TEST REPORT

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Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC1904-0094(1)
2. Customer
   - Name : LG Electronics USA, Inc.
   - Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632
3. Use of Report : FCC Original Grant
4. Product Name / Model Name : Mobile Phone / LM-G810EAW
   FCC ID : ZNFG810EAW
5. Test Method Used : KDB971168 D01v03, ANSI/TIA-603-E-2016, ANSI C63.26-2015
   Test Specification : §2, §22, §24(E), §27
6. Date of Test : 2019.03.03 ~ 2019.04.24
7. Testing Environment : Refer to appended test report.
8. Test Result : Refer to the attached test result.

Affirmation	Tested by Name : SunGeun Lee (Signature)	Reviewed by Name : Geunki Son (Signature)

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

2019 . 04 . 24 .

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If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description
DRTFCC1904-0094	Apr. 15, 2019	Initial issue
DRTFCC1904-0094(1)	Apr. 24, 2019	Retest the band edge for LTE Band 66/12

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1. GENERAL INFORMATION

Applicant Name : LG Electronics USA, Inc.

Address : 1000 Sylvan Ave. Englewood Cliffs, New Jersey, United States 07632

FCC ID : ZNFG810EAW

FCC Classification : PCS Licensed Transmitter held to ear (PCE)

EUT Type : Mobile Phone

Model Name : LM-G810EAW

Add Model Name : LMG810EAW, G810EAW, LM-G810EA, LMG810EA, G810EA, LM-G810RA, LMG810RA, G810RA

Supplying power : DC 4.0 V

Antenna Information : PIFA Antenna

Mode	TX Frequency (MHz)	Emission Designator	Modulation	ERP	
				Max power (dBm)	Max power (W)
LTE Band 12, 17	704 ~ 711	8M95G7D	QPSK	20.60	0.115
LTE Band 12, 17	704 ~ 711	8M96W7D	16QAM	19.29	0.085
LTE Band 12, 17	704 ~ 711	8M96W7D	64QAM	18.41	0.069
LTE Band 12, 17	701.5 ~ 713.5	4M48G7D	QPSK	20.33	0.108
LTE Band 12, 17	701.5 ~ 713.5	4M49W7D	16QAM	19.08	0.081
LTE Band 12, 17	701.5 ~ 713.5	4M48W7D	64QAM	18.10	0.065
LTE Band 12	700.5 ~ 714.5	2M69G7D	QPSK	20.47	0.111
LTE Band 12	700.5 ~ 714.5	2M70W7D	16QAM	18.94	0.078
LTE Band 12	700.5 ~ 714.5	2M70W7D	64QAM	17.97	0.063
LTE Band 12	699.7 ~ 715.3	1M09G7D	QPSK	20.18	0.104
LTE Band 12	699.7 ~ 715.3	1M09W7D	16QAM	18.89	0.077
LTE Band 12	699.7 ~ 715.3	1M09W7D	64QAM	17.74	0.059
LTE Band 13	782 ~ 782	8M93G7D	QPSK	16.83	0.048
LTE Band 13	782 ~ 782	8M94W7D	16QAM	16.10	0.041
LTE Band 13	782 ~ 782	8M96W7D	64QAM	14.73	0.030
LTE Band 13	779.5 ~ 784.5	4M48G7D	QPSK	16.70	0.047
LTE Band 13	779.5 ~ 784.5	4M48W7D	16QAM	15.74	0.037
LTE Band 13	779.5 ~ 784.5	4M48W7D	64QAM	14.11	0.026
LTE Band 26	831.5 ~ 841.5	13M4G7D	QPSK	18.10	0.065
LTE Band 26	831.5 ~ 841.5	13M4W7D	16QAM	17.10	0.051
LTE Band 26	831.5 ~ 841.5	13M4W7D	64QAM	15.27	0.034
LTE Band 5, 26	829 ~ 844	8M95G7D	QPSK	17.17	0.052
LTE Band 5, 26	829 ~ 844	8M95W7D	16QAM	16.52	0.045
LTE Band 5, 26	829 ~ 844	8M97W7D	64QAM	14.51	0.028
LTE Band 5, 26	826.5 ~ 846.5	4M48G7D	QPSK	17.23	0.053
LTE Band 5, 26	826.5 ~ 846.5	4M48W7D	16QAM	16.15	0.041
LTE Band 5, 26	826.5 ~ 846.5	4M49W7D	64QAM	14.50	0.028
LTE Band 5, 26	825.5 ~ 847.5	2M68G7D	QPSK	17.36	0.054
LTE Band 5, 26	825.5 ~ 847.5	2M70W7D	16QAM	16.37	0.043
LTE Band 5, 26	825.5 ~ 847.5	2M69W7D	64QAM	14.22	0.026
LTE Band 5, 26	824.7 ~ 848.3	1M09G7D	QPSK	16.91	0.049
LTE Band 5, 26	824.7 ~ 848.3	1M09W7D	16QAM	16.15	0.041
LTE Band 5, 26	824.7 ~ 848.3	1M09W7D	64QAM	14.01	0.025

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Mode	TX Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max power(dBm)	Max power(W)
LTE Band 66, 4	1720 ~ 1770	17M9G7D	QPSK	19.41	0.087
LTE Band 66, 4	1720 ~ 1770	17M9W7D	16QAM	19.15	0.082
LTE Band 66, 4	1720 ~ 1770	17M9W7D	64QAM	18.24	0.067
LTE Band 66, 4	1717.5 ~ 1772.5	13M5G7D	QPSK	20.03	0.101
LTE Band 66, 4	1717.5 ~ 1772.5	13M4W7D	16QAM	20.59	0.115
LTE Band 66, 4	1717.5 ~ 1772.5	13M4W7D	64QAM	18.22	0.066
LTE Band 66, 4	1715 ~ 1775	9M05G7D	QPSK	18.67	0.074
LTE Band 66, 4	1715 ~ 1775	8M96W7D	16QAM	18.64	0.073
LTE Band 66, 4	1715 ~ 1775	8M96W7D	64QAM	17.41	0.055
LTE Band 66, 4	1712.5 ~ 1777.5	4M55G7D	QPSK	19.68	0.093
LTE Band 66, 4	1712.5 ~ 1777.5	4M51W7D	16QAM	19.84	0.096
LTE Band 66, 4	1712.5 ~ 1777.5	4M51W7D	64QAM	19.68	0.093
LTE Band 66, 4	1711.5 ~ 1778.5	2M71G7D	QPSK	19.37	0.086
LTE Band 66, 4	1711.5 ~ 1778.5	2M71W7D	16QAM	19.68	0.093
LTE Band 66, 4	1711.5 ~ 1778.5	2M70W7D	64QAM	18.63	0.073
LTE Band 66, 4	1710.7 ~ 1779.3	1M09G7D	QPSK	19.06	0.081
LTE Band 66, 4	1710.7 ~ 1779.3	1M10W7D	16QAM	19.33	0.086
LTE Band 66, 4	1710.7 ~ 1779.3	1M09W7D	64QAM	18.58	0.072
LTE Band 2	1860 ~ 1900	17M9G7D	QPSK	17.49	0.056
LTE Band 2	1860 ~ 1900	17M9W7D	16QAM	17.59	0.057
LTE Band 2	1860 ~ 1900	17M9W7D	64QAM	16.89	0.049
LTE Band 2	1857.5 ~ 1902.5	13M5G7D	QPSK	17.52	0.056
LTE Band 2	1857.5 ~ 1902.5	13M5W7D	16QAM	18.05	0.064
LTE Band 2	1857.5 ~ 1902.5	13M4W7D	64QAM	16.78	0.048
LTE Band 2	1855 ~ 1905	8M98G7D	QPSK	17.25	0.053
LTE Band 2	1855 ~ 1905	8M96W7D	16QAM	17.55	0.057
LTE Band 2	1855 ~ 1905	8M98W7D	64QAM	16.70	0.047
LTE Band 2	1852.5 ~ 1907.5	4M49G7D	QPSK	16.88	0.049
LTE Band 2	1852.5 ~ 1907.5	4M48W7D	16QAM	16.93	0.049
LTE Band 2	1852.5 ~ 1907.5	4M49W7D	64QAM	16.14	0.041
LTE Band 2	1851.5 ~ 1908.5	2M70G7D	QPSK	17.45	0.056
LTE Band 2	1851.5 ~ 1908.5	2M70W7D	16QAM	17.58	0.057
LTE Band 2	1851.5 ~ 1908.5	2M69W7D	64QAM	16.49	0.045
LTE Band 2	1850.7 ~ 1909.3	1M09G7D	QPSK	16.98	0.050
LTE Band 2	1850.7 ~ 1909.3	1M09W7D	16QAM	17.32	0.054
LTE Band 2	1850.7 ~ 1909.3	1M09W7D	64QAM	16.48	0.044
LTE Band 41	2506 ~ 2680	17M8G7D	QPSK	21.10	0.129
LTE Band 41	2506 ~ 2680	17M8W7D	16QAM	18.63	0.073
LTE Band 41	2506 ~ 2680	17M9W7D	64QAM	17.98	0.063
LTE Band 41	2503.5 ~ 2682.5	13M3G7D	QPSK	19.92	0.098
LTE Band 41	2503.5 ~ 2682.5	13M2W7D	16QAM	17.67	0.058
LTE Band 41	2503.5 ~ 2682.5	13M4W7D	64QAM	18.59	0.072
LTE Band 41	2501 ~ 2685	8M94G7D	QPSK	19.85	0.097
LTE Band 41	2501 ~ 2685	8M88W7D	16QAM	18.24	0.067
LTE Band 41	2501 ~ 2685	8M81W7D	64QAM	17.06	0.051
LTE Band 41	2498.5 ~ 2687.5	4M51G7D	QPSK	18.99	0.079
LTE Band 41	2498.5 ~ 2687.5	4M32W7D	16QAM	17.93	0.062
LTE Band 41	2498.5 ~ 2687.5	4M44W7D	64QAM	16.49	0.045
LTE Band 7	2510 ~ 2560	17M9G7D	QPSK	15.73	0.037
LTE Band 7	2510 ~ 2560	17M9W7D	16QAM	16.21	0.042
LTE Band 7	2510 ~ 2560	17M9W7D	64QAM	16.09	0.041
LTE Band 7	2507.5 ~ 2562.5	13M4G7D	QPSK	15.62	0.036
LTE Band 7	2507.5 ~ 2562.5	13M4W7D	16QAM	15.61	0.036
LTE Band 7	2507.5 ~ 2562.5	13M4W7D	64QAM	15.70	0.037
LTE Band 7	2505 ~ 2565	8M95G7D	QPSK	15.19	0.033
LTE Band 7	2505 ~ 2565	8M96W7D	16QAM	15.12	0.033
LTE Band 7	2505 ~ 2565	8M97W7D	64QAM	15.23	0.033
LTE Band 7	2502.5 ~ 2567.5	4M48G7D	QPSK	15.89	0.039
LTE Band 7	2502.5 ~ 2567.5	4M48W7D	16QAM	16.22	0.042
LTE Band 7	2502.5 ~ 2567.5	4M49W7D	64QAM	16.17	0.041

2. INTRODUCTION

2.1 EUT DESCRIPTION

The Equipment Under Test (EUT) supports GSM/WCDMA/LTE Phone with Bluetooth, WLAN, NFC, WPC.

2.2. EUT CAPABILITIES

This EUT contains the following capabilities:
850/1900 GSM/EDGE, 850/1700/1900 WCDMA/HSUPA, Multi-band LTE, 802.11b/g/n/ac WLAN(2.4GHz)
802.11a/n/ac WLAN(5GHz), Bluetooth(BDR, EDR, LE), NFC, WPC.

2.3. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+21 ℃ ~ +24 ℃
▪ Relative Humidity	40 % ~ 45 %

2.4 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.

2.5. 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)	5.1 dB (The confidence level is about 95 %, k = 2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.4 dB (The confidence level is about 95 %, k = 2)
Radiated Disturbance (Above 18 GHz)	5.3 dB (The confidence level is about 95 %, k = 2)

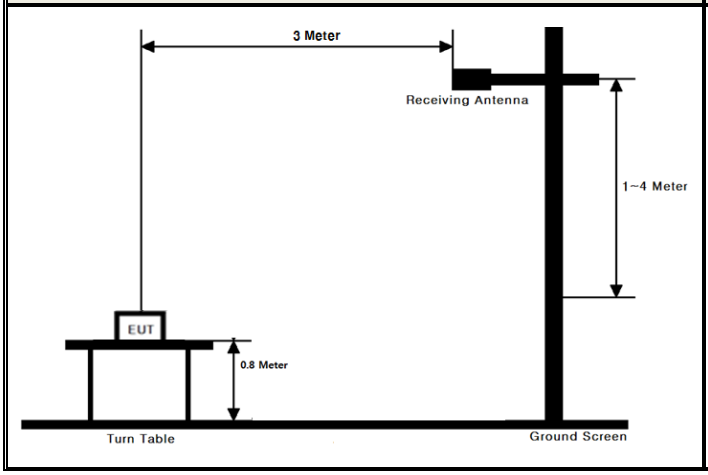
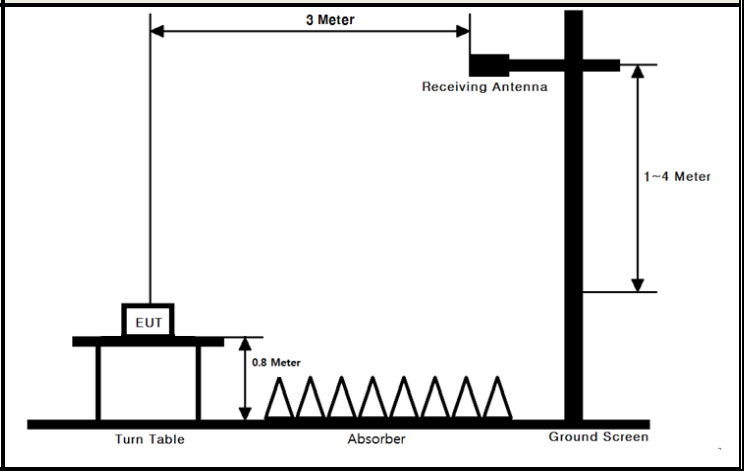
2.6. TEST FACILITY

DT&C Co., Ltd.		
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 comply with the requirements of § 2.948 according to ANSI 63.4-2014. **- FCC MRA Accredited Test Firm No. : KR0034**		
www.dtnc.net		
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

Below 1GHz	Above 1GHz
	

These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table 0.8-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

- **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 ≥ 3 x RBW.
4. Set number of points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   1) Set = auto-couple, or
   2) Set ≥ [10 × (number of points in sweep) × (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.

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.

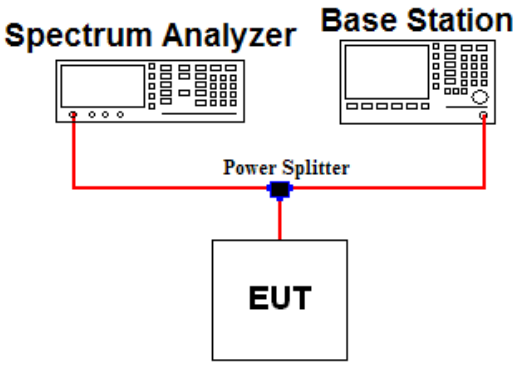
The ERP/EIRP is calculated using the following formula:

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.

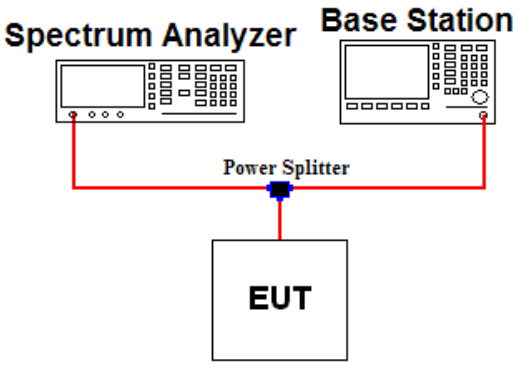
Test setting

The spectrum Analyzer`s CCDF measurement function is enabled.

1. Set resolution/measurement bandwidth ≥ 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 × (number of points in sweep) × (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**

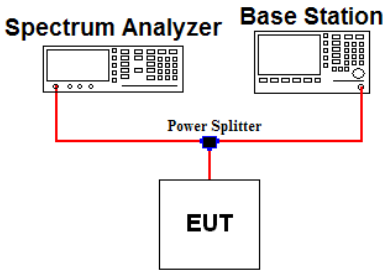
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

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 ~ 5 % of the expected OBW & VBW ≥ 3 X 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.

The power of any spurious emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB.

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 ≥ 1 % of the emission bandwidth
4. VBW ≥ 3 X RBW
5. Detector = RMS & Trace mode = Max hold
6. Sweep time = Auto couple or 1 s for band edge
7. Number of sweep point ≥ 2 X 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: 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 that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.

Note 4: 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 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed.

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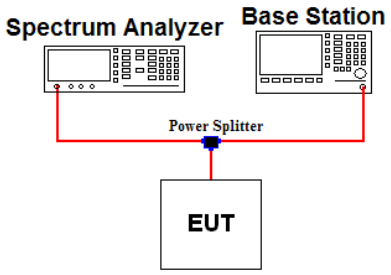
3.5 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL

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 10th harmonic.

The power of any spurious emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB.

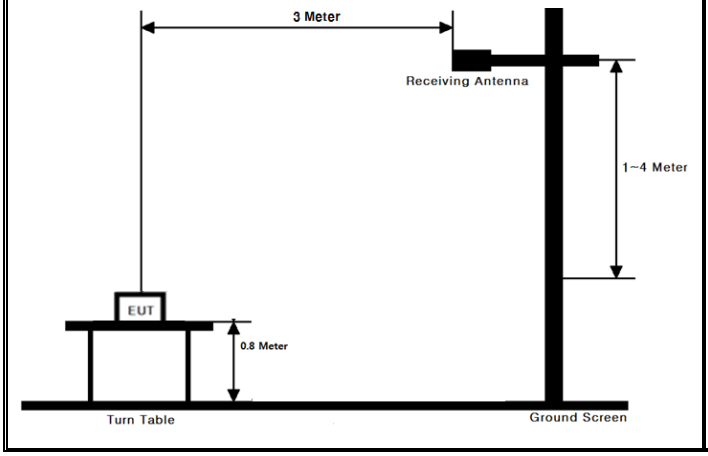
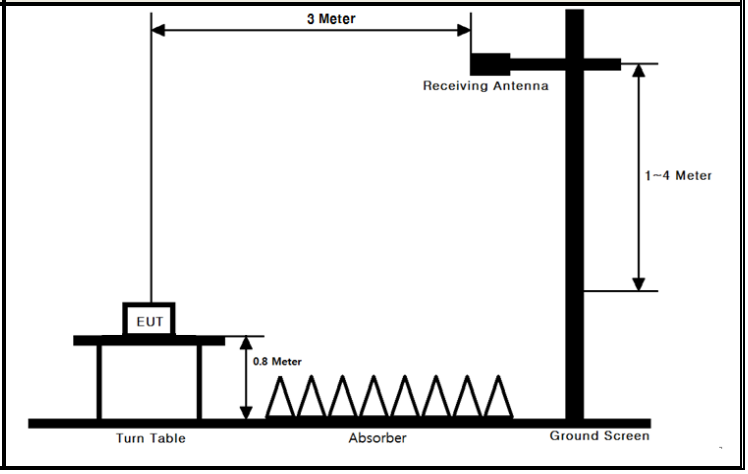
Test setting

1. RBW = 100 kHz(Below 1 GHz) or 1 MHz(Above 1 GHz) & VBW ≥ 3 X RBW (Refer to Note 1)
2. Detector = RMS & Trace mode = Max hold
3. Sweep time = Auto couple
4. Number of sweep point ≥ 2 X span / RBW
5. The trace was allowed to stabilize

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 1GHz and 1MHz or greater for frequencies greater than 1GHz.

3.6 UNDESIRABLE EMISSIONS

Test Set-up

Below 1GHz	Above 1GHz
	

These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 0.8-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 = Max hold
3. Sweep time = Auto couple
4. Number of sweep point ≥ 2 X span / RBW
5. The trace was allowed to stabilize

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

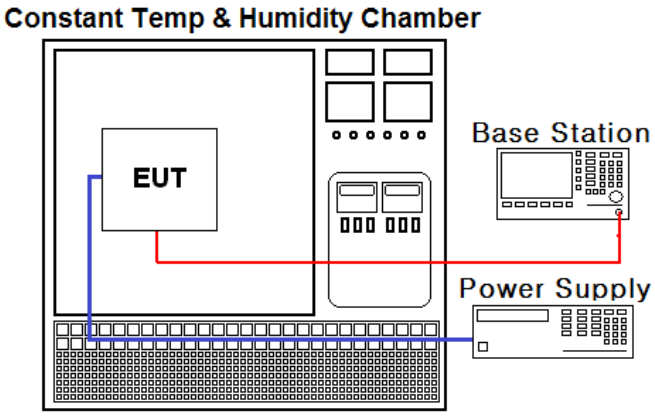
For radiated power measurements below 1 GHz, a half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading.

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 ± 0.000 25 % (± 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	18/07/09	19/07/09	MY46471251
Spectrum Analyzer	Agilent Technologies	N9020A	18/12/19	19/12/19	MY49060056
Spectrum Analyzer	Agilent Technologies	N9030A	19/03/15	20/03/15	MY53310140
DC power supply	Agilent Technologies	66332A	18/07/02	19/07/02	MY43000394
Multimeter	FLUKE	17B	18/12/18	19/12/18	26030065WS
Power Splitter	Anritsu	K241B	18/12/19	19/12/19	016681
Temp & Humi	SJ Science	SJ-TH-S50	18/07/06	19/07/06	U5542113
Radio Communication Analyzer	Anritsu	MT8820C	18/07/03	19/07/03	6200978101
Thermohygrometer	BODYCOM	BJ5478	18/12/27	19/12/27	120612-2
Thermohygrometer	BODYCOM	BJ5478	18/12/27	19/12/27	120612-1
Signal Generator	Rohde Schwarz	SMBV100A	18/12/19	19/12/19	255571
Signal Generator	ANRITSU	SMF100A	18/06/07	19/06/07	102341
Loop Antenna	Schwarzbeck	FMZB1513	18/01/30	20/01/30	1513-128
Bilog Antenna	Schwarzbeck	VULB 9160	18/07/13	20/07/13	3359
Dipole Antenna	Schwarzbeck	VHA9103	18/04/13	20/04/13	2117
Dipole Antenna	Schwarzbeck	UHA9105	18/04/13	20/04/13	2262
HORN ANT	ETS	3117	18/05/10	20/05/10	00140394
HORN ANT	A.H.Systems	SAS-574	17/07/31	19/07/31	155
Amplifier	EMPOWER	BBS3Q7ELU	18/07/10	19/07/10	1020
PreAmplifier	H.P	8447D	18/12/18	19/12/18	2944A07774
PreAmplifier	Agilent Technologies	8449B	18/07/05	19/07/05	3008A02108
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	18/07/05	19/07/05	7
High-pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	18/07/05	19/07/05	3
High-pass filter	Wainwright	WHNX8.5/26.5G-6SS	18/07/03	19/07/03	1
Cable	DTNC	Cable	18/07/06	19/07/06	M-01
Cable	DTNC	Cable	18/07/06	19/07/06	M-02
Cable	Junkosha	MWX315	18/11/19	19/11/19	M-05
Cable	Junkosha	MWX221	18/11/19	19/11/19	M-06
Cable	DTNC	Cable	18/07/05	19/07/05	RF-73
Cable	DTNC	Cable	18/07/05	19/07/05	RF-84

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.

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5. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Status Note 1
2.1046	Conducted Output Power	N/A	Conducted	**C** Note2
2.1049	Occupied Bandwidth	N/A		**C**
24.232(d) 27.50(d.5)	Peak to Average Ratio	< 13 dB		**C**
2.1051 22.917(a) 24.238(a) 27.53(c.2) 27.53(g) 27.53(h)	Band Edge / Conducted Spurious Emissions	> 43 + 10log$_{10}$(P) dB at Band edge and for all out-of-band emissions		**C**
27.53(m)	Band Edge / Conducted Spurious Emissions	> 40 + 10log10 (P) dB at channel edge and 5 MHz from the channel edge > 43 + 10log10 (P) dB at 5 MHz and X MHz from the channel edge > 55 + 10log10 (P) dB at all frequencies more than X MHz from the channel edge		**C**
2.1055 22.355 24.235 27.54	Frequency Stability	< 2.5 ppm (Part 22) Fundamental emissions must stay within Authorized frequency block (Part 24, 27)		**C**
27.50(b.10) 27.50(c.10)	Radiated Output Power (B12, 13, 17)	< 3 Watts max. ERP	Radiated	**C**
22.913(a.5)	Radiated Output Power (B5)	< 7 Watts max. ERP		**C**
27.50(d.4)	Radiated Output Power (B66, 4)	< 1 Watts max. EIRP		**C**
24.232(c) 27.50(h.2)	Radiated Output Power(B2, 7)	< 2 Watts max. EIRP		**C**
2.1053 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	Undesirable Emissions	> 43 + 10log$_{10}$(P) dB for all out-of-band emissions		**C**
27.53(m)	Undesirable Emissions(B7)	> 55 + 10log$_{10}$(P) dB for all out-of-band emissions		**C**
27.53(f)	Undesirable Emissions in 1559 ~ 1610MHz	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions of less than 700 Hz bandwidth)		**C**

Note 1: **C**=Comply **NC**=Not Comply **NT**=Not Tested **NA**=Not Applicable
Note 2: Refer to RF Exposure Report (Test Report SAR)

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6. SAMPLE CALCULATION

A. Emission Designator

LTE Band 12, 17(QPSK)

Emission Designator = **8M95G7D**
LTE OBW = 8.947 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 12, 17(16QAM)

Emission Designator = **8M96W7D**
LTE OBW = 8.956 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 12, 17(64QAM)

Emission Designator = **8M96W7D**
LTE OBW = 8.962 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(QPSK)

Emission Designator = **8M93G7D**
LTE OBW = 8.931 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(16QAM)

Emission Designator **= 8M94W7D**
LTE OBW = 8.940 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(64QAM)

Emission Designator **= 8M96W7D**
LTE OBW = 8.958 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5, 26(QPSK)

Emission Designator = **13M4G7D**
LTE OBW = 13.408 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5, 26(16QAM)

Emission Designator = **13M4W7D**
LTE OBW = 13.403 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5, 26(64QAM)

Emission Designator = **13M4W7D**
LTE OBW = 13.403 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 66, 4(QPSK)

Emission Designator = **17M9G7D**
LTE OBW = 17.935 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 66, 4(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.909 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 66, 4(64QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.886 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(QPSK)

Emission Designator =**17M9G7D**
LTE OBW = 17.877 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.892 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(64QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.907 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 41(QPSK)

Emission Designator = **17M8G7D**
LTE OBW = 17.766 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 41(16QAM)

Emission Designator = **17M8W7D**
LTE OBW = 17.790 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 41(64QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.909 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 7(QPSK)

Emission Designator = **17M9G7D**

LTE OBW = 17.919 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data Transmission

LTE Band 7(16QAM)

Emission Designator = **17M9W7D**

LTE OBW = 17.874 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

LTE Band 7(64QAM)

Emission Designator = **17M9W7D**

LTE OBW = 17.883 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data Transmission

B. For substitution method

EIRP for Band 41

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Spectrum Reading Value(dBm)	EUT Axis	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	2506	QPSK	1/99	-27.33	Z	H	15.14	5.96	21.10	0.129

ERP or EIRP = Level @ Ant Terminal LEVEL(dBm) + Tx Ant. Gain

1) The EUT mounted on a non-conductive turntable is 0.8 meter above test site ground level.
2) During the test, the turn table is rotated until the maximum signal is found.
3) Record the field strength meter's level.
4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
6) The signal generator output level with substituted antenna gain is the rating of ERP, EIRP or Radiated spurious emission.

