TEST REPORT

Dt&C

DT&C Co., Ltd.
42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2004-0091
2. Customer
   - Name (FCC) : LG Electronics USA / Name (IC) : LG ELECTRONICS INC.
   - Address (FCC) : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, United States, 07632
   - Address (IC) : 222, LG-ro, Jinwi-myeon Pyeongtaek-si, Gyeonggi-do 451-713 Korea (Republic Of)
3. Use of Report : FCC & IC Original Grant
4. Product Name / Model Name : Telematics / TLVHE4IU-N
   FCC ID : BEJTLVHE4IU-N / IC : 2703H-TLVHE4IUN
5. Test Method Used : KDB971168 D01v03r01, ANSI/TIA-603-E-2016, ANSI C63.26-2015
   Test Specification : §2, §22, §24, §27
   RSS-130 Issue 2, RSS-132 Issue 3, RSS-133 Issue6, RSS-139 Issue 3
6. Date of Test : 2020.03.02 ~ 2020.04.08
7. Testing Environment : Refer to appended test report.
8. Test Result : Refer to the attached test result.

Affirmation	Tested by Name : JungWoo Kim (Signature)	Reviewed by Name : JaeJin Lee (Signature)

2020 . 04 . 23 .

DT&C Co., Ltd.

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

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Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2004-0091	Apr. 23, 2020	Initial issue	JungWoo Kim	JaeJin Lee

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1. GENERAL INFORMATION

Applicant Name (FCC) : LG Electronics USA

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Address (FCC) : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, United States, 07632

Address (IC) : 222, LG-ro, Jinwi-myeon Pyeongtaek-si, Gyeonggi-do 451-713 Korea (Republic Of)

FCC ID : BEJTLVHE4IU-N

IC : 2703H-TLVHE4IUN

FCC Classification : PCS Licensed Transmitter (PCB)

EUT Type : Telematics

Hardware Version : H14

Software Version : X244

Serial Number : Conducted : 912VIPA677824 / Radiated : 912vike677813

Model Name : TLVHE4IU-N

Add Model Name : NA

Supplying power : DC 12 V

Antenna Information : External antenna

Mode	TX Frequency (MHz)	Emission Designator	Modulation	ERP		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 12(17)	704 ~ 711	8M98G7D	QPSK	15.04	0.032	-	-
LTE Band 12(17)	704 ~ 711	8M97W7D	16QAM	13.99	0.025	-	-
LTE Band 12(17)	701.5 ~ 713.5	4M50G7D	QPSK	14.90	0.031	-	-
LTE Band 12(17)	701.5 ~ 713.5	4M49W7D	16QAM	14.21	0.026	-	-
LTE Band 12	700.5 ~ 714.5	2M69G7D	QPSK	14.63	0.029	-	-
LTE Band 12	700.5 ~ 714.5	2M69W7D	16QAM	13.72	0.024	-	-
LTE Band 12	699.7 ~ 715.3	1M09G7D	QPSK	14.92	0.031	-	-
LTE Band 12	699.7 ~ 715.3	1M09W7D	16QAM	14.00	0.025	-	-
LTE Band 13	782 ~ 782	8M95G7D	QPSK	15.76	0.038	-	-
LTE Band 13	782 ~ 782	8M94W7D	16QAM	14.79	0.030	-	-
LTE Band 13	779.5 ~ 784.5	4M49G7D	QPSK	15.93	0.039	-	-
LTE Band 13	779.5 ~ 784.5	4M48W7D	16QAM	15.16	0.033	-	-
LTE Band 5	829 ~ 844	8M96G7D	QPSK	17.57	0.057	19.72	0.094
LTE Band 5	829 ~ 844	8M97W7D	16QAM	16.78	0.048	18.93	0.078
LTE Band 5	826.5 ~ 846.5	4M51G7D	QPSK	17.07	0.051	19.22	0.084
LTE Band 5	826.5 ~ 846.5	4M50W7D	16QAM	16.24	0.042	18.39	0.069
LTE Band 5	825.5 ~ 847.5	2M70G7D	QPSK	17.35	0.054	19.50	0.089
LTE Band 5	825.5 ~ 847.5	2M70W7D	16QAM	16.58	0.045	18.73	0.075
LTE Band 5	824.7 ~ 848.3	1M09G7D	QPSK	17.56	0.057	19.71	0.094
LTE Band 5	824.7 ~ 848.3	1M09W7D	16QAM	16.96	0.050	19.11	0.081

Mode	TX Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max power (dBm)	Max power (W)
LTE Band 4	1720 ~ 1745	17M9G7D	QPSK	16.56	0.045
LTE Band 4	1720 ~ 1745	17M9W7D	16QAM	15.73	0.037
LTE Band 4	1717.5 ~ 1747.5	13M4G7D	QPSK	16.80	0.048
LTE Band 4	1717.5 ~ 1747.5	13M4W7D	16QAM	15.82	0.038
LTE Band 4	1715 ~ 1750	8M96G7D	QPSK	17.24	0.053
LTE Band 4	1715 ~ 1750	8M93W7D	16QAM	16.32	0.043
LTE Band 4	1712.5 ~ 1752.5	4M48G7D	QPSK	17.21	0.053
LTE Band 4	1712.5 ~ 1752.5	4M48W7D	16QAM	15.81	0.038
LTE Band 4	1711.5 ~ 1753.5	2M69G7D	QPSK	16.72	0.047
LTE Band 4	1711.5 ~ 1753.5	2M69W7D	16QAM	15.43	0.035
LTE Band 4	1710.7 ~ 1754.3	1M09G7D	QPSK	17.09	0.051
LTE Band 4	1710.7 ~ 1754.3	1M09W7D	16QAM	15.88	0.039
LTE Band 2	1860 ~ 1900	17M9G7D	QPSK	18.64	0.073
LTE Band 2	1860 ~ 1900	17M9W7D	16QAM	18.03	0.064
LTE Band 2	1857.5 ~ 1902.5	13M4G7D	QPSK	19.17	0.083
LTE Band 2	1857.5 ~ 1902.5	13M4W7D	16QAM	18.67	0.074
LTE Band 2	1855 ~ 1905	8M94G7D	QPSK	20.14	0.103
LTE Band 2	1855 ~ 1905	8M95W7D	16QAM	19.22	0.084
LTE Band 2	1852.5 ~ 1907.5	4M48G7D	QPSK	20.20	0.105
LTE Band 2	1852.5 ~ 1907.5	4M49W7D	16QAM	19.19	0.083
LTE Band 2	1851.5 ~ 1908.5	2M69G7D	QPSK	19.94	0.099
LTE Band 2	1851.5 ~ 1908.5	2M70W7D	16QAM	19.38	0.087
LTE Band 2	1850.7 ~ 1909.3	1M08G7D	QPSK	19.86	0.097
LTE Band 2	1850.7 ~ 1909.3	1M09W7D	16QAM	19.18	0.083

Note: This device supports both LTE Band 12(699 ~ 716 MHz) and LTE Band 17(704 ~ 716 MHz). LTE Band 12 overlaps the entire frequency range of LTE Band 17 and tune-up power of is the same.
Therefore, test data provided in this report covers Band 17 as well as Band 12.

2. INTRODUCTION

2.1 EUT DESCRIPTION

The Equipment Under Test (EUT) supports GPRS/WCDMA/LTE

2.2. EUT CAPABILITIES

This EUT contains the following capabilities:
850/1900 GPRS/EGPRS, 850/1700/1900 WCDMA/HSUPA, Multi-band LTE.

2.3. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+20 ℃ ~ +25 ℃
▪ Relative Humidity	37 % ~ 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 & IC MRA Accredited Test Firm No. : KR0034

- ISED #: 5740A

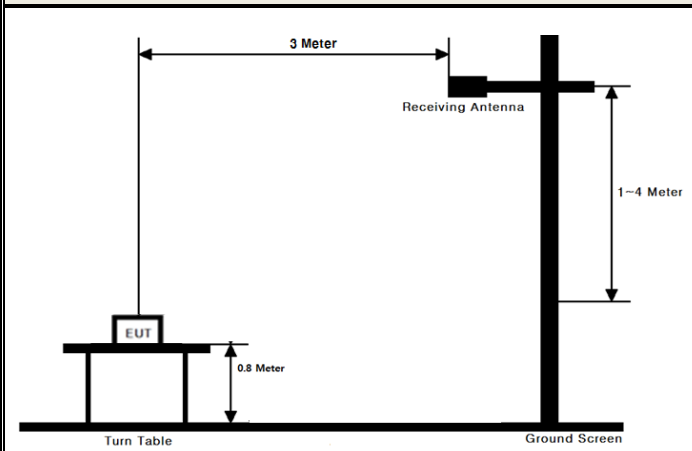
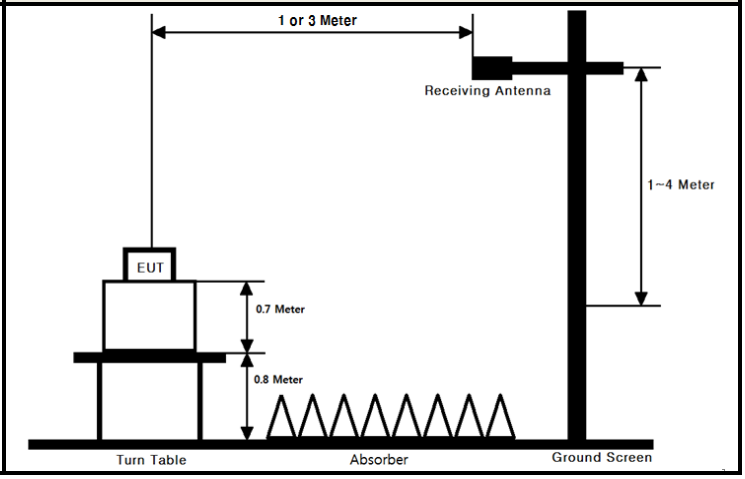
www.dtnc.net

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 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- **ANSI/TIA-603-E-2016 - Section 2.2.17**
- **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.

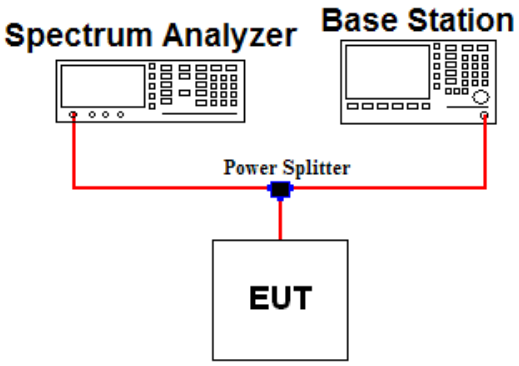
The ERP/EIRP is calculated using the following formula:

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.

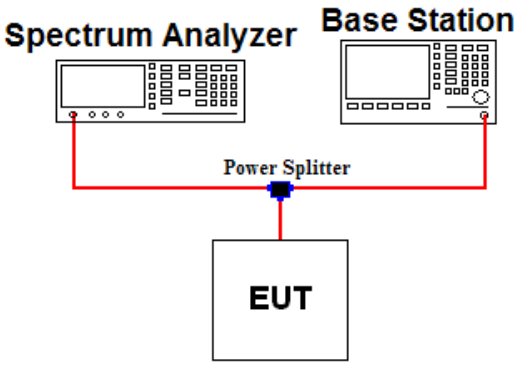
Test setting

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**

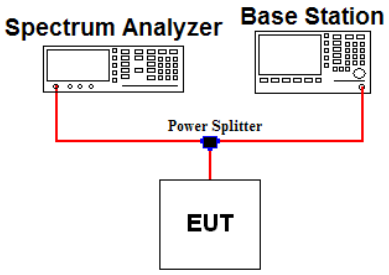
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

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: Per Part 27.53(c.5) for operations in the 776-788 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 4: Per Part 27.53(c.4) for all frequencies between 763-775 MHz and 793-805 MHz, the FCC limit is 65 + 10log10(P[Watts])= -35dBm in a 6.25kHz bandwidth

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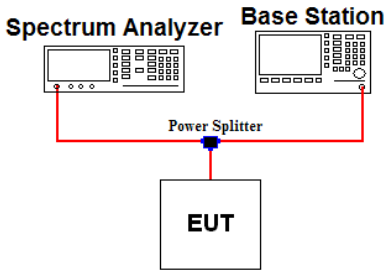
Note 5: Per part 27.53(m)(6) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 MHz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed.

3.5 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL

Test set-up



Test Procedure

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

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

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

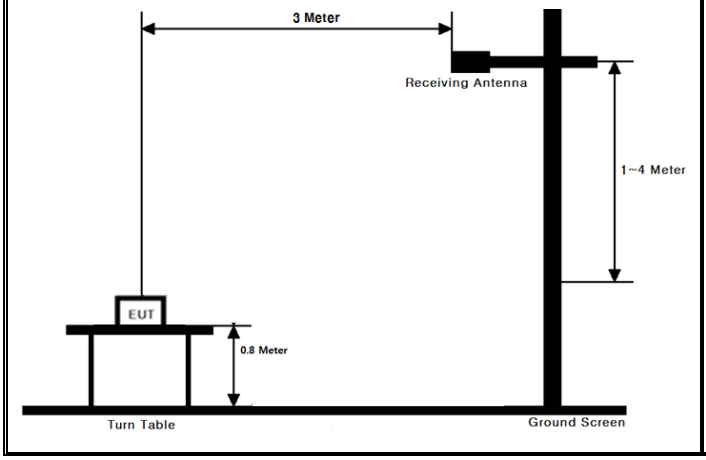
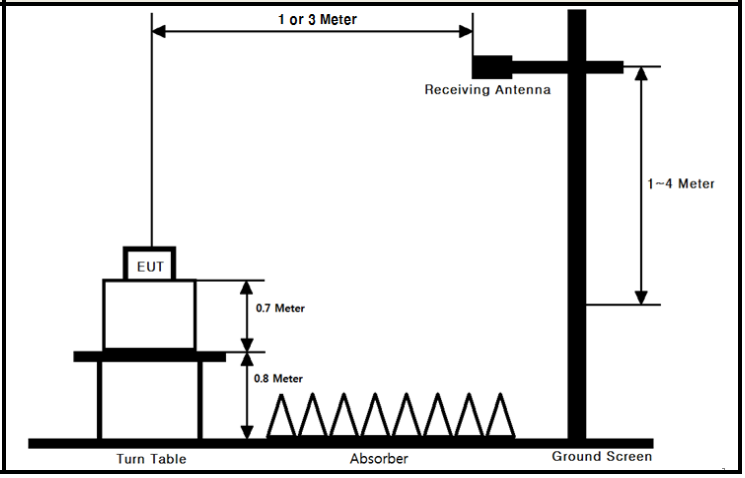
Test setting

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 m test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 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**

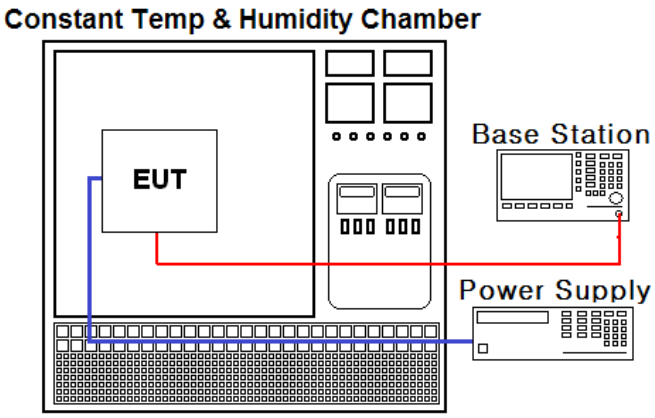
Test setting

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	19/12/16	20/12/16	MY48010133
Spectrum Analyzer	Agilent Technologies	N9020A	19/06/26	20/06/26	US47360812
DC power supply	Agilent Technologies	66332A	19/06/25	20/06/25	MY43001172
Multimeter	FLUKE	17B+	19/12/16	20/12/16	36390701WS
Power Divider	Weinschel	1515-1	19/12/16	20/12/16	TW493
Temp & Humi	SJ Science	SJ-TH-S50	19/06/25	20/06/25	U5542113
Radio Communication Analyzer	Anritus	MT8820C	19/06/26	20/06/26	6201127429
Thermohygrometer	BODYCOM	BJ5478	19/12/18	20/12/18	120612-2
Thermohygrometer	BODYCOM	BJ5478	19/12/18	20/12/18	120612-1
Signal Generator	Rohde Schwarz	SMBV100A	19/12/16	20/12/16	255571
Signal Generator	ANRITSU	MG3695C	19/12/16	20/12/16	173501
Loop Antenna	ETS-Lindgren	6502	19/09/18	21/09/18	00226186
Bilog Antenna	Schwarzbeck	VULB 9160	19/04/23	21/04/23	9160-3362
Dipole Antenna	Schwarzbeck	UHA9105	19/02/28	21/02/28	2261
Dipole Antenna	Schwarzbeck	UHA9105	18/04/13	20/04/13	2262
HORN ANT	ETS	3117	18/05/10	20/05/10	00140394
HORN ANT	ETS	3117	20/03/26	22/03/26	00152145
HORN ANT	A.H.Systems	SAS-574	19/04/23	21/04/23	154
HORN ANT	A.H.Systems	SAS-574	19/07/03	21/07/03	155
Amplifier	EMPOWER	BBS3Q7ELU	19/06/24	20/06/24	1020
PreAmplifier	H.P	8447D	19/12/16	20/12/16	2944A07774
PreAmplifier	RFBAY.Inc	MPA-40-40	19/12/16	20/12/16	21151801
PreAmplifier	Agilent	8449B	19/06/27	20/06/27	3008A02108
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	19/06/24	20/06/24	7
High-pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	19/06/24	20/06/24	3
Cable	DTNC	Cable	20/01/16	21/01/16	M-01
Cable	DTNC	Cable	20/01/16	21/01/16	M-02
Cable	Junkosha	MWX315	20/01/16	21/01/16	M-05
Cable	Junkosha	MWX221	20/01/16	21/01/16	M-06
Cable	DTNC	Cable	20/01/16	21/01/16	RF-09

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.
Note2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

5. SUMMARY OF TEST RESULTS

FCC Part	Section(s)	Test Description	Test Limit	Test Condition	Status Note 1
2.1046	-	Conducted Output Power	N/A	Conducted	C
2.1049	RSS-GEN[6.7]	Occupied Bandwidth	N/A		C
24.232(d) 27.50(d.5)	RSS-130 [4.6] RSS-132 [5.4] RSS-133 [6.4] RSS-139 [6.5]	Peak to Average Ratio	< 13 dB		C
2.1051 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	RSS-130 [4.7] RSS-132 [5.5] RSS-133 [6.5] RSS-139 [6.6]	Band Edge / Conducted Spurious Emissions	> 43 + 10log$_{10}$ (P) dB at Band edge and for all out-of-band emissions		C
27.53(c.4)	RSS-130 [4.7.2]	Undesirable missions in 763 ~ 775MHz & 793 ~ 805MHz	< 65 + 10 log10(P) dB		C
2.1055 22.355 24.235 27.54	RSS-130 [4.5] RSS-132 [5.3] RSS-133 [6.3] RSS-139 [6.4]	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)	RSS-130 [4.6]	Radiated Output Power (B12, 17, 13)	< 3 Watts max. ERP (FCC &IC)	Radiated	C
22.913(a.5)	RSS-132 [5.4]	Radiated Output Power (B5)	< 7 Watts max. ERP (FCC) < 11.5 Watts max. EIRP (IC)		C
27.50(d.4)	RSS-139 [6.5]	Radiated Output Power (B4)	< 1 Watts max. EIRP (FCC &IC)		C
24.232(c)	RSS-133 [6.4]	Radiated Output Power(B2)	< 2 Watts max. EIRP (FCC &IC)		C
2.1053 22.917(a) 24.238(a) 27.53(c) 27.53(g) 27.53(h)	RSS-130 [4.7] RSS-132 [5.5] RSS-133 [6.5] RSS-139 [6.6]	Undesirable Emissions	> 43 + 10log$_{10}$ (P) dB for all out-of-band emissions		C
27.53(f)	RSS-130 [4.7]	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

6. SAMPLE CALCULATION

A. Emission Designator

LTE Band 12(QPSK)

Emission Designator = **8M98G7D**
LTE OBW = 8.981 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 12(16QAM)

Emission Designator = **8M97W7D**
LTE OBW = 8.974 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5(QPSK)

Emission Designator = **8M96G7D**
LTE OBW = 8.957 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5(16QAM)

Emission Designator = **8M97W7D**
LTE OBW = 8.967 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(QPSK)

Emission Designator = **8M95G7D**
LTE OBW = 8.954 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(16QAM)

Emission Designator = **8M94W7D**
LTE OBW = 8.944 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 4(QPSK)

Emission Designator = **17M9G7D**
LTE OBW = 17.882 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 4(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.917 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(QPSK)

Emission Designator = **17M9G7D**
LTE OBW = 17.865 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.890 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

B. For substitution method

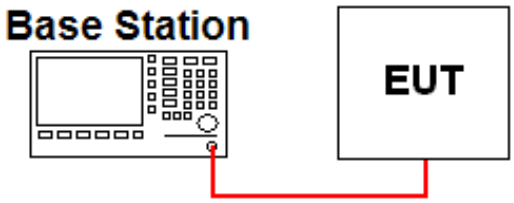
1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3) During the test, the turn table is rotated until the maximum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

EIRP(dBm) = LEVLE@ANTENNA TERMINAL + TX Antenna Gain (dBi)
ERP(dBm) = LEVLE@ANTENNA TERMINAL + TX Antenna Gain (dBd)
Where, TX Antenna Gain (dBd) = TX Antenna Gain (dBi) - 2.15 dB

7. TEST DATA

7.1 CONDUCTED OUTPUT POWER

A base station simulator was used to establish communication with the EUT. The base station simulator parameters were set to produce the maximum power from the EUT. This device was tested under all configurations and the highest power is reported. Conducted Output Powers of EUT are reported below.



▪ Band 12(17)

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
10	704	QPSK	21.86	21.68	21.96	20.64	20.75	20.58	20.70
		16QAM	21.05	21.01	21.00	19.64	19.75	19.55	19.67
	711	QPSK	21.74	21.74	21.95	20.63	20.67	20.73	20.71
		16QAM	20.94	20.91	20.99	19.62	19.72	19.75	19.72
5	701.5	QPSK	21.72	21.72	21.61	20.65	20.64	20.58	20.57
		16QAM	20.85	20.98	20.91	19.61	19.63	19.55	19.54
	707.5	QPSK	21.77	21.83	21.67	20.71	20.67	20.62	20.60
		16QAM	20.87	20.95	20.97	19.63	19.59	19.56	19.55
	713.5	QPSK	21.91	21.74	21.81	20.71	20.64	20.64	20.66
		16QAM	20.93	20.96	20.84	19.81	19.75	19.67	19.70

Note 1: The conducted output power was measured using the Anritsu MT8820C

▪ Band 12

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
3	700.5	QPSK	21.85	22.08	21.66	20.77	20.83	20.68	20.70
		16QAM	20.99	21.16	20.96	19.92	20.00	19.82	19.79
	707.5	QPSK	21.64	21.71	21.60	20.55	20.65	20.57	20.61
		16QAM	20.88	20.89	20.82	19.63	19.74	19.63	19.63
	714.5	QPSK	21.56	21.69	21.64	20.61	20.62	20.51	20.60
		16QAM	20.91	20.91	20.83	19.69	19.78	19.64	19.69
1.4	699.7	QPSK	21.73	21.79	21.62	21.62	21.69	21.63	20.71
		16QAM	20.99	21.08	20.93	20.74	20.80	20.77	19.83
	707.5	QPSK	21.54	21.61	21.51	21.56	21.57	21.46	20.55
		16QAM	20.86	20.98	20.85	20.64	20.69	20.56	19.65
	715.3	QPSK	21.52	21.52	21.42	21.53	21.52	21.45	20.50
		16QAM	20.86	20.85	20.77	20.65	20.64	20.66	19.61

Note 1: The conducted output power was measured using the Anritsu MT8820C

▪ Band 5

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
10	829	QPSK	21.73	21.61	21.57	20.68	20.62	20.62	20.59
		16QAM	20.98	20.83	20.87	19.68	19.60	19.58	19.57
	836.5	QPSK	21.50	21.50	21.41	20.57	20.55	20.46	20.50
		16QAM	20.79	20.83	20.69	19.54	19.53	19.46	19.47
	844	QPSK	21.58	21.62	21.49	20.59	20.61	20.55	20.61
		16QAM	20.85	20.92	20.75	19.56	19.59	19.48	19.54
5	826.5	QPSK	21.77	21.58	21.42	20.58	20.55	20.53	20.51
		16QAM	21.01	20.91	20.79	19.62	19.60	19.58	19.55
	836.5	QPSK	21.57	21.57	21.43	20.51	20.51	20.51	20.46
		16QAM	20.91	20.85	20.72	19.59	19.54	19.52	19.47
	846.5	QPSK	21.52	21.61	21.46	20.44	20.53	20.46	20.40
		16QAM	20.79	20.93	20.90	19.46	19.55	19.54	19.38
3	825.5	QPSK	21.66	21.61	21.53	20.65	20.65	20.58	20.60
		16QAM	21.02	21.00	20.85	19.71	19.71	19.66	19.66
	836.5	QPSK	21.50	21.50	21.39	20.50	20.50	20.44	20.47
		16QAM	20.82	20.88	20.76	19.53	19.56	19.52	19.47
	847.5	QPSK	21.46	21.54	21.47	20.47	20.52	20.45	20.40
		16QAM	20.72	20.87	20.84	19.48	19.57	19.52	19.43
1.4	824.7	QPSK	21.62	21.60	21.46	21.45	21.54	21.48	20.50
		16QAM	20.92	20.94	20.90	20.71	20.81	20.82	19.63
	836.5	QPSK	21.50	21.57	21.55	21.48	21.46	21.46	20.42
		16QAM	20.84	20.82	20.84	20.58	20.61	20.61	19.48
	848.3	QPSK	21.34	21.42	21.38	21.39	21.44	21.38	20.38
		16QAM	20.77	20.79	20.77	20.53	20.64	20.56	19.44

Note 1: The conducted output power was measured using the Anritsu MT8820C

▪ Band 13

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
10	782	QPSK	21.97	22.13	22.02	20.96	20.78	20.88	20.86
		16QAM	21.23	21.37	21.14	20.00	19.82	19.87	19.88
5	779.5	QPSK	22.08	22.12	21.88	21.02	21.04	20.84	20.86
		16QAM	21.19	21.44	21.62	19.97	20.02	19.82	19.86
	784.5	QPSK	21.77	21.98	22.04	20.83	20.94	20.91	20.90
		16QAM	21.22	21.15	21.35	19.71	19.85	19.86	19.80

