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 : DRTFCC2007-0201(2)

2. Customer

- Name (FCC) : LG Electronics USA / Name (IC) : LG ELECTRONICS INC
- Address (FCC) : 111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States 07632
  Address (IC) : 60-39, Gasan-Dong, Gumchon-Gu, Seoul 153-801 Korea (Republic Of)

3. Use of Report : FCC & IC Class II Permissive Change

4. Product Name / Model Name : TC10AN3FU / TC10AN3FU
   FCC ID : BEJLTTC10F / IC : 2703C-LTTC10F

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 : 2020.06.22 ~ 2020.07.13

7. Testing Environment : Refer to appended test report.

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

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

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

2020 . 07 . 14 .

DT&C Co., Ltd.

Not abided by KS Q ISO / IEC 17025 and KOLAS accreditation.

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

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2007-0201	Jul. 03, 2020	Initial issue	JungWoo Kim	JaeJin Lee
DRTFCC2007-0201(1)	Jul. 07, 2020	Correct the PMN, Add the test DATA	JungWoo Kim	JaeJin Lee
DRTFCC2007-0201(2)	Jul. 14, 2020	Retest the output power	JungWoo Kim	JaeJin Lee

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1. GENERAL INFORMATION

Applicant Name (FCC) : LG Electronics USA

Applicant Name (IC) : LG ELECTRONICS INC

Address (FCC) : 111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States 07632

Address (IC) : 60-39, Gasan-Dong, Gumchon-Gu, Seoul 153-801 Korea (Republic Of)

FCC ID : BEJLTTC10F

IC : 2703C-LTTC10F

FCC Classification : PCS Licensed Transmitter (PCB)

PMN : TC10AN3FU

Hardware Version : Rev.E

Software Version : G10NAA31

Serial Number : Conducted & Radiated : 0141340096800001

Model Name : TC10AN3FU

Add Model Name : NA

Supplying power : DC 12 V

Antenna Information : External antenna (Model : T1xx NA / PN: 84876047)

Mode	TX Frequency (MHz)	Emission Designator	Modulation	ERP		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 17	709 ~ 711	8M97G7D	QPSK	15.08	0.032	-	-
LTE Band 17	709 ~ 711	8M96W7D	16QAM	14.00	0.025	-	-
LTE Band 17	706.5 ~ 713.5	4M50G7D	QPSK	14.52	0.028	-	-
LTE Band 17	706.5 ~ 713.5	4M51W7D	16QAM	13.34	0.022	-	-
LTE Band 13	782 ~ 782	8M90G7D	QPSK	21.79	0.151	-	-
LTE Band 13	782 ~ 782	8M93W7D	16QAM	20.74	0.119	-	-
LTE Band 13	779.5 ~ 784.5	4M50G7D	QPSK	22.15	0.164	-	-
LTE Band 13	779.5 ~ 784.5	4M48W7D	16QAM	21.09	0.129	-	-
LTE Band 5	829 ~ 844	8M96G7D	QPSK	21.21	0.132	23.36	0.217
LTE Band 5	829 ~ 844	8M94W7D	16QAM	20.14	0.103	22.29	0.169
LTE Band 5	826.5 ~ 846.5	4M48G7D	QPSK	20.91	0.123	23.06	0.202
LTE Band 5	826.5 ~ 846.5	4M49W7D	16QAM	19.66	0.092	21.81	0.152
LTE Band 5	825.5 ~ 847.5	2M69G7D	QPSK	20.84	0.121	22.99	0.199
LTE Band 5	825.5 ~ 847.5	2M69W7D	16QAM	19.69	0.093	21.84	0.153
LTE Band 5	824.7 ~ 848.3	1M09G7D	QPSK	20.71	0.118	22.86	0.193
LTE Band 5	824.7 ~ 848.3	1M09W7D	16QAM	19.79	0.095	21.94	0.156

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Mode	TX Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max power (dBm)	Max power (W)
LTE Band 4	1720 ~ 1745	17M9G7D	QPSK	24.06	0.255
LTE Band 4	1720 ~ 1745	17M9W7D	16QAM	23.01	0.200
LTE Band 4	1717.5 ~ 1747.5	13M4G7D	QPSK	24.02	0.252
LTE Band 4	1717.5 ~ 1747.5	13M4W7D	16QAM	23.11	0.205
LTE Band 4	1715 ~ 1750	8M99G7D	QPSK	23.89	0.245
LTE Band 4	1715 ~ 1750	8M94W7D	16QAM	22.93	0.196
LTE Band 4	1712.5 ~ 1752.5	4M49G7D	QPSK	23.97	0.249
LTE Band 4	1712.5 ~ 1752.5	4M50W7D	16QAM	22.98	0.199
LTE Band 4	1711.5 ~ 1753.5	2M68G7D	QPSK	23.87	0.244
LTE Band 4	1711.5 ~ 1753.5	2M69W7D	16QAM	22.98	0.199
LTE Band 4	1710.7 ~ 1754.3	1M09G7D	QPSK	23.67	0.233
LTE Band 4	1710.7 ~ 1754.3	1M09W7D	16QAM	22.58	0.181
LTE Band 2	1860 ~ 1900	17M9G7D	QPSK	26.20	0.417
LTE Band 2	1860 ~ 1900	17M9W7D	16QAM	25.37	0.344
LTE Band 2	1857.5 ~ 1902.5	13M4G7D	QPSK	26.15	0.412
LTE Band 2	1857.5 ~ 1902.5	13M4W7D	16QAM	24.57	0.286
LTE Band 2	1855 ~ 1905	8M95G7D	QPSK	25.83	0.383
LTE Band 2	1855 ~ 1905	8M95W7D	16QAM	24.82	0.303
LTE Band 2	1852.5 ~ 1907.5	4M49G7D	QPSK	26.06	0.404
LTE Band 2	1852.5 ~ 1907.5	4M48W7D	16QAM	24.80	0.302
LTE Band 2	1851.5 ~ 1908.5	2M70G7D	QPSK	25.77	0.378
LTE Band 2	1851.5 ~ 1908.5	2M70W7D	16QAM	24.96	0.313
LTE Band 2	1850.7 ~ 1909.3	1M09G7D	QPSK	25.83	0.383
LTE Band 2	1850.7 ~ 1909.3	1M09W7D	16QAM	25.06	0.321

2. INTRODUCTION

2.1 EUT DESCRIPTION

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

2.2 EUT CAPABILITIES

This EUT contains the following capabilities:
850/1900 GSM/GPRS/EGPRS, 850/1700/1900 WCDMA/HSUPA, Multi-band LTE, 2.4GHz WLAN and Bluetooth.

2.3 TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+20 ℃ ~ +23 ℃
▪ Relative Humidity	43 % ~ 46 %

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)	4.9 dB (The confidence level is about 95 %, k = 2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.1 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 Designation No. : KR0034

- ISED #: 5740A

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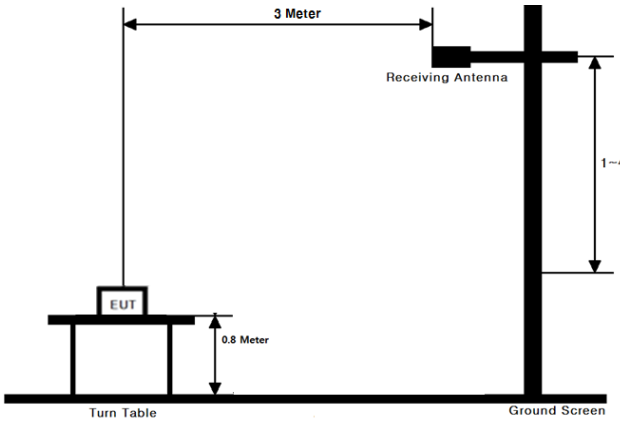
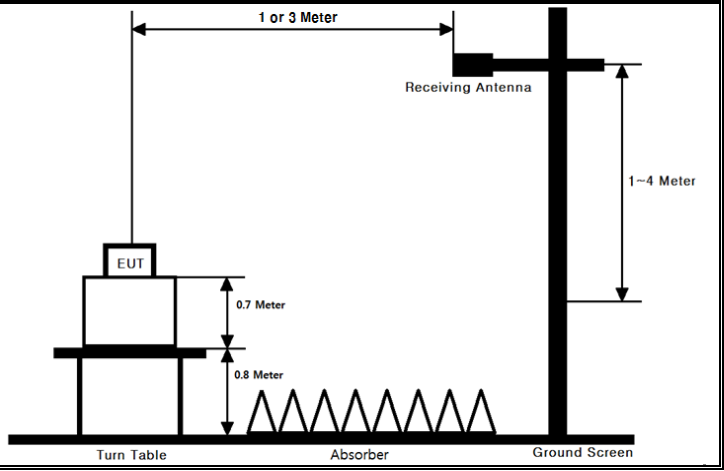
FAX	:	+ 82-31-321-1664

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.

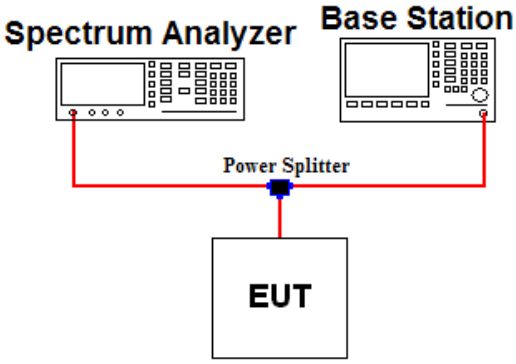
The ERP/EIRP is calculated using the following formula:

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.

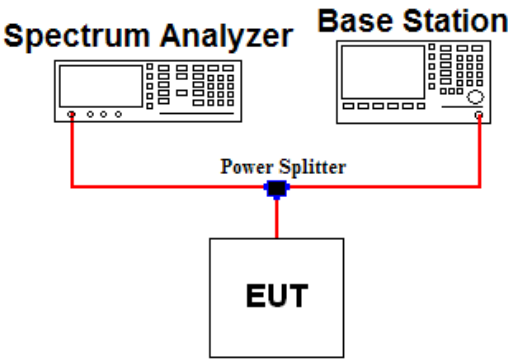
Test setting

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**

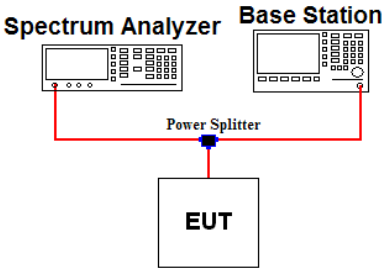
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power of a given emission.

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

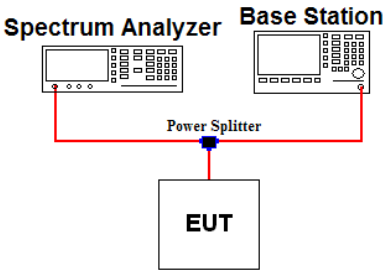
Note 1: Per Part 22.917(b)(1) / 24.238(b) / 27.53(h) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band 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.4) for all frequencies between 763-775 MHz and 793-805 MHz, the FCC limit is 65 + 10log10(P[Watts])= -35 dBm in a 6.25 kHz bandwidth.

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.

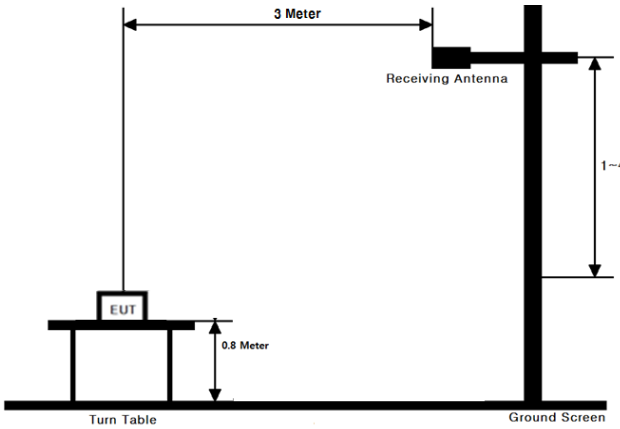
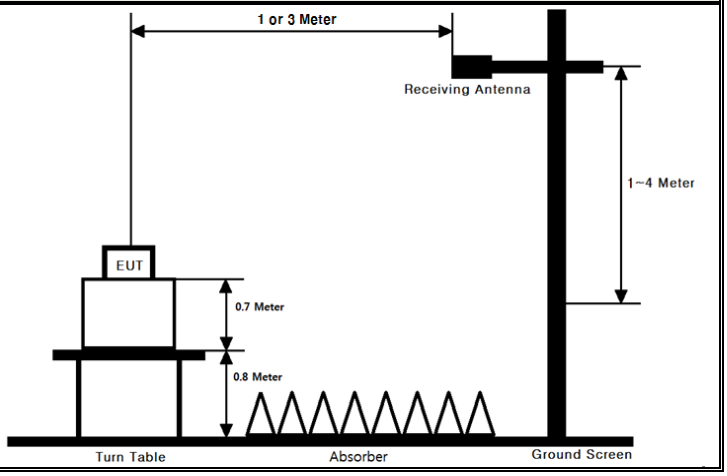
Test setting

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

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**

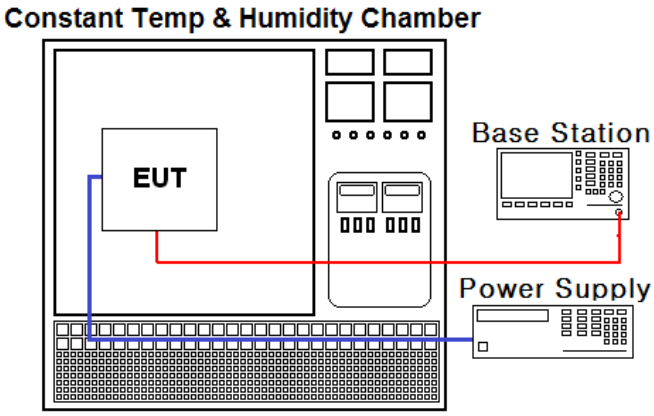
Test setting

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
DC power supply	Agilent Technologies	66332A	19/06/25 20/06/24	20/06/25 21/06/24	MY43001172
Multimeter	FLUKE	17B+	19/12/16	20/12/16	36390701WS
Radio Communication Analyzer	Anritus	MT8820C	19/06/26 20/06/24	20/06/26 21/06/24	6201127429
Radio Communication Analyzer	Anritus	MT8820C	19/12/16	20/12/16	6201274516
Power Divider	Weinschel	WA1574	19/06/25 20/06/24	20/06/25 21/06/24	WA1575-4
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	20/04/10	22/04/10	2262
HORN ANT	ETS	3117	20/04/24	22/04/24	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	20/06/24 21/06/24	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 20/06/24	20/06/27 21/06/24	3008A02108
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	19/06/24 20/06/24	20/06/24 21/06/24	7
High-pass filter	Wainwright	WHKX12-2580-3000-18000-80SS	19/06/24 20/06/24	20/06/24 21/06/24	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 + $10\log_{10}$(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 (B17, 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 + $10\log_{10}$ (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 17(QPSK)

Emission Designator = **8M97G7D**
LTE OBW = 8.974 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 17(16QAM)

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

LTE Band 5(QPSK)

Emission Designator = **8M96G7D**
LTE OBW = 8.962 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 5(16QAM)

Emission Designator = **8M94W7D**
LTE OBW = 8.943 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(QPSK)

Emission Designator = **8M90G7D**
LTE OBW = 8.897 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 13(16QAM)

Emission Designator = **8M93W7D**
LTE OBW = 8.933 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 4(QPSK)

Emission Designator = **17M9G7D**
LTE OBW = 17.869 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 4(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.871 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(QPSK)

Emission Designator = **17M9G7D**
LTE OBW = 17.857 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data Transmission

LTE Band 2(16QAM)

Emission Designator = **17M9W7D**
LTE OBW = 17.887 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 1 GHz 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. 28.88 dBm)
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 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)

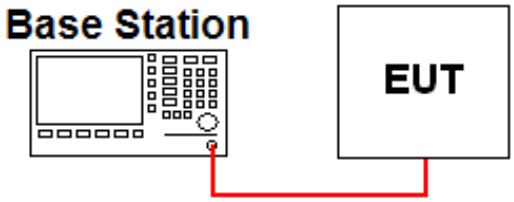
- Plots of the EUT's Band Edge Emissions are shown in Clause 8.3

7.4 SPURIOUS AND HARMONICS EMISSIONS (Conducted)

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

7.5 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.



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

▪ Band 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	709	QPSK	22.75	22.84	22.58	21.56	21.58	21.58	21.35
		16QAM	21.79	21.84	21.53	20.52	20.57	20.53	20.31
	711	QPSK	22.67	22.68	22.47	21.63	21.59	21.49	21.39
		16QAM	21.67	21.66	21.53	20.58	20.55	20.47	20.35
5	706.5	QPSK	23.00	22.80	22.93	21.75	21.75	21.81	21.60
		16QAM	21.92	21.71	21.88	20.71	20.79	20.81	20.57
	710	QPSK	22.68	22.77	22.64	21.73	21.70	21.67	21.60
		16QAM	21.68	21.75	21.60	20.77	20.72	20.70	20.55
	713.5	QPSK	22.59	22.71	22.34	21.56	21.54	21.44	21.46
		16QAM	21.57	21.56	21.34	20.63	20.56	20.51	20.42

▪ 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	22.43	22.51	22.24	21.30	21.37	21.41	21.23
		16QAM	21.51	21.64	21.22	20.42	20.38	20.42	20.24
	836.5	QPSK	22.83	22.41	22.38	21.44	21.38	21.43	21.27
		16QAM	21.79	21.51	21.50	20.42	20.35	20.39	20.31
	844	QPSK	22.30	22.43	22.28	21.29	21.44	21.33	21.17
		16QAM	21.34	21.45	21.33	20.39	20.51	20.36	20.29
5	826.5	QPSK	22.48	22.36	22.64	21.47	21.42	21.50	21.31
		16QAM	21.51	21.38	21.58	20.52	20.50	20.48	20.41
	836.5	QPSK	22.51	22.39	22.37	21.61	21.45	21.45	21.46
		16QAM	21.60	21.45	21.35	20.74	20.50	20.50	20.36
	846.5	QPSK	22.48	22.49	22.20	21.49	21.50	21.43	21.35
		16QAM	21.59	21.59	21.24	20.55	20.61	20.53	20.42
3	825.5	QPSK	22.54	22.38	22.40	21.47	21.36	21.31	21.35
		16QAM	21.49	21.38	21.45	20.48	20.52	20.38	20.46
	836.5	QPSK	22.65	22.35	22.42	21.62	21.41	21.39	21.46
		16QAM	21.63	21.44	21.42	20.66	20.43	20.36	20.54
	847.5	QPSK	22.55	22.40	22.22	21.48	21.50	21.30	21.37
		16QAM	21.55	21.54	21.21	20.49	20.52	20.40	20.51
1.4	824.7	QPSK	22.52	22.58	22.54	22.55	22.52	22.48	21.58
		16QAM	21.53	21.59	21.66	21.61	21.66	21.57	20.65
	836.5	QPSK	22.62	22.46	22.46	22.62	22.43	22.45	21.56
		16QAM	21.58	21.42	21.62	21.66	21.61	21.56	20.64
	848.3	QPSK	22.50	22.25	22.25	22.39	22.26	22.19	21.34
		16QAM	21.57	21.48	21.37	21.54	21.54	21.44	20.49

▪ 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	22.64	21.99	22.39	21.12	21.00	21.03	20.85
		16QAM	21.30	20.99	21.28	20.03	19.92	19.98	19.85
5	779.5	QPSK	22.43	22.18	22.01	21.49	21.20	21.01	21.13
		16QAM	21.32	21.16	20.96	20.42	20.30	20.11	20.02
	784.5	QPSK	21.99	21.99	22.41	21.12	21.04	21.31	21.02
		16QAM	20.90	20.98	21.30	20.03	20.02	20.24	19.98

▪ 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	1 720	QPSK	23.19	23.03	22.93	21.97	21.86	21.85	21.89
		16QAM	21.96	21.84	21.79	20.77	20.77	20.69	20.80
	1 732.5	QPSK	22.96	22.88	22.94	21.80	21.75	21.65	21.81
		16QAM	21.84	21.81	21.74	20.74	20.75	20.69	20.69
	1 745	QPSK	22.89	22.86	22.73	21.59	21.56	21.56	21.56
		16QAM	21.72	21.73	21.56	20.40	20.59	20.54	20.54
15	1 717.5	QPSK	23.19	23.10	22.95	22.04	21.91	21.89	21.94
		16QAM	21.94	21.90	21.87	20.82	20.94	20.71	20.87
	1 732.5	QPSK	22.97	22.88	22.82	21.84	21.79	21.72	21.67
		16QAM	21.90	21.69	21.62	20.84	20.59	20.53	20.47
	1 747.5	QPSK	23.01	22.70	22.73	21.70	21.66	21.55	21.60
		16QAM	21.94	21.53	21.51	20.72	20.46	20.42	20.47
10	1 715	QPSK	23.19	23.10	22.99	22.01	22.06	21.96	21.89
		16QAM	21.93	21.92	21.88	20.90	21.06	20.84	20.72
	1 732.5	QPSK	22.93	22.91	22.71	21.82	21.69	21.67	21.84
		16QAM	21.79	21.70	21.72	20.64	20.65	20.64	20.69
	1 750	QPSK	22.86	22.78	22.70	21.75	21.69	21.65	21.58
		16QAM	21.73	21.80	21.55	20.54	20.59	20.49	20.43
5	1 712.5	QPSK	23.20	23.08	23.11	22.18	22.07	22.09	22.04
		16QAM	21.94	21.92	21.84	21.24	21.01	21.04	21.04
	1 732.5	QPSK	22.98	22.88	22.83	21.96	21.94	21.90	21.82
		16QAM	21.90	21.89	21.80	20.94	21.12	20.90	20.84
	1 752.5	QPSK	22.77	22.68	22.65	21.78	21.68	21.70	21.67
		16QAM	21.88	21.86	21.65	20.78	20.76	20.69	20.65
3	1 711.5	QPSK	23.08	23.00	23.04	22.06	22.04	21.97	22.14
		16QAM	21.91	21.91	21.89	21.05	21.14	21.10	21.30
	1 732.5	QPSK	23.04	22.87	22.92	21.93	21.87	21.94	21.90
		16QAM	21.92	21.81	21.88	20.92	20.82	20.98	20.91
	1 753.5	QPSK	22.74	22.73	22.69	21.75	21.71	21.73	21.63
		16QAM	21.79	21.68	21.84	20.83	20.76	20.67	20.79
1.4	1 710.7	QPSK	23.09	23.05	23.16	23.01	23.07	23.03	22.04
		16QAM	21.95	21.94	21.89	21.81	21.89	21.83	21.20
	1 732.5	QPSK	22.86	22.78	22.82	22.86	22.80	22.90	21.99
		16QAM	21.94	21.88	21.76	21.86	21.86	21.89	20.94
	1 754.3	QPSK	22.74	22.69	22.80	22.69	22.72	22.70	21.69
		16QAM	21.86	21.77	21.87	21.73	21.67	21.69	20.88