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 EDEG 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

7.5.1 LTE Band 12,17

- Measurement data: Without wireless charging pad

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	V	19.32	1.28	20.60	0.115
		16QAM	1/49	V	18.01	1.28	19.29	0.085
		64QAM	1/49	V	17.13	1.28	18.41	0.069
	711	QPSK	1/49	V	19.02	1.28	20.30	0.107
		16QAM	1/49	V	17.78	1.28	19.06	0.081
		64QAM	1/49	V	16.87	1.28	18.15	0.065
5	701.5	QPSK	1/24	V	18.92	1.28	20.20	0.105
		16QAM	1/24	V	17.50	1.28	18.78	0.076
		64QAM	1/24	V	16.55	1.28	17.83	0.061
	707.5	QPSK	1/24	V	18.79	1.28	20.07	0.102
		16QAM	1.24	V	17.80	1.28	19.08	0.081
		64QAM	1/24	V	16.82	1.28	18.10	0.065
	713.5	QPSK	1/24	V	19.05	1.28	20.33	0.108
		16QAM	1/24	V	17.56	1.28	18.84	0.077
		64QAM	1/24	V	16.62	1.28	17.90	0.062

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.2 LTE Band 12

- Measurement data: Without wireless charging pad

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	V	18.75	1.28	20.03	0.101
		16QAM	1/14	V	17.15	1.28	18.43	0.070
		64QAM	1/14	V	16.19	1.28	17.47	0.056
	707.5	QPSK	1/14	V	19.19	1.28	20.47	0.111
		16QAM	1/14	V	17.66	1.28	18.94	0.078
		64QAM	1/14	V	16.69	1.28	17.97	0.063
	714.5	QPSK	1/14	V	18.94	1.28	20.22	0.105
		16QAM	1/14	V	17.48	1.28	18.76	0.075
		64QAM	1/14	V	16.60	1.28	17.88	0.061
1.4	699.7	QPSK	1/5	V	18.40	1.28	19.68	0.093
		16QAM	1/5	V	16.89	1.28	18.17	0.066
		64QAM	1/5	V	16.02	1.28	17.30	0.054
	707.5	QPSK	1/5	V	18.90	1.28	20.18	0.104
		16QAM	1/5	V	17.61	1.28	18.89	0.077
		64QAM	1/5	V	16.46	1.28	17.74	0.059
	715.3	QPSK	1/5	V	18.74	1.28	20.02	0.100
		16QAM	1/5	V	17.09	1.28	18.37	0.069
		64QAM	1/5	V	16.13	1.28	17.41	0.055

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

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	711	QPSK	1/49	H	18.27	1.28	19.55	0.090
		16QAM	1/49	H	16.56	1.28	17.84	0.061
		64QAM	1/49	H	15.29	1.28	16.57	0.045
5	707.5	QPSK	1/24	H	17.45	1.28	18.73	0.075
		16QAM	1/24	H	16.10	1.28	17.38	0.055
		64QAM	1/24	H	15.11	1.28	16.39	0.044
3	707.5	QPSK	1/14	H	17.53	1.28	18.81	0.076
		16QAM	1/14	H	16.08	1.28	17.36	0.054
		64QAM	1/14	H	15.19	1.28	16.47	0.044
1.4	707.5	QPSK	1/5	H	17.29	1.28	18.57	0.072
		16QAM	1/5	H	15.99	1.28	17.27	0.053
		64QAM	1/5	H	14.76	1.28	16.04	0.040

Note1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.3 LTE Band 13

- Measurement data: Without wireless charging pad

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	782	QPSK	1/0	V	15.57	1.26	16.83	0.048
		16QAM	1/0	V	14.84	1.26	16.10	0.041
		64QAM	1/0	V	13.47	1.26	14.73	0.030
5	779.5	QPSK	1/0	V	15.44	1.26	16.70	0.047
		16QAM	1/0	V	14.48	1.26	15.74	0.037
		64QAM	1/0	V	12.85	1.26	14.11	0.026
	784.5	QPSK	1/0	V	15.33	1.25	16.58	0.045
		16QAM	1/0	V	13.90	1.25	15.15	0.033
		64QAM	1/0	V	12.70	1.25	13.95	0.025

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

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	782	QPSK	1/0	H	10.17	1.26	11.43	0.014
		16QAM	1/0	H	9.46	1.26	10.72	0.012
		64QAM	1/0	H	7.66	1.26	8.92	0.008
5	779.5	QPSK	1/0	H	9.92	1.26	11.18	0.013
		16QAM	1/0	H	9.10	1.26	10.36	0.011
		64QAM	1/0	H	7.26	1.26	8.52	0.007
	784.5	QPSK	1/0	H	11.33	1.25	12.58	0.018
		16QAM	1/0	H	9.74	1.25	10.99	0.013
		64QAM	1/0	H	8.52	1.25	9.77	0.009

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.4 LTE Band 26

- Measurement data: Without wireless charging pad

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)
15	831.5	QPSK	1/0	H	16.88	1.22	18.10	0.065
		16QAM	1/0	H	15.88	1.22	17.10	0.051
		64QAM	1/0	H	14.05	1.22	15.27	0.034
	841.5	QPSK	1/0	H	14.67	1.22	15.89	0.039
		16QAM	1/0	H	14.24	1.22	15.46	0.035
		64QAM	1/0	H	11.94	1.22	13.16	0.021

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

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)
15	831.5	QPSK	1/0	H	13.43	1.22	14.65	0.029
		16QAM	1/0	H	12.70	1.22	13.92	0.025
		64QAM	1/0	H	10.65	1.22	11.87	0.015

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.5 LTE Band 5, 26

- Measurement data: Without wireless charging pad

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	829	QPSK	1/0	H	15.94	1.23	17.17	0.052
		16QAM	1/0	H	15.29	1.23	16.52	0.045
		64QAM	1/0	H	13.28	1.23	14.51	0.028
	836.5	QPSK	1/0	H	15.76	1.22	16.98	0.050
		16QAM	1/0	H	14.43	1.22	15.65	0.037
		64QAM	1/0	H	13.13	1.22	14.35	0.027
	844	QPSK	1/0	H	14.84	1.21	16.05	0.040
		16QAM	1/0	H	13.64	1.21	14.85	0.031
		64QAM	1/0	H	11.84	1.21	13.05	0.020
5	826.5	QPSK	1/0	H	16.00	1.23	17.23	0.053
		16QAM	1/0	H	14.92	1.23	16.15	0.041
		64QAM	1/0	H	13.27	1.23	14.50	0.028
	836.5	QPSK	1/0	H	15.02	1.22	16.24	0.042
		16QAM	1/0	H	14.03	1.22	15.25	0.033
		64QAM	1/0	H	12.26	1.22	13.48	0.022
	846.5	QPSK	1/0	H	14.68	1.21	15.89	0.039
		16QAM	1/0	H	13.44	1.21	14.65	0.029
		64QAM	1/0	H	11.70	1.21	12.91	0.020
3	825.5	QPSK	1/0	H	16.13	1.23	17.36	0.054
		16QAM	1/0	H	15.14	1.23	16.37	0.043
		64QAM	1/0	H	12.99	1.23	14.22	0.026
	836.5	QPSK	1/0	H	14.83	1.22	16.05	0.040
		16QAM	1/0	H	14.01	1.22	15.23	0.033
		64QAM	1/0	H	12.26	1.22	13.48	0.022
	847.5	QPSK	1/0	H	13.68	1.21	14.89	0.031
		16QAM	1/0	H	12.86	1.21	14.07	0.026
		64QAM	1/0	H	11.03	1.21	12.24	0.017
1.4	824.7	QPSK	1/2	H	15.68	1.23	16.91	0.049
		16QAM	1/2	H	14.92	1.23	16.15	0.041
		64QAM	1/2	H	12.78	1.23	14.01	0.025
	836.5	QPSK	1/2	H	14.70	1.22	15.92	0.039
		16QAM	1/2	H	13.75	1.22	14.97	0.031
		64QAM	1/2	H	12.04	1.22	13.26	0.021
	848.3	QPSK	1/2	H	13.33	1.21	14.54	0.028
		16QAM	1/2	H	12.66	1.21	13.87	0.024
		64QAM	1/2	H	10.50	1.21	11.71	0.015

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

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	829	QPSK	1/0	H	13.12	1.23	14.35	0.027
		16QAM	1/0	H	12.27	1.23	13.50	0.022
		64QAM	1/0	H	10.52	1.23	11.75	0.015
5	826.5	QPSK	1/0	H	13.40	1.23	14.63	0.029
		16QAM	1/0	H	12.63	1.23	13.86	0.024
		64QAM	1/0	H	10.56	1.23	11.79	0.015
3	825.5	QPSK	1/0	H	13.25	1.23	14.48	0.028
		16QAM	1/0	H	12.39	1.23	13.62	0.023
		64QAM	1/0	H	10.33	1.23	11.56	0.014
1.4	824.7	QPSK	1/2	H	13.16	1.23	14.39	0.027
		16QAM	1/2	H	12.38	1.23	13.61	0.023
		64QAM	1/2	H	10.28	1.23	11.51	0.014

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

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- Measurement data: Without wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	1720	QPSK	1/0	H	13.46	5.95	19.41	0.087
		16QAM	1/0	H	13.17	5.95	19.12	0.082
		64QAM	1/0	H	11.43	5.95	17.38	0.055
	1745	QPSK	1/0	H	12.93	5.73	18.66	0.073
		16QAM	1/0	H	13.42	5.73	19.15	0.082
		64QAM	1/0	H	12.51	5.73	18.24	0.067
	1770	QPSK	1/0	H	12.30	5.42	17.72	0.059
		16QAM	1/0	H	12.33	5.42	17.75	0.060
		64QAM	1/0	H	12.28	5.42	17.70	0.059
15	1717.5	QPSK	1/0	H	14.06	5.97	20.03	0.101
		16QAM	1/0	H	14.62	5.97	20.59	0.115
		64QAM	1/0	H	12.25	5.97	18.22	0.066
	1745	QPSK	1/0	H	12.77	5.73	18.50	0.071
		16QAM	1/0	H	12.89	5.73	18.62	0.073
		64QAM	1/0	H	11.47	5.73	17.20	0.052
	1772.5	QPSK	1/0	H	11.08	5.39	16.47	0.044
		16QAM	1/0	H	11.44	5.39	16.83	0.048
		64QAM	1/0	H	10.90	5.39	16.29	0.043
10	1715	QPSK	1/0	H	12.67	6.00	18.67	0.074
		16QAM	1/0	H	12.64	6.00	18.64	0.073
		64QAM	1/0	H	11.41	6.00	17.41	0.055
	1745	QPSK	1/0	H	12.25	5.73	17.98	0.063
		16QAM	1/0	H	12.07	5.73	17.80	0.060
		64QAM	1/0	H	11.05	5.73	16.78	0.048
	1775	QPSK	1/0	H	11.35	5.36	16.71	0.047
		16QAM	1/0	H	11.59	5.36	16.95	0.050
		64QAM	1/0	H	10.68	5.36	16.04	0.040

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
5	1712.5	QPSK	1/24	H	13.66	6.02	19.68	0.093
		16QAM	1/24	H	13.82	6.02	19.84	0.096
		64QAM	1/24	H	13.66	6.02	19.68	0.093
	1745	QPSK	1/12	H	13.14	5.73	18.87	0.077
		16QAM	1/12	H	13.43	5.73	19.16	0.082
		64QAM	1/12	H	11.92	5.73	17.65	0.058
	1777.5	QPSK	1/0	H	12.97	5.32	18.29	0.067
		16QAM	1/0	H	12.91	5.32	18.23	0.067
		64QAM	1/0	H	11.13	5.32	16.45	0.044
3	1711.5	QPSK	1/7	H	13.34	6.03	19.37	0.086
		16QAM	1/7	H	13.65	6.03	19.68	0.093
		64QAM	1/7	H	12.60	6.03	18.63	0.073
	1745	QPSK	1/7	H	13.12	5.73	18.85	0.077
		16QAM	1/7	H	13.33	5.73	19.06	0.081
		64QAM	1/7	H	12.20	5.73	17.93	0.062
	1778.5	QPSK	1/0	H	12.14	5.31	17.45	0.056
		16QAM	1/0	H	11.92	5.31	17.23	0.053
		64QAM	1/0	H	10.10	5.31	15.41	0.035
1.4	1710.7	QPSK	1/2	H	13.03	6.03	19.06	0.081
		16QAM	1/2	H	13.30	6.03	19.33	0.086
		64QAM	1/2	H	12.55	6.03	18.58	0.072
	1745	QPSK	1/2	H	12.33	5.73	18.06	0.064
		16QAM	1/2	H	12.55	5.73	18.28	0.067
		64QAM	1/2	H	11.43	5.73	17.16	0.052
	1779.3	QPSK	1/2	H	13.00	5.30	18.30	0.068
		16QAM	1/2	H	12.86	5.30	18.16	0.065
		64QAM	1/2	H	10.82	5.30	16.12	0.041

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	1720	QPSK	1/0	H	13.52	5.95	19.47	0.089
		16QAM	1/0	H	13.50	5.95	19.45	0.088
		64QAM	1/0	H	11.92	5.95	17.87	0.061
15	1717.5	QPSK	1/0	H	13.42	5.97	19.39	0.087
		16QAM	1/0	H	13.30	5.97	19.27	0.085
		64QAM	1/0	H	11.25	5.97	17.22	0.053
10	1715	QPSK	1/0	H	12.65	6.00	18.65	0.073
		16QAM	1/0	H	13.38	6.00	19.38	0.087
		64QAM	1/0	H	11.88	6.00	17.88	0.061
5	1712.5	QPSK	1/24	H	12.69	6.02	18.71	0.074
		16QAM	1/24	H	12.92	6.02	18.94	0.078
		64QAM	1/24	H	12.32	6.02	18.34	0.068
3	1712.5	QPSK	1/7	H	12.43	6.03	18.46	0.070
		16QAM	1/7	H	12.74	6.03	18.77	0.075
		64QAM	1/7	H	12.01	6.03	18.04	0.064
1.4	1710.7	QPSK	1/2	H	12.61	6.03	18.64	0.073
		16QAM	1/2	H	12.75	6.03	18.78	0.076
		64QAM	1/2	H	11.73	6.03	17.76	0.060

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.7 LTE Band 2

- Measurement data: Without wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	1860	QPSK	1/0	H	12.58	4.91	17.49	0.056
		16QAM	1/0	H	12.68	4.91	17.59	0.057
		64QAM	1/0	H	11.64	4.91	16.55	0.045
	1880	QPSK	1/0	H	12.31	4.80	17.11	0.051
		16QAM	1/0	H	12.62	4.80	17.42	0.055
		64QAM	1/0	H	12.09	4.80	16.89	0.049
	1900	QPSK	1/0	H	12.45	4.69	17.14	0.052
		16QAM	1/0	H	12.72	4.69	17.41	0.055
		64QAM	1/0	H	10.77	4.69	15.46	0.035
15	1857.5	QPSK	1/0	H	11.75	4.92	16.67	0.046
		16QAM	1/0	H	12.08	4.92	17.00	0.050
		64QAM	1/0	H	10.82	4.92	15.74	0.037
	1880	QPSK	1/0	H	12.13	4.80	16.93	0.049
		16QAM	1/0	H	12.52	4.80	17.32	0.054
		64QAM	1/0	H	11.98	4.80	16.78	0.048
	1902.5	QPSK	1/0	H	12.84	4.68	17.52	0.056
		16QAM	1/0	H	13.37	4.68	18.05	0.064
		64QAM	1/0	H	11.21	4.68	15.89	0.039
10	1855	QPSK	1/25	H	11.77	4.94	16.71	0.047
		16QAM	1/25	H	11.91	4.94	16.85	0.048
		64QAM	1/25	H	10.99	4.94	15.93	0.039
	1880	QPSK	1/0	H	12.26	4.80	17.06	0.051
		16QAM	1/0	H	12.23	4.80	17.03	0.050
		64QAM	1/0	H	11.90	4.80	16.70	0.047
	1905	QPSK	1/0	H	12.58	4.67	17.25	0.053
		16QAM	1/0	H	12.88	4.67	17.55	0.057
		64QAM	1/0	H	11.31	4.67	15.98	0.040

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
5	1852.5	QPSK	1/12	H	11.88	4.95	16.83	0.048
		16QAM	1/12	H	11.97	4.95	16.92	0.049
		64QAM	1/12	H	11.08	4.95	16.03	0.040
	1880	QPSK	1/12	H	11.75	4.80	16.55	0.045
		16QAM	1/12	H	12.04	4.80	16.84	0.048
		64QAM	1/12	H	11.34	4.80	16.14	0.041
	1907.5	QPSK	1/12	H	12.23	4.65	16.88	0.049
		16QAM	1/12	H	12.28	4.65	16.93	0.049
		64QAM	1/12	H	10.54	4.65	15.19	0.033
3	1851.5	QPSK	1/7	H	12.50	4.95	17.45	0.056
		16QAM	1/7	H	12.63	4.95	17.58	0.057
		64QAM	1/7	H	11.54	4.95	16.49	0.045
	1880	QPSK	1/7	H	11.92	4.80	16.72	0.047
		16QAM	1/7	H	12.13	4.80	16.93	0.049
		64QAM	1/7	H	11.34	4.80	16.14	0.041
	1908.5	QPSK	1/7	H	12.33	4.65	16.98	0.050
		16QAM	1/7	H	12.25	4.65	16.90	0.049
		64QAM	1/7	H	10.29	4.65	14.94	0.031
1.4	1850.7	QPSK	1/2	H	11.74	4.96	16.70	0.047
		16QAM	1/2	H	11.88	4.96	16.84	0.048
		64QAM	1/2	H	10.80	4.96	15.76	0.038
	1880	QPSK	1/2	H	12.18	4.80	16.98	0.050
		16QAM	1/2	H	12.52	4.80	17.32	0.054
		64QAM	1/2	H	11.68	4.80	16.48	0.044
	1909.3	QPSK	1/2	H	12.34	4.64	16.98	0.050
		16QAM	1/2	H	12.38	4.64	17.02	0.050
		64QAM	1/2	H	10.43	4.64	15.07	0.032

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	1860	QPSK	1/0	H	12.74	4.91	17.65	0.058
		16QAM	1/0	H	13.03	4.91	17.94	0.062
		64QAM	1/0	H	11.76	4.91	16.67	0.046
15	1902.5	QPSK	1/0	H	13.04	4.68	17.72	0.059
		16QAM	1/0	H	13.15	4.68	17.83	0.061
		64QAM	1/0	H	11.63	4.68	16.31	0.043
10	1905	QPSK	1/0	H	12.38	4.67	17.05	0.051
		16QAM	1/0	H	12.57	4.67	17.24	0.053
		64QAM	1/0	H	10.77	4.67	15.44	0.035
5	1907.5	QPSK	1/12	H	12.81	4.65	17.46	0.056
		16QAM	1/12	H	12.98	4.65	17.63	0.058
		64QAM	1/12	H	10.79	4.65	15.44	0.035
3	1851.5	QPSK	1/7	H	12.51	4.95	17.46	0.056
		16QAM	1/7	H	12.80	4.95	17.75	0.060
		64QAM	1/7	H	11.49	4.95	16.44	0.044
1.4	1880	QPSK	1/2	H	11.78	4.80	16.58	0.045
		16QAM	1/2	H	12.06	4.80	16.86	0.049
		64QAM	1/2	H	11.53	4.80	16.33	0.043

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.8 LTE Band 41

- Measurement data: Without wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	2506	QPSK	1/99	H	15.14	5.96	21.10	0.129
		16QAM	1/99	H	12.67	5.96	18.63	0.073
		64QAM	1/99	H	12.02	5.96	17.98	0.063
	2593	QPSK	1/99	H	13.65	5.91	19.56	0.090
		16QAM	1/99	H	11.50	5.91	17.41	0.055
		64QAM	1/99	H	9.92	5.91	15.83	0.038
	2680	QPSK	1/99	H	11.42	6.18	17.60	0.058
		16QAM	1/99	H	10.27	6.18	16.45	0.044
		64QAM	1/99	H	9.66	6.18	15.84	0.038
15	2503.5	QPSK	1/74	H	13.23	5.97	19.20	0.083
		16QAM	1/74	H	10.97	5.97	16.94	0.049
		64QAM	1/74	H	11.92	5.97	17.89	0.062
	2593	QPSK	1/74	H	14.01	5.91	19.92	0.098
		16QAM	1/74	H	11.76	5.91	17.67	0.058
		64QAM	1/74	H	12.68	5.91	18.59	0.072
	2682.5	QPSK	1/74	H	11.95	6.19	18.14	0.065
		16QAM	1/74	H	9.71	6.19	15.90	0.039
		64QAM	1/74	H	10.66	6.19	16.85	0.048
10	2501	QPSK	1/0	H	12.80	5.98	18.78	0.076
		16QAM	1/0	H	12.08	5.98	18.06	0.064
		64QAM	1/0	H	11.08	5.98	17.06	0.051
	2593	QPSK	1/25	H	13.94	5.91	19.85	0.097
		16QAM	1/25	H	12.33	5.91	18.24	0.067
		64QAM	1/25	H	10.13	5.91	16.04	0.040
	2685	QPSK	1/49	H	11.98	6.20	18.18	0.066
		16QAM	1/49	H	10.74	6.20	16.94	0.049
		64QAM	1/49	H	8.90	6.20	15.10	0.032
5	2498.5	QPSK	1/12	H	12.03	5.98	18.01	0.063
		16QAM	1/12	H	11.33	5.98	17.31	0.054
		64QAM	1/12	H	9.84	5.98	15.82	0.038
	2593	QPSK	1/12	H	11.88	5.91	17.79	0.060
		16QAM	1/12	H	10.75	5.91	16.66	0.046
		64QAM	1/12	H	10.48	5.91	16.39	0.044
	2687.5	QPSK	1/12	H	12.78	6.21	18.99	0.079
		16QAM	1/12	H	11.72	6.21	17.93	0.062
		64QAM	1/12	H	10.28	6.21	16.49	0.045

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	2506	QPSK	1/99	H	12.34	5.96	18.30	0.068
		16QAM	1/99	H	9.61	5.96	15.57	0.036
		64QAM	1/99	H	8.58	5.96	14.54	0.028
15	2593	QPSK	1/74	H	11.75	5.91	17.66	0.058
		16QAM	1/74	H	9.77	5.91	15.68	0.037
		64QAM	1/74	H	10.22	5.91	16.13	0.041
10	2593	QPSK	1/25	H	11.75	5.91	17.66	0.058
		16QAM	1/25	H	9.88	5.91	15.79	0.038
		64QAM	1/25	H	9.80	5.91	15.71	0.037
5	2687.5	QPSK	1/12	H	11.17	6.21	17.38	0.055
		16QAM	1/12	H	9.89	6.21	16.10	0.041
		64QAM	1/12	H	8.55	6.21	14.76	0.030

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.5.9 LTE Band 7

- Measurement data: Without wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	2510	QPSK	1/99	V	9.18	5.95	15.13	0.033
		16QAM	1/99	V	9.52	5.95	15.47	0.035
		64QAM	1/99	V	9.02	5.95	14.97	0.031
	2535	QPSK	1/0	V	9.84	5.89	15.73	0.037
		16QAM	1/0	V	10.32	5.89	16.21	0.042
		64QAM	1/0	V	10.20	5.89	16.09	0.041
	2560	QPSK	1/0	V	9.25	5.86	15.11	0.032
		16QAM	1/0	V	9.35	5.86	15.21	0.033
		64QAM	1/0	V	9.34	5.86	15.20	0.033
15	2507.5	QPSK	1/74	V	9.15	5.96	15.11	0.032
		16QAM	1/74	V	9.20	5.96	15.16	0.033
		64QAM	1/74	V	9.46	5.96	15.42	0.035
	2535	QPSK	1/0	V	9.73	5.89	15.62	0.036
		16QAM	1/0	V	9.72	5.89	15.61	0.036
		64QAM	1/0	V	9.81	5.89	15.70	0.037
	2562.5	QPSK	1/0	V	8.91	5.87	14.78	0.030
		16QAM	1/0	V	9.27	5.87	15.14	0.033
		64QAM	1/0	V	9.28	5.87	15.15	0.033
10	2505	QPSK	1/0	V	8.34	5.97	14.31	0.027
		16QAM	1/0	V	8.79	5.97	14.76	0.030
		64QAM	1/0	V	8.46	5.97	14.43	0.028
	2535	QPSK	1/0	V	9.30	5.89	15.19	0.033
		16QAM	1/0	V	9.23	5.89	15.12	0.033
		64QAM	1/0	V	9.34	5.89	15.23	0.033
	2565	QPSK	1/0	V	8.69	5.87	14.56	0.029
		16QAM	1/0	V	8.93	5.87	14.80	0.030
		64QAM	1/0	V	8.60	5.87	14.47	0.028
5	2502.5	QPSK	1/12	V	8.39	5.97	14.36	0.027
		16QAM	1/12	V	8.65	5.97	14.62	0.029
		64QAM	1/12	V	8.24	5.97	14.21	0.026
	2535	QPSK	1/12	V	10.00	5.89	15.89	0.039
		16QAM	1/12	V	10.33	5.89	16.22	0.042
		64QAM	1/12	V	10.28	5.89	16.17	0.041
	2567.5	QPSK	1/12	V	9.95	5.88	15.83	0.038
		16QAM	1/12	V	9.93	5.88	15.81	0.038
		64QAM	1/12	V	9.55	5.88	15.43	0.035

