)

### 7.6.1. LTE Band 12(17)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	704	1/49	QPSK	1 416.82	H	-69.37	3.18	-66.19	-13.00	53.19
				2 125.17	H	-64.63	3.19	-61.44	-13.00	48.44
			16QAM	1 416.71	H	-69.56	3.18	-66.38	-13.00	53.38
				2 125.39	H	-64.61	3.19	-61.42	-13.00	48.42
			64QAM	1 416.88	H	-69.77	3.18	-66.59	-13.00	53.59
				2 125.28	H	-66.69	3.19	-63.50	-13.00	50.50
	711	1/49	QPSK	1 430.95	H	-66.20	3.29	-62.91	-13.00	49.91
				2 146.21	H	-60.35	3.15	-57.20	-13.00	44.20
			16QAM	1 430.80	H	-67.77	3.29	-64.48	-13.00	51.48
				2 146.34	H	-63.10	3.15	-59.95	-13.00	46.95
			64QAM	1 430.48	H	-69.39	3.29	-66.10	-13.00	53.10
				2 146.11	H	-65.48	3.15	-62.33	-13.00	49.33

### 7.6.2. LTE Band 12

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
3	700.5	1/14	QPSK	1 403.64	H	-69.71	3.09	-66.62	-13.00	53.62
				2 105.26	H	-58.44	3.24	-55.20	-13.00	42.20
			16QAM	1 403.51	H	-69.77	3.09	-66.68	-13.00	53.68
				2 105.14	H	-59.22	3.24	-55.98	-13.00	42.98
			64QAM	1 403.55	H	-69.94	3.09	-66.85	-13.00	53.85
				2 105.25	H	-62.15	3.24	-58.91	-13.00	45.91

**7.6.3. LTE Band 13**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	782	1/0	QPSK	2 332.72	V	-63.29	3.76	-59.53	-13.00	46.53
				3 104.60	V	-67.95	5.19	-62.76	-13.00	49.76
				3 887.97	H	-66.97	6.83	-60.14	-13.00	47.14
			16QAM	2 332.77	V	-63.79	3.76	-60.03	-13.00	47.03
				3 117.95	V	-68.12	5.24	-62.88	-13.00	49.88
				3 888.15	H	-67.60	6.84	-60.76	-13.00	47.76
			64QAM	2 332.88	V	-66.33	3.76	-62.57	-13.00	49.57
				3 119.42	V	-68.11	5.24	-62.87	-13.00	49.87
				3 887.83	H	-68.74	6.83	-61.91	-13.00	48.91

**UNDESIRABLE EMISSIONS IN 1 559 MHz ~ 1 610 MHz (LTE Band 13)**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	782	1/49	QPSK	1 572.74	V	-64.41	6.01	-58.40	-40.00	18.40
			16QAM	1 572.75	V	-65.96	6.01	-59.95	-40.00	19.95
			64QAM	1 572.89	V	-66.71	6.01	-60.70	-40.00	20.70



**7.6.4. LTE Band 26**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	831.5	1/0	QPSK	1 649.73	V	-61.44	4.09	-57.35	-13.00	44.35
				2 474.63	H	-54.71	3.73	-50.98	-13.00	37.98
				4 124.10	V	-63.11	7.12	-55.99	-13.00	42.99
			16QAM	1 649.57	V	-63.88	4.09	-59.79	-13.00	46.79
				2 474.53	H	-55.95	3.73	-52.22	-13.00	39.22
				4 124.20	V	-68.08	7.12	-60.96	-13.00	47.96
			64QAM	1 649.93	V	-66.27	4.09	-62.18	-13.00	49.18
				2 474.59	H	-56.97	3.73	-53.24	-13.00	40.24
				4 124.25	V	-68.06	7.12	-60.94	-13.00	47.94
	841.5	1/0	QPSK	1 669.64	V	-58.05	4.02	-54.03	-13.00	41.03
				2 504.47	H	-58.18	3.60	-54.58	-13.00	41.58
				4 174.11	V	-65.03	7.18	-57.85	-13.00	44.85
			16QAM	1 669.61	V	-60.19	4.02	-56.17	-13.00	43.17
				2 504.53	H	-59.79	3.60	-56.19	-13.00	43.19
				4 174.29	V	-66.30	7.18	-59.12	-13.00	46.12
64QAM			1 669.57	V	-61.58	4.02	-57.56	-13.00	44.56	
			2 504.51	H	-60.88	3.60	-57.28	-13.00	44.28	
			4 174.13	V	-66.82	7.18	-59.64	-13.00	46.64	

**7.6.5. LTE Band 26(5)**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
5	826.5	1/12	QPSK	1 653.03	V	-60.85	4.08	-56.77	-13.00	43.77
				2 479.42	H	-56.58	3.70	-52.88	-13.00	39.88
				4 132.38	V	-67.81	7.13	-60.68	-13.00	47.68
			16QAM	1 652.98	V	-63.66	4.08	-59.58	-13.00	46.58
				2 479.59	H	-58.04	3.69	-54.35	-13.00	41.35
				4 132.47	V	-68.31	7.13	-61.18	-13.00	48.18
			64QAM	1 653.05	V	-65.21	4.08	-61.13	-13.00	48.13
				2 479.55	H	-60.12	3.69	-56.43	-13.00	43.43
				4 132.45	V	-68.39	7.13	-61.26	-13.00	48.26

**7.6.6. LTE Band 66(4)**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 720	1/0	QPSK	3 429.19	V	-68.00	8.20	-59.80	-13.00	46.80
				5 133.29	H	-47.09	10.11	-36.98	-13.00	23.98
				6 844.35	H	-66.03	11.33	-54.70	-13.00	41.70
				8 555.57	H	-63.21	12.93	-50.28	-13.00	37.28
			16QAM	3 429.25	V	-67.77	8.20	-59.57	-13.00	46.57
				5 133.23	H	-47.76	10.11	-37.65	-13.00	24.65
				6 844.54	H	-66.26	11.33	-54.93	-13.00	41.93
				8 555.60	H	-64.60	12.93	-51.67	-13.00	38.67
			64QAM	3 427.98	V	-67.89	8.19	-59.70	-13.00	46.70
				5 133.18	H	-48.58	10.11	-38.47	-13.00	25.47
				6 844.33	H	-66.11	11.33	-54.78	-13.00	41.78
				8 555.24	H	-65.25	12.93	-52.32	-13.00	39.32
	1 745	1/0	QPSK	3 472.17	V	-66.20	8.36	-57.84	-13.00	44.84
				5 208.30	H	-47.30	10.21	-37.09	-13.00	24.09
				6 944.47	H	-65.48	11.54	-53.94	-13.00	40.94
				8 680.56	H	-63.16	12.96	-50.20	-13.00	37.20
			16QAM	3 472.25	V	-66.98	8.36	-58.62	-13.00	45.62
				5 208.38	H	-48.98	10.21	-38.77	-13.00	25.77
				6 944.36	H	-66.06	11.54	-54.52	-13.00	41.52
				8 680.45	H	-64.58	12.96	-51.62	-13.00	38.62
			64QAM	3 472.20	V	-66.88	8.36	-58.52	-13.00	45.52
				5 208.41	H	-49.18	10.21	-38.97	-13.00	25.97
				6 944.14	H	-66.38	11.54	-54.84	-13.00	41.84
				8 680.57	H	-64.85	12.96	-51.89	-13.00	38.89
	1 770	1/0	QPSK	3 522.21	V	-68.13	8.47	-59.66	-13.00	46.66
				5 282.90	H	-47.77	10.21	-37.56	-13.00	24.56
				7 043.93	H	-67.11	11.65	-55.46	-13.00	42.46
				8 804.98	H	-62.25	12.97	-49.28	-13.00	36.28
			16QAM	3 503.74	V	-68.17	8.48	-59.69	-13.00	46.69
				5 283.11	H	-49.05	10.21	-38.84	-13.00	25.84
				7 044.05	H	-67.38	11.65	-55.73	-13.00	42.73
				8 805.04	H	-63.51	12.97	-50.54	-13.00	37.54
			64QAM	3 538.44	V	-68.19	8.46	-59.73	-13.00	46.73
				5 282.97	H	-49.57	10.21	-39.36	-13.00	26.36
				7 043.93	H	-67.54	11.65	-55.89	-13.00	42.89
				8 804.70	H	-63.97	12.97	-51.00	-13.00	38.00

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	1 715	1/0	QPSK	3 421.30	V	-67.16	8.17	-58.99	-13.00	45.99
				5 131.79	H	-46.60	10.11	-36.49	-13.00	23.49
				6 842.26	H	-66.40	11.33	-55.07	-13.00	42.07
				8 552.96	H	-63.59	12.93	-50.66	-13.00	37.66
			16QAM	3 411.30	V	-67.80	8.13	-59.67	-13.00	46.67
				5 131.73	H	-47.49	10.11	-37.38	-13.00	24.38
				6 842.53	H	-66.89	11.33	-55.56	-13.00	42.56
				8 552.96	H	-64.54	12.93	-51.61	-13.00	38.61
			64QAM	3 421.12	V	-67.72	8.17	-59.55	-13.00	46.55
				5 131.87	H	-48.72	10.11	-38.61	-13.00	25.61
				6 842.27	H	-67.02	11.33	-55.69	-13.00	42.69
				8 552.97	H	-65.66	12.93	-52.73	-13.00	39.73

## 7.6.7. LTE Band 25(2)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	1/0	QPSK	3 702.36	H	-66.32	8.34	-57.98	-13.00	44.98
				5 553.41	V	-49.93	10.31	-39.62	-13.00	26.62
				7 404.37	V	-65.26	12.04	-53.22	-13.00	40.22
				9 255.34	V	-65.01	13.00	-52.01	-13.00	39.01
			16QAM	3 702.16	H	-67.11	8.34	-58.77	-13.00	45.77
				5 553.18	V	-51.37	10.31	-41.06	-13.00	28.06
				7 404.39	V	-65.95	12.04	-53.91	-13.00	40.91
				9 255.51	V	-65.26	13.00	-52.26	-13.00	39.26
			64QAM	3 702.12	H	-66.95	8.34	-58.61	-13.00	45.61
				5 565.11	V	-68.81	10.33	-58.48	-13.00	45.48
				7 404.37	V	-66.58	12.04	-54.54	-13.00	41.54
				9 247.42	V	-65.81	13.00	-52.81	-13.00	39.81
	1 882.5	1/50	QPSK	3 765.32	H	-64.74	8.34	-56.40	-13.00	43.40
				5 647.80	V	-50.89	10.45	-40.44	-13.00	27.44
				7 530.30	V	-64.21	12.18	-52.03	-13.00	39.03
				9 413.16	V	-59.86	13.00	-46.86	-13.00	33.86
			16QAM	3 765.26	H	-67.70	8.34	-59.36	-13.00	46.36
				5 647.93	V	-52.13	10.45	-41.68	-13.00	28.68
				7 530.51	V	-66.16	12.18	-53.98	-13.00	40.98
				9 388.02	V	-64.09	13.00	-51.09	-13.00	38.09
			64QAM	3 765.22	H	-67.63	8.34	-59.29	-13.00	46.29
				5 647.84	V	-53.36	10.45	-42.91	-13.00	29.91
				7 530.40	V	-66.36	12.18	-54.18	-13.00	41.18
				9 393.06	V	-64.17	13.01	-51.16	-13.00	38.16
	1 905	1/0	QPSK	3 792.22	H	-63.67	8.45	-55.22	-13.00	42.22
				5 688.30	V	-49.27	10.51	-38.76	-13.00	25.76
				7 584.47	V	-63.63	12.18	-51.45	-13.00	38.45
				9 488.85	V	-63.37	12.94	-50.43	-13.00	37.43
16QAM			3 792.16	H	-64.70	8.45	-56.25	-13.00	43.25	
			5 688.45	V	-50.12	10.51	-39.61	-13.00	26.61	
			7 584.18	V	-64.90	12.18	-52.72	-13.00	39.72	
			9 466.66	V	-63.53	12.97	-50.56	-13.00	37.56	
64QAM			3 792.27	H	-64.90	8.45	-56.45	-13.00	43.45	
			5 688.20	V	-50.94	10.51	-40.43	-13.00	27.43	
			7 584.39	V	-65.19	12.18	-53.01	-13.00	40.01	
			9 451.23	V	-63.64	12.99	-50.65	-13.00	37.65	

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	1 910	1/25	QPSK	3 820.32	H	-63.74	8.56	-55.18	-13.00	42.18
				5 730.21	V	-49.84	10.57	-39.27	-13.00	26.27
				7 640.38	V	-61.47	12.21	-49.26	-13.00	36.26
				9 550.34	V	-62.07	13.04	-49.03	-13.00	36.03
			16QAM	3 820.30	H	-64.90	8.56	-56.34	-13.00	43.34
				5 730.19	V	-51.35	10.57	-40.78	-13.00	27.78
				7 645.38	V	-68.24	12.22	-56.02	-13.00	43.02
				9 550.77	V	-62.28	13.04	-49.24	-13.00	36.24
			64QAM	3 820.20	H	-65.83	8.56	-57.27	-13.00	44.27
				5 730.12	V	-52.65	10.57	-42.08	-13.00	29.08
				7 640.48	V	-63.69	12.21	-51.48	-13.00	38.48
				9 550.79	V	-62.49	13.04	-49.45	-13.00	36.45

**7.6.8. LTE Band 41(38)**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 506	1/50	QPSK	5 012.31	H	-63.80	9.99	-53.81	-25.00	28.81
				7 518.06	V	-59.42	12.17	-47.25	-25.00	22.25
				10 038.20	H	-61.30	12.92	-48.38	-25.00	23.38
			16QAM	5 020.32	H	-64.61	10.00	-54.61	-25.00	29.61
				7 518.03	V	-61.21	12.17	-49.04	-25.00	24.04
				10 034.01	H	-61.14	12.93	-48.21	-25.00	23.21
			64QAM	4 996.84	H	-64.42	9.98	-54.44	-25.00	29.44
				7 518.05	V	-61.73	12.17	-49.56	-25.00	24.56
				10 043.10	H	-61.19	12.91	-48.28	-25.00	23.28
	2 593	1/50	QPSK	5 185.69	H	-64.14	10.19	-53.95	-25.00	28.95
				7 779.18	V	-59.35	12.30	-47.05	-25.00	22.05
				10 373.51	H	-59.53	12.97	-46.56	-25.00	21.56
			16QAM	5 192.92	H	-64.16	10.20	-53.96	-25.00	28.96
				7 779.30	V	-60.51	12.30	-48.21	-25.00	23.21
				10 372.34	H	-59.17	12.97	-46.20	-25.00	21.20
			64QAM	5 206.55	H	-64.38	10.21	-54.17	-25.00	29.17
				7 779.18	V	-60.38	12.30	-48.08	-25.00	23.08
				10 355.47	H	-59.47	12.91	-46.56	-25.00	21.56
	2 680	1/50	QPSK	5 354.40	H	-64.25	10.30	-53.95	-25.00	28.95
				8 040.40	V	-45.91	12.56	-33.35	-25.00	8.35
				10 707.91	H	-59.20	13.04	-46.16	-25.00	21.16
			16QAM	5 346.25	H	-64.36	10.29	-54.07	-25.00	29.07
				8 040.28	V	-48.30	12.56	-35.74	-25.00	10.74
				10 699.18	H	-59.33	13.04	-46.29	-25.00	21.29
64QAM			5 374.73	H	-64.29	10.30	-53.99	-25.00	28.99	
			8 040.19	V	-49.13	12.56	-36.57	-25.00	11.57	
			10 735.98	H	-59.54	13.02	-46.52	-25.00	21.52	

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	2 501	1/25	QPSK	4 994.51	H	-64.53	9.97	-54.56	-25.00	29.56
				7 503.58	V	-59.85	12.16	-47.69	-25.00	22.69
				9 995.17	H	-61.47	13.00	-48.47	-25.00	23.47
			16QAM	5 000.34	H	-64.61	9.99	-54.62	-25.00	29.62
				7 503.15	V	-61.20	12.16	-49.04	-25.00	24.04
				10 006.21	H	-61.53	12.99	-48.54	-25.00	23.54
			64QAM	5 001.00	H	-64.47	9.99	-54.48	-25.00	29.48
				7 503.34	V	-62.23	12.16	-50.07	-25.00	25.07
				10 014.19	H	-61.41	12.97	-48.44	-25.00	23.44

**7.6.9. LTE Band 7**

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 510	1/0	QPSK	5 001.89	V	-68.69	9.99	-58.70	-25.00	33.70
				7 503.17	V	-61.74	12.16	-49.58	-25.00	24.58
				9 999.76	V	-61.69	13.00	-48.69	-25.00	23.69
			16QAM	5 001.93	V	-68.86	9.99	-58.87	-25.00	33.87
				7 503.13	V	-63.43	12.16	-51.27	-25.00	26.27
				9 993.56	V	-61.62	13.00	-48.62	-25.00	23.62
			64QAM	5 002.03	V	-68.90	9.99	-58.91	-25.00	33.91
				7 503.45	V	-65.16	12.16	-53.00	-25.00	28.00
				10 006.32	V	-61.56	12.99	-48.57	-25.00	23.57
	2 535	1/0	QPSK	5 052.30	V	-68.65	10.01	-58.64	-25.00	33.64
				7 578.20	V	-62.24	12.18	-50.06	-25.00	25.06
				10 087.19	V	-62.17	12.89	-49.28	-25.00	24.28
			16QAM	5 052.09	V	-68.70	10.01	-58.69	-25.00	33.69
				7 578.24	V	-64.46	12.18	-52.28	-25.00	27.28
				10 089.88	V	-62.15	12.89	-49.26	-25.00	24.26
			64QAM	5 052.10	V	-68.84	10.01	-58.83	-25.00	33.83
				7 578.11	V	-65.80	12.18	-53.62	-25.00	28.62
				10 085.29	V	-62.18	12.89	-49.29	-25.00	24.29
	2 560	1/0	QPSK	5 102.38	V	-68.65	10.07	-58.58	-25.00	33.58
				7 653.48	V	-63.82	12.22	-51.60	-25.00	26.60
				10 176.07	V	-62.84	12.87	-49.97	-25.00	24.97
			16QAM	5 101.57	V	-68.97	10.07	-58.90	-25.00	33.90
				7 653.18	V	-66.78	12.22	-54.56	-25.00	29.56
				10 195.11	V	-63.17	12.87	-50.30	-25.00	25.30
64QAM			5 102.02	V	-68.66	10.07	-58.59	-25.00	33.59	
			7 653.37	V	-67.34	12.22	-55.12	-25.00	30.12	
			10 189.33	V	-63.06	12.87	-50.19	-25.00	25.19	
15	2 562.5	1/0	QPSK	5 111.71	V	-68.26	10.08	-58.18	-25.00	33.18
				7 667.72	V	-67.10	12.22	-54.88	-25.00	29.88
				10 223.86	V	-63.46	12.88	-50.58	-25.00	25.58
			16QAM	5 111.65	V	-68.26	10.08	-58.18	-25.00	33.18
				7 667.65	V	-67.30	12.22	-55.08	-25.00	30.08
				10 236.21	V	-63.38	12.88	-50.50	-25.00	25.50
			64QAM	5 111.85	V	-68.55	10.08	-58.47	-25.00	33.47
				7 658.06	V	-68.08	12.22	-55.86	-25.00	30.86
				10 238.02	V	-63.38	12.89	-50.49	-25.00	25.49



## 7.7. FREQUENCY STABILITY

### - Test Notes

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

### 7.7.1. LTE Band 12(17)

OPERATING FREQUENCY : 707.5 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	707,500,016	0.000 002 261	0.022 6
100 %		-30	707,499,999	-0.000 000 141	-0.001 4
100 %		-20	707,500,002	0.000 000 283	0.002 8
100 %		-10	707,500,013	0.000 001 837	0.018 4
100 %		0	707,499,998	-0.000 000 283	-0.002 8
100 %		+10	707,500,007	0.000 000 989	0.009 9
100 %		+20	707,500,016	0.000 002 261	0.022 6
100 %		+30	707,499,997	-0.000 000 424	-0.004 2
100 %		+40	707,500,016	0.000 002 261	0.022 6
100 %		+50	707,499,999	-0.000 000 141	-0.001 4
115 %		4.37	+20	707,500,002	0.000 000 283
BATT.ENDPOINT	3.20	+20	707,499,991	-0.000 001 272	-0.012 7

**7.7.2. LTE Band 13**

OPERATING FREQUENCY : 779.5 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	779,500,005	0.000 000 641	0.006 4
100 %		-30	779,499,993	-0.000 000 898	-0.009 0
100 %		-20	779,499,999	-0.000 000 128	-0.001 3
100 %		-10	779,500,011	0.000 001 411	0.014 1
100 %		0	779,500,002	0.000 000 257	0.002 6
100 %		+10	779,500,006	0.000 000 770	0.007 7
100 %		+20	779,500,005	0.000 000 641	0.006 4
100 %		+30	779,499,992	-0.000 001 026	-0.010 3
100 %		+40	779,500,001	0.000 000 128	0.001 3
100 %		+50	779,500,012	0.000 001 539	0.015 4
115 %		4.37	+20	779,499,991	-0.000 001 155
BATT.ENDPOINT	3.20	+20	779,500,002	0.000 000 257	0.002 6

**7.7.3. LTE Band 26(5)**

OPERATING FREQUENCY : 836.5 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC) : 2.5 ppm  
 LIMIT(IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	836,500,002	0.000 000 239	0.002 4
100 %		-30	836,500,016	0.000 001 913	0.019 1
100 %		-20	836,500,021	0.000 002 510	0.025 1
100 %		-10	836,499,996	-0.000 000 478	-0.004 8
100 %		0	836,500,002	0.000 000 239	0.002 4
100 %		+10	836,499,988	-0.000 001 435	-0.014 3
100 %		+20	836,500,002	0.000 000 239	0.002 4
100 %		+30	836,500,006	0.000 000 717	0.007 2
100 %		+40	836,499,996	-0.000 000 478	-0.004 8
100 %		+50	836,500,007	0.000 000 837	0.008 4
115 %	4.37	+20	836,499,999	-0.000 000 120	-0.001 2
BATT.ENDPOINT	3.20	+20	836,500,019	0.000 002 271	0.022 7

**7.7.4. LTE Band 66(4)**

OPERATING FREQUENCY : 1 745 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	1,745,000,011	0.000 000 630	0.006 3
100 %		-30	1,744,999,997	-0.000 000 172	-0.001 7
100 %		-20	1,745,000,012	0.000 000 688	0.006 9
100 %		-10	1,745,000,019	0.000 001 089	0.010 9
100 %		0	1,745,000,001	0.000 000 057	0.000 6
100 %		+10	1,744,999,987	-0.000 000 745	-0.007 4
100 %		+20	1,745,000,011	0.000 000 630	0.006 3
100 %		+30	1,745,000,006	0.000 000 344	0.003 4
100 %		+40	1,745,000,008	0.000 000 458	0.004 6
100 %		+50	1,744,999,993	-0.000 000 401	-0.004 0
115 %		4.37	+20	1,745,000,019	0.000 001 089
BATT.ENDPOINT	3.20	+20	1,744,999,998	-0.000 000 115	-0.001 1