Note 1: The conducted output power was measured using the Anritsu MT8820C

▪ Band 4

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
20	1720	QPSK	21.84	21.56	21.70	20.23	20.28	20.14	20.19
		16QAM	21.09	20.80	20.77	19.26	19.30	19.20	19.23
	1732.5	QPSK	21.26	21.34	21.68	20.28	20.32	20.05	20.14
		16QAM	20.47	20.73	21.19	19.25	19.29	19.07	19.13
	1745	QPSK	21.64	21.27	21.07	20.21	20.28	20.24	20.21
		16QAM	21.06	20.65	20.50	19.24	19.32	19.26	19.23
15	1717.5	QPSK	21.46	21.40	21.00	20.26	20.27	20.10	20.16
		16QAM	20.69	20.88	20.34	19.30	19.31	19.09	19.20
	1732.5	QPSK	21.11	21.43	21.85	20.33	20.42	20.55	20.24
		16QAM	20.40	20.77	20.75	19.32	19.36	19.47	19.25
	1747.5	QPSK	21.68	21.45	21.24	20.20	20.62	20.38	20.44
		16QAM	21.10	20.79	20.43	19.22	19.74	19.52	19.54
10	1715	QPSK	21.50	21.38	21.79	20.29	20.28	20.28	20.29
		16QAM	21.40	21.44	21.73	20.33	20.32	20.31	19.31
	1732.5	QPSK	21.84	21.56	21.78	20.50	20.50	20.63	20.66
		16QAM	21.03	20.82	21.00	19.52	19.63	19.70	19.92
	1750	QPSK	21.71	21.50	22.34	20.55	20.61	20.50	20.77
		16QAM	21.01	20.75	21.21	19.71	19.58	19.54	19.65
5	1712.5	QPSK	21.65	21.63	21.50	20.64	20.43	20.35	20.35
		16QAM	20.89	20.84	20.46	19.84	19.59	19.43	19.45
	1732.5	QPSK	21.76	21.70	21.51	20.62	20.68	20.52	20.64
		16QAM	20.93	20.95	20.72	19.87	19.81	19.61	19.75
	1752.5	QPSK	21.69	21.66	21.97	20.63	20.76	20.87	20.58
		16QAM	20.94	20.92	20.75	19.84	19.73	19.64	19.68
3	1711.5	QPSK	21.45	21.50	21.45	20.48	20.47	20.36	20.55
		16QAM	20.75	20.79	20.58	19.85	19.86	19.41	19.75
	1732.5	QPSK	21.62	21.59	21.58	20.87	20.62	20.81	20.66
		16QAM	20.87	20.86	20.73	19.86	19.82	19.92	19.75
	1753.5	QPSK	21.59	21.55	21.46	20.61	20.37	20.66	20.45
		16QAM	20.75	20.76	20.63	19.45	19.70	19.67	19.76
1.4	1710.7	QPSK	21.22	21.41	21.00	21.11	21.17	21.10	20.15
		16QAM	21.23	21.10	21.11	21.17	21.04	21.16	19.24
	1732.5	QPSK	21.49	21.47	21.37	21.51	21.52	21.42	20.63
		16QAM	20.75	20.76	20.63	20.66	20.63	20.55	19.81
	1754.3	QPSK	21.35	21.38	21.25	21.38	21.41	21.38	20.60
		16QAM	20.69	20.77	20.63	20.58	20.57	20.52	19.71

Note 1: The conducted output power was measured using the Anritsu MT8820C

▪ Band 2

Conducted Power [dBm]									
RB Alloc			1 RB			MID RB			FULL RB
B.W(MHz)	Freq.(MHz)	Modulation	LOW	MID	HIGH	LOW	MID	HIGH	
20	1860	QPSK	21.88	21.54	21.73	20.92	20.58	20.73	20.76
		16QAM	21.42	21.77	21.67	20.67	20.56	20.65	19.56
	1880	QPSK	21.73	21.37	21.61	20.46	20.43	20.74	20.54
		16QAM	20.86	20.64	20.83	19.35	19.31	19.52	19.42
	1900	QPSK	21.59	21.36	21.62	20.53	20.49	20.71	20.50
		16QAM	20.91	20.74	20.88	19.40	19.40	19.50	19.43
15	1857.5	QPSK	21.78	21.64	21.68	20.88	20.59	20.56	20.63
		16QAM	20.93	20.90	20.75	19.71	19.58	19.44	19.54
	1880	QPSK	21.55	21.36	21.59	20.56	20.37	20.40	20.43
		16QAM	20.86	20.54	20.81	19.40	19.27	19.28	19.30
	1902.5	QPSK	21.68	21.36	21.46	20.45	20.40	20.39	20.49
		16QAM	20.65	20.49	20.65	19.36	19.27	19.25	19.26
10	1855	QPSK	21.95	21.60	21.56	20.83	20.79	20.58	20.73
		16QAM	21.23	20.88	20.76	19.68	19.58	19.54	19.74
	1880	QPSK	21.92	21.39	21.44	20.60	20.46	20.46	20.52
		16QAM	21.06	20.62	20.58	19.43	19.35	19.32	19.39
	1905	QPSK	21.68	21.37	21.38	20.59	20.49	20.45	20.49
		16QAM	20.94	20.63	20.79	19.45	19.33	19.27	19.39
5	1852.5	QPSK	21.69	21.73	21.56	20.70	20.67	20.65	20.70
		16QAM	20.93	20.91	20.78	19.61	19.57	19.61	19.56
	1880	QPSK	21.53	21.47	21.40	20.47	20.47	20.39	20.44
		16QAM	20.72	20.63	20.59	19.39	19.35	19.31	19.34
	1907.5	QPSK	21.48	21.48	21.46	20.50	20.49	20.41	20.46
		16QAM	20.72	20.65	20.66	19.39	19.35	19.31	19.34
3	1851.5	QPSK	21.64	21.63	21.57	20.68	20.70	20.66	20.67
		16QAM	20.84	20.91	20.80	19.61	19.66	19.58	19.61
	1880	QPSK	21.41	21.40	21.37	20.54	20.47	20.43	20.41
		16QAM	20.60	20.56	20.67	19.45	19.44	19.36	19.39
	1908.5	QPSK	21.38	21.43	21.53	20.48	20.48	20.47	20.46
		16QAM	20.66	20.67	20.69	19.43	19.46	19.40	19.37
1.4	1850.7	QPSK	21.66	21.71	21.60	21.68	21.71	21.65	20.64
		16QAM	20.78	20.91	20.73	20.54	20.59	20.57	19.58
	1880	QPSK	21.47	21.48	21.55	21.49	21.45	21.53	20.46
		16QAM	20.57	20.68	20.54	20.38	20.39	20.42	19.39
	1909.3	QPSK	21.40	21.46	21.42	21.48	21.62	21.68	20.49
		16QAM	20.73	20.84	20.71	20.37	20.51	20.61	19.34

Note 1: The conducted output power was measured using the Anritsu MT8820C

7.2 OCCUPIED BANDWIDTH

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

7.3 PEAK TO AVERAGE RATIO

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

7.4 BAND EDEG EMISSIONS (Conducted)

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

7.5 SPURIOUS AND HARMONICS EMISSIONS (Conducted)

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

7.6 ERP & EIRP

7.6.1 LTE Band 12(17)

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBd)	ERP (dBm)	ERP (W)
10	704	QPSK	1/0	H	15.67	-0.65	15.02	0.032
		16QAM	1/0	H	14.31	-0.65	13.66	0.023
	711	QPSK	1/0	H	15.67	-0.63	15.04	0.032
		16QAM	1/0	H	14.62	-0.63	13.99	0.025
5	701.5	QPSK	1/24	H	15.38	-0.66	14.72	0.030
		16QAM	1/24	H	14.68	-0.66	14.02	0.025
	707.5	QPSK	1/0	H	15.54	-0.64	14.90	0.031
		16QAM	1/0	H	14.85	-0.64	14.21	0.026
	713.5	QPSK	1/24	H	15.11	-0.62	14.49	0.028
		16QAM	1/24	H	14.06	-0.62	13.44	0.022

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

7.6.2 LTE Band 12

Channel Bandwidth (MHz)	Test Frequency (MHz)	Test Mode	RB Size/ Offset	Ant Pol (H/V)	Level(dBm) @ Ant Terminal	TX Ant Gain (dBd)	ERP (dBm)	ERP (W)
3	700.5	QPSK	1/0	H	15.17	-0.66	14.51	0.028
		16QAM	1/0	H	14.38	-0.66	13.72	0.024
	707.5	QPSK	1/14	H	15.08	-0.64	14.44	0.028
		16QAM	1/14	H	14.36	-0.64	13.72	0.024
	714.5	QPSK	1/7	H	15.25	-0.62	14.63	0.029
		16QAM	1/7	H	13.98	-0.62	13.36	0.022
1.4	699.7	QPSK	1/0	H	14.67	-0.66	14.01	0.025
		16QAM	1/0	H	13.74	-0.66	13.08	0.020
	707.5	QPSK	1/5	H	15.08	-0.64	14.44	0.028
		16QAM	1/5	H	13.91	-0.64	13.27	0.021
	715.3	QPSK	1/5	H	15.54	-0.62	14.92	0.031
		16QAM	1/5	H	14.62	-0.62	14.00	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.

7.6.3 LTE Band 5

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	17.85	-0.67	17.18	0.052
		16QAM	1/0	H	17.11	-0.67	16.44	0.044
	836.5	QPSK	1/0	H	17.77	-0.74	17.03	0.050
		16QAM	1/0	H	16.82	-0.74	16.08	0.041
	844	QPSK	1/0	H	18.38	-0.81	17.57	0.057
		16QAM	1/0	H	17.59	-0.81	16.78	0.048
5	826.5	QPSK	1/0	H	17.40	-0.65	16.75	0.047
		16QAM	1/0	H	16.31	-0.65	15.66	0.037
	836.5	QPSK	1/12	H	17.81	-0.74	17.07	0.051
		16QAM	1/12	H	16.98	-0.74	16.24	0.042
	846.5	QPSK	1/0	H	17.18	-0.83	16.35	0.043
		16QAM	1/0	H	16.30	-0.83	15.47	0.035
3	825.5	QPSK	1/0	H	17.38	-0.64	16.74	0.047
		16QAM	1/0	H	16.48	-0.64	15.84	0.038
	836.5	QPSK	1/7	H	17.97	-0.74	17.23	0.053
		16QAM	1/7	H	17.00	-0.74	16.26	0.042
	847.5	QPSK	1/14	H	18.19	-0.84	17.35	0.054
		16QAM	1/14	H	17.42	-0.84	16.58	0.045
1.4	824.7	QPSK	1/0	H	17.71	-0.63	17.08	0.051
		16QAM	1/0	H	16.75	-0.63	16.12	0.041
	836.5	QPSK	1/0	H	18.16	-0.74	17.42	0.055
		16QAM	1/0	H	17.70	-0.74	16.96	0.050
	848.3	QPSK	1/5	H	18.41	-0.85	17.56	0.057
		16QAM	1/5	H	17.79	-0.85	16.94	0.049

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

7.6.4 LTE Band 13

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	16.21	-0.45	15.76	0.038
		16QAM	1/0	H	15.24	-0.45	14.79	0.030
5	779.5	QPSK	1/0	H	16.25	-0.45	15.80	0.038
		16QAM	1/0	H	15.28	-0.45	14.83	0.030
	784.5	QPSK	1/12	H	16.37	-0.44	15.93	0.039
		16QAM	1/12	H	15.60	-0.44	15.16	0.033

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

7.6.5 LTE Band 4

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	1/99	V	9.21	5.95	15.16	0.033
		16QAM	1/99	V	8.46	5.95	14.41	0.028
	1732.5	QPSK	1/99	V	10.64	5.84	16.48	0.044
		16QAM	1/99	V	9.83	5.84	15.67	0.037
	1745	QPSK	1/0	V	10.83	5.73	16.56	0.045
		16QAM	1/0	V	10.00	5.73	15.73	0.037
15	1717.5	QPSK	1/0	V	8.77	5.97	14.74	0.030
		16QAM	1/0	V	7.74	5.97	13.71	0.023
	1732.5	QPSK	1/0	V	10.02	5.84	15.86	0.039
		16QAM	1/0	V	9.27	5.84	15.11	0.032
	1747.5	QPSK	1/36	V	11.10	5.70	16.80	0.048
		16QAM	1/36	V	10.12	5.70	15.82	0.038
10	1715	QPSK	1/49	V	10.02	6.00	16.02	0.040
		16QAM	1/49	V	8.69	6.00	14.69	0.029
	1732.5	QPSK	1/49	V	10.40	5.84	16.24	0.042
		16QAM	1/49	V	10.03	5.84	15.87	0.039
	1750	QPSK	1/49	V	11.56	5.68	17.24	0.053
		16QAM	1/49	V	10.64	5.68	16.32	0.043
5	1712.5	QPSK	1/0	V	9.67	6.02	15.69	0.037
		16QAM	1/0	V	8.88	6.02	14.90	0.031
	1732.5	QPSK	1/0	V	11.37	5.84	17.21	0.053
		16QAM	1/0	V	9.97	5.84	15.81	0.038
	1752.5	QPSK	1/0	V	10.51	5.65	16.16	0.041
		16QAM	1/0	V	9.20	5.65	14.85	0.031
3	1711.5	QPSK	1/0	V	9.80	6.03	15.83	0.038
		16QAM	1/0	V	8.20	6.03	14.23	0.026
	1732.5	QPSK	1/14	V	10.88	5.84	16.72	0.047
		16QAM	1/14	V	9.59	5.84	15.43	0.035
	1753.5	QPSK	1/0	V	10.75	5.63	16.38	0.043
		16QAM	1/0	V	9.47	5.63	15.10	0.032
1.4	1710.7	QPSK	1/0	V	9.12	6.03	15.15	0.033
		16QAM	1/0	V	8.48	6.03	14.51	0.028
	1732.5	QPSK	1/0	V	10.60	5.84	16.44	0.044
		16QAM	1/0	V	9.48	5.84	15.32	0.034
	1754.3	QPSK	1/0	V	11.47	5.62	17.09	0.051
		16QAM	1/0	V	10.26	5.62	15.88	0.039

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

7.6.6 LTE Band 2

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	V	12.75	4.91	17.66	0.058
		16QAM	1/0	V	11.92	4.91	16.83	0.048
	1880	QPSK	1/0	V	13.76	4.80	18.56	0.072
		16QAM	1/0	V	13.01	4.80	17.81	0.060
	1900	QPSK	1/0	V	13.95	4.69	18.64	0.073
		16QAM	1/0	V	13.34	4.69	18.03	0.064
15	1857.5	QPSK	1/0	V	13.13	4.92	18.05	0.064
		16QAM	1/0	V	12.34	4.92	17.26	0.053
	1880	QPSK	1/0	V	13.58	4.80	18.38	0.069
		16QAM	1/0	V	12.71	4.80	17.51	0.056
	1902.5	QPSK	1/0	V	14.49	4.68	19.17	0.083
		16QAM	1/0	V	13.99	4.68	18.67	0.074
10	1855	QPSK	1/0	V	13.58	4.94	18.52	0.071
		16QAM	1/0	V	12.69	4.94	17.63	0.058
	1880	QPSK	1/0	V	15.34	4.80	20.14	0.103
		16QAM	1/0	V	14.41	4.80	19.21	0.083
	1905	QPSK	1/0	V	14.92	4.67	19.59	0.091
		16QAM	1/0	V	14.55	4.67	19.22	0.084
5	1852.5	QPSK	1/0	V	14.05	4.95	19.00	0.079
		16QAM	1/0	V	13.15	4.95	18.10	0.065
	1880	QPSK	1/0	V	15.40	4.80	20.20	0.105
		16QAM	1/0	V	14.39	4.80	19.19	0.083
	1907.5	QPSK	1/12	V	15.41	4.65	20.06	0.101
		16QAM	1/12	V	14.46	4.65	19.11	0.081
3	1851.5	QPSK	1/0	V	14.06	4.95	19.01	0.080
		16QAM	1/0	V	13.19	4.95	18.14	0.065
	1880	QPSK	1/0	V	15.14	4.80	19.94	0.099
		16QAM	1/0	V	14.19	4.80	18.99	0.079
	1908.5	QPSK	1/14	V	15.15	4.65	19.80	0.095
		16QAM	1/14	V	14.73	4.65	19.38	0.087
1.4	1850.7	QPSK	1/0	V	13.73	4.96	18.69	0.074
		16QAM	1/0	V	12.95	4.96	17.91	0.062
	1880	QPSK	1/0	V	15.05	4.80	19.85	0.097
		16QAM	1/0	V	14.14	4.80	18.94	0.078
	1909.3	QPSK	1/0	V	15.22	4.64	19.86	0.097
		16QAM	1/0	V	14.54	4.64	19.18	0.083

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

7.7 UNDESIRABLE EMISSIONS (Radiated)

7.7.1 LTE Band 12(17)

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 (dBm)	Limit (dBm)	Margin (dB)
10	704	1/49	QPSK	1416.77	V	-39.73	2.86	-36.87	-13.00	23.87
		1/0		2098.79	V	-35.36	3.00	-32.36		19.36
		1/49	16QAM	1416.75	V	-39.32	2.86	-36.46		23.46
		1/0		2098.82	V	-35.55	3.01	-32.54		19.54
	711	1/49	QPSK	1430.81	V	-37.36	3.00	-34.36		21.36
		1/0		2119.82	V	-34.94	3.09	-31.85		18.85
		1/49	16QAM	1430.83	V	-37.93	3.00	-34.93		21.93
		1/0		2119.75	V	-35.01	3.09	-31.92		18.92

Note 1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 2: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

7.7.2 LTE Band 5

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 (dBm)	Limit (dBm)	Margin (dB)
10	829	1/0	QPSK	1649.19	V	-46.30	3.82	-42.48	-13.00	29.48
				2473.64	V	-45.57	3.79	-41.78		28.78
			16QAM	1649.17	V	-46.14	3.82	-42.32		29.32
				2473.85	V	-45.01	3.79	-41.22		28.22
	836.5	1/0	QPSK	1664.30	V	-46.97	3.87	-43.10		30.10
				2496.34	V	-38.50	3.82	-34.68		21.68
			16QAM	1664.54	V	-47.01	3.87	-43.14		30.14
				2496.27	V	-37.63	3.82	-33.81		20.81
	844	1/0	QPSK	1679.08	V	-45.20	3.91	-41.29		28.29
				2518.75	V	-41.95	3.78	-38.17		25.17
			16QAM	1679.06	V	-44.20	3.91	-40.29		27.29
				2518.66	V	-41.69	3.78	-37.91		24.91

Note 1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 2: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

7.7.3 LTE Band 13

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 (dBm)	Limit (dBm)	Margin (dB)
10	782	1/0	QPSK	1555.14	V	-47.44	3.79	-43.65	-13.00	30.65
			16QAM	1554.89	V	-47.35	3.79	-43.56		30.56
5	779.5	1/0	QPSK	1555.09	V	-44.60	3.79	-40.81		27.81
			16QAM	1554.96	V	-44.74	3.79	-40.95		27.95

Note 1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 2: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

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

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 (dBm)	Limit (dBm)	Margin (dB)
10	782	1/49	QPSK	1572.81	V	-54.75	5.96	-48.79	-40.00	8.79
			16QAM	1572.77	V	-54.25	5.96	-48.29		8.29
5	779.5	1/24	QPSK	1563.24	V	-53.84	5.95	-47.89		7.89
			16QAM	1563.35	V	-54.12	5.95	-48.17		8.16
	784.5		QPSK	1573.41	V	-54.29	5.96	-48.33		8.33
			16QAM	1573.22	V	-54.30	5.96	-48.34		8.34

7.7.4 LTE Band 4

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)	Limit (dBm)	Margin (dB)
20	1720	1/99	QPSK	3457.97	V	-51.74	8.10	-43.64	-13.00	30.64
				5186.69	H	-49.28	10.32	-38.96	-13.00	25.96
			16QAM	3457.56	V	-52.99	8.10	-44.89	-13.00	31.89
				5186.42	H	-49.71	10.32	-39.39	-13.00	26.39
	1732.5	1/99	QPSK	3482.85	V	-52.13	8.16	-43.97	-13.00	30.97
				5224.02	H	-46.65	10.33	-36.32	-13.00	23.32
			16QAM	3482.85	V	-52.70	8.16	-44.54	-13.00	31.54
				5224.19	H	-46.30	10.33	-35.97	-13.00	22.97
	1745	1/0	QPSK	3471.92	V	-52.49	8.13	-44.36	-13.00	31.36
				5208.24	H	-46.88	10.34	-36.54	-13.00	23.54
			16QAM	3471.94	V	-52.69	8.13	-44.56	-13.00	31.56
				5208.43	H	-47.38	10.34	-37.04	-13.00	24.04

Note 1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 2: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed

7.7.5 LTE Band 2

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)	Limit (dBm)	Margin (dB)
20	1860	1/0	QPSK	3702.33	H	-49.65	8.38	-41.27	-13.00	28.27
				5553.25	V	-40.73	10.42	-30.31	-13.00	17.31
			16QAM	3702.25	H	-49.84	8.38	-41.46	-13.00	28.46
				5553.39	V	-40.73	10.42	-30.31	-13.00	17.31
	1880	1/0	QPSK	3742.30	H	-45.18	8.40	-36.78	-13.00	23.78
				5613.23	V	-32.02	10.60	-21.42	-13.00	8.42
			16QAM	3742.08	H	-45.30	8.40	-36.90	-13.00	23.9
				5613.24	V	-31.90	10.60	-21.30	-13.00	8.30
	1900	1/0	QPSK	3782.22	H	-43.79	8.28	-35.51	-13.00	22.51
				5673.30	V	-29.99	10.70	-19.29	-13.00	6.29
			16QAM	3782.02	H	-43.65	8.28	-35.37	-13.00	22.37
				5673.28	V	-29.98	10.70	-19.28	-13.00	6.28

Note 1: This device was tested under all bandwidths, modulations and RB configurations and the worst case data are reported in the table above.

Note 2: The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed

7.8 FREQUENCY STABILITY

7.8.1 LTE Band 12(17)

OPERATING FREQUENCY : 707.5 MHz
REFERENCE VOLTAGE : 12 VDC
DEVIATION LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12	+20(Ref)	707,500,003	3	0.0042	0.000000424
100%		-30	707,500,016	16	0.0226	0.000002261
100%		-20	707,500,011	11	0.0155	0.000001555
100%		-10	707,499,992	-8	-0.0113	-0.000001131
100%		0	707,499,990	-10	-0.0141	-0.000001413
100%		+10	707,500,013	13	0.0184	0.000001837
100%		+20	707,500,003	3	0.0042	0.000000424
100%		+30	707,500,011	11	0.0155	0.000001555
100%		+40	707,499,995	-5	-0.0071	-0.000000707
100%		+50	707,499,985	-15	-0.0212	-0.000002120
115%	13.80	+20	707,500,003	3	0.0042	0.000000424
85%	10.20	+20	707,500,007	7	0.0099	0.000000989

Note. 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.

7.8.2 LTE Band 5

OPERATING FREQUENCY : 836.5 MHz
REFERENCE VOLTAGE : 12 VDC
DEVIATION LIMIT(FCC&IC) : ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12	+20(Ref)	836,500,010	10	0.0120	0.000001195
100%		-30	836,500,004	4	0.0048	0.000000478
100%		-20	836,499,991	-9	-0.0108	-0.000001076
100%		-10	836,500,003	3	0.0036	0.000000359
100%		0	836,500,001	1	0.0012	0.000000120
100%		+10	836,500,004	4	0.0048	0.000000478
100%		+20	836,500,010	10	0.0120	0.000001195
100%		+30	836,499,996	-4	-0.0048	-0.000000478
100%		+40	836,499,983	-17	-0.0203	-0.000002032
100%		+50	836,499,997	-3	-0.0036	-0.000000359
115%	13.80	+20	836,500,010	10	0.0120	0.000001195
85%	10.20	+20	836,500,001	1	0.0012	0.000000120

7.8.3 LTE Band 13

OPERATING FREQUENCY : 782 MHz
REFERENCE VOLTAGE : 12 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%	12.00	+20(Ref)	782,000,006	6	0.0077	0.000000767
100%		-30	782,000,004	4	0.0051	0.000000512
100%		-20	782,000,009	9	0.0115	0.000001151
100%		-10	781,999,985	-15	-0.0192	-0.000001918
100%		0	782,000,011	11	0.0141	0.000001407
100%		+10	782,000,007	7	0.0090	0.000000895
100%		+20	782,000,006	6	0.0077	0.000000767
100%		+30	782,000,003	3	0.0038	0.000000384
100%		+40	781,999,989	-11	-0.0141	-0.000001407
100%		+50	781,999,990	-10	-0.0128	-0.000001279
115%	13.80	+20	782,000,008	8	0.0102	0.000001023
85%	10.20	+20	781,999,994	-6	-0.0077	-0.000000767

Note. 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.

7.8.4 LTE Band 4

OPERATING FREQUENCY : 1732.5 MHz
REFERENCE VOLTAGE 12 VDC
LIMIT(FCC&IC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12	+20(Ref)	1,732,500,004	4	0.0023	0.000000231
100%		-30	1,732,499,996	-4	-0.0023	-0.000000231
100%		-20	1,732,500,007	7	0.0040	0.000000404
100%		-10	1,732,500,003	3	0.0017	0.000000173
100%		0	1,732,499,990	-10	-0.0058	-0.000000577
100%		+10	1,732,500,003	3	0.0017	0.000000173
100%		+20	1,732,500,004	4	0.0023	0.000000231
100%		+30	1,732,500,007	7	0.0040	0.000000404
100%		+40	1,732,500,004	4	0.0023	0.000000231
100%		+50	1,732,499,985	-15	-0.0087	-0.000000866
115%	13.80	+20	1,732,500,002	2	0.0012	0.000000115
85%	10.20	+20	1,732,499,992	-8	-0.0046	-0.000000462

Note. 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.