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBi)	EIRP (dBm)	EIRP (W)
20	2535	QPSK	1/0	H	11.47	5.89	17.36	0.054
		16QAM	1/0	H	10.45	5.89	16.34	0.043
		64QAM	1/0	H	9.42	5.89	15.31	0.034
15	2535	QPSK	1/0	H	11.81	5.89	17.70	0.059
		16QAM	1/0	H	10.73	5.89	16.62	0.046
		64QAM	1/0	H	9.44	5.89	15.33	0.034
10	2535	QPSK	1/0	H	11.07	5.89	16.96	0.050
		16QAM	1/0	H	10.38	5.89	16.27	0.042
		64QAM	1/0	H	8.13	5.89	14.02	0.025
5	2535	QPSK	1/12	H	12.77	5.89	18.66	0.073
		16QAM	1/12	H	11.75	5.89	17.64	0.058
		64QAM	1/12	H	10.15	5.89	16.04	0.040

Note: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.6 UNDESIRABLE EMISSIONS (Radiated)

7.6.1 LTE Band 12, 17

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	704	1/49	QPSK	1419.37	V	-57.46	2.89	-54.57	75.17	33.60
			16QAM	1419.14	V	-57.73	2.89	-54.84	74.13	32.29
			64QAM	1420.08	V	-57.65	2.89	-54.76	73.17	31.41
	711	1/49	QPSK	1434.28	V	-56.97	3.04	-53.93	74.23	33.30
			16QAM	1431.72	V	-57.84	3.01	-54.83	73.89	32.06
			64QAM	1430.78	V	-57.84	3.00	-54.84	72.99	31.15
5	701.5	1/24	QPSK	1408.63	V	-58.37	2.78	-55.59	75.79	33.20
			16QAM	1410.99	V	-58.41	2.80	-55.61	74.39	31.78
			64QAM	1407.97	V	-58.07	2.77	-55.30	73.13	30.83
	707.5	1/24	QPSK	1419.37	V	-57.55	2.89	-54.66	74.73	33.07
			16QAM	1420.55	V	-57.98	2.90	-55.08	74.16	32.08
			64QAM	1419.17	V	-56.85	2.89	-53.96	72.06	31.10
	713.5	1/24	QPSK	1430.74	V	-57.95	3.00	-54.95	75.28	33.33
			16QAM	1430.31	V	-57.86	3.00	-54.86	73.70	31.84
			64QAM	1432.79	V	-57.57	3.02	-54.55	72.45	30.90

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.6.2 LTE Band 12

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
3	700.5	1/14	QPSK	1420.01	V	-57.50	2.89	-54.61	74.64	33.03
			16QAM	1420.26	V	-58.13	2.90	-55.23	73.66	31.43
			64QAM	1420.20	V	-56.29	2.90	-53.39	70.86	30.47
	707.5	1/14	QPSK	1418.91	V	-57.79	2.88	-54.91	75.38	33.47
			16QAM	1418.54	V	-57.84	2.88	-54.96	73.90	31.94
			64QAM	1420.74	V	-57.48	2.90	-54.58	72.55	30.97
	714.5	1/14	QPSK	1431.59	V	-56.57	3.01	-53.56	73.78	33.22
			16QAM	1432.09	V	-57.95	3.02	-54.93	73.69	31.76
			64QAM	1432.35	V	-57.24	3.02	-54.22	72.10	30.88
1.4	699.7	1/5	QPSK	1399.40	V	-58.35	2.69	-55.66	75.34	32.68
			16QAM	1402.03	V	-58.20	2.71	-55.49	73.66	31.17
			64QAM	1401.02	V	-56.89	2.70	-54.19	71.49	30.30
	707.5	1/5	QPSK	1416.95	V	-58.04	2.86	-55.18	75.36	33.18
			16QAM	1418.89	V	-57.97	2.88	-55.09	73.98	31.89
			64QAM	1414.48	V	-57.81	2.84	-54.97	72.71	30.74
	715.3	1/5	QPSK	1430.79	V	-57.45	3.00	-54.45	74.47	33.02
			16QAM	1428.93	V	-57.33	2.99	-54.34	72.71	31.37
			64QAM	1430.73	V	-58.00	3.00	-55.00	72.41	30.41

Note 1: Limit Calculation = 43 + $10\log_{10}$(P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	711	1/49	QPSK	1430.77	H	-58.51	3.00	-55.51	75.06	32.55
5	713.5	1/24	QPSK	1419.46	H	-58.45	2.89	-55.56	74.29	31.73
3	707.5	1/14	QPSK	1419.34	H	-59.37	2.89	-56.48	75.29	31.81
1.4	707.5	1/5	QPSK	1416.97	H	-58.56	2.86	-55.70	74.27	31.57

Note 1: Limit Calculation = 43 + $10\log_{10}$(P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

7.6.3 LTE Band 13

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	782	1/0	QPSK	2333.00	H	-54.54	3.76	-50.78	67.61	29.83
			16QAM	2330.92	H	-54.29	3.76	-50.53	66.63	29.10
			64QAM	2329.69	H	-54.35	3.75	-50.60	65.33	29.73
5	779.5	1/0	QPSK	2333.02	H	-54.14	3.76	-50.38	67.08	29.70
			16QAM	2333.33	H	-55.03	3.76	-51.27	67.01	28.74
			64QAM	2330.15	H	-54.10	3.75	-50.35	64.46	27.11
	784.5	1/0	QPSK	2345.94	H	-54.66	3.78	-50.88	67.46	29.58
			16QAM	2347.55	H	-54.48	3.79	-50.69	65.84	28.15
			64QAM	2345.94	H	-54.29	3.78	-50.51	64.46	26.95

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	782	1/0	QPSK	2348.00	H	-54.46	3.79	-50.67	62.10	24.43
5	784.5	1/0	QPSK	2532.48	H	-54.17	3.75	-50.42	63.00	25.58

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

UNDESIRABLE EMISSIONS IN 1559~1610MHz (LTE Band 13)

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result (dBm)	Margin (dB)	Limit (dBm/MHz)
10	782	1/0	QPSK	1562.74	H	-58.16	5.95	-52.21	12.21	-40.00
		1/0	16QAM	1562.39	H	-59.01	5.95	-53.06	13.06	
		1/0	64QAM	1562.07	H	-58.46	5.95	-52.51	12.51	
5	779.5	1/0	QPSK	1559.01	H	-58.66	5.94	-52.72	12.72	
		1/0	16QAM	1559.84	H	-58.45	5.94	-52.51	12.51	
		1/0	64QAM	1559.28	H	-58.93	5.94	-52.99	12.99	
	784.5	1/0	QPSK	1568.23	H	-58.37	5.96	-52.41	12.41	
		1/0	16QAM	1567.72	H	-58.54	5.95	-52.59	12.59	
		1/0	64QAM	1570.02	H	-58.50	5.96	-52.54	12.54	

Note 1: Limit Calculation = −70 dBW/MHz (equivalent isotropically radiated power for wideband signals)
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result (dBm)	Margin (dB)	Limit (dBm/MHz)
10	782	1/0	QPSK	1569.20	H	-57.90	5.96	-51.94	11.94	-40.00
5	784.5	1/0	QPSK	1567.42	H	-57.73	5.95	-51.78	11.78	

Note 1: Limit Calculation = −70 dBW/MHz (equivalent isotropically radiated power for wideband signals)
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

7.6.4 LTE Band 5, 26

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
15	831.5	1/0	QPSK	1660.37	V	-56.55	3.85	-52.70	70.80	31.10
			16QAM	1659.67	V	-56.51	3.85	-52.66	69.76	30.10
			64QAM	1655.35	V	-57.13	3.84	-53.29	68.56	28.27
	841.5	1/0	QPSK	1669.39	V	-57.37	3.88	-53.49	69.38	28.89
			16QAM	1669.16	V	-56.97	3.88	-53.09	68.55	28.46
			64QAM	1666.81	V	-57.01	3.87	-53.14	66.30	26.16

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
15	831.5	1/0	QPSK	1649.91	H	-57.50	3.82	-53.68	68.33	27.65

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])
Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.
Note 3: 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 above table.

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	829	1/0	QPSK	1649.54	V	-56.81	3.82	-52.99	70.16	30.17
		1/0	16QAM	1649.50	V	-56.54	3.82	-52.72	69.24	29.52
		1/0	64QAM	1650.75	V	-56.44	3.82	-52.62	67.13	27.51
	836.5	1/0	QPSK	1664.09	V	-57.15	3.87	-53.28	70.26	29.98
		1/0	16QAM	1664.78	V	-56.95	3.87	-53.08	68.73	28.65
		1/0	64QAM	1665.29	V	-56.99	3.87	-53.12	67.47	27.35
	844	1/0	QPSK	1678.48	V	-57.32	3.91	-53.41	69.46	29.05
		1/0	16QAM	1680.14	V	-57.25	3.92	-53.33	68.18	27.85
		1/0	64QAM	1678.33	V	-57.39	3.91	-53.48	66.53	26.05
5	826.5	1/0	QPSK	1649.71	V	-56.59	3.82	-52.77	70.00	30.23
		1/0	16QAM	1646.46	V	-57.37	3.82	-53.55	69.70	29.15
		1/0	64QAM	1645.86	V	-57.57	3.82	-53.75	68.25	27.50
	836.5	1/0	QPSK	1671.34	V	-57.15	3.89	-53.26	69.50	29.24
		1/0	16QAM	1667.86	V	-56.46	3.88	-52.58	67.83	28.25
		1/0	64QAM	1664.97	V	-57.25	3.87	-53.38	66.86	26.48
	846.5	1/0	QPSK	1684.60	V	-57.76	3.93	-53.83	69.72	28.89
		1/0	16QAM	1686.76	V	-57.33	3.94	-53.39	68.04	27.65
		1/0	64QAM	1684.70	V	-57.24	3.93	-53.31	66.22	25.91
3	825.5	1/0	QPSK	1646.84	V	-57.12	3.82	-53.30	70.66	30.36
		1/0	16QAM	1647.57	V	-56.87	3.82	-53.05	69.42	29.37
		1/0	64QAM	1649.53	V	-56.96	3.82	-53.14	67.36	27.22
	836.5	1/0	QPSK	1671.45	V	-57.52	3.89	-53.63	69.68	29.05
		1/0	16QAM	1670.31	V	-57.22	3.88	-53.34	68.57	28.23
		1/0	64QAM	1668.76	V	-57.33	3.88	-53.45	66.93	26.48
	847.5	1/0	QPSK	1693.95	V	-56.67	3.96	-52.71	67.60	27.89
		1/0	16QAM	1689.74	V	-56.69	3.95	-52.74	66.81	27.07
		1/0	64QAM	1689.61	V	-57.48	3.95	-53.53	65.77	25.24
1.4	824.7	1/2	QPSK	1651.54	V	-56.01	3.82	-52.19	69.10	29.91
		1/2	16QAM	1652.02	V	-56.09	3.83	-52.26	68.41	29.15
		1/2	64QAM	1649.98	V	-56.83	3.82	-53.01	67.02	27.01
	836.5	1/2	QPSK	1674.10	V	-56.55	3.90	-52.65	68.57	28.92
		1/2	16QAM	1676.17	V	-57.22	3.90	-53.32	68.29	27.97
		1/2	64QAM	1673.80	V	-57.25	3.90	-53.35	66.61	26.26
	848.3	1/2	QPSK	1694.56	V	-57.08	3.96	-53.12	67.66	27.54
		1/2	16QAM	1697.82	V	-56.96	3.97	-52.99	66.86	26.87
		1/2	64QAM	1696.33	V	-56.99	3.97	-53.02	64.73	24.71

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBd)	Result		Limit (dBc)
								(dBm)	(dBc)	
10	829	1/0	QPSK	1649.52	H	-57.15	3.82	-53.33	67.68	27.35
5	826.5	1/0	QPSK	1648.43	H	-56.05	3.82	-52.23	66.86	27.63
3	825.5	1/0	QPSK	1648.17	H	-56.77	3.82	-52.95	67.43	27.48
1.4	824.7	1/2	QPSK	1649.24	H	-56.03	3.82	-52.21	66.60	27.39

Note 1: Limit Calculation = $43 + 10\log_{10}(P[Watts])$

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.6.5 LTE Band 66, 4

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	1720	1/0	QPSK	3421.79	V	-55.01	8.01	-47.00	66.41	32.41
			16QAM	3420.90	V	-54.13	8.00	-46.13	65.25	32.12
			64QAM	3423.38	V	-54.65	8.01	-46.64	64.02	30.38
	1745	1/0	QPSK	3466.29	V	-55.56	8.12	-47.44	66.10	31.66
			16QAM	3472.17	V	-55.21	8.13	-47.08	66.23	32.15
			64QAM	3470.07	V	-55.07	8.13	-46.94	65.18	31.24
	1770	1/0	QPSK	3518.28	V	-54.95	8.24	-46.71	64.43	30.72
			16QAM	3518.32	V	-54.59	8.24	-46.35	64.10	30.75
			64QAM	3519.18	V	-54.69	8.25	-46.44	64.14	30.70
15	1717.5	1/0	QPSK	3422.44	V	-54.89	8.01	-46.88	66.91	33.03
			16QAM	3416.25	V	-54.64	7.99	-46.65	67.24	33.59
			64QAM	3422.07	V	-54.66	8.01	-46.65	64.87	31.22
	1745	1/0	QPSK	3474.50	V	-54.53	8.14	-46.39	64.89	31.50
			16QAM	3471.06	V	-54.91	8.13	-46.78	65.40	31.62
			64QAM	3467.42	V	-54.96	8.12	-46.84	64.04	30.20
	1772.5	1/0	QPSK	3529.28	V	-54.28	8.27	-46.01	62.48	29.47
			16QAM	3530.94	V	-54.47	8.27	-46.20	63.03	29.83
			64QAM	3527.44	V	-54.41	8.27	-46.14	62.43	29.29
10	1715	1/0	QPSK	3423.44	V	-54.25	8.01	-46.24	64.91	31.67
			16QAM	3419.77	V	-54.48	8.00	-46.48	65.12	31.64
			64QAM	3419.53	V	-54.71	8.00	-46.71	64.12	30.41
	1745	1/0	QPSK	3481.26	V	-55.00	8.16	-46.84	64.82	30.98
			16QAM	3477.46	V	-54.14	8.15	-45.99	63.79	30.80
			64QAM	3476.69	V	-54.92	8.14	-46.78	63.56	29.78
	1775	1/0	QPSK	3540.54	V	-54.39	8.30	-46.09	62.80	29.71
			16QAM	3541.96	V	-54.99	8.30	-46.69	63.64	29.95
			64QAM	3539.78	V	-54.33	8.30	-46.03	62.07	29.04
5	1712.5	1/24	QPSK	3428.43	V	-53.94	8.02	-45.92	65.60	32.68
			16QAM	3428.85	V	-54.61	8.03	-46.58	66.42	32.84
			64QAM	3428.37	V	-54.82	8.02	-46.80	66.48	32.68
	1745	1/12	QPSK	3493.54	V	-53.61	8.18	-45.43	64.30	31.87
			16QAM	3488.37	V	-54.27	8.17	-46.10	65.26	32.16
			64QAM	3490.21	V	-54.90	8.18	-46.72	64.37	30.65
	1777.5	1/0	QPSK	3550.34	V	-54.80	8.32	-46.48	64.77	31.29
			16QAM	3552.55	V	-54.41	8.32	-46.09	64.32	31.23
			64QAM	3552.88	V	-54.03	8.32	-45.71	62.16	29.45

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
3	1711.5	1/7	QPSK	3426.10	V	-54.17	8.02	-46.15	65.52	32.37
			16QAM	3427.01	V	-53.52	8.02	-45.50	65.18	32.68
			64QAM	3423.12	V	-54.32	8.01	-46.31	64.94	31.63
	1745	1/7	QPSK	3487.32	V	-54.58	8.17	-46.41	65.26	31.85
			16QAM	3494.24	V	-54.46	8.19	-46.27	65.33	32.06
			64QAM	3491.75	V	-53.61	8.18	-45.43	63.36	30.93
	1778.5	1/0	QPSK	3556.22	V	-54.61	8.32	-46.29	63.74	30.45
			16QAM	3557.46	V	-54.68	8.32	-46.36	63.59	30.23
			64QAM	3551.76	V	-54.83	8.32	-46.51	61.92	28.41
1.4	1710.7	1/2	QPSK	3418.26	V	-54.95	8.00	-46.95	66.01	32.06
			16QAM	3422.90	V	-54.62	8.01	-46.61	65.94	32.33
			64QAM	3419.63	V	-54.64	8.00	-46.64	65.22	31.58
	1745	1/2	QPSK	3493.20	V	-54.32	8.18	-46.14	64.20	31.06
			16QAM	3493.43	V	-55.29	8.18	-47.11	65.39	31.28
			64QAM	3489.80	V	-53.54	8.18	-45.36	62.52	30.16
	1779.3	1/2	QPSK	3559.47	V	-54.54	8.33	-46.21	64.51	31.30
			16QAM	3557.34	V	-55.06	8.32	-46.74	64.90	31.16
			64QAM	3560.25	V	-54.85	8.33	-46.52	62.64	29.12

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	1720	1/0	QPSK	3421.49	H	-56.00	8.01	-47.99	67.46	32.47
15	1717.5	1/0	QPSK	3424.70	H	-55.73	8.01	-47.72	67.11	32.39
10	1715	1/0	16QAM	3420.92	H	-57.43	8.00	-49.43	68.81	32.38
5	1712.5	1/24	16QAM	3425.55	H	-56.39	8.02	-48.37	67.31	31.94
3	1711.5	1/7	16QAM	3430.12	H	-56.21	8.03	-48.18	66.95	31.77
1.4	1710.7	1/2	16QAM	3422.70	H	-55.99	8.01	-47.98	66.76	31.78

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.6.6 LTE Band 2

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	1860	1/0	QPSK	3702.22	V	-51.47	8.38	-43.09	60.58	30.49
			16QAM	3702.07	V	-51.49	8.38	-43.11	60.70	30.59
			64QAM	3702.45	V	-53.21	8.38	-44.83	61.38	29.55
	1880	1/0	QPSK	3742.23	V	-51.56	8.40	-43.16	60.27	30.11
			16QAM	3742.18	V	-51.39	8.40	-42.99	60.41	30.42
			64QAM	3742.04	V	-51.65	8.40	-43.25	60.14	29.89
	1900	1/0	QPSK	3782.27	V	-49.72	8.28	-41.44	58.58	30.14
			16QAM	3782.42	V	-49.92	8.28	-41.64	59.05	30.41
			64QAM	3782.38	V	-50.57	8.28	-42.29	57.75	28.46
15	1857.5	1/0	QPSK	3701.78	V	-51.86	8.38	-43.48	60.15	29.67
			16QAM	3701.54	V	-53.17	8.38	-44.79	61.79	30.00
			64QAM	3701.73	V	-53.41	8.38	-45.03	60.77	28.74
	1880	1/0	QPSK	3746.69	V	-51.30	8.40	-42.90	59.83	29.93
			16QAM	3746.65	V	-50.27	8.40	-41.87	59.19	30.32
			64QAM	3746.69	V	-51.65	8.40	-43.25	60.03	29.78
	1902.5	1/0	QPSK	3791.61	V	-51.69	8.25	-43.44	60.96	30.52
			16QAM	3792.14	V	-51.20	8.25	-42.95	61.00	31.05
			64QAM	3791.69	V	-52.40	8.25	-44.15	60.04	28.89
10	1855	1/25	QPSK	3707.12	V	-53.31	8.38	-44.93	61.64	29.71
			16QAM	3709.74	V	-53.61	8.38	-45.23	62.08	29.85
			64QAM	3709.56	V	-52.71	8.38	-44.33	60.26	28.93
	1880	1/0	QPSK	3751.19	V	-52.62	8.40	-44.22	61.28	30.06
			16QAM	3751.31	V	-52.40	8.40	-44.00	61.03	30.03
			64QAM	3751.21	V	-51.77	8.40	-43.37	60.07	29.70
	1905	1/0	QPSK	3801.25	V	-53.04	8.22	-44.82	62.07	30.25
			16QAM	3800.99	V	-52.80	8.22	-44.58	62.13	30.55
			64QAM	3800.75	V	-53.80	8.22	-45.58	61.56	28.98
5	1852.5	1/12	QPSK	3704.40	V	-53.24	8.38	-44.86	61.69	29.83
			16QAM	3706.80	V	-53.25	8.38	-44.87	61.79	29.92
			64QAM	3705.21	V	-52.48	8.38	-44.10	60.13	29.03
	1880	1/12	QPSK	3760.03	V	-52.80	8.36	-44.44	60.99	29.55
			16QAM	3760.12	V	-52.92	8.36	-44.56	61.40	29.84
			64QAM	3760.07	V	-52.53	8.36	-44.17	60.31	29.14
	1907.5	1/12	QPSK	3815.30	V	-53.05	8.22	-44.83	61.71	29.88
			16QAM	3815.10	V	-53.76	8.22	-45.54	62.47	29.93
			64QAM	3814.73	V	-53.16	8.22	-44.94	60.13	28.19

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
3	1851.5	1/7	QPSK	3703.18	V	-53.34	8.38	-44.96	62.41	30.45
			16QAM	3703.15	V	-52.83	8.38	-44.45	62.03	30.58
			64QAM	3703.48	V	-54.21	8.38	-45.83	62.32	29.49
	1880	1/7	QPSK	3760.00	V	-51.78	8.36	-43.42	60.14	29.72
			16QAM	3759.94	V	-52.67	8.36	-44.31	61.24	29.93
			64QAM	3760.39	V	-52.61	8.36	-44.25	60.39	29.14
	1908.5	1/7	QPSK	3816.88	V	-52.46	8.22	-44.24	61.22	29.98
			16QAM	3817.00	V	-51.94	8.22	-43.72	60.62	29.90
			64QAM	3816.77	V	-52.45	8.22	-44.23	59.17	27.94
1.4	1850.7	1/2	QPSK	3700.74	V	-53.31	8.38	-44.93	61.63	29.70
			16QAM	3700.98	V	-52.67	8.38	-44.29	61.13	29.84
			64QAM	3701.58	V	-53.20	8.38	-44.82	60.58	28.76
	1880	1/2	QPSK	3760.12	V	-52.37	8.36	-44.01	60.99	29.98
			16QAM	3759.96	V	-53.21	8.36	-44.85	62.17	30.32
			64QAM	3759.51	V	-53.84	8.37	-45.47	61.95	29.48
	1909.3	1/2	QPSK	3818.24	V	-51.47	8.22	-43.25	60.23	29.98
			16QAM	3818.35	V	-52.12	8.22	-43.90	60.92	30.02
			64QAM	3818.46	V	-52.34	8.22	-44.12	59.19	28.07

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	1860	1/0	16QAM	3703.39	H	-54.33	8.38	-45.95	63.89	30.94
15	1902.5	1/0	16QAM	3803.31	H	-55.93	8.22	-47.71	65.54	30.83
10	1905	1/0	16QAM	3802.37	H	-54.52	8.22	-46.30	63.54	30.24
5	1907.5	1/12	16QAM	3812.08	H	-55.64	8.22	-47.42	65.05	30.63
3	1851.5	1/7	16QAM	3698.07	H	-55.39	8.38	-47.01	64.76	30.75
1.4	1880	1/2	16QAM	3759.60	H	-54.82	8.37	-46.45	63.31	29.86

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.6.7 LTE Band 41

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	2506	1/99	QPSK	5033.80	H	-53.27	10.06	-43.21	64.31	46.10
			16QAM	5031.31	H	-53.32	10.06	-43.26	61.89	43.63
			64QAM	5031.28	H	-54.47	10.06	-44.41	62.39	42.98
	2593	1/99	QPSK	5203.59	H	-53.28	10.34	-42.94	62.50	44.56
			16QAM	5023.10	H	-53.90	10.04	-43.86	61.27	42.41
			64QAM	5203.09	H	-52.88	10.34	-42.54	58.37	40.83
	2680	1/99	QPSK	5382.21	H	-53.45	10.28	-43.17	60.77	42.60
			16QAM	5382.31	H	-53.26	10.28	-42.98	59.43	41.45
			64QAM	5379.86	H	-52.69	10.28	-42.41	58.25	40.84
15	2503.5	1/74	QPSK	5025.28	H	-52.99	10.05	-42.94	62.14	44.20
			16QAM	5025.25	H	-52.86	10.05	-42.81	59.75	41.94
			64QAM	5018.68	H	-53.43	10.03	-43.40	61.29	42.89
	2593	1/74	QPSK	5199.43	H	-52.79	10.34	-42.45	62.37	44.92
			16QAM	5198.52	H	-53.55	10.34	-43.21	60.88	42.67
			64QAM	5198.67	H	-53.52	10.34	-43.18	61.77	43.59
	2682.5	1/74	QPSK	5376.82	H	-53.35	10.28	-43.07	61.21	43.14
			16QAM	5383.43	H	-53.52	10.28	-43.24	59.14	40.90
			64QAM	5379.34	H	-53.42	10.28	-43.14	59.99	41.85
10	2501	1/0	QPSK	4994.57	H	-52.70	9.99	-42.71	61.49	43.78
			16QAM	4944.84	H	-53.29	9.90	-43.39	61.45	43.06
			64QAM	4991.52	H	-52.89	9.98	-42.91	59.97	42.06
	2593	1/25	QPSK	5188.61	H	-52.98	10.32	-42.66	62.51	44.85
			16QAM	5188.25	H	-53.42	10.32	-43.10	61.34	43.24
			64QAM	5189.82	H	-54.14	10.32	-43.82	59.86	41.04
	2685	1/49	QPSK	5377.60	H	-53.16	10.28	-42.88	61.06	43.18
			16QAM	5379.47	H	-53.06	10.28	-42.78	59.72	41.94
			64QAM	5383.49	H	-53.21	10.28	-42.93	58.03	40.10
5	2498.5	1/12	QPSK	4992.52	Y	-52.39	9.99	-42.40	60.41	43.01
			16QAM	4995.22	Y	-51.48	9.99	-41.49	58.80	42.31
			64QAM	4994.14	Y	-51.84	9.99	-41.85	57.67	40.82
	2593	1/12	QPSK	5184.71	Y	-52.03	10.32	-41.71	59.50	42.79
			16QAM	5186.58	Y	-51.97	10.32	-41.65	58.31	41.66
			64QAM	5183.52	Y	-51.76	10.31	-41.45	57.84	41.39
	2687.5	1/12	QPSK	5373.05	Y	-53.16	10.28	-42.88	61.87	43.99
			16QAM	5371.12	Y	-53.14	10.28	-42.86	60.79	42.93
			64QAM	5371.18	Y	-53.01	10.28	-42.73	59.22	41.49