**7.7.5. LTE Band 25(2)**

OPERATING FREQUENCY : 1 882.5 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.  
 LIMIT(IC) : 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	1,882,499,993	-0.000 000 372	-0.003 7
100 %		-30	1,882,499,980	-0.000 001 062	-0.010 6
100 %		-20	1,882,500,013	0.000 000 691	0.006 9
100 %		-10	1,882,500,002	0.000 000 106	0.001 1
100 %		0	1,882,499,996	-0.000 000 212	-0.002 1
100 %		+10	1,882,500,005	0.000 000 266	0.002 7
100 %		+20	1,882,499,993	-0.000 000 372	-0.003 7
100 %		+30	1,882,500,011	0.000 000 584	0.005 8
100 %		+40	1,882,500,009	0.000 000 478	0.004 8
100 %		+50	1,882,500,016	0.000 000 850	0.008 5
115 %		4.37	+20	1,882,500,002	0.000 000 106
BATT.ENDPOINT	3.20	+20	1,882,499,993	-0.000 000 372	-0.003 7

**7.7.6. LTE Band 41(38)**

OPERATING FREQUENCY : 2 593 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	2,593,000,011	0.000 000 424	0.004 2
100 %		-30	2,592,999,998	-0.000 000 077	-0.000 8
100 %		-20	2,593,000,007	0.000 000 270	0.002 7
100 %		-10	2,593,000,001	0.000 000 039	0.000 4
100 %		0	2,592,999,990	-0.000 000 386	-0.003 9
100 %		+10	2,592,999,981	-0.000 000 733	-0.007 3
100 %		+20	2,593,000,011	0.000 000 424	0.004 2
100 %		+30	2,593,000,007	0.000 000 270	0.002 7
100 %		+40	2,592,999,998	-0.000 000 077	-0.000 8
100 %		+50	2,592,999,994	-0.000 000 231	-0.002 3
115 %		4.43	+20	2,593,000,001	0.000 000 039
BATT.ENDPOINT	3.20	+20	2,592,999,990	-0.000 000 386	-0.003 9

**7.7.7. LTE Band 7**

OPERATING FREQUENCY : 2 535 MHz  
 REFERENCE VOLTAGE : 3.80 V DC  
 LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (°C)	FREQ (Hz)	Deviation	
				(%)	(ppm)
100 %	3.80	+20(Ref)	2,535,000,007	0.000 000 276	0.002 8
100 %		-30	2,534,999,996	-0.000 000 158	-0.001 6
100 %		-20	2,535,000,011	0.000 000 434	0.004 3
100 %		-10	2,535,000,023	0.000 000 907	0.009 1
100 %		0	2,534,999,999	-0.000 000 039	-0.000 4
100 %		+10	2,534,999,994	-0.000 000 237	-0.002 4
100 %		+20	2,535,000,007	0.000 000 276	0.002 8
100 %		+30	2,535,000,005	0.000 000 197	0.002 0
100 %		+40	2,534,999,997	-0.000 000 118	-0.001 2
100 %		+50	2,534,999,990	-0.000 000 394	-0.003 9
115 %		4.37	+20	2,535,000,006	0.000 000 237
BATT.ENDPOINT	3.20	+20	2,535,000,001	0.000 000 039	0.000 4

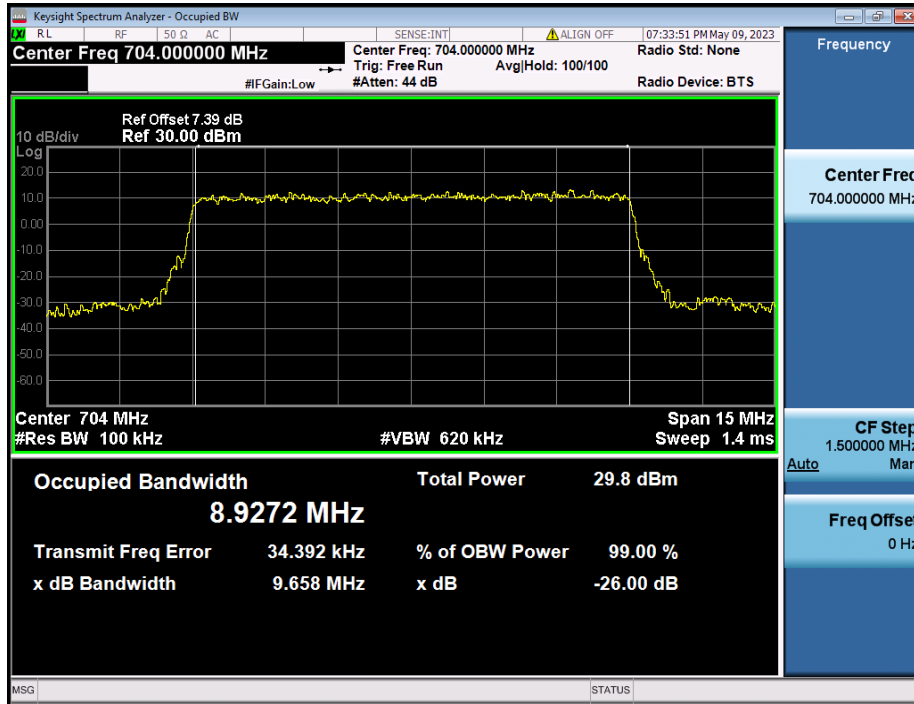
## 8. TEST PLOTS

### - Test Notes:

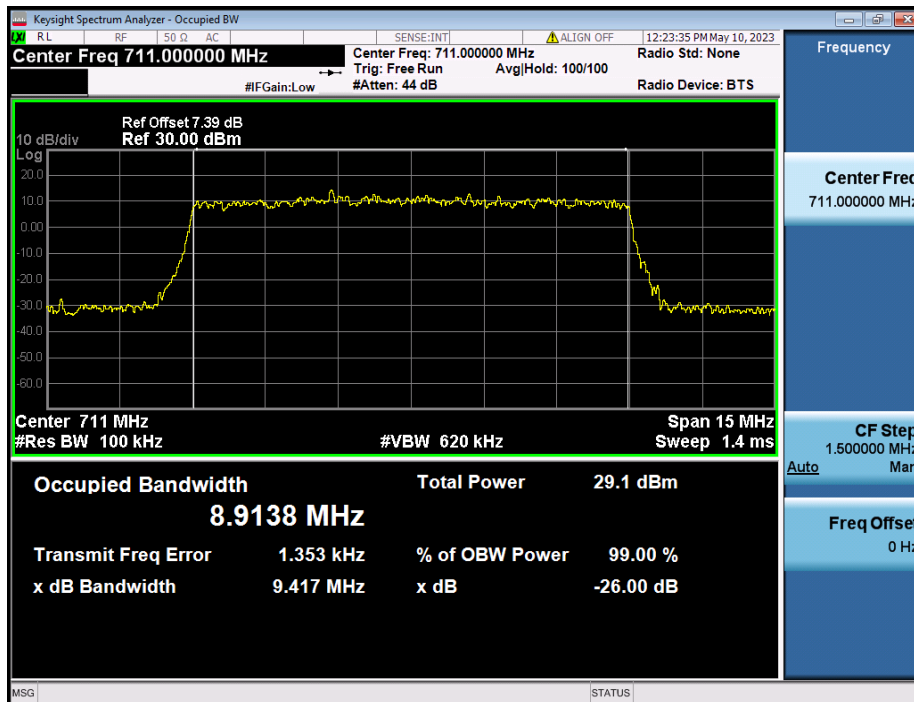
All bandwidths, RB configurations, and modulations were investigated. The worst case test results are reported.

### 8.1. OCCUPIED BANDWIDTH

#### 8.1.1. LTE Band 12(17)

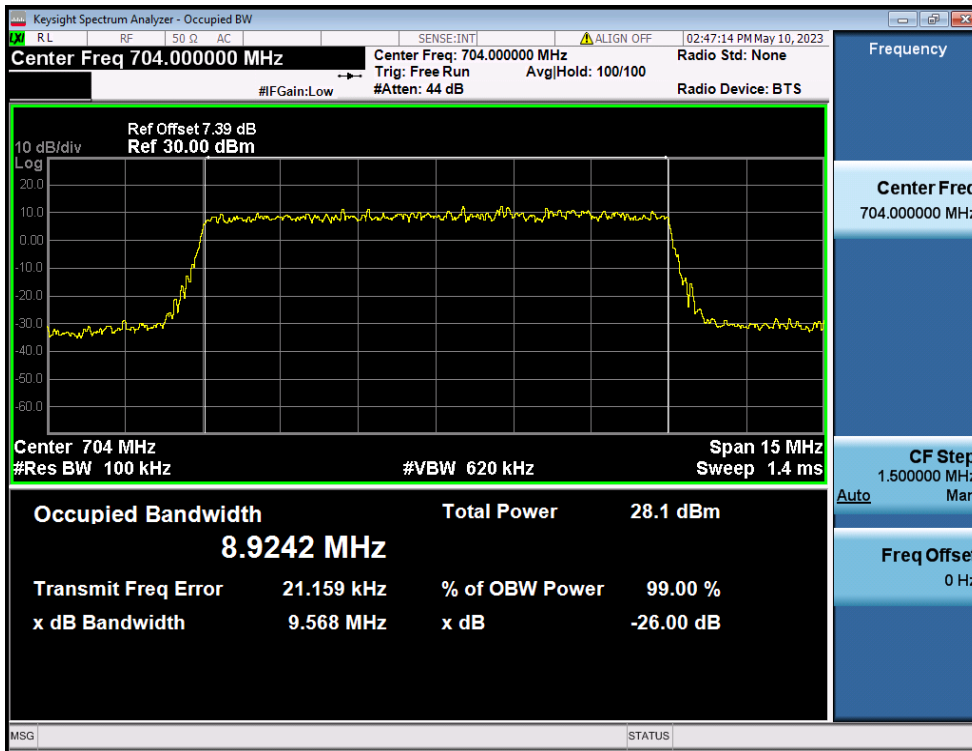


LTE Band 12(17) / 10MHz / QPSK - RB Size 50

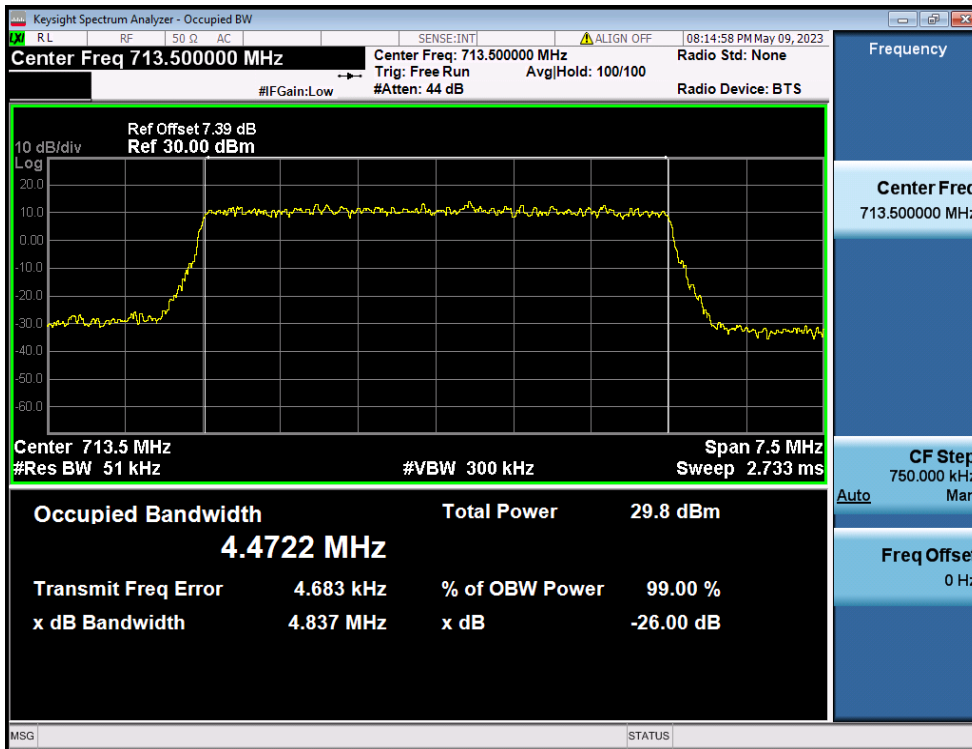


LTE Band 12(17) / 10MHz / 16QAM - RB Size 50





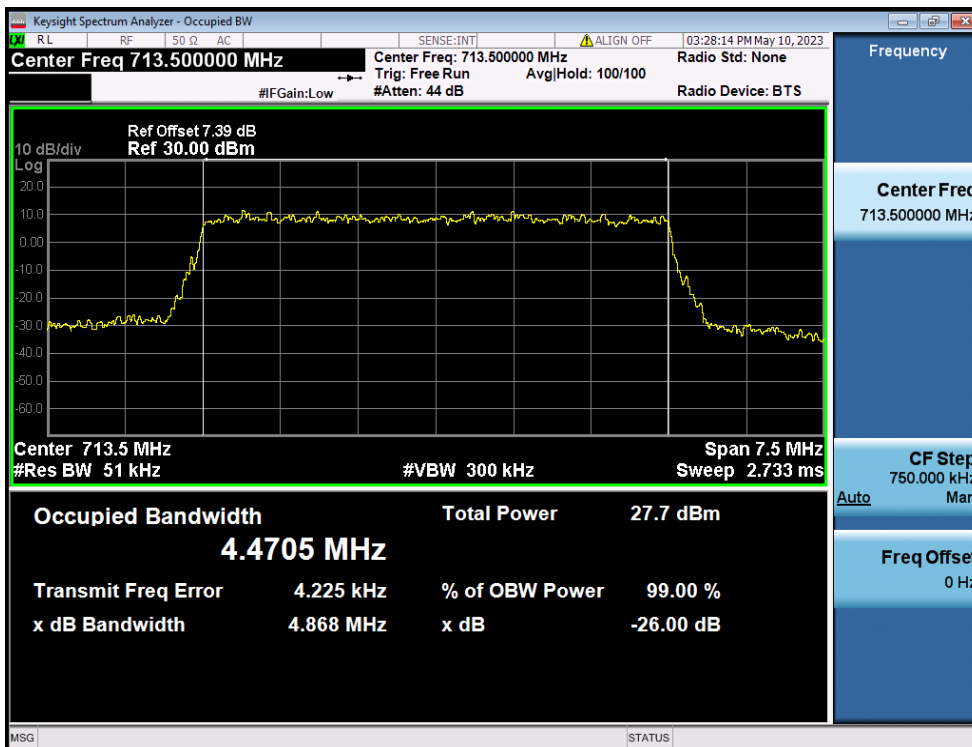
LTE Band 12(17) / 10MHz / 64QAM - RB Size 50