7.8.5 LTE Band 2

OPERATING FREQUENCY : 1880 MHz
REFERENCE VOLTAGE 12 VDC
LIMIT(FCC) : The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.
LIMIT(IC) : ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100%	12	+20(Ref)	1,879,999,987	-13	-0.0069	-0.000000691
100%		-30	1,879,999,989	-11	-0.0059	-0.000000585
100%		-20	1,879,999,999	-1	-0.0005	-0.000000053
100%		-10	1,879,999,995	-5	-0.0027	-0.000000266
100%		0	1,880,000,004	4	0.0021	0.000000213
100%		+10	1,880,000,013	13	0.0069	0.000000691
100%		+20	1,879,999,987	-13	-0.0069	-0.000000691
100%		+30	1,880,000,011	11	0.0059	0.000000585
100%		+40	1,880,000,008	8	0.0043	0.000000426
100%		+50	1,879,999,996	-4	-0.0021	-0.000000213
115%	13.80	+20	1,880,000,003	3	0.0016	0.000000160
85%	10.20	+20	1,879,999,992	-8	-0.0043	-0.000000426

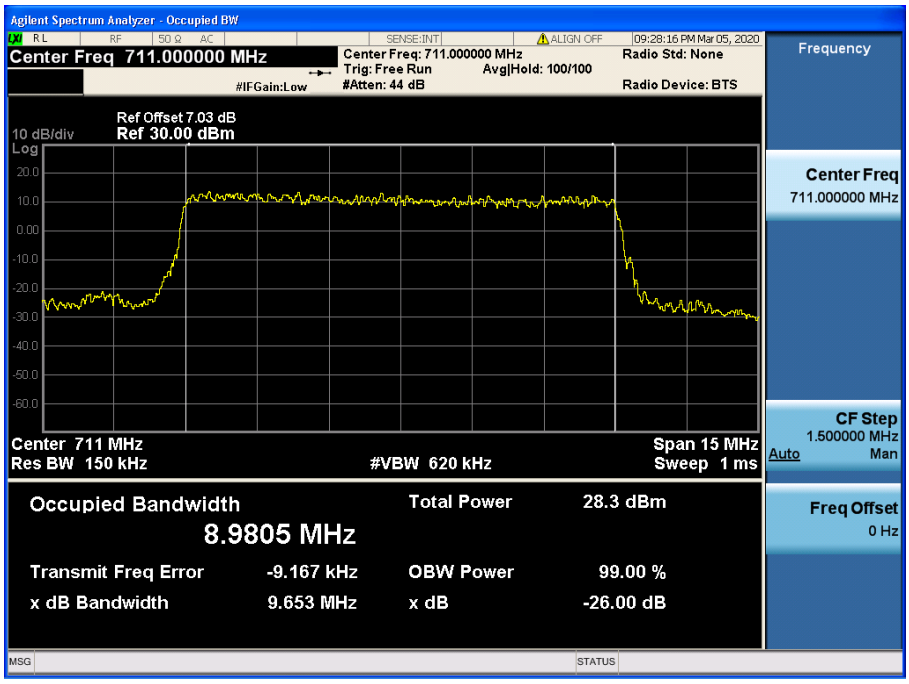
Note. Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability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

8. TEST PLOTS

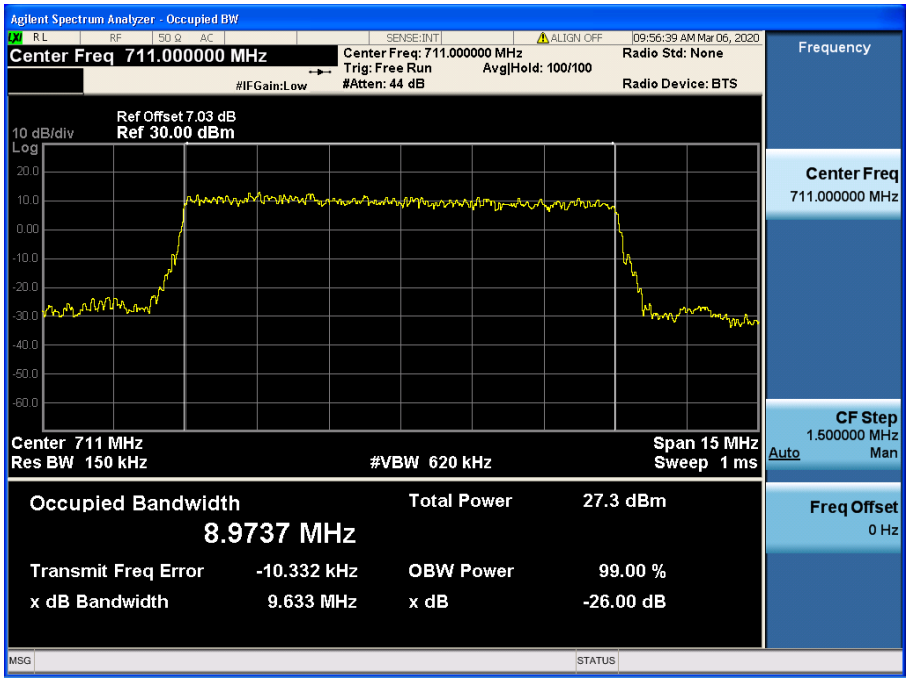
**Note: All bandwidths, RB configurations, and modulations were investigated.
The worst case test results are reported.**

8.1 OCCUPIED BANDWIDTH

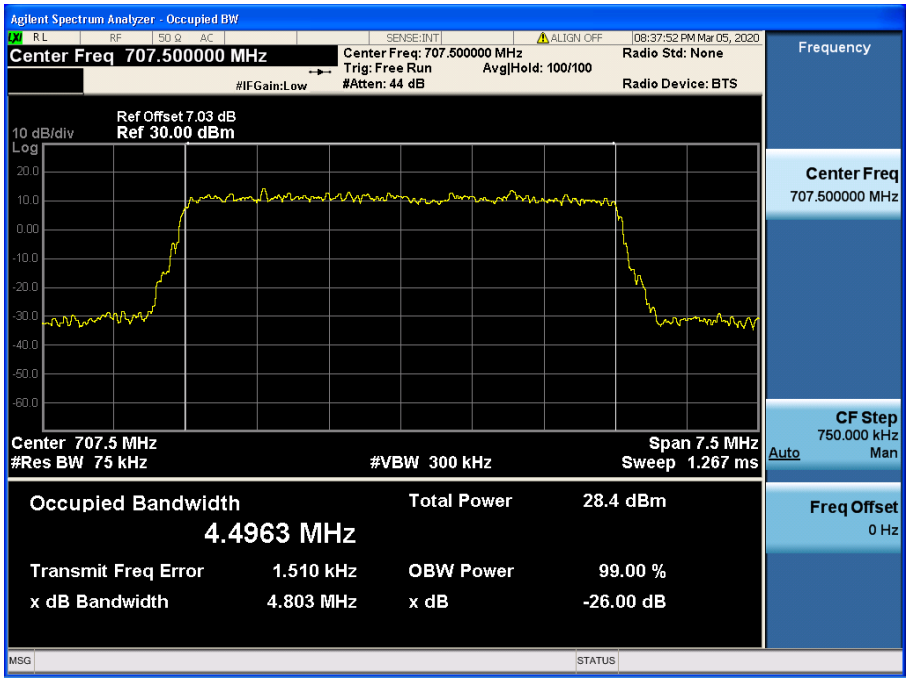
8.1.1 LTE Band 12(17)



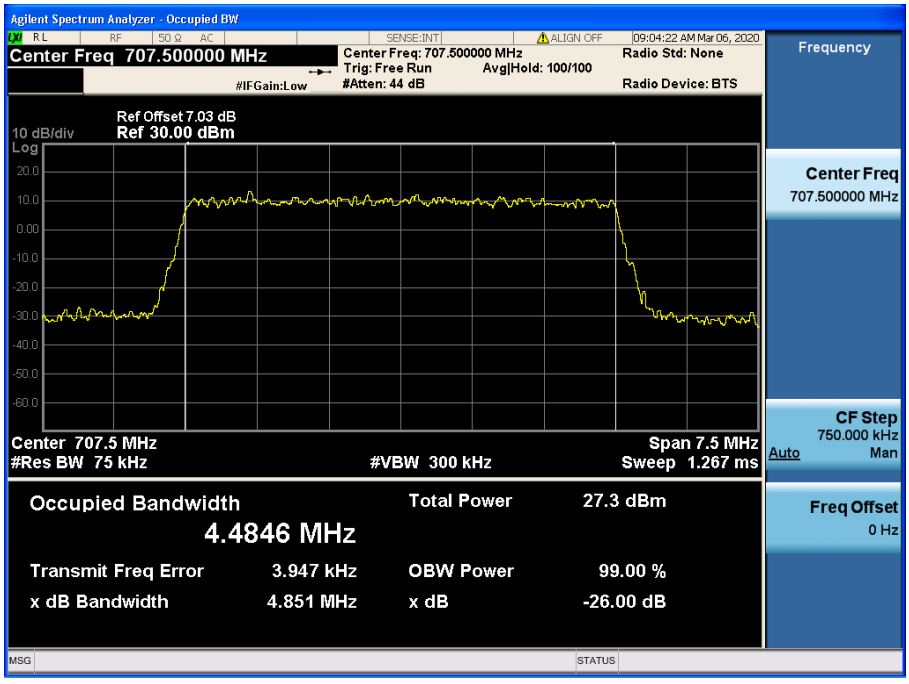
LTE Band 12,17 / 10 MHz / QPSK - RB Size 50



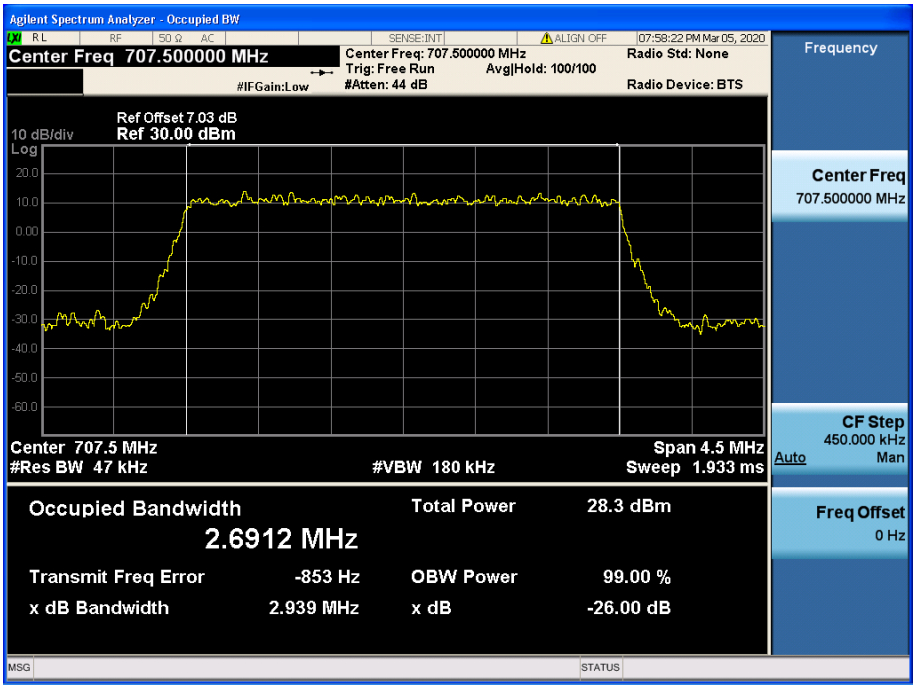
LTE Band 12,17 / 10 MHz / 16QAM - RB Size 50



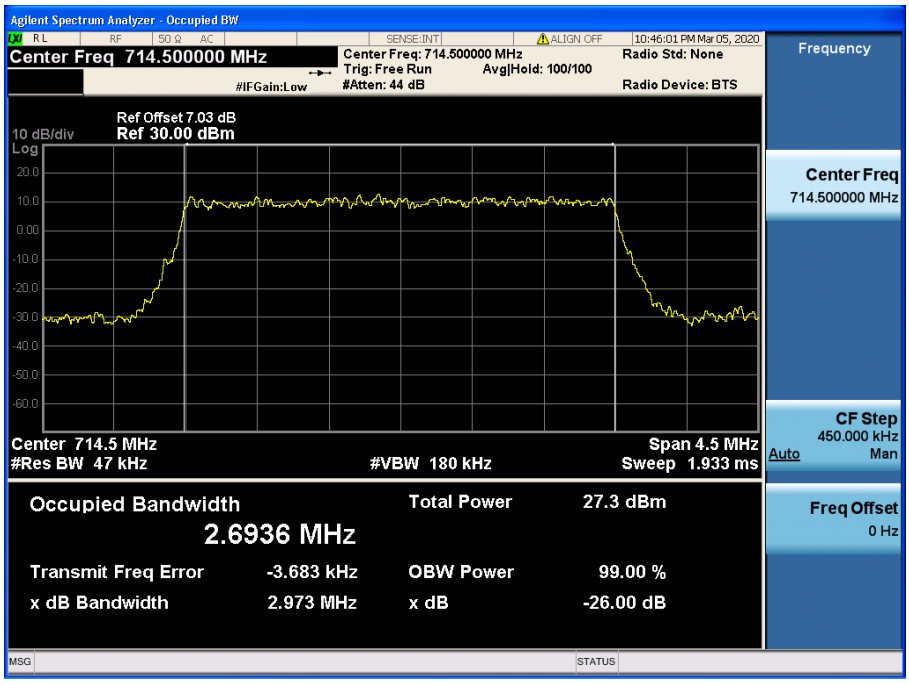
LTE Band 12,17 / 5 MHz / QPSK - RB Size 25



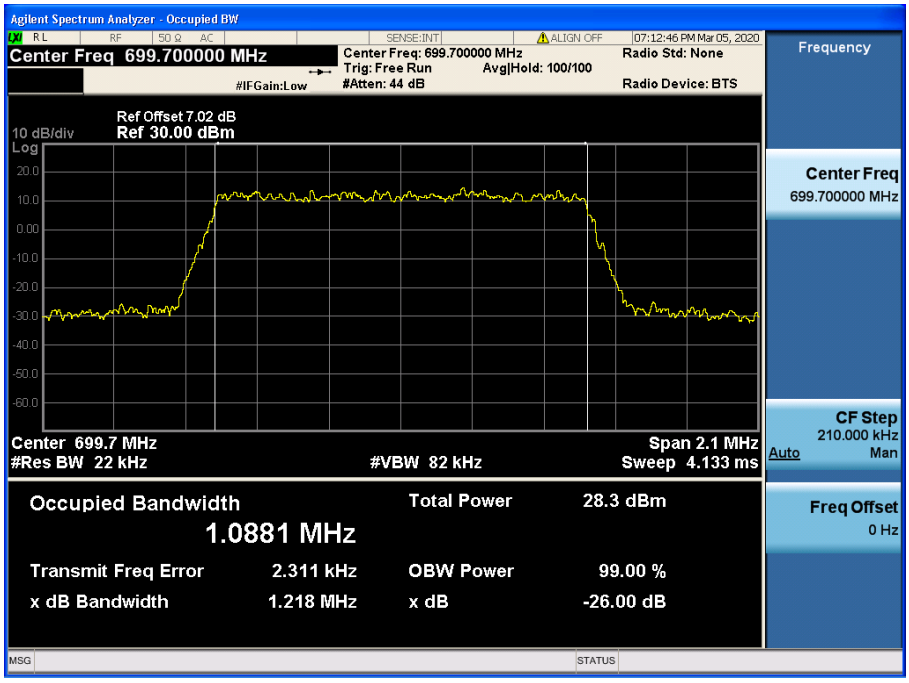
LTE Band 12,17 / 5 MHz / 16QAM - RB Size 25



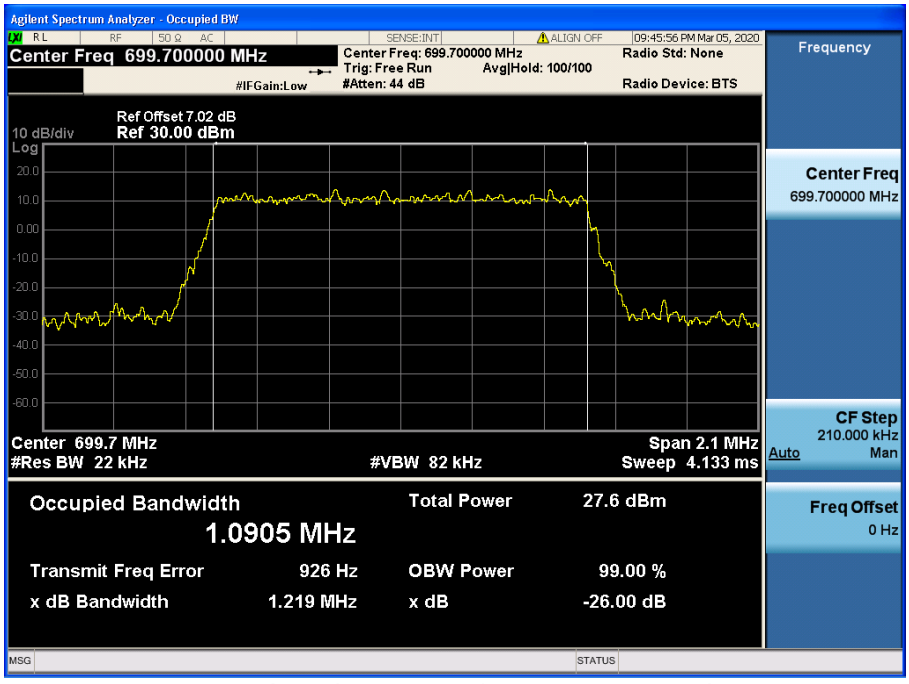
LTE Band 12 / 3 MHz / QPSK - RB Size 15



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

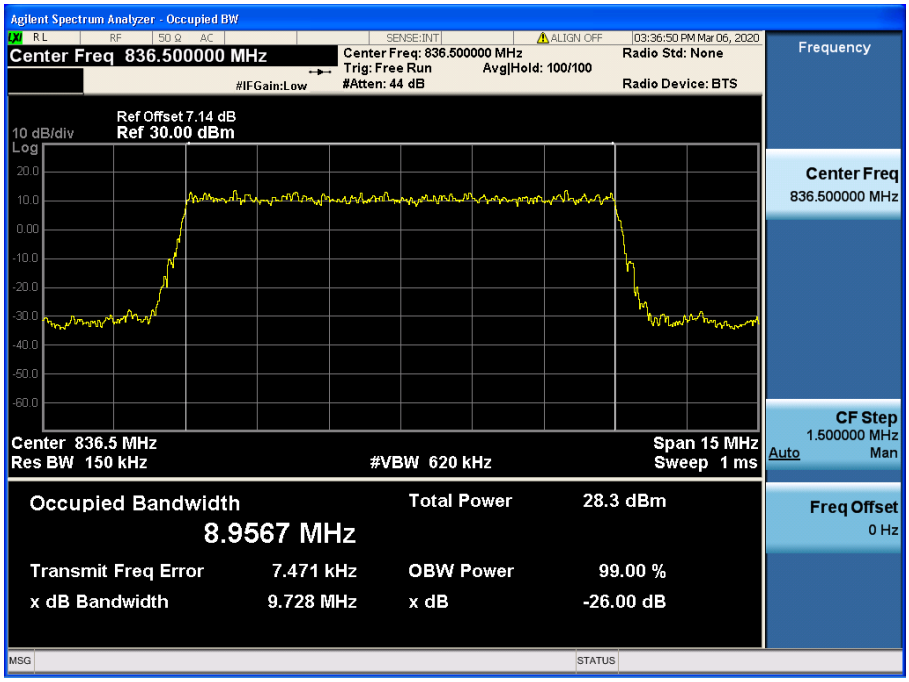


LTE Band 12 / 1.4 MHz / QPSK - RB Size 6

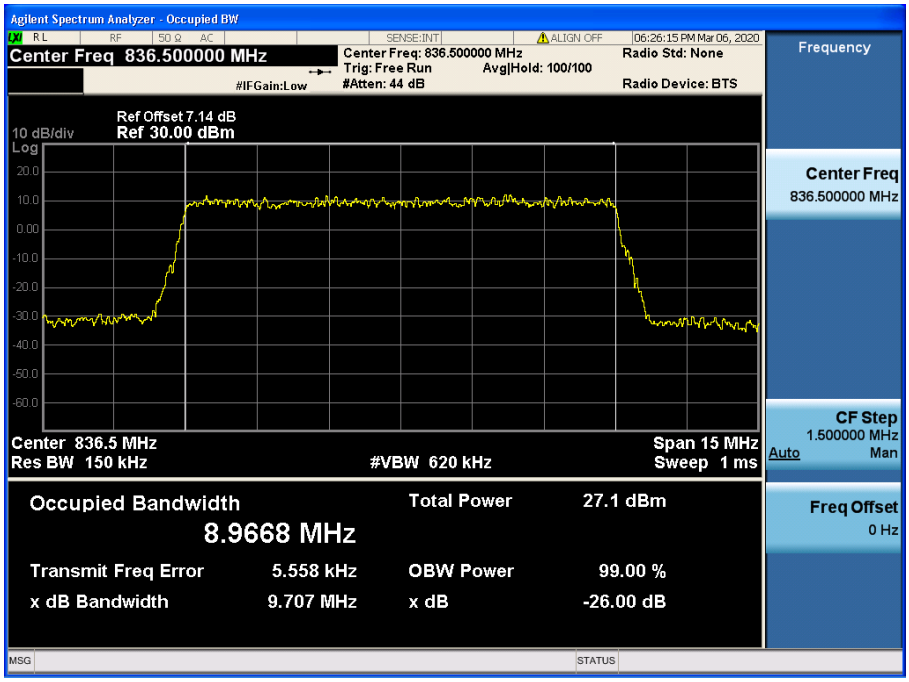


LTE Band 12 / 1.4 MHz / 16QAM - RB Size 6

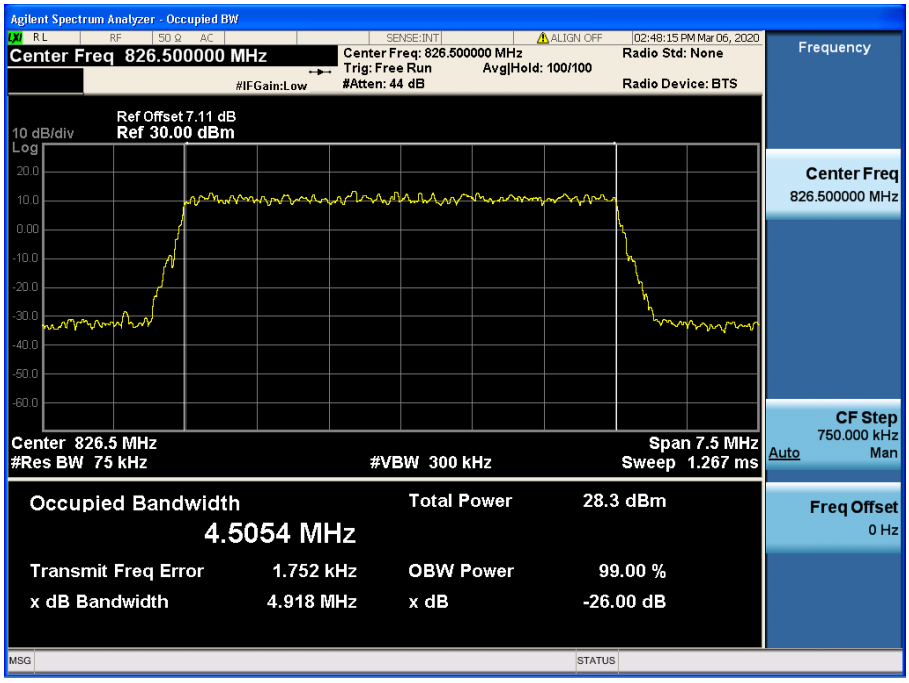
8.1.2 LTE Band 5



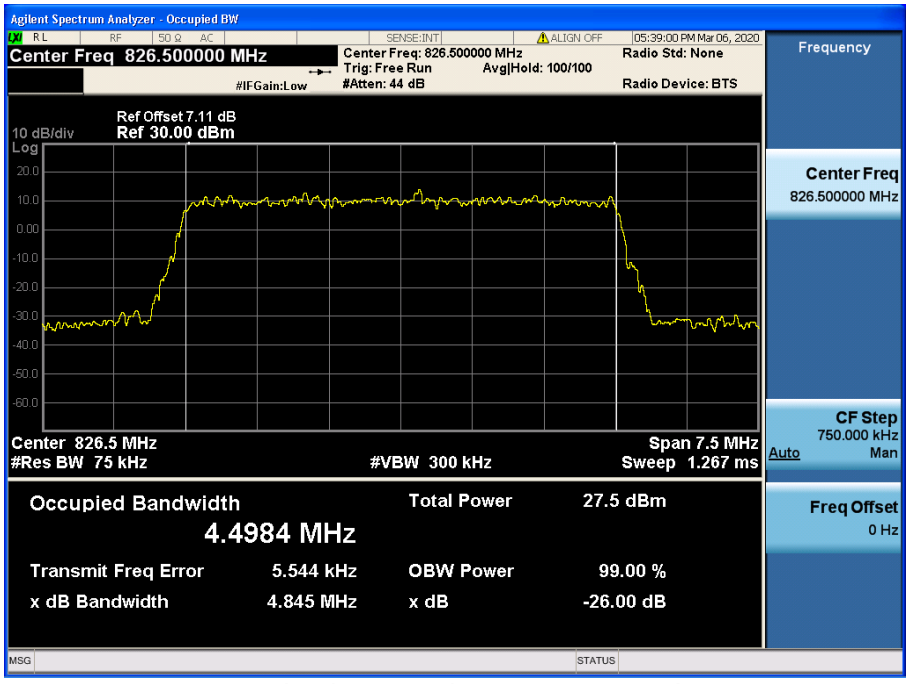
LTE Band 5 / 10 MHz / QPSK - RB Size 50



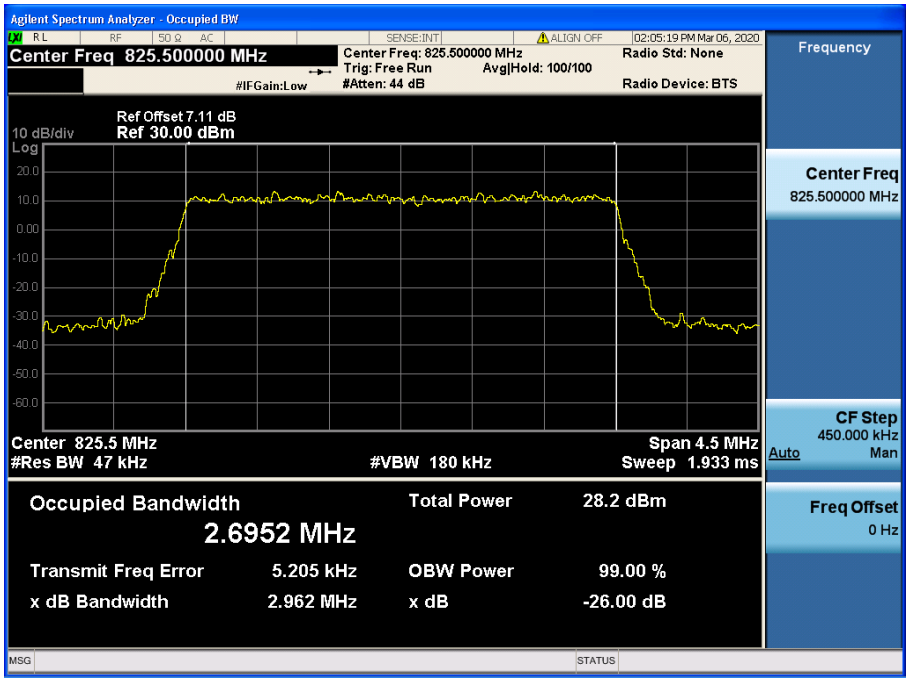
LTE Band 5 / 10 MHz / 16QAM - RB Size 50