Note 1: Limit Calculation = 43 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	2506	1/99	QPSK	5031.08	H	-53.61	10.06	-43.55	64.65	46.10
15	2593	1/74	QPSK	5202.97	H	-53.27	10.34	-42.93	62.85	44.92
10	2593	1/25	QPSK	5188.48	H	-54.13	10.32	-43.81	63.66	44.85
5	2687.5	1/12	QPSK	5374.13	H	-52.24	10.28	-41.96	60.95	43.99

Note 1: Limit Calculation = 55 + 10log$_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.6.8 LTE Band 7

- Measurement data: Without wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	2510	1/99	QPSK	5039.11	H	-53.16	10.07	-43.09	58.22	40.13
			16QAM	5042.89	H	-52.81	10.08	-42.73	58.20	40.47
			64QAM	5036.26	H	-53.15	10.07	-43.08	58.05	39.97
	2535	1/0	QPSK	5044.07	H	-53.65	10.08	-43.57	59.30	40.73
			16QAM	5054.24	H	-53.55	10.11	-43.44	59.65	41.21
			64QAM	5047.98	H	-52.82	10.09	-42.73	58.82	41.09
	2560	1/0	QPSK	5099.19	H	-53.69	10.27	-43.42	58.53	40.11
			16QAM	5096.50	H	-53.83	10.26	-43.57	58.78	40.21
			64QAM	5098.96	H	-53.61	10.27	-43.34	58.54	40.20
15	2507.5	1/74	QPSK	5033.32	H	-53.55	10.06	-43.49	58.60	40.11
			16QAM	5034.94	H	-53.30	10.06	-43.24	58.40	40.16
			64QAM	5035.17	H	-53.68	10.06	-43.62	59.04	40.42
	2535	1/0	QPSK	5061.39	H	-52.59	10.13	-42.46	58.08	40.62
			16QAM	5059.06	H	-53.13	10.12	-43.01	58.62	40.61
			64QAM	5052.68	H	-53.53	10.10	-43.43	59.13	40.70
	2562.5	1/0	QPSK	5102.79	H	-54.12	10.27	-43.85	58.63	39.78
			16QAM	5113.93	H	-53.32	10.27	-43.05	58.19	40.14
			64QAM	5112.40	H	-52.62	10.27	-42.35	57.50	40.15
10	2505	1/0	QPSK	5004.77	H	-53.16	10.01	-43.15	57.46	39.31
			16QAM	5005.12	H	-53.56	10.01	-43.55	58.31	39.76
			64QAM	5000.22	H	-53.18	10.00	-43.18	57.61	39.43
	2535	1/0	QPSK	5057.27	H	-52.70	10.12	-42.58	57.77	40.19
			16QAM	5058.12	H	-53.22	10.12	-43.10	58.22	40.12
			64QAM	5059.18	H	-52.51	10.12	-42.39	57.62	40.23
	2565	1/0	QPSK	5121.12	H	-54.17	10.27	-43.90	58.46	39.56
			16QAM	5124.33	H	-54.68	10.27	-44.41	59.21	39.80
			64QAM	5122.64	H	-54.51	10.27	-44.24	58.71	39.47
5	2502.5	1/12	QPSK	5001.50	H	-52.08	10.00	-42.08	56.44	39.36
			16QAM	5002.85	H	-53.69	10.01	-43.68	58.30	39.62
			64QAM	5005.25	H	-53.21	10.01	-43.20	57.41	39.21
	2535	1/12	QPSK	5071.87	H	-52.86	10.17	-42.69	58.58	40.89
			16QAM	5068.92	H	-53.07	10.16	-42.91	59.13	41.22
			64QAM	5071.42	H	-52.97	10.17	-42.80	58.97	41.17
	2567.5	1/12	QPSK	5133.69	H	-53.67	10.26	-43.41	59.24	40.83
			16QAM	5135.98	H	-53.70	10.26	-43.44	59.25	40.81
			64QAM	5137.96	H	-53.92	10.26	-43.66	59.09	40.43

Note 1: Limit Calculation = 55 + $10\log_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: The frequency spectrum is examined from 9 kHz to the 10^{th} harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed

- Measurement data: With wireless charging pad

B.W (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain(dBi)	Result		Limit (dBc)
								(dBm)	(dBc)	
20	2535	1/0	QPSK	5044.58	H	-53.11	10.08	-43.03	60.39	42.36
15	2535	1/0	QPSK	5051.58	H	-53.27	10.10	-43.17	60.87	42.70
10	2535	1/0	QPSK	5057.33	H	-53.21	10.12	-43.09	60.05	41.96
5	2535	1/12	QPSK	5074.94	H	-53.15	10.18	-42.97	61.63	43.66

Note 1: Limit Calculation = 55 + 10log$_{10}$ (P[Watts])

Note 2: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 3: 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 above table.

7.7 FREQUENCY STABILITY

7.7.1 LTE Band 12, 17

OPERATING FREQUENCY : 707.5 MHz
REFERENCE VOLTAGE : 4.0 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	707,499,992	-8	-0.0113	-0.000001131
100%		-30	707,499,986	-14	-0.0198	-0.000001979
100%		-20	707,499,984	-16	-0.0226	-0.000002261
100%		-10	707,499,988	-12	-0.0170	-0.000001696
100%		0	707,499,992	-8	-0.0113	-0.000001131
100%		+10	707,500,013	13	0.0184	0.000001837
100%		+20	707,499,992	-8	-0.0113	-0.000001131
100%		+30	707,500,011	11	0.0155	0.000001555
100%		+40	707,499,990	-10	-0.0141	-0.000001413
100%		+50	707,500,012	12	0.0170	0.000001696
110%	4.4	+20	707,500,005	5	0.0071	0.000000707
BATT.ENDPOINT	3.0	+20	707,499,988	-12	-0.0170	-0.000001696

Note 1: 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 inband 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.
Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.2 LTE Band 13

OPERATING FREQUENCY : 782 MHz
REFERENCE VOLTAGE : 4.0 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	782,000,007	7	0.0090	0.000000895
100%		-30	782,000,010	10	0.0128	0.000001279
100%		-20	782,000,008	8	0.0102	0.000001023
100%		-10	782,000,013	13	0.0166	0.000001662
100%		0	781,999,991	-9	-0.0115	-0.000001151
100%		+10	782,000,008	8	0.0102	0.000001023
100%		+20	782,000,007	7	0.0090	0.000000895
100%		+30	782,000,007	7	0.0090	0.000000895
100%		+40	781,999,991	-9	-0.0115	-0.000001151
100%		+50	781,999,990	-10	-0.0128	-0.000001279
110%	4.4	+20	781,999,994	-6	-0.0077	-0.000000767
BATT.ENDPOINT	3.0	+20	782,000,008	8	0.0102	0.000001023

Note 1: 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 inband 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.
Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.3 LTE Band 5, 26

OPERATING FREQUENCY : 836.5 MHz
REFERENCE VOLTAGE : 4.0 VDC
LIMIT : < 2.5ppm

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	836,500,015	15	0.0179	0.000001793
100%		-30	836,500,012	12	0.0143	0.000001435
100%		-20	836,499,989	-11	-0.0132	-0.000001315
100%		-10	836,499,992	-8	-0.0096	-0.000000956
100%		0	836,499,990	-10	-0.0120	-0.000001195
100%		+10	836,500,011	11	0.0132	0.000001315
100%		+20	836,500,015	15	0.0179	0.000001793
100%		+30	836,499,992	-8	-0.0096	-0.000000956
100%		+40	836,500,007	7	0.0084	0.000000837
100%		+50	836,500,010	10	0.0120	0.000001195
110%	4.4	+20	836,500,010	10	0.0120	0.000001195
BATT.ENDPOINT	3.0	+20	836,499,994	-6	-0.0072	-0.000000717

Note 1: 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 inband 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.

Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.4 LTE Band 66, 4

OPERATING FREQUENCY : 1745.0 MHz
REFERENCE VOLTAGE 4.0 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	1,745,000,006	6	0.0034	0.000000344
100%		-30	1,745,000,008	8	0.0046	0.000000458
100%		-20	1,744,999,990	-10	-0.0057	-0.000000573
100%		-10	1,745,000,007	7	0.0040	0.000000401
100%		0	1,745,000,005	5	0.0029	0.000000287
100%		+10	1,745,000,008	8	0.0046	0.000000458
100%		+20	1,745,000,006	6	0.0034	0.000000344
100%		+30	1,745,000,007	7	0.0040	0.000000401
100%		+40	1,744,999,994	-6	-0.0034	-0.000000344
100%		+50	1,745,000,008	8	0.0046	0.000000458
110%	4.4	+20	1,745,000,011	11	0.0063	0.000000630
BATT.ENDPOINT	3.0	+20	1,744,999,991	-9	-0.0052	-0.000000516

Note 1: 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 inband 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.

Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.5 LTE Band 2

OPERATING FREQUENCY : 1880 MHz
REFERENCE VOLTAGE 4.0 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	1,879,999,989	-11	-0.0059	-0.000000585
100%		-30	1,879,999,992	-8	-0.0043	-0.000000426
100%		-20	1,879,999,987	-13	-0.0069	-0.000000691
100%		-10	1,879,999,990	-10	-0.0053	-0.000000532
100%		0	1,880,000,008	8	0.0043	0.000000426
100%		+10	1,880,000,009	9	0.0048	0.000000479
100%		+20	1,879,999,989	-11	-0.0059	-0.000000585
100%		+30	1,880,000,012	12	0.0064	0.000000638
100%		+40	1,879,999,989	-11	-0.0059	-0.000000585
100%		+50	1,880,000,008	8	0.0043	0.000000426
110%	4.4	+20	1,879,999,990	-10	-0.0053	-0.000000532
BATT.ENDPOINT	3.0	+20	1,880,000,006	6	0.0032	0.000000319

Note 1: 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 inband 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.
Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.6 LTE Band 41

OPERATING FREQUENCY : 2593 MHz
REFERENCE VOLTAGE 4.0 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	2,593,000,008	8	0.0031	0.000000309
100%		-30	2,593,000,012	12	0.0046	0.000000463
100%		-20	2,592,999,993	-7	-0.0027	-0.000000270
100%		-10	2,593,000,011	11	0.0042	0.000000424
100%		0	2,592,999,992	-8	-0.0031	-0.000000309
100%		+10	2,592,999,994	-6	-0.0023	-0.000000231
100%		+20	2,593,000,008	8	0.0031	0.000000309
100%		+30	2,592,999,993	-7	-0.0027	-0.000000270
100%		+40	2,592,999,990	-10	-0.0039	-0.000000386
100%		+50	2,593,000,011	11	0.0042	0.000000424
110%	4.4	+20	2,593,000,008	8	0.0031	0.000000309
BATT.ENDPOINT	3.0	+20	2,593,000,007	7	0.0027	0.000000270

Note 1: 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 inband 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.
Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

7.7.7 LTE Band 7

OPERATING FREQUENCY : 2535 MHz
REFERENCE VOLTAGE : 4.00 VDC
LIMIT : The frequency stability shall be sufficient to ensure that the fundamental emission stays wthin the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	4.0	+20(Ref)	2,534,999,989	-11	-0.0043	-0.000000434
100%		-30	2,535,000,007	7	0.0028	0.000000276
100%		-20	2,535,000,008	8	0.0032	0.000000316
100%		-10	2,534,999,991	-9	-0.0036	-0.000000355
100%		0	2,534,999,987	-13	-0.0051	-0.000000513
100%		+10	2,535,000,009	9	0.0036	0.000000355
100%		+20	2,534,999,989	-11	-0.0043	-0.000000434
100%		+30	2,535,000,015	15	0.0059	0.000000592
100%		+40	2,534,999,988	-12	-0.0047	-0.000000473
100%		+50	2,534,999,992	-8	-0.0032	-0.000000316
110%	4.4	+20	2,535,000,010	10	0.0039	0.000000394
BATT.ENDPOINT	3.0	+20	2,534,999,991	-9	-0.0036	-0.000000355

Note 1: 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 inband 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.

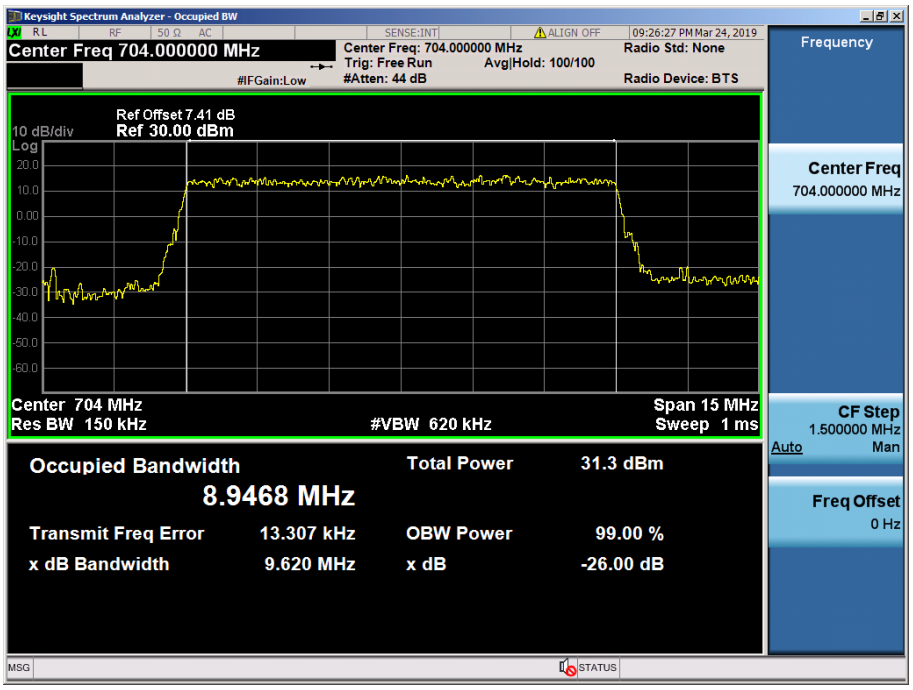
Note 2: At the request of the applicant, the voltage of highest level is tested at 110%.

8. TEST PLOTS

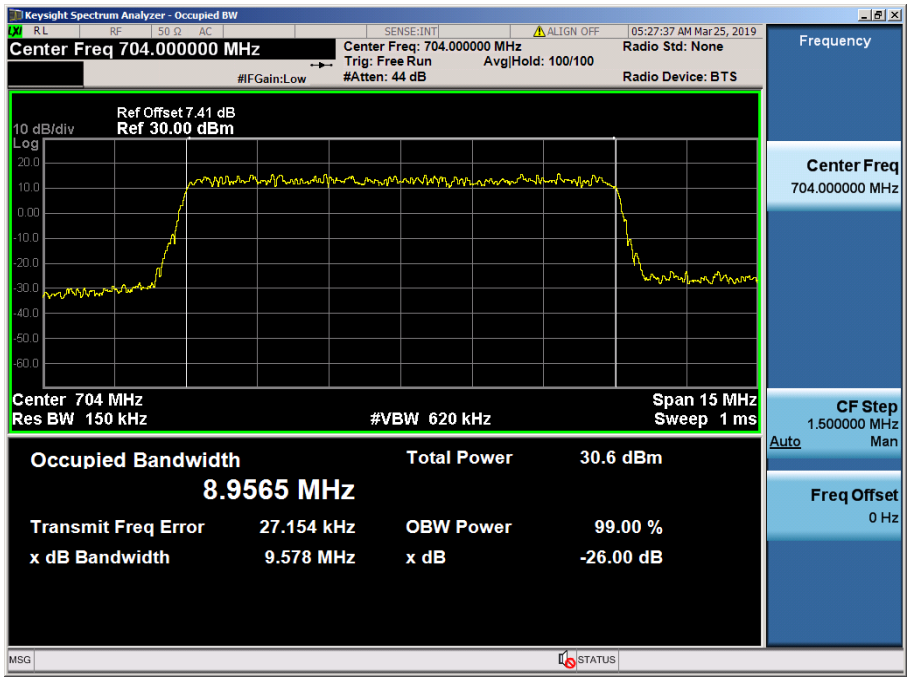
**Note: All bandwidths, RB configurations, and modulations were investigated.
The worst case test results are reported.**

8.1 OCCUPIED BANDWIDTH

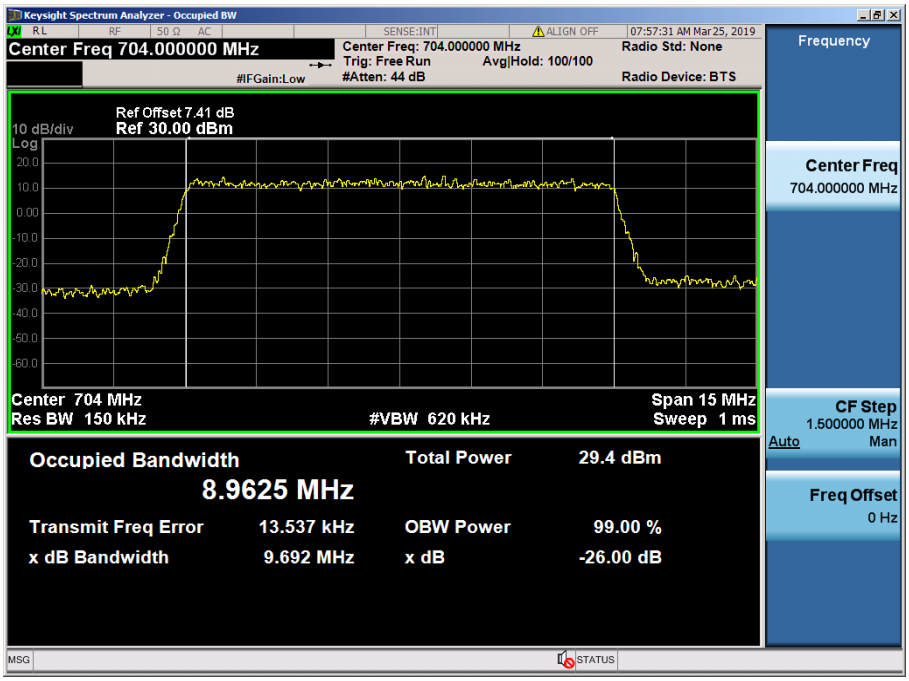
8.1.1 LTE Band 12, 17



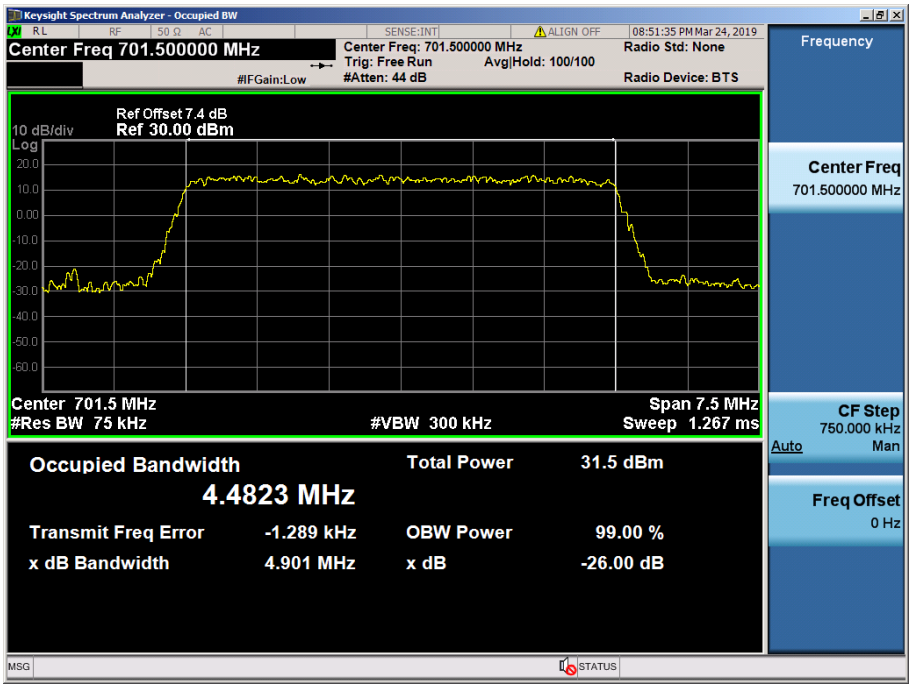
LTE Band 12, 17 / 10 MHz / QPSK - RB Size 50



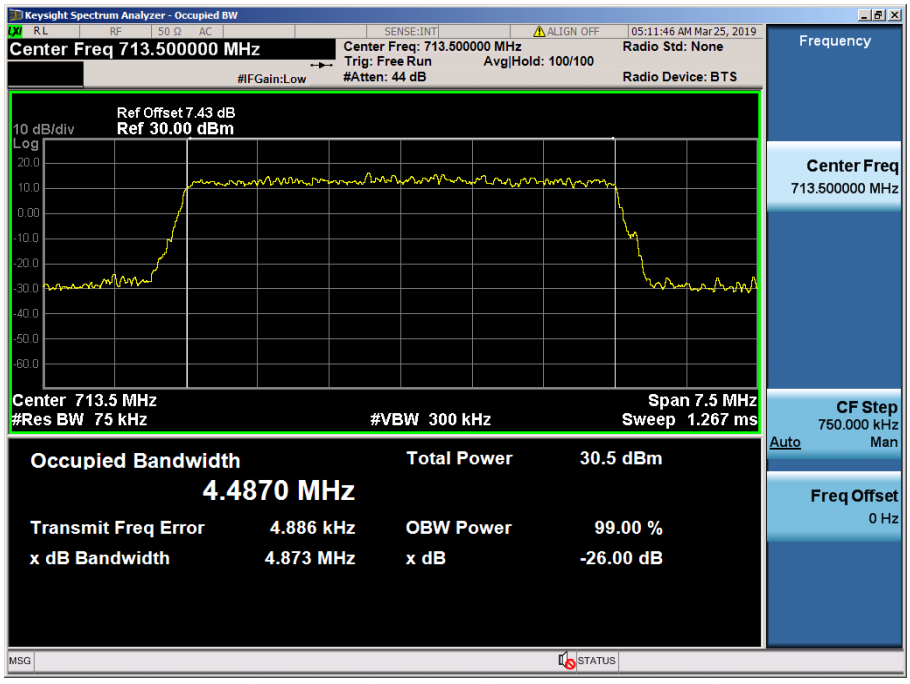
LTE Band 12, 17 / 10 MHz / 16QAM - RB Size 50