LTE Band 12(17) / 5MHz / QPSK - RB Size 25

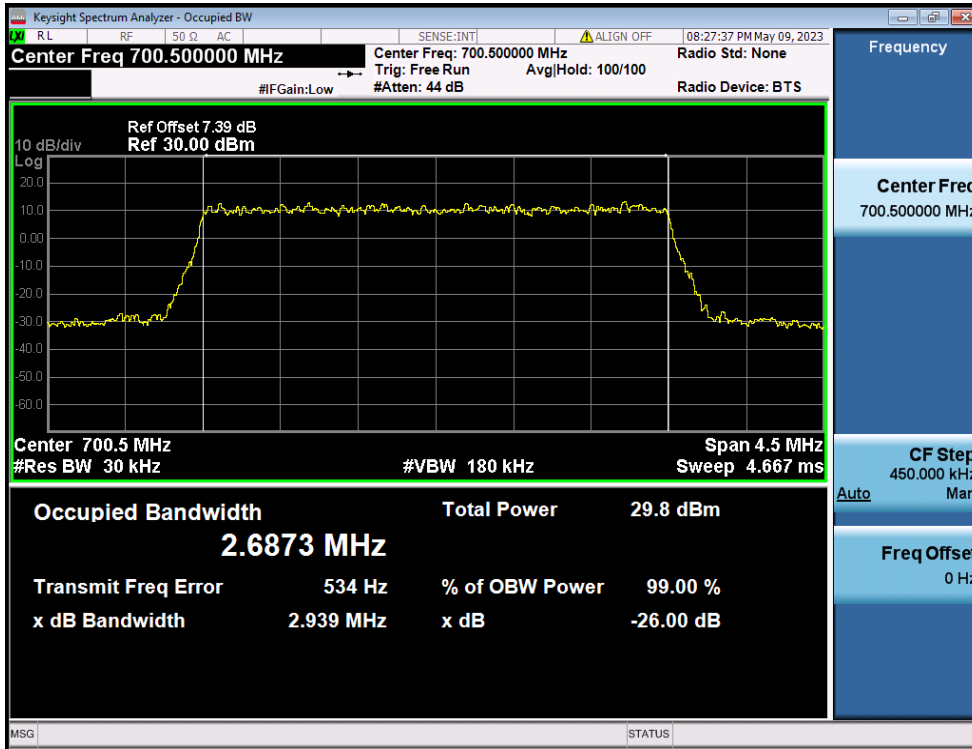


LTE Band 12(17) / 5MHz / 16QAM - RB Size 25

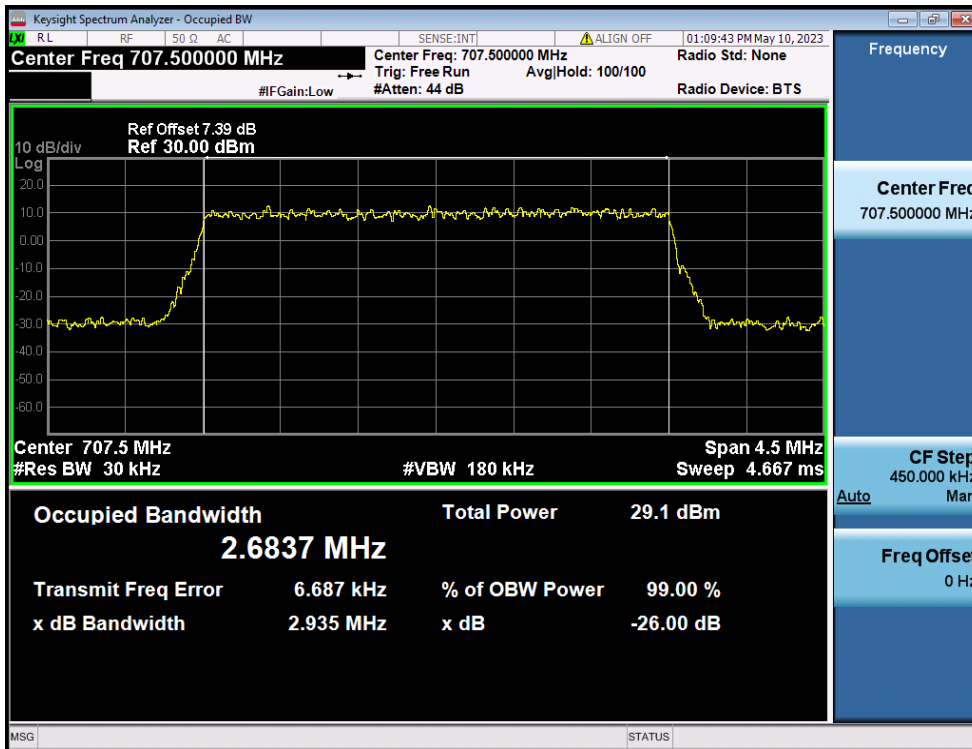


LTE Band 12(17) / 5MHz / 64QAM - RB Size 25

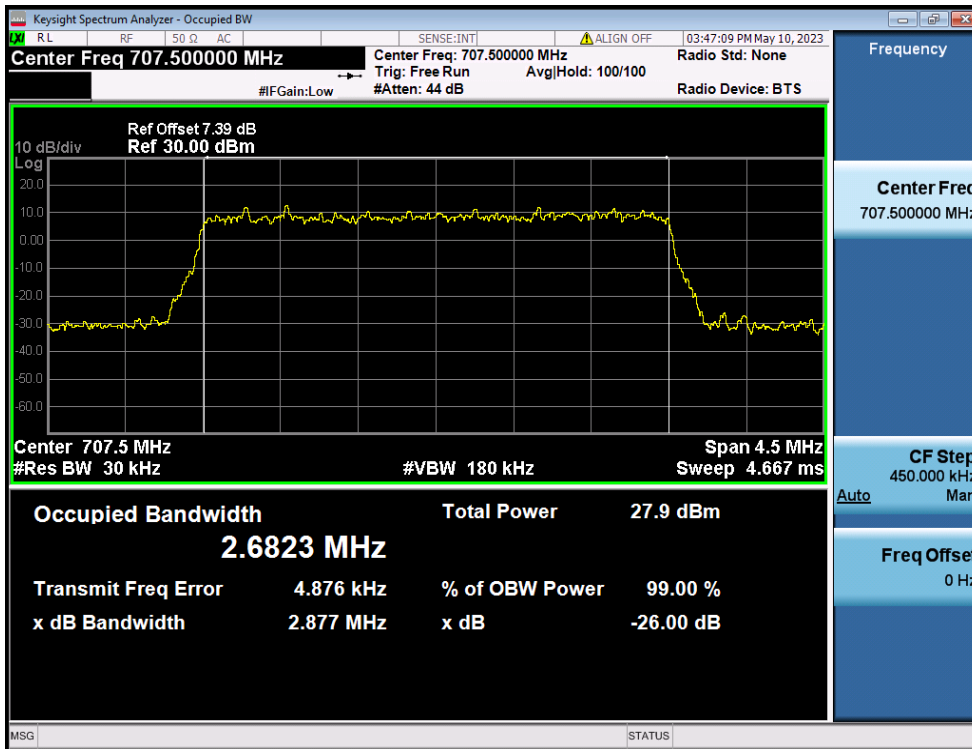
8.1.2. LTE Band 12



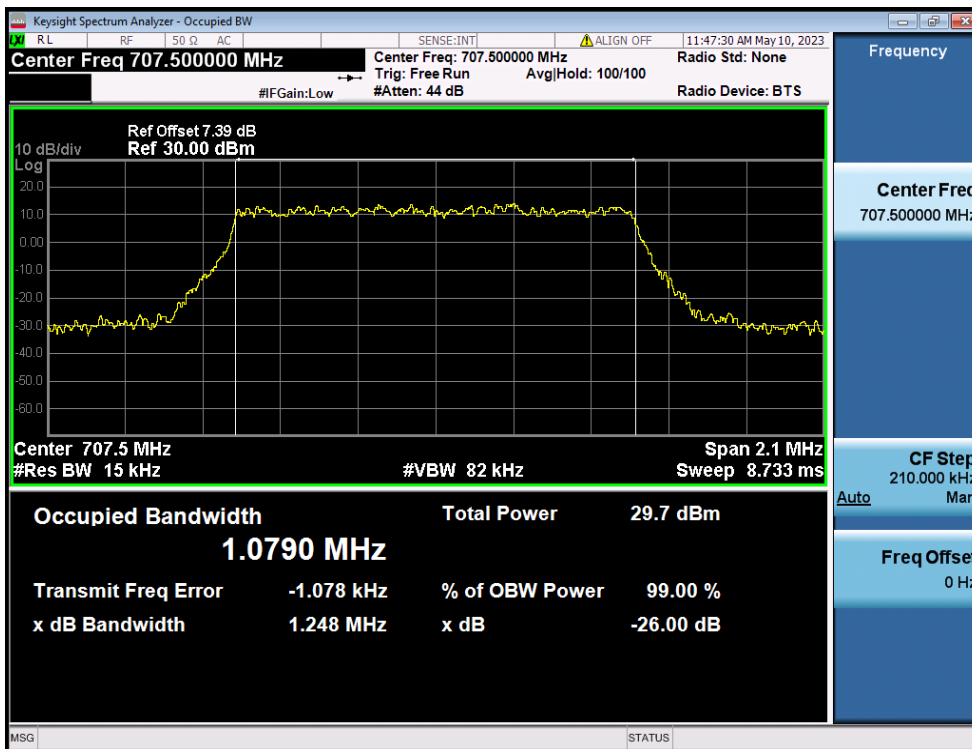
LTE Band 12 / 3MHz / QPSK - RB Size 15



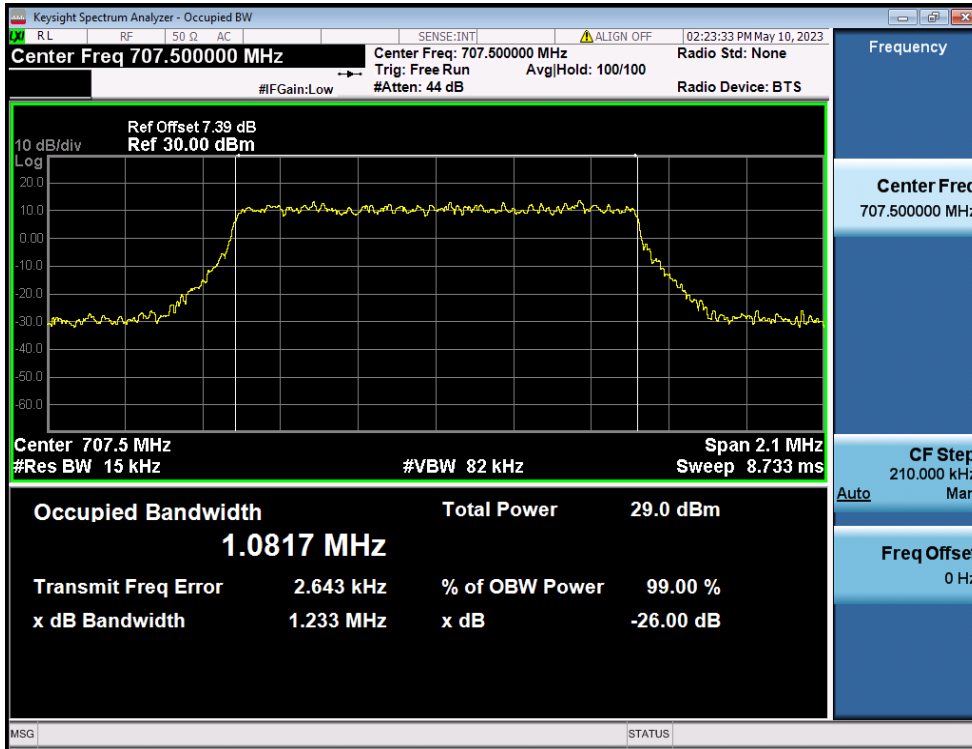
LTE Band 12 / 3MHz / 16QAM - RB Size 15



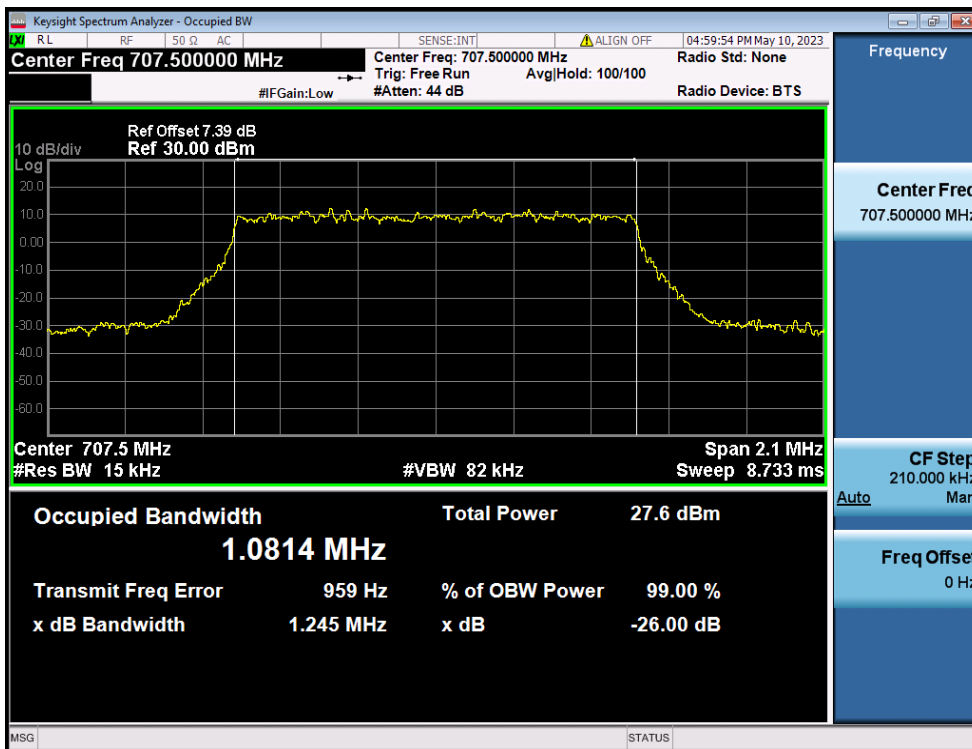
LTE Band 12 / 3MHz / 64QAM - RB Size 15



LTE Band 12 / 1.4MHz / QPSK - RB Size 6



LTE Band 12 / 1.4MHz / 16QAM - RB Size 6

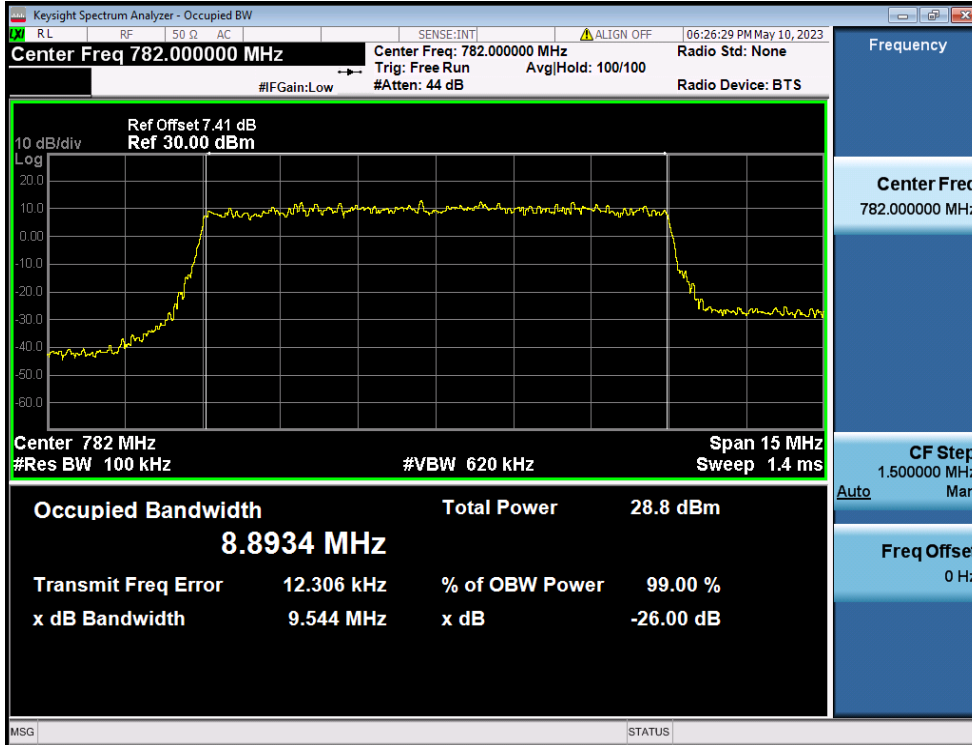


LTE Band 12 / 1.4MHz / 64QAM - RB Size 6

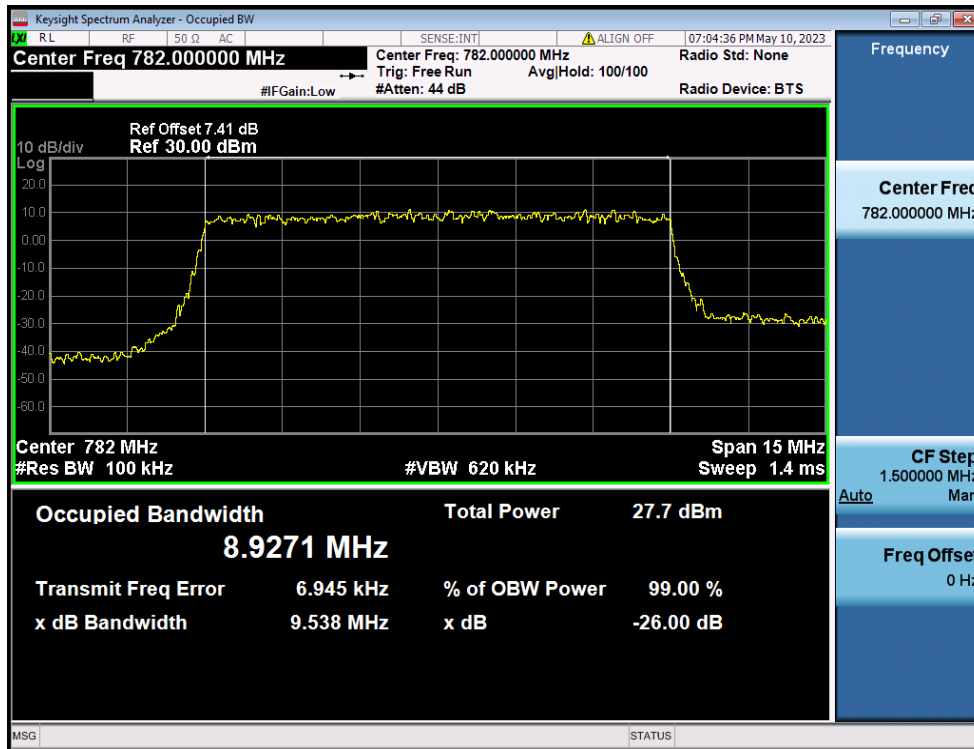
8.1.3. LTE Band 13



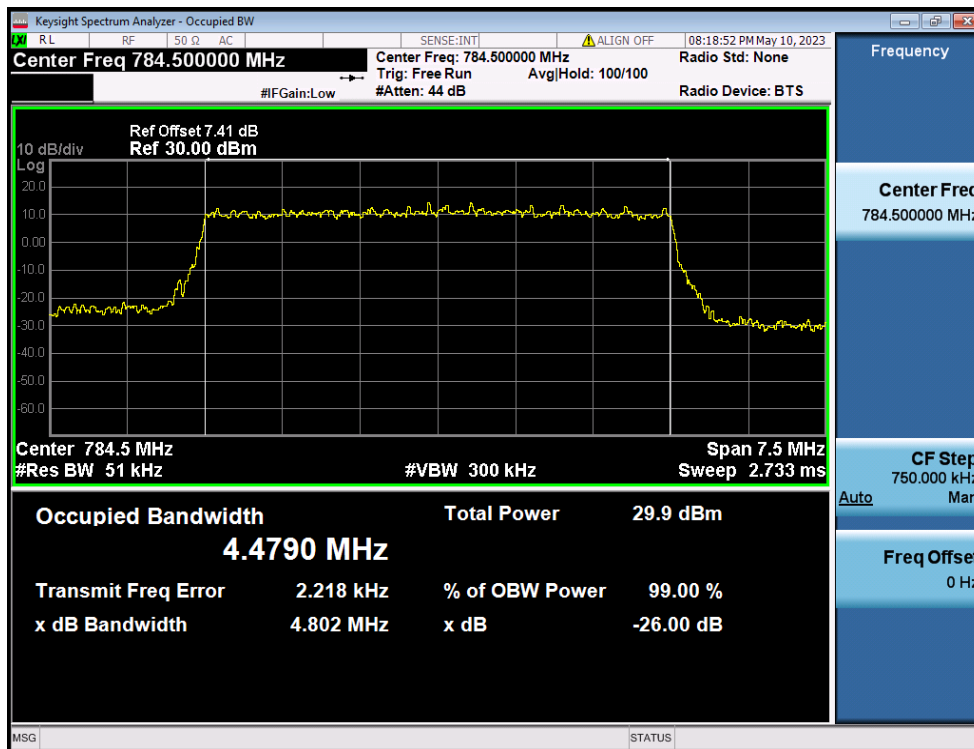
LTE Band 13 / 10MHz / QPSK - RB Size 50



LTE Band 13 / 10MHz / 16QAM - RB Size 50



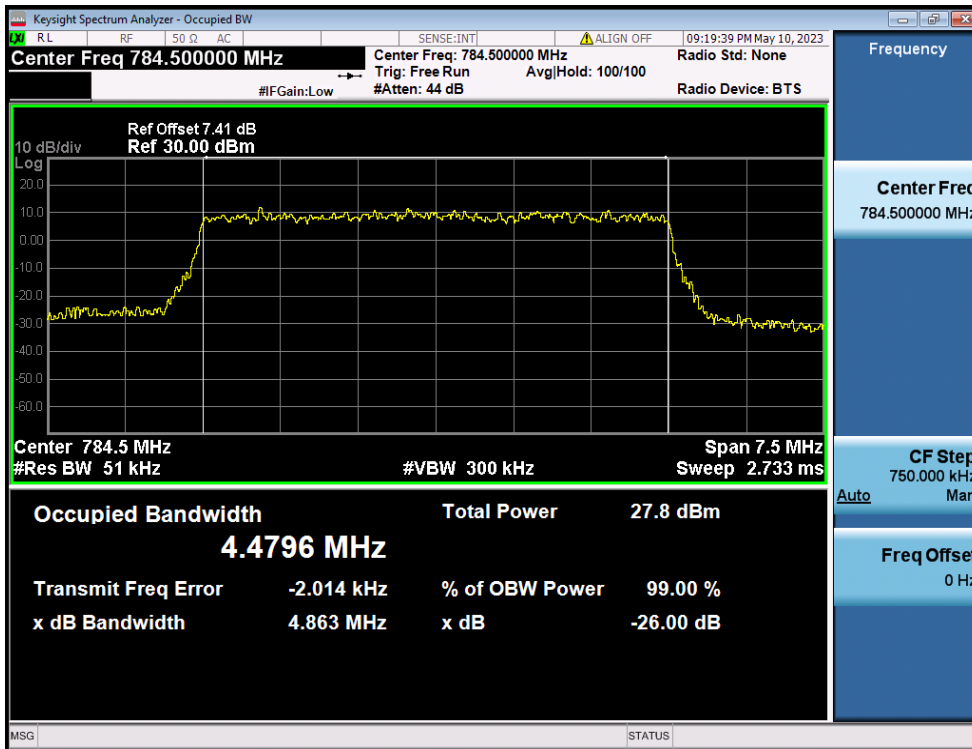
LTE Band 13 / 10MHz / 64QAM - RB Size 50