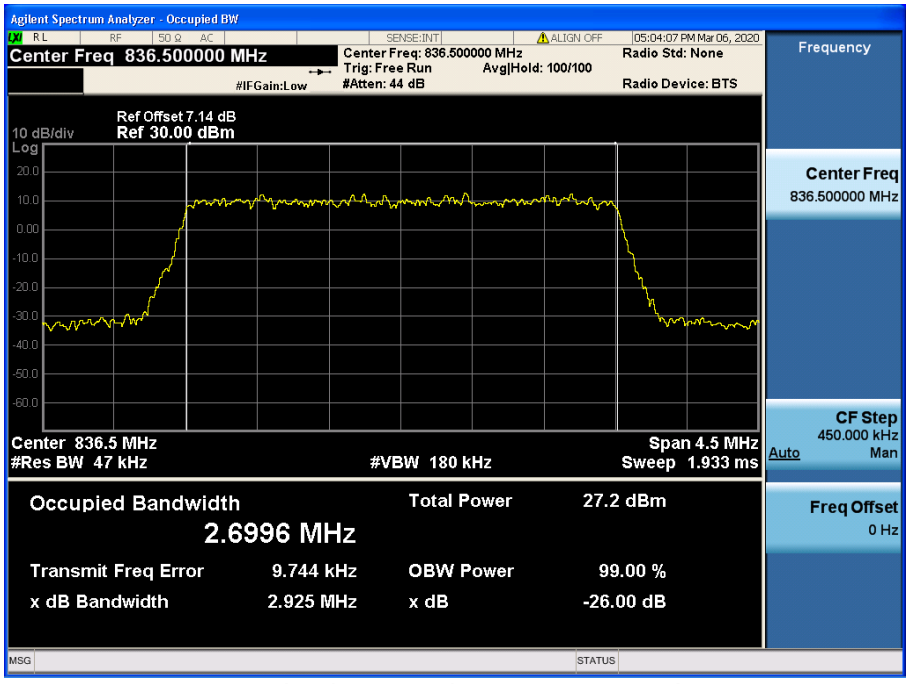
LTE Band 5 / 5 MHz / QPSK - RB Size 25



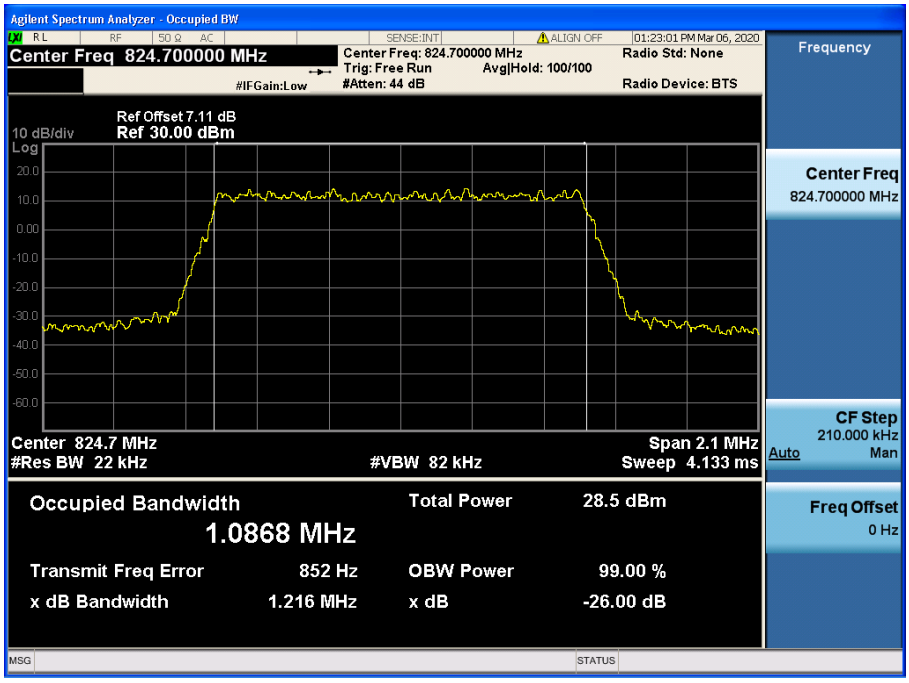
LTE Band 5 / 5 MHz / 16QAM - RB Size 25



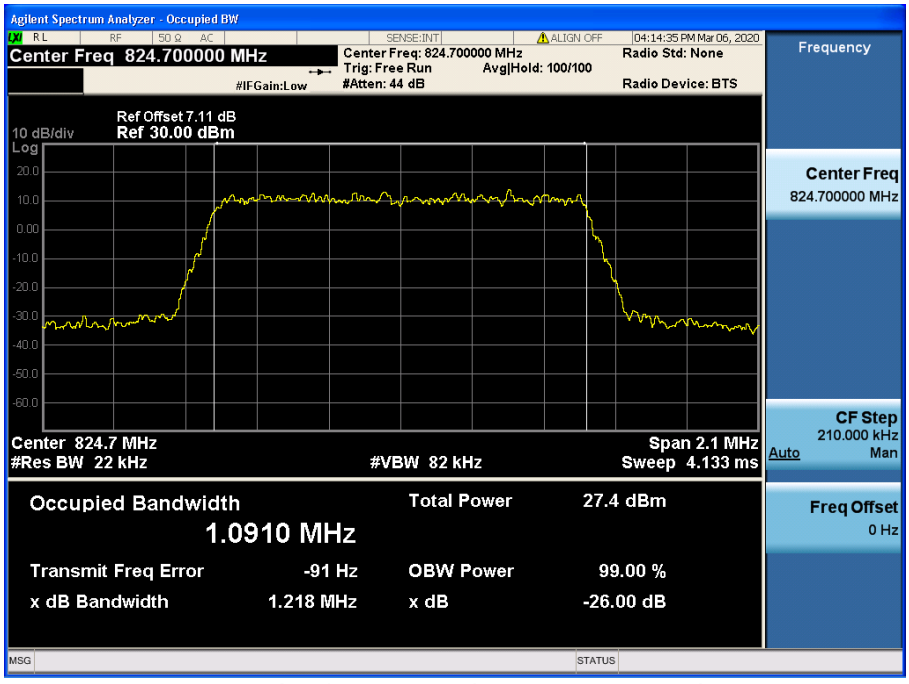
LTE Band 5 / 3 MHz / QPSK - RB Size 15



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

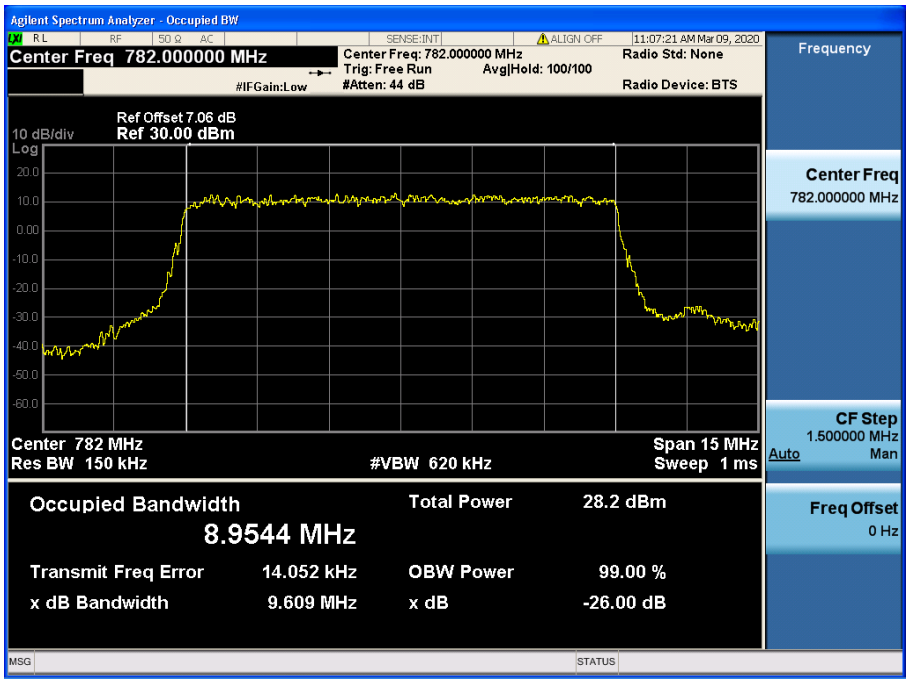


LTE Band 5 / 1.4 MHz / QPSK - RB Size 6

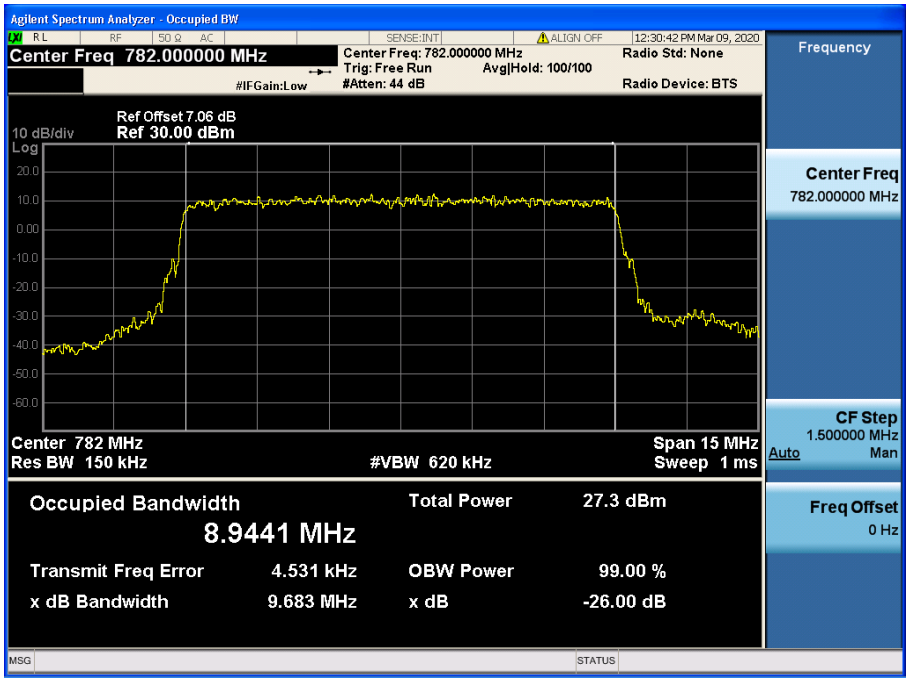


LTE Band 5 / 1.4 MHz / 16QAM - RB Size 6

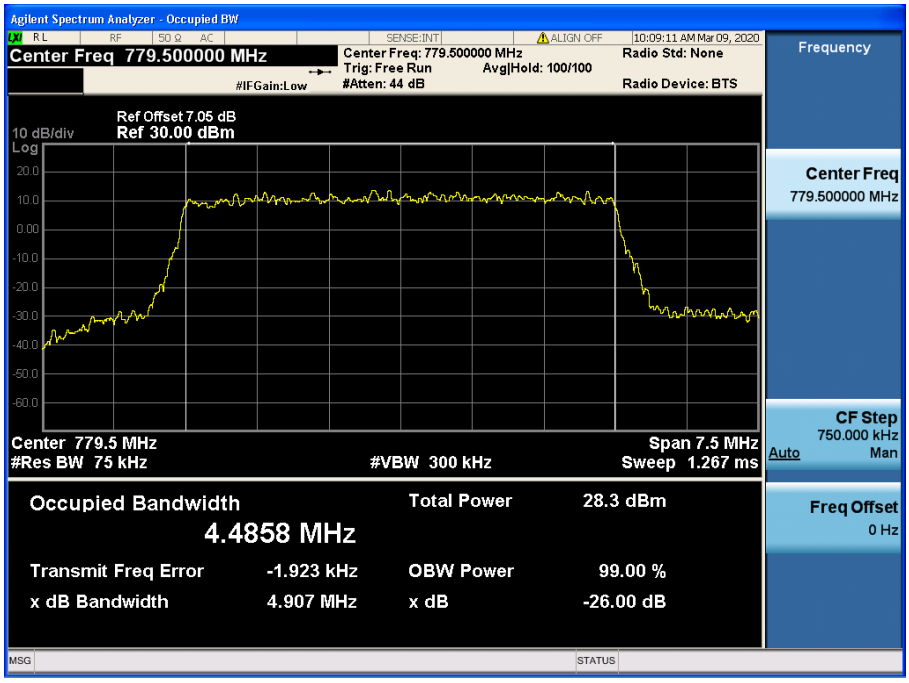
8.1.3 LTE Band 13



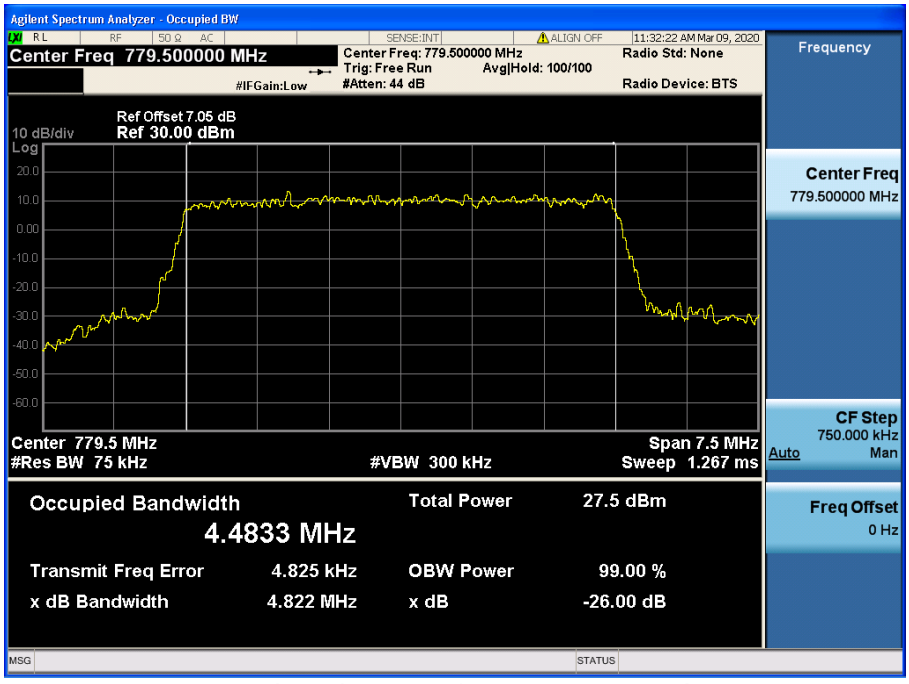
LTE Band 13 / 10 MHz / QPSK - RB Size 50



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

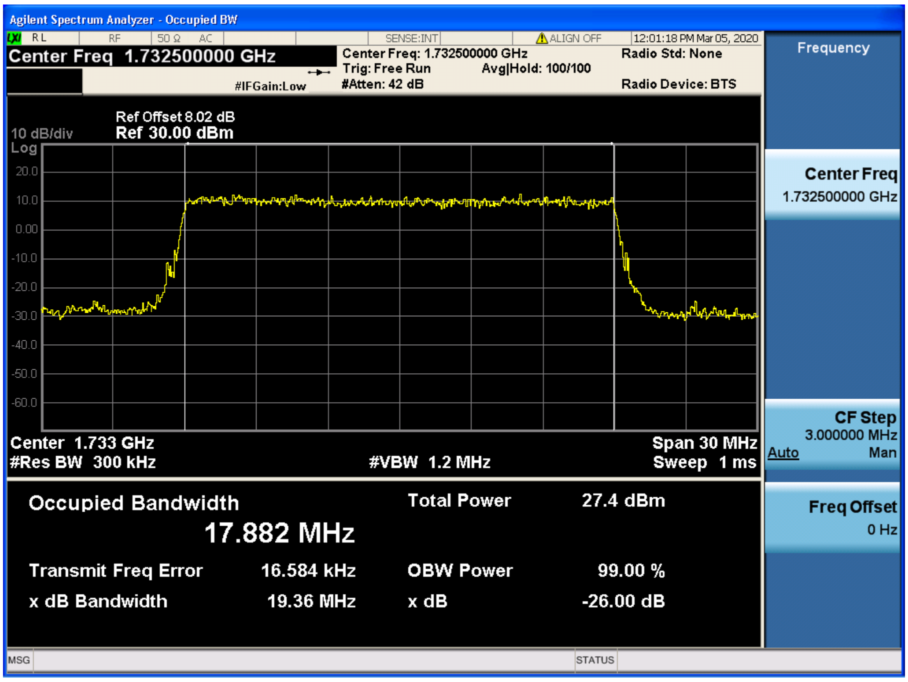


LTE Band 13 / 5 MHz / QPSK - RB Size 25

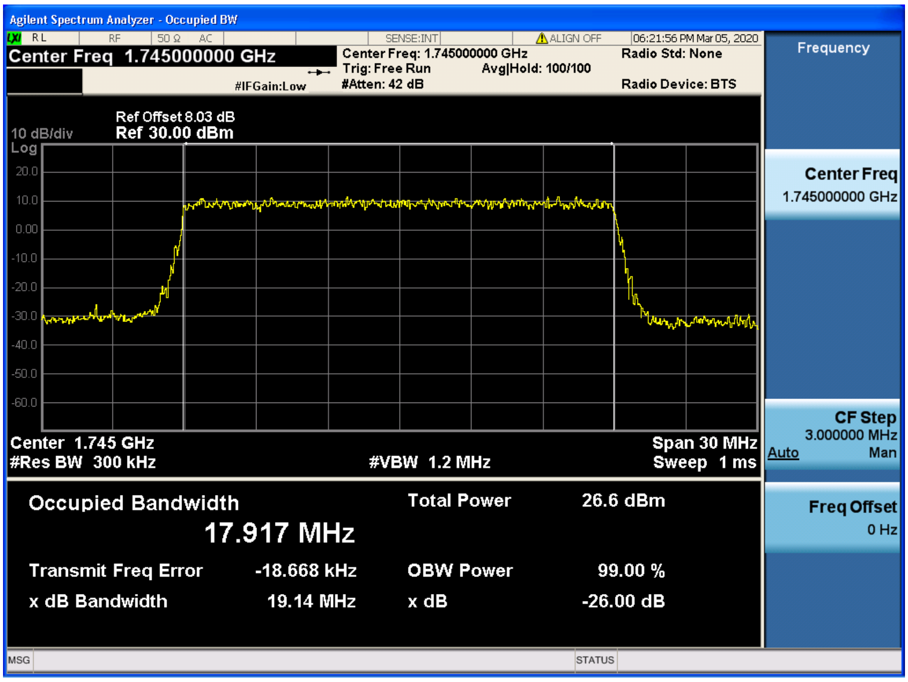


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

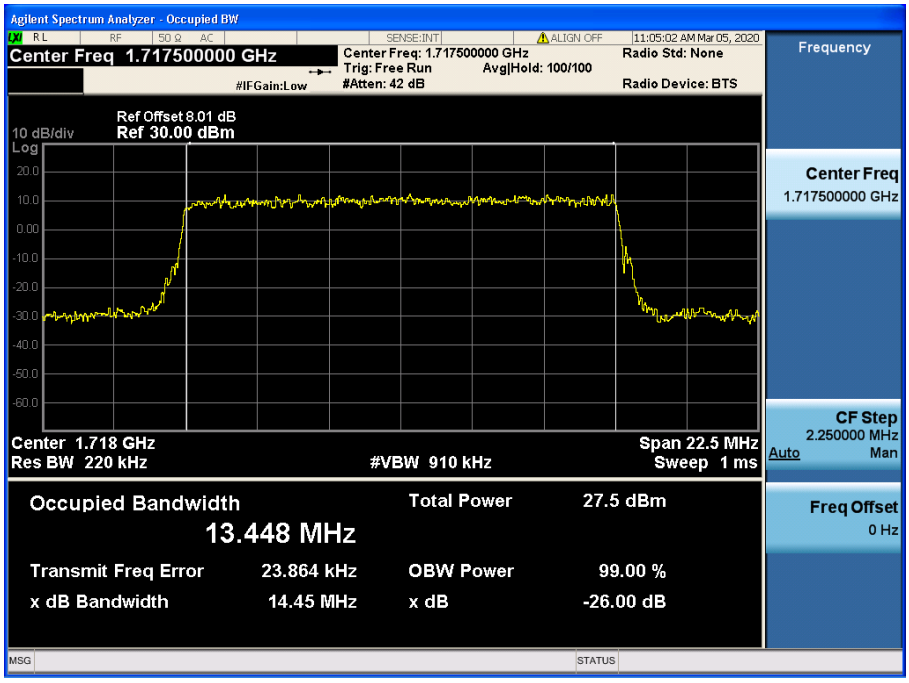
8.1.4 LTE Band 4



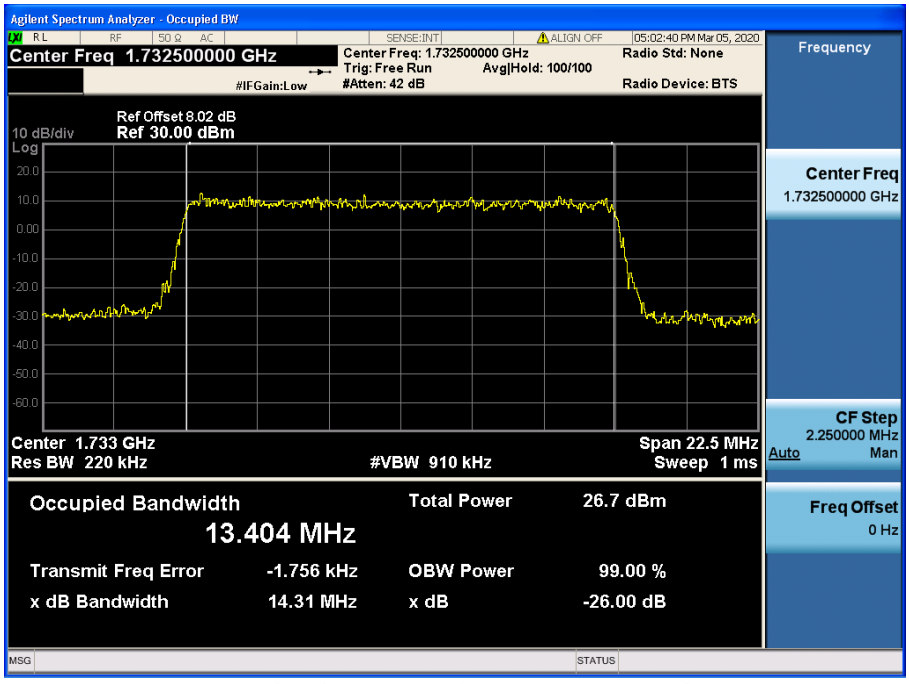
LTE Band 4 / 20 MHz / QPSK - RB Size 100



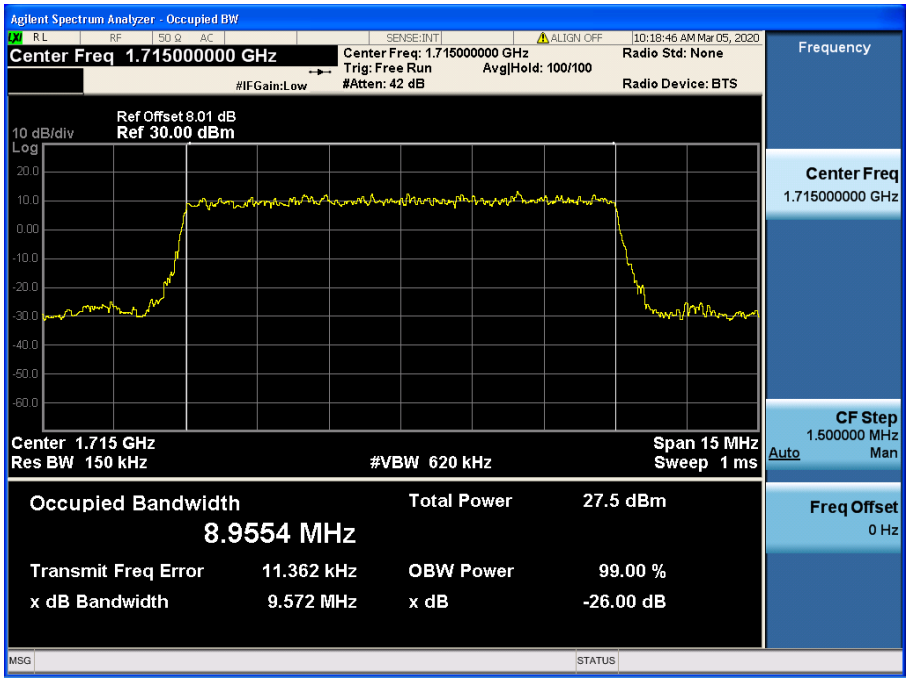
LTE Band 4 / 20 MHz / 16QAM - RB Size 100



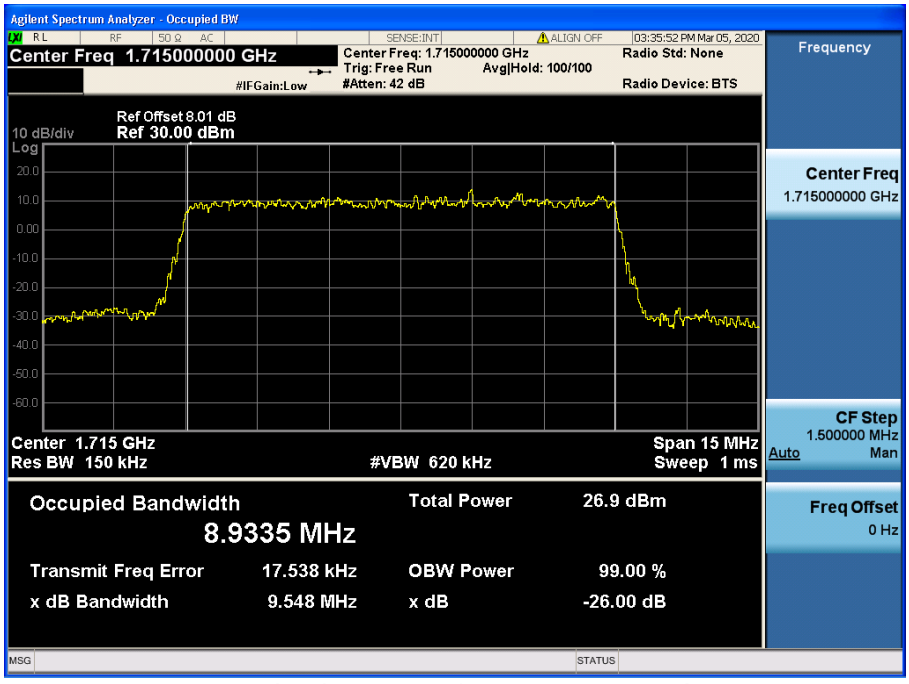
LTE Band 4 / 15 MHz / QPSK - RB Size 75



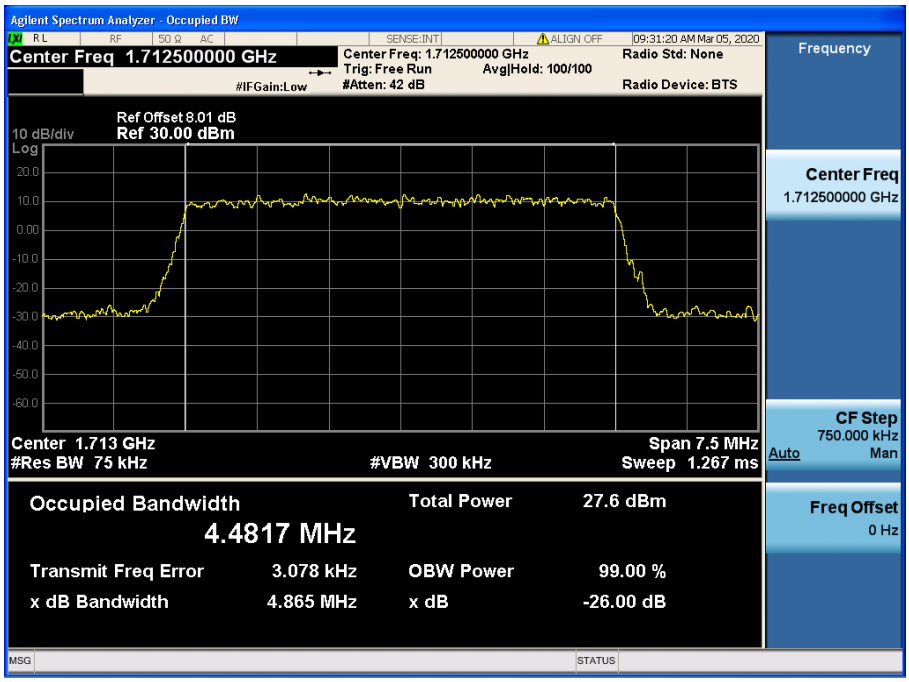
LTE Band 4 / 15 MHz / 16QAM - RB Size 75



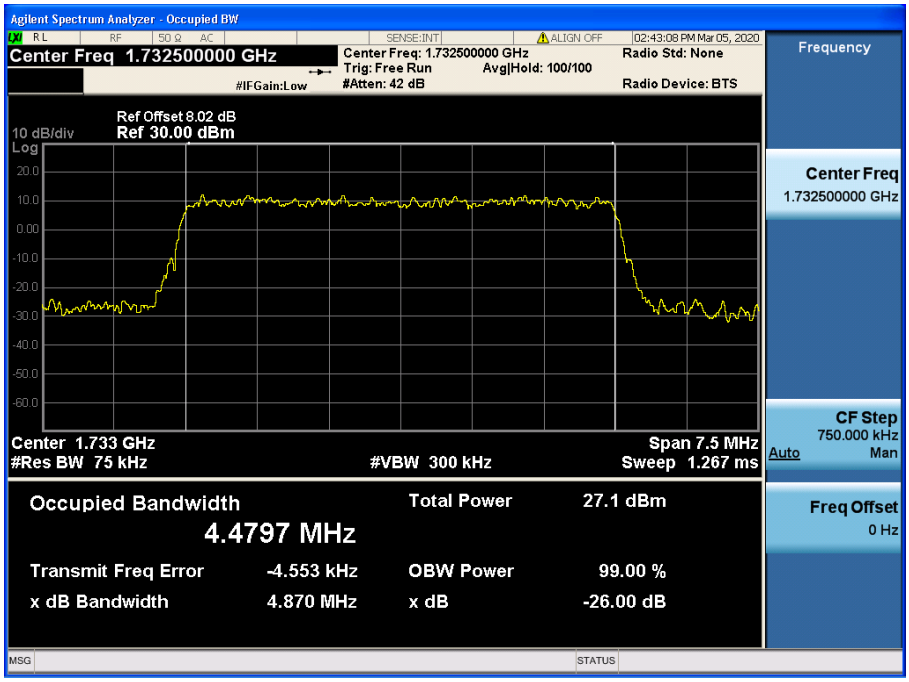
LTE Band 4 / 10 MHz / QPSK - RB Size 50



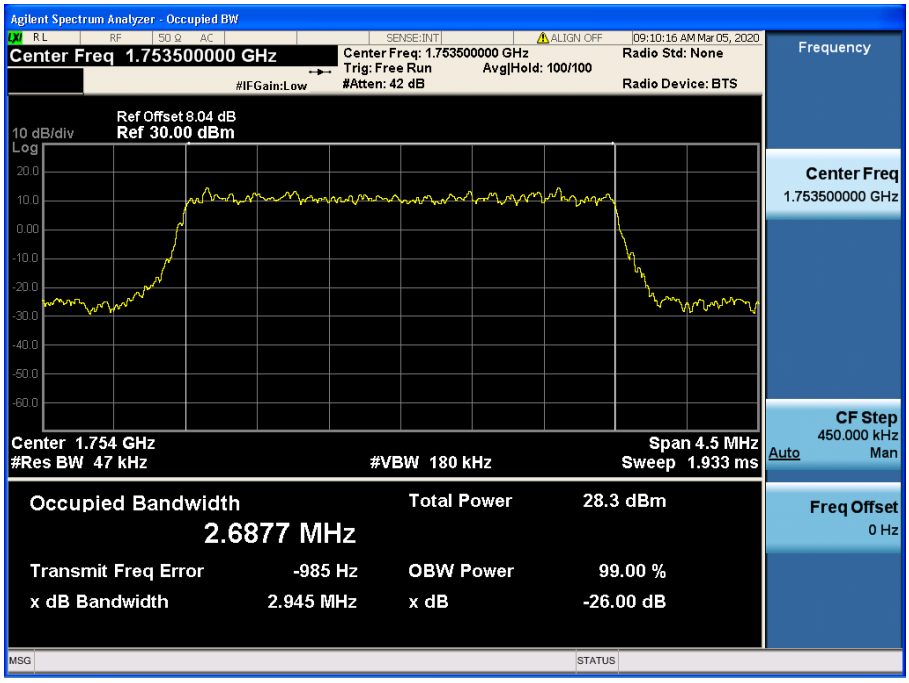
LTE Band 4 / 10 MHz / 16QAM - RB Size 50