▪ 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	22.85	22.74	22.75	21.73	21.64	21.66	21.73
		16QAM	21.92	21.81	21.85	20.76	20.73	20.65	20.76
	1880	QPSK	22.87	23.15	22.81	22.13	22.03	21.94	21.95
		16QAM	22.03	22.19	21.93	21.14	21.02	20.94	21.04
	1900	QPSK	22.91	23.18	22.60	22.01	22.04	21.80	22.01
		16QAM	22.00	22.27	21.65	21.01	21.10	20.90	21.00
15	1857.5	QPSK	22.83	22.69	22.57	21.71	21.70	21.67	21.66
		16QAM	21.85	21.72	21.66	20.84	20.72	20.78	20.69
	1880	QPSK	23.04	23.15	22.86	22.19	22.01	21.92	21.99
		16QAM	22.16	22.21	21.94	21.18	21.08	21.02	21.02
	1902.5	QPSK	23.14	23.09	22.53	22.14	21.91	21.75	21.97
		16QAM	22.21	22.13	21.57	21.24	20.97	20.83	20.97
10	1855	QPSK	22.86	22.81	22.66	21.78	21.70	21.73	21.67
		16QAM	21.87	21.91	21.72	20.87	20.82	20.74	20.72
	1880	QPSK	23.09	23.17	22.93	22.15	22.16	22.04	21.99
		16QAM	22.20	22.22	21.98	21.19	21.16	21.04	21.11
	1905	QPSK	23.10	22.80	22.49	21.92	21.81	21.63	21.73
		16QAM	22.17	21.90	21.56	21.02	20.79	20.74	20.78
5	1852.5	QPSK	22.87	22.72	22.82	21.90	21.82	21.81	21.82
		16QAM	21.82	21.93	21.84	20.99	20.93	20.84	20.85
	1880	QPSK	23.18	23.13	23.00	22.25	22.16	22.06	22.15
		16QAM	22.32	22.23	22.05	21.26	21.30	21.22	21.19
	1907.5	QPSK	22.77	22.59	22.44	21.72	21.63	21.54	21.58
		16QAM	21.86	21.69	21.56	20.88	20.70	20.67	20.66
3	1851.5	QPSK	22.76	22.89	22.74	21.90	21.89	21.83	21.81
		16QAM	21.86	21.91	21.77	20.86	20.92	20.90	20.90
	1880	QPSK	23.16	23.09	22.98	22.23	22.27	22.17	22.22
		16QAM	22.28	22.20	22.13	21.21	21.19	21.19	21.20
	1908.5	QPSK	22.64	22.49	22.46	21.56	21.51	21.55	21.53
		16QAM	21.71	21.57	21.51	20.62	20.55	20.53	20.62
1.4	1850.7	QPSK	22.83	22.87	22.87	22.85	22.79	22.84	21.86
		16QAM	21.79	21.92	21.88	21.91	21.88	21.89	20.99
	1880	QPSK	23.17	23.10	23.11	23.13	23.11	23.09	22.27
		16QAM	22.30	22.20	22.22	22.27	22.25	22.24	21.24
	1909.3	QPSK	22.47	22.51	22.48	22.50	22.50	22.48	21.54
		16QAM	21.57	21.51	21.51	21.55	21.54	21.57	20.63

7.6 ERP & EIRP

- Test Notes

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

7.6.1 LTE Band 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	709	QPSK	1/25	V	15.01	-0.64	14.37	0.027
		16QAM	1/25	V	14.15	-0.64	13.51	0.022
	711	QPSK	1/25	V	15.71	-0.63	15.08	0.032
		16QAM	1/25	V	14.63	-0.63	14.00	0.025
5	706.5	QPSK	1/12	V	14.84	-0.64	14.20	0.026
		16QAM	1/12	V	13.67	-0.64	13.03	0.020
	710	QPSK	1/12	V	15.15	-0.63	14.52	0.028
		16QAM	1/12	V	13.97	-0.63	13.34	0.022
	713.5	QPSK	1/12	V	14.85	-0.62	14.23	0.026
		16QAM	1/12	V	13.89	-0.62	13.27	0.021

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7.6.2 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	V	21.41	-0.67	20.74	0.119
		16QAM	1/0	V	20.13	-0.67	19.46	0.088
	836.5	QPSK	1/0	V	21.95	-0.74	21.21	0.132
		16QAM	1/0	V	20.88	-0.74	20.14	0.103
	844	QPSK	1/0	V	21.44	-0.81	20.63	0.116
		16QAM	1/0	V	20.06	-0.81	19.25	0.084
5	826.5	QPSK	1/0	V	21.32	-0.65	20.67	0.117
		16QAM	1/0	V	20.31	-0.65	19.66	0.092
	836.5	QPSK	1/0	V	21.65	-0.74	20.91	0.123
		16QAM	1/0	V	19.66	-0.74	18.92	0.078
	846.5	QPSK	1/0	V	21.13	-0.83	20.30	0.107
		16QAM	1/0	V	19.81	-0.83	18.98	0.079
3	825.5	QPSK	1/0	V	21.11	-0.64	20.47	0.111
		16QAM	1/0	V	20.08	-0.64	19.44	0.088
	836.5	QPSK	1/0	V	21.58	-0.74	20.84	0.121
		16QAM	1/0	V	20.43	-0.74	19.69	0.093
	847.5	QPSK	1/0	V	21.49	-0.84	20.65	0.116
		16QAM	1/0	V	20.48	-0.84	19.64	0.092
1.4	824.7	QPSK	1/0	V	21.06	-0.63	20.43	0.110
		16QAM	1/0	V	20.10	-0.63	19.47	0.089
	836.5	QPSK	1/0	V	21.45	-0.74	20.71	0.118
		16QAM	1/0	V	20.53	-0.74	19.79	0.095
	848.3	QPSK	1/0	V	21.47	-0.85	20.62	0.115
		16QAM	1/0	V	20.35	-0.85	19.50	0.089

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7.6.3 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	V	22.24	-0.45	21.79	0.151
		16QAM	1/0	V	21.19	-0.45	20.74	0.119
5	779.5	QPSK	1/0	V	22.60	-0.45	22.15	0.164
		16QAM	1/0	V	21.33	-0.45	20.88	0.122
	784.5	QPSK	1/0	V	22.38	-0.44	21.94	0.156
		16QAM	1/0	V	21.53	-0.44	21.09	0.129

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7.6.4 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	1 720	QPSK	1/0	V	18.35	5.28	23.63	0.231
		16QAM	1/0	V	17.45	5.28	22.73	0.187
	1 732.5	QPSK	1/0	V	18.73	5.33	24.06	0.255
		16QAM	1/0	V	17.61	5.33	22.94	0.197
	1 745	QPSK	1/0	V	18.42	5.38	23.80	0.240
		16QAM	1/0	V	17.63	5.38	23.01	0.200
15	1 717.5	QPSK	1/0	V	18.55	5.27	23.82	0.241
		16QAM	1/0	V	17.43	5.27	22.70	0.186
	1 732.5	QPSK	1/0	V	18.69	5.33	24.02	0.252
		16QAM	1/0	V	17.78	5.33	23.11	0.205
	1 747.5	QPSK	1/0	V	18.38	5.39	23.77	0.238
		16QAM	1/0	V	17.50	5.39	22.89	0.195
10	1 715	QPSK	1/0	V	18.52	5.26	23.78	0.239
		16QAM	1/0	V	17.47	5.26	22.73	0.187
	1 732.5	QPSK	1/0	V	18.56	5.33	23.89	0.245
		16QAM	1/0	V	17.60	5.33	22.93	0.196
	1 750	QPSK	1/0	V	18.49	5.40	23.89	0.245
		16QAM	1/0	V	17.50	5.40	22.90	0.195
5	1 712.5	QPSK	1/0	V	18.56	5.25	23.81	0.240
		16QAM	1/0	V	17.27	5.25	22.52	0.179
	1 732.5	QPSK	1/0	V	18.44	5.33	23.77	0.238
		16QAM	1/0	V	17.33	5.33	22.66	0.185
	1 752.5	QPSK	1/0	V	18.59	5.38	23.97	0.249
		16QAM	1/0	V	17.60	5.38	22.98	0.199
3	1 711.5	QPSK	1/0	V	18.32	5.25	23.57	0.228
		16QAM	1/0	V	17.36	5.25	22.61	0.182
	1 732.5	QPSK	1/0	V	18.31	5.33	23.64	0.231
		16QAM	1/0	V	17.43	5.33	22.76	0.189
	1 753.5	QPSK	1/0	V	18.50	5.37	23.87	0.244
		16QAM	1/0	V	17.61	5.37	22.98	0.199
1.4	1 710.7	QPSK	1/0	V	18.43	5.24	23.67	0.233
		16QAM	1/0	V	17.34	5.24	22.58	0.181
	1 732.5	QPSK	1/0	V	18.15	5.33	23.48	0.223
		16QAM	1/0	V	17.09	5.33	22.42	0.175
	1 754.3	QPSK	1/0	V	18.05	5.36	23.41	0.219
		16QAM	1/0	V	17.08	5.36	22.44	0.175

7.6.5 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	1 860	QPSK	1/99	V	19.85	4.80	24.65	0.292
		16QAM	1/99	V	19.99	4.80	24.79	0.301
	1 880	QPSK	1/50	V	21.42	4.60	26.02	0.400
		16QAM	1/50	V	20.63	4.60	25.23	0.333
	1 900	QPSK	1/99	V	21.80	4.40	26.20	0.417
		16QAM	1/99	V	20.97	4.40	25.37	0.344
15	1 857.5	QPSK	1/74	V	19.78	4.83	24.61	0.289
		16QAM	1/74	V	18.72	4.83	23.55	0.226
	1 880	QPSK	1/36	V	21.06	4.60	25.66	0.368
		16QAM	1/36	V	19.97	4.60	24.57	0.286
	1 902.5	QPSK	1/74	V	21.74	4.41	26.15	0.412
		16QAM	1/74	V	19.76	4.41	24.17	0.261
10	1 855	QPSK	1/49	V	19.38	4.85	24.23	0.265
		16QAM	1/49	V	18.21	4.85	23.06	0.202
	1 880	QPSK	1/49	V	20.76	4.60	25.36	0.344
		16QAM	1/49	V	19.78	4.60	24.38	0.274
	1 905	QPSK	1/49	V	21.41	4.42	25.83	0.383
		16QAM	1/49	V	20.40	4.42	24.82	0.303
5	1 852.5	QPSK	1/0	V	19.18	4.88	24.06	0.255
		16QAM	1/0	V	17.92	4.88	22.80	0.191
	1 880	QPSK	1/0	V	20.47	4.60	25.07	0.321
		16QAM	1/0	V	19.45	4.60	24.05	0.254
	1 907.5	QPSK	1/0	V	21.63	4.43	26.06	0.404
		16QAM	1/0	V	20.37	4.43	24.80	0.302
3	1 851.5	QPSK	1/0	V	19.24	4.89	24.13	0.259
		16QAM	1/0	V	18.49	4.89	23.38	0.218
	1 880	QPSK	1/0	V	20.51	4.60	25.11	0.324
		16QAM	1/0	V	19.64	4.60	24.24	0.265
	1 908.5	QPSK	1/0	V	21.34	4.43	25.77	0.378
		16QAM	1/0	V	20.53	4.43	24.96	0.313
1.4	1 850.7	QPSK	1/0	V	19.00	4.89	23.89	0.245
		16QAM	1/0	V	18.29	4.89	23.18	0.208
	1 880	QPSK	1/0	V	20.53	4.60	25.13	0.326
		16QAM	1/0	V	19.64	4.60	24.24	0.265
	1 909.3	QPSK	1/0	V	21.39	4.44	25.83	0.383
		16QAM	1/0	V	20.62	4.44	25.06	0.321

7.7 UNDESIRABLE EMISSIONS (Radiated)

- Test Notes

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.

7.7.1 LTE Band 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		Limit (dBc)
								(dBm)	(dBc)	
10	709	1/25	QPSK	1 418.15	V	-43.95	2.52	-41.43	55.80	27.37
			16QAM	1 418.20	V	-42.18	2.52	-39.66	53.17	26.51
	711	1/25	QPSK	1 422.20	V	-47.97	2.54	-45.43	60.51	28.08
			16QAM	1 422.05	V	-46.18	2.54	-43.64	57.64	27.00

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		Limit (dBc)
								(dBm)	(dBc)	
10	829	1/0	QPSK	1 649.19	V	-48.37	4.16	-44.21	64.95	33.74
				2 477.58	V	-51.99	3.62	-48.37	69.11	
			16QAM	1 649.15	V	-48.32	4.16	-44.16	63.62	32.46
				2 475.74	V	-52.33	3.60	-48.73	68.19	
	836.5	1/0	QPSK	1 664.21	V	-48.22	3.84	-44.38	65.59	34.21
				2 496.22	V	-50.17	3.73	-46.44	67.65	
			16QAM	1 664.18	V	-48.28	3.84	-44.44	64.58	33.14
				2 496.47	V	-49.76	3.73	-46.03	66.17	
	844	1/0	QPSK	1 679.29	V	-49.43	3.51	-45.92	66.55	33.63
				2 518.82	V	-49.54	3.83	-45.71	66.34	
			16QAM	1 679.04	V	-49.32	3.51	-45.81	65.06	32.25
				2 518.77	V	-48.18	3.83	-44.35	63.60	

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		Limit (dBc)
								(dBm)	(dBc)	
10	782	1/49	QPSK	2 375.81	V	-51.72	3.70	-48.02	69.81	34.79
			16QAM	2 375.74	V	-51.49	3.70	-47.79	68.53	33.74

UNDESIRABLE EMISSIONS IN 1559~1610 MHz (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(dBi)	Result	Margin	Limit (dBm/MHz)
								(dBm)	(dB)	
10	782	1/49	QPSK	1 573.02	V	-54.45	6.48	-47.97	7.97	-40.00
			16QAM	1 572.55	V	-54.72	6.48	-48.24	8.24	-40.00
5	779.5	1/24	QPSK	1 563.31	V	-56.65	6.41	-50.24	10.24	-40.00
			16QAM	1 563.31	V	-57.22	6.41	-50.81	10.81	-40.00
	784.5	1/24	QPSK	1 573.17	V	-53.45	6.49	-46.96	6.96	-40.00
			16QAM	1 573.29	V	-53.92	6.49	-47.43	7.43	-40.00

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		Limit (dBc)
								(dBm)	(dBc)	
20	1 720	1/0	QPSK	3 422.26	V	-38.03	7.74	-30.29	53.92	36.63
		1/0		5 133.33	V	-34.14	10.30	-23.84	47.47	
		1/0		6 844.39	V	-29.14	11.30	-17.84	41.47	
		1/99		8 644.59	V	-38.74	13.20	-25.54	49.17	
		1/99		10 373.25	V	-46.27	13.00	-33.27	56.90	
		1/99		12 102.44	V	-34.25	13.10	-21.15	44.78	
		1/0	16QAM	3 422.15	V	-37.82	7.74	-30.08	52.81	35.73
		1/0		5 133.13	V	-34.06	10.30	-23.76	46.49	
		1/0		6 844.32	V	-28.99	11.30	-17.69	40.42	
		1/99		8 644.42	V	-38.81	13.20	-25.61	48.34	
		1/99		10 373.15	V	-46.08	13.00	-33.08	55.81	
		1/99		12 102.37	V	-33.85	13.10	-20.75	43.48	
	1 732.5	1/0	QPSK	3 446.98	V	-43.25	7.79	-35.46	59.52	37.06
		1/0		5 170.66	V	-30.92	10.34	-20.58	44.64	
		1/99		6 965.58	V	-32.08	11.43	-20.65	44.71	
		1/99		8 707.03	V	-44.10	13.23	-30.87	54.93	
		1/99		10 448.97	V	-46.05	13.10	-32.95	57.01	
		1/99		12 189.98	V	-33.77	13.18	-20.59	44.65	
		1/0	16QAM	3 446.94	V	-43.02	7.79	-35.23	58.17	35.94
		1/0		5 170.55	V	-30.86	10.34	-20.52	43.46	
		1/99		6 965.43	V	-31.75	11.43	-20.32	43.26	
		1/99		8 707.13	V	-44.00	13.23	-30.77	53.71	
		1/99		10 448.85	V	-45.84	13.10	-32.74	55.68	
		1/99		12 189.90	V	-33.59	13.18	-20.41	43.35	
	1 745	1/0	QPSK	3472.17	V	-40.90	7.84	-33.06	56.86	36.80
		1/0		5208.36	V	-36.65	10.38	-26.27	50.07	
		1/99		6944.33	V	-31.83	11.39	-20.44	44.24	
		1/99		8769.77	V	-46.32	13.32	-33.00	56.80	
		1/99		12277.25	V	-41.95	13.20	-28.75	52.55	
		1/0	16QAM	3 472.01	V	-40.67	7.84	-32.83	55.84	36.01
		1/0		5 208.44	V	-36.56	10.38	-26.18	49.19	
		1/0		6 944.39	V	-31.47	11.39	-20.08	43.09	
		1/99		8 769.71	V	-46.09	13.32	-32.77	55.78	
		1/99		12 277.16	V	-41.52	13.20	-28.32	51.33	

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		Limit (dBc)
								(dBm)	(dBc)	
20	1 860	1/99	QPSK	3 737.75	V	-44.88	8.38	-36.50	61.15	37.65
		1/0		5 553.27	V	-31.63	10.52	-21.11	45.76	
		1//99		7 475.59	V	-46.84	12.05	-34.79	59.44	
		1/99	16QAM	3 737.91	V	-42.49	8.38	-34.11	58.90	37.79
		1/0		5 553.36	V	-31.59	10.52	-21.07	45.86	
		1//99		7 475.50	V	-47.75	12.05	-35.70	60.49	
	1 880	1/99	QPSK	3 777.89	V	-38.54	8.46	-30.08	56.10	39.02
		1/0		5 613.35	V	-35.87	10.77	-25.10	51.12	
		1/0		7 484.33	V	-46.83	12.07	-34.76	60.78	
		1/99	16QAM	3 777.80	V	-35.85	8.46	-27.39	52.62	38.23
		1/0		5 613.37	V	-35.68	10.77	-24.91	50.14	
		1/0		7 484.30	V	-46.63	12.07	-34.56	59.79	
	1 900	1/99	QPSK	3 817.70	V	-34.12	8.50	-25.62	51.82	39.20
		1/99		5 726.75	V	-40.70	10.60	-30.10	56.30	
		1/99		7 635.61	V	-42.07	12.20	-29.87	56.07	
		1/99	16QAM	3 817.83	V	-32.34	8.50	-23.84	49.21	38.37
		1/99		5 726.82	V	-40.52	10.60	-29.92	55.29	
		1/99		7 635.66	V	-42.25	12.20	-30.05	55.42	

7.8 FREQUENCY STABILITY

7.8.1 LTE Band 17

OPERATING FREQUENCY : 710 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)	710,000,001	+1	+0.001 4	+0.000 000 141
100 %		-30	709,999,999	-1	-0.001 4	-0.000 000 141
100 %		-20	710,000,004	+4	+0.005 6	+0.000 000 563
100 %		-10	709,999,997	-3	-0.004 2	-0.000 000 423
100 %		0	709,999,991	-9	-0.012 7	-0.000 001 268
100 %		+10	709,999,993	-7	-0.009 9	-0.000 000 986
100 %		+20	710,000,001	+1	+0.001 4	+0.000 000 141
100 %		+30	709,999,994	-6	-0.008 5	-0.000 000 845
100 %		+40	709,999,999	-1	-0.001 4	-0.000 000 141
100 %		+50	710,000,004	+4	+0.005 6	+0.000 000 563
115 %	13.80	+20	710,000,003	+3	+0.004 2	+0.000 000 423
85 %	10.20	+20	709,999,996	-4	-0.005 6	-0.000 000 563

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) : ± 0.000 25 % or 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100 %	12	+20(Ref)	836,500,007	+7	+0.008 4	+0.000 000 837
100 %		-30	836,499,990	-10	-0.012 0	-0.000 001 195
100 %		-20	836,499,997	-3	-0.003 6	-0.000 000 359
100 %		-10	836,500,001	+1	+0.001 2	+0.000 000 120
100 %		0	836,499,996	-4	-0.004 8	-0.000 000 478
100 %		+10	836,500,003	+3	+0.003 6	+0.000 000 359
100 %		+20	836,500,007	+7	+0.008 4	+0.000 000 837
100 %		+30	836,500,006	+6	+0.007 2	+0.000 000 717
100 %		+40	836,500,001	+1	+0.001 2	+0.000 000 120
100 %		+50	836,499,987	-13	-0.015 5	-0.000 001 554
115 %	13.80	+20	836,500,007	+7	+0.008 4	+0.000 000 837
85 %	10.20	+20	836,500,012	+12	+0.014 3	+0.000 001 435

7.8.3 LTE Band 13

OPERATING FREQUENCY : 782 MHz
REFERENCE VOLTAGE : 12 VDC
LIMIT(FCC&IC) : 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)	782,000,001	+1	+0.001 3	+0.000 000 128
100 %		-30	781,999,989	-11	-0.014 1	-0.000 001 407
100 %		-20	782,000,004	+4	+0.005 1	+0.000 000 512
100 %		-10	782,000,007	+7	+0.009 0	+0.000 000 895
100 %		0	782,000,003	+3	+0.003 8	+0.000 000 384
100 %		+10	781,999,996	-4	-0.005 1	-0.000 000 512
100 %		+20	782,000,001	+1	+0.001 3	+0.000 000 128
100 %		+30	781,999,999	-1	-0.001 3	-0.000 000 128
100 %		+40	782,000,003	+3	+0.003 8	+0.000 000 384
100 %		+50	782,000,004	+4	+0.005 1	+0.000 000 512
115 %	13.80	+20	782,000,005	+5	+0.006 4	+0.000 000 639
85 %	10.20	+20	781,999,990	-10	-0.012 8	-0.000 001 279

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 : 1 732.5 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)	1,732,500,003	+3	+0.001 7	+0.000 000 173
100 %		-30	1,732,499,996	-4	-0.002 3	-0.000 000 231
100 %		-20	1,732,499,997	-3	-0.001 7	-0.000 000 173
100 %		-10	1,732,499,996	-4	-0.002 3	-0.000 000 231
100 %		0	1,732,500,001	+1	+0.000 6	+0.000 000 058
100 %		+10	1,732,500,009	+9	+0.005 2	+0.000 000 519
100 %		+20	1,732,500,003	+3	+0.001 7	+0.000 000 173
100 %		+30	1,732,500,003	+3	+0.001 7	+0.000 000 173
100 %		+40	1,732,500,004	+4	+0.002 3	+0.000 000 231
100 %		+50	1,732,499,987	-13	-0.007 5	-0.000 000 750
115 %	13.80	+20	1,732,500,004	+4	+0.002 3	+0.000 000 231
85 %	10.20	+20	1,732,500,010	+10	+0.005 8	+0.000 000 577

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 : 1 880 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) : ± 0.000 25 % or 2.5 ppm

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	FREQUENCY (Hz)	FREQ.Dev (Hz)	Deviation	
					(ppm)	(%)
100 %	12	+20(Ref)	1,880,000,010	+10	+0.005 3	+0.000 000 532
100 %		-30	1,880,000,004	+4	+0.002 1	+0.000 000 213
100 %		-20	1,880,000,003	+3	+0.001 6	+0.000 000 160
100 %		-10	1,880,000,007	+7	+0.003 7	+0.000 000 372
100 %		0	1,879,999,990	-10	-0.005 3	-0.000 000 532
100 %		+10	1,880,000,003	+3	+0.001 6	+0.000 000 160
100 %		+20	1,880,000,010	+10	+0.005 3	+0.000 000 532
100 %		+30	1,879,999,996	-4	-0.002 1	-0.000 000 213
100 %		+40	1,880,000,005	+5	+0.002 7	+0.000 000 266
100 %		+50	1,879,999,996	-4	-0.002 1	-0.000 000 213
115 %	13.80	+20	1,879,999,999	-1	-0.000 5	-0.000 000 053
85 %	10.20	+20	1,879,999,990	-10	-0.005 3	-0.000 000 532

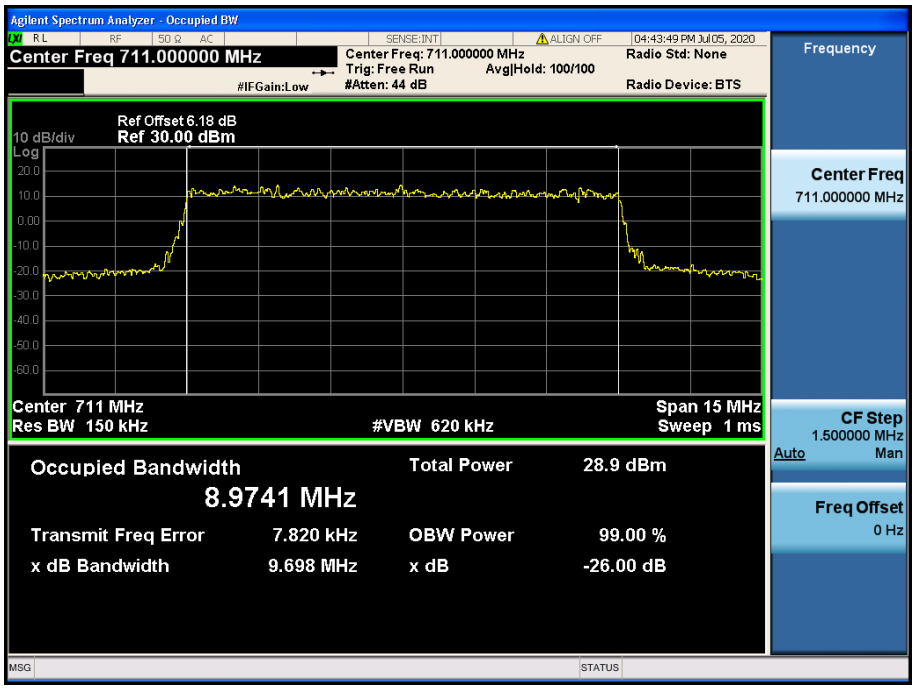
Note. Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain inband when the maximum measured frequency deviation noted during the frequency stability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

8. TEST PLOTS

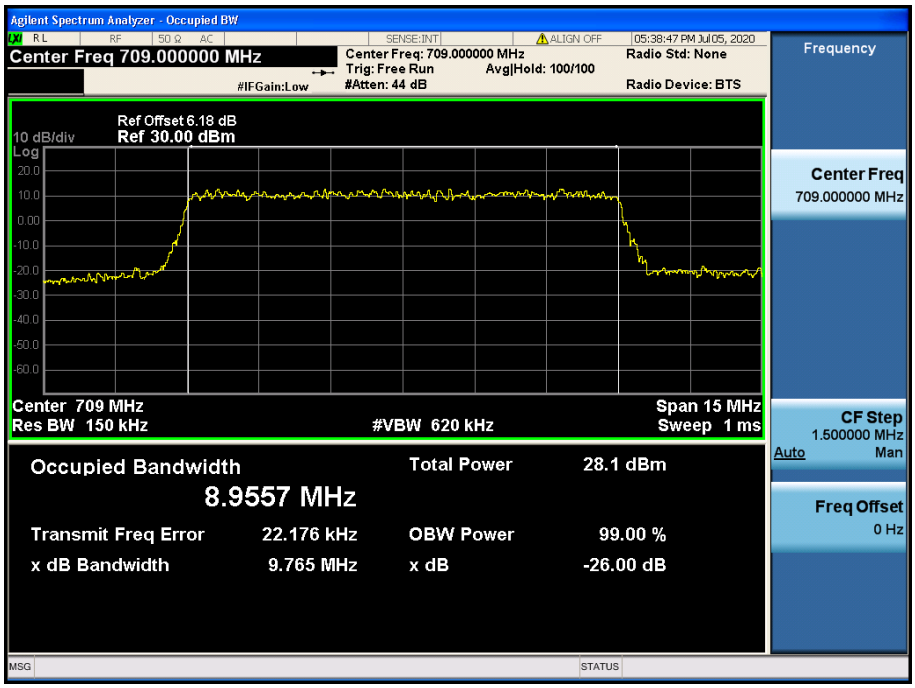
Note: All bandwidths, RB configurations, and modulations were investigated.
The worst case test results are reported.