LTE Band 13 / 5MHz / QPSK - RB Size 25



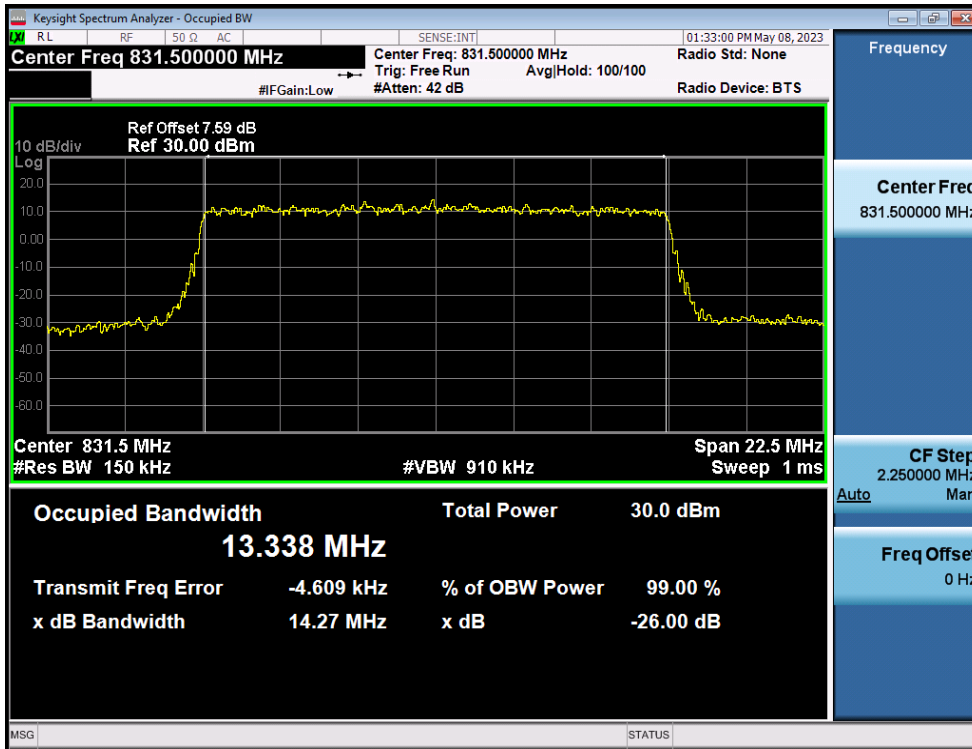
LTE Band 13 / 5MHz / 16QAM - RB Size 25



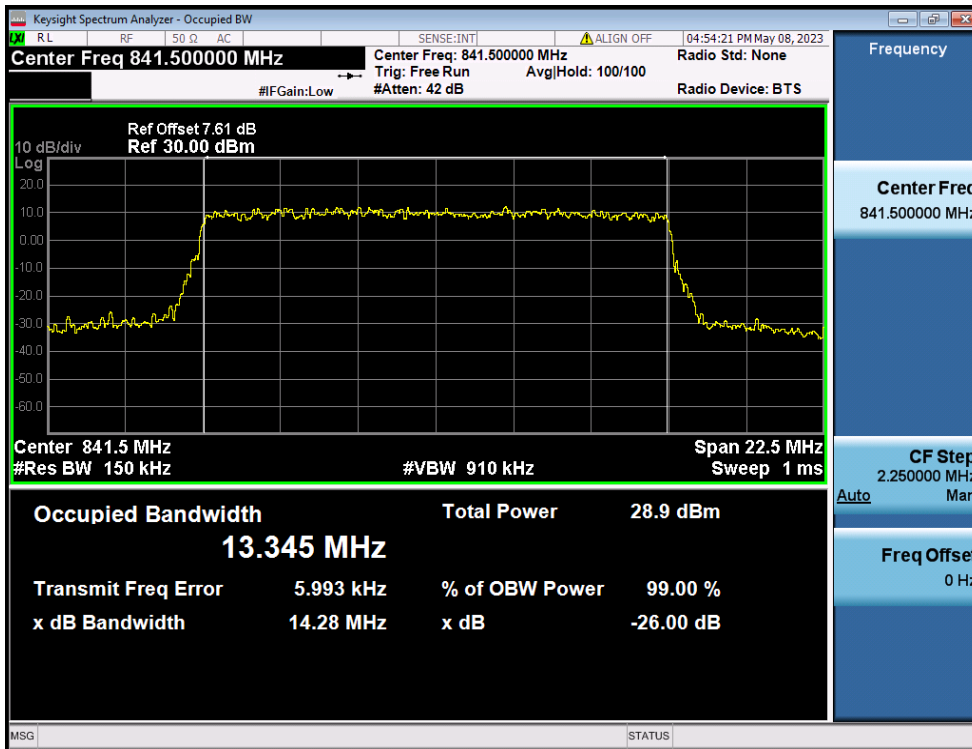
LTE Band 13 / 5MHz / 64QAM - RB Size 25



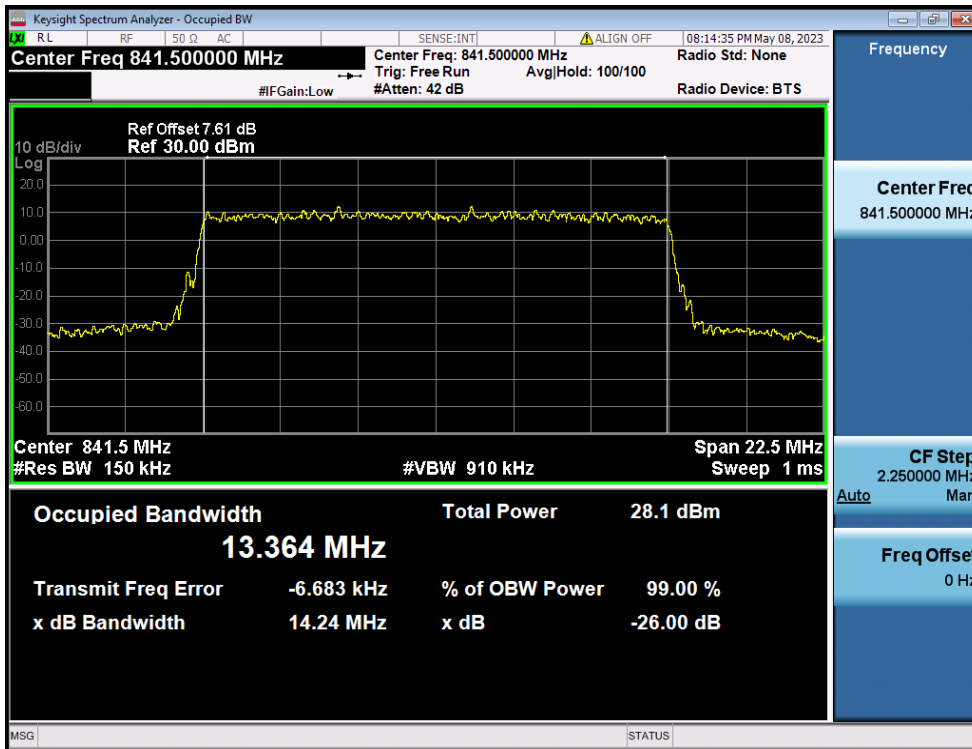
8.1.4. LTE Band 26



LTE Band 26 / 15MHz / QPSK - RB Size 75



LTE Band 26 / 15MHz / 16QAM - RB Size 75

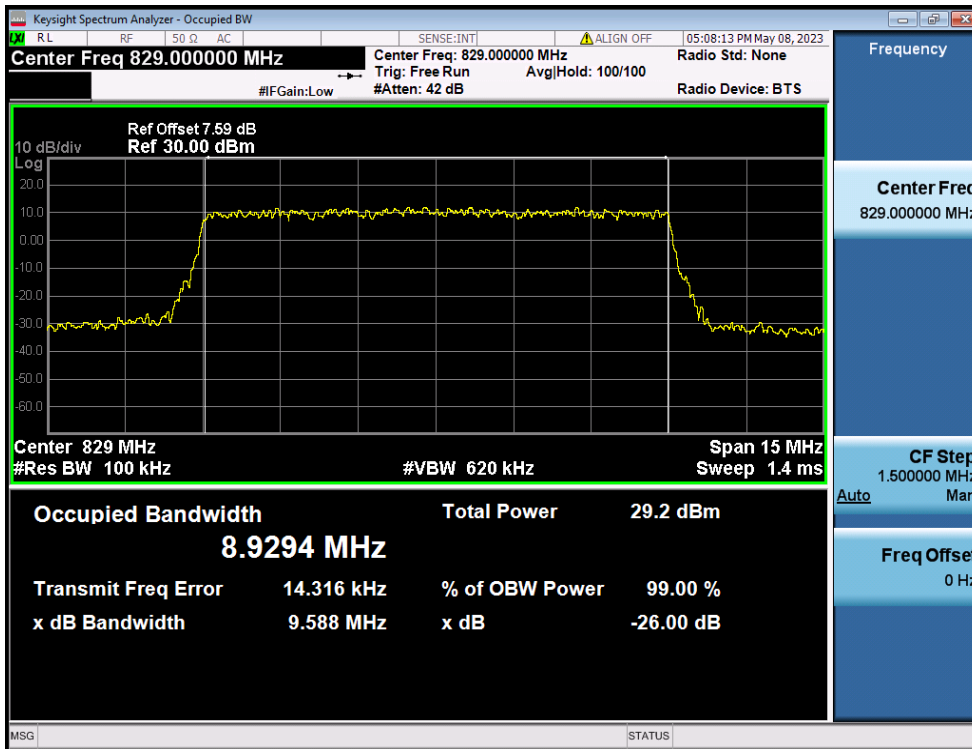


LTE Band 26 / 15MHz / 64QAM - RB Size 75

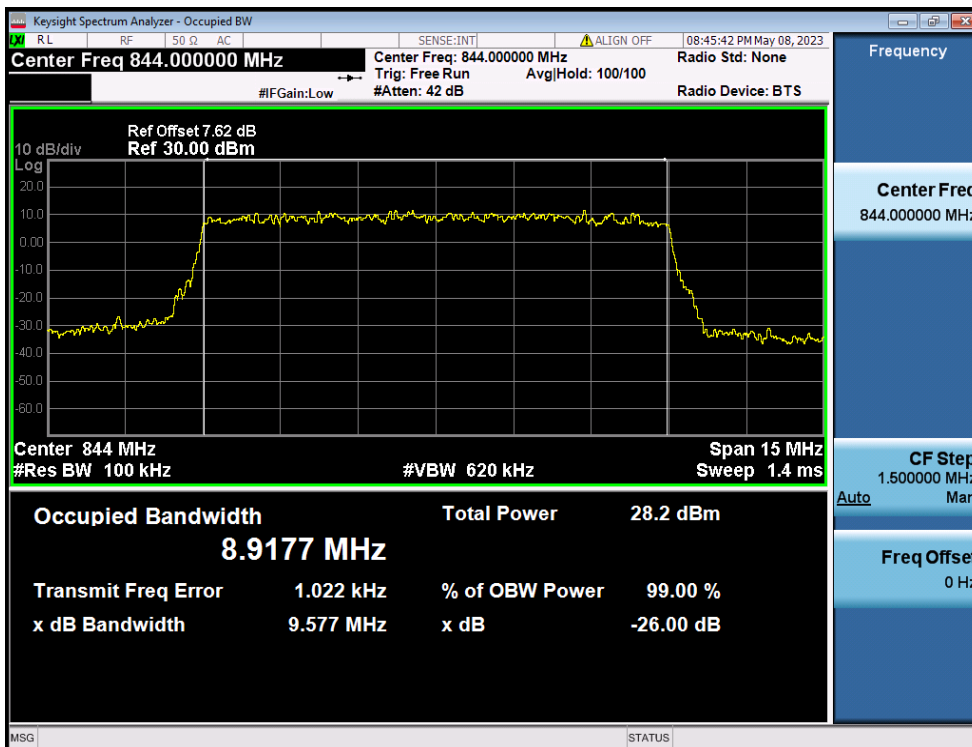
8.1.5. LTE Band 26(5)



LTE Band 26(5) / 10MHz / QPSK - RB Size 50



LTE Band 26(5) / 10MHz / 16QAM - RB Size 50



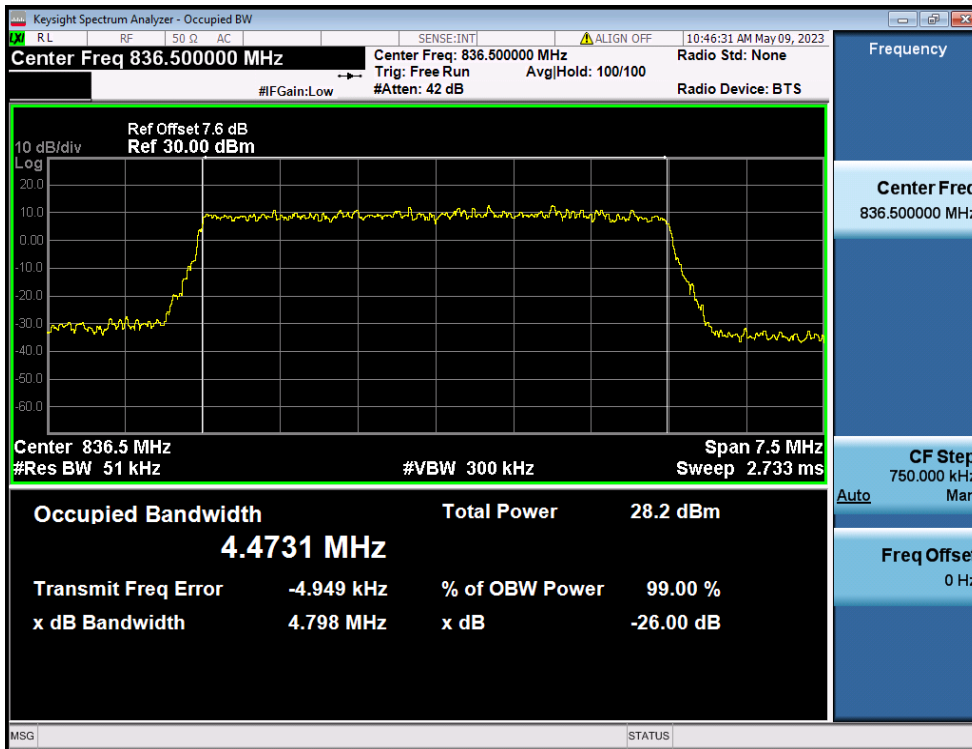
LTE Band 26(5) / 10MHz / 64QAM - RB Size 50



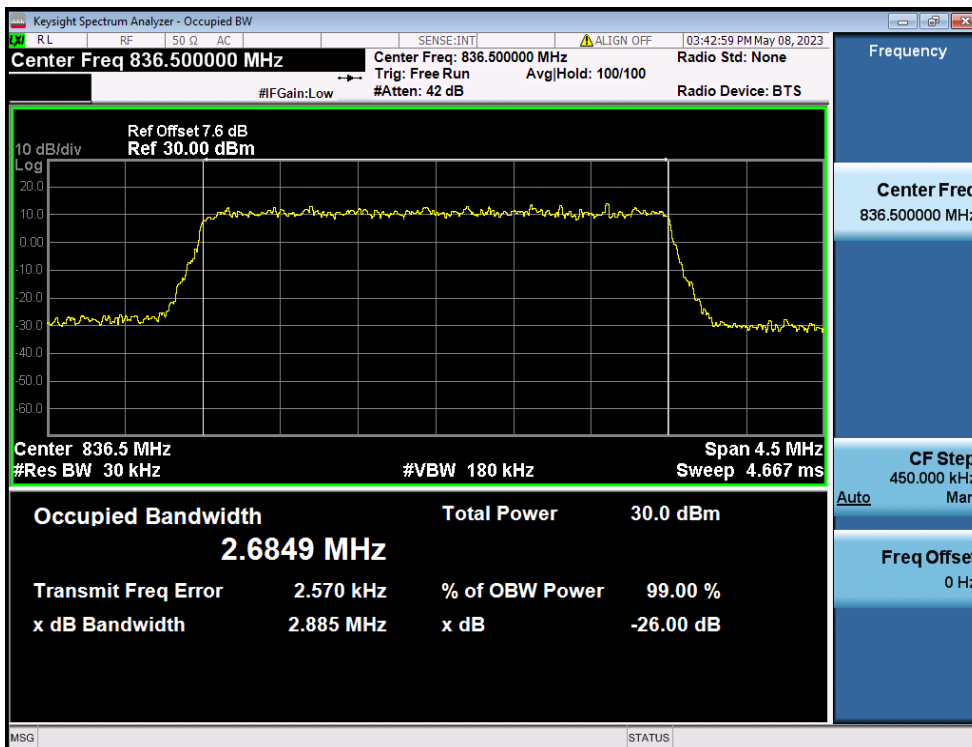
LTE Band 26(5) / 5MHz / QPSK - RB Size 25



LTE Band 26(5) / 5MHz / 16QAM - RB Size 25



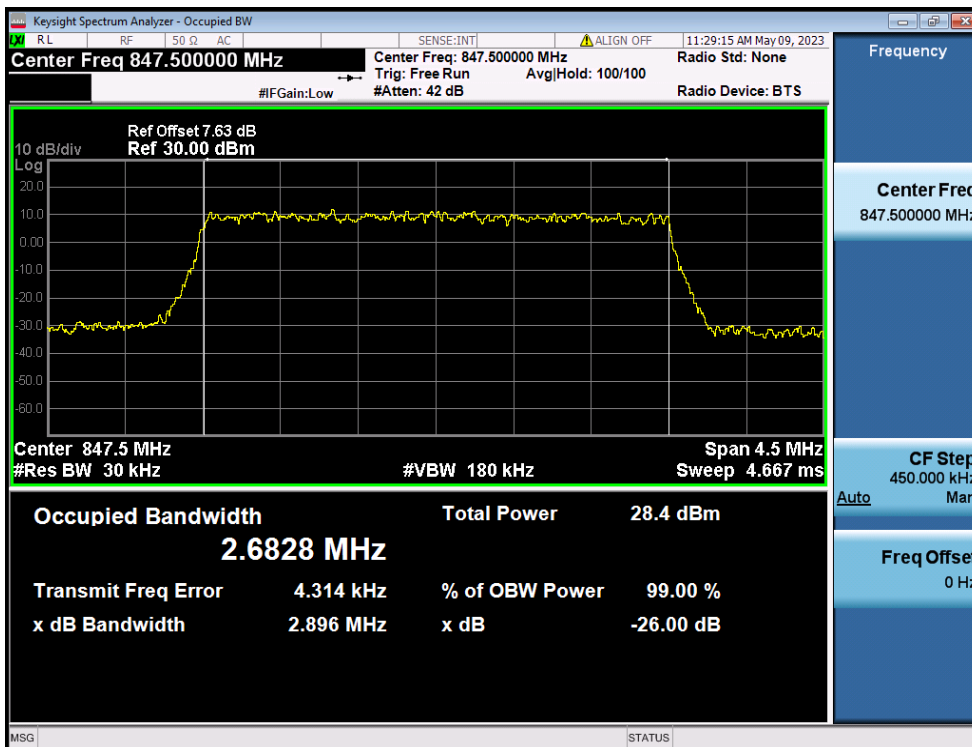
LTE Band 26(5) / 5MHz / 64QAM - RB Size 25



LTE Band 26(5) / 3MHz / QPSK - RB Size 15



LTE Band 26(5) / 3MHz / 16QAM - RB Size 15



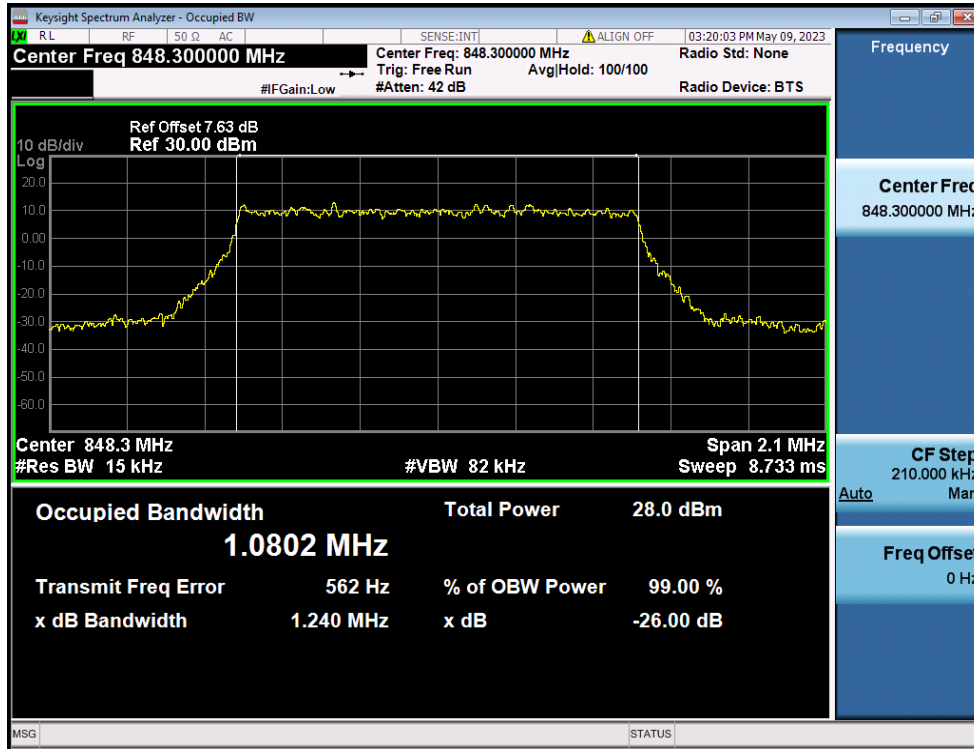
LTE Band 26(5) / 3MHz / 64QAM - RB Size 15



LTE Band 26(5) / 1.4MHz / QPSK - RB Size 6



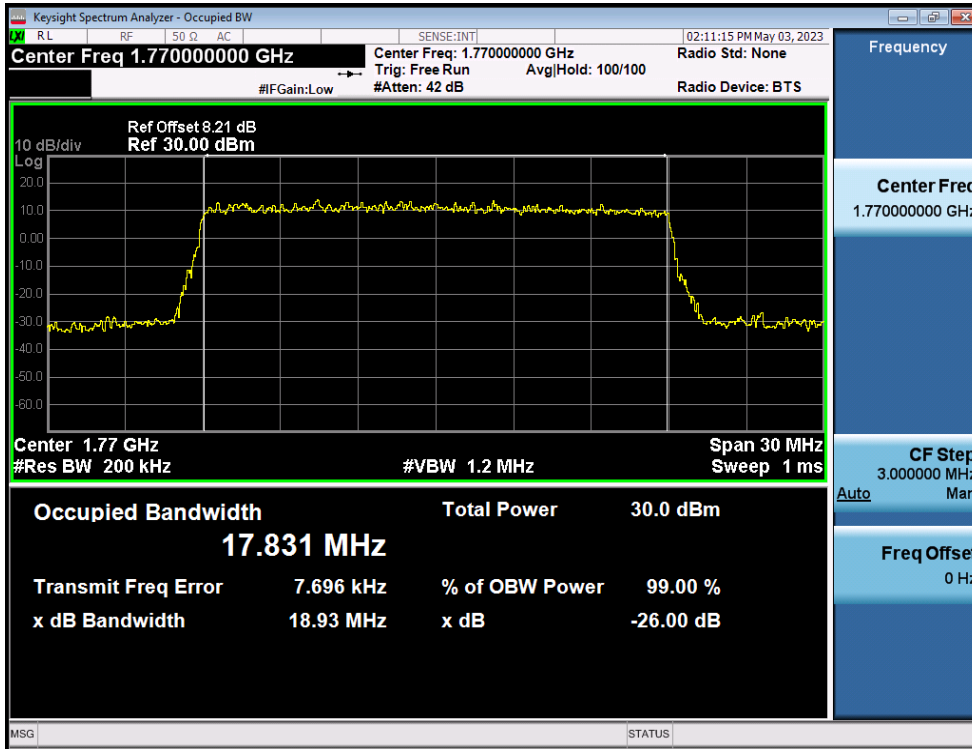
LTE Band 26(5) / 1.4MHz / 16QAM - RB Size 6



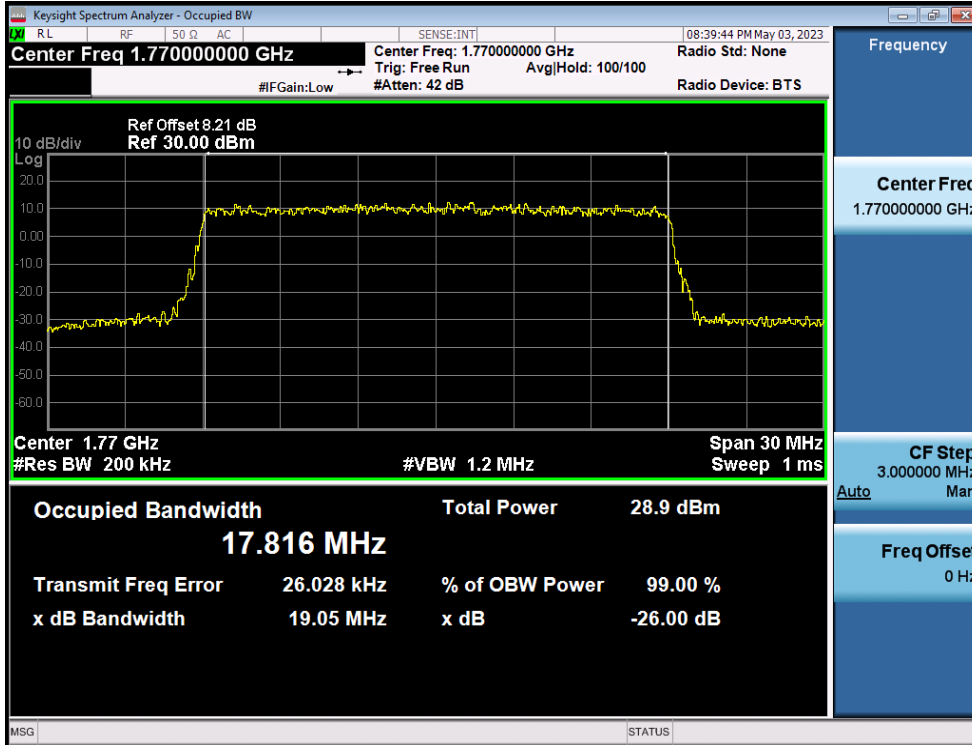
LTE Band 26(5) / 1.4MHz / 64QAM - RB Size 6



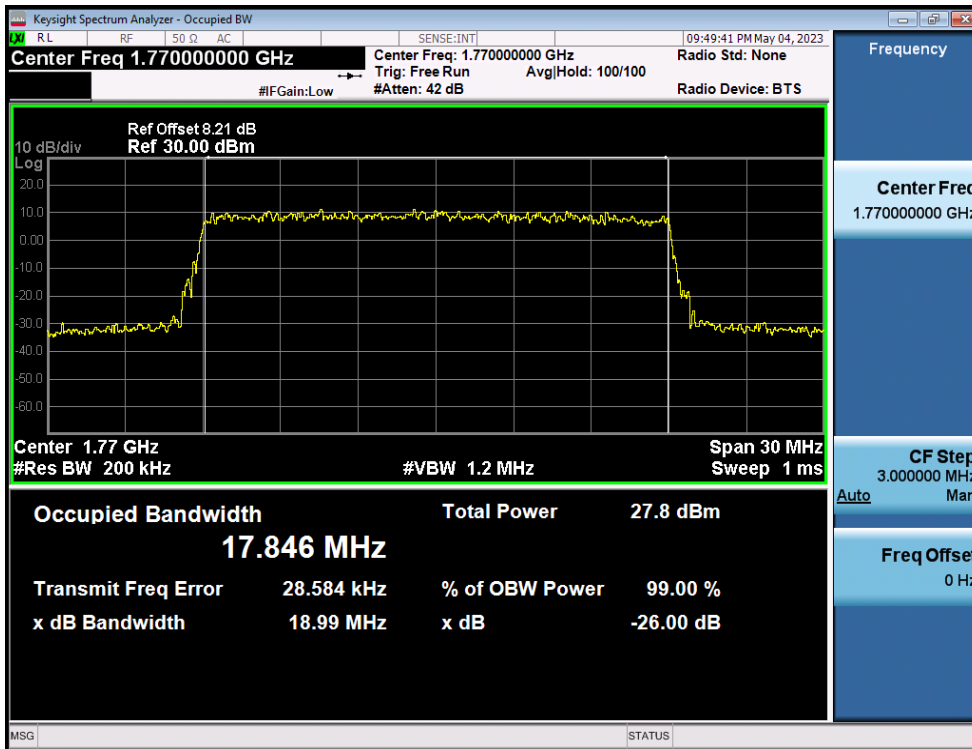
8.1.6. LTE Band 66(4)