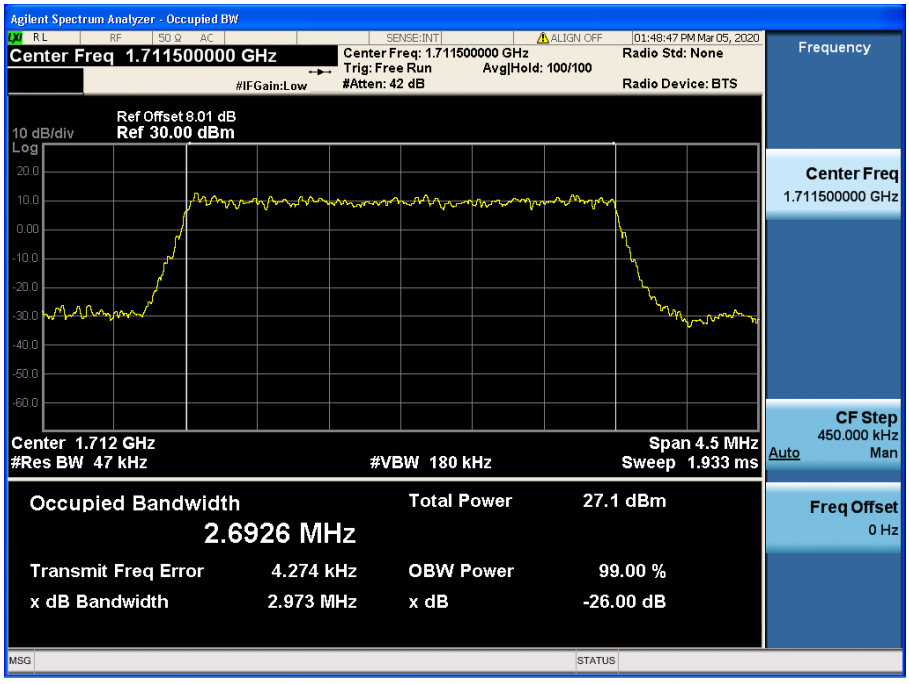
LTE Band 4 / 5 MHz / QPSK - RB Size 25



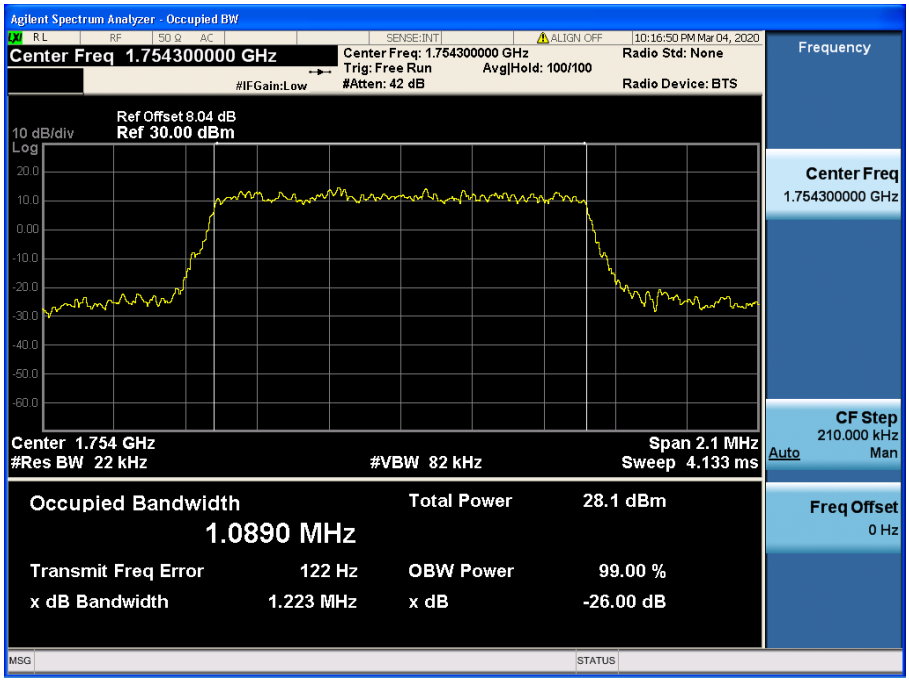
LTE Band 4 / 5 MHz / 16QAM - RB Size 25



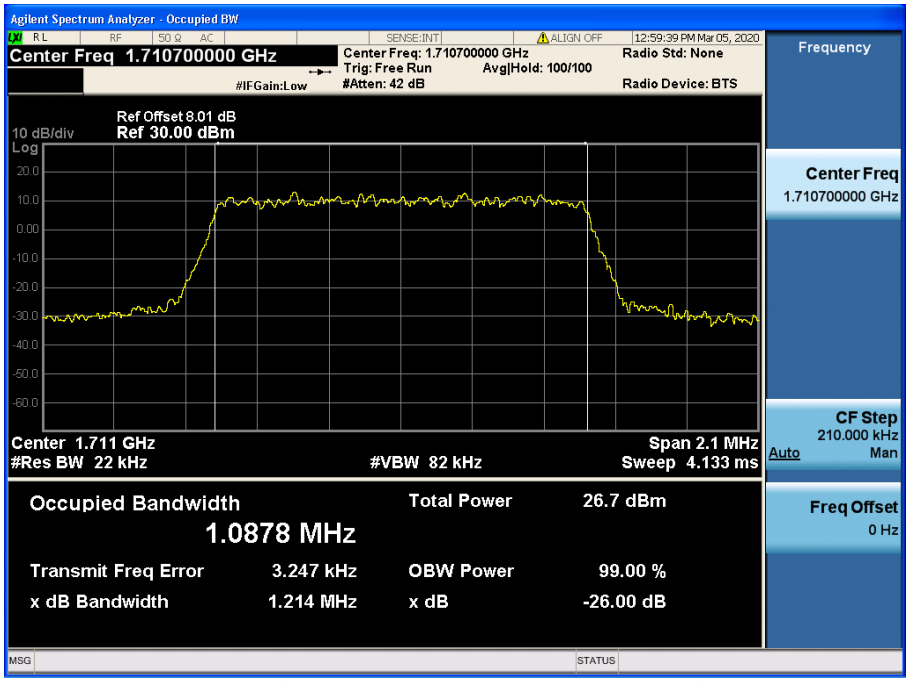
LTE Band 4 / 3 MHz / QPSK - RB Size 15



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

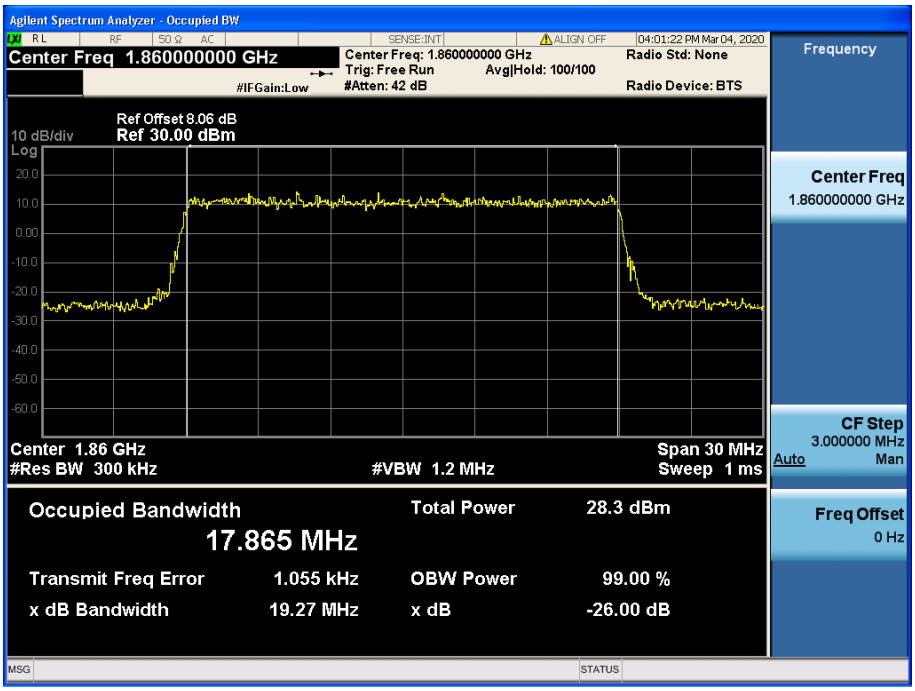


LTE Band 4 / 1.4 MHz / QPSK - RB Size 6

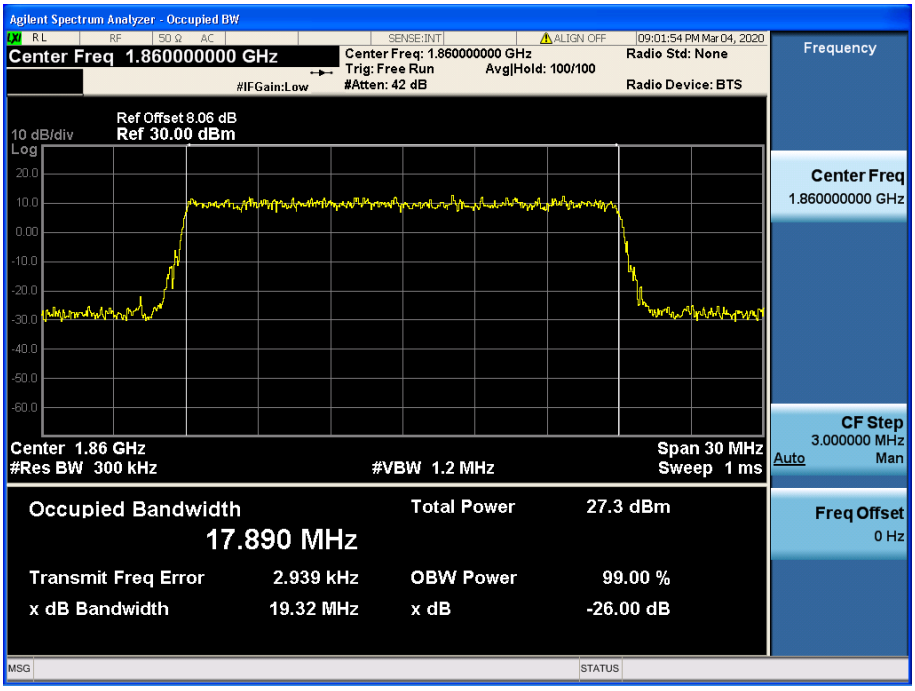


LTE Band 4 / 1.4 MHz / 16QAM - RB Size 6

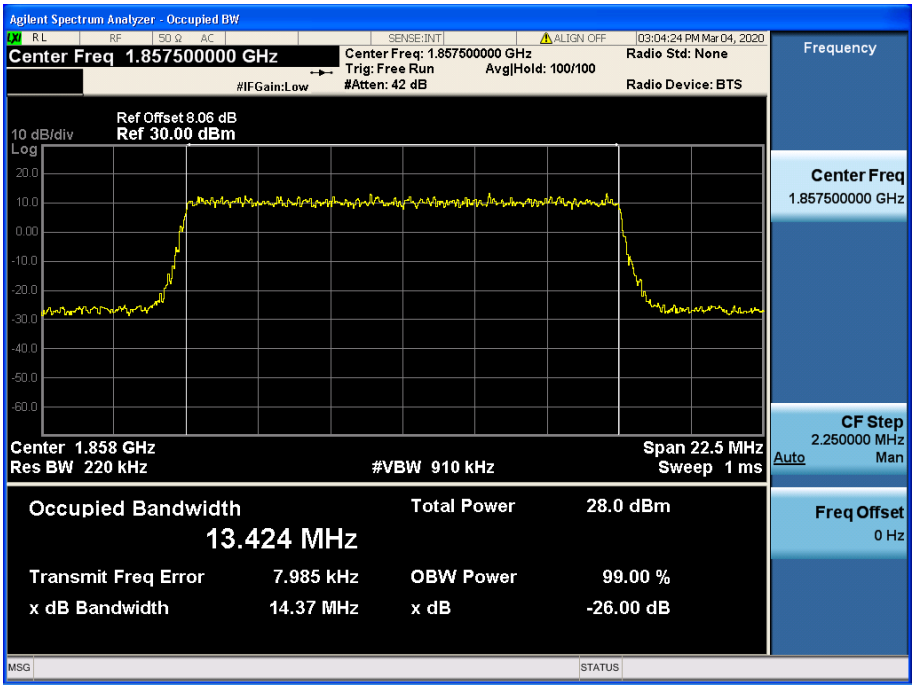
8.1.5 LTE Band 2



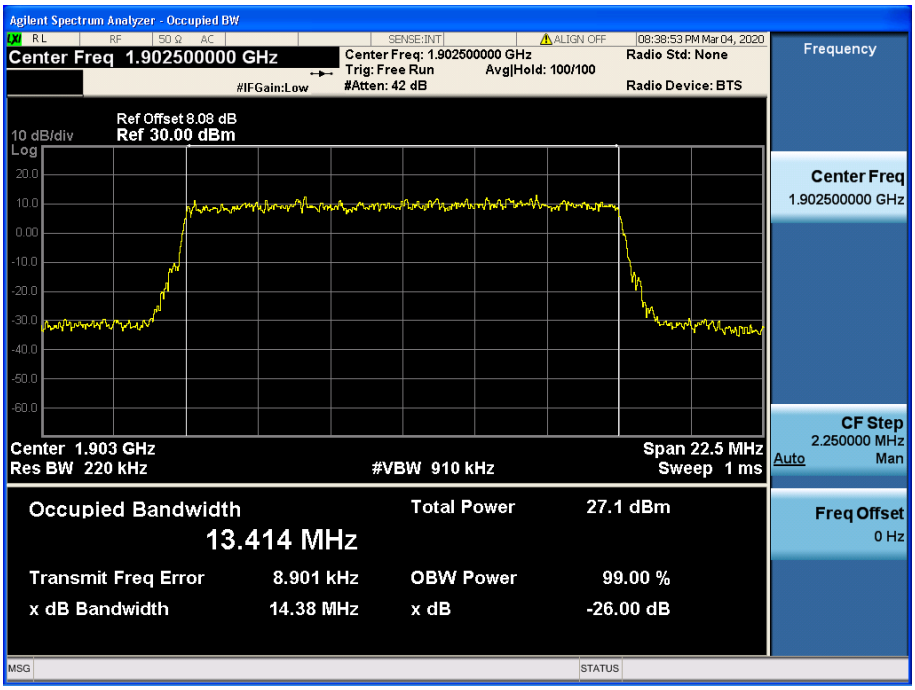
LTE Band 2 / 20 MHz / QPSK - RB Size 100



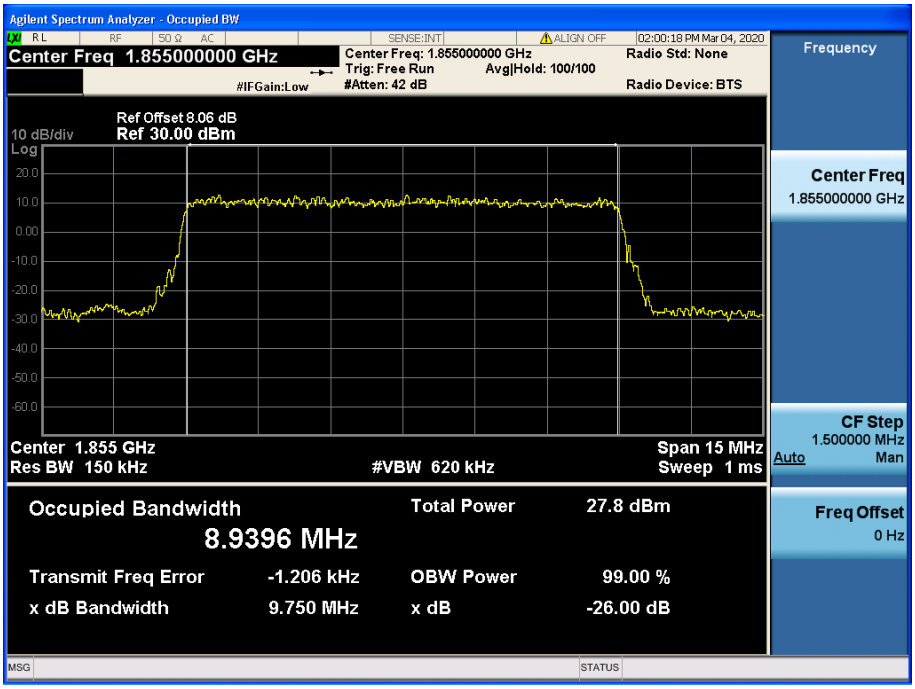
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



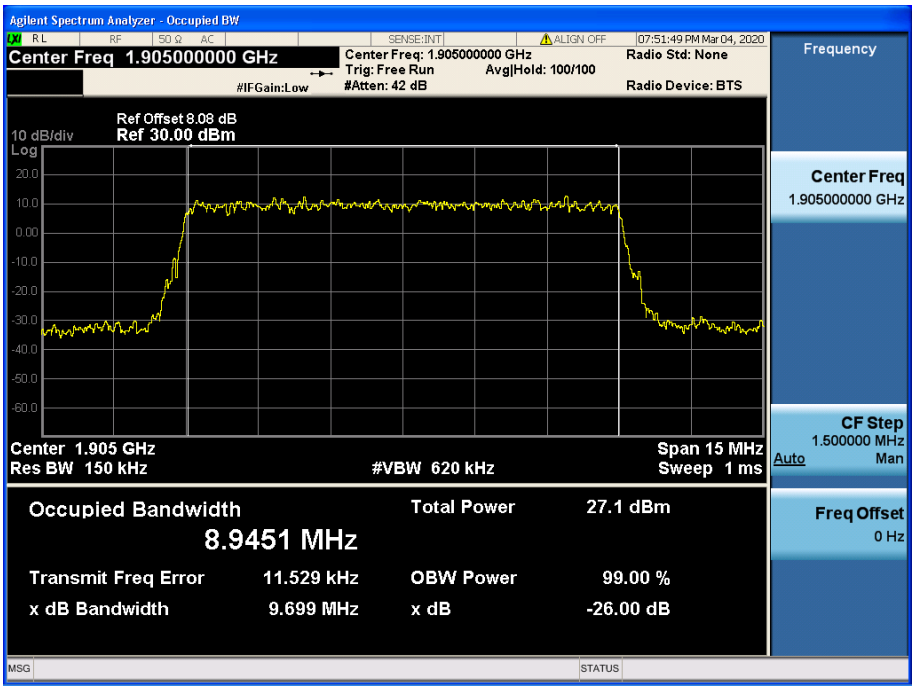
LTE Band 2 / 15 MHz / QPSK - RB Size 75



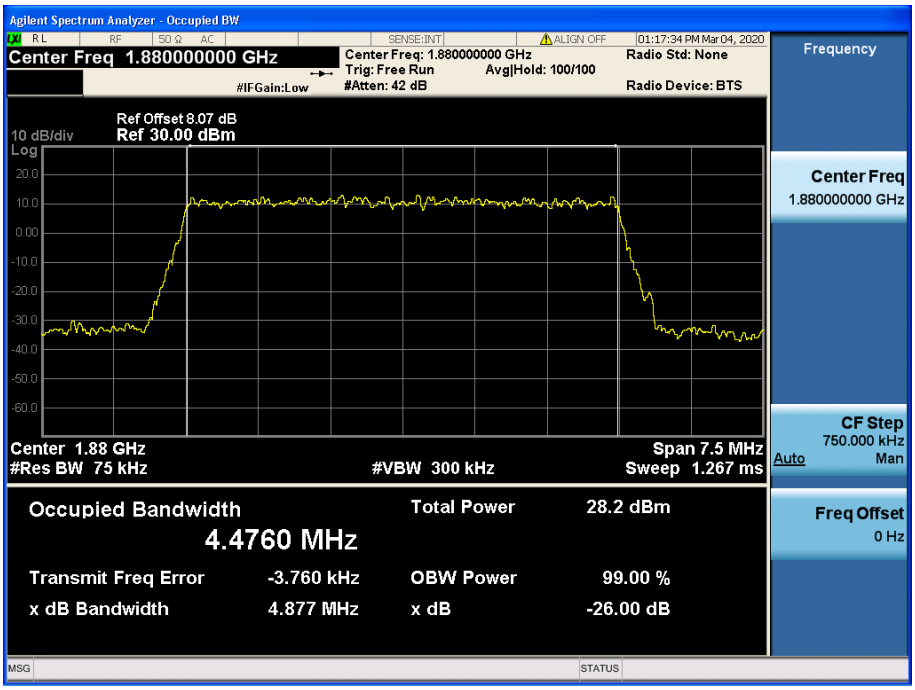
LTE Band 2 / 15 MHz / 16QAM - RB Size 75



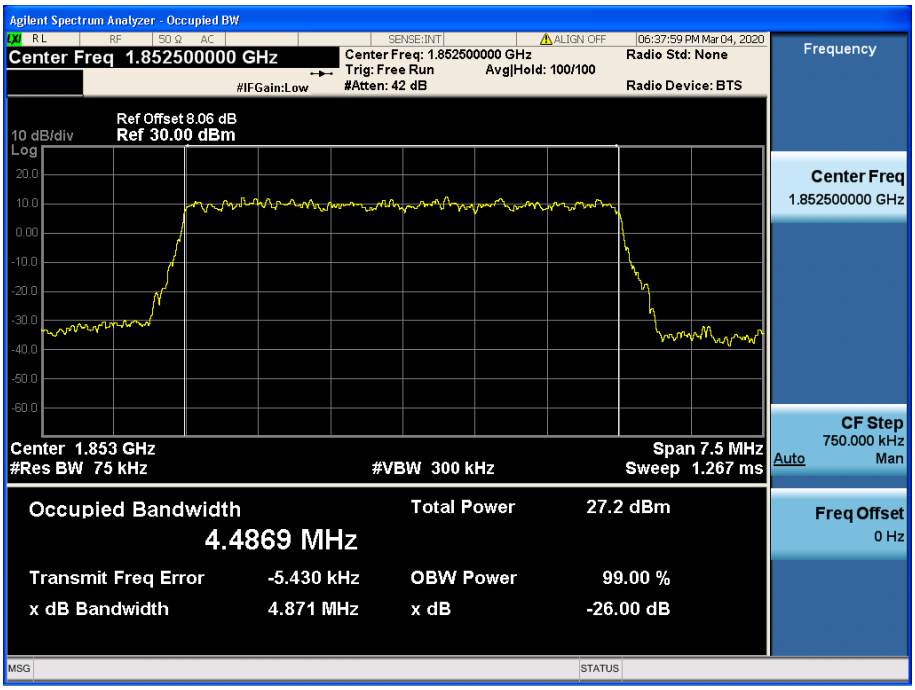
LTE Band 2 / 10 MHz / QPSK - RB Size 50



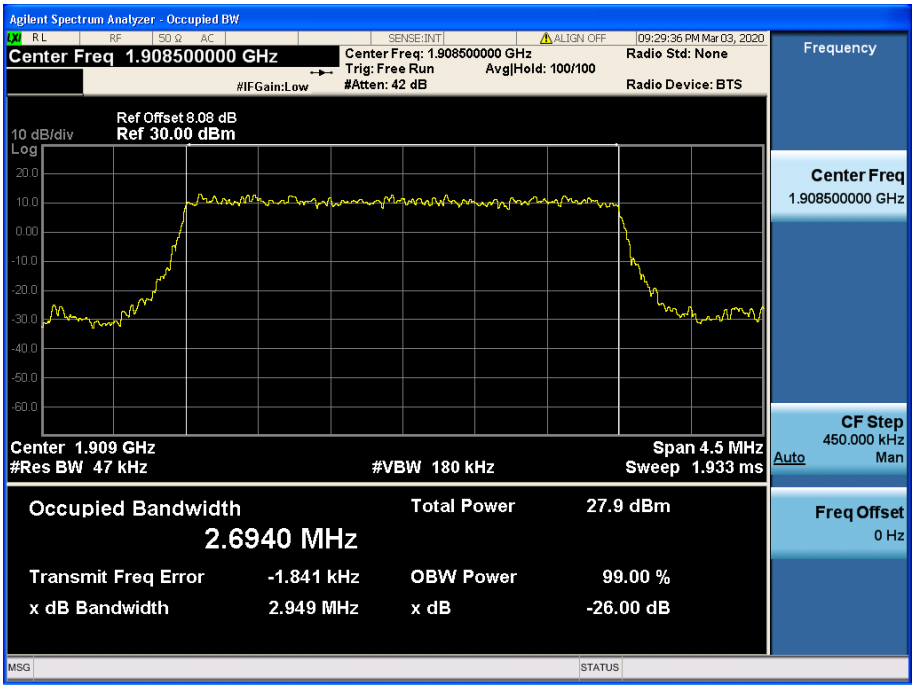
LTE Band 2 / 10 MHz / 16QAM - RB Size 50