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



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



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

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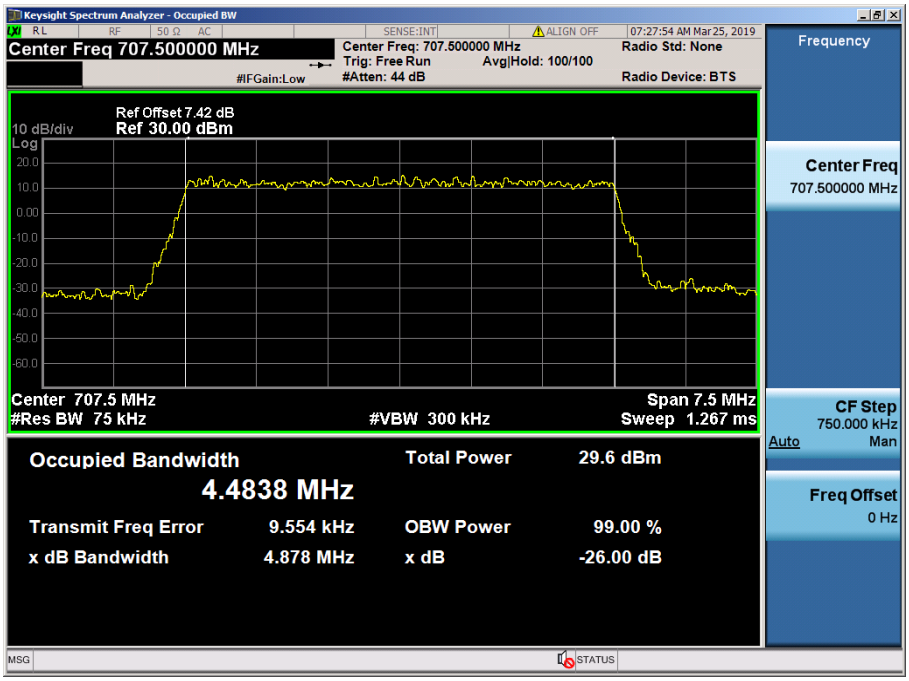
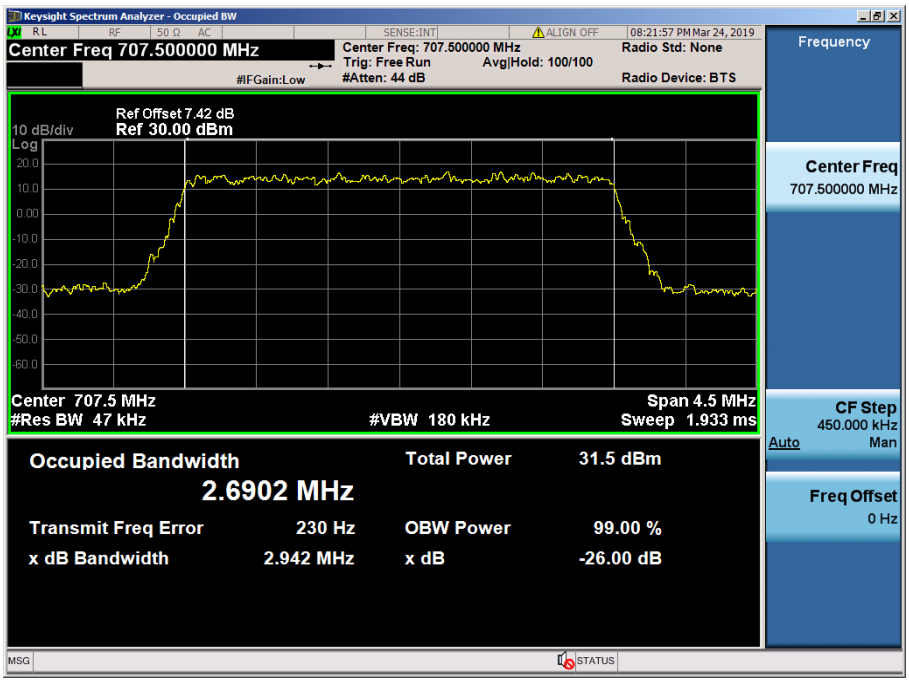
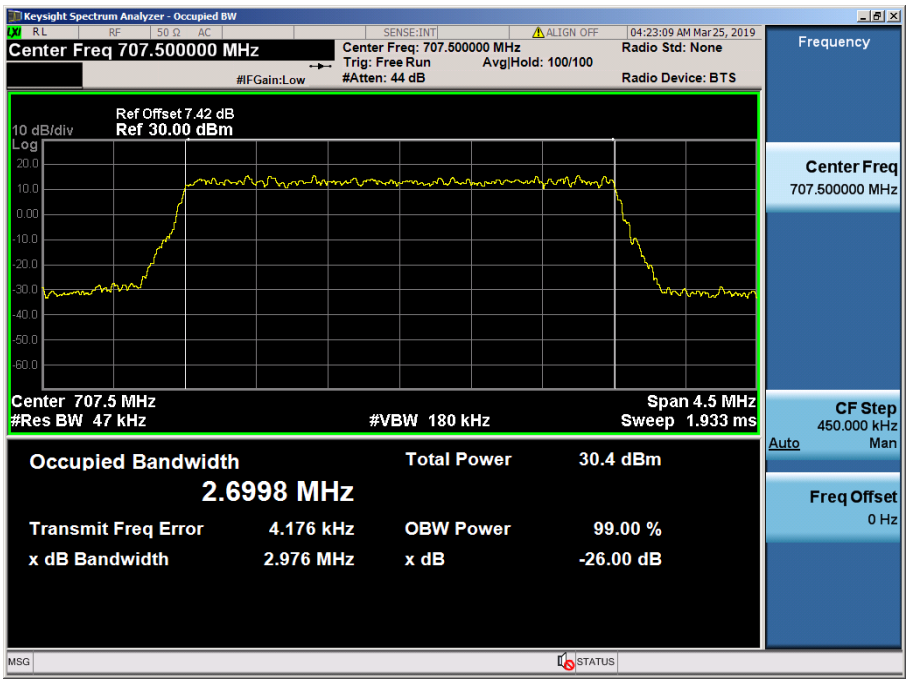


LTE Band 12, 17 / 5 MHz / 64QAM - RB Size 25

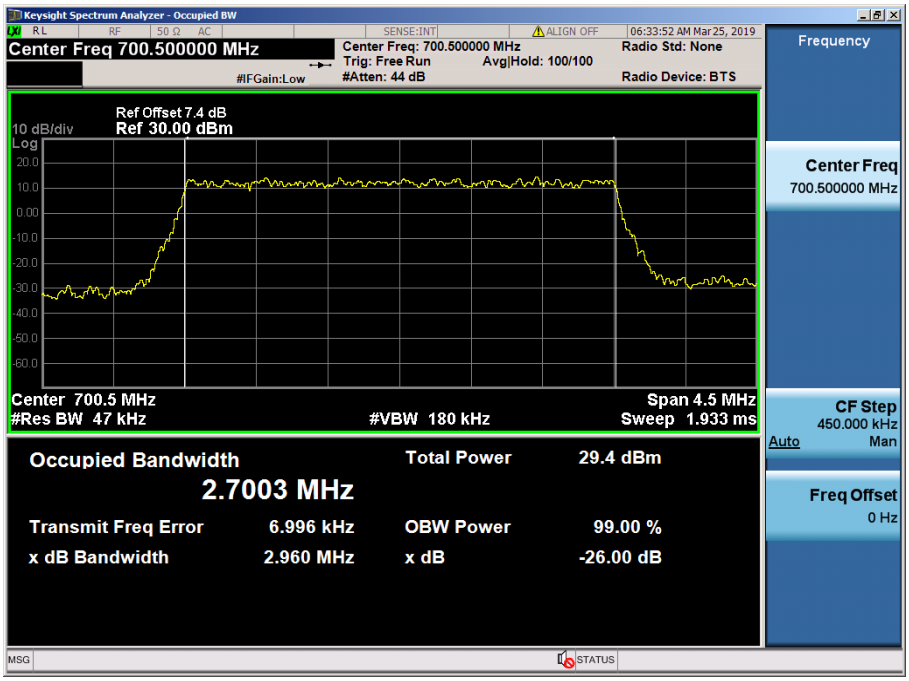
8.1.2 LTE Band 12



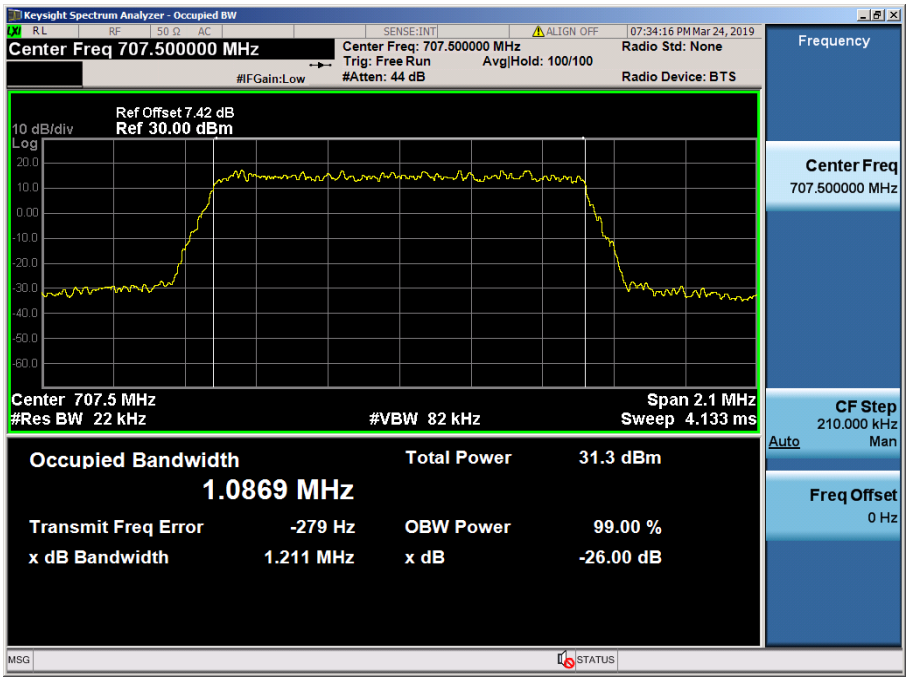
LTE Band 12 / 3 MHz / QPSK - RB Size 15



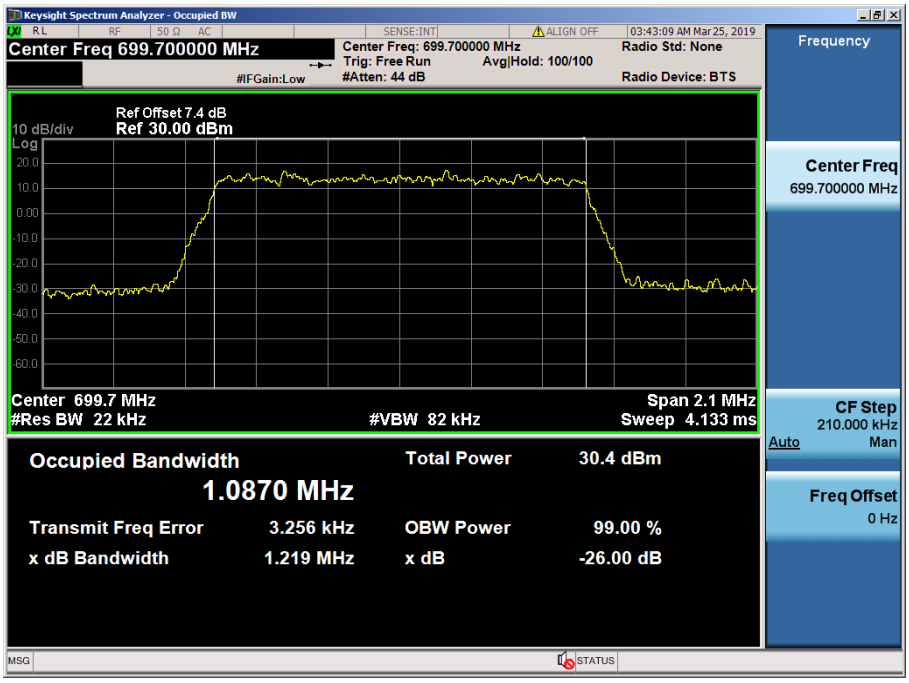
LTE Band 12 / 3 MHz / 16QAM - RB Size 15



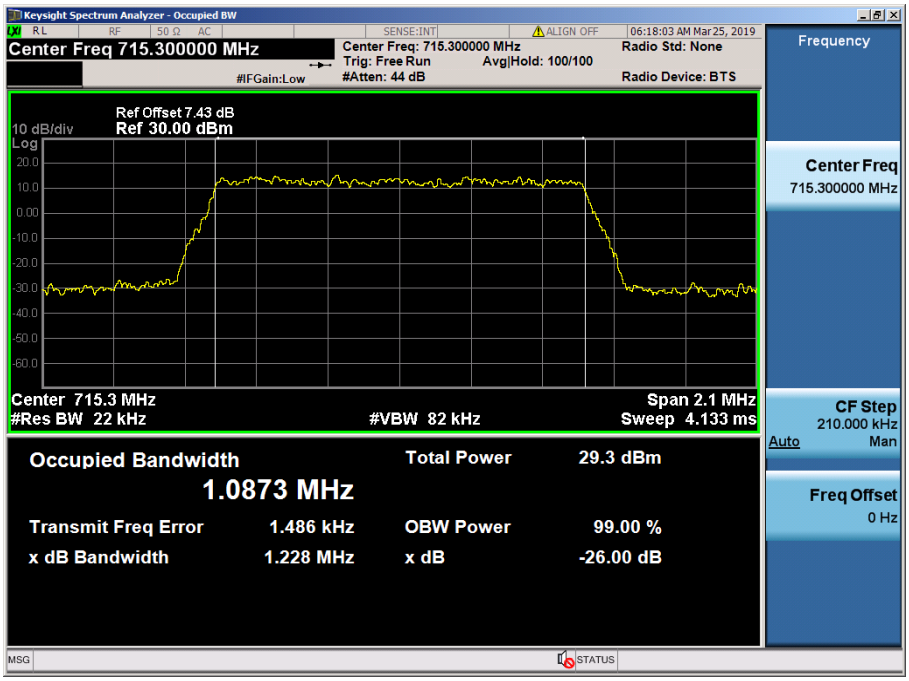
LTE Band 12 / 3 MHz / 64QAM - RB Size 15



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

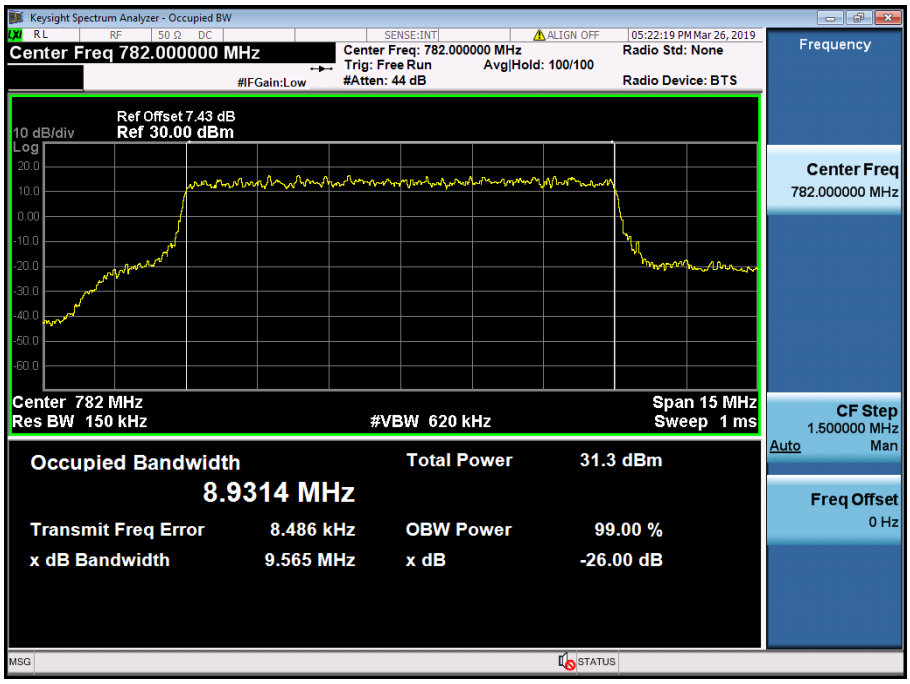


LTE Band 12 / 1.4 MHz / 16QAM - RB Size 6

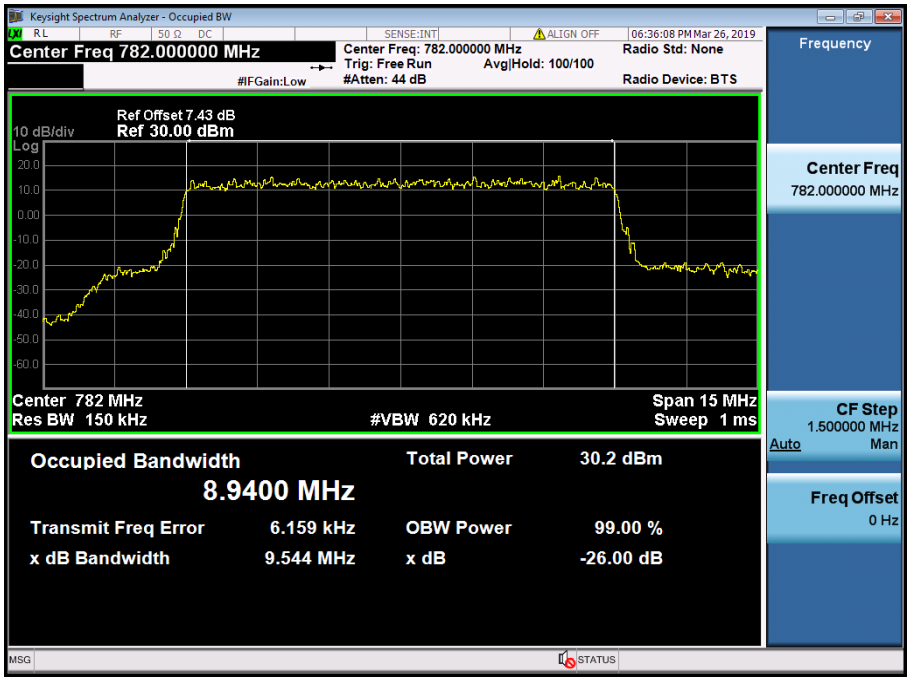


LTE Band 12 / 1.4 MHz / 64QAM - RB Size 6

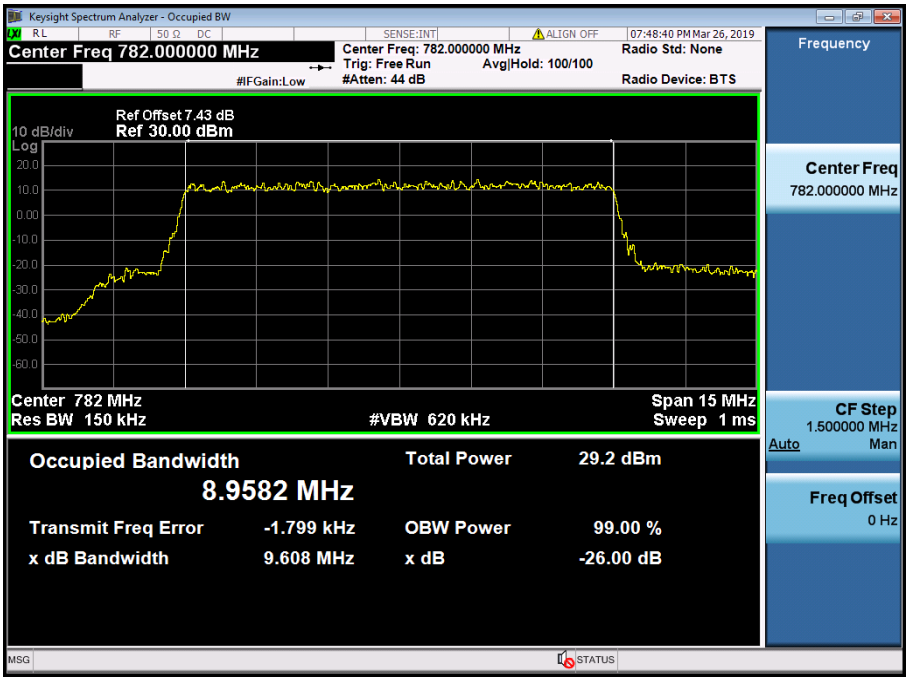
8.1.3 LTE Band 13



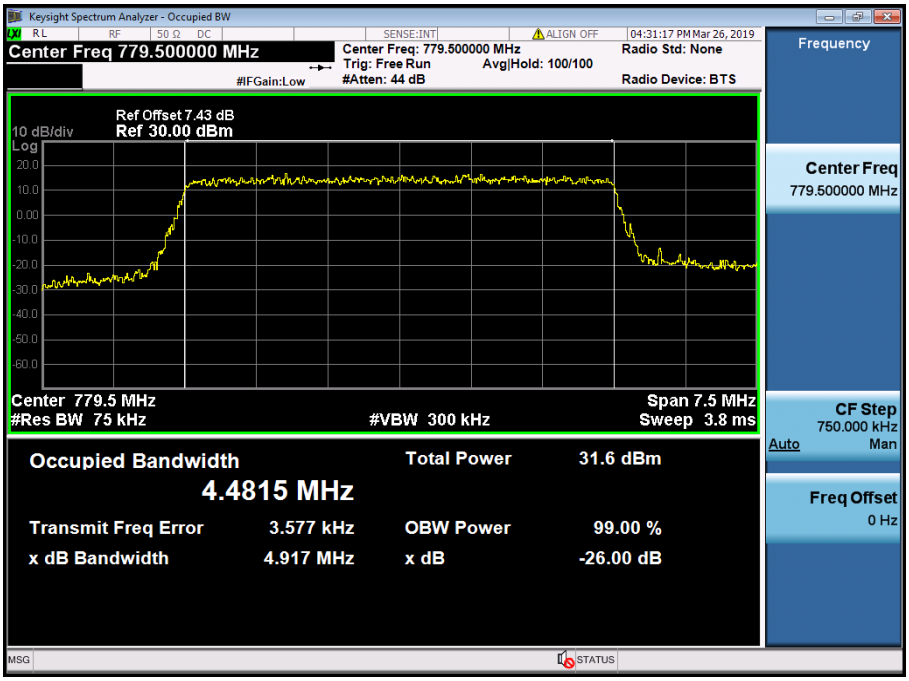
LTE Band 13 / 10 MHz / QPSK - RB Size 50



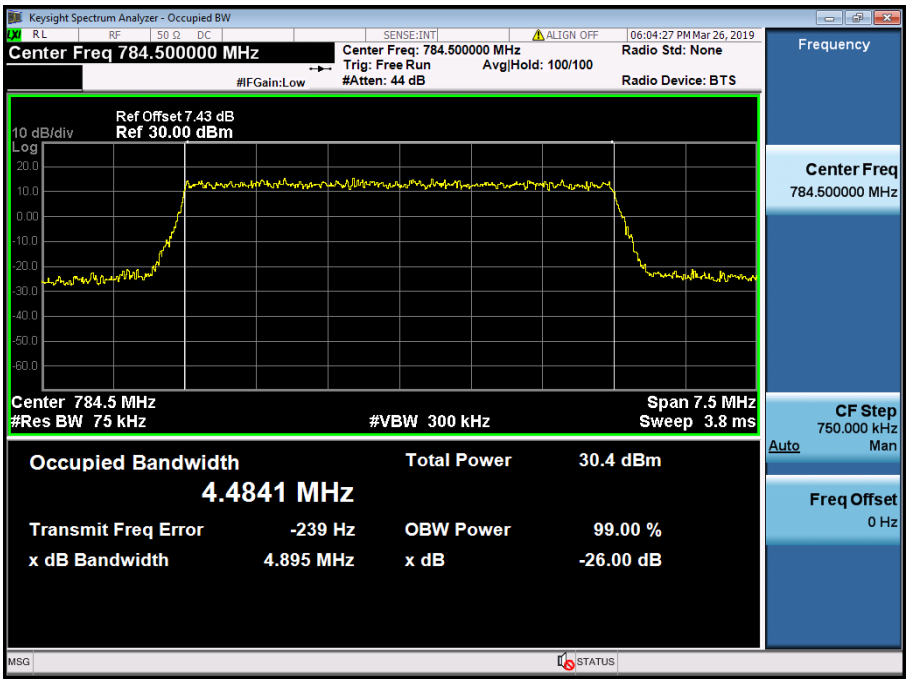
LTE Band 13 / 10 MHz / 16QAM - RB Size 50



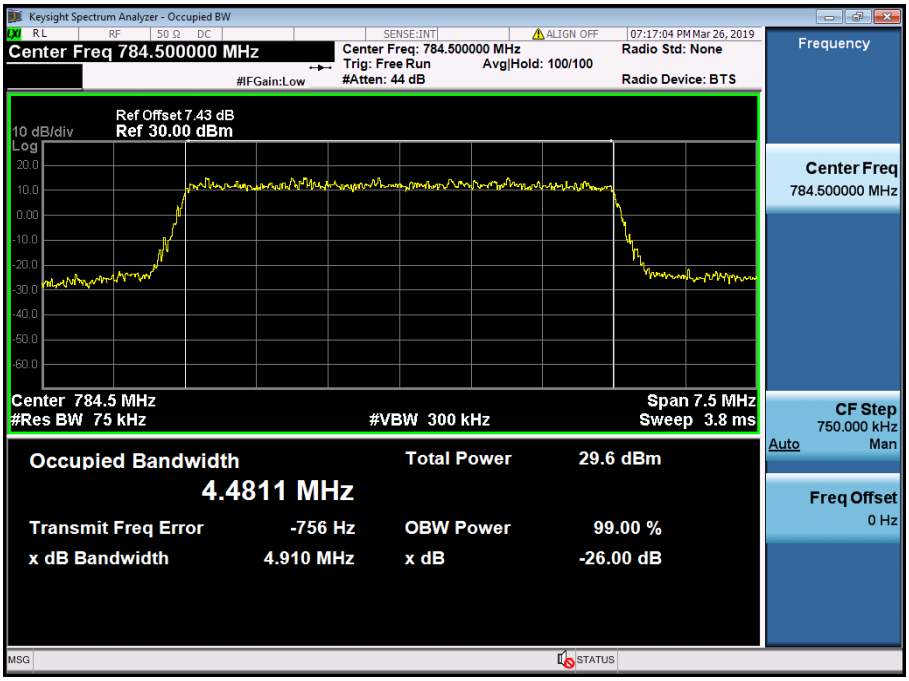
LTE Band 13 / 10 MHz / 64QAM - RB Size 50