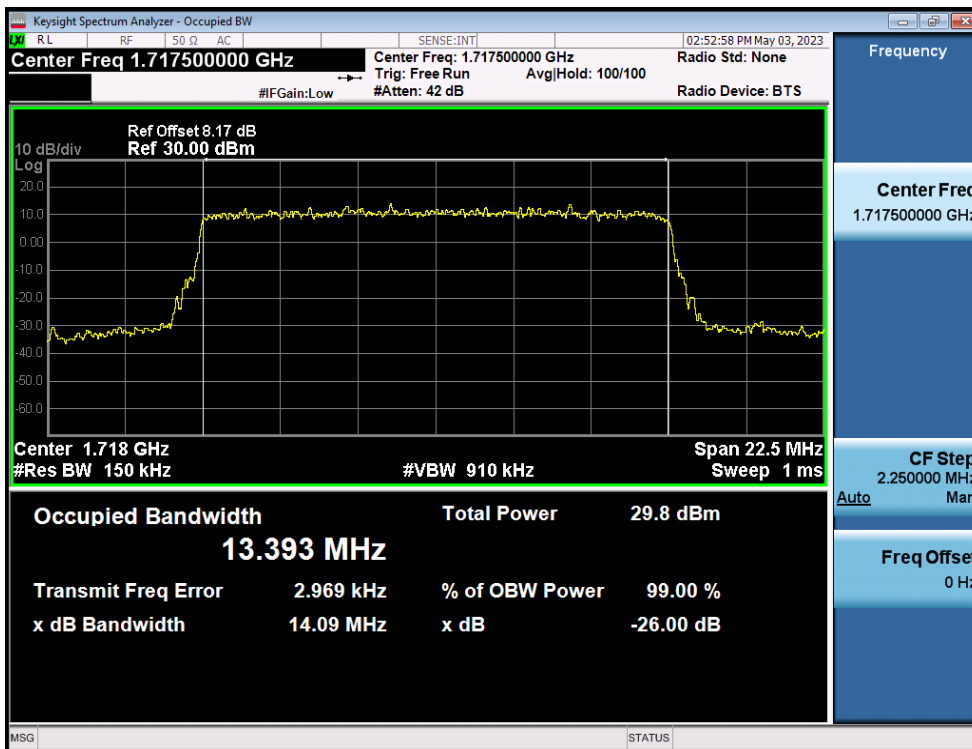
LTE Band 66(4) / 20MHz / QPSK - RB Size 100



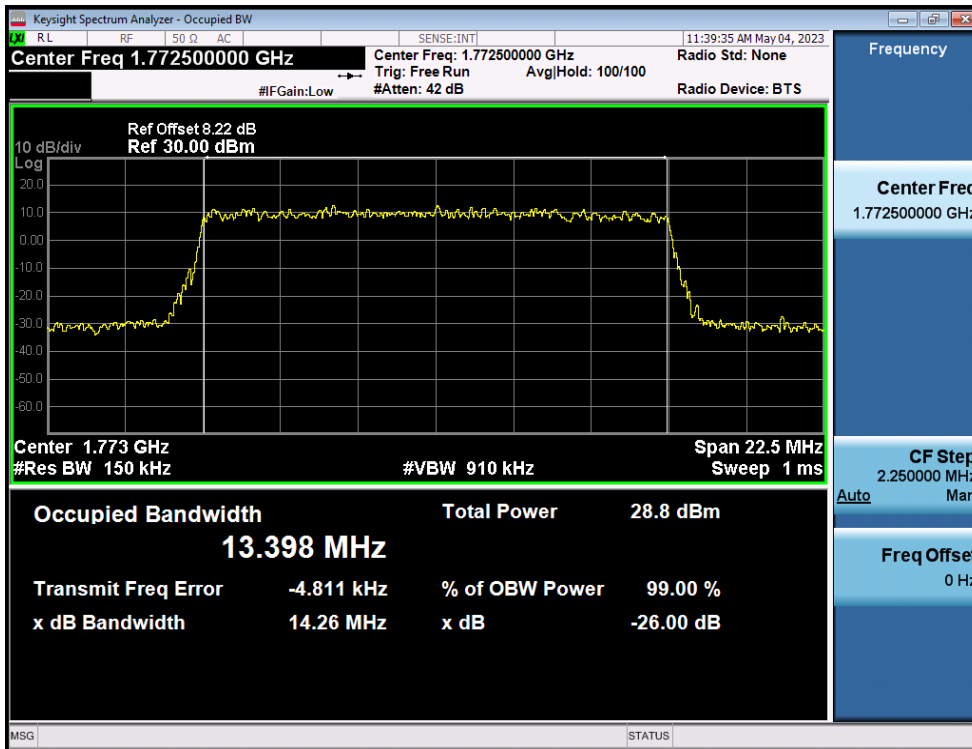
LTE Band 66(4) / 20MHz / 16QAM - RB Size 100



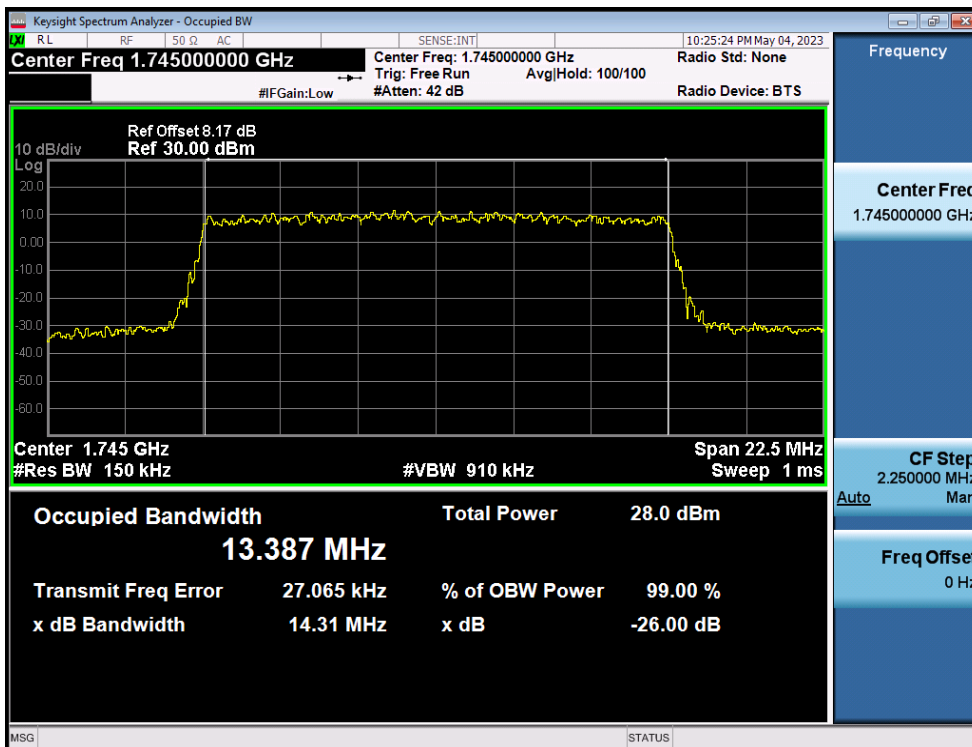
LTE Band 66(4) / 20MHz / 64QAM - RB Size 100



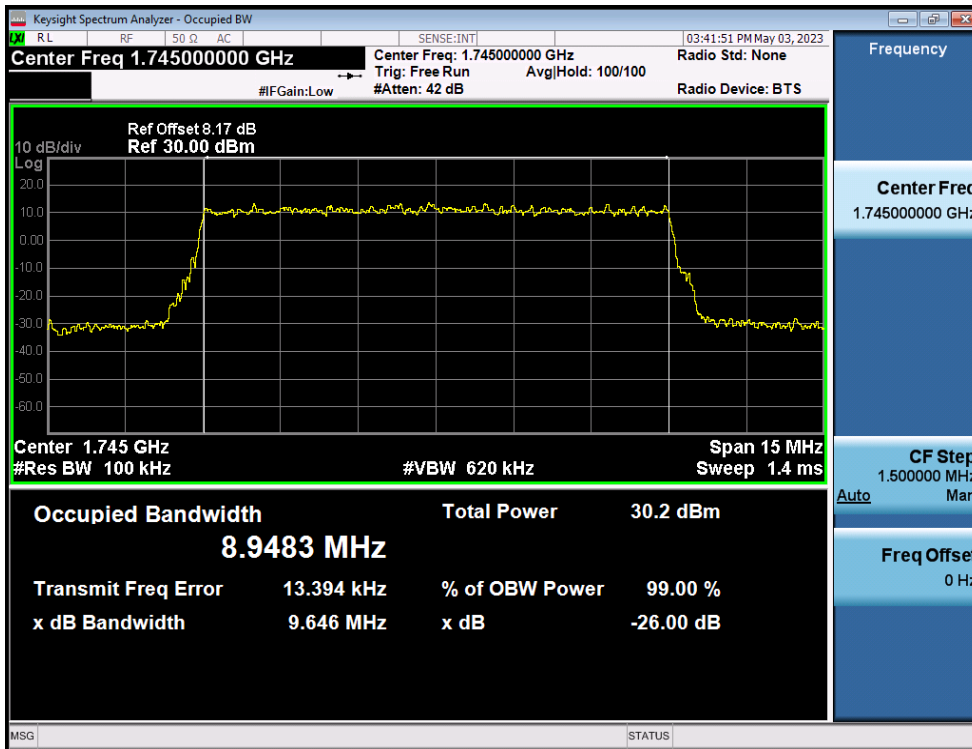
LTE Band 66(4) / 15MHz / QPSK - RB Size 75



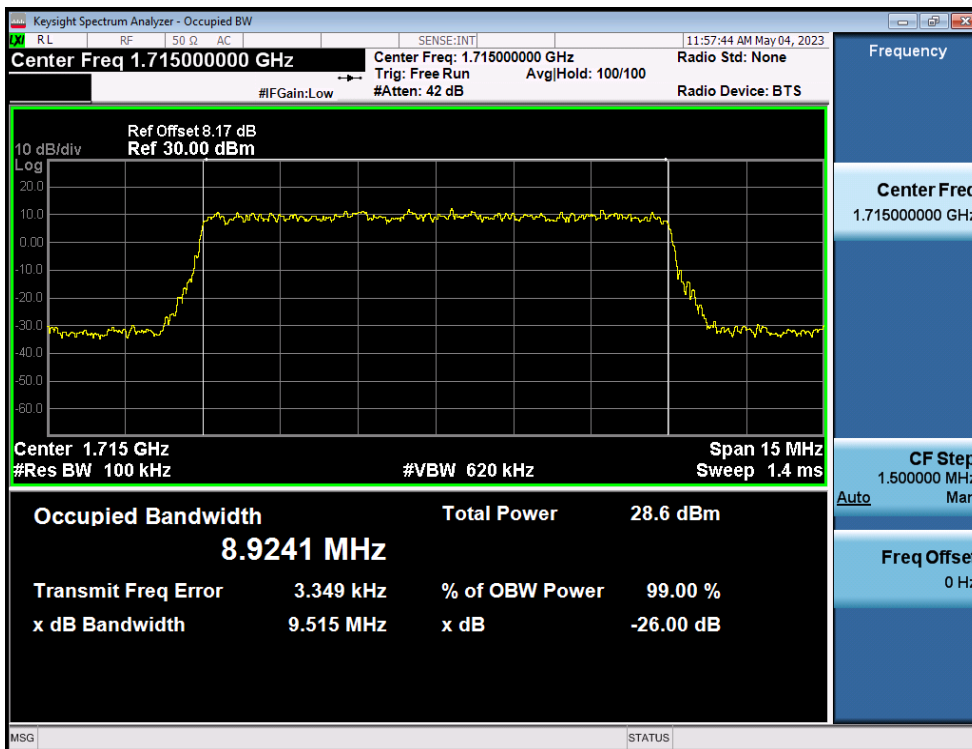
LTE Band 66(4) / 15MHz / 16QAM - RB Size 75



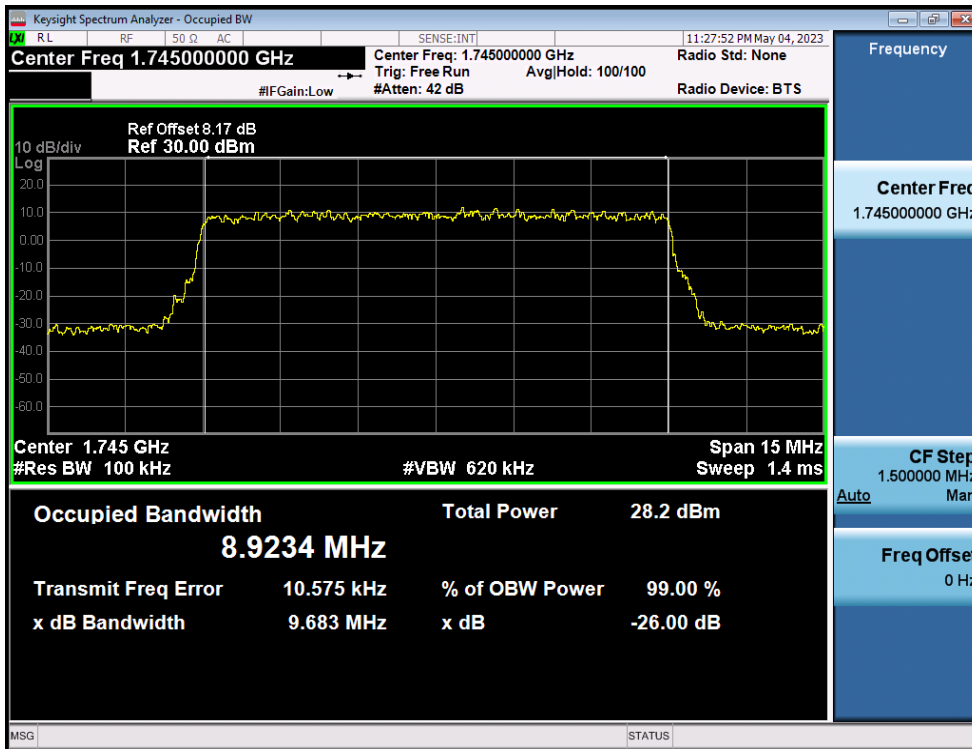
LTE Band 66(4) / 15MHz / 64QAM - RB Size 75



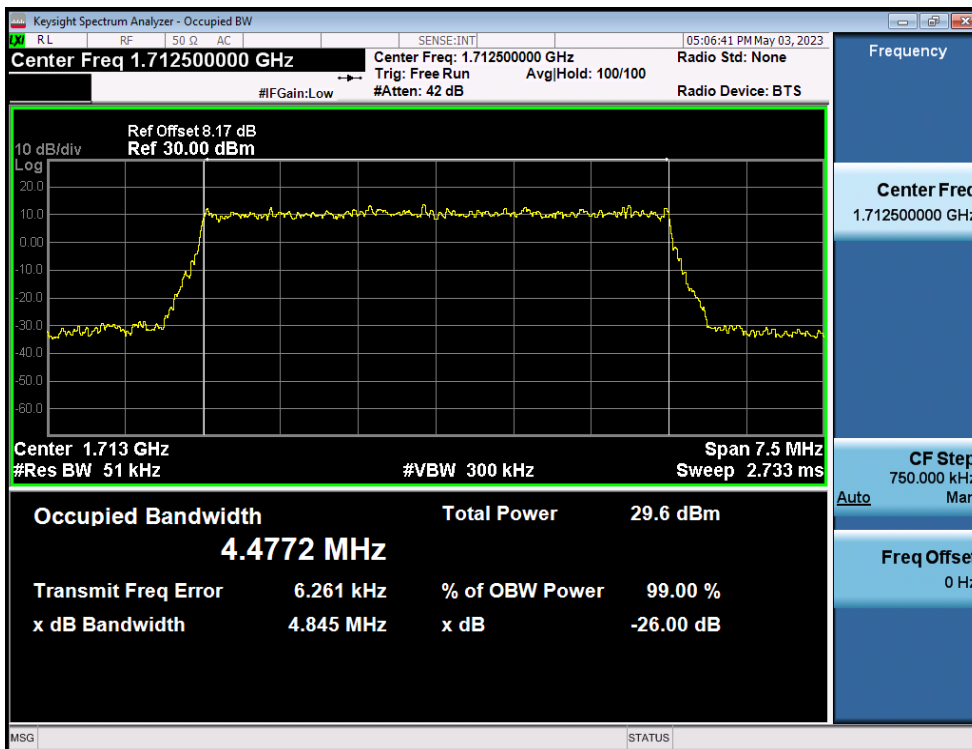
LTE Band 66(4) / 10MHz / QPSK - RB Size 50



LTE Band 66(4) / 10MHz / 16QAM - RB Size 50



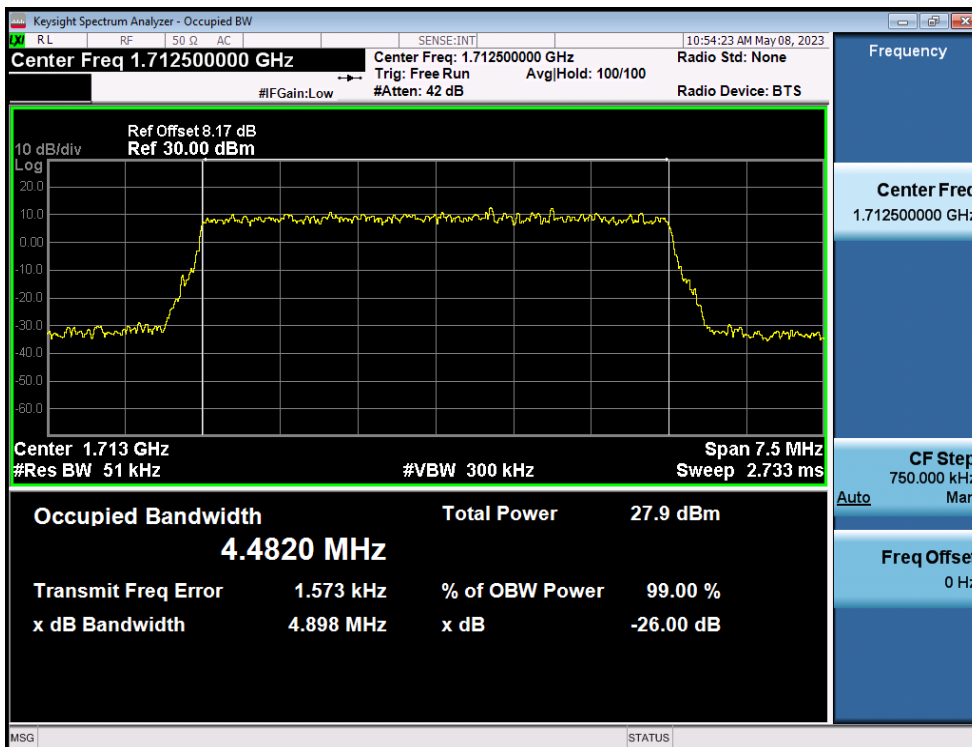
LTE Band 66(4) / 10MHz / 64QAM - RB Size 50



LTE Band 66(4) / 5MHz / QPSK - RB Size 25



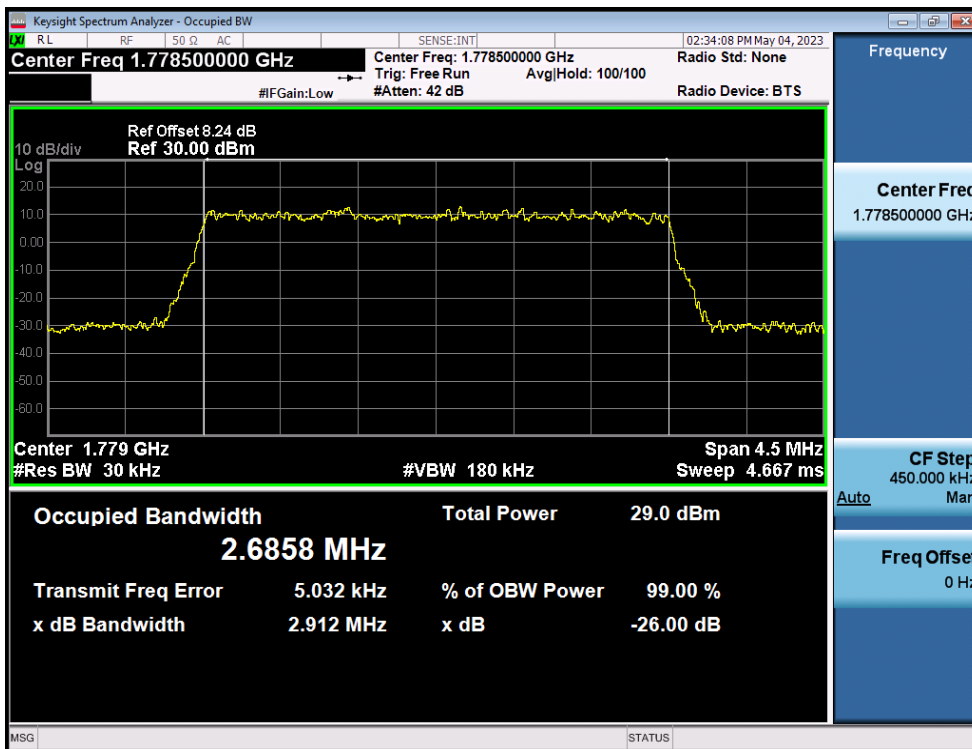
LTE Band 66(4) / 5MHz / 16QAM - RB Size 25