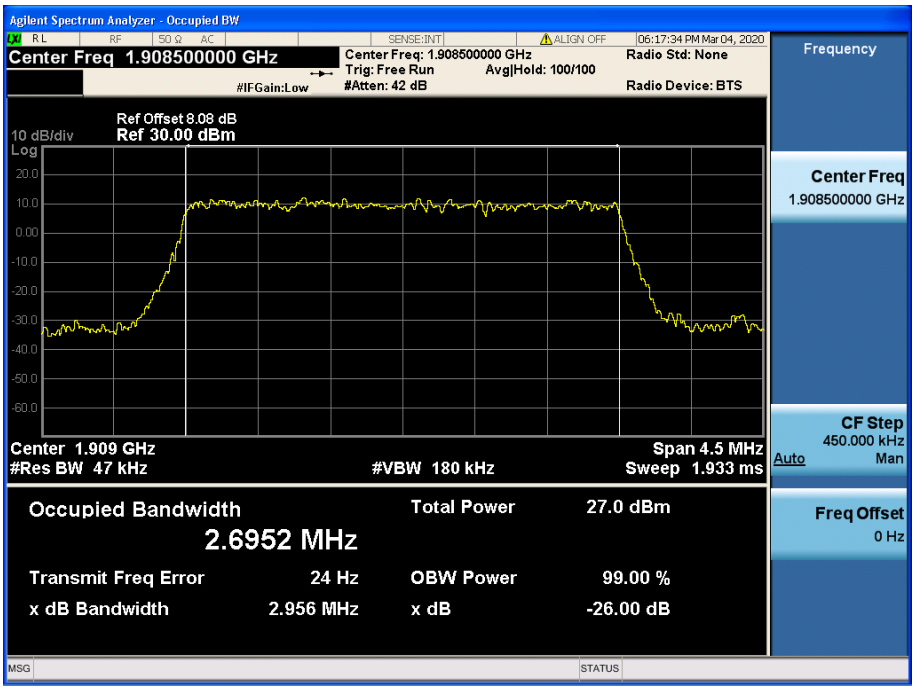
LTE Band 2 / 5 MHz / QPSK - RB Size 25



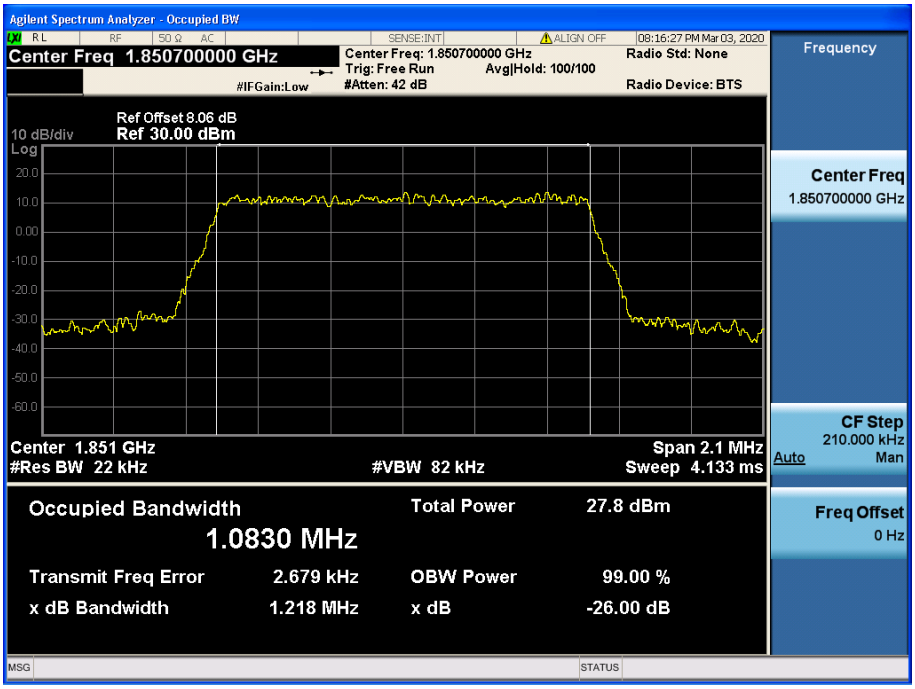
LTE Band 2 / 5 MHz / 16QAM - RB Size 25



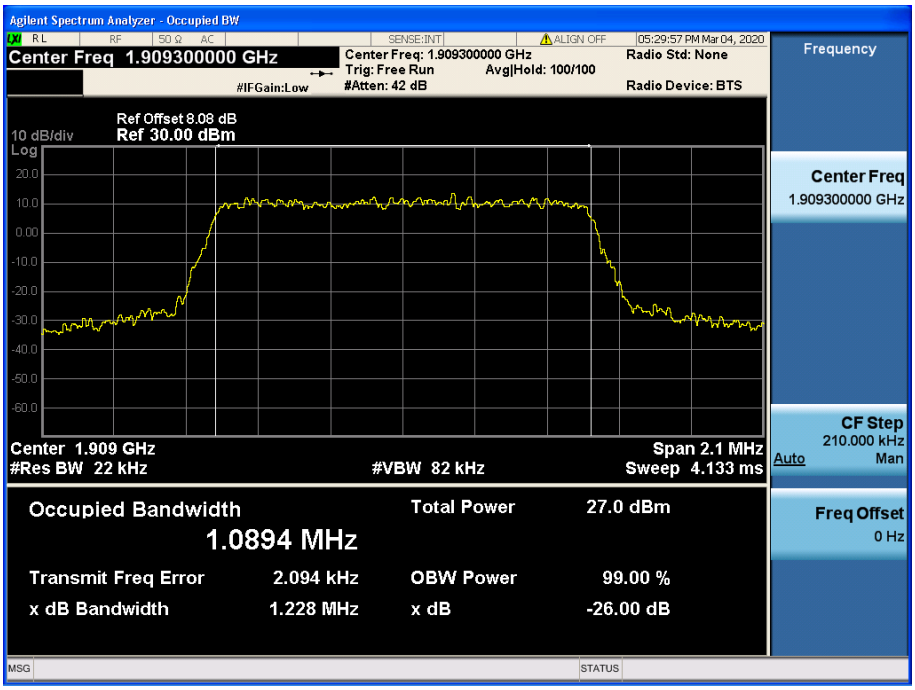
LTE Band 2 / 3 MHz / QPSK - RB Size 15



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



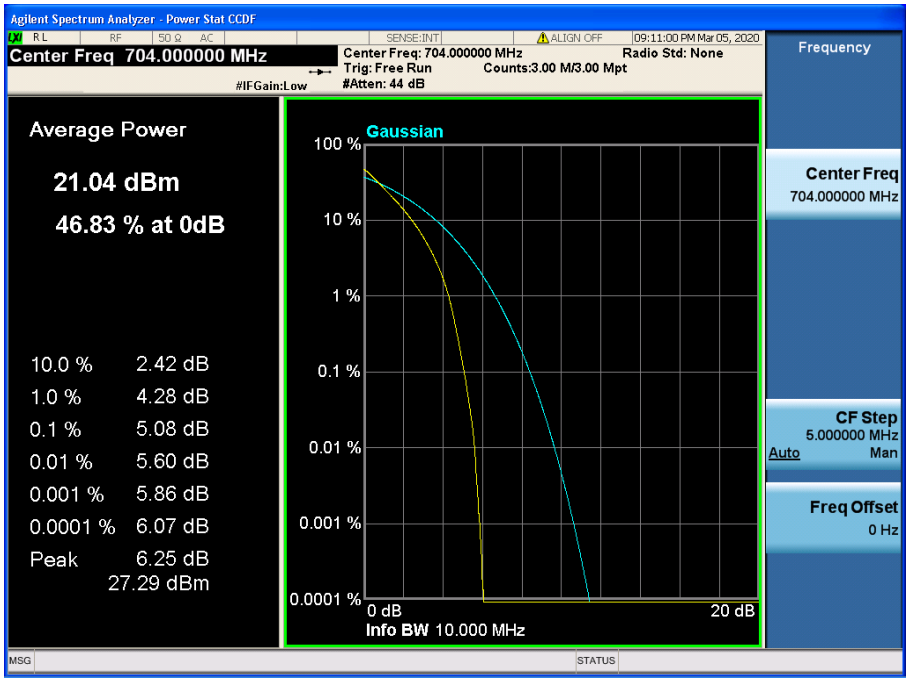
LTE Band 2 / 1.4 MHz / QPSK - RB Size 6



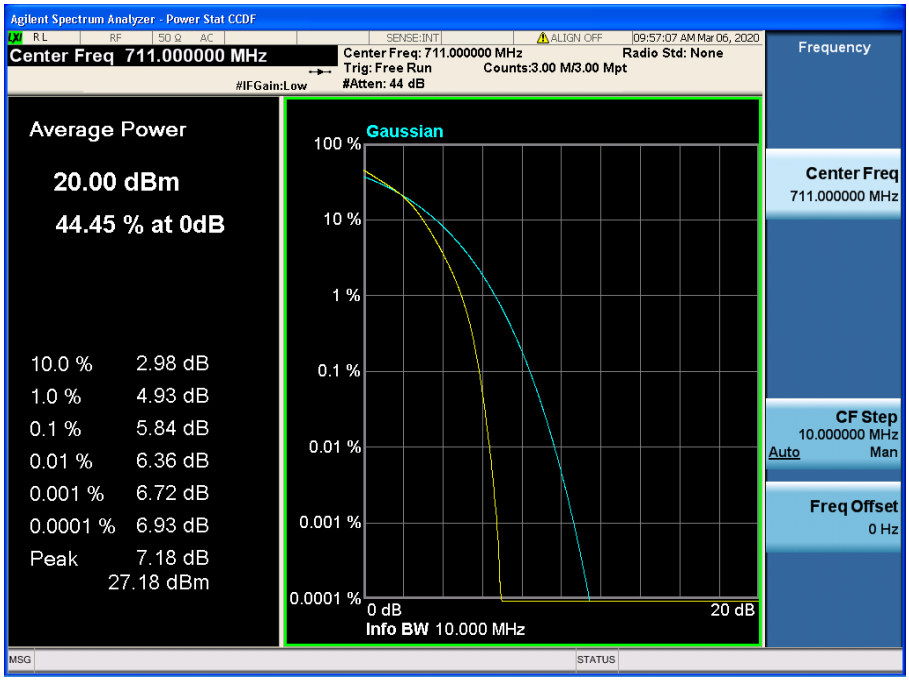
LTE Band 2 / 1.4 MHz / 16QAM - RB Size 6

8.2 PEAK TO AVERAGE RATIO

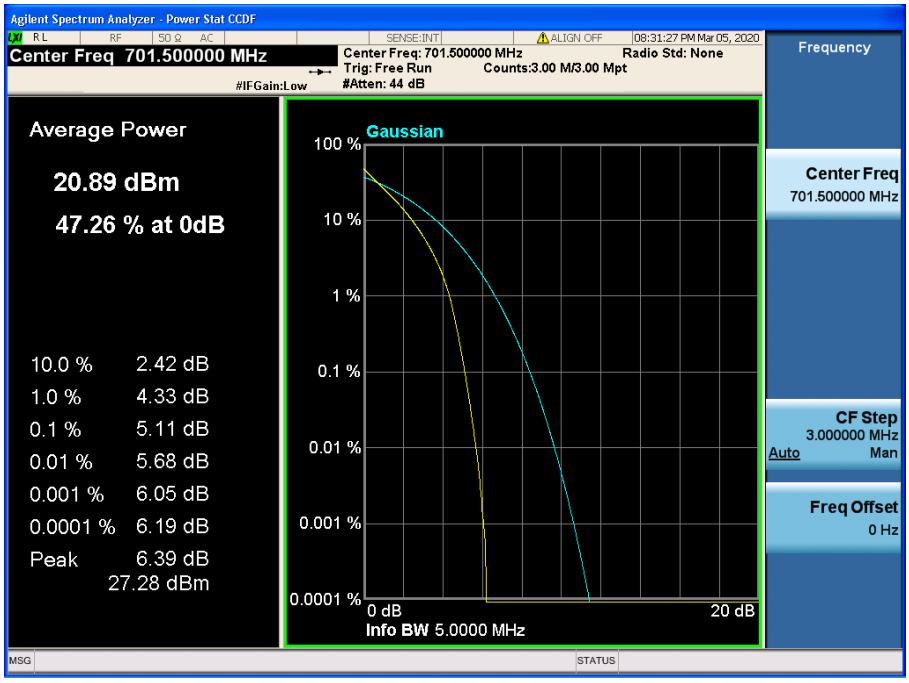
8.2.1 LTE Band 12(17)



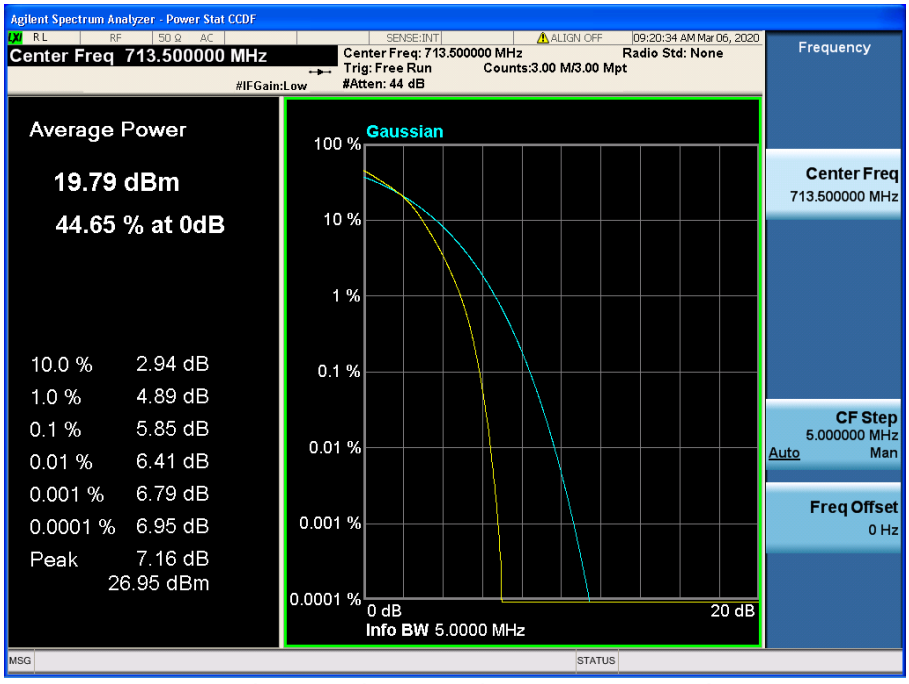
LTE Band 12,17 / 10 MHz / QPSK - RB Size 50



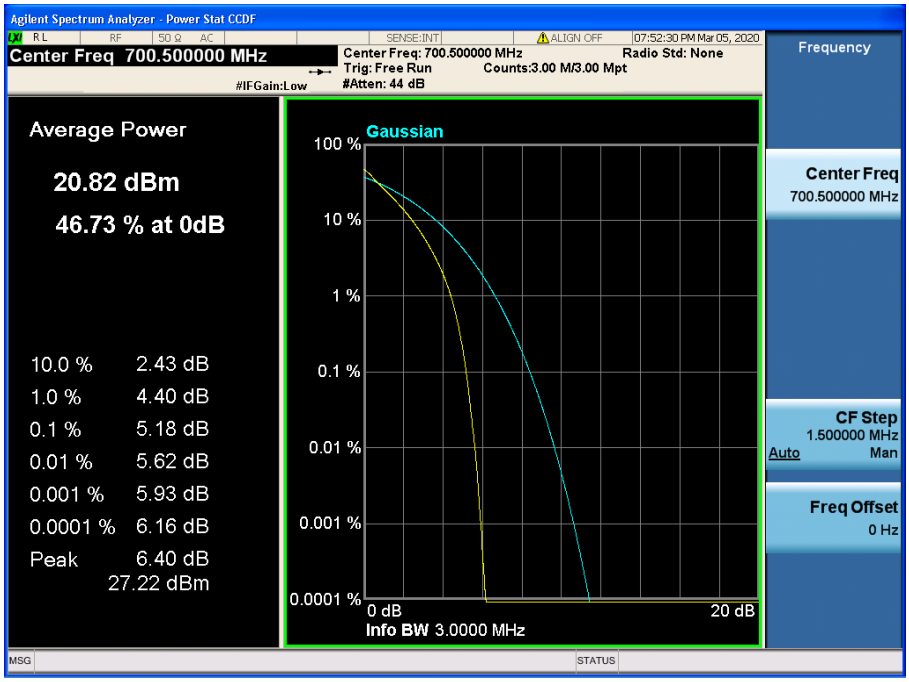
LTE Band 12,17 / 10 MHz / 16QAM - RB Size 50



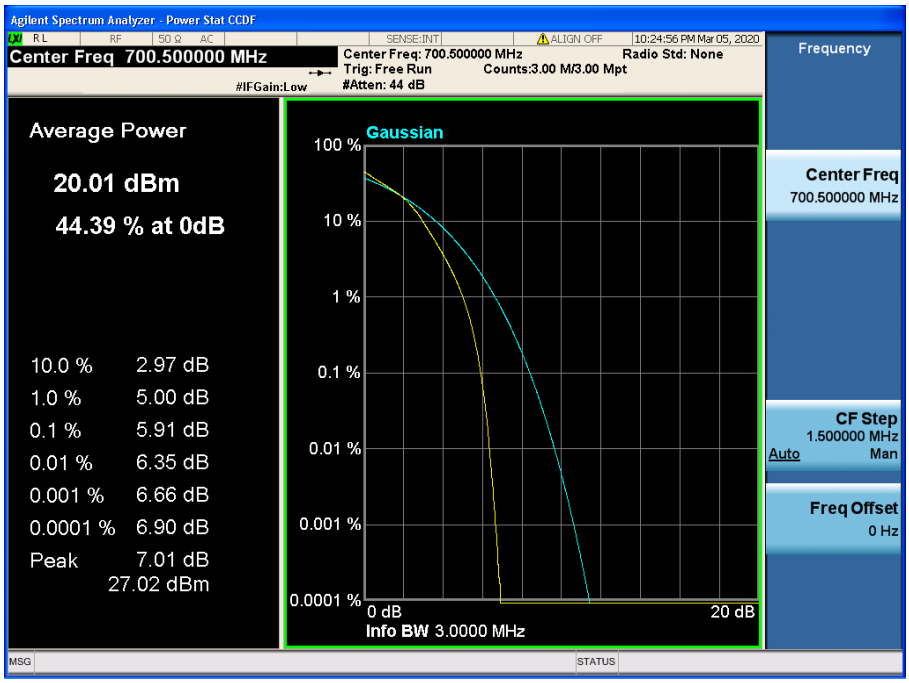
LTE Band 12,17 / 5 MHz / QPSK - RB Size 25



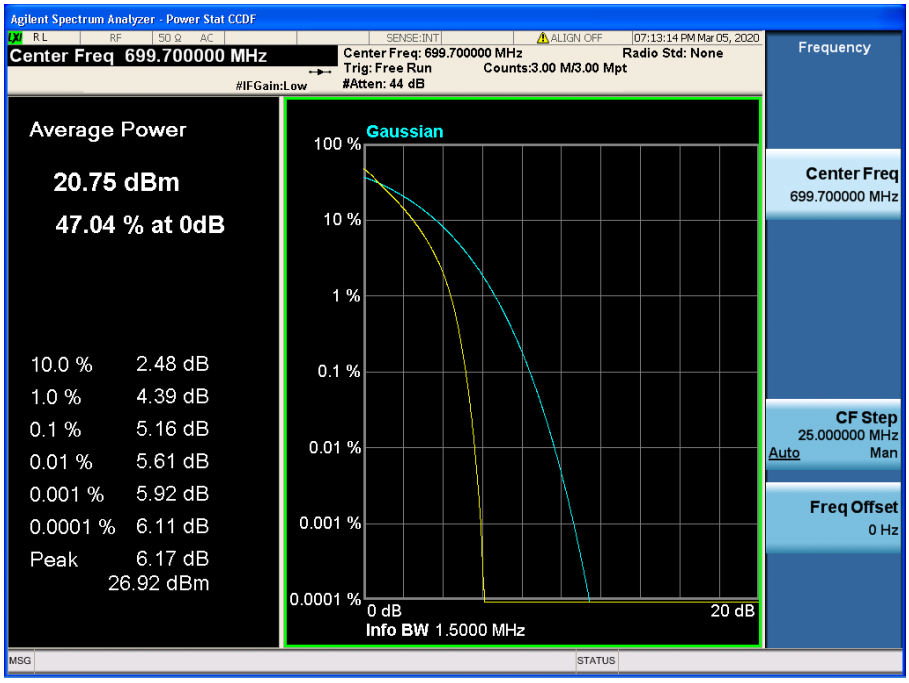
LTE Band 12,17 / 5 MHz / 16QAM - RB Size 25