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

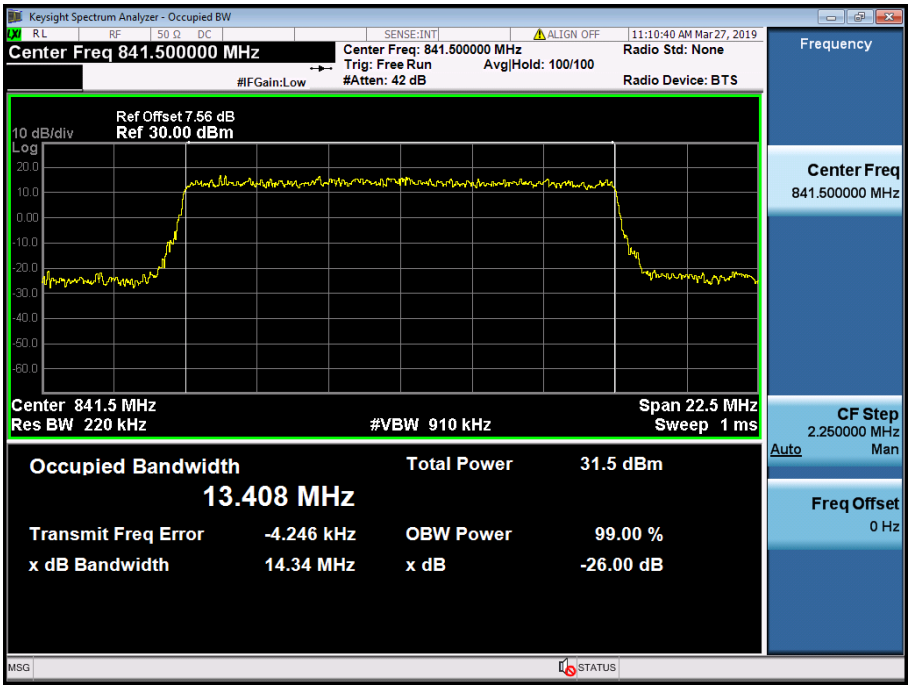


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

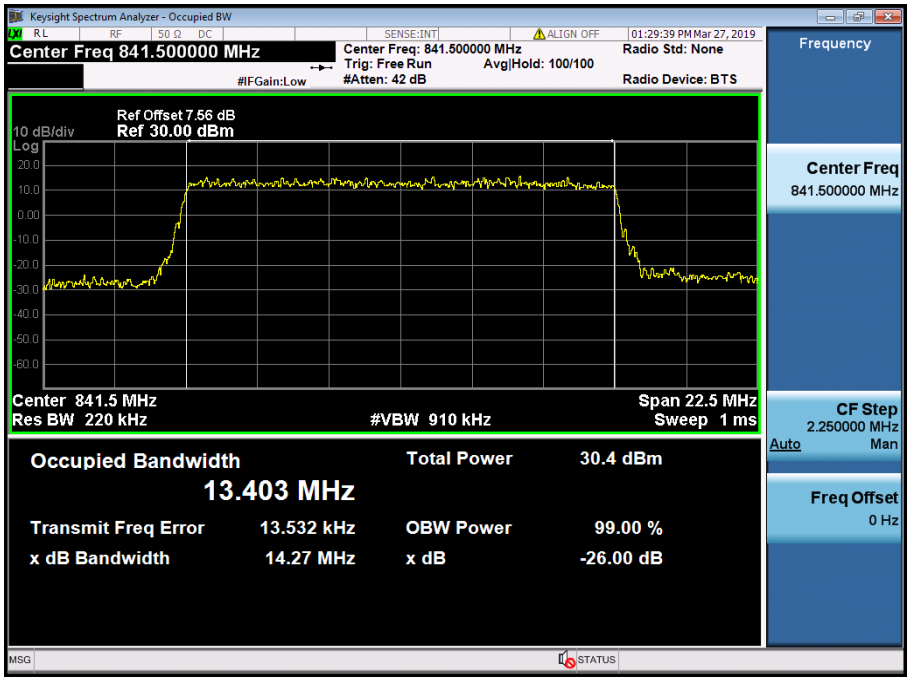


LTE Band 13 / 5 MHz / 64QAM - RB Size 25

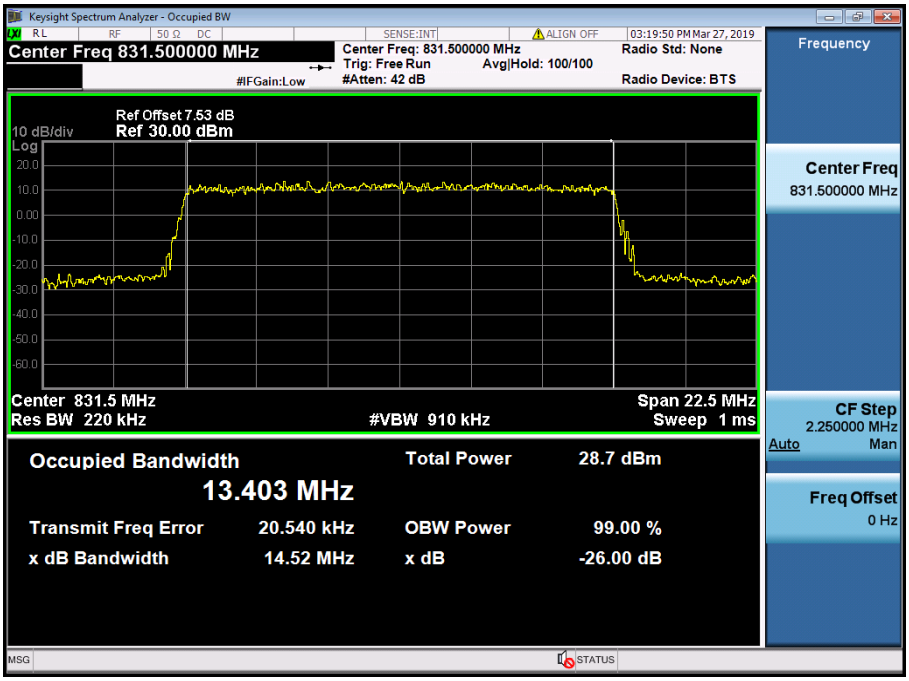
8.1.4 LTE Band 26



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

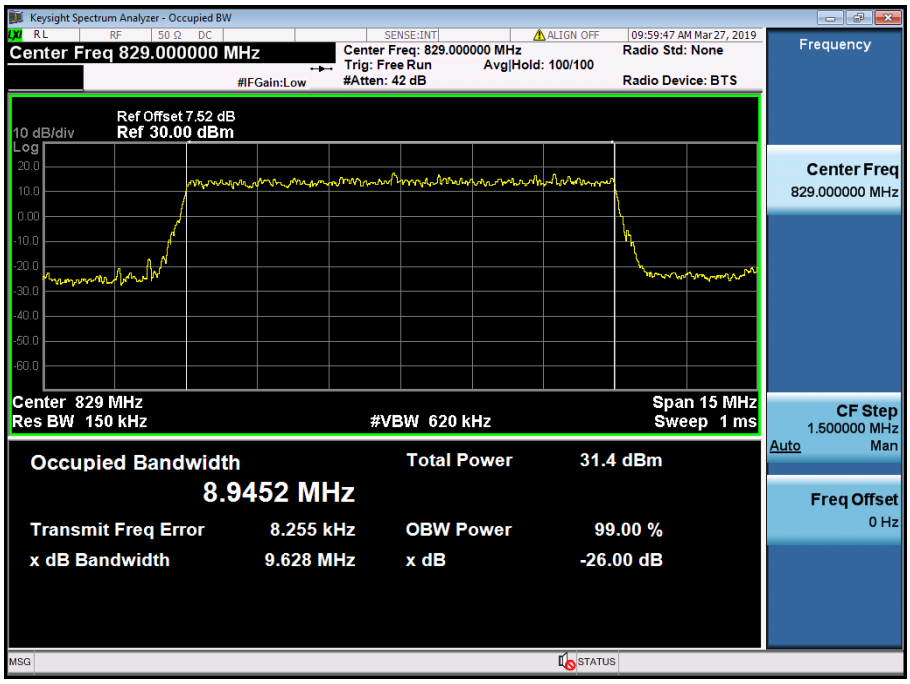


LTE Band 26 / 15 MHz / 16QAM - RB Size 75

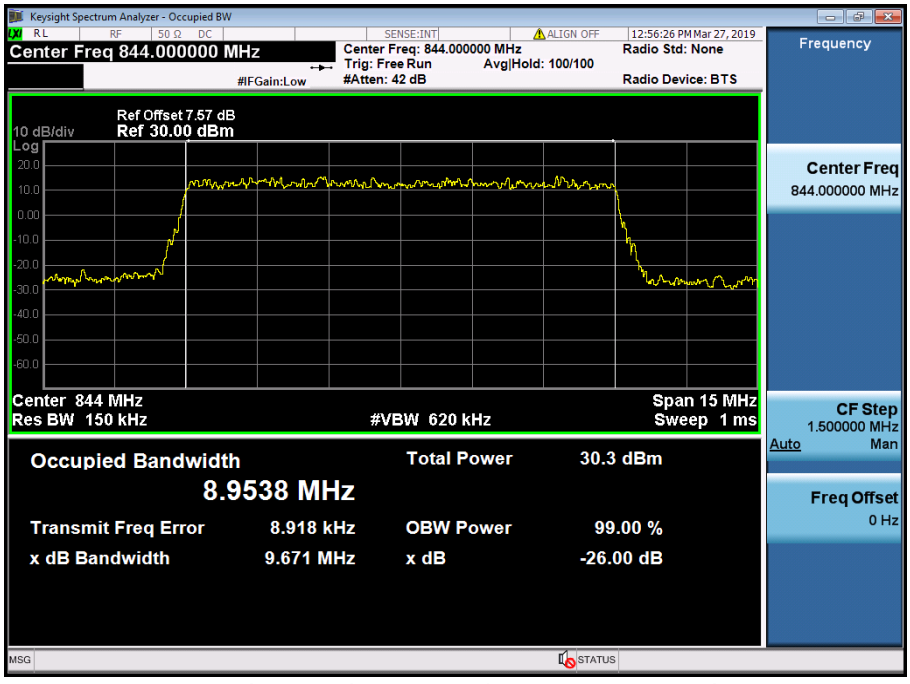


LTE Band 26 / 15 MHz / 64QAM - RB Size 75

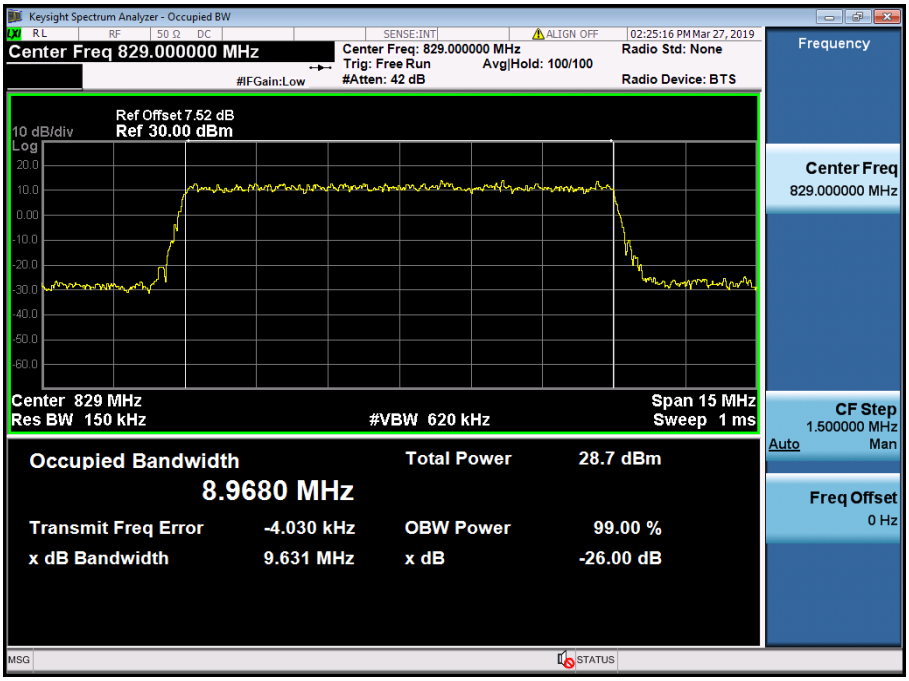
8.1.5 LTE Band 5, 26



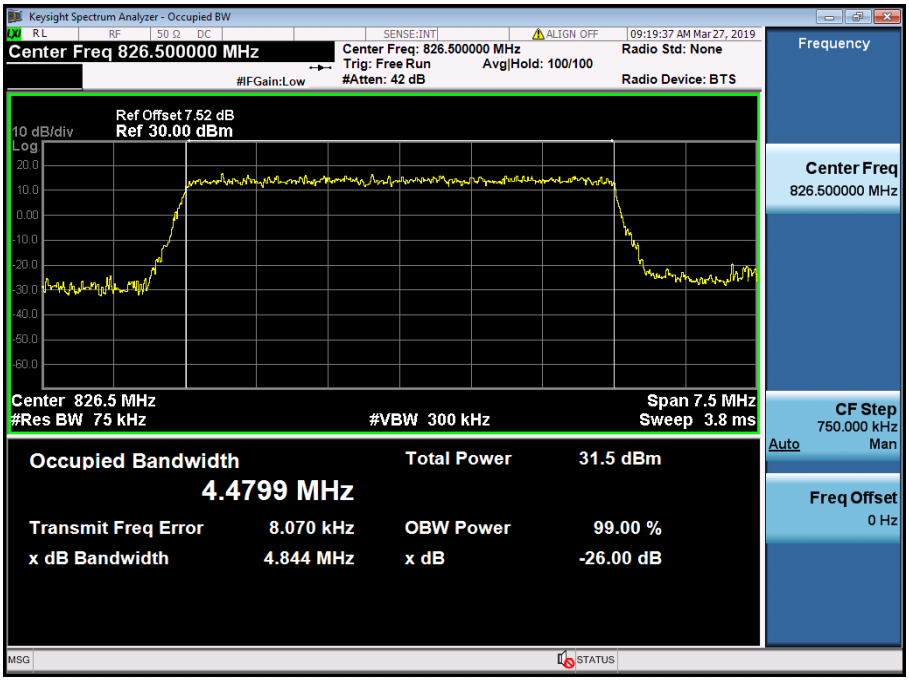
LTE Band 5, 26 / 10 MHz / QPSK - RB Size 50



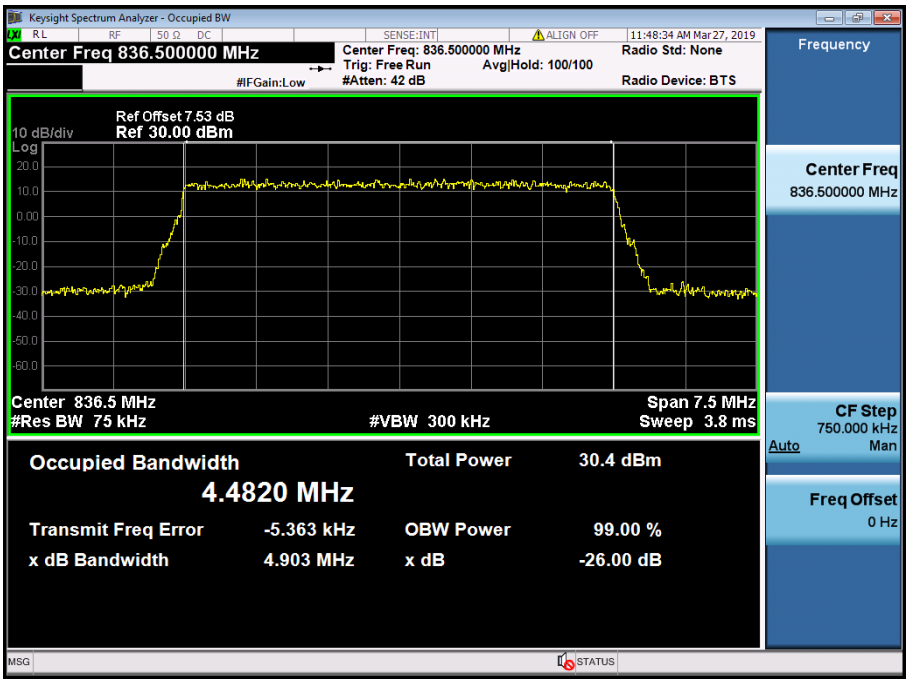
LTE Band 5, 26 / 10 MHz / 16QAM - RB Size 50



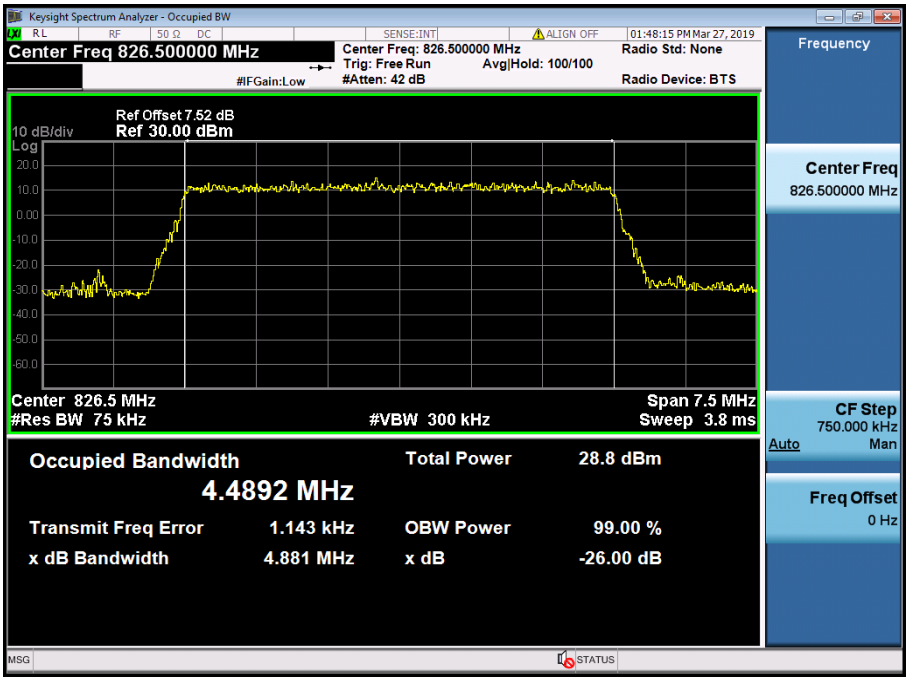
LTE Band 5, 26 / 10 MHz / 64QAM - RB Size 50



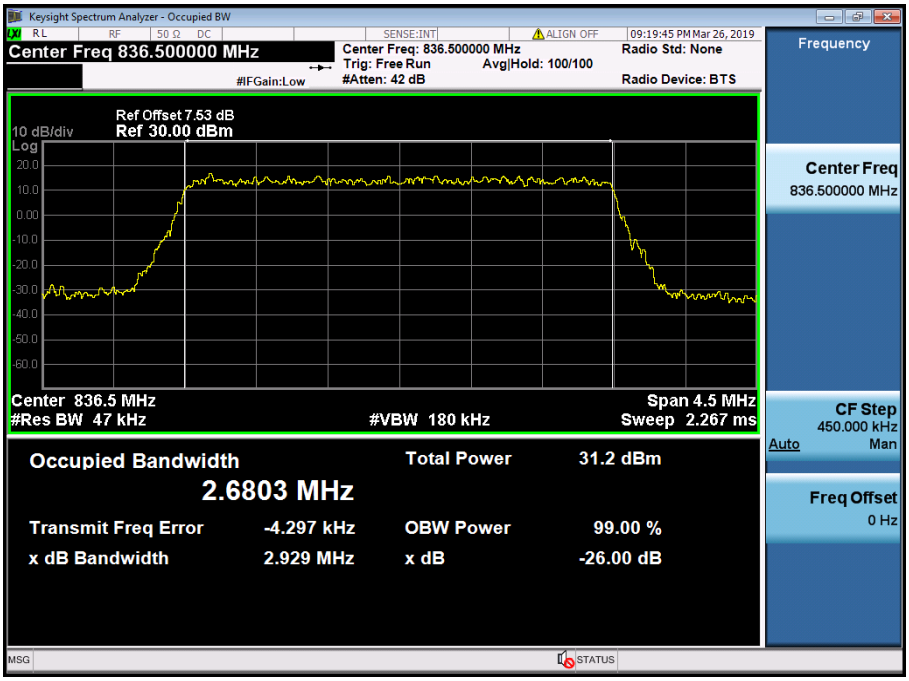
LTE Band 5, 26 / 5 MHz / QPSK - RB Size 25



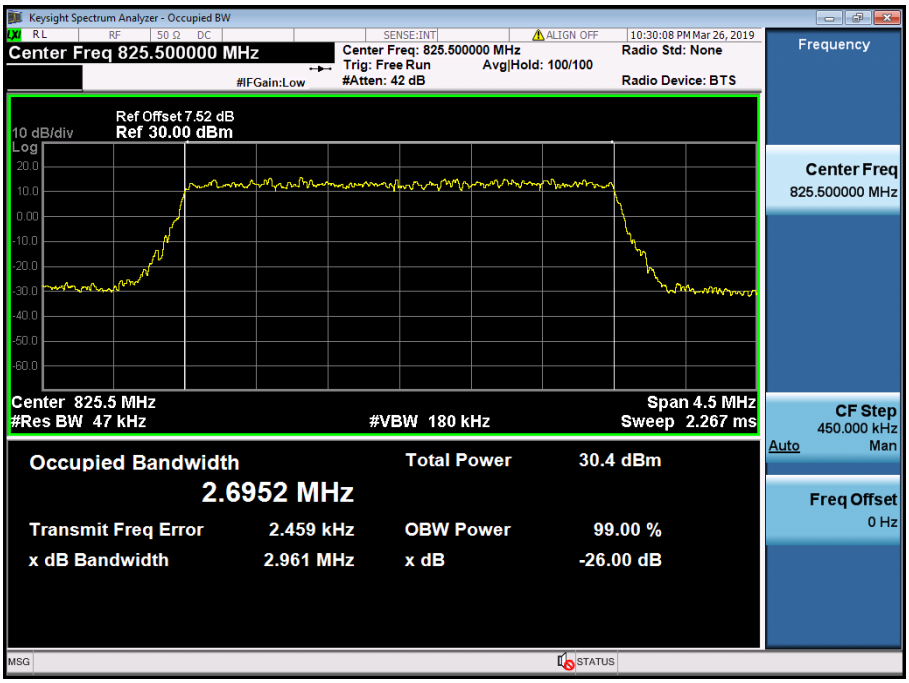
LTE Band 5, 26 / 5 MHz / 16QAM - RB Size 25



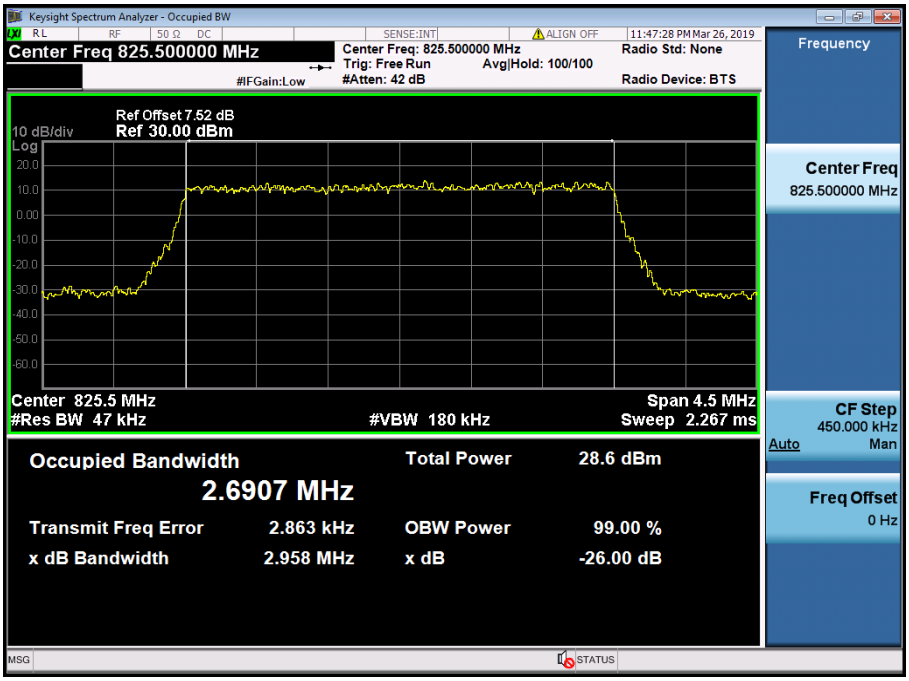
LTE Band 5, 26 / 5 MHz / 64QAM - RB Size 25



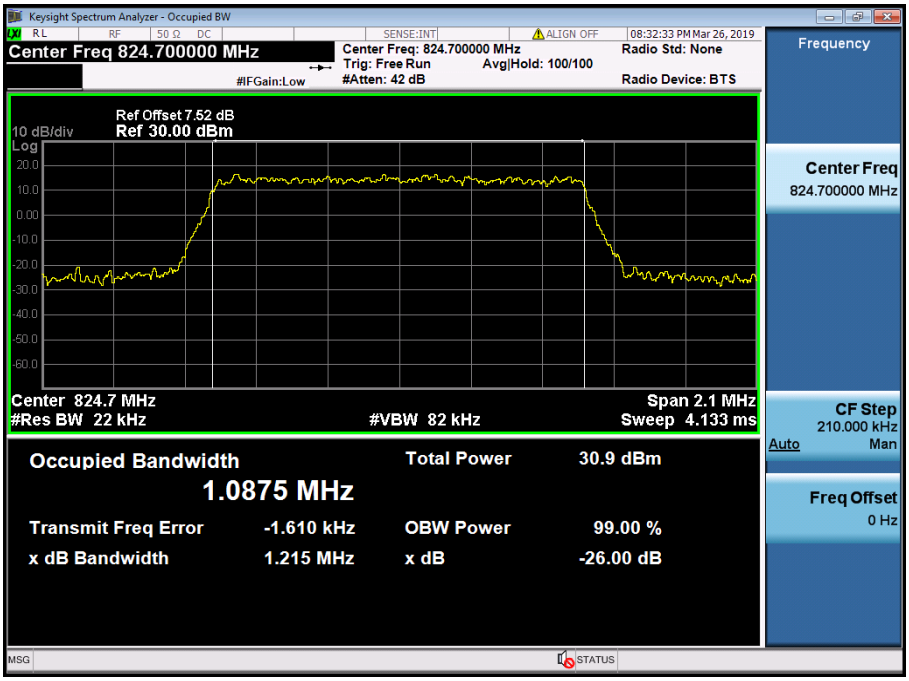
LTE Band 5, 26 / 3 MHz / QPSK - RB Size 15