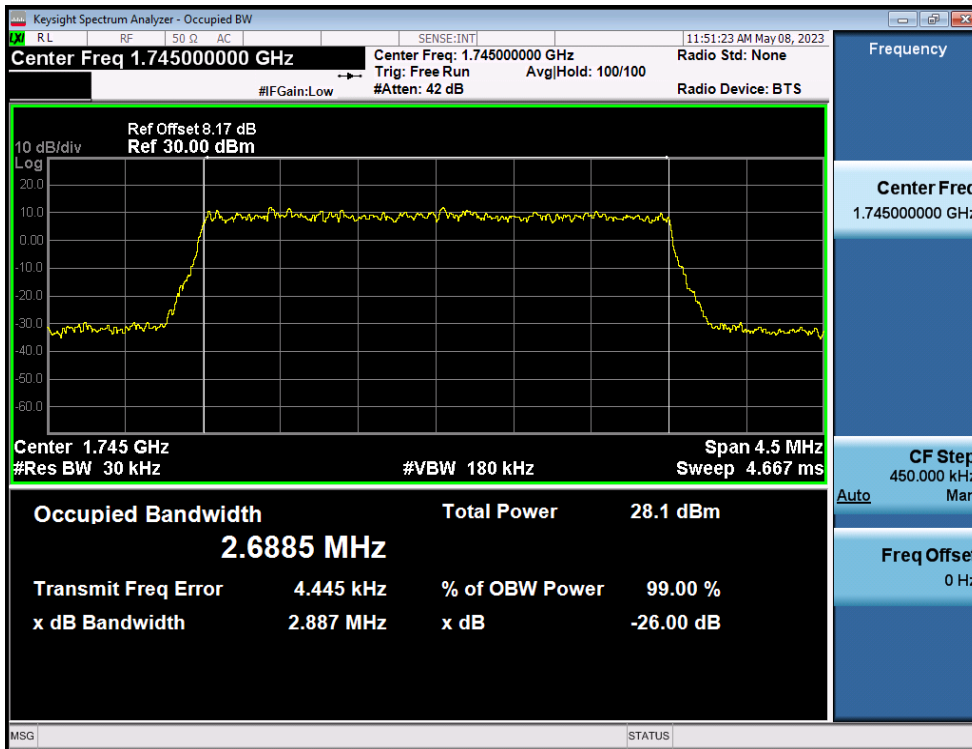
LTE Band 66(4) / 5MHz / 64QAM - RB Size 25



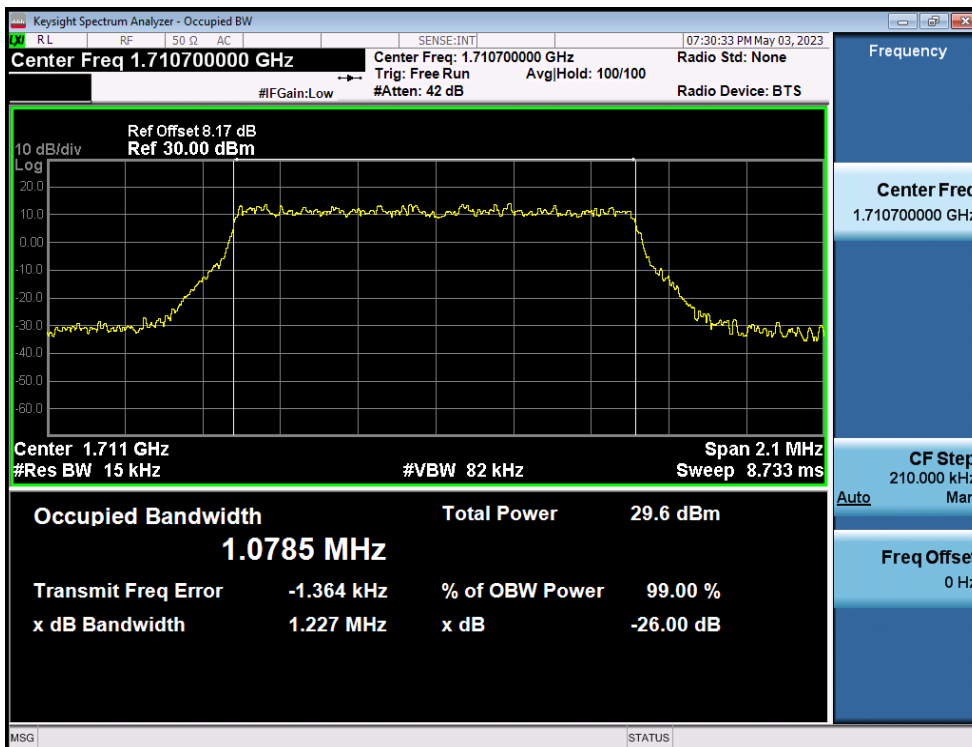
LTE Band 66(4) / 3MHz / QPSK - RB Size 15



LTE Band 66(4) / 3MHz / 16QAM - RB Size 15

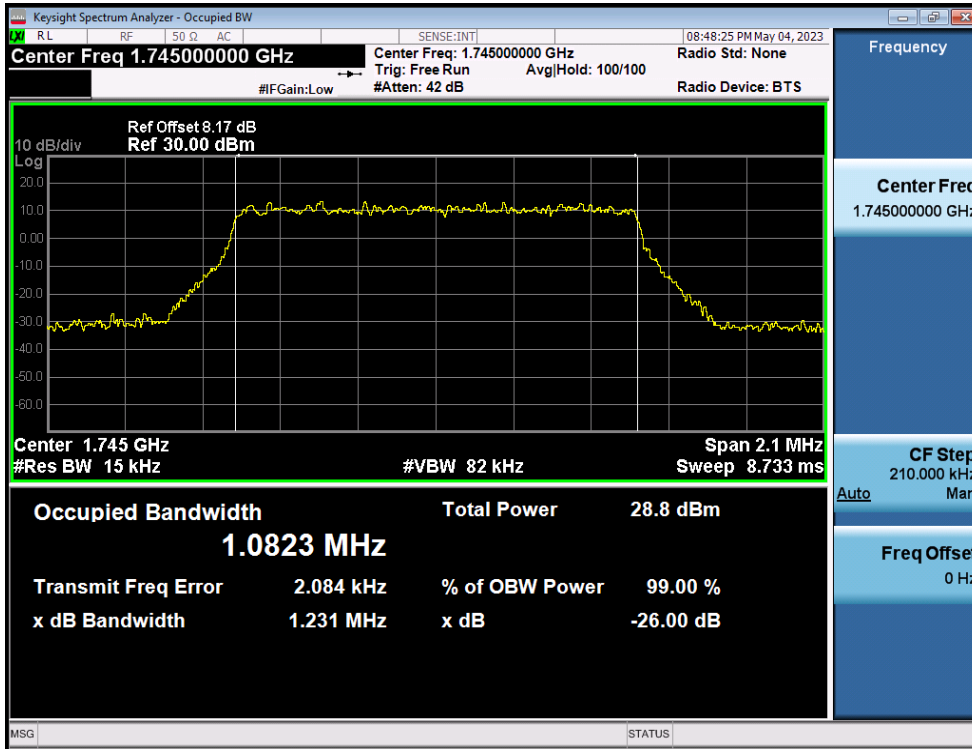


LTE Band 66(4) / 3MHz / 64QAM - RB Size 15

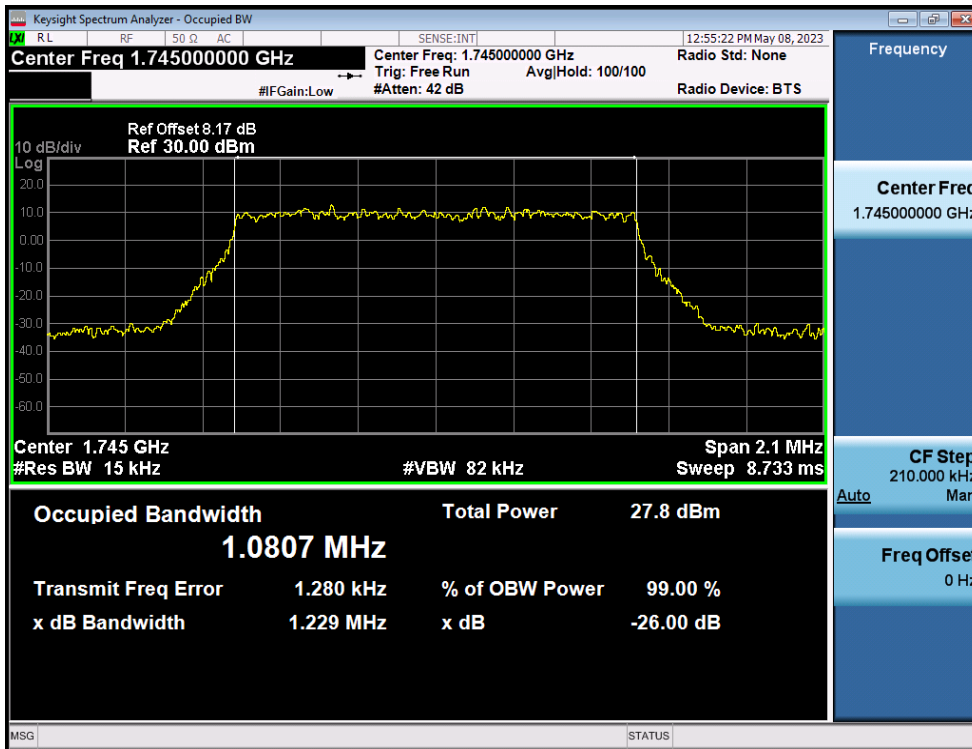


LTE Band 66(4) / 1.4MHz / QPSK - RB Size 6



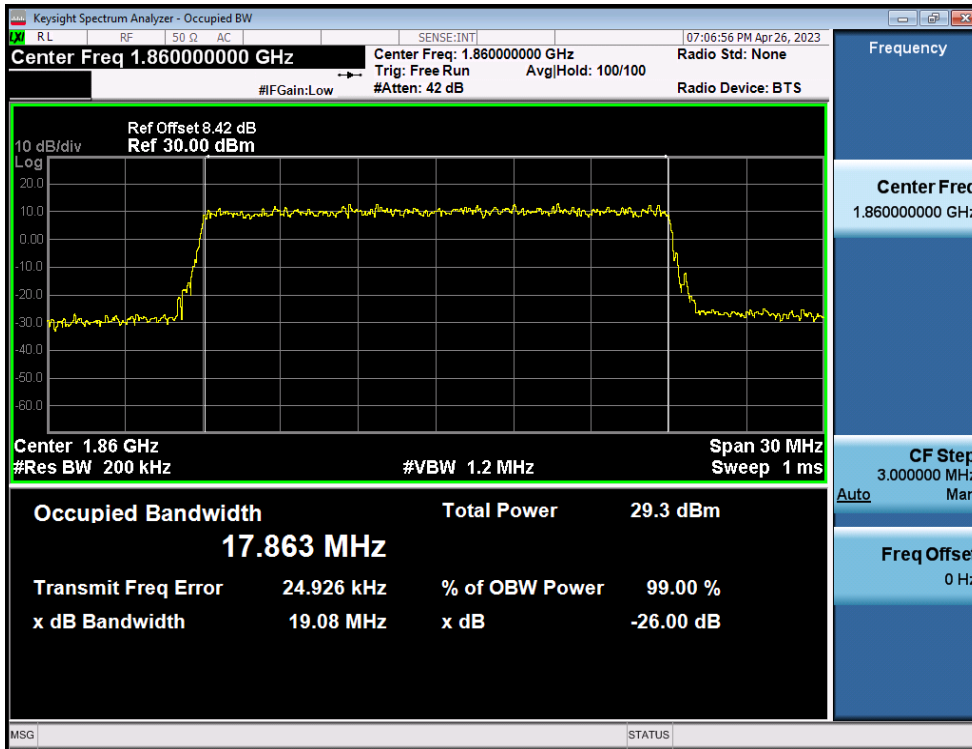


LTE Band 66(4) / 1.4MHz / 16QAM - RB Size 6

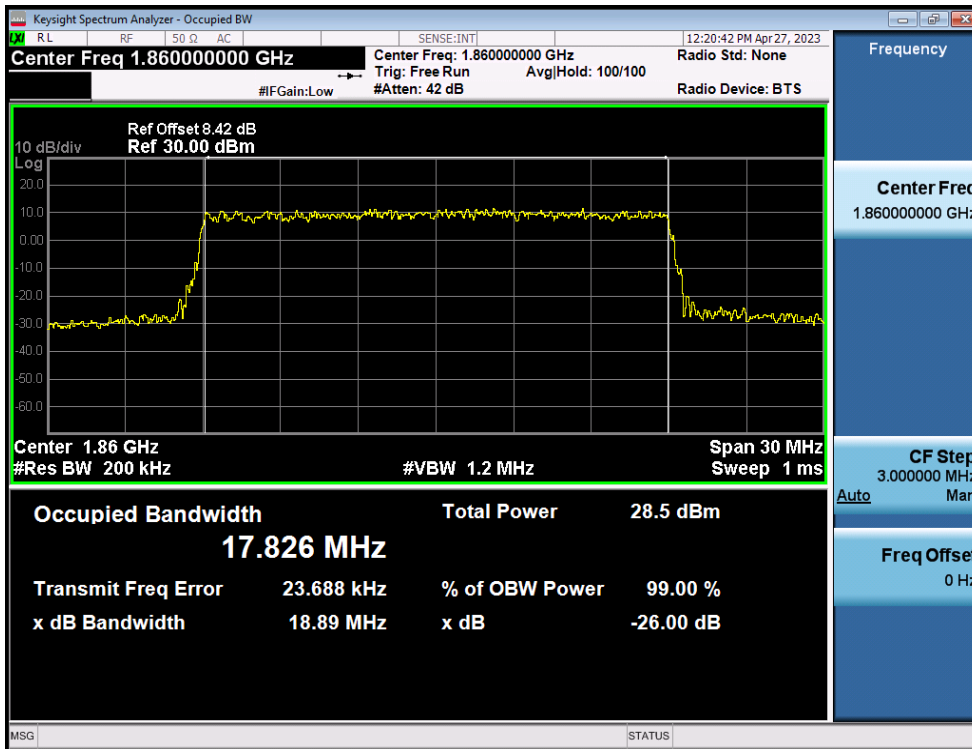


LTE Band 66(4) / 1.4MHz / 64QAM - RB Size 6

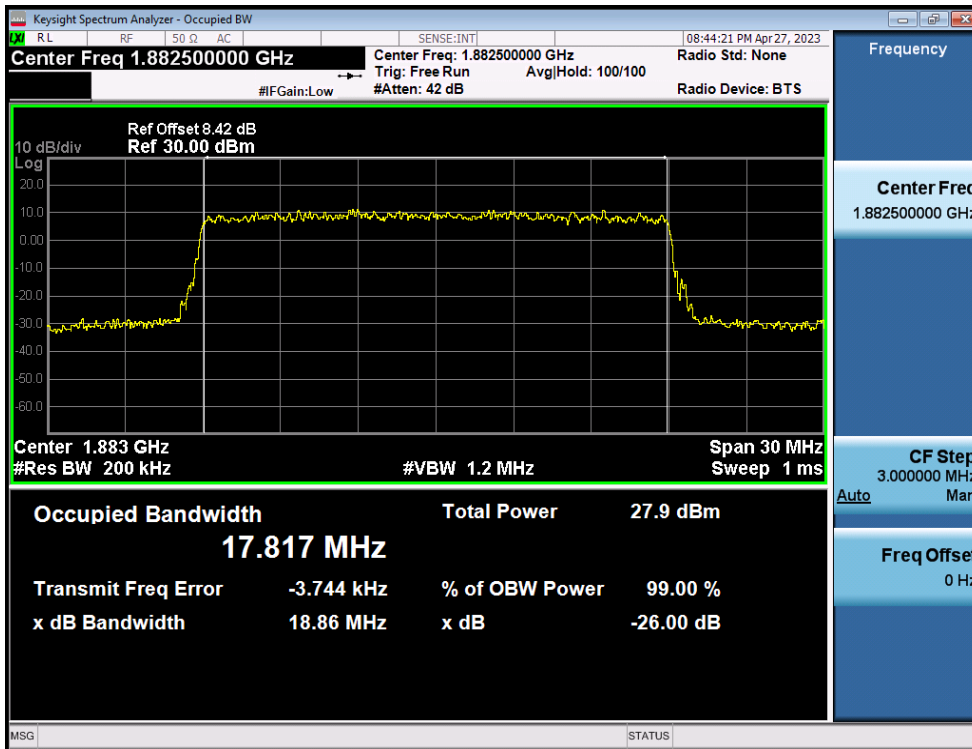
8.1.7. LTE Band 25(2)



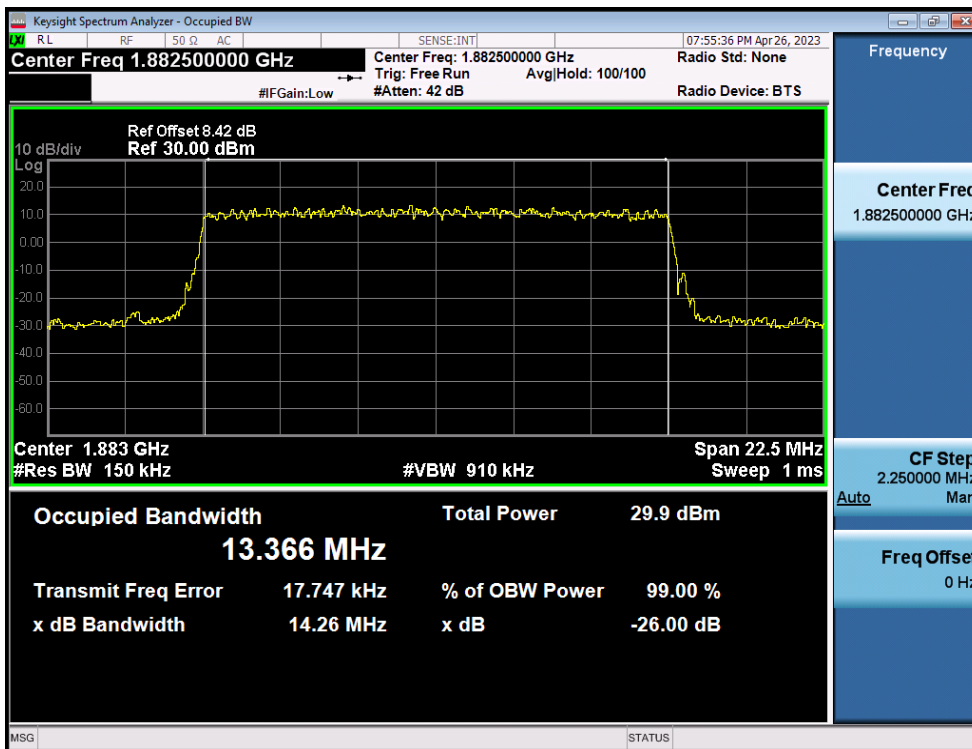
LTE Band 25(2) / 20MHz / QPSK - RB Size 100



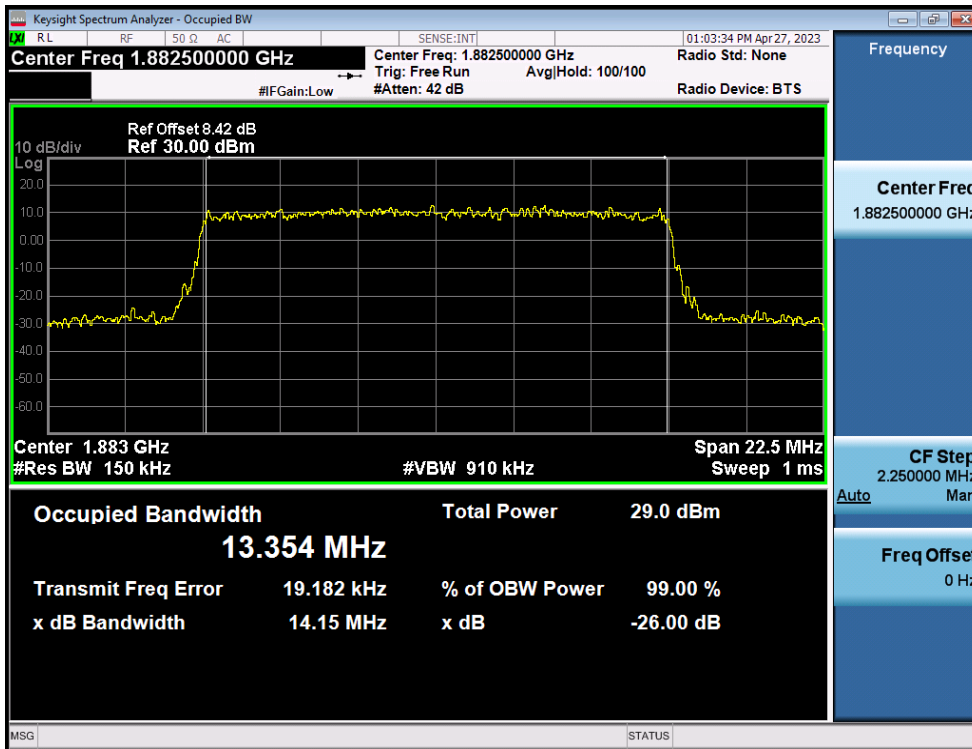
LTE Band 25(2) / 20MHz / 16QAM - RB Size 100



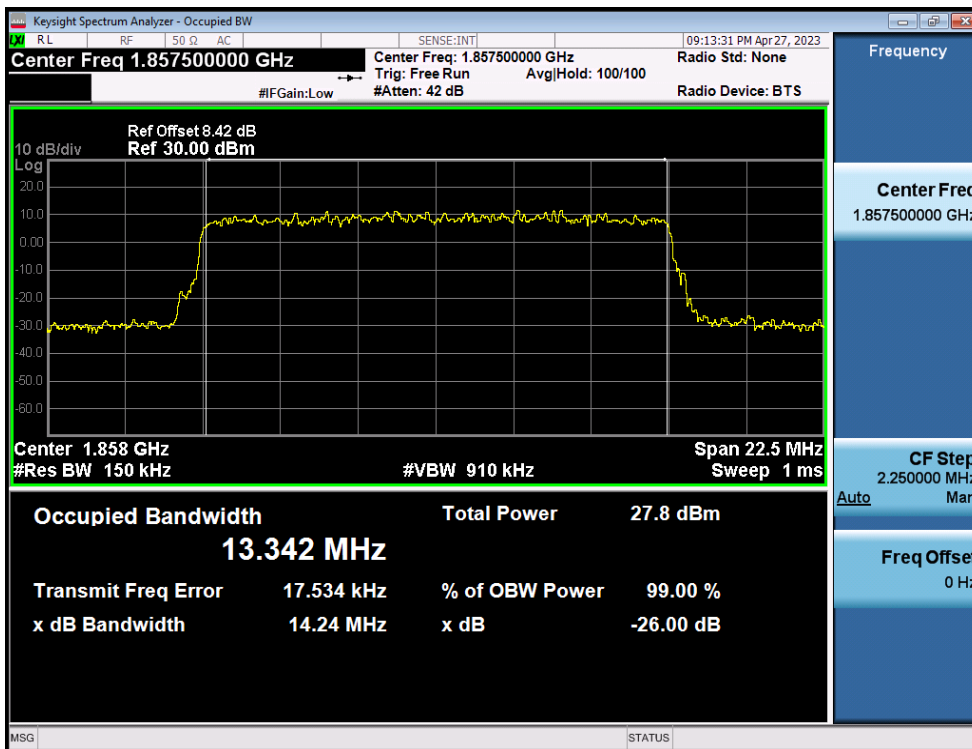
LTE Band 25(2) / 20MHz / 64QAM - RB Size 100