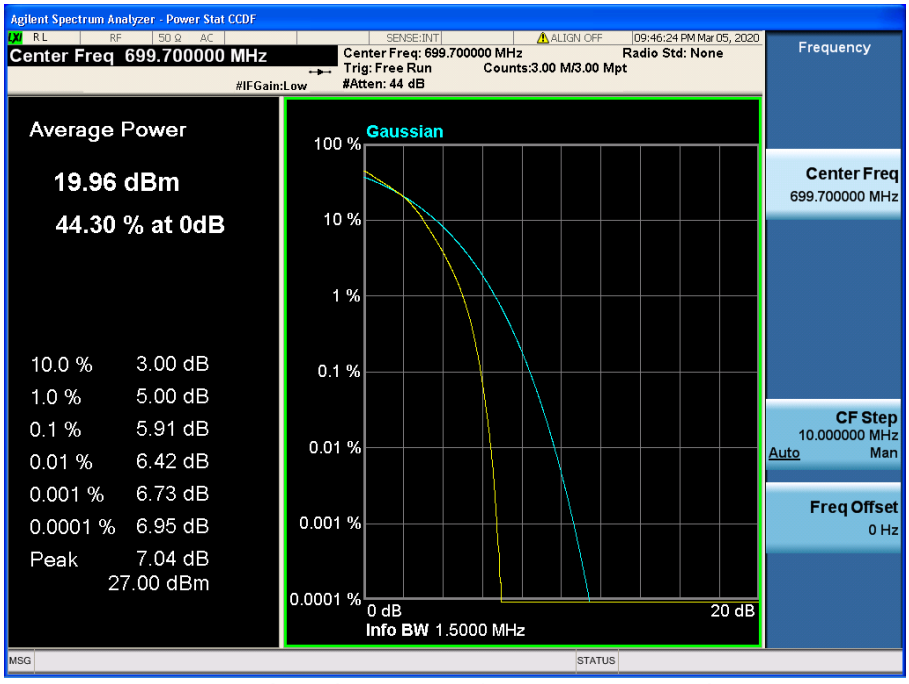
LTE Band 12 / 3 MHz / QPSK - RB Size 15



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

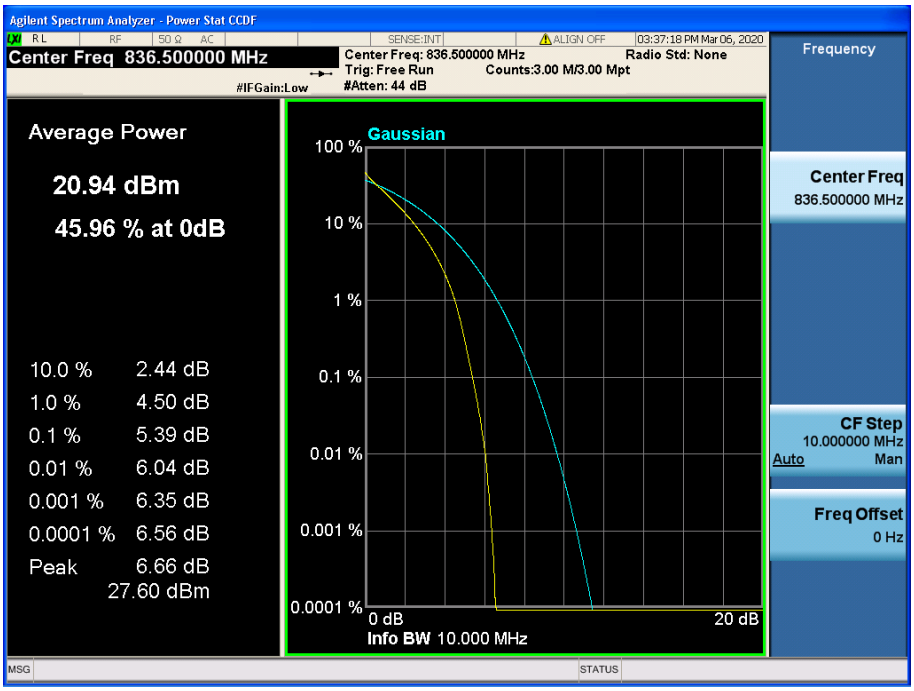


LTE Band 12 / 1.4 MHz / QPSK - RB Size 6

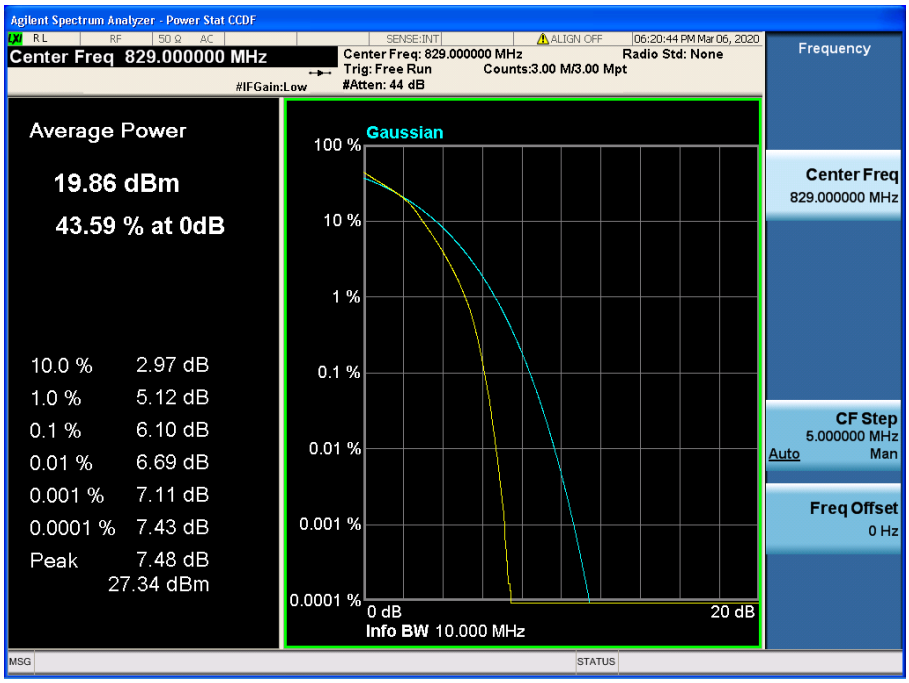


LTE Band 12 / 1.4 MHz / 16QAM - RB Size 6

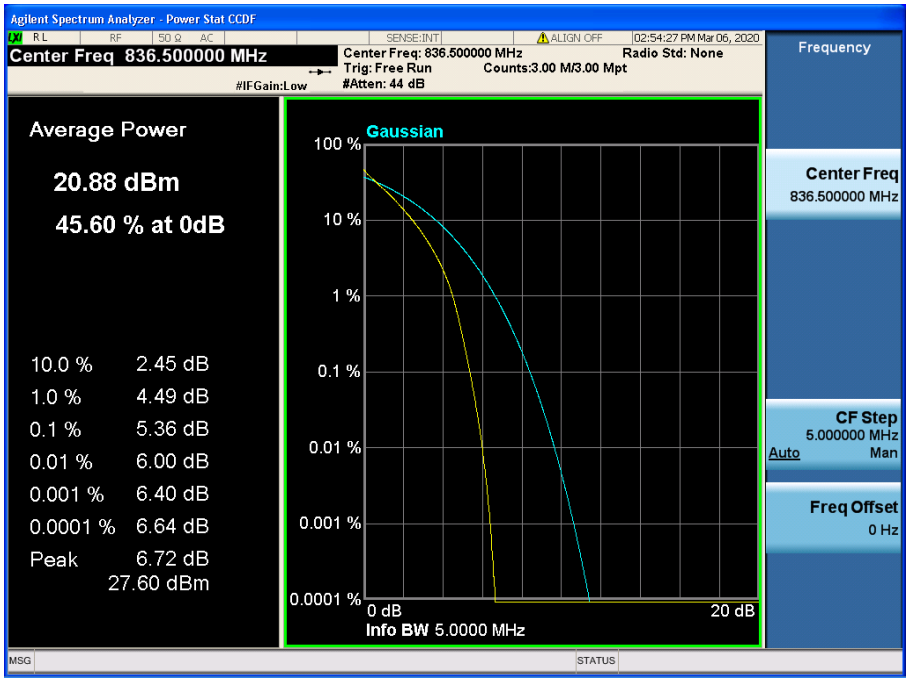
8.2.4 LTE Band 5



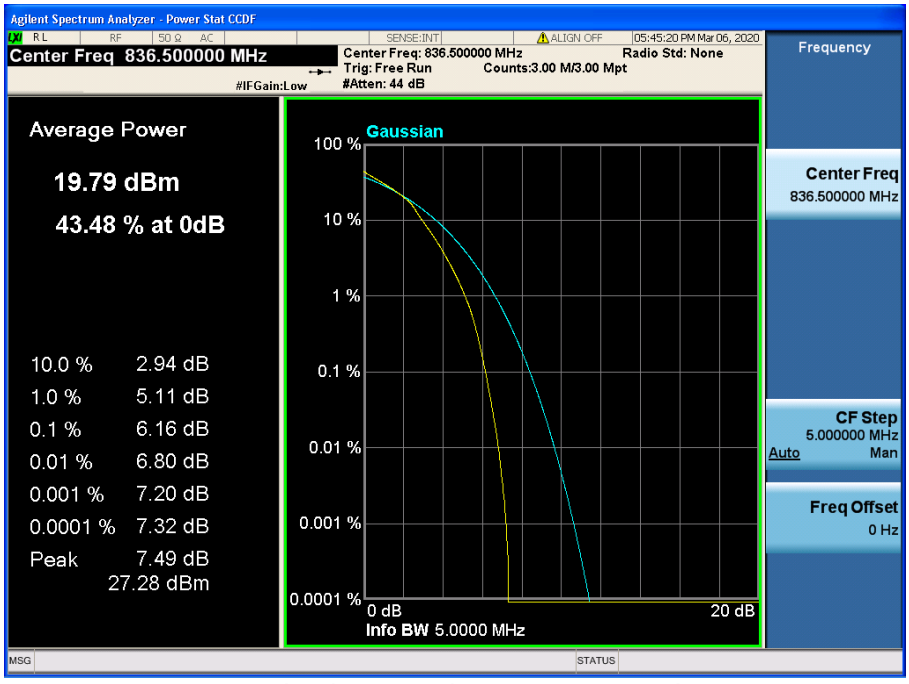
LTE Band 5 / 10 MHz / QPSK - RB Size 50



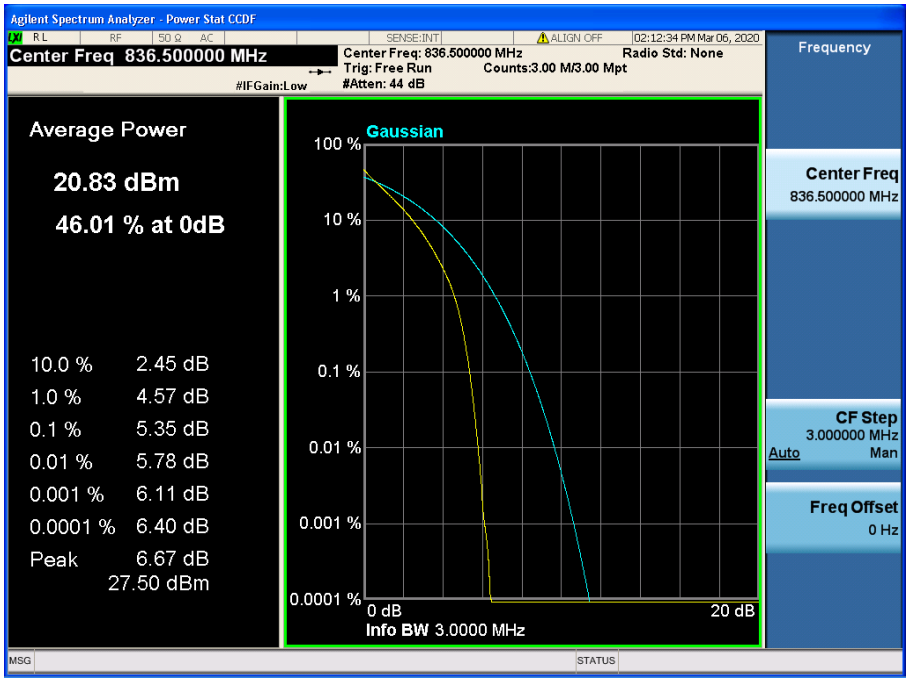
LTE Band 5 / 10 MHz / 16QAM - RB Size 50



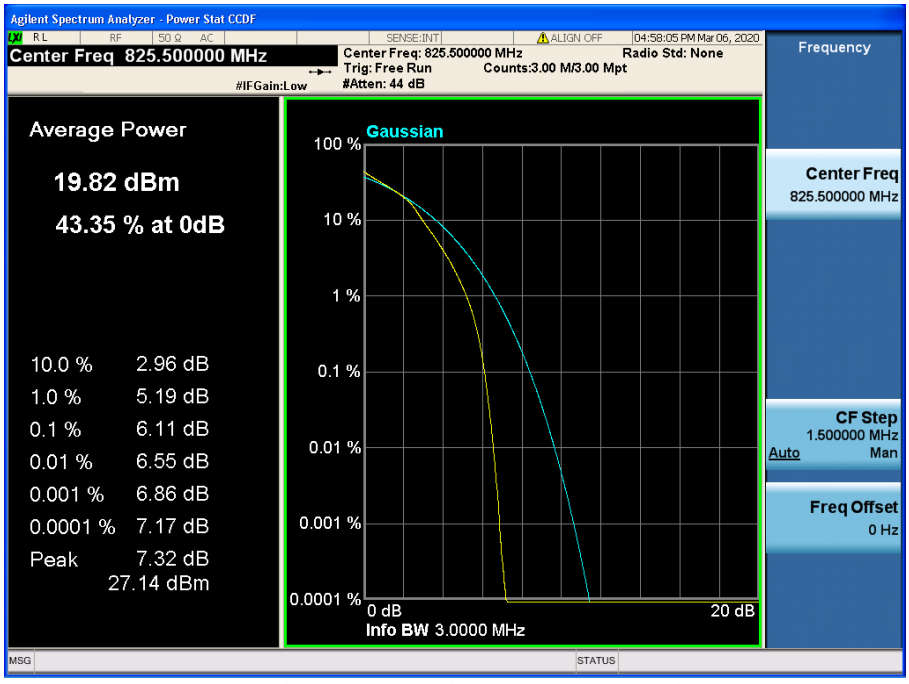
LTE Band 5 / 5 MHz / QPSK - RB Size 25



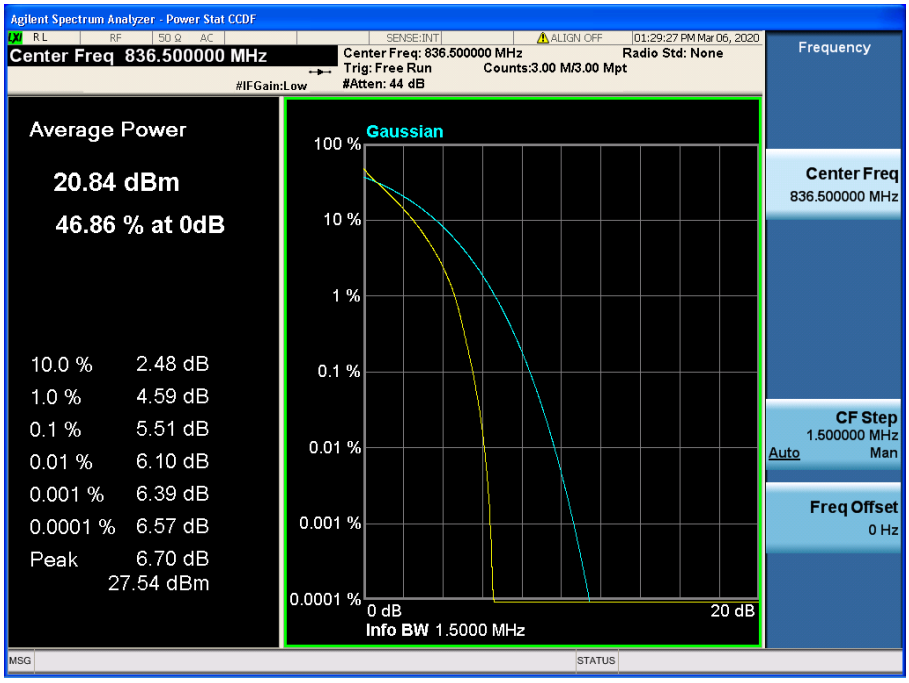
LTE Band 5 / 5 MHz / 16QAM - RB Size 25



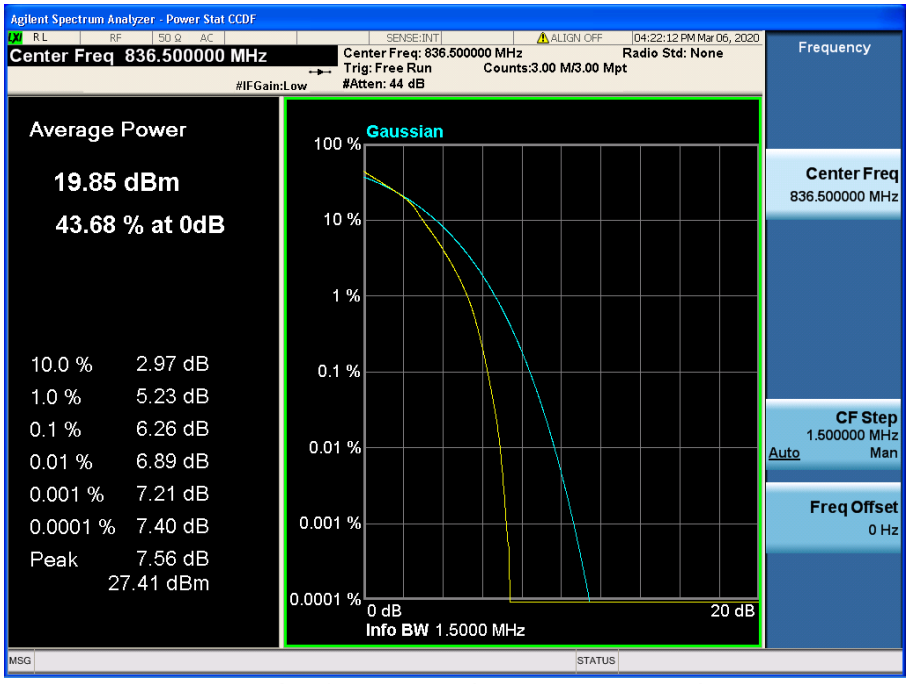
LTE Band 5 / 3 MHz / QPSK - RB Size 15



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

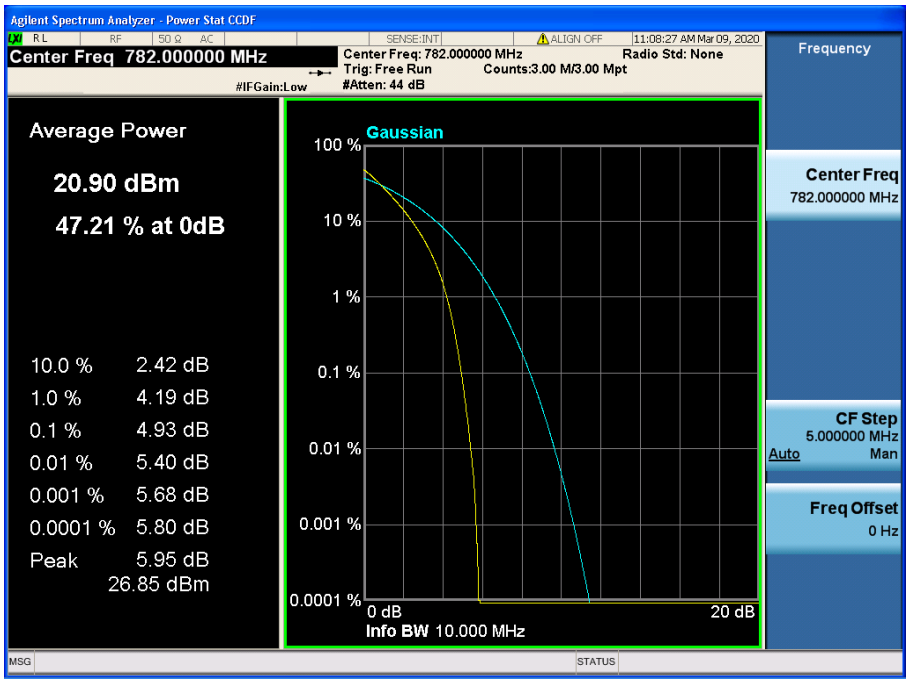


LTE Band 5 / 1.4 MHz / QPSK - RB Size 6

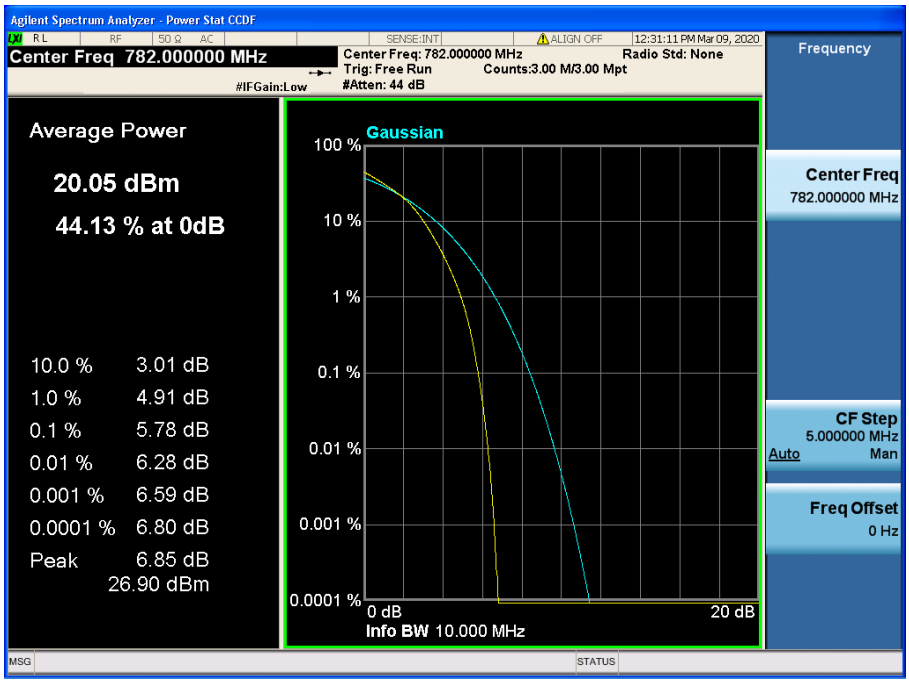


LTE Band 5 / 1.4 MHz / 16QAM - RB Size 6

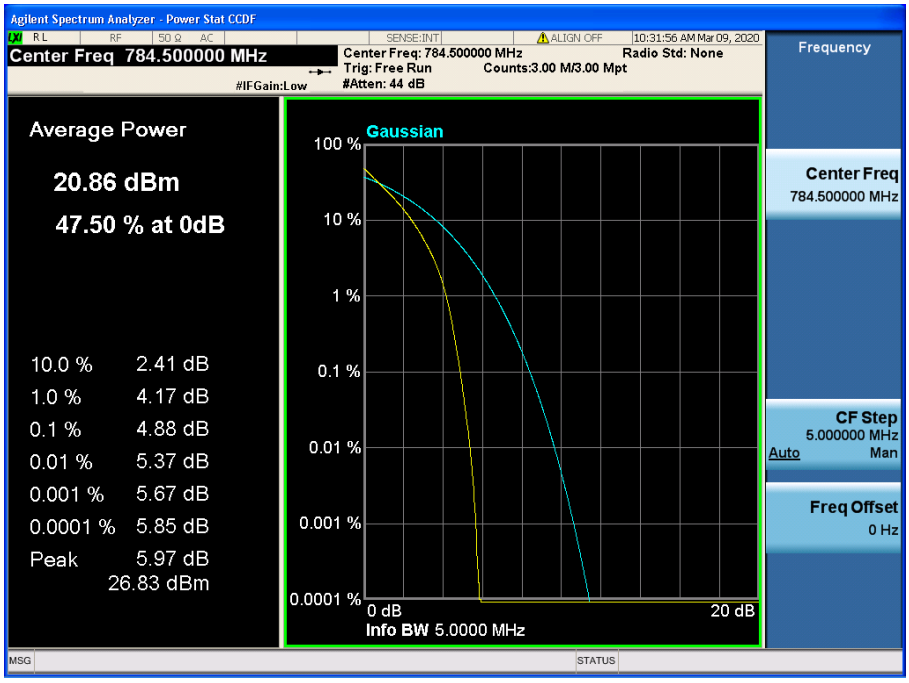
8.2.3 LTE Band 13



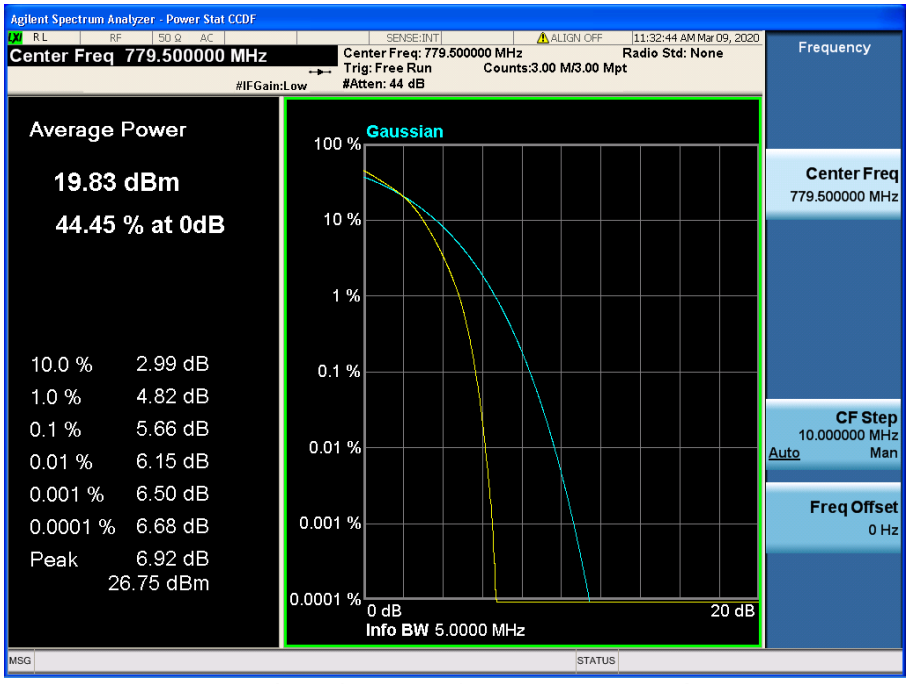
LTE Band 13 / 10 MHz / QPSK - RB Size 50



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

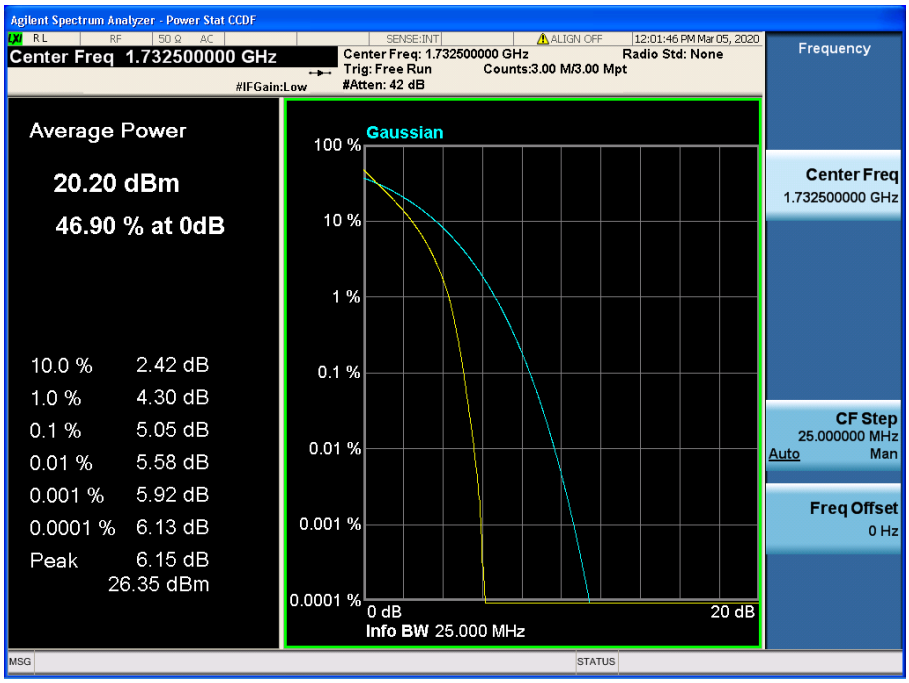


LTE Band 13 / 5 MHz / QPSK - RB Size 25

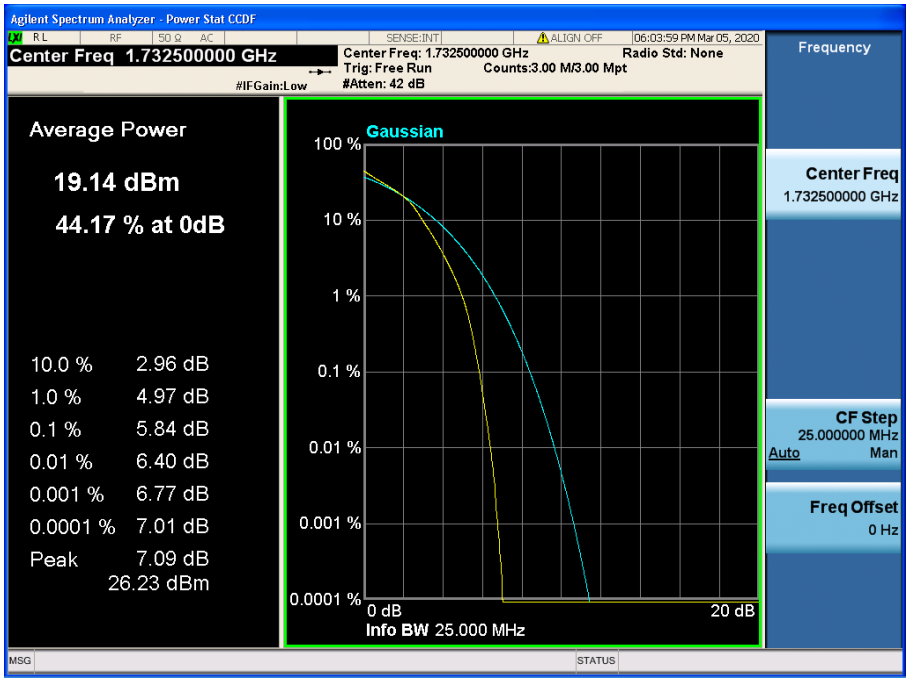


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

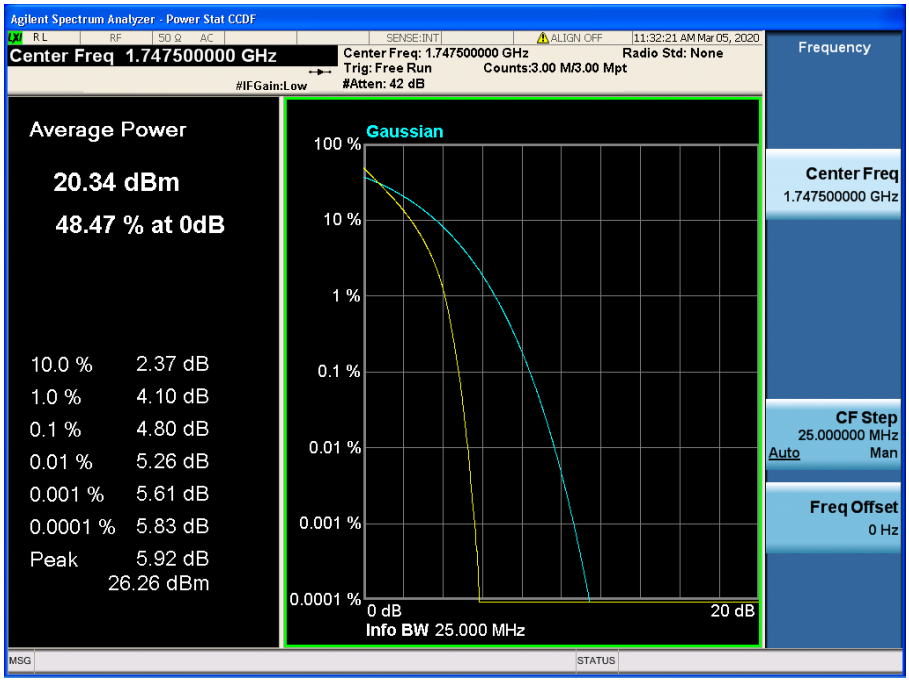
8.2.4 LTE Band 4



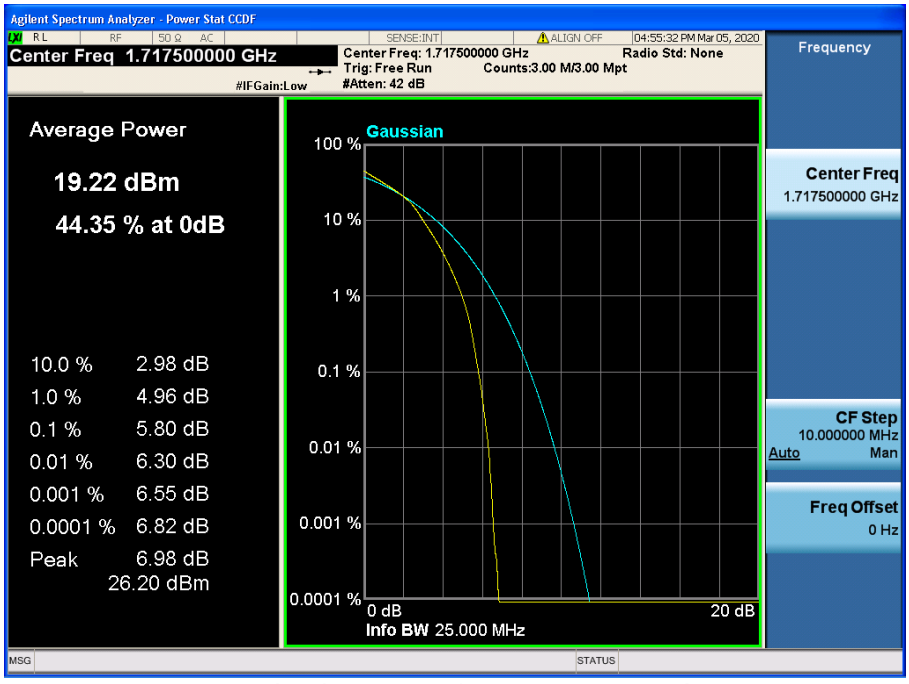
LTE Band 4 / 20 MHz / QPSK - RB Size 100