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

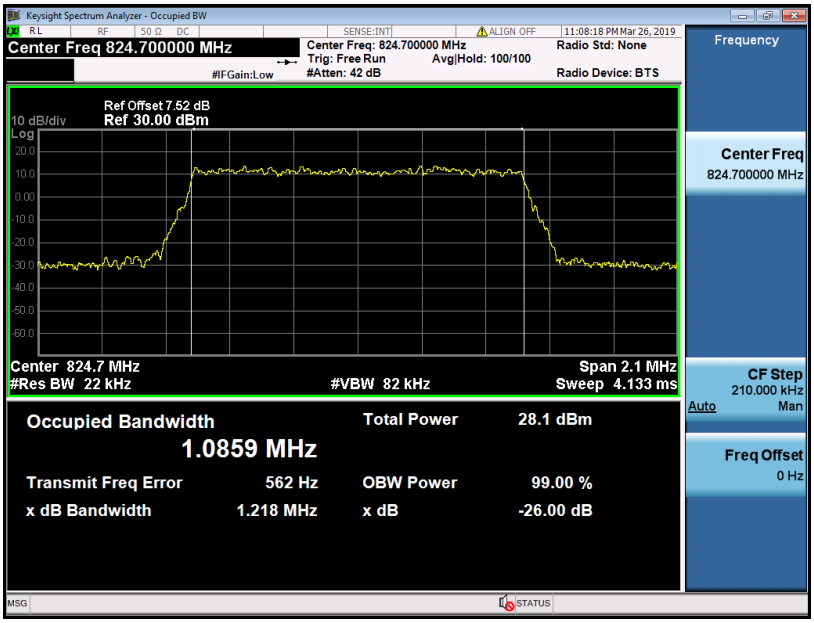


LTE Band 5, 26 / 3 MHz / 64QAM - RB Size 15



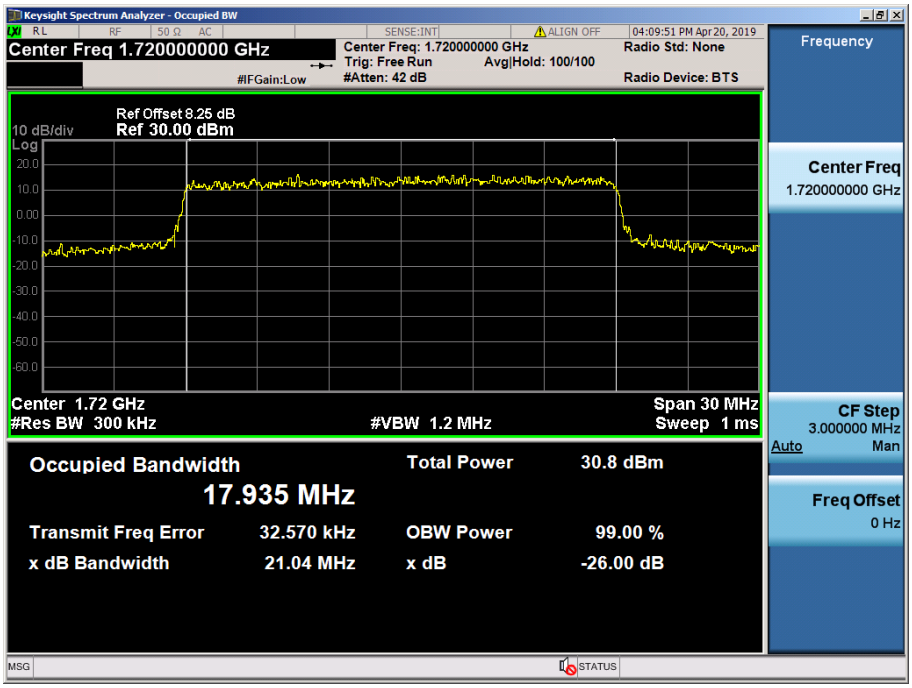
LTE Band 5, 26 / 1.4 MHz / QPSK - RB Size 6

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



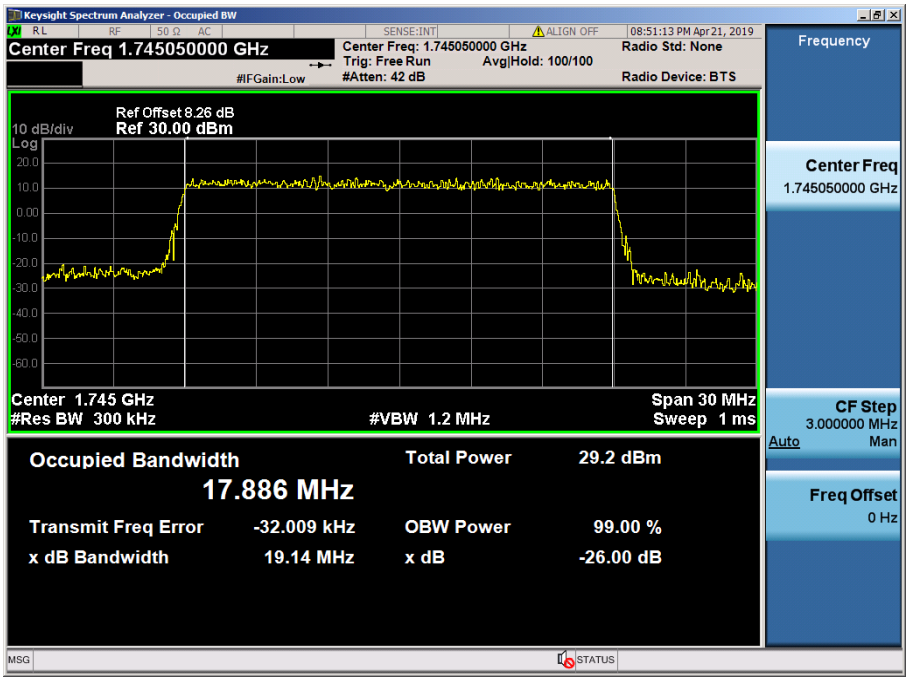
LTE Band 5, 26 / 1.4 MHz / 64QAM - RB Size 6

8.1.6 LTE Band 66, 4

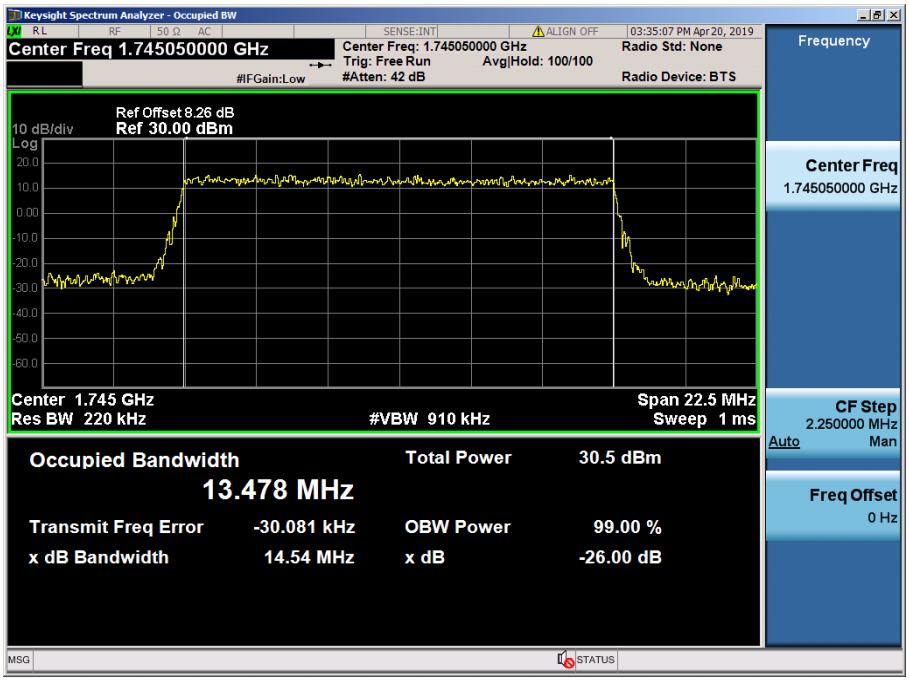


LTE Band 66, 4 / 20 MHz / QPSK - RB Size 100

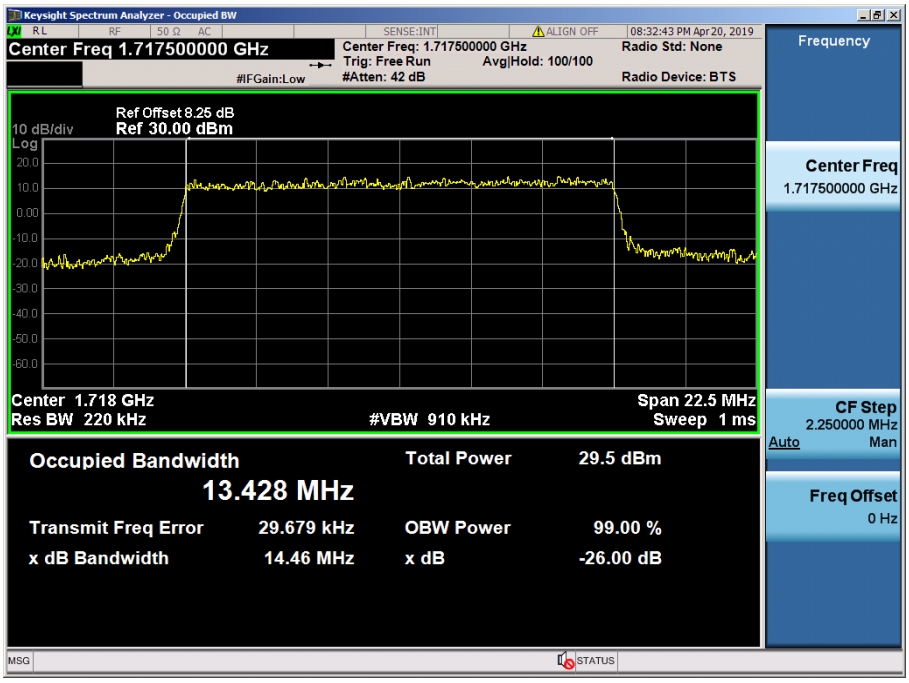
LTE Band 66, 4 / 20 MHz / 16QAM - RB Size 100



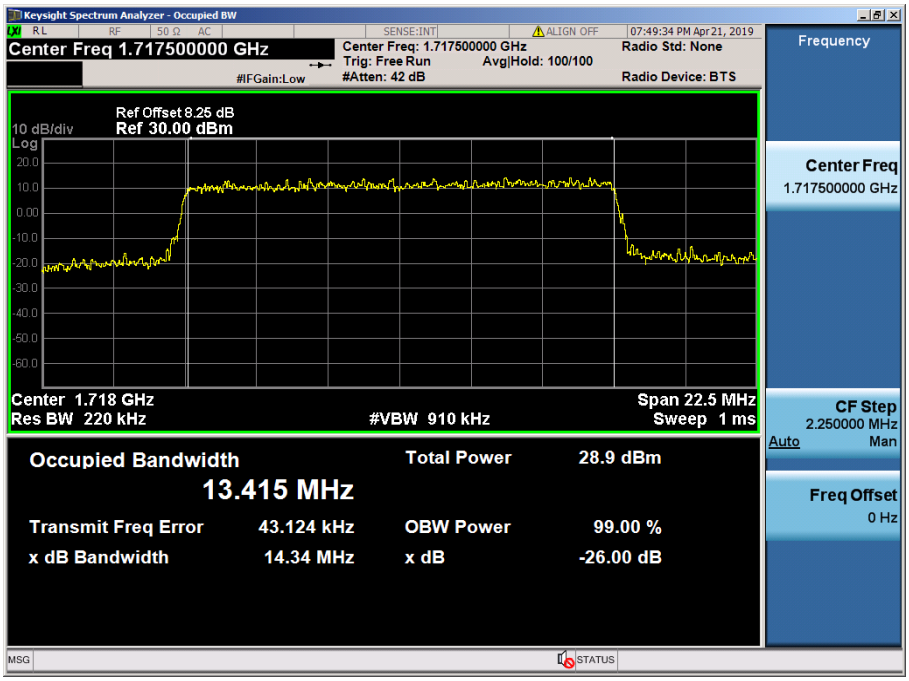
LTE Band 66, 4 / 20 MHz / 64QAM - RB Size 100



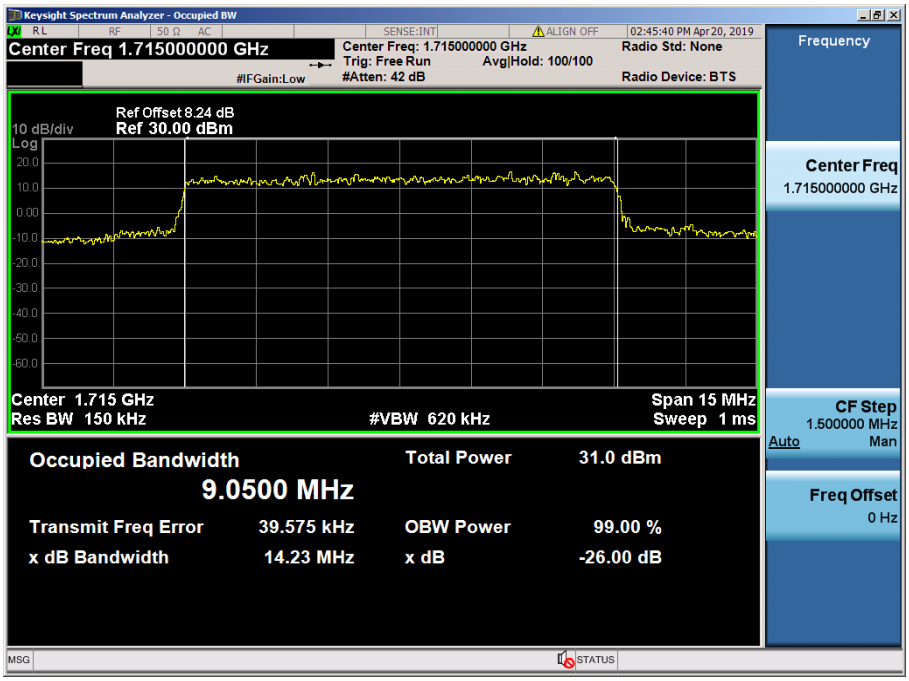
LTE Band 66, 4 / 15 MHz / QPSK - RB Size 75



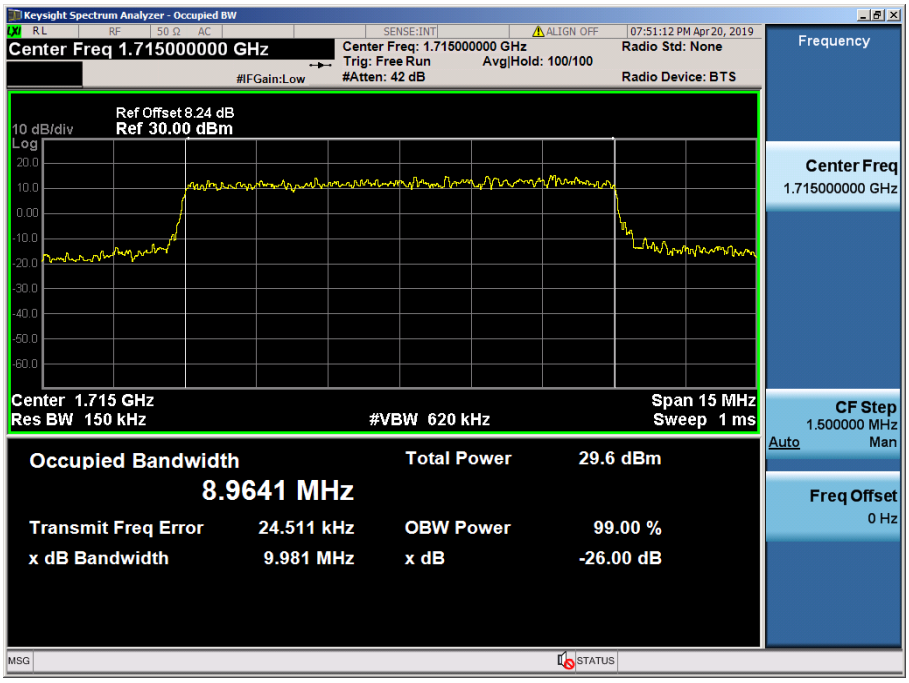
LTE Band 66, 4 / 15 MHz / 16QAM - RB Size 75



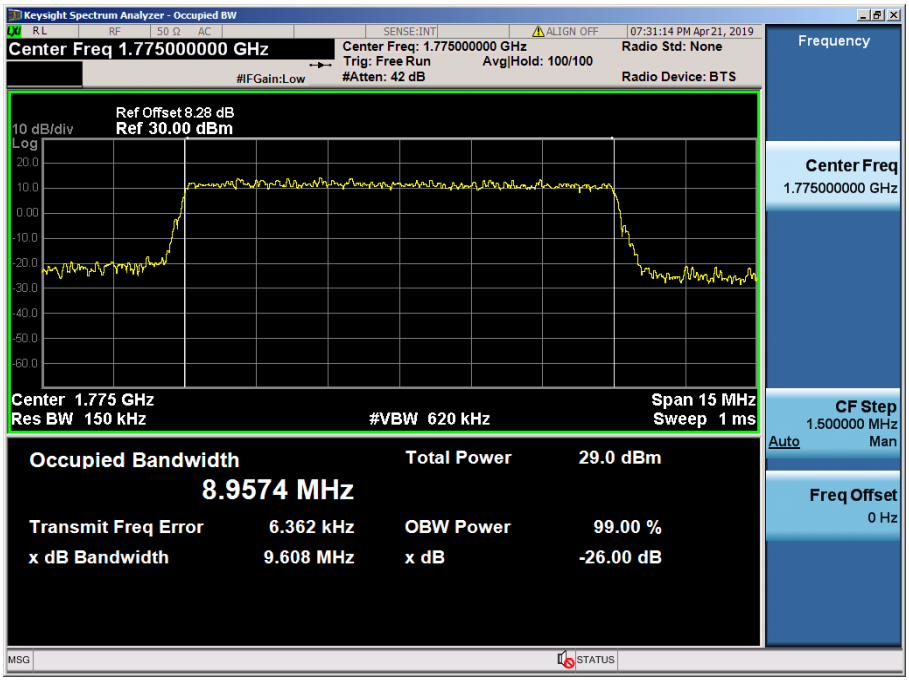
LTE Band 66, 4 / 15 MHz / 64QAM - RB Size 75



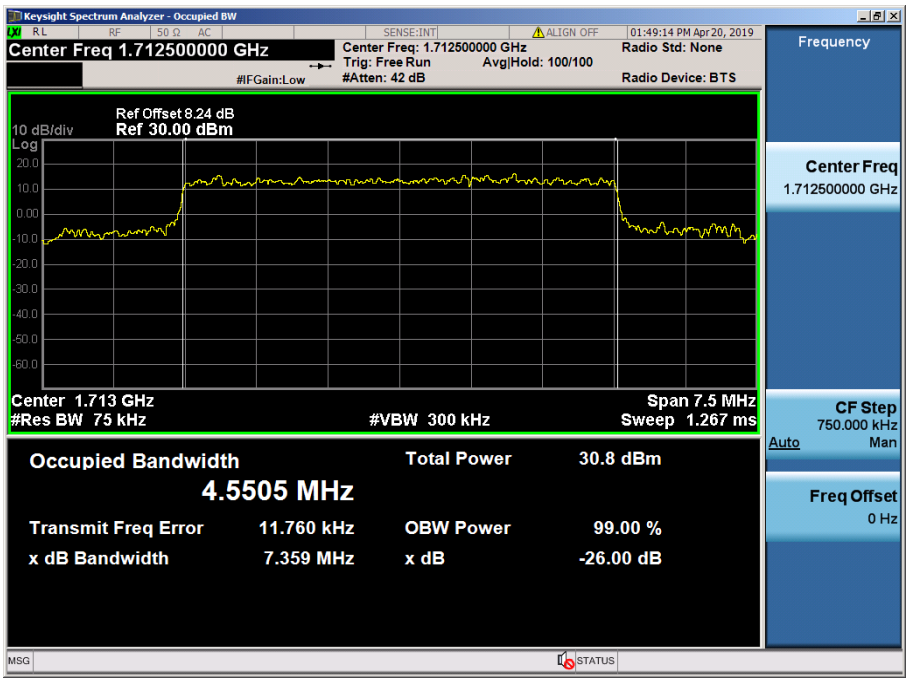
LTE Band 66, 4 / 10 MHz / QPSK - RB Size 50



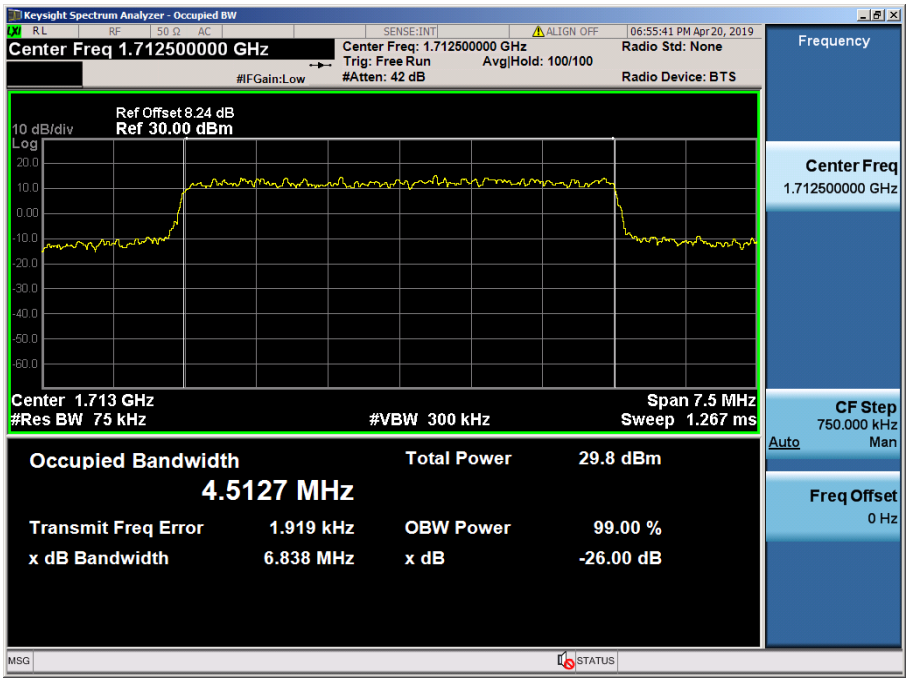
LTE Band 66, 4 / 10 MHz / 16QAM - RB Size 50



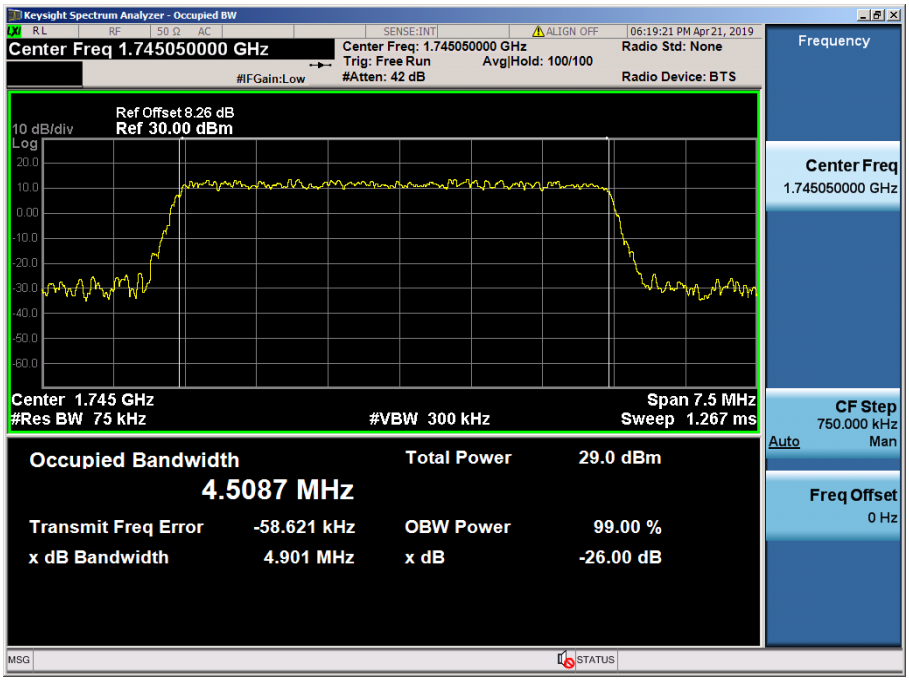
LTE Band 66, 4 / 10 MHz / 64QAM - RB Size 50



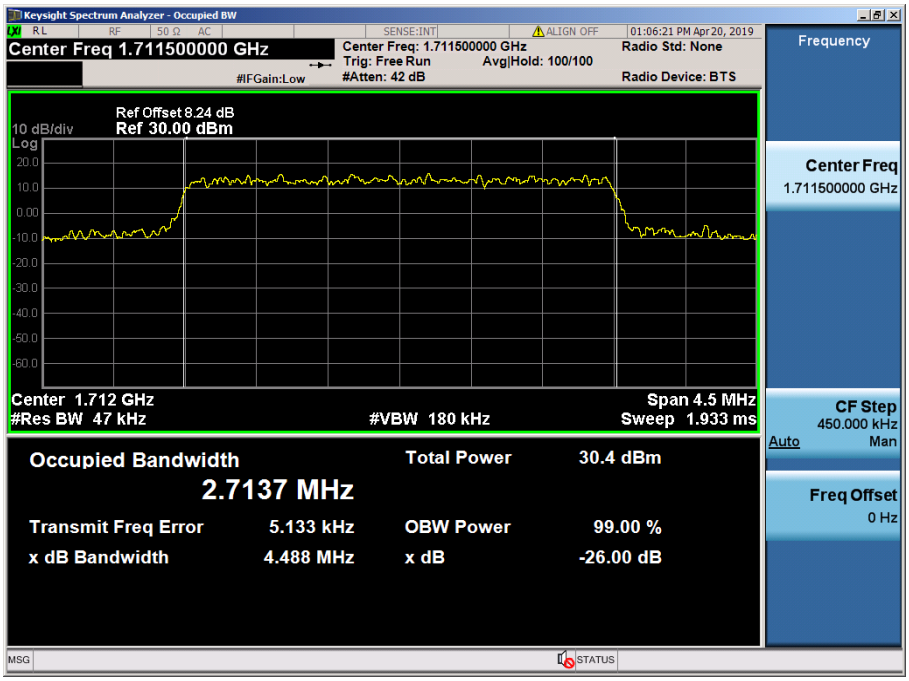
LTE Band 66, 4 / 5 MHz / QPSK - RB Size 25