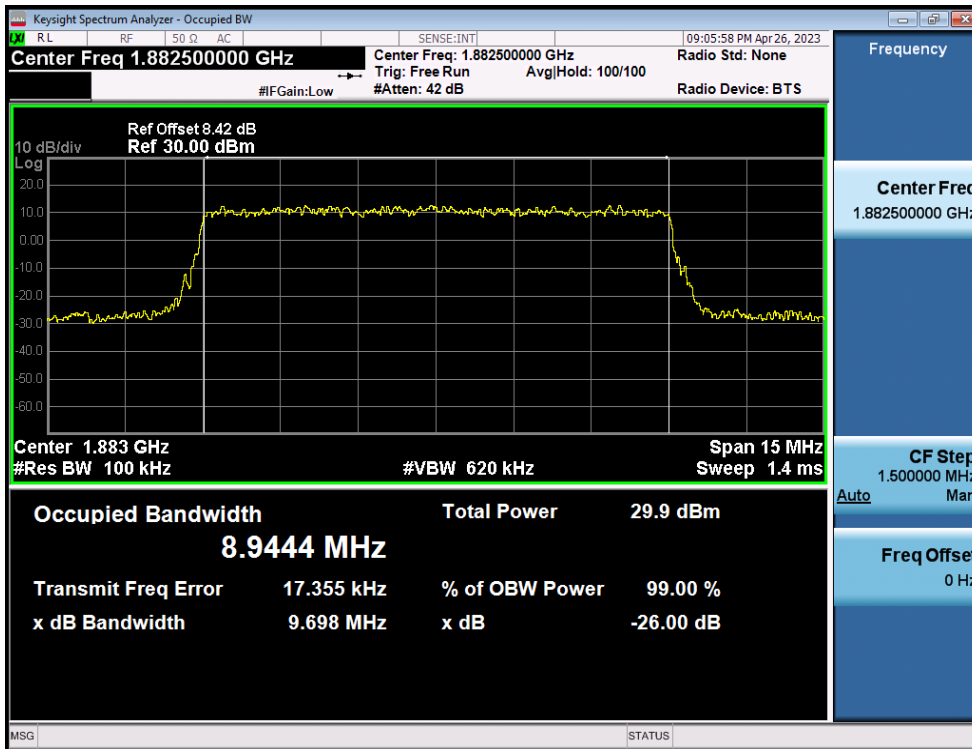
LTE Band 25(2) / 15MHz / QPSK - RB Size 75



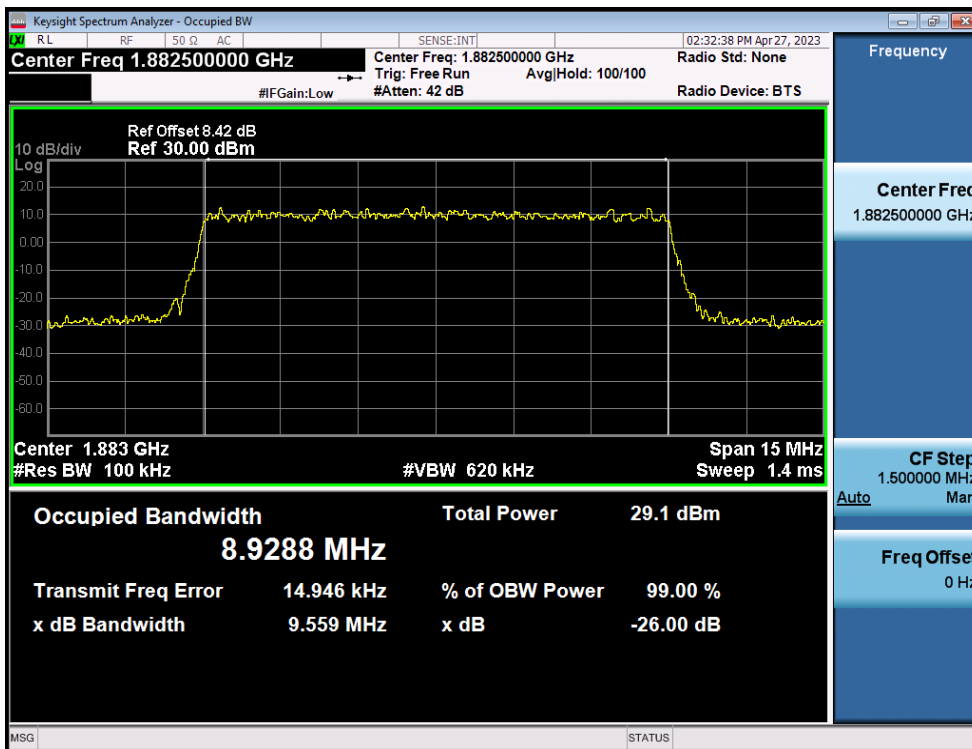
LTE Band 25(2) / 15MHz / 16QAM - RB Size 75



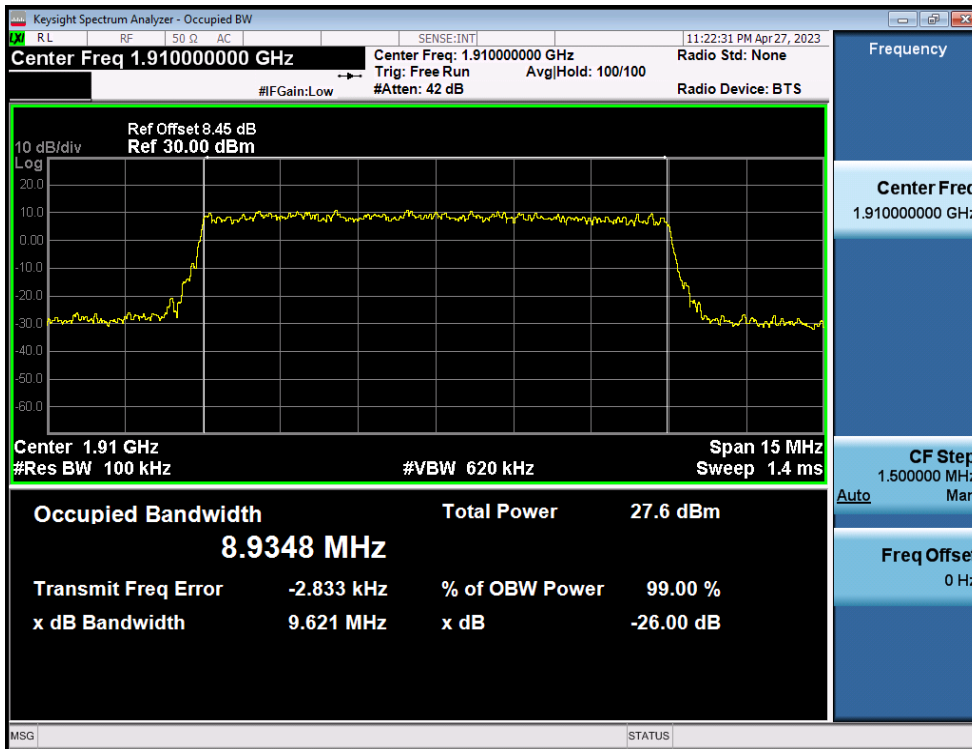
LTE Band 25(2) / 15MHz / 64QAM - RB Size 75



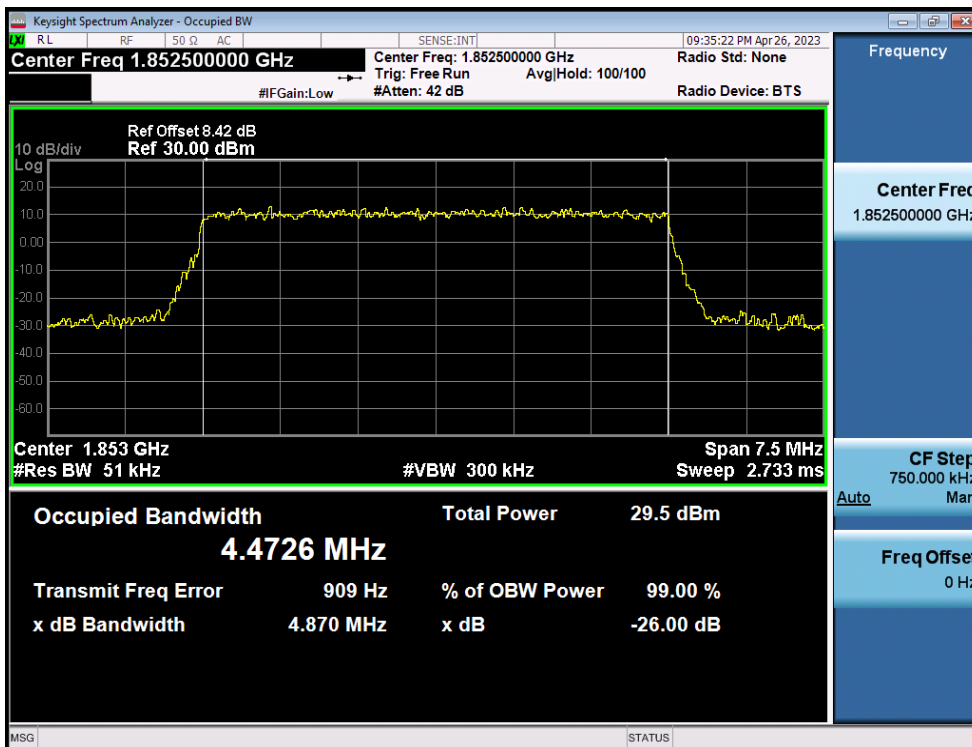
LTE Band 25(2) / 10MHz / QPSK - RB Size 50



LTE Band 25(2) / 10MHz / 16QAM - RB Size 50



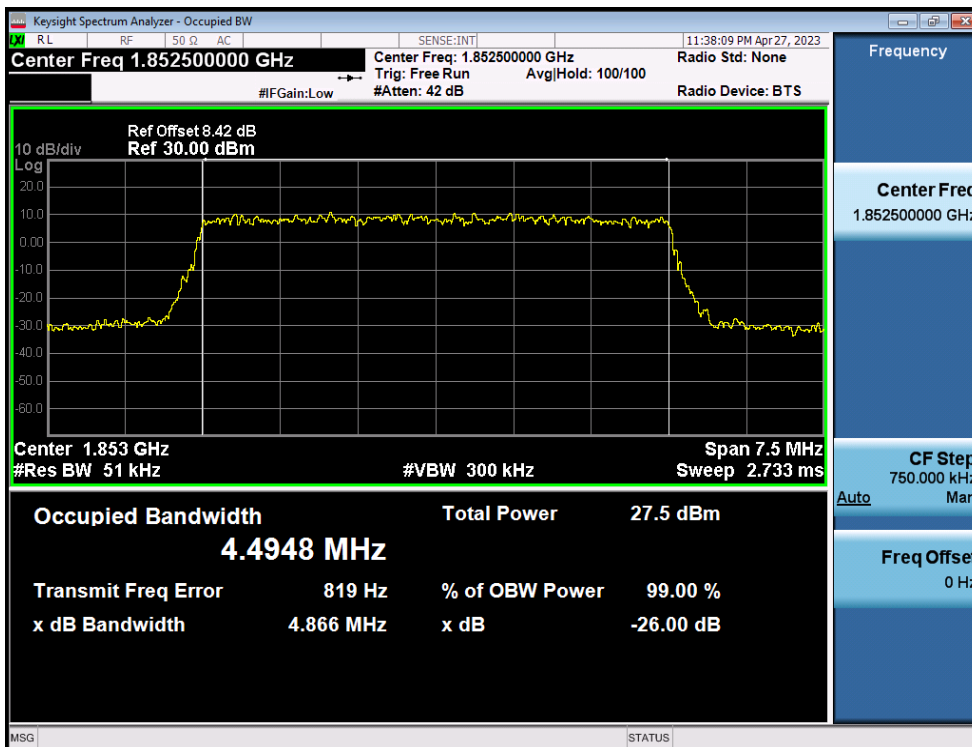
LTE Band 25(2) / 10MHz / 64QAM - RB Size 50



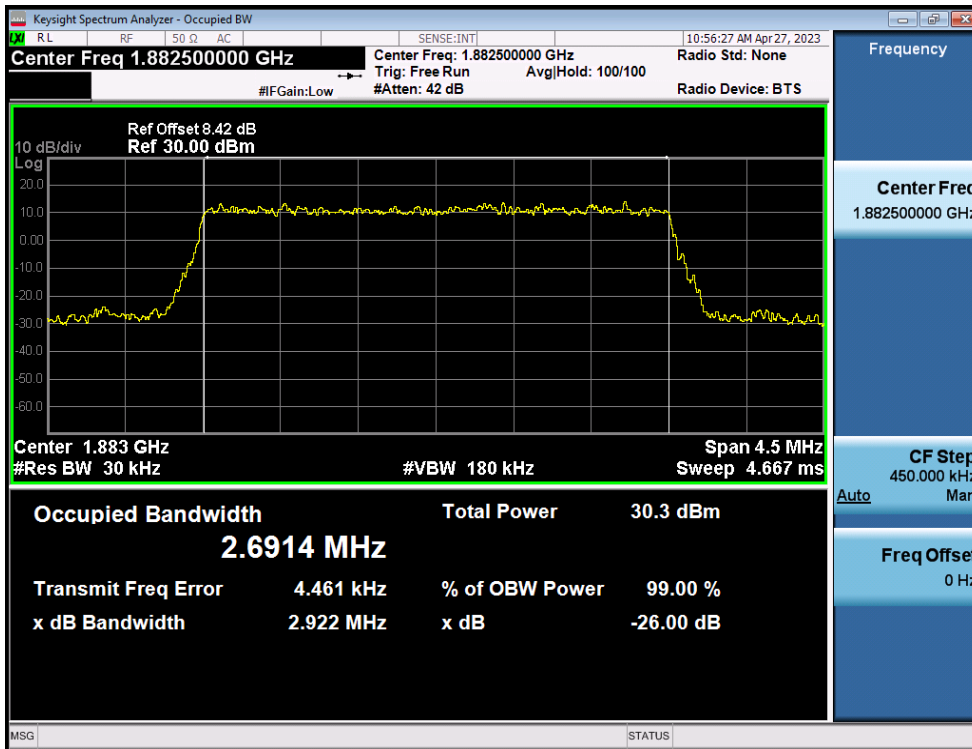
LTE Band 25(2) / 5MHz / QPSK - RB Size 25



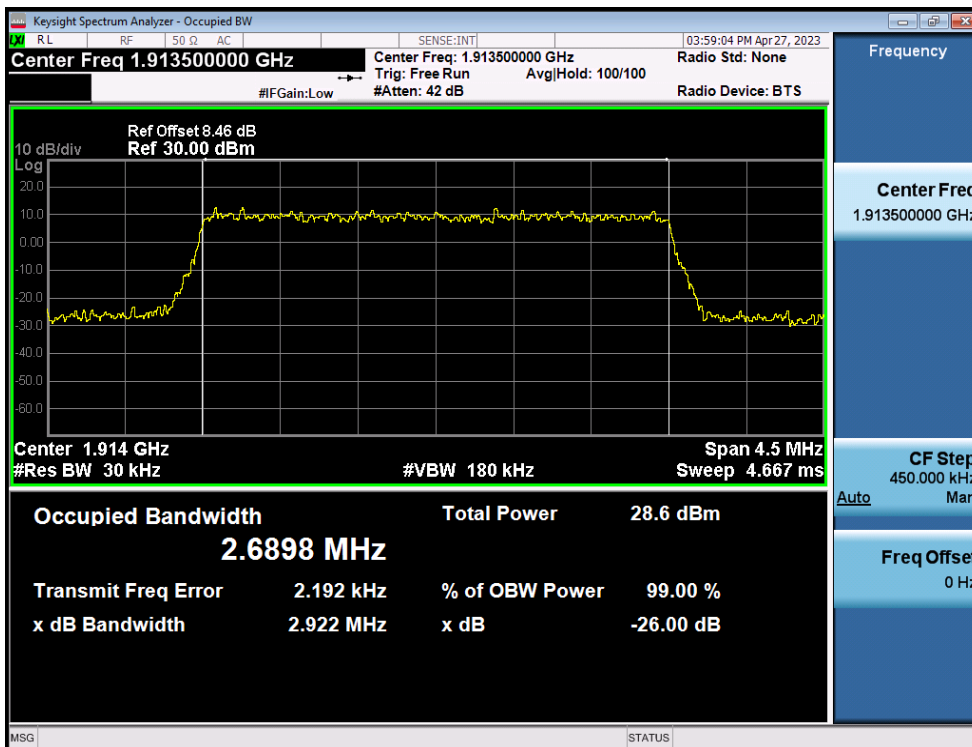
LTE Band 25(2) / 5MHz / 16QAM - RB Size 25