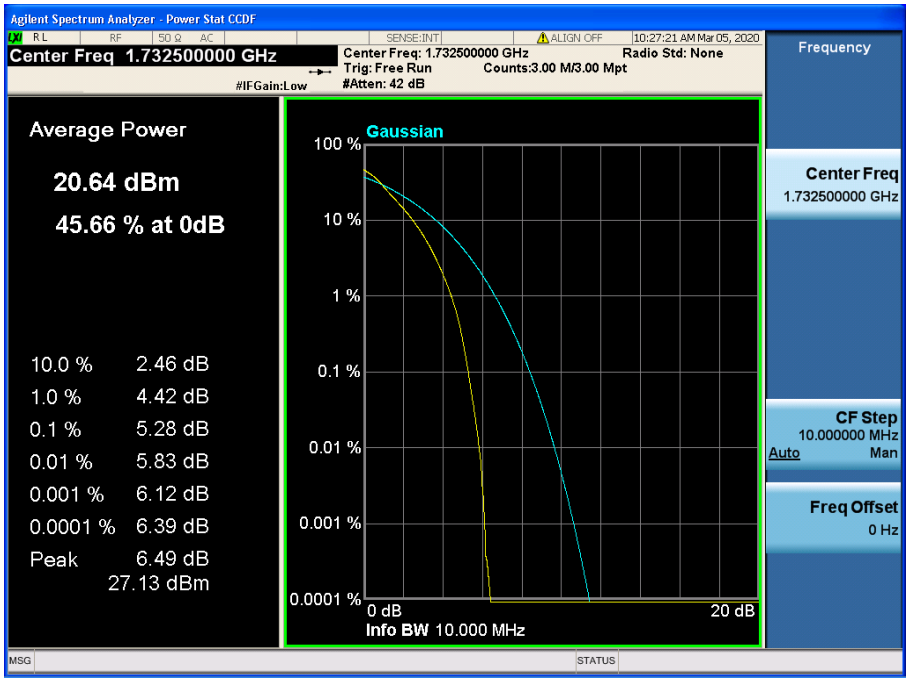
LTE Band 4 / 20 MHz / 16QAM - RB Size 100



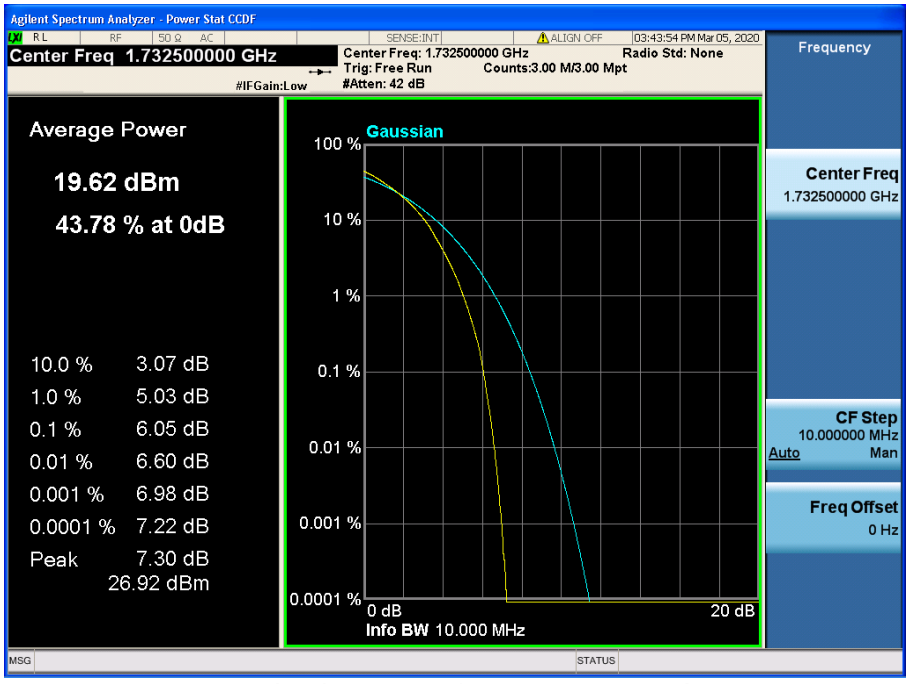
LTE Band 4 / 15 MHz / QPSK - RB Size 75



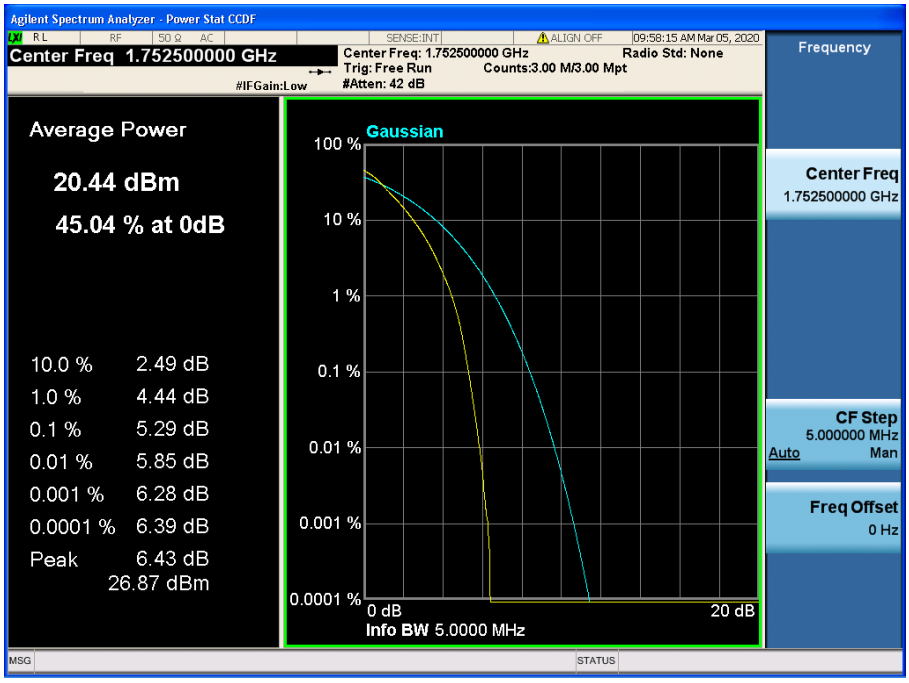
LTE Band 4 / 15 MHz / 16QAM - RB Size 75



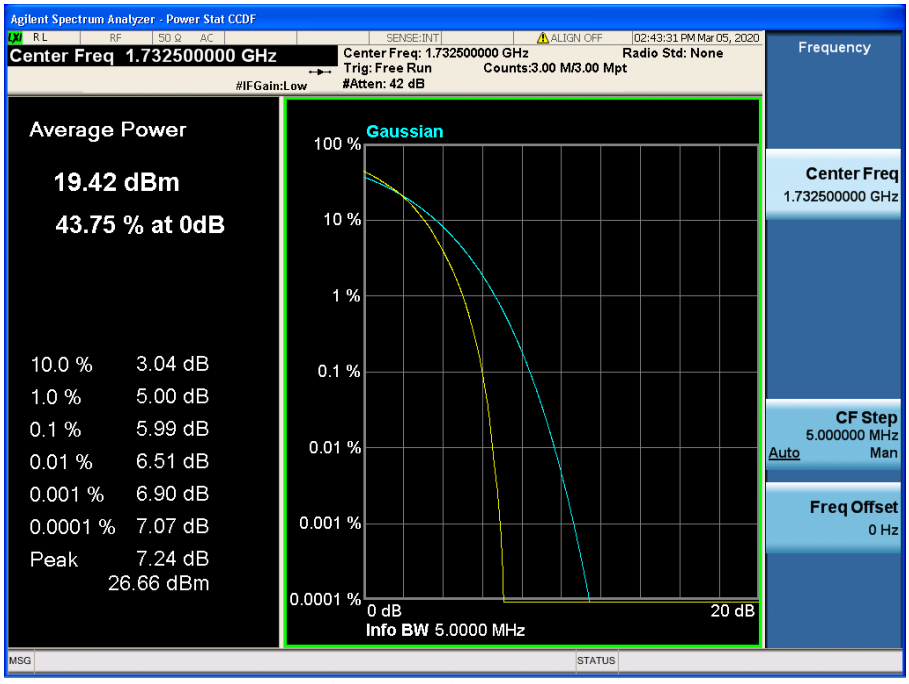
LTE Band 4 / 10 MHz / QPSK - RB Size 50



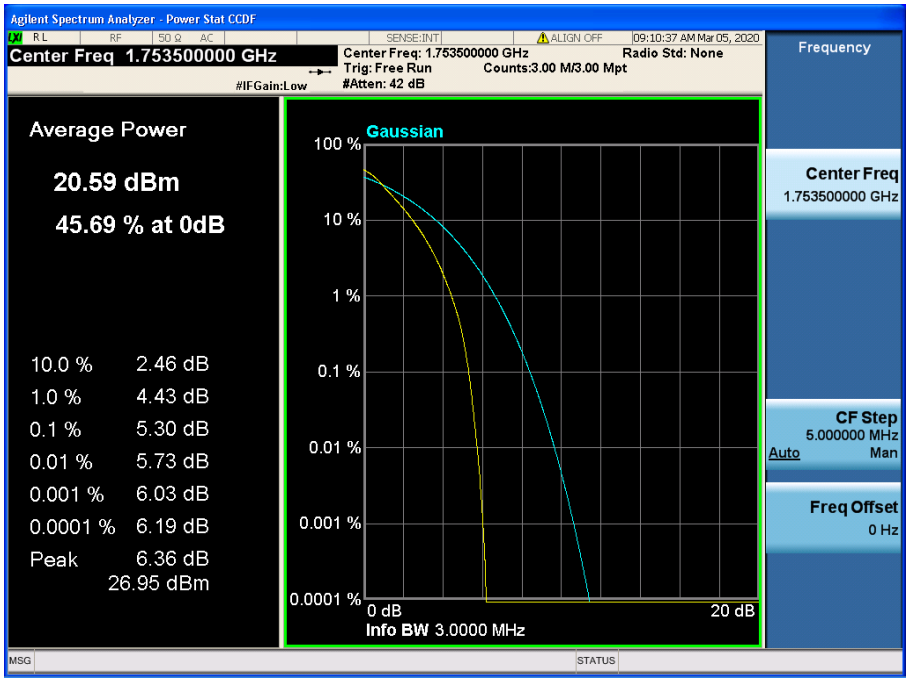
LTE Band 4 / 10 MHz / 16QAM - RB Size 50



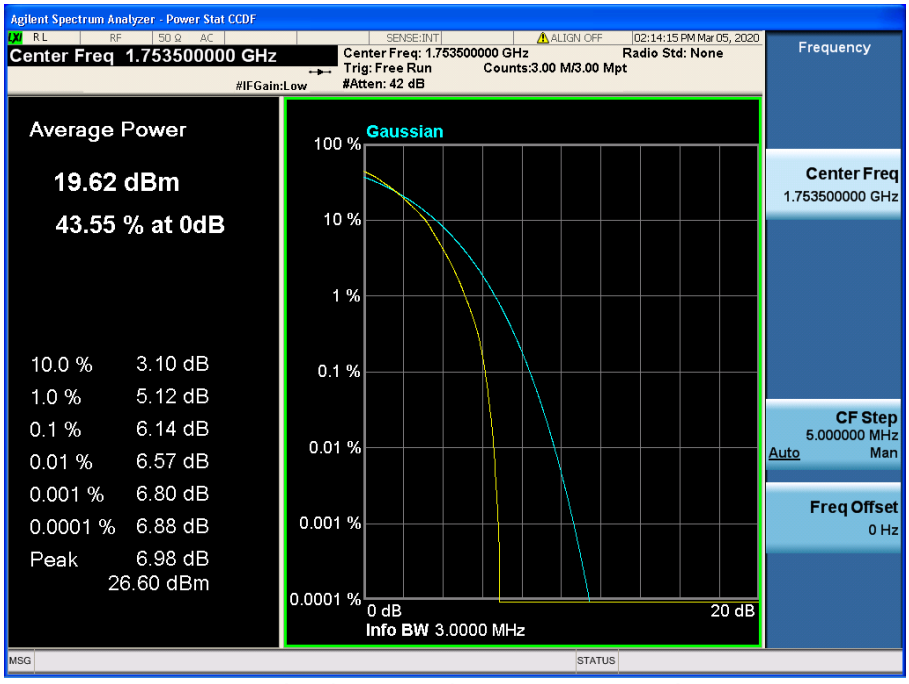
LTE Band 4 / 5 MHz / QPSK - RB Size 25



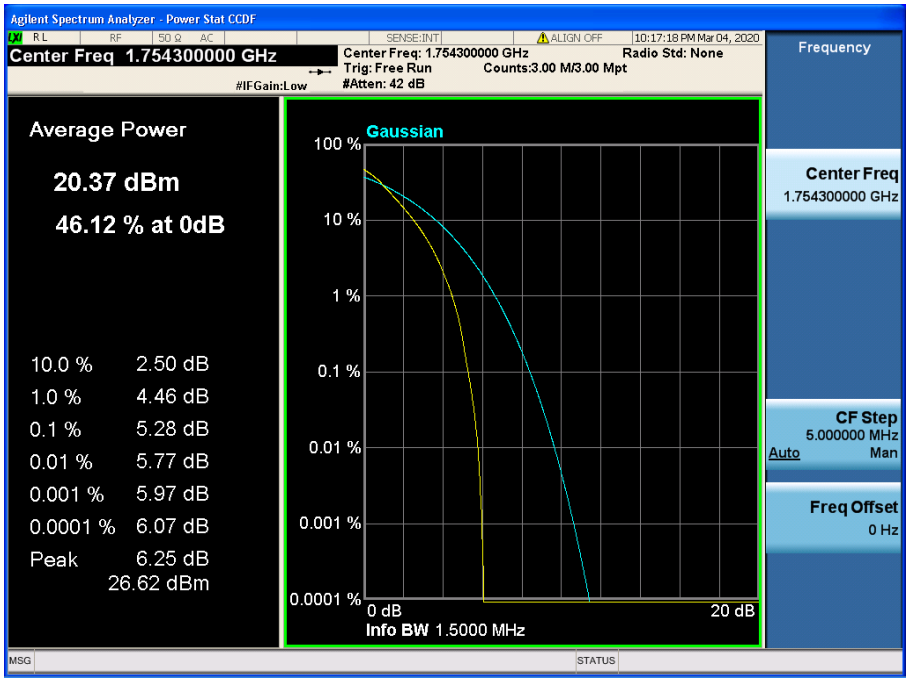
LTE Band 4 / 5 MHz / 16QAM - RB Size 25



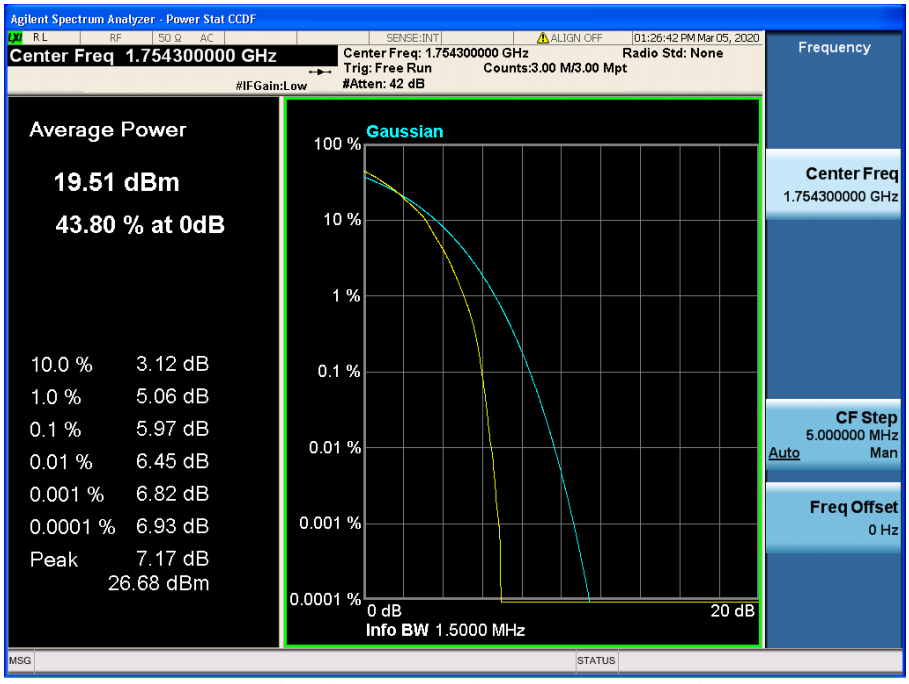
LTE Band 4 / 3 MHz / QPSK - RB Size 15



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

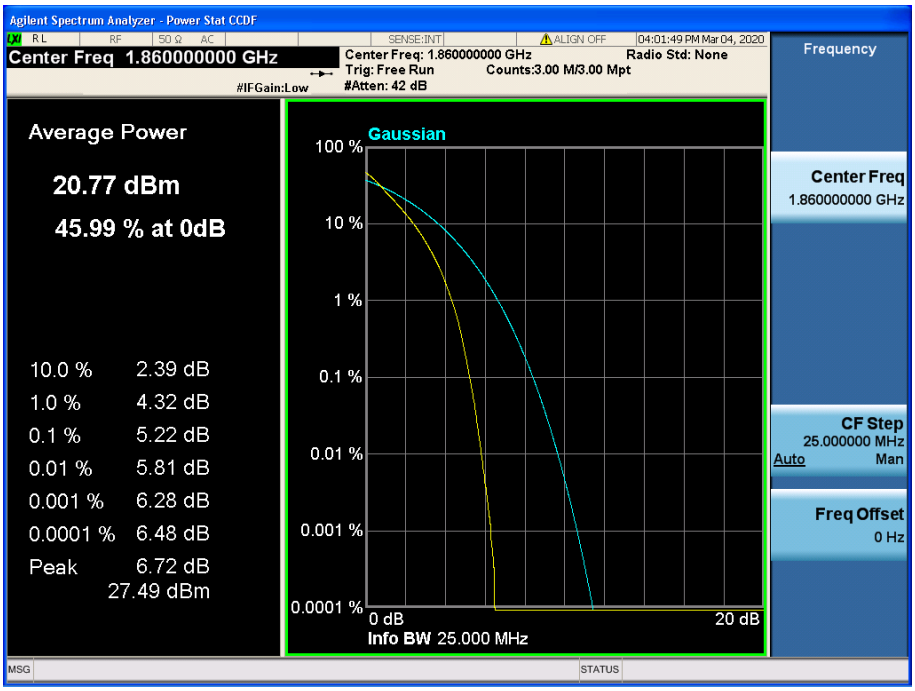


LTE Band 4 / 1.4 MHz / QPSK - RB Size 6

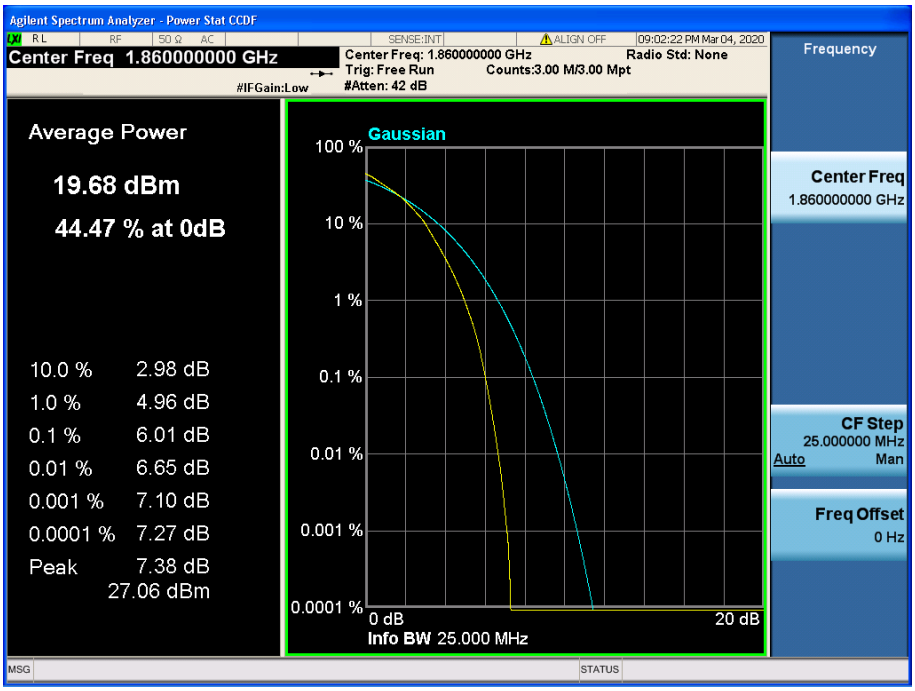


LTE Band 4 / 1.4 MHz / 16QAM - RB Size 6

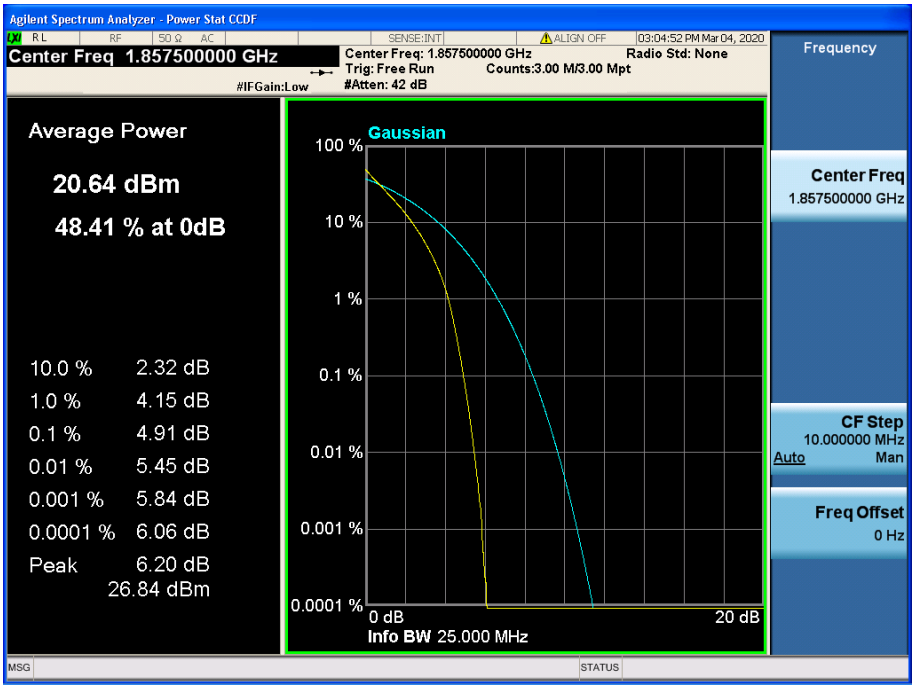
8.2.5 LTE Band 2



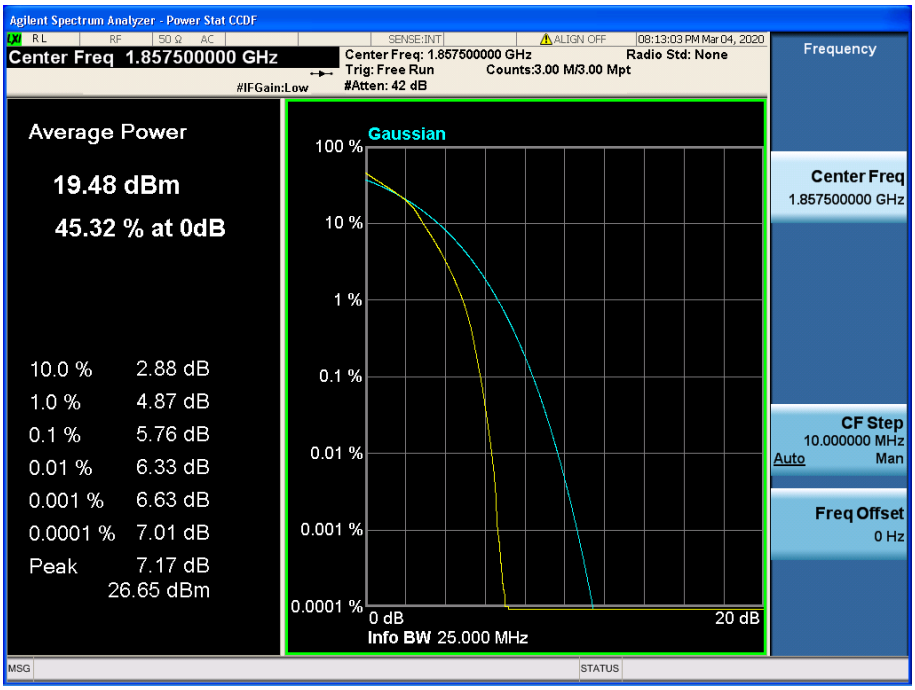
LTE Band 2 / 20 MHz / QPSK - RB Size 100



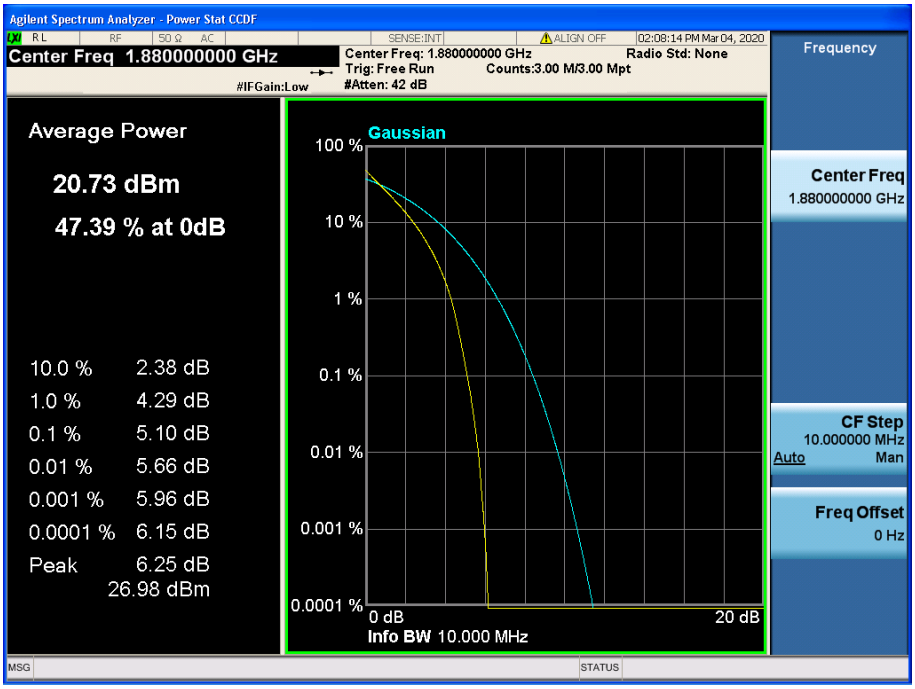
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



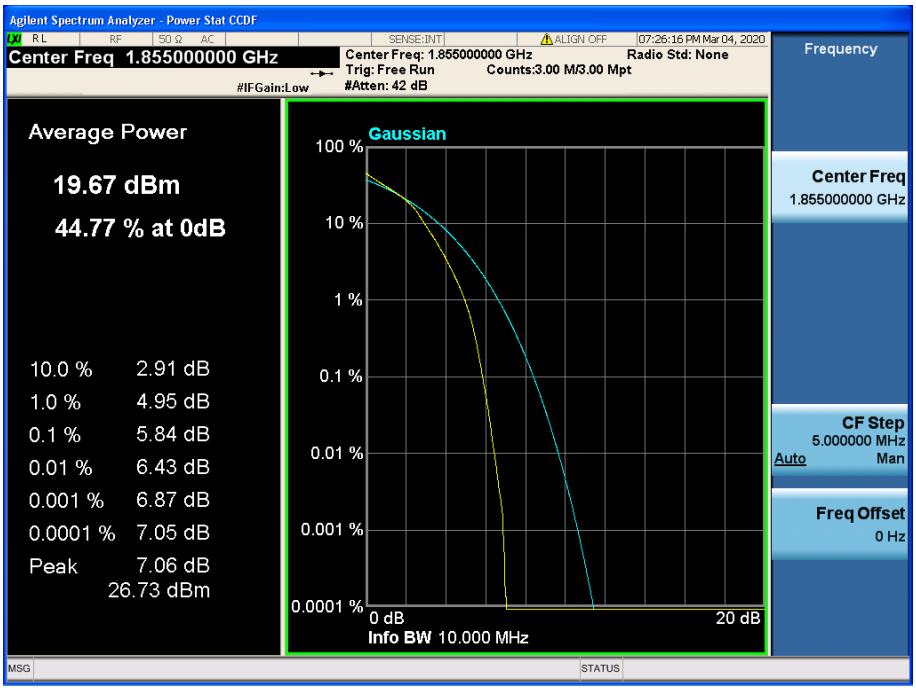
LTE Band 2 / 15 MHz / QPSK - RB Size 75



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



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



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