8.1 OCCUPIED BANDWIDTH

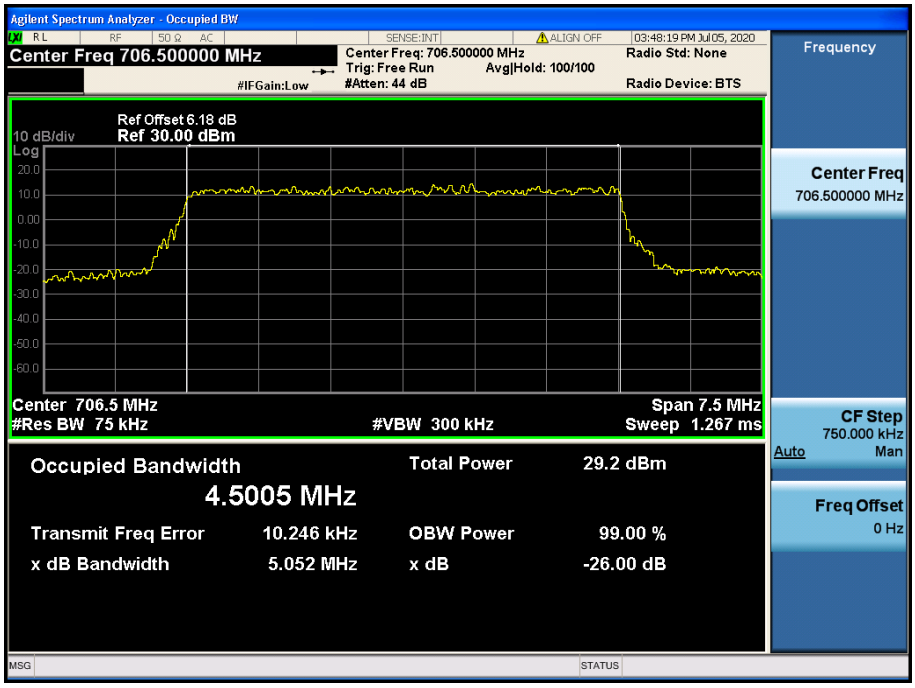
8.1.1 LTE Band 17



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



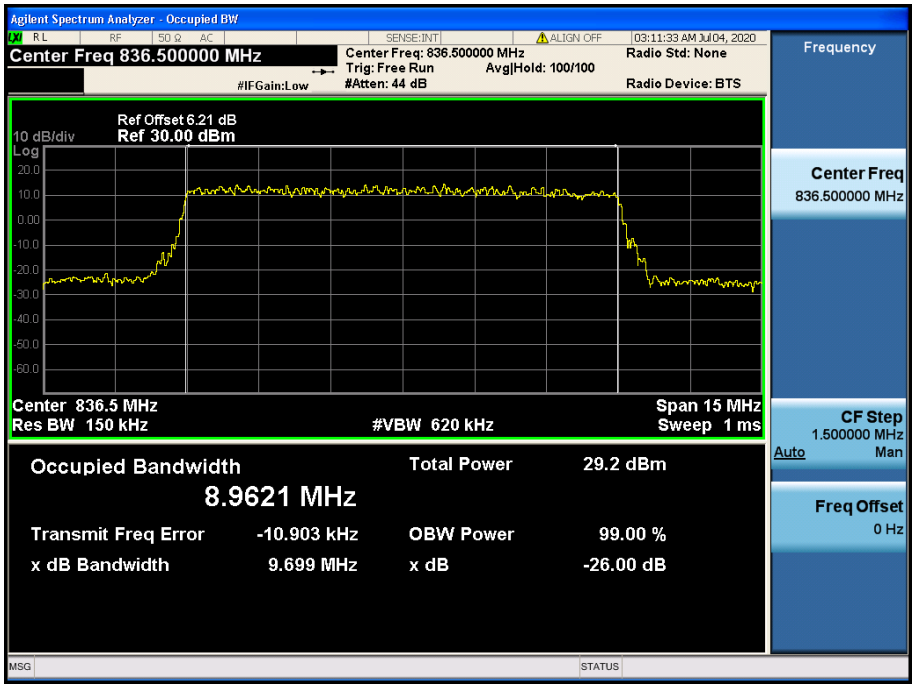
LTE Band 17 / 10 MHz / 16QAM - RB Size 50



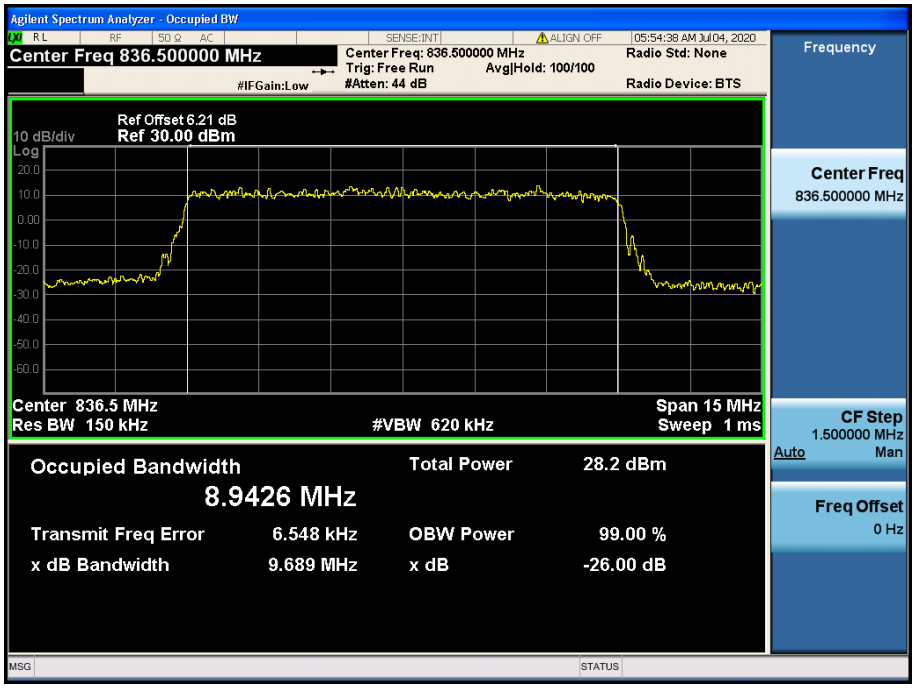
LTE Band 17 / 5 MHz / QPSK - RB Size 25

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

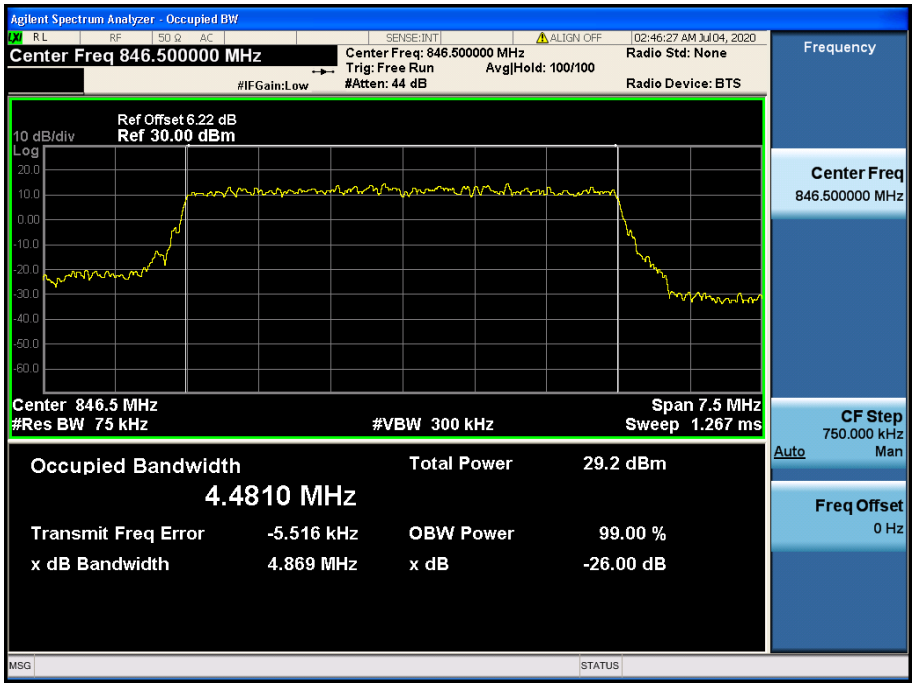
8.1.2 LTE Band 5



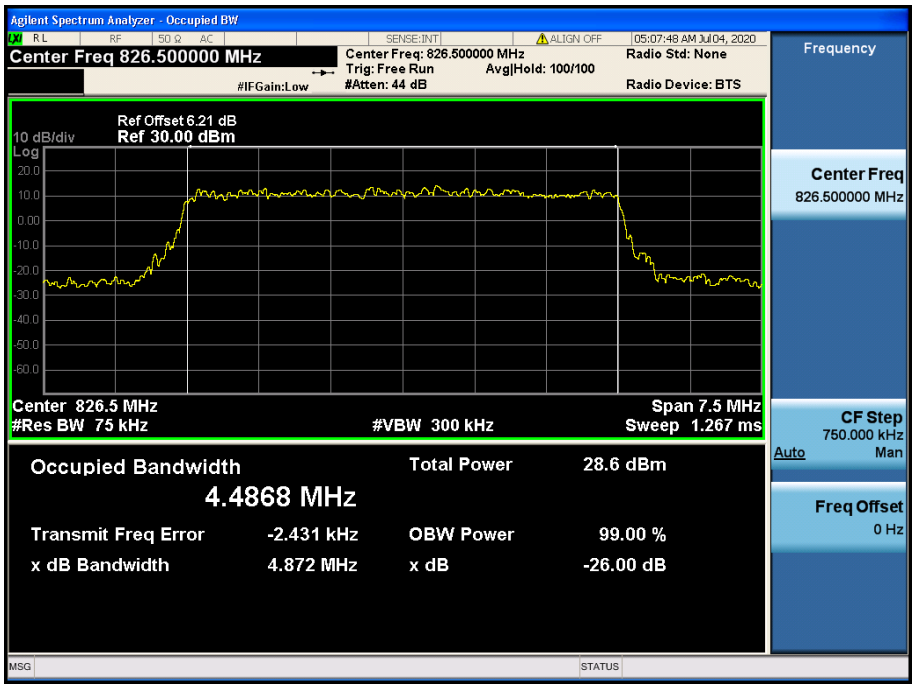
LTE Band 5 / 10 MHz / QPSK - RB Size 50



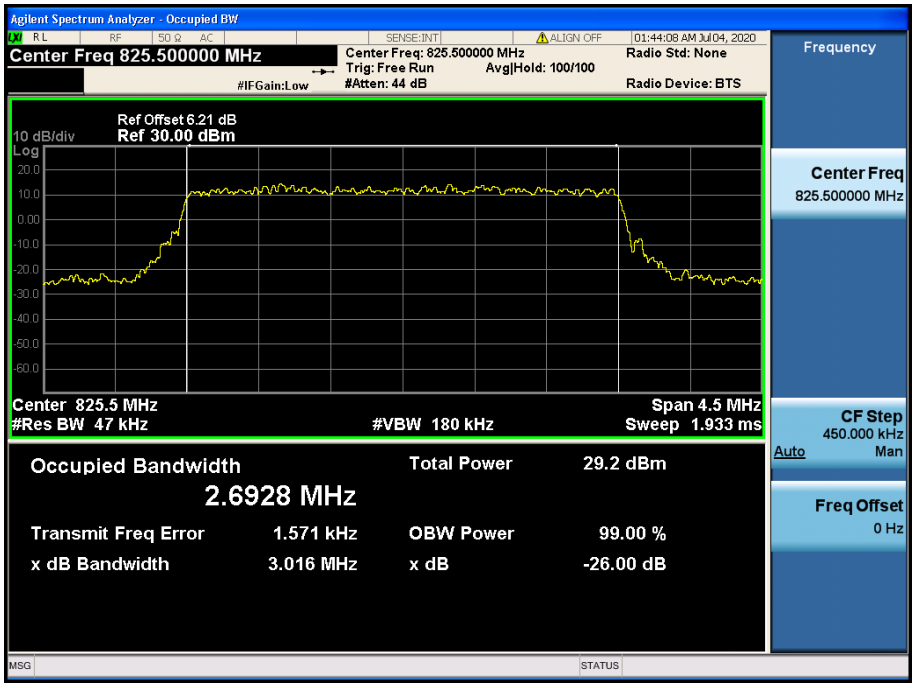
LTE Band 5 / 10 MHz / 16QAM - RB Size 50