LTE Band 25(2) / 5MHz / 64QAM - RB Size 25

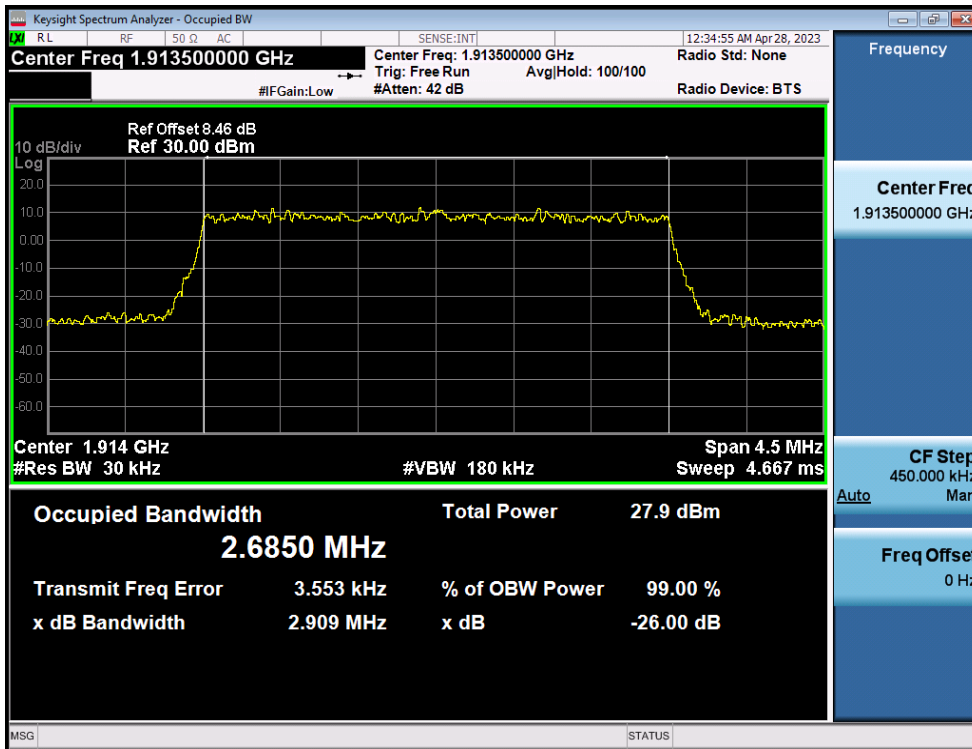


LTE Band 25(2) / 3MHz / QPSK - RB Size 15

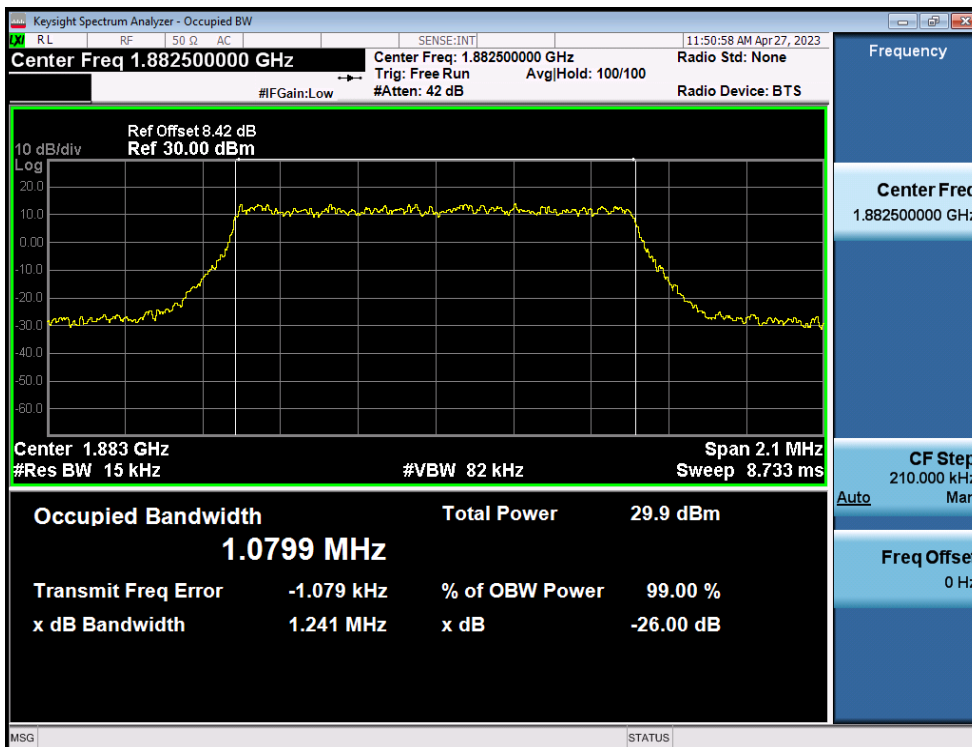


LTE Band 25(2) / 3MHz / 16QAM - RB Size 15

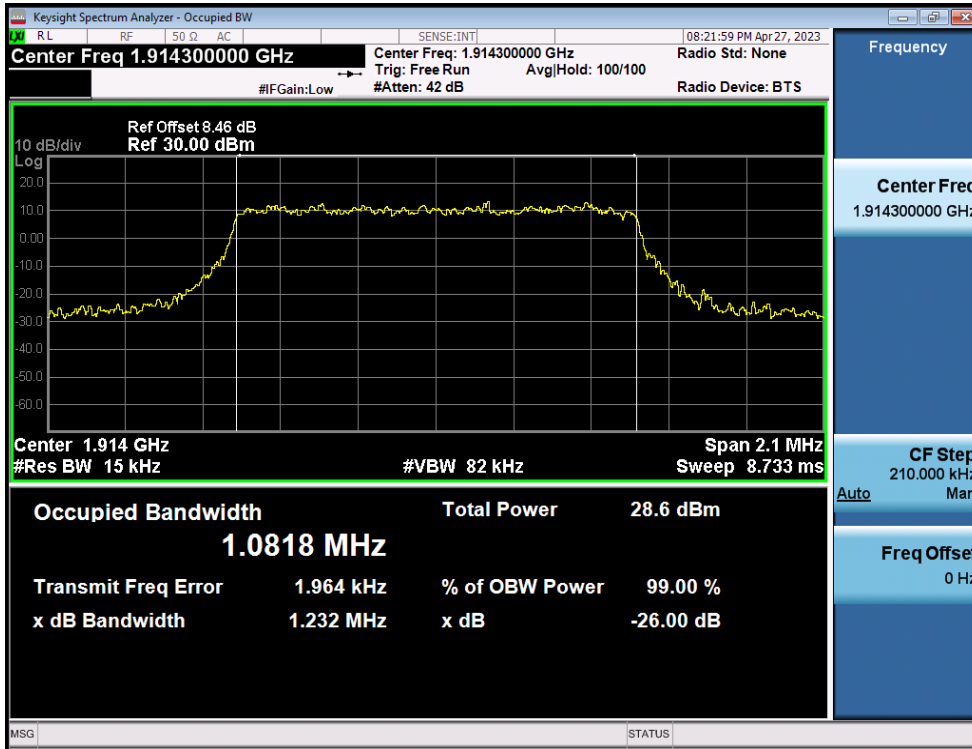




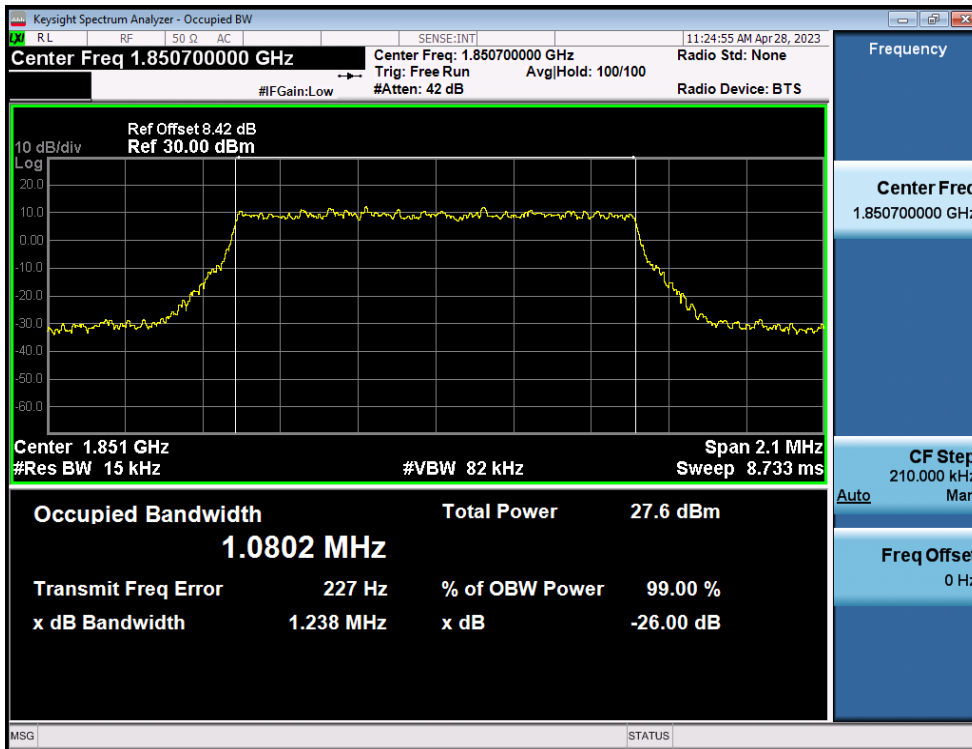
LTE Band 25(2) / 3MHz / 64QAM - RB Size 15



LTE Band 25(2) / 1.4MHz / QPSK - RB Size 6

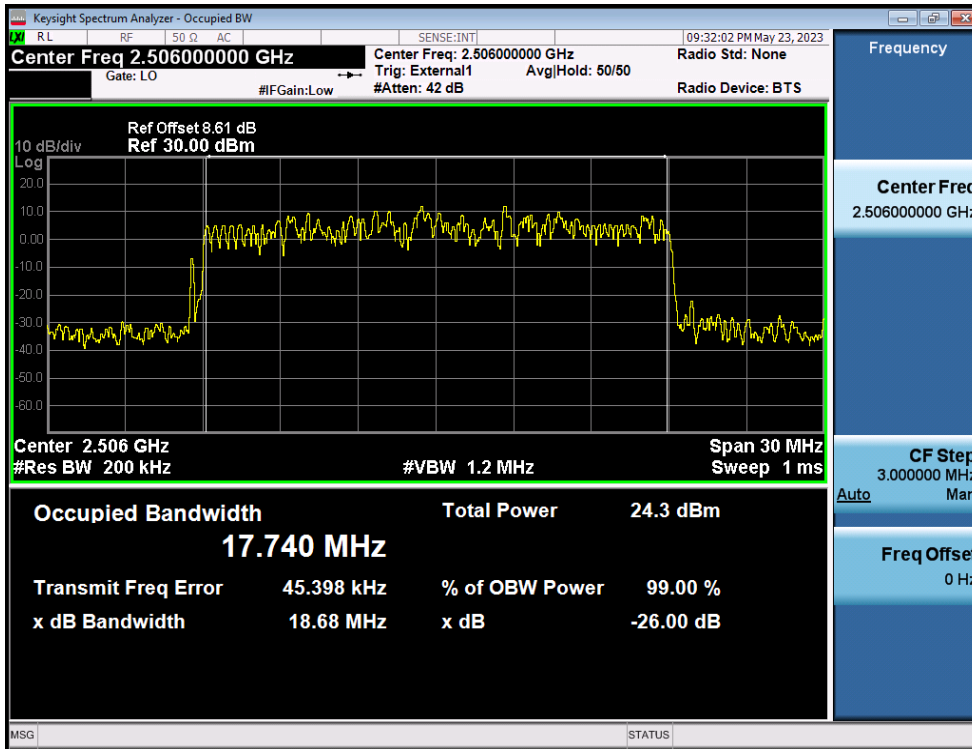


LTE Band 25(2) / 1.4MHz / 16QAM - RB Size 6

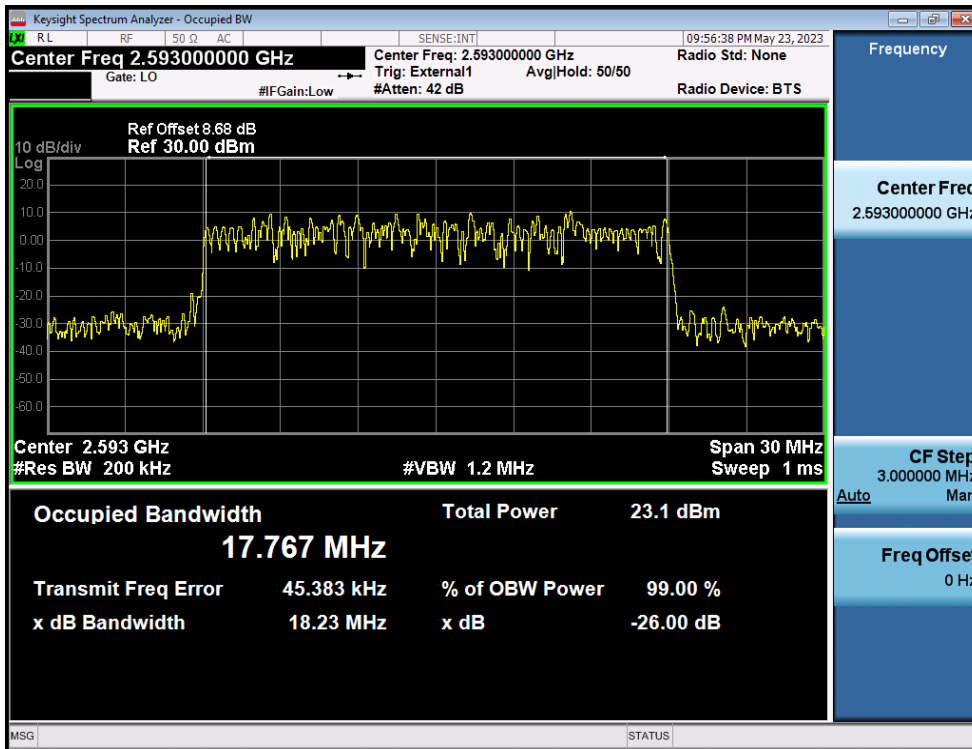


LTE Band 25(2) / 1.4MHz / 64QAM - RB Size 6

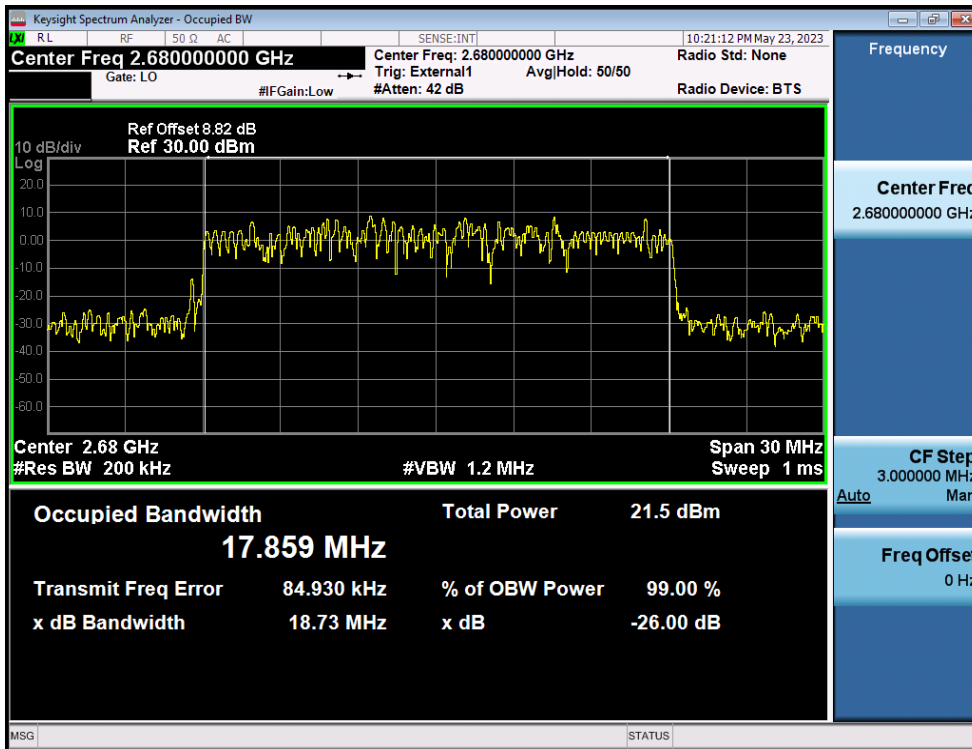
8.1.8. LTE Band 41(38)



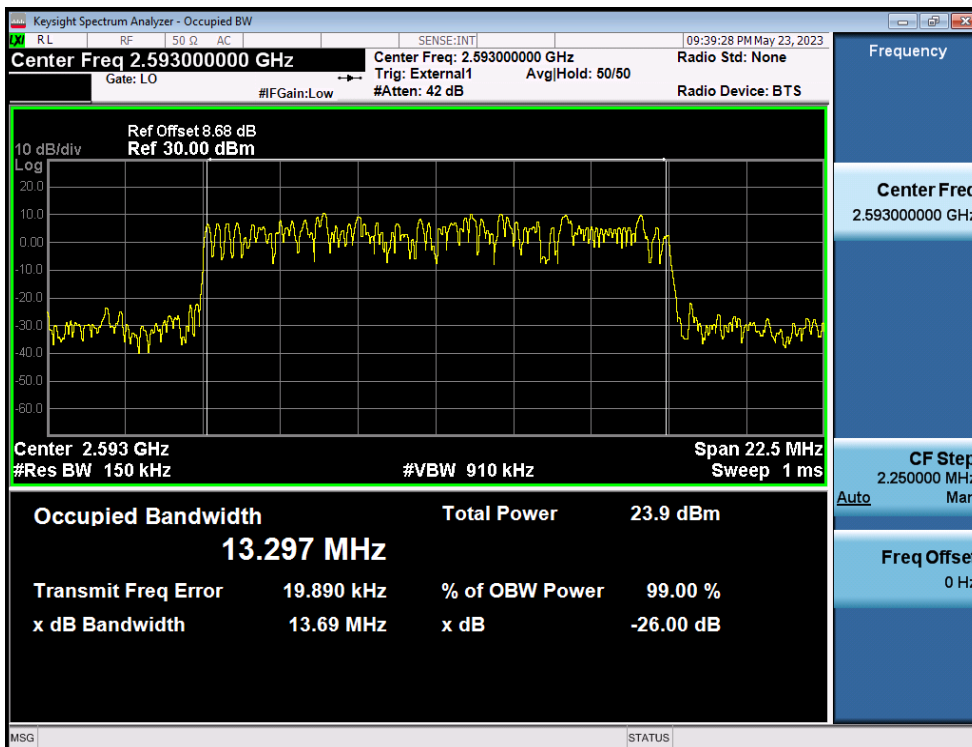
LTE Band 41 / 20MHz / QPSK - RB Size 100



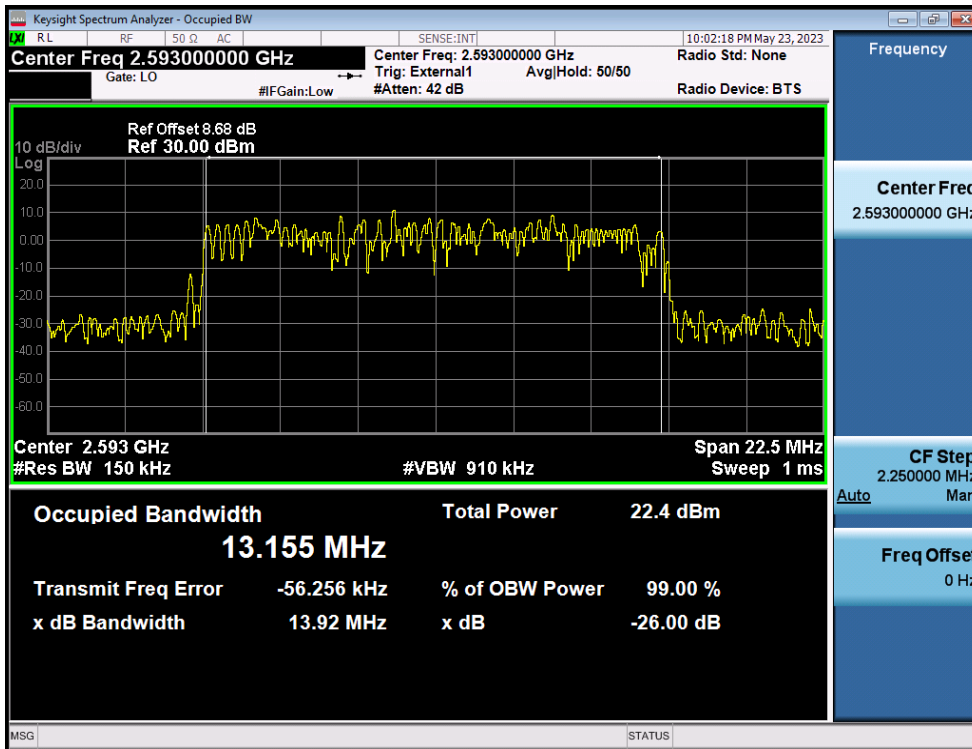
LTE Band 41 / 20MHz / 16QAM - RB Size 100



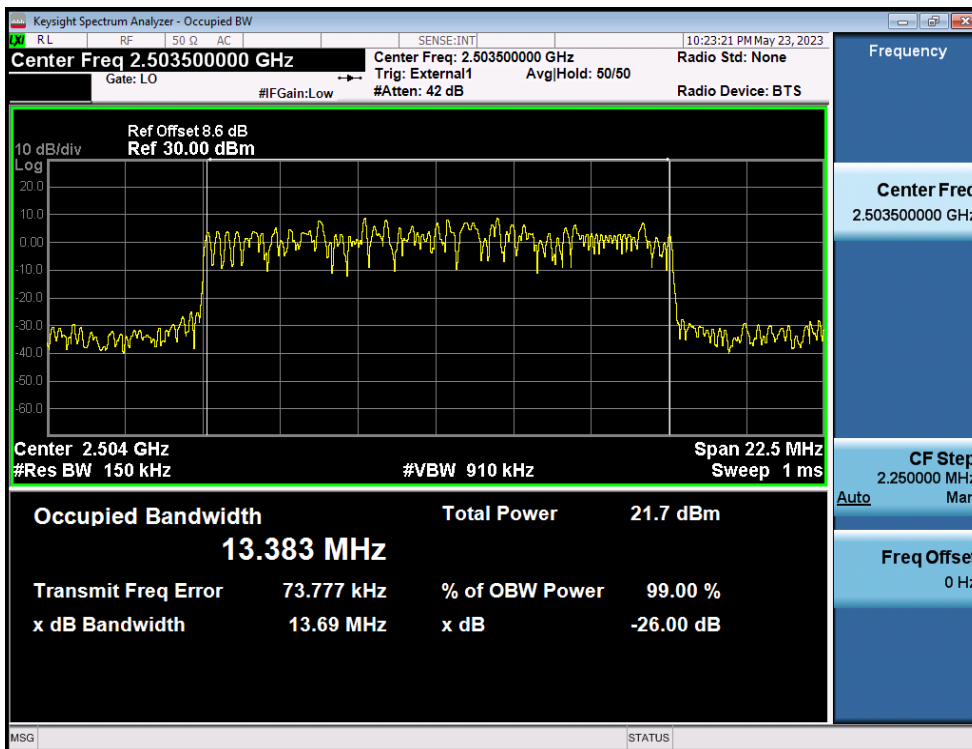
LTE Band 41 / 20MHz / 64QAM - RB Size 100



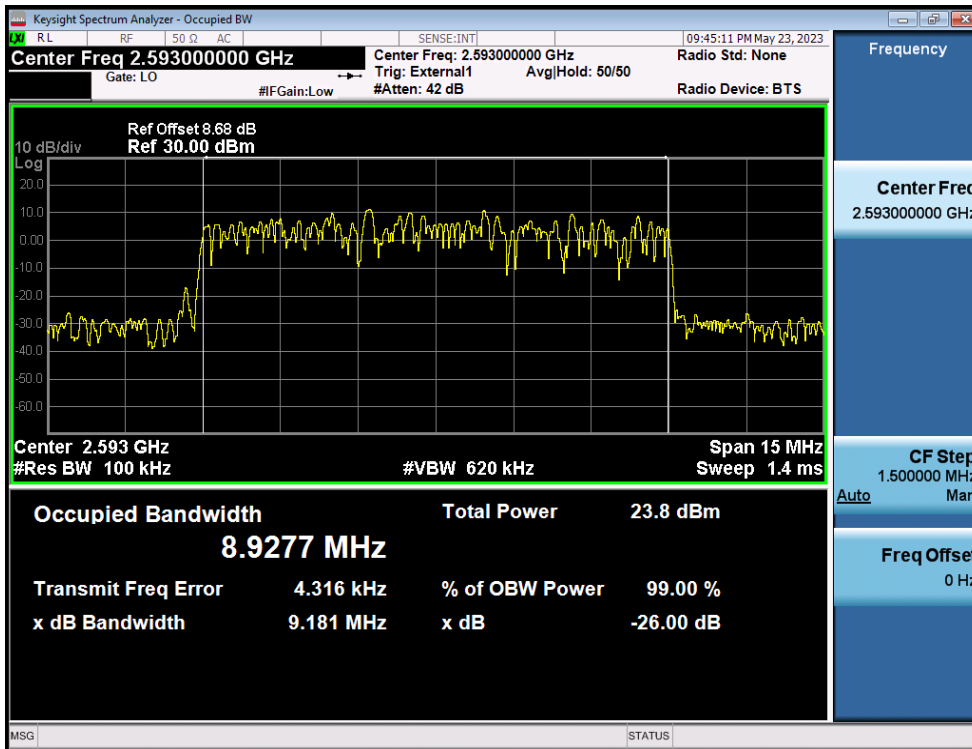
LTE Band 41 / 15MHz / QPSK - RB Size 75



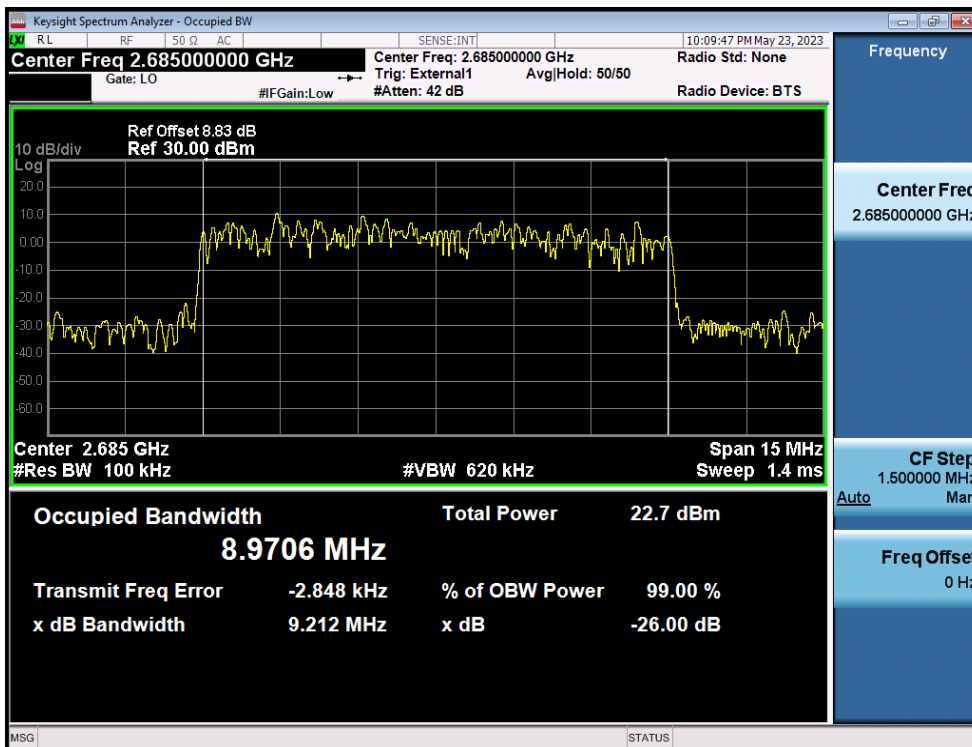
LTE Band 41 / 15MHz / 16QAM - RB Size 75



LTE Band 41 / 15MHz / 64QAM - RB Size 75



LTE Band 41 / 10MHz / QPSK - RB Size 50



LTE Band 41 / 10MHz / 16QAM - RB Size 50