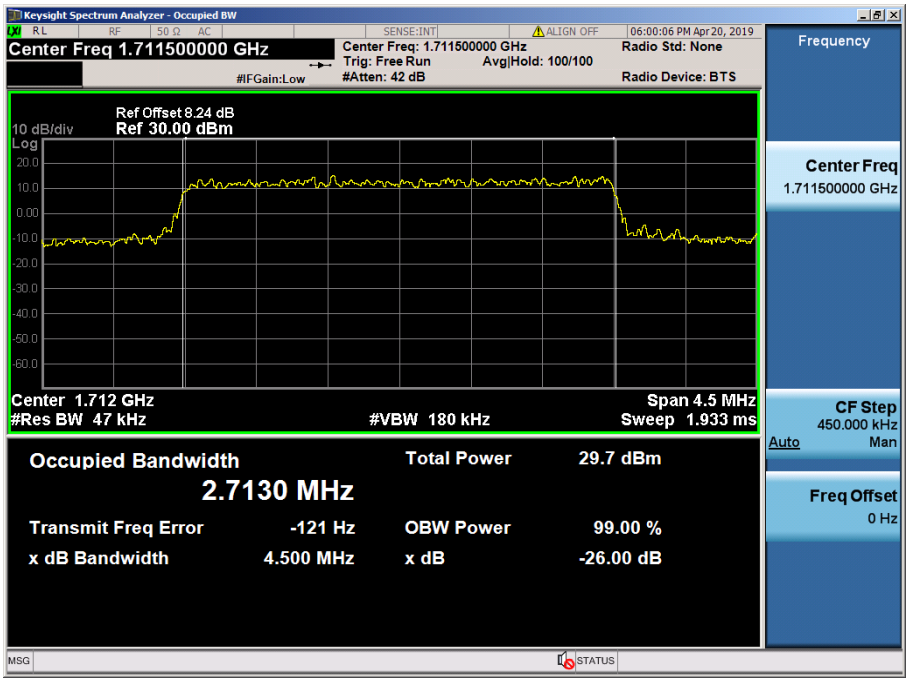
LTE Band 66, 4 / 5 MHz / 16QAM - RB Size 25



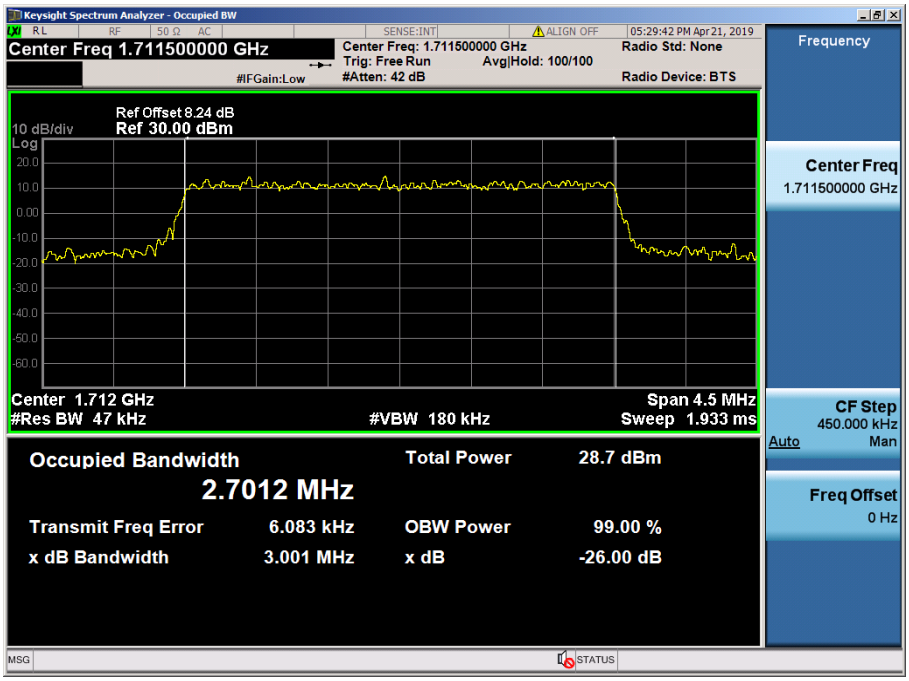
LTE Band 66, 4 / 5 MHz / 64QAM - RB Size 25



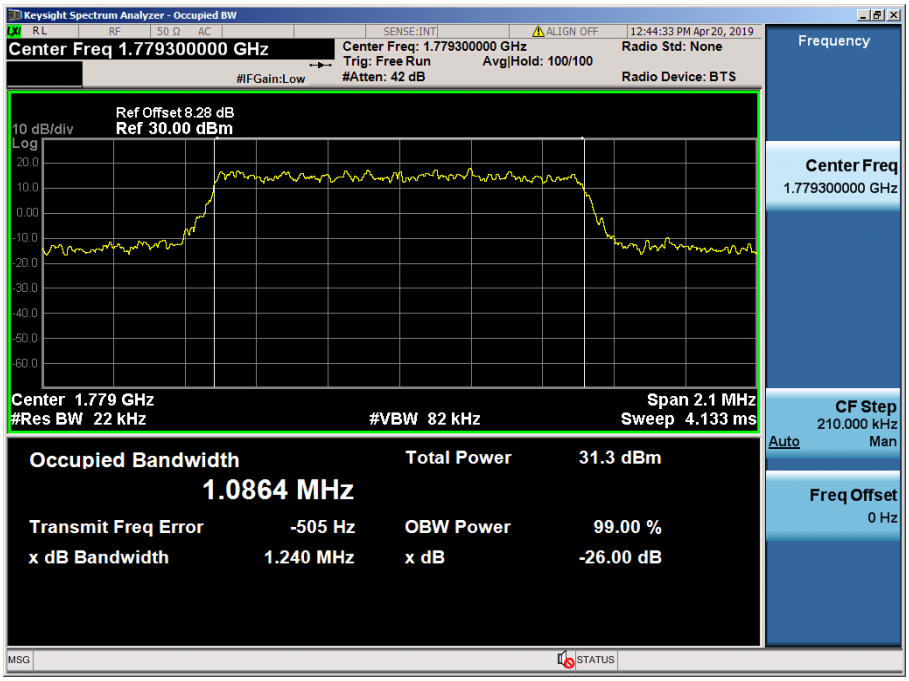
LTE Band 66, 4 / 3 MHz / QPSK - RB Size 15



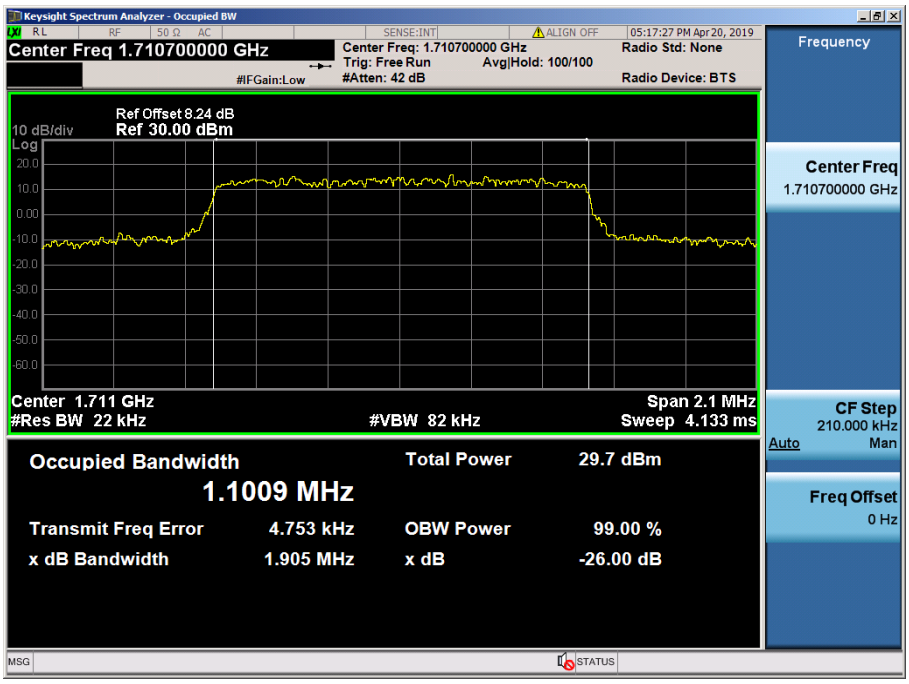
LTE Band 66, 4 / 3 MHz / 16QAM - RB Size 15



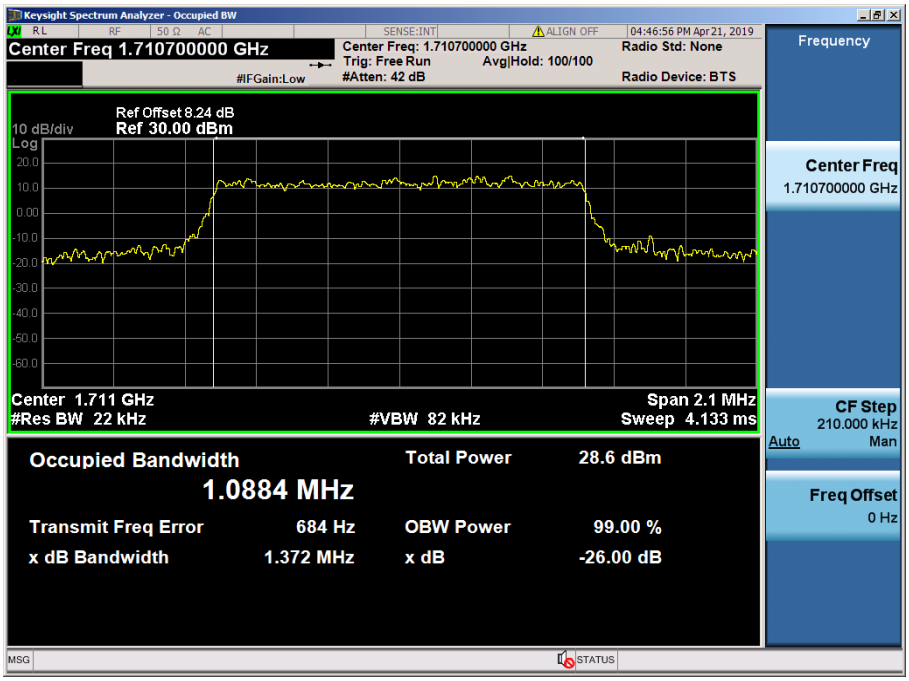
LTE Band 66, 4 / 3 MHz / 64QAM - RB Size 15



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

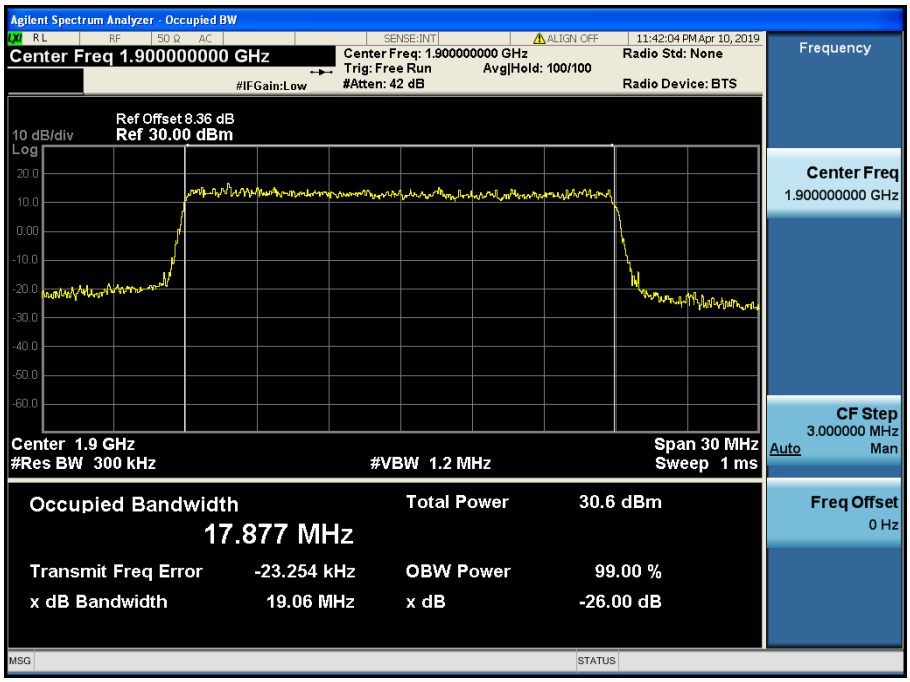


LTE Band 66, 4 / 1.4 MHz / 16QAM - RB Size 6

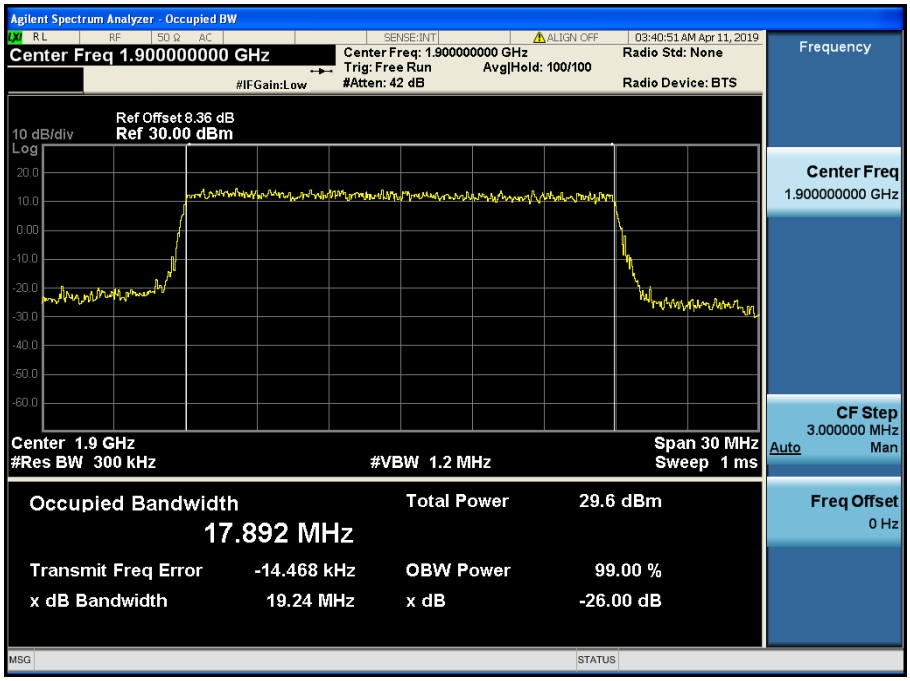


LTE Band 66, 4 / 1.4 MHz / 64QAM - RB Size 6

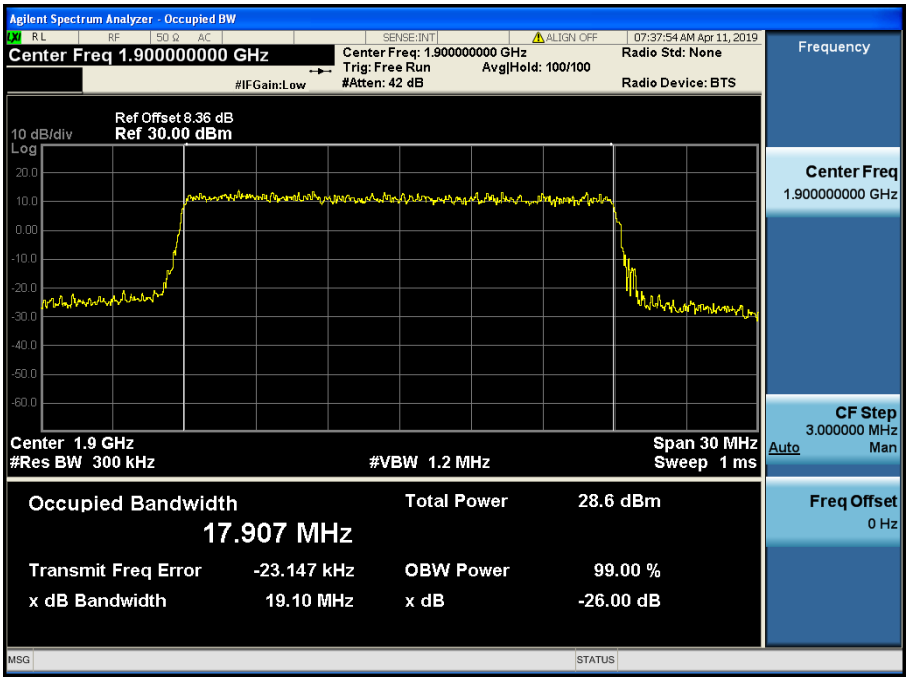
8.1.7 LTE Band 2



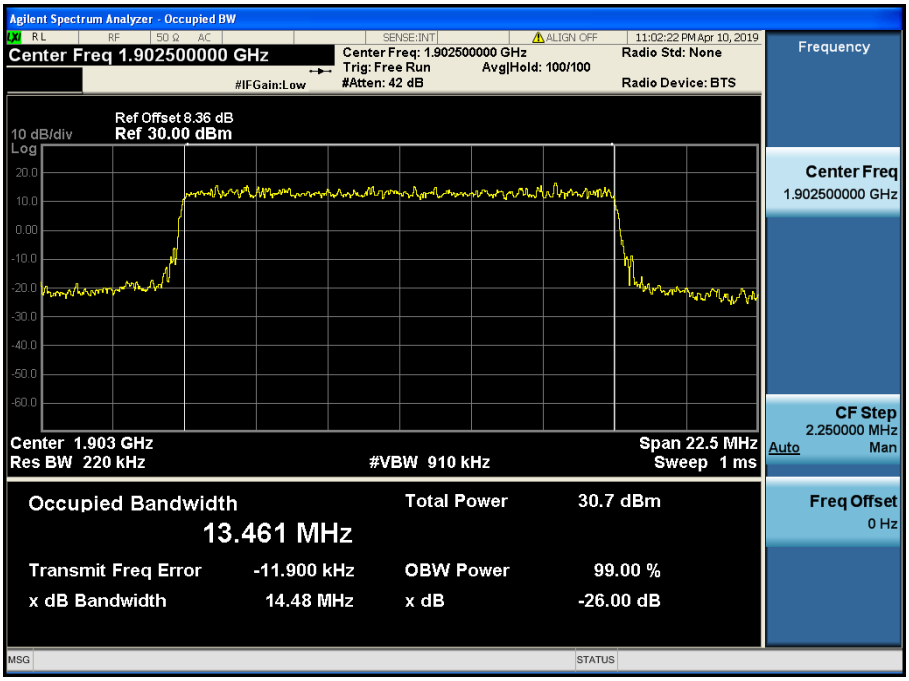
LTE Band 2 / 20 MHz / QPSK - RB Size 100



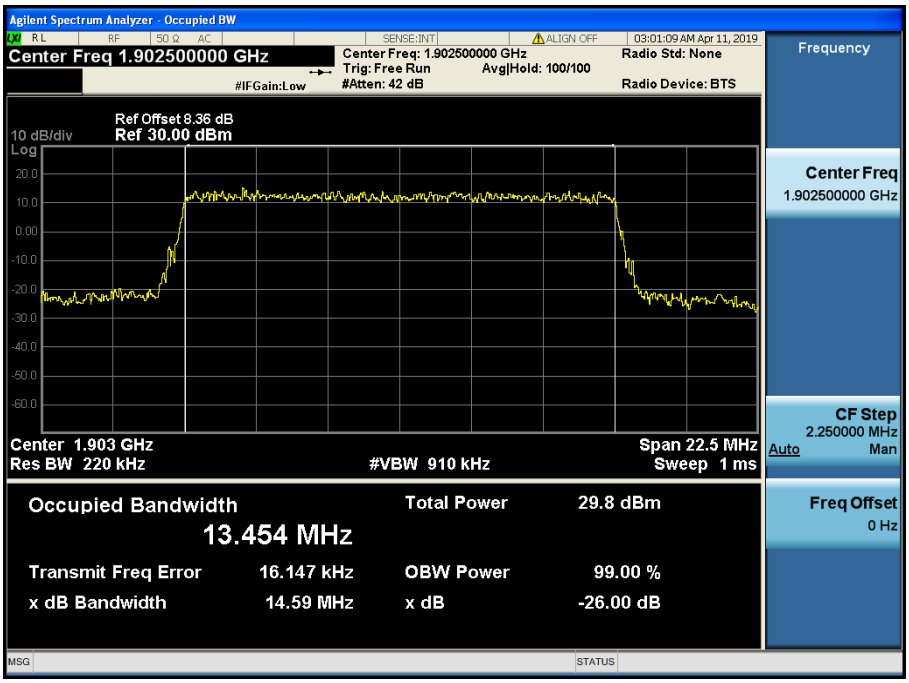
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



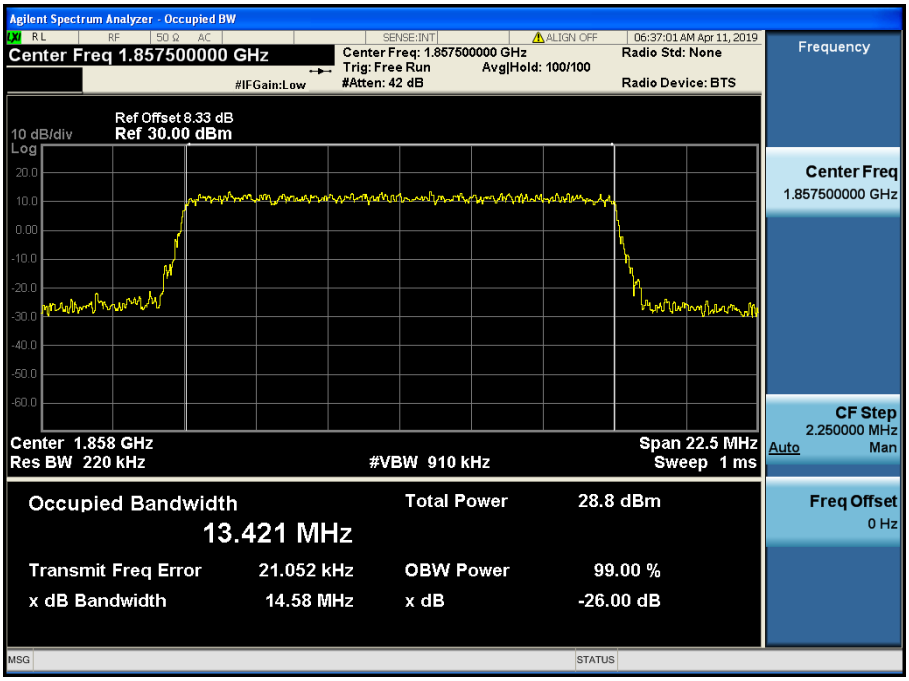
LTE Band 2 / 20 MHz / 64QAM - RB Size 100



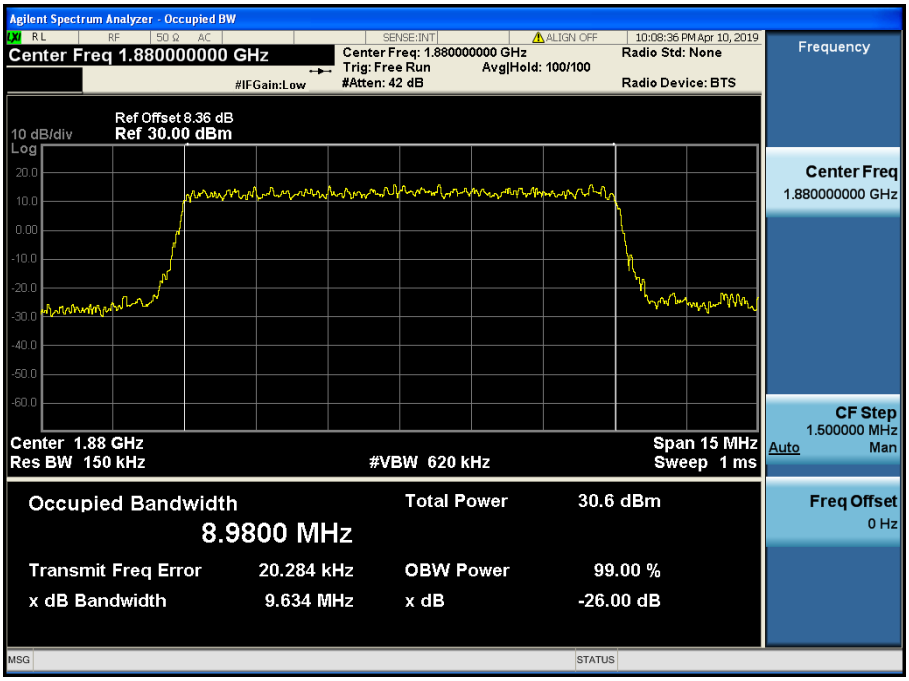
LTE Band 2 / 15 MHz / QPSK - RB Size 75



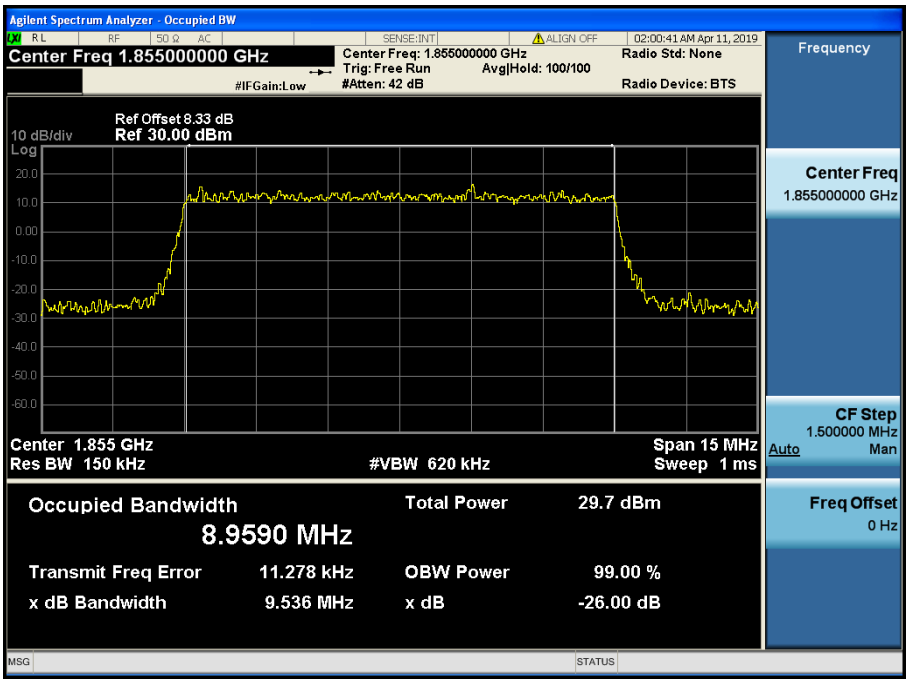
LTE Band 2 / 15 MHz / 16QAM - RB Size 75



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



LTE Band 2 / 10 MHz / QPSK - RB Size 50



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