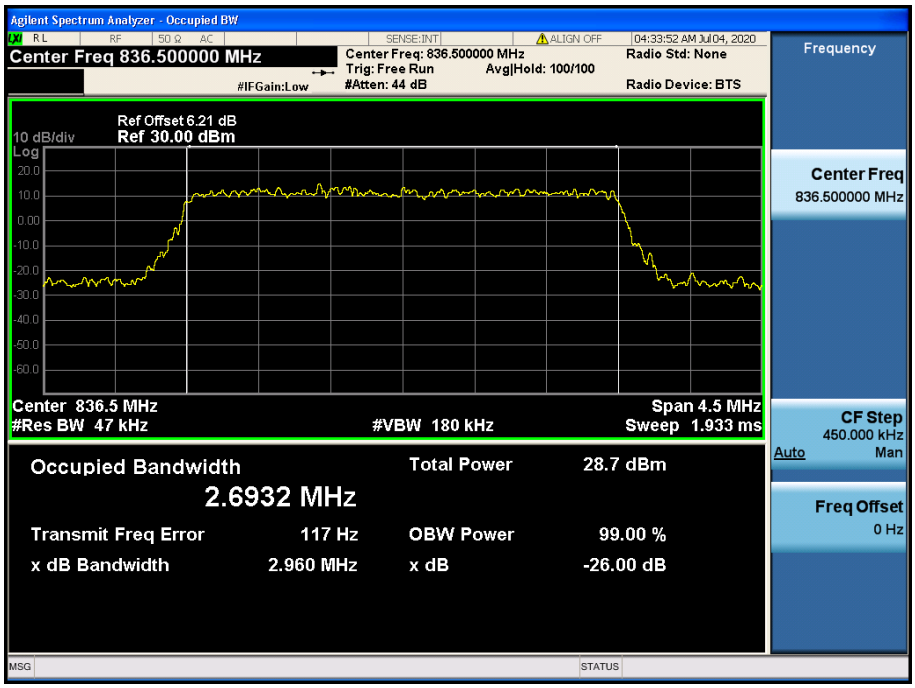
LTE Band 5 / 5 MHz / QPSK - RB Size 25



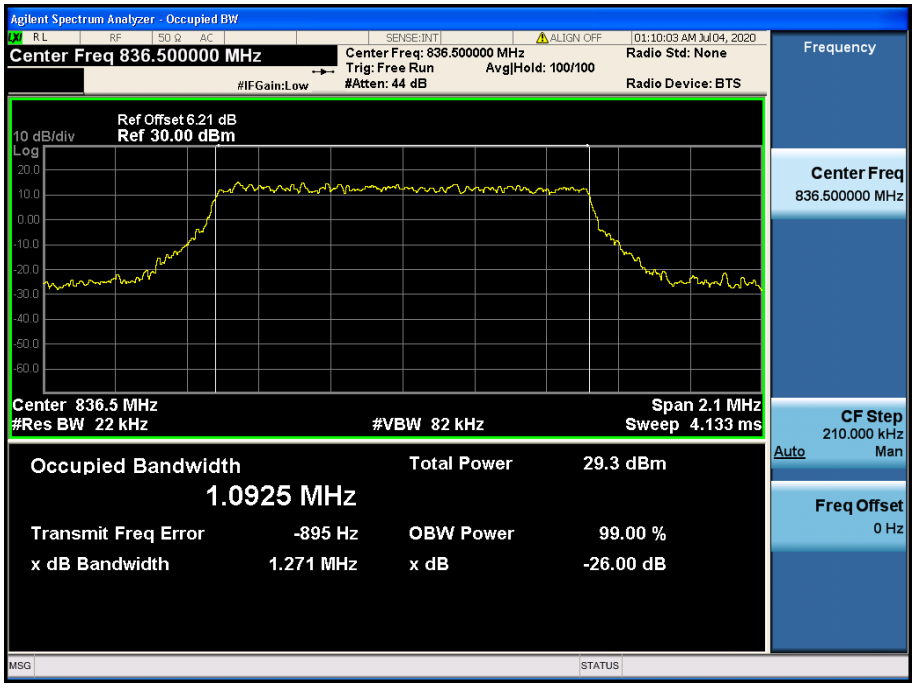
LTE Band 5 / 5 MHz / 16QAM - RB Size 25



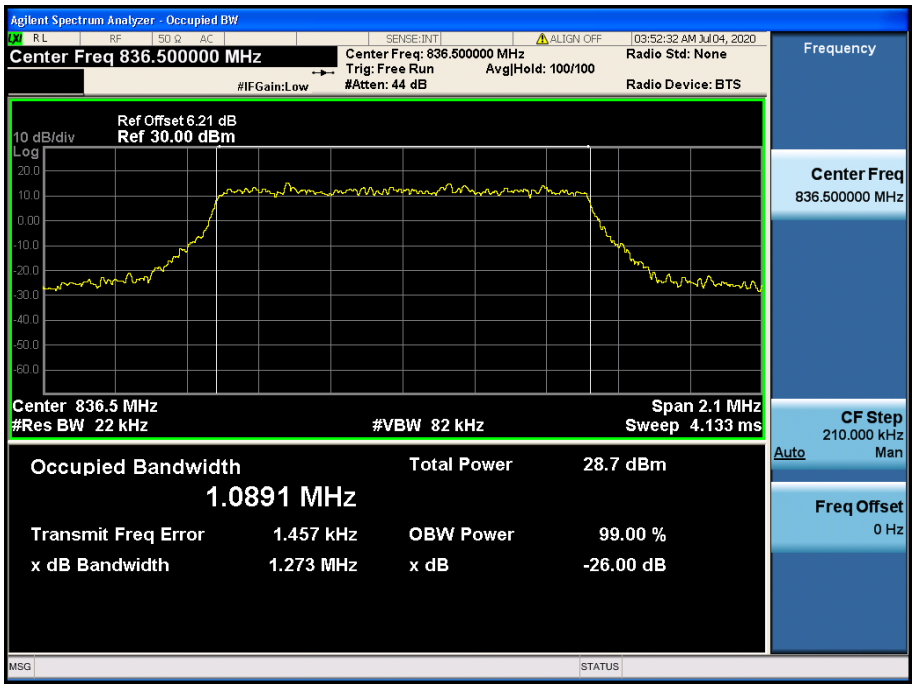
LTE Band 5 / 3 MHz / QPSK - RB Size 15



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

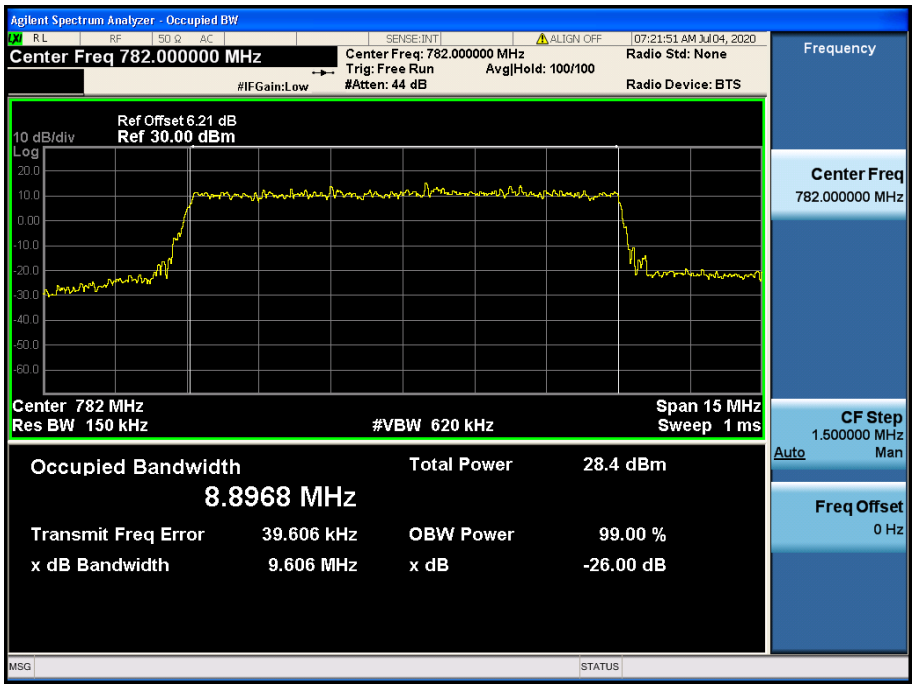


LTE Band 5 / 1.4 MHz / QPSK - RB Size 6

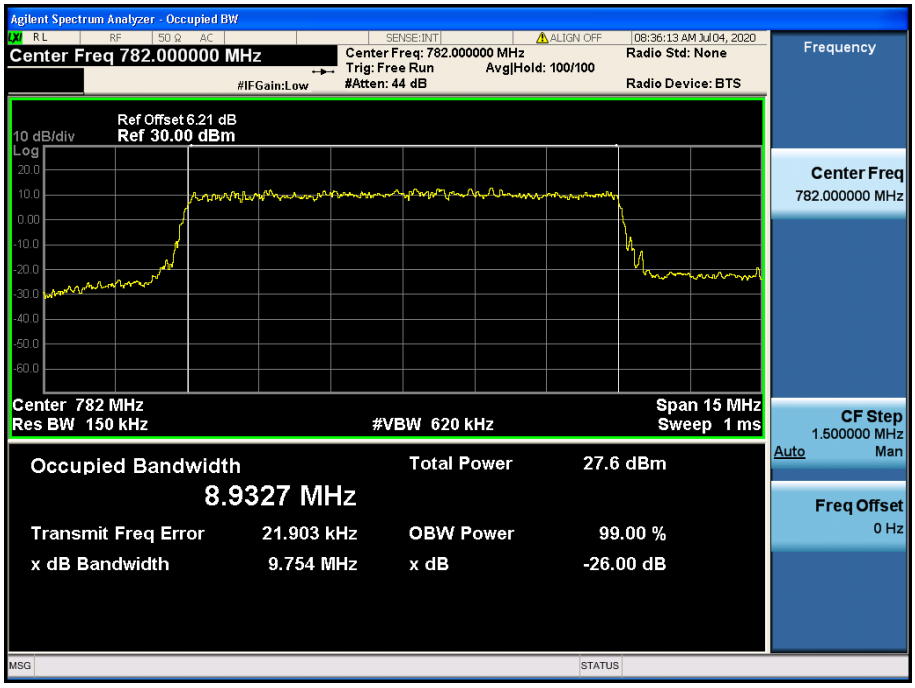


LTE Band 5 / 1.4 MHz / 16QAM - RB Size 6

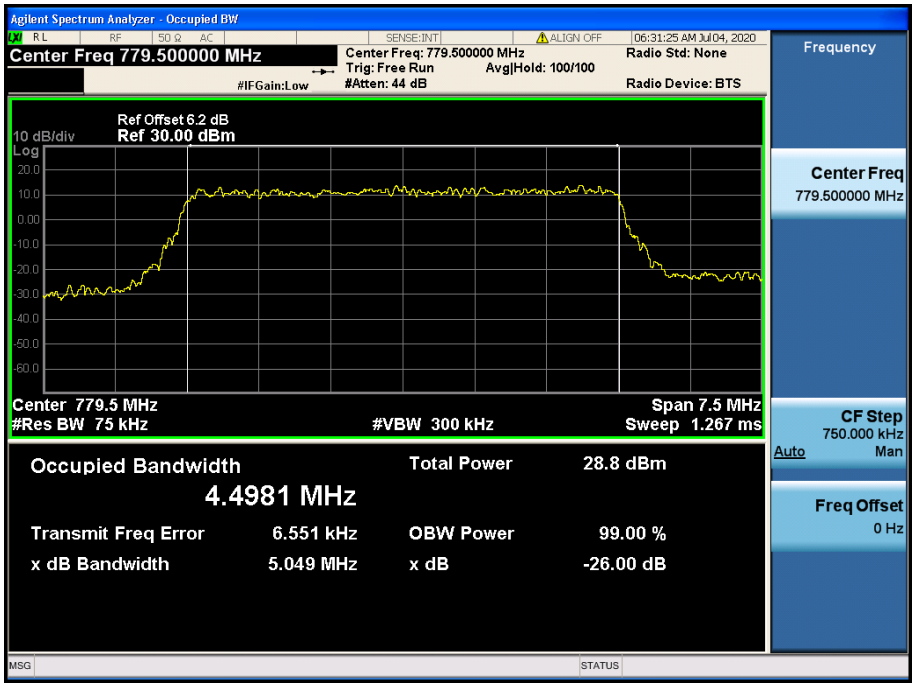
8.1.3 LTE Band 13



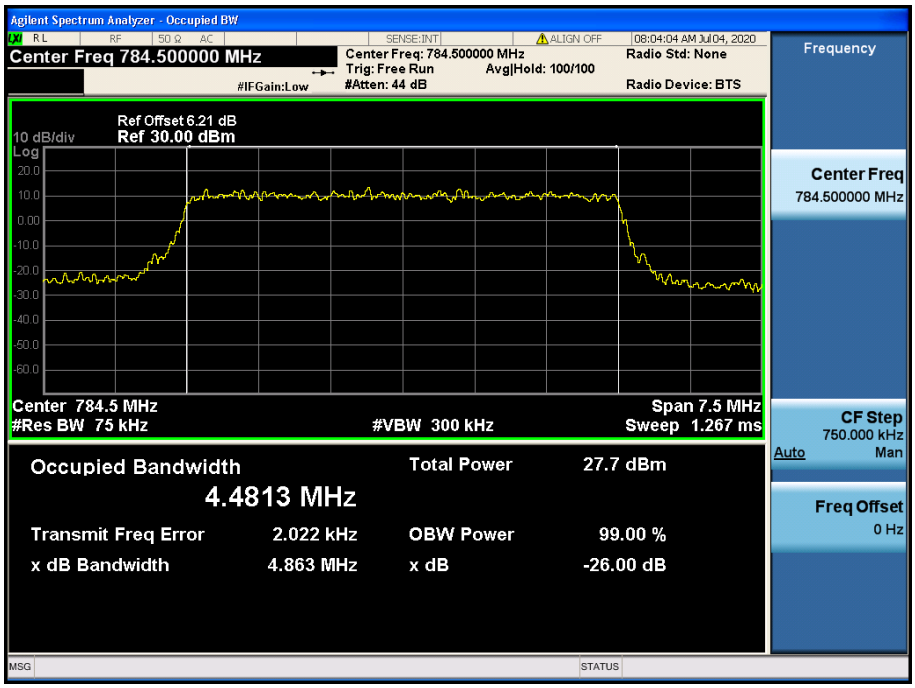
LTE Band 13 / 10 MHz / QPSK - RB Size 50



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

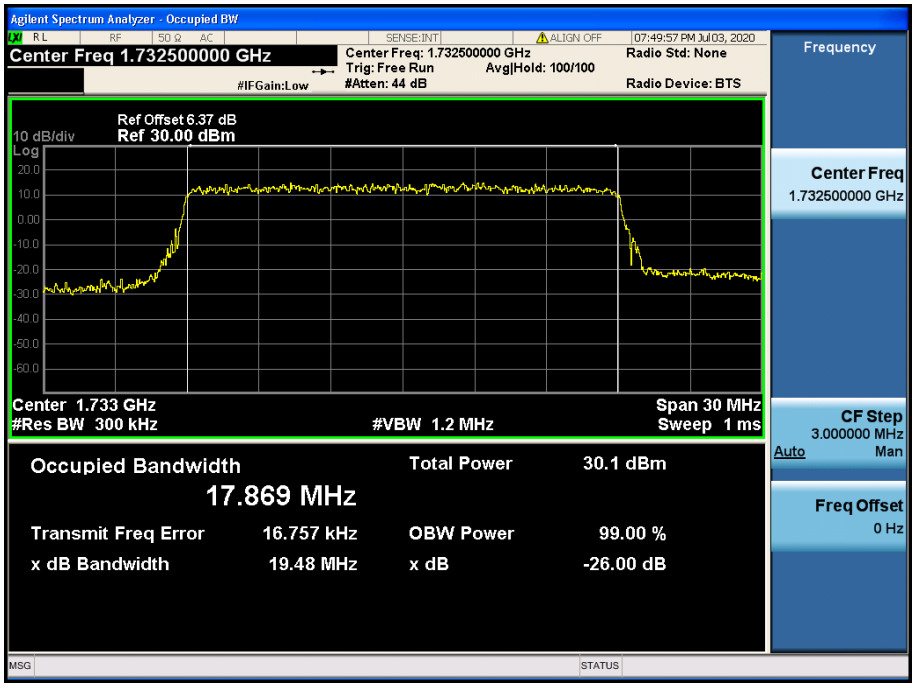


LTE Band 13 / 5 MHz / QPSK - RB Size 25

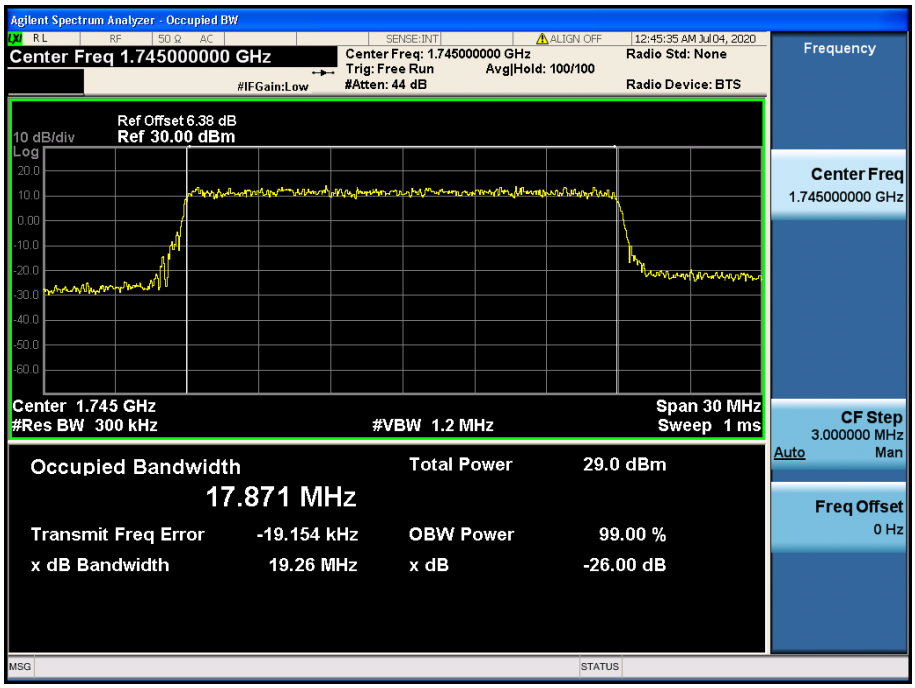


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

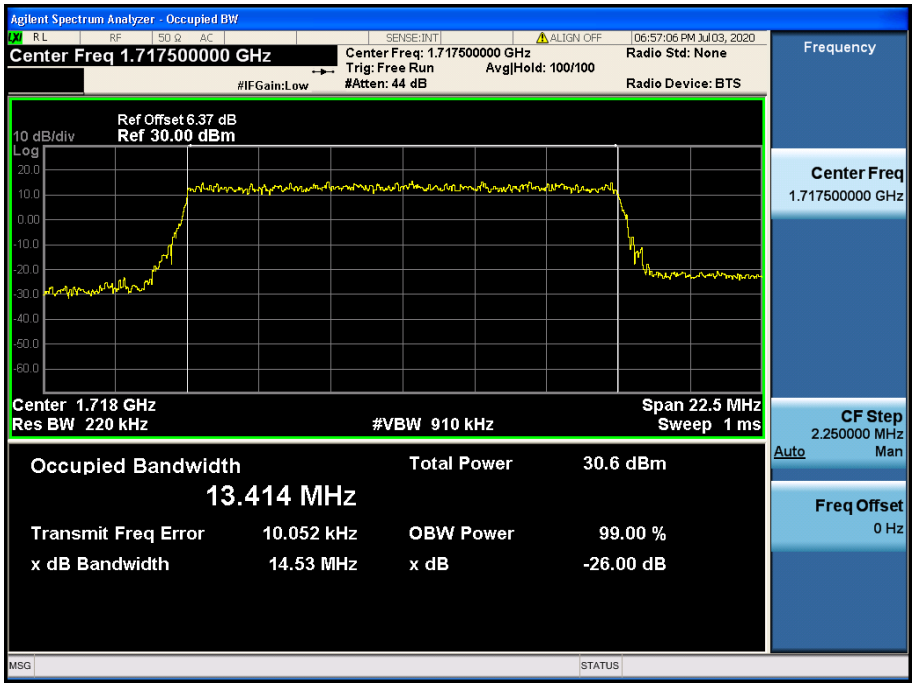
8.1.4 LTE Band 4



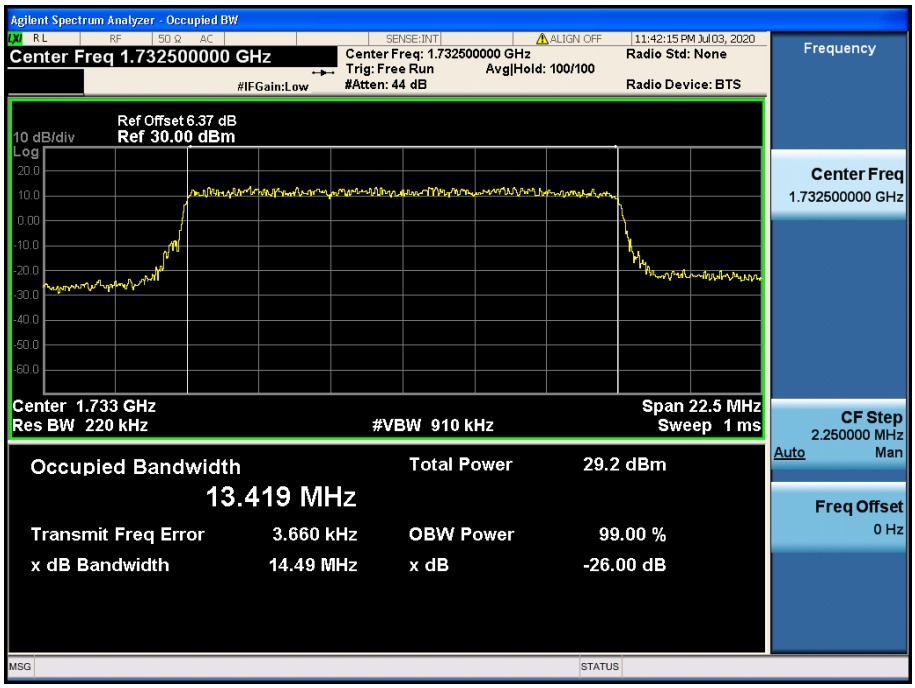
LTE Band 4 / 20 MHz / QPSK - RB Size 100



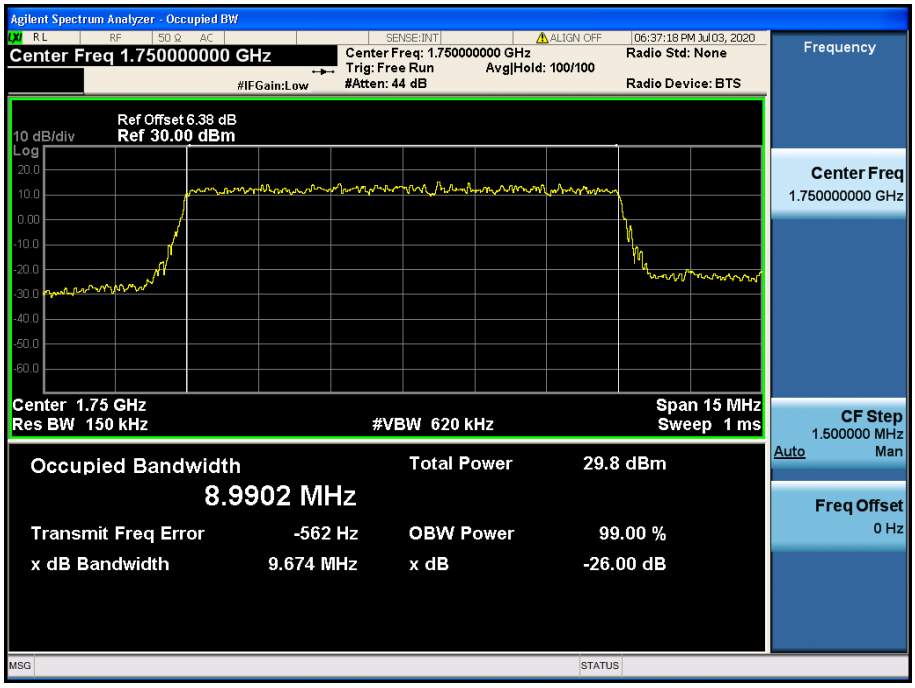
LTE Band 4 / 20 MHz / 16QAM - RB Size 100



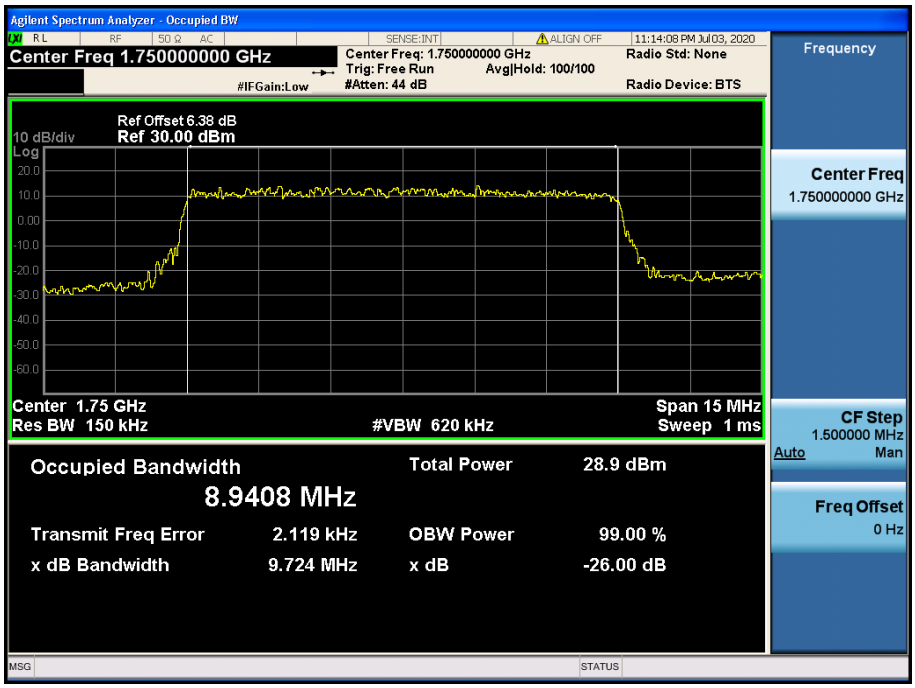
LTE Band 4 / 15 MHz / QPSK - RB Size 75



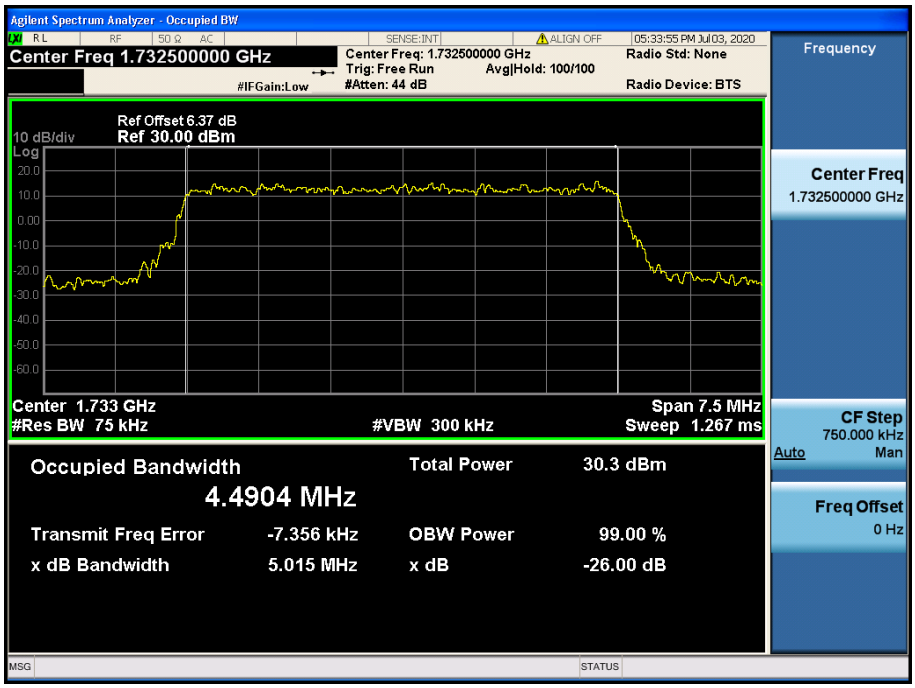
LTE Band 4 / 15 MHz / 16QAM - RB Size 75



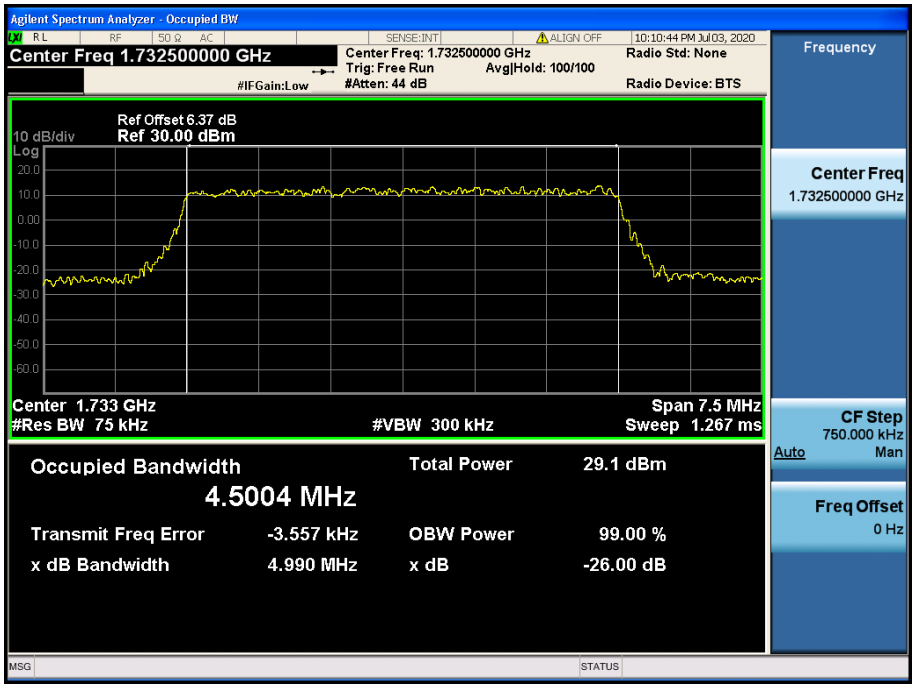
LTE Band 4 / 10 MHz / QPSK - RB Size 50



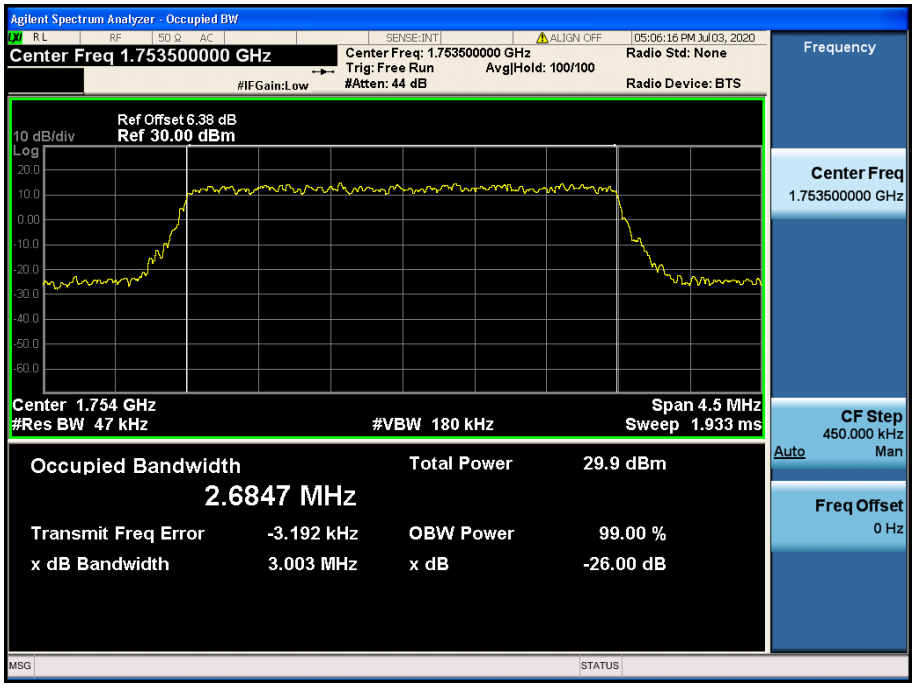
LTE Band 4 / 10 MHz / 16QAM - RB Size 50



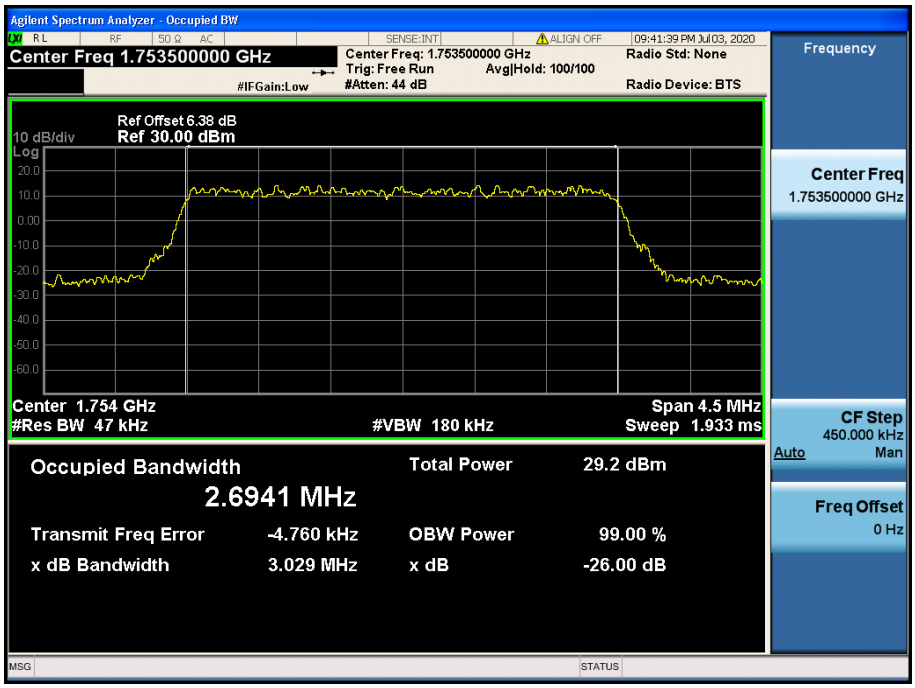
LTE Band 4 / 5 MHz / QPSK - RB Size 25



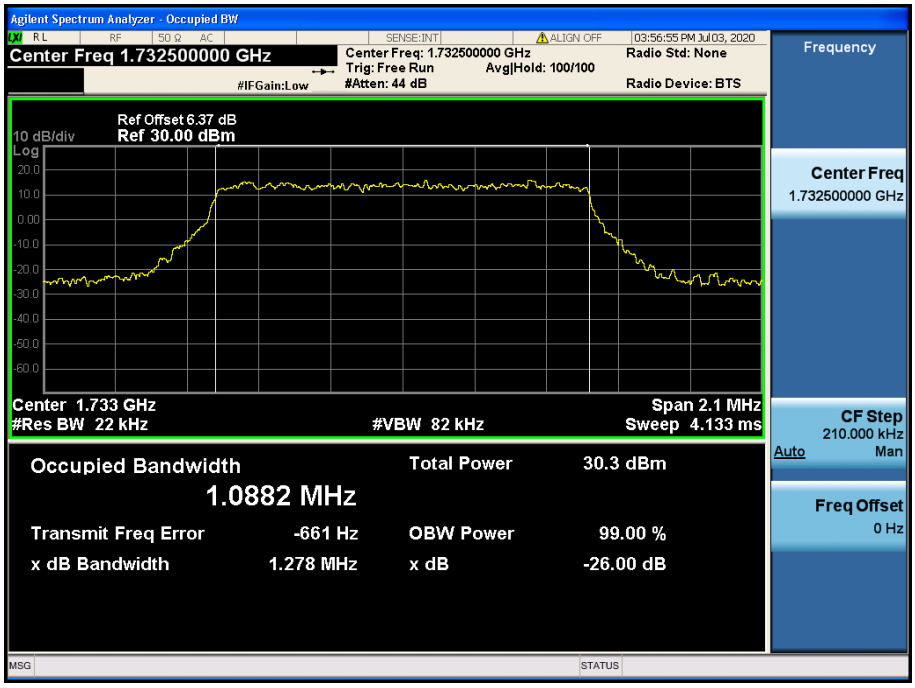
LTE Band 4 / 5 MHz / 16QAM - RB Size 25



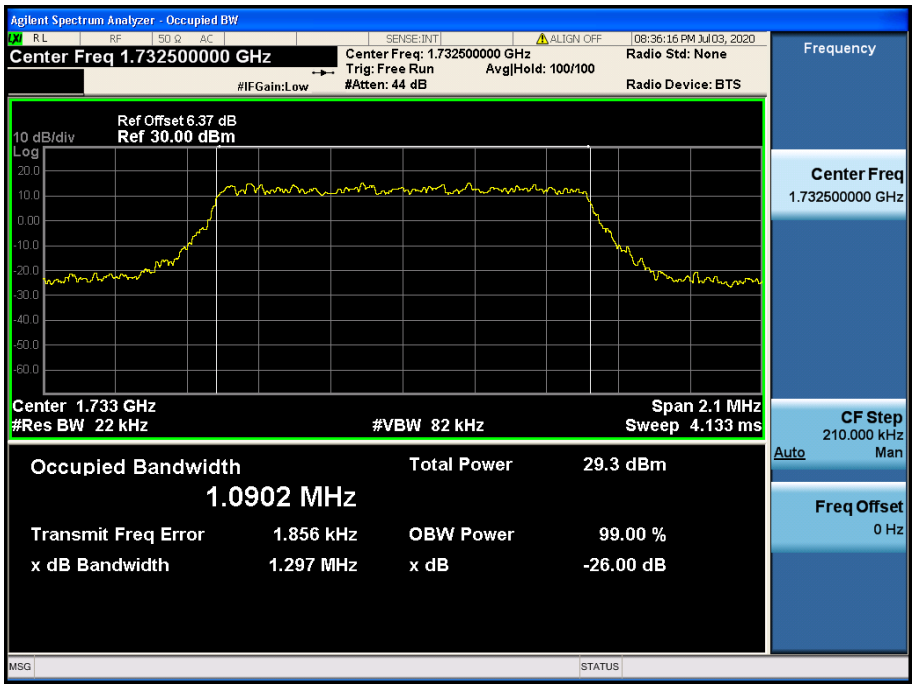
LTE Band 4 / 3 MHz / QPSK - RB Size 15



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

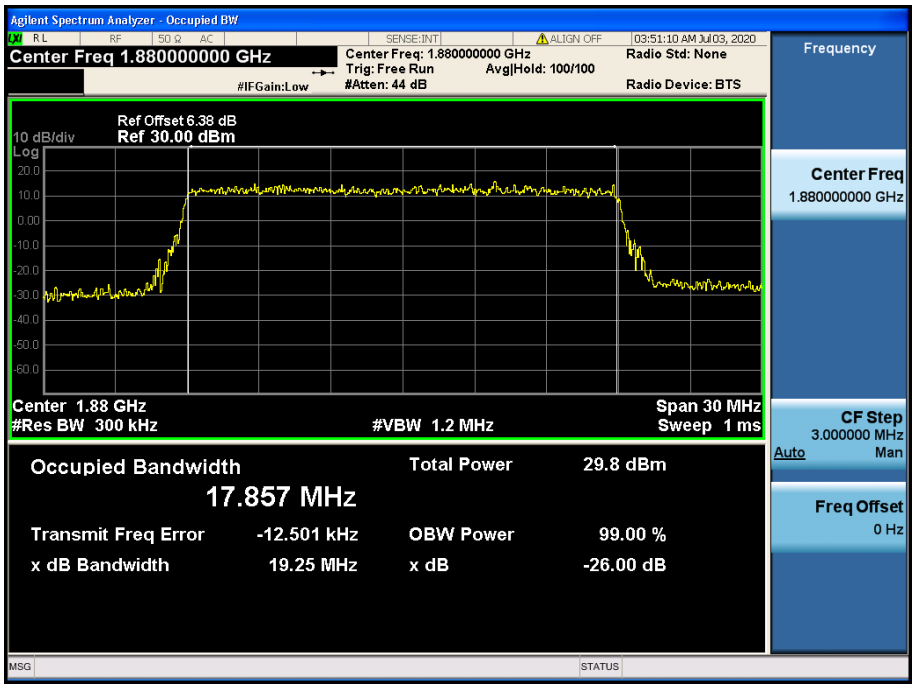


LTE Band 4 / 1.4 MHz / QPSK - RB Size 6

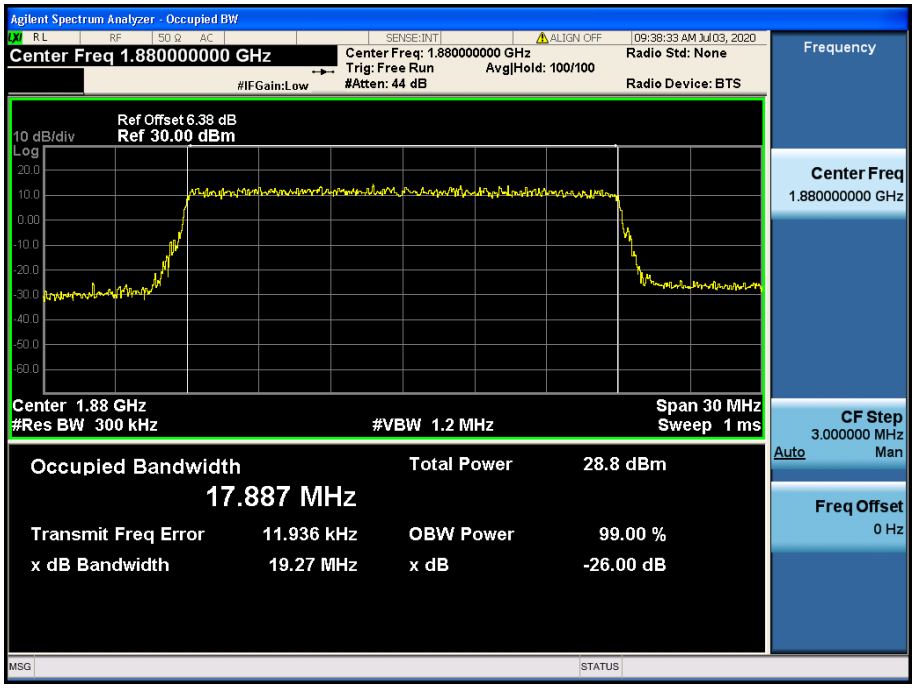


LTE Band 4 / 1.4 MHz / 16QAM - RB Size 6

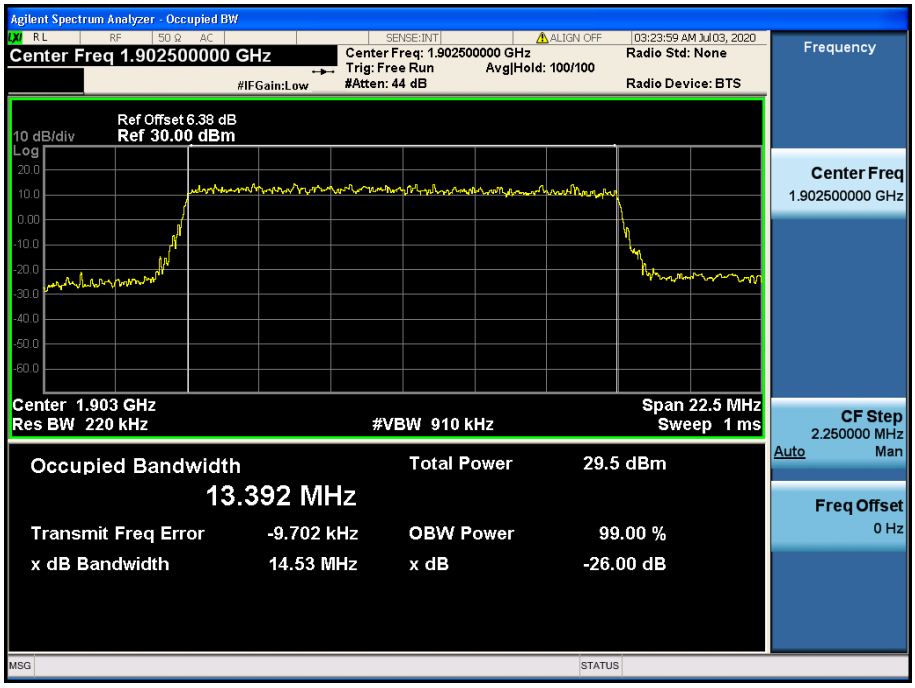
8.1.5 LTE Band 2



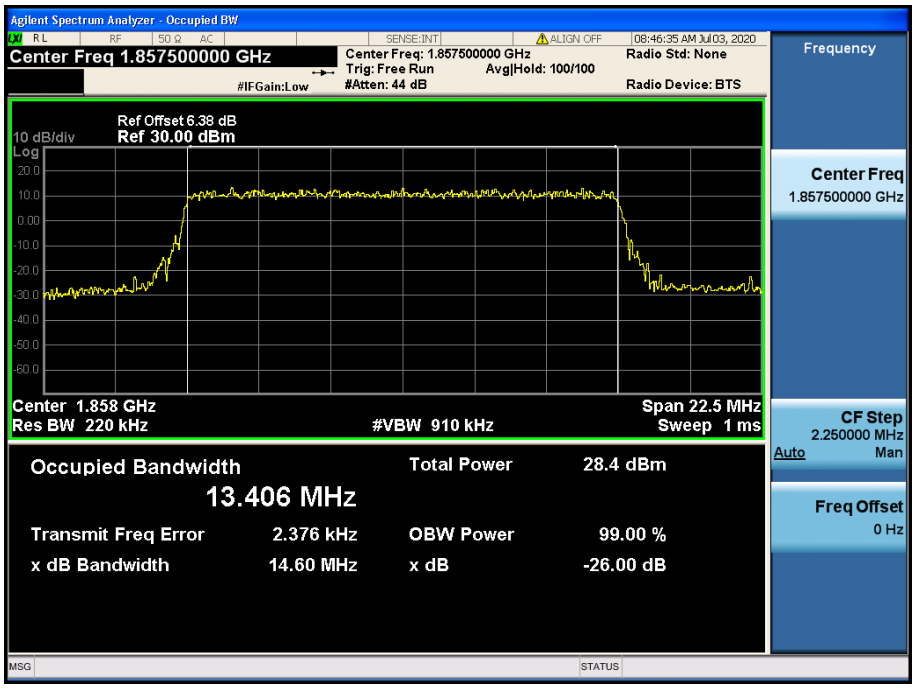
LTE Band 2 / 20 MHz / QPSK - RB Size 100



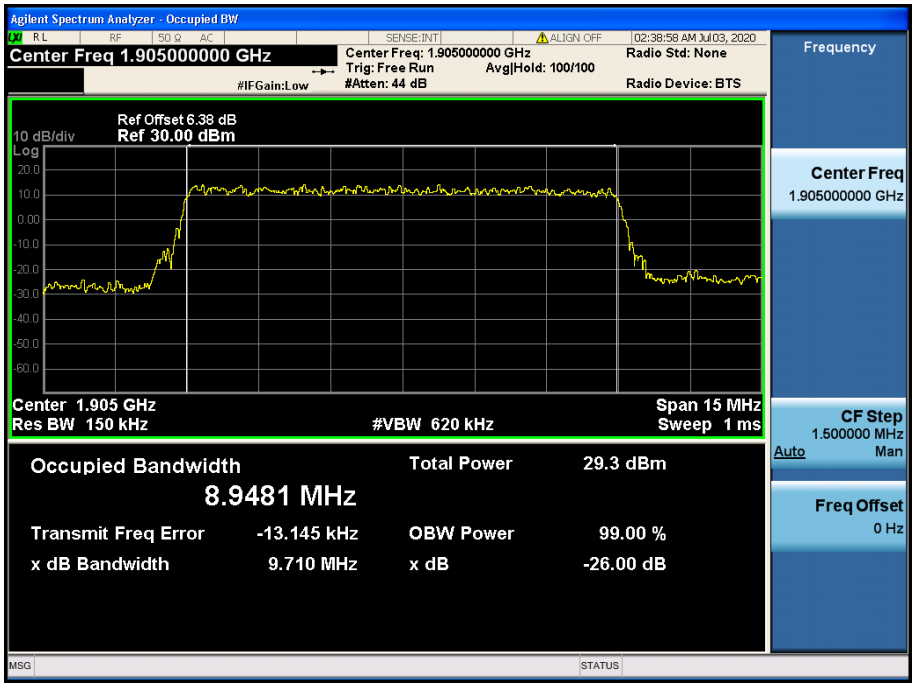
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



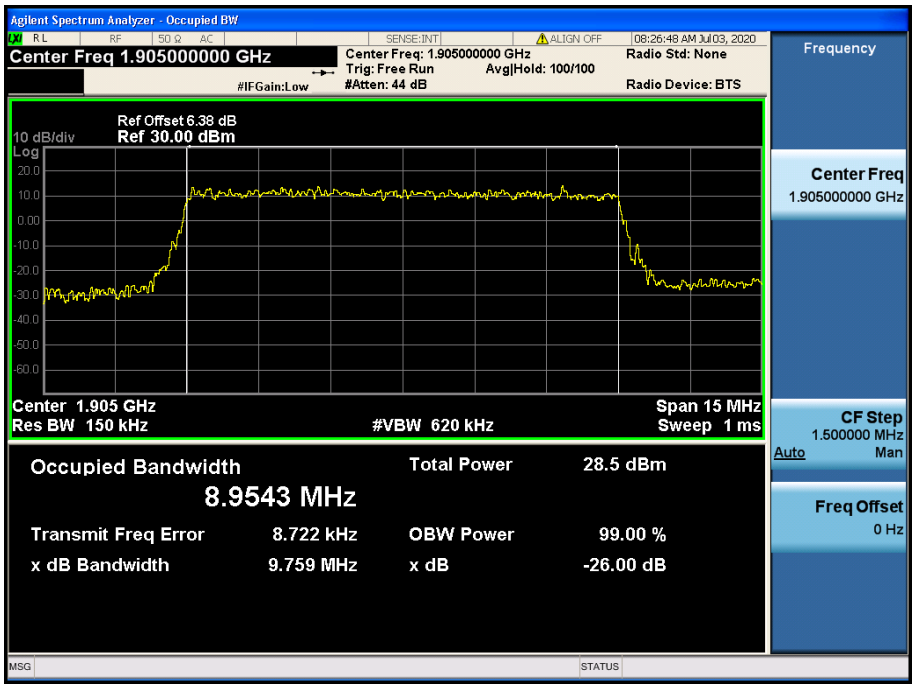
LTE Band 2 / 15 MHz / QPSK - RB Size 75



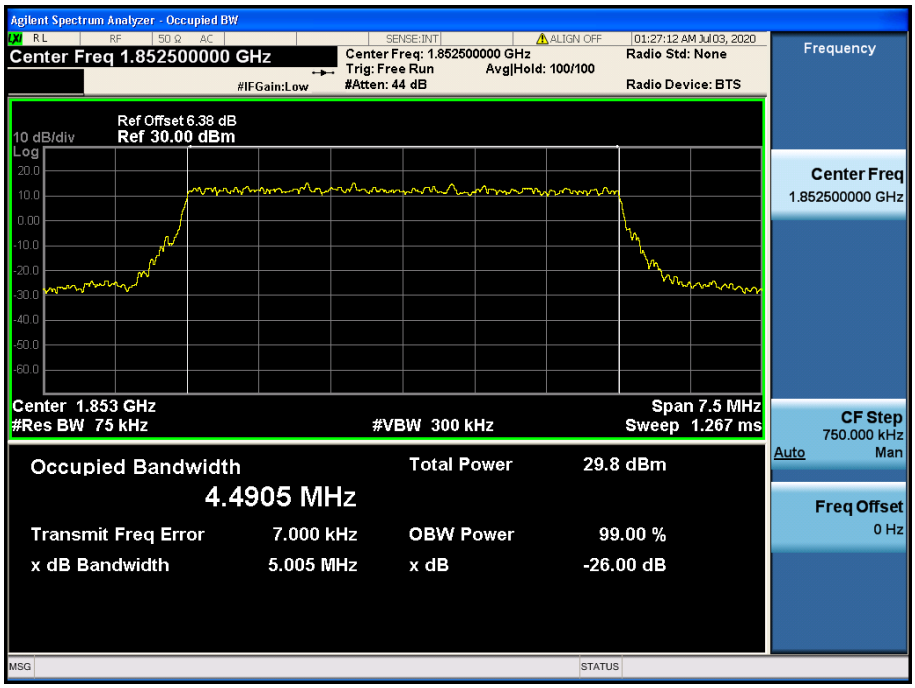
LTE Band 2 / 15 MHz / 16QAM - RB Size 75



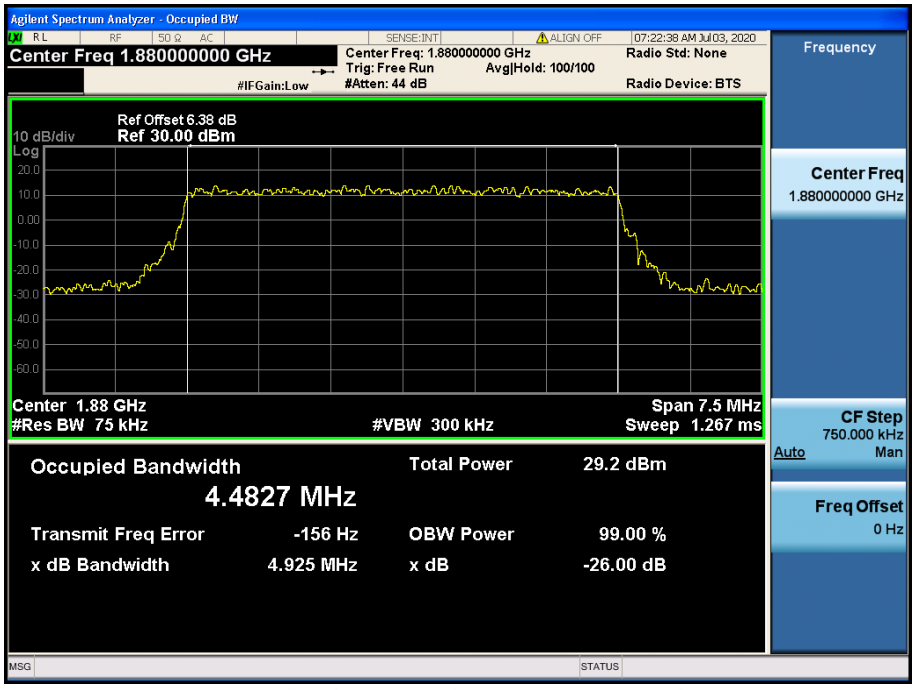
LTE Band 2 / 10 MHz / QPSK - RB Size 50



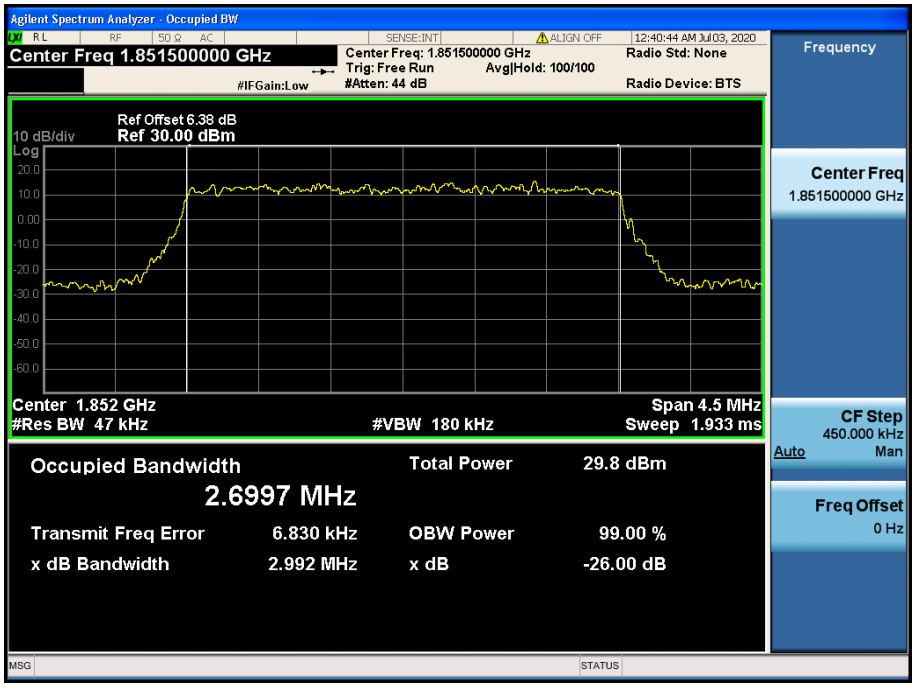
LTE Band 2 / 10 MHz / 16QAM - RB Size 50



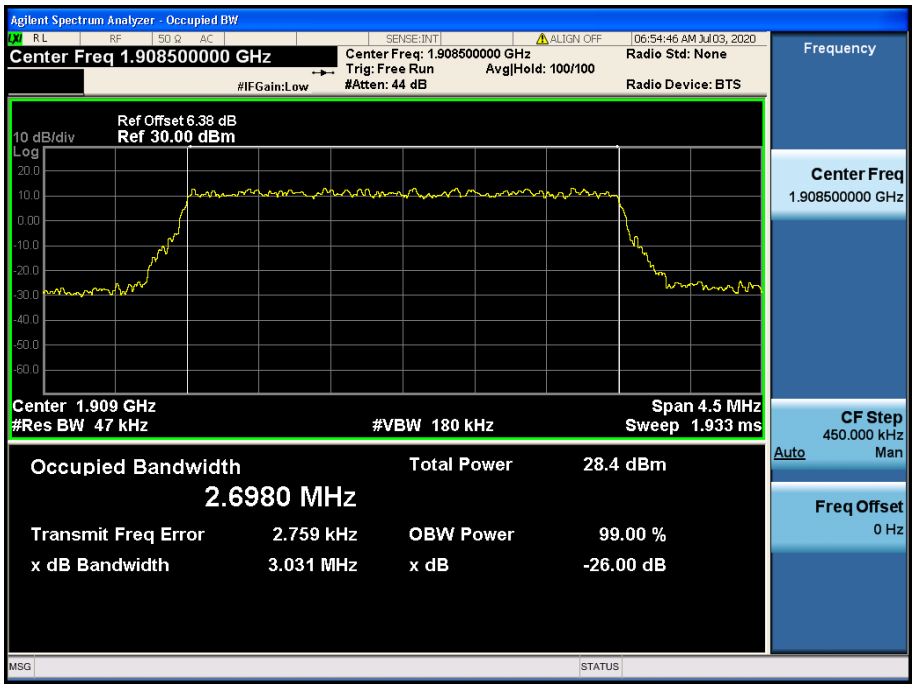
LTE Band 2 / 5 MHz / QPSK - RB Size 25



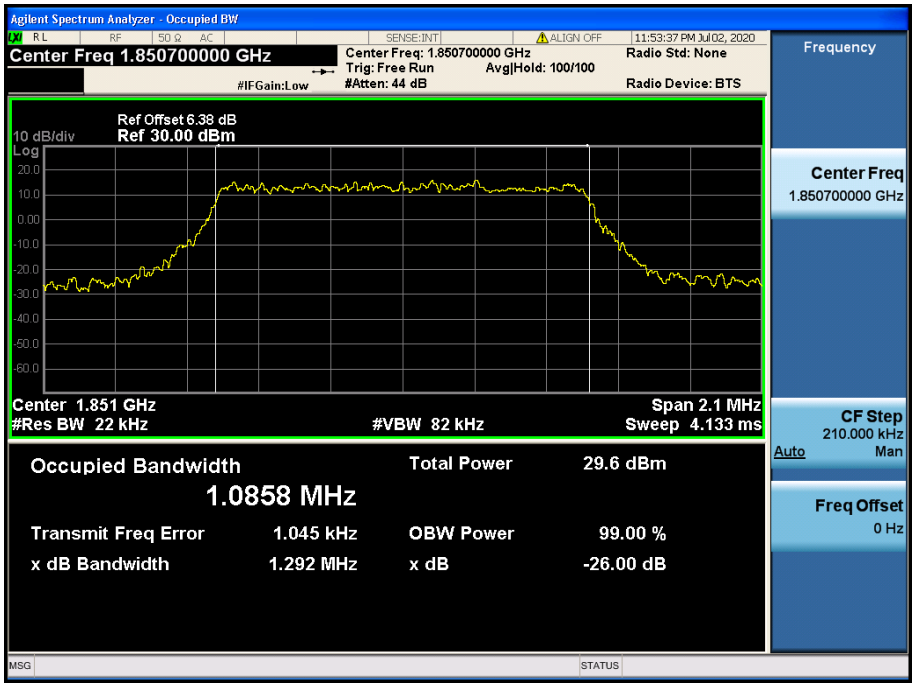
LTE Band 2 / 5 MHz / 16QAM - RB Size 25



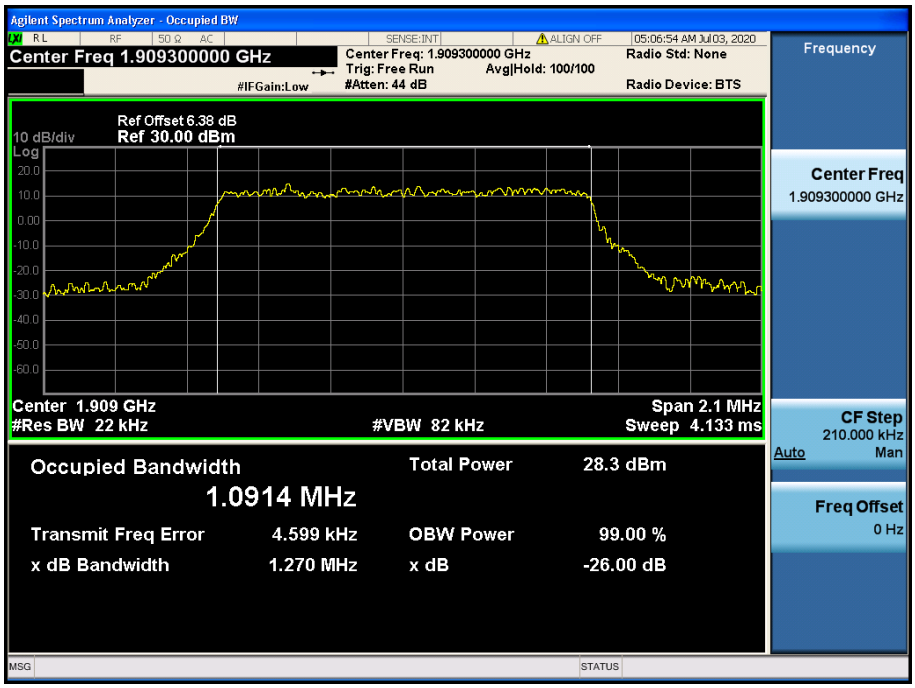
LTE Band 2 / 3 MHz / QPSK - RB Size 15



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



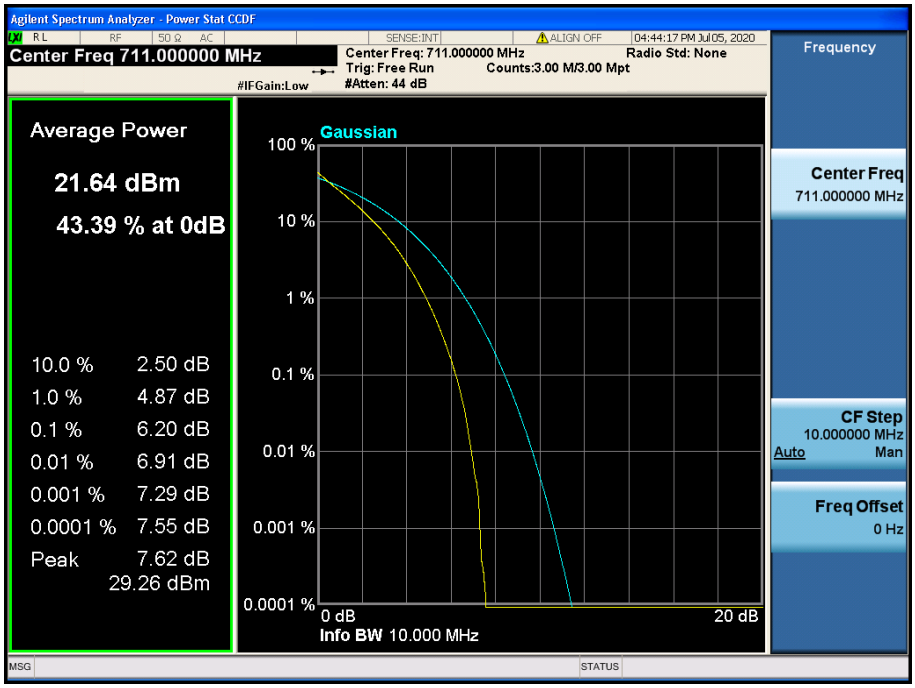
LTE Band 2 / 1.4 MHz / QPSK - RB Size 6



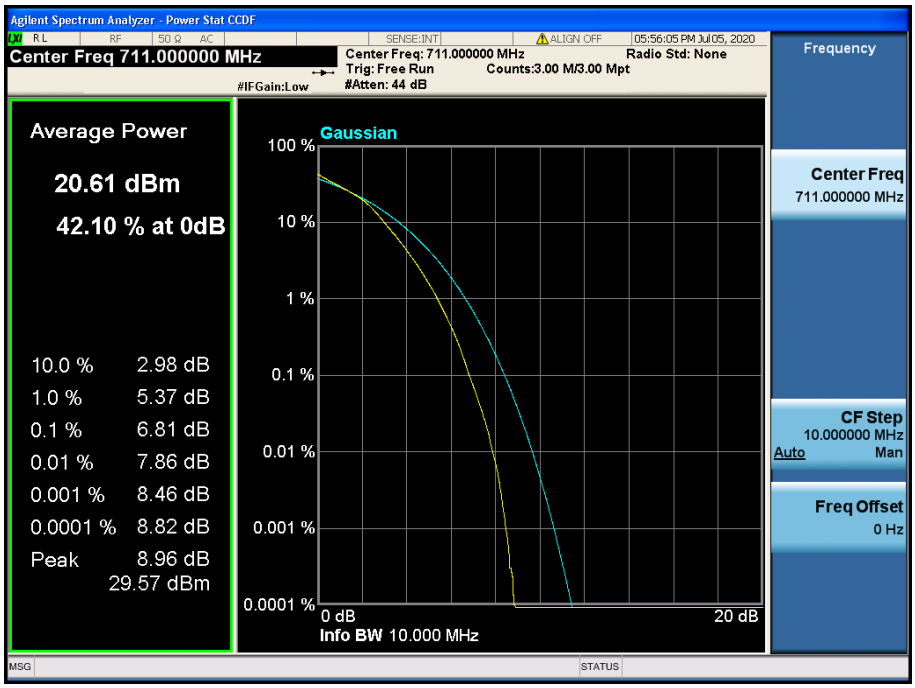
LTE Band 2 / 1.4 MHz / 16QAM - RB Size 6

8.2 PEAK TO AVERAGE RATIO

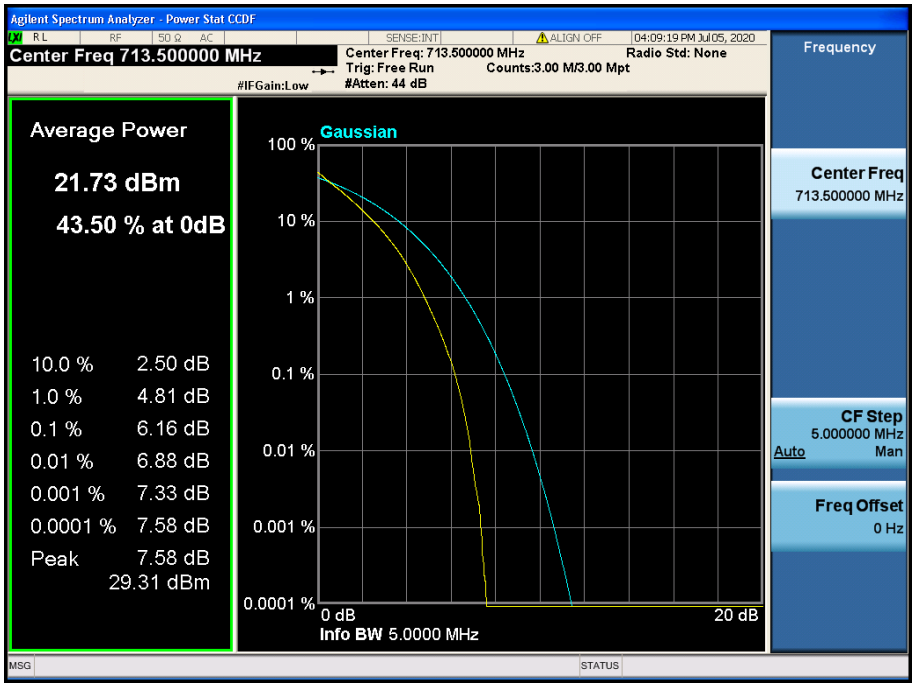
8.2.1 LTE Band 17



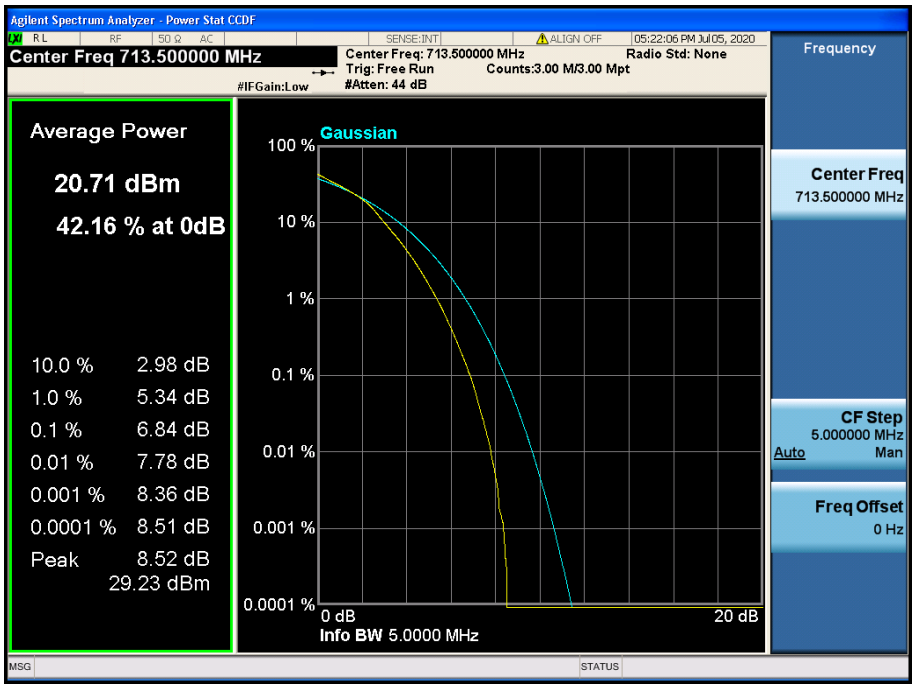
LTE Band 17 / 10 MHz / QPSK - RB Size 50



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

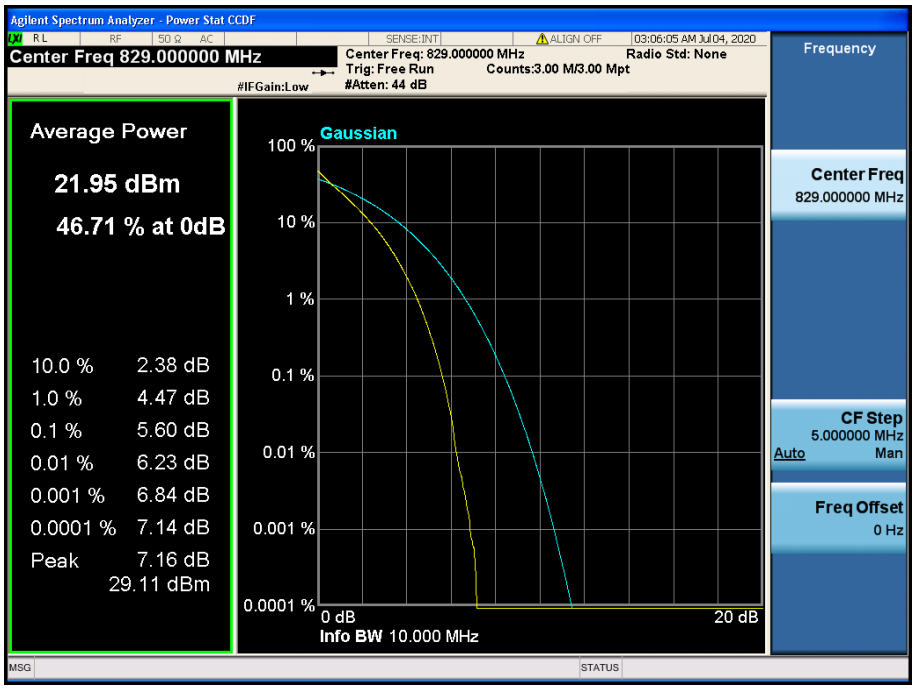


LTE Band 17 / 5 MHz / QPSK - RB Size 25

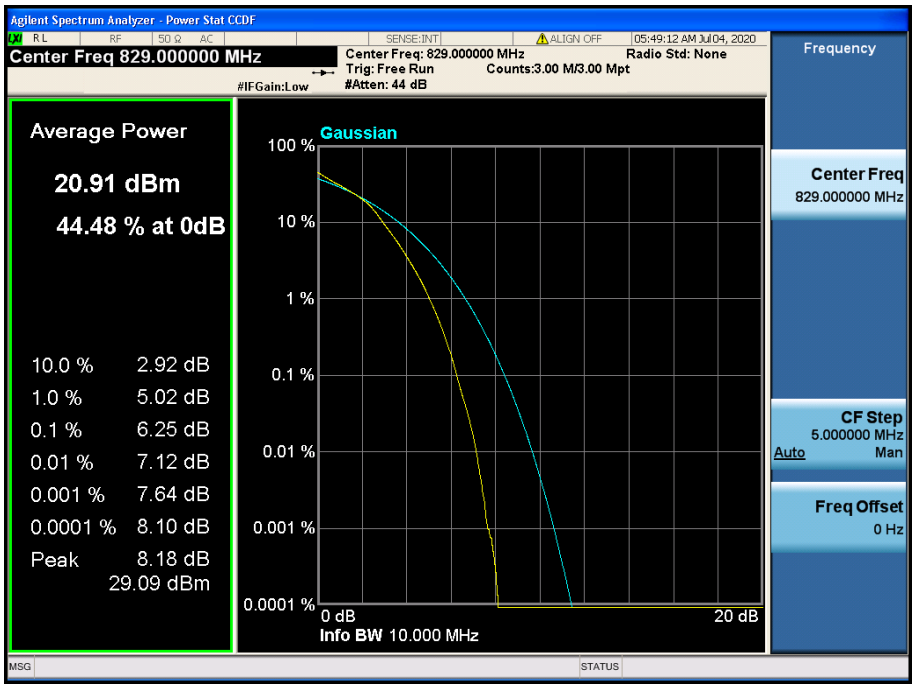


LTE Band 17 / 5 MHz / 16QAM - RB Size 25

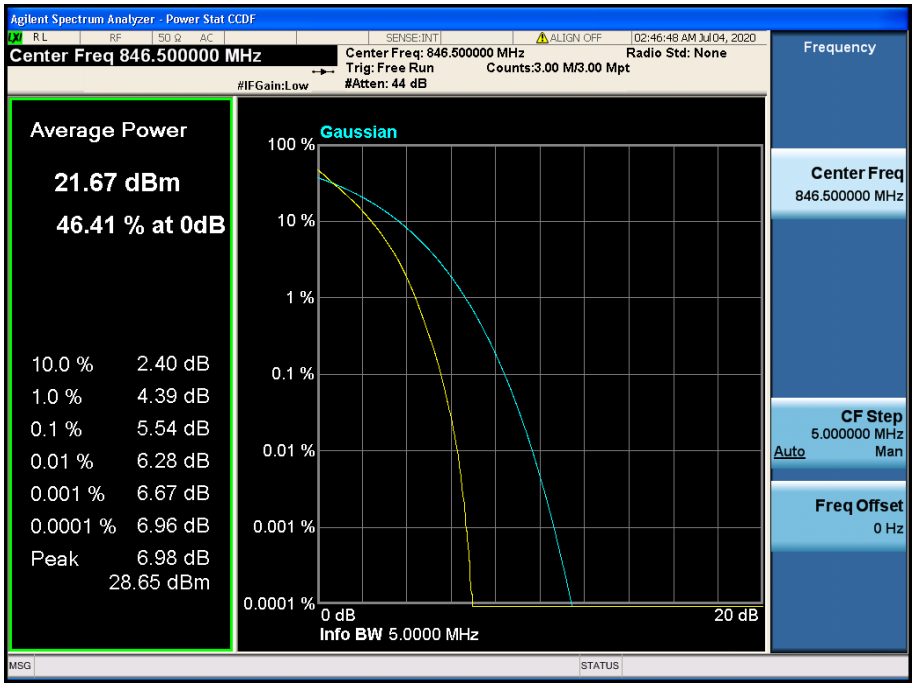
8.2.2 LTE Band 5



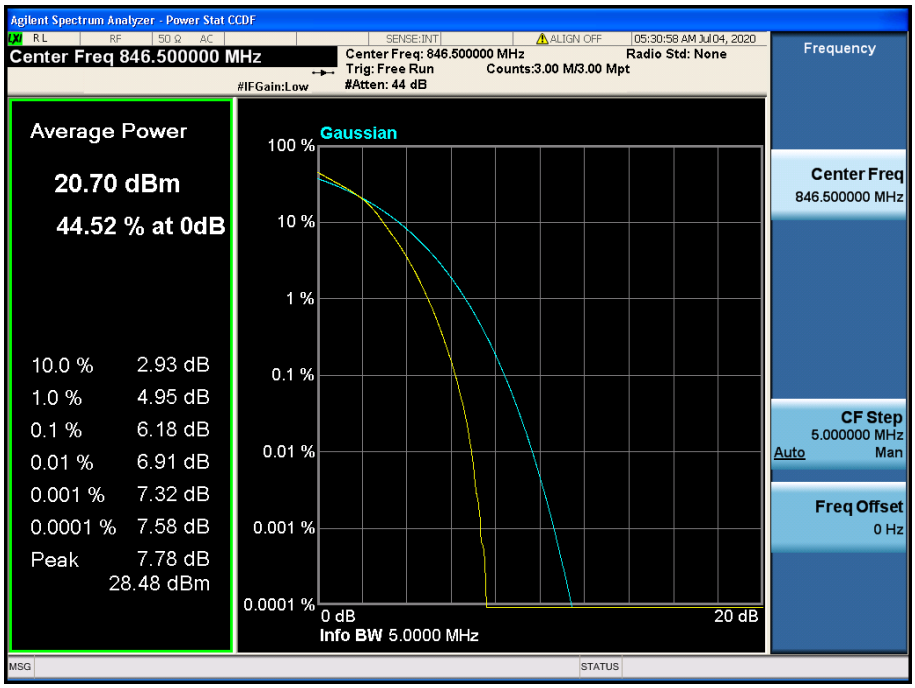
LTE Band 5 / 10 MHz / QPSK - RB Size 50



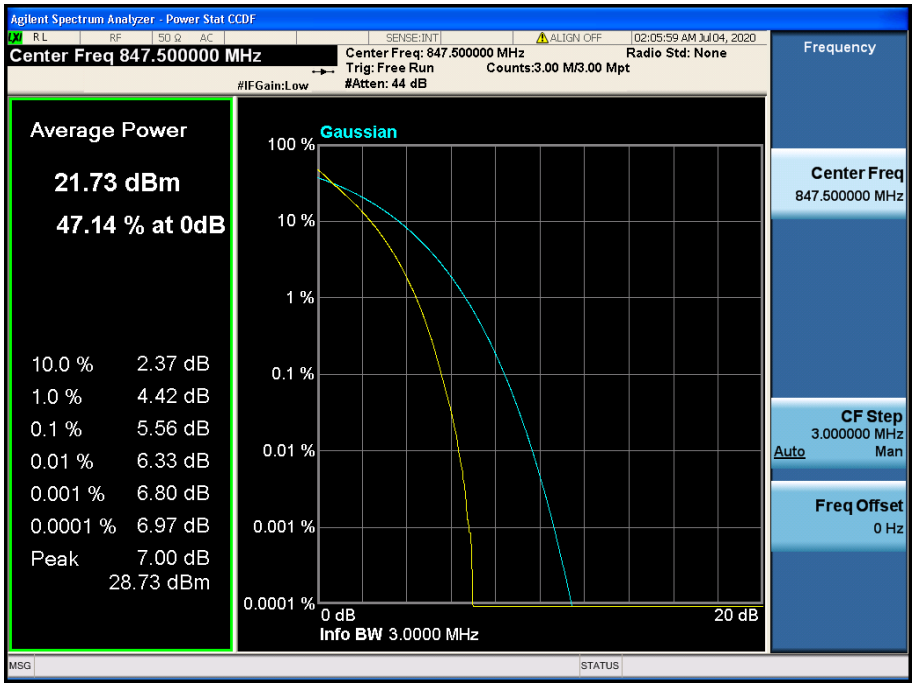
LTE Band 5 / 10 MHz / 16QAM - RB Size 50



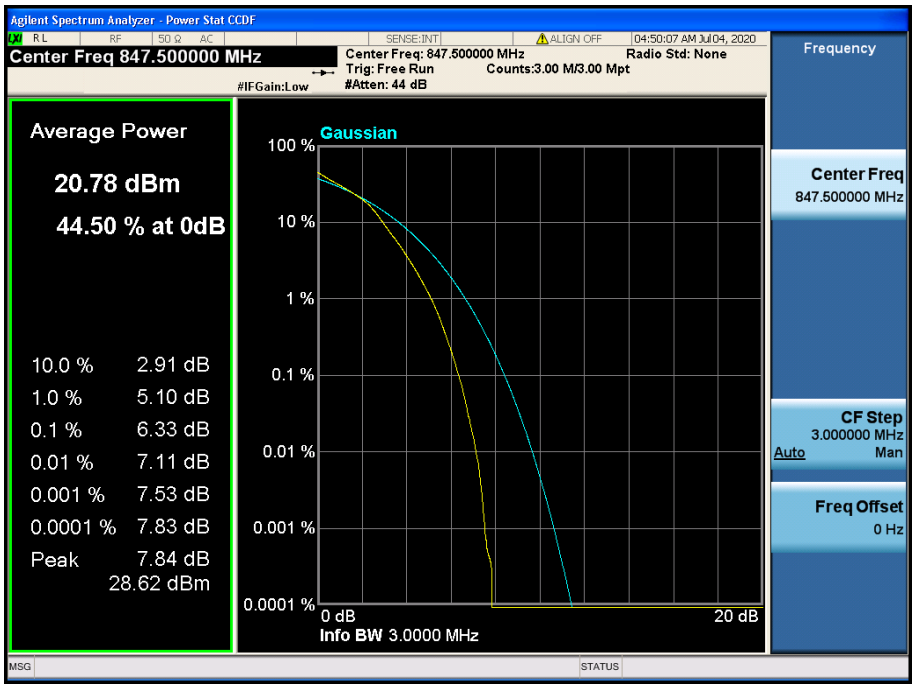
LTE Band 5 / 5 MHz / QPSK - RB Size 25



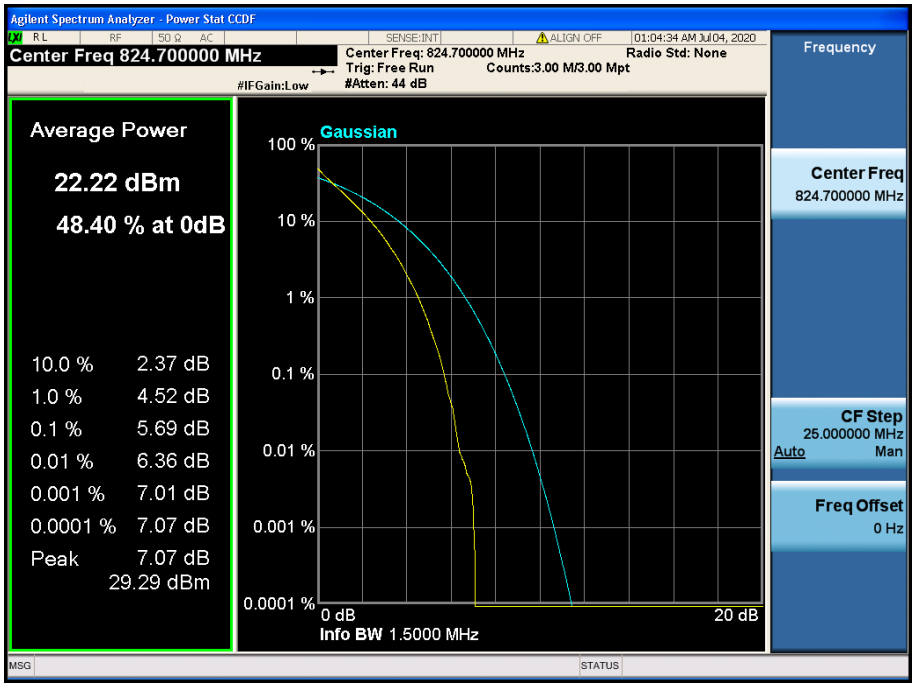
LTE Band 5 / 5 MHz / 16QAM - RB Size 25



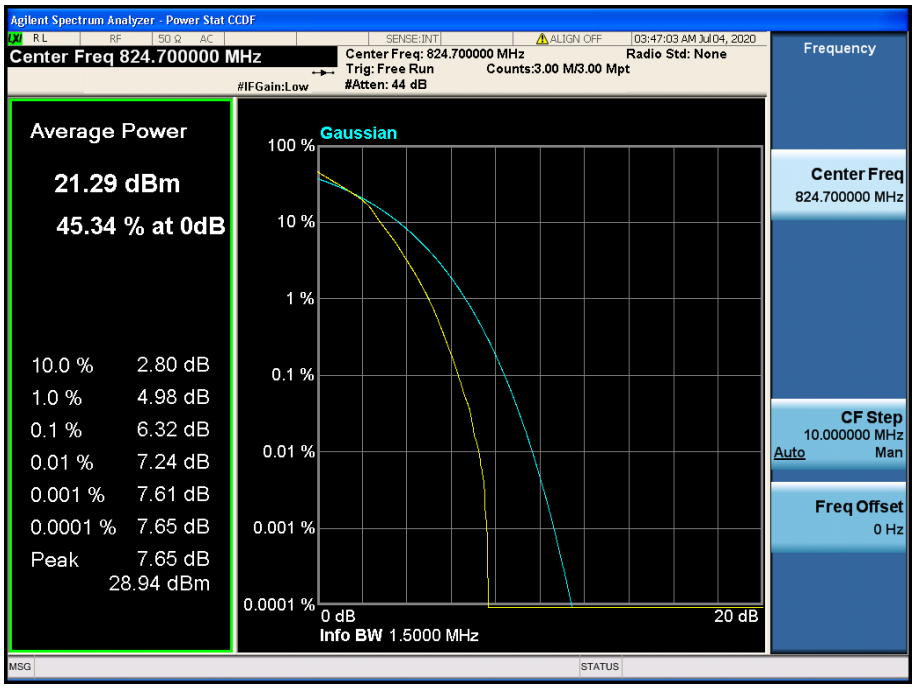
LTE Band 5 / 3 MHz / QPSK - RB Size 15



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

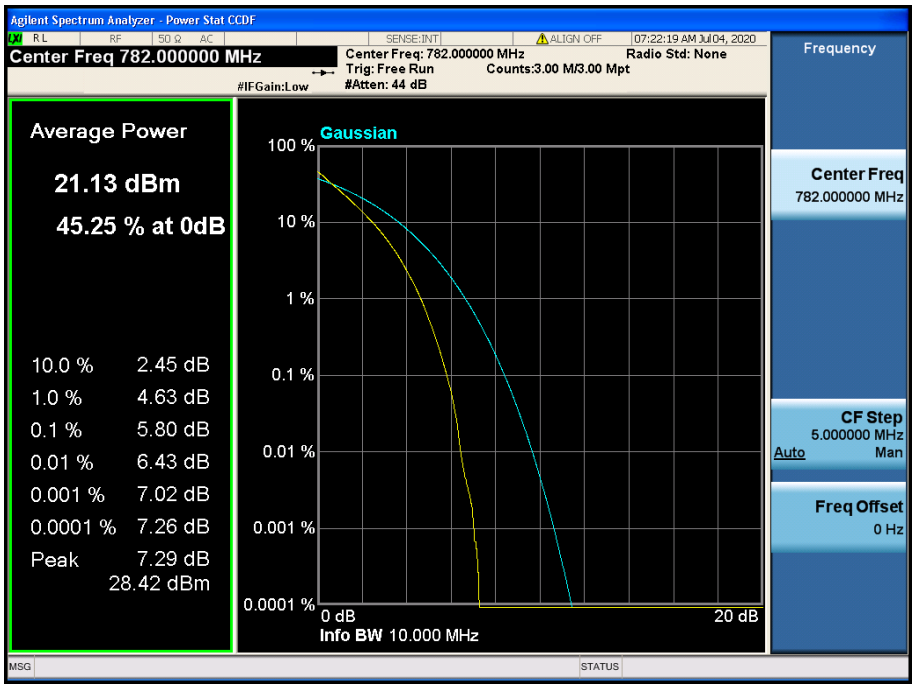


LTE Band 5 / 1.4 MHz / QPSK - RB Size 6

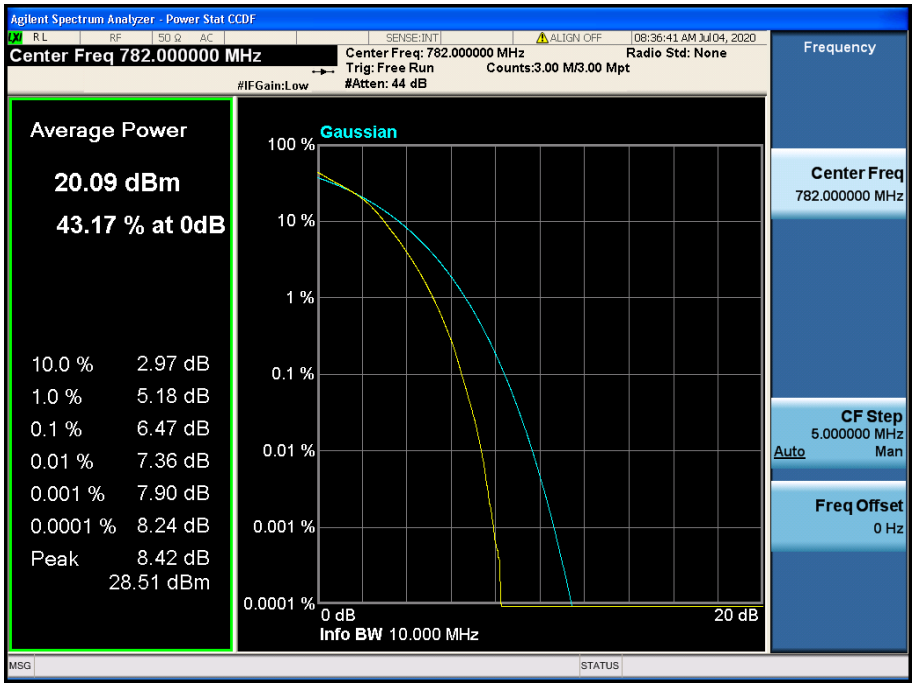


LTE Band 5 / 1.4 MHz / 16QAM - RB Size 6

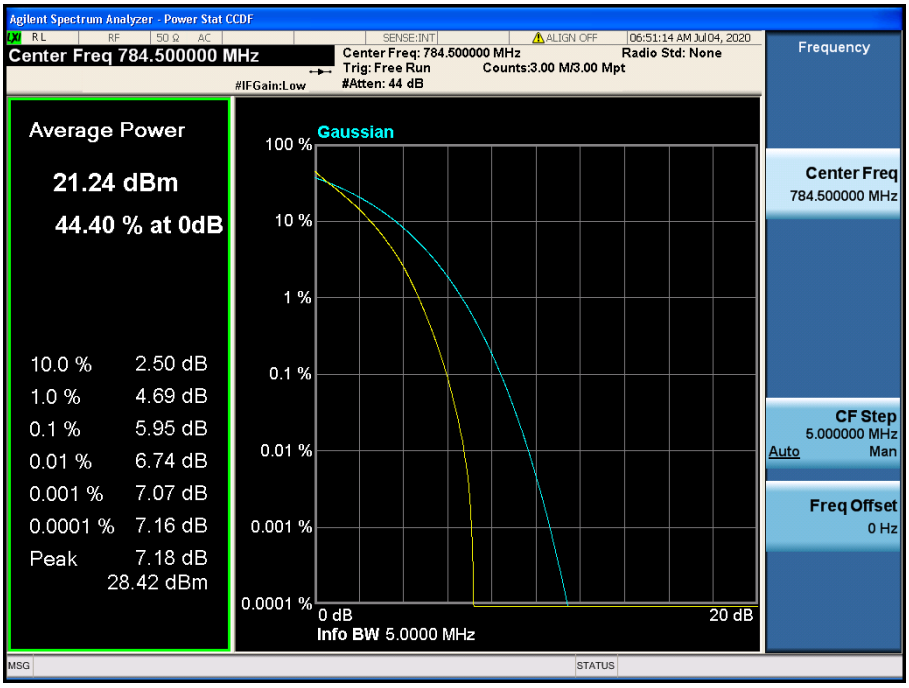
8.2.3 LTE Band 13



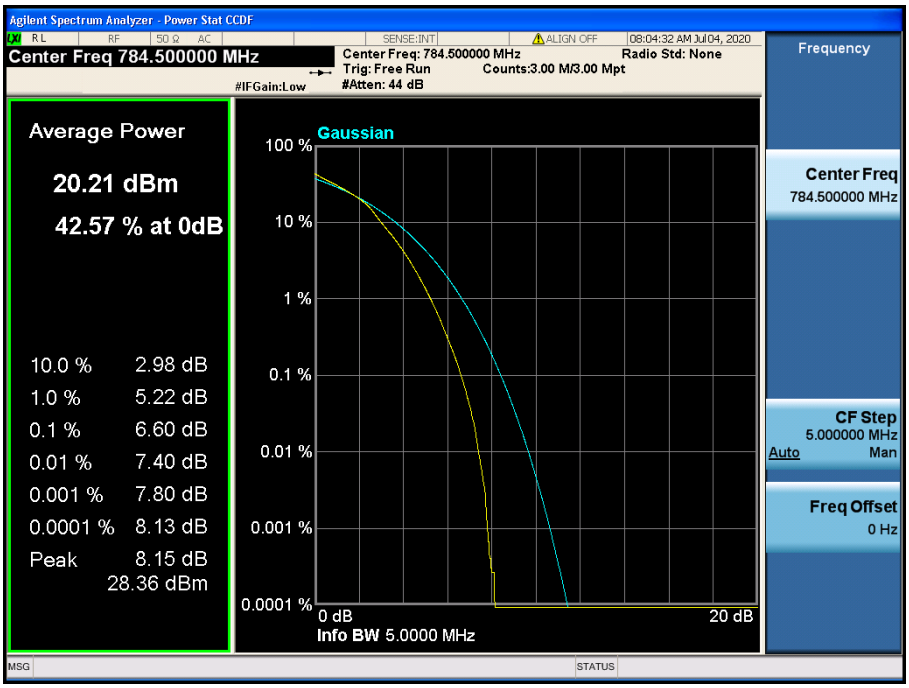
LTE Band 13 / 10 MHz / QPSK - RB Size 50



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

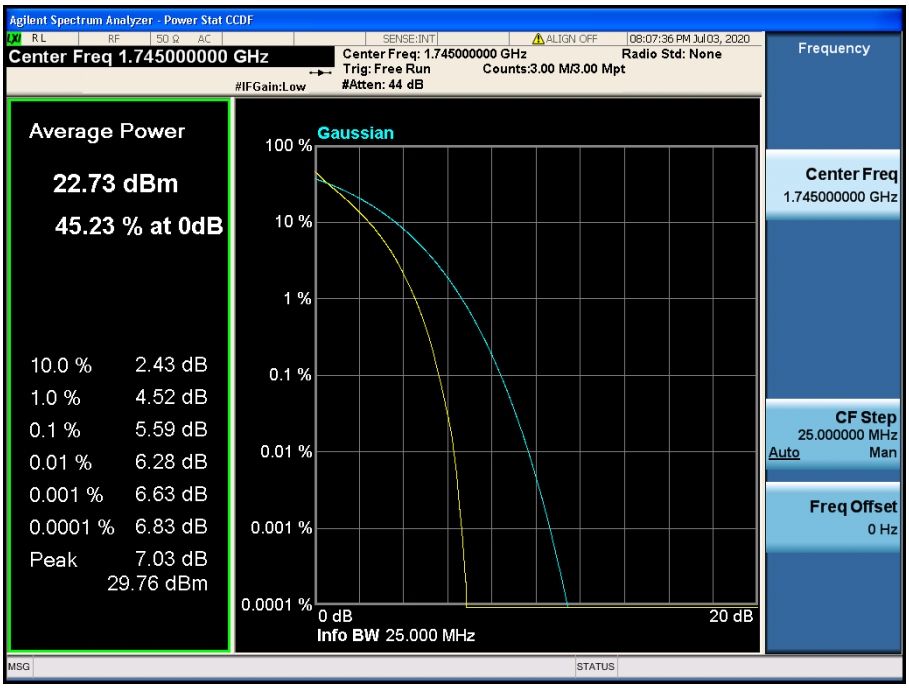


LTE Band 13 / 5 MHz / QPSK - RB Size 25

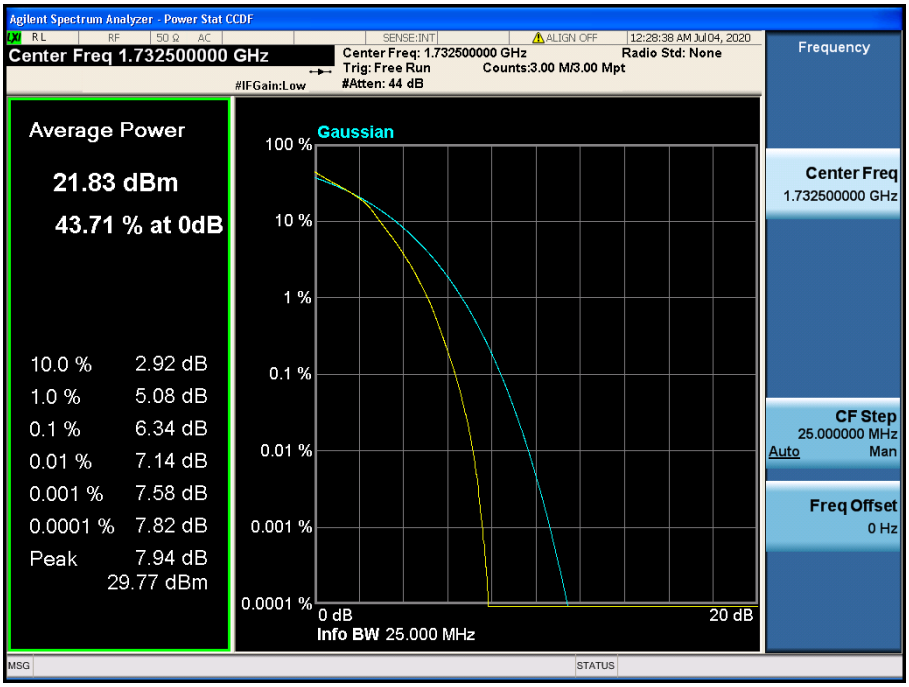


LTE Band 13 / 5 MHz / 16QAM - RB Size 25

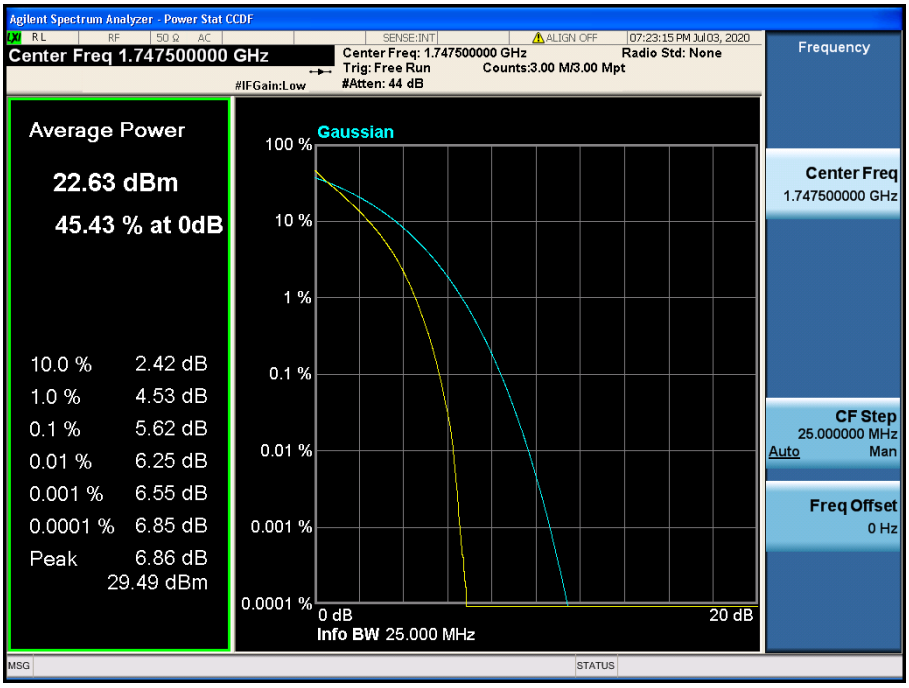
8.2.4 LTE Band 4



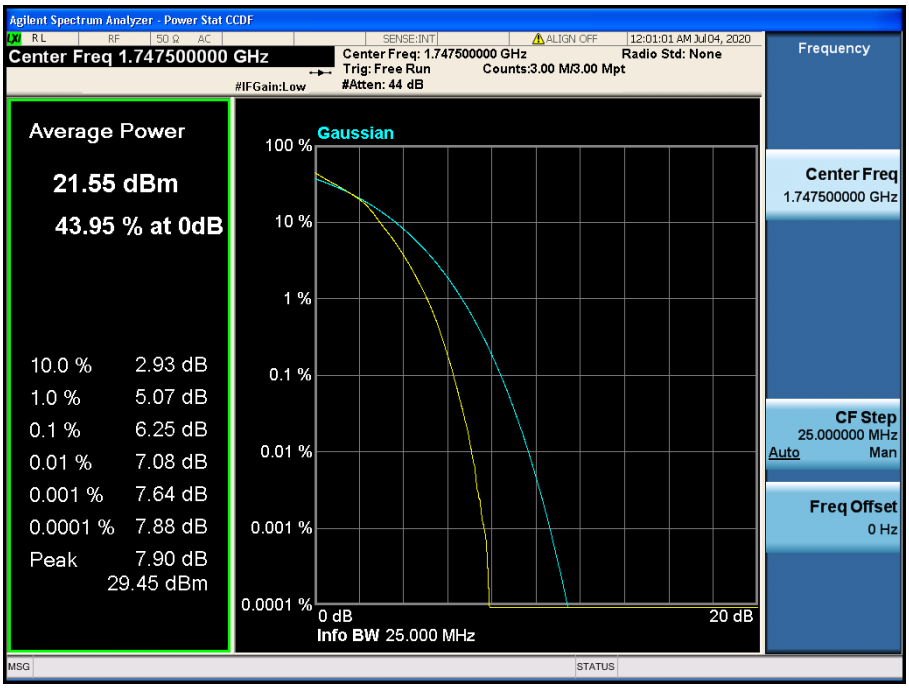
LTE Band 4 / 20 MHz / QPSK - RB Size 100



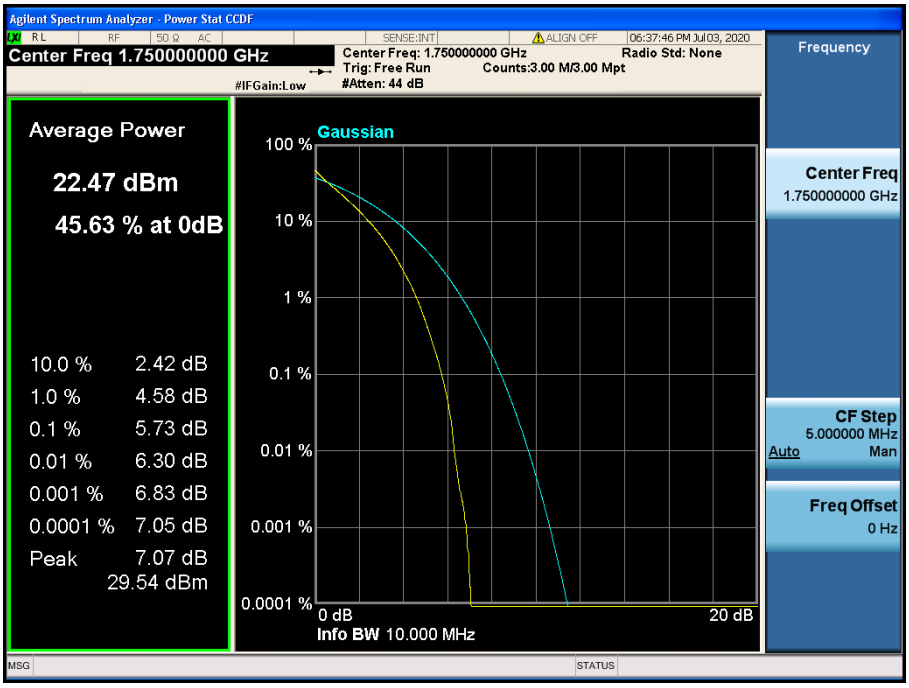
LTE Band 4 / 20 MHz / 16QAM - RB Size 100



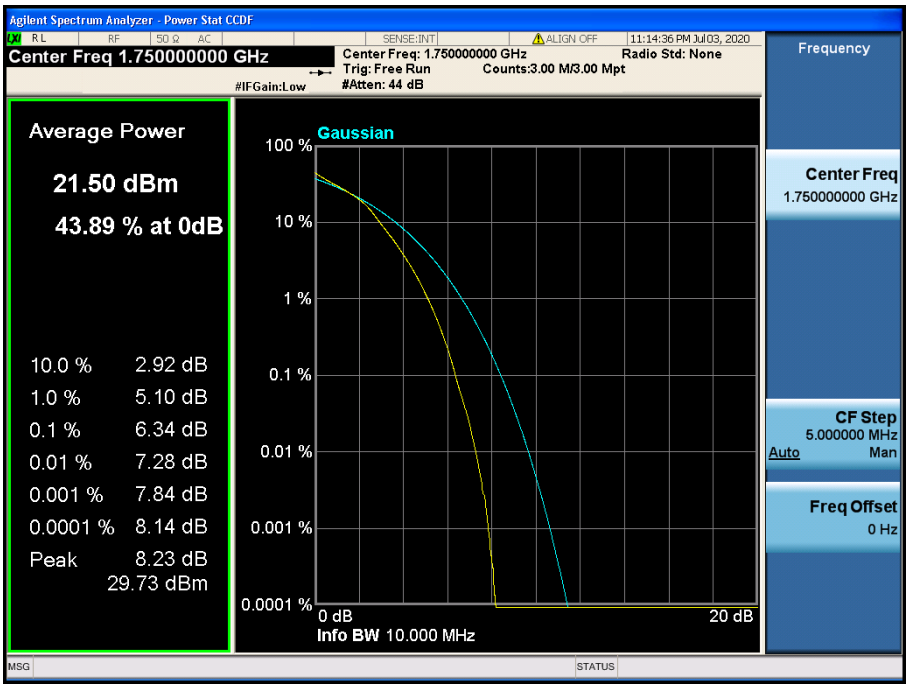
LTE Band 4 / 15 MHz / QPSK - RB Size 75



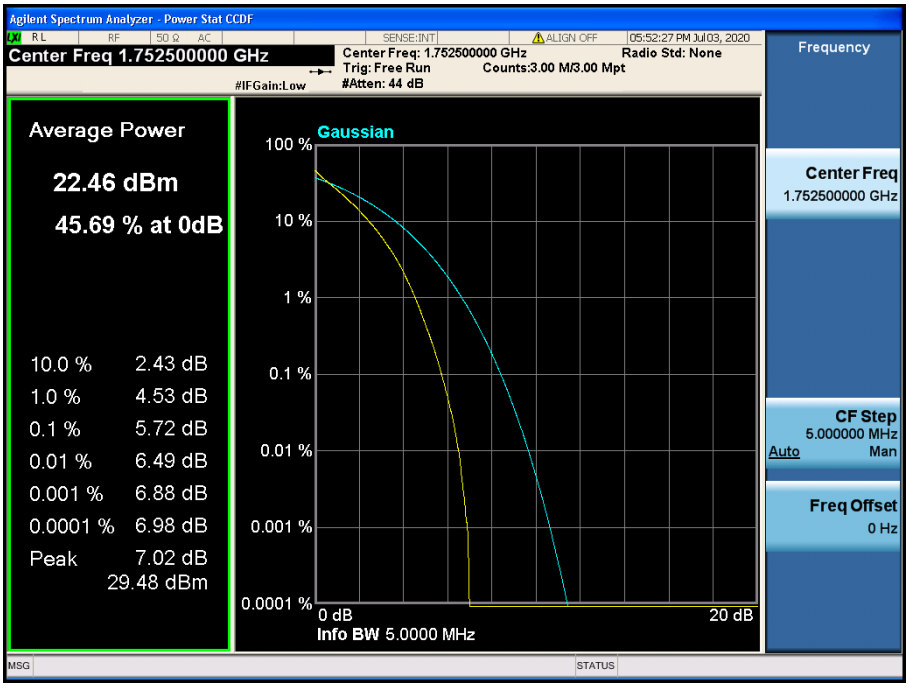
LTE Band 4 / 15 MHz / 16QAM - RB Size 75



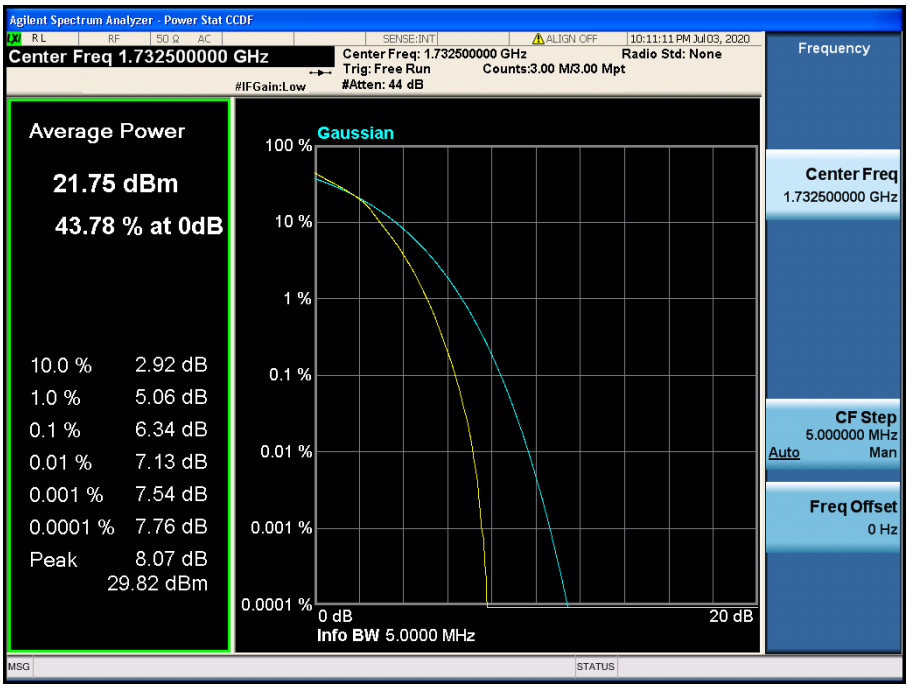
LTE Band 4 / 10 MHz / QPSK - RB Size 50



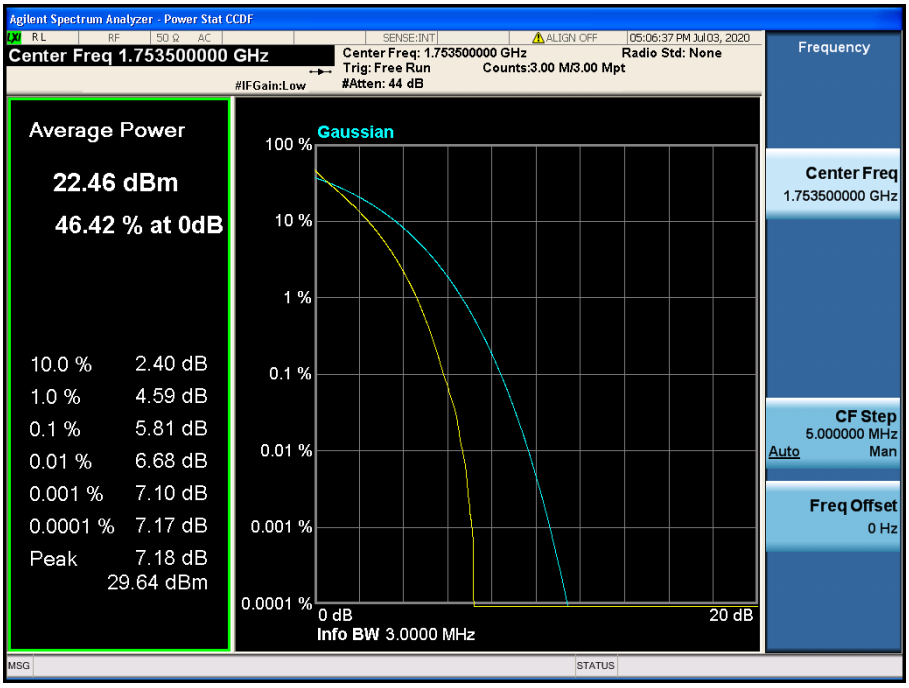
LTE Band 4 / 10 MHz / 16QAM - RB Size 50



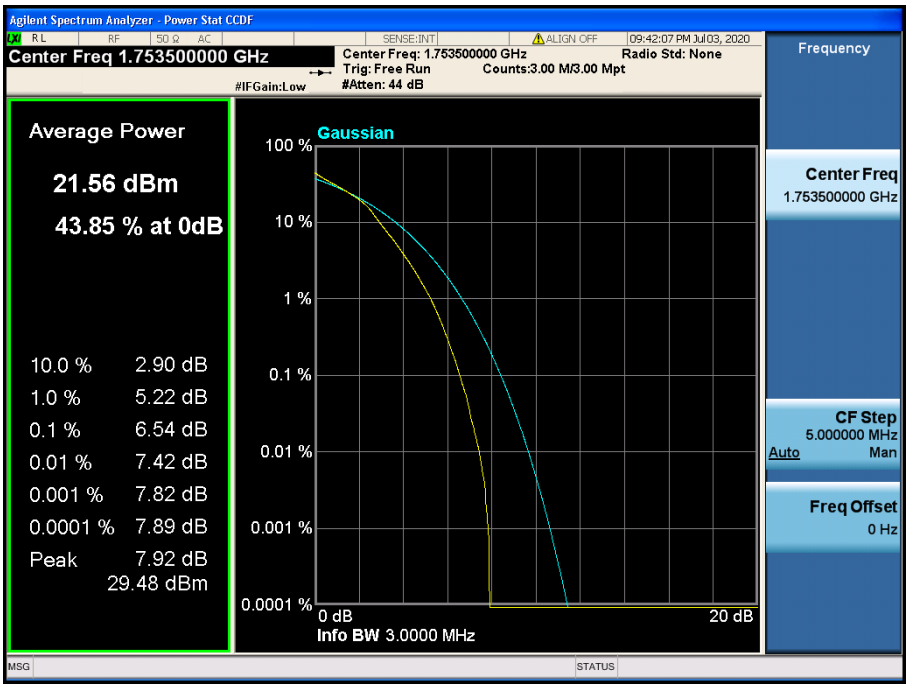
LTE Band 4 / 5 MHz / QPSK - RB Size 25



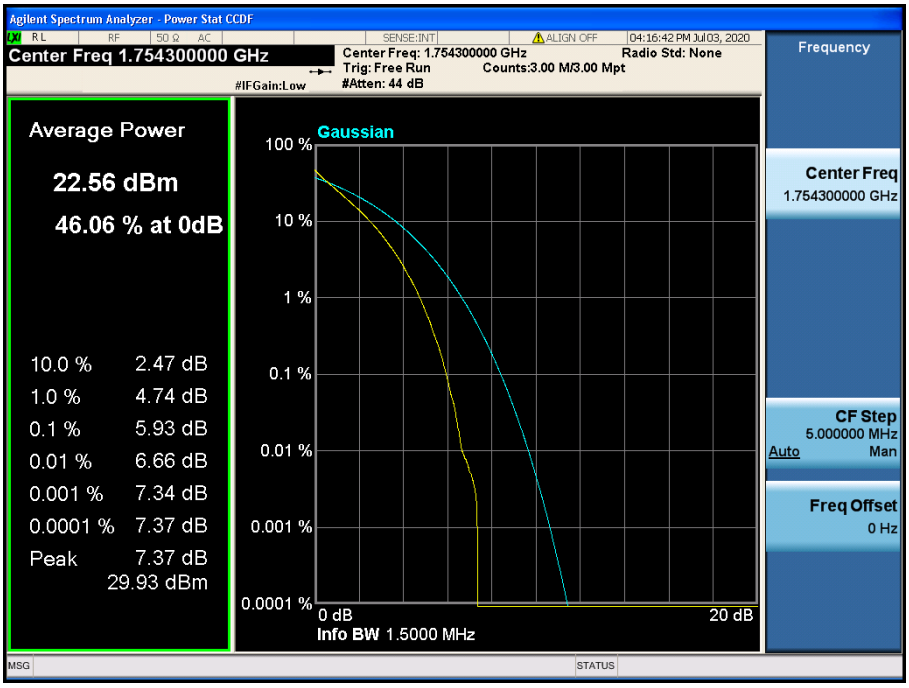
LTE Band 4 / 5 MHz / 16QAM - RB Size 25



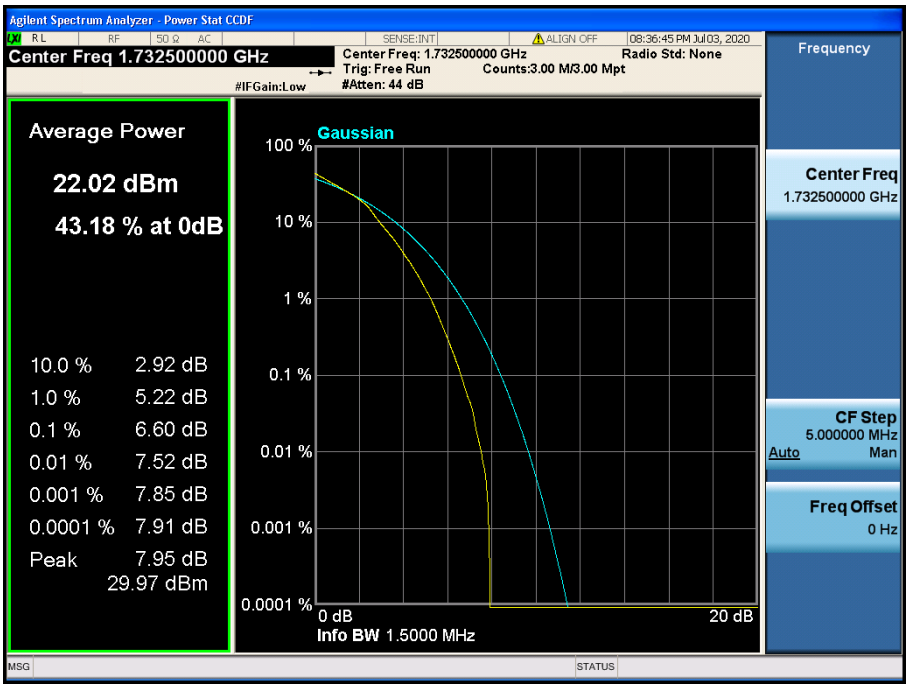
LTE Band 4 / 3 MHz / QPSK - RB Size 15



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

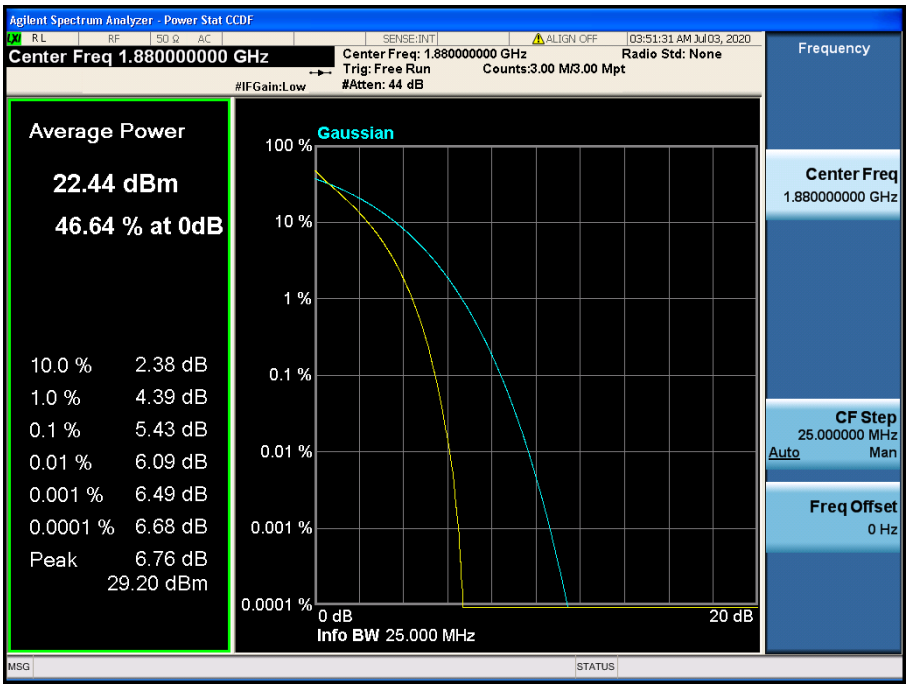


LTE Band 4 / 1.4 MHz / QPSK - RB Size 6

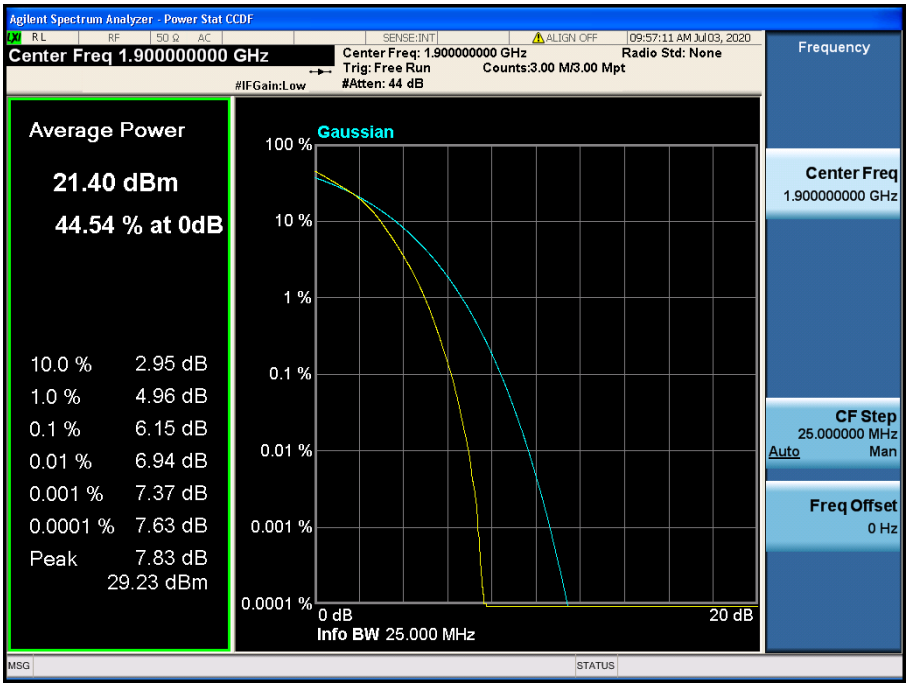


LTE Band 4 / 1.4 MHz / 16QAM - RB Size 6

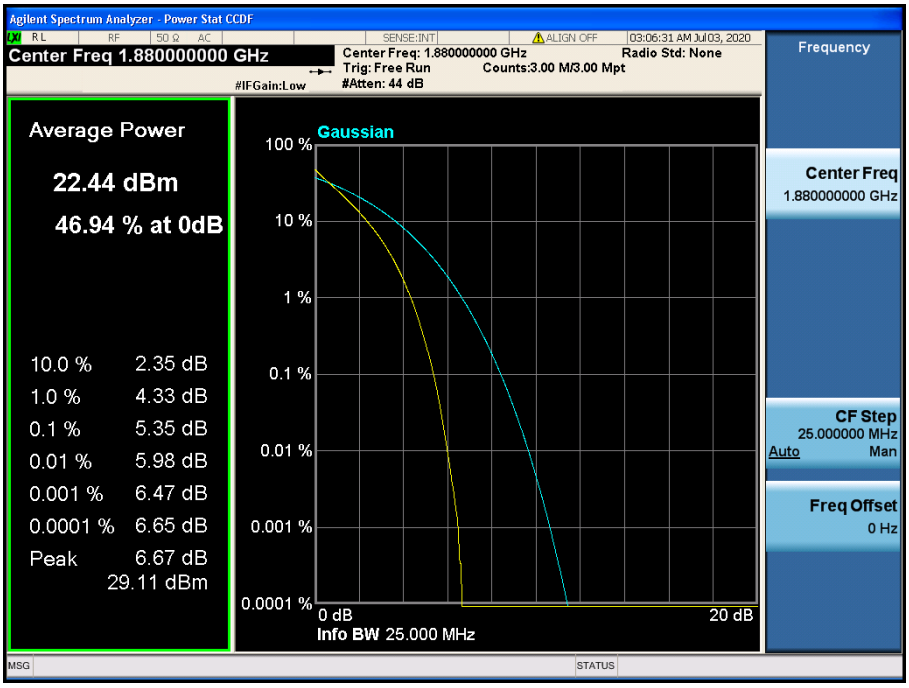
8.2.5 LTE Band 2



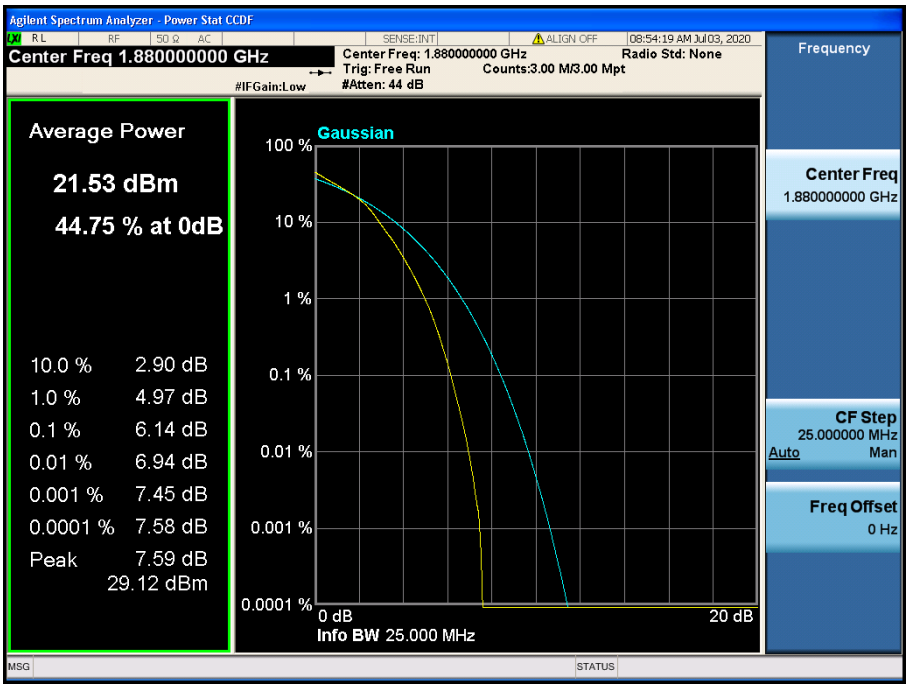
LTE Band 2 / 20 MHz / QPSK - RB Size 100



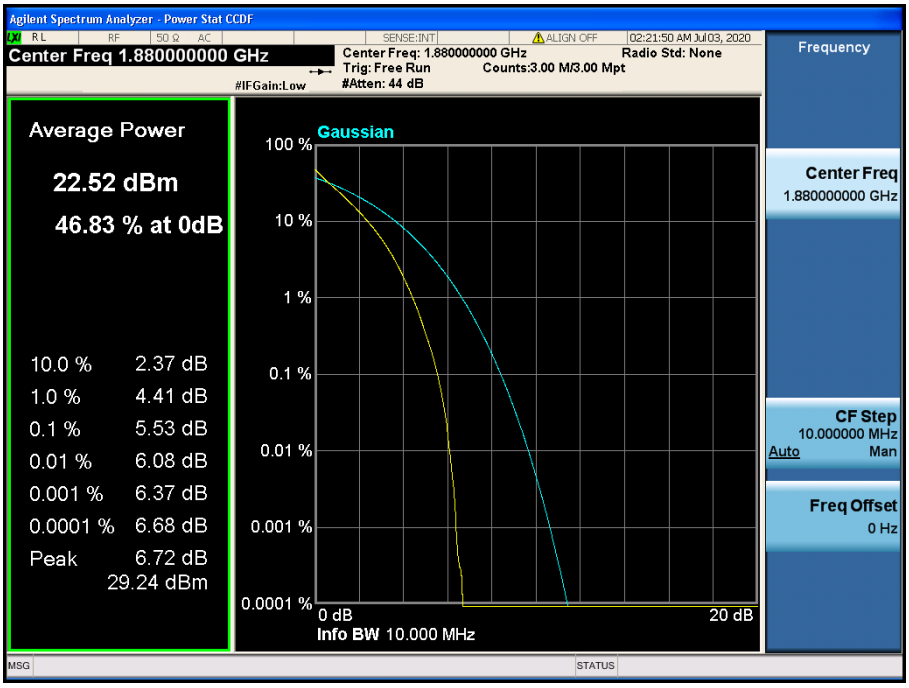
LTE Band 2 / 20 MHz / 16QAM - RB Size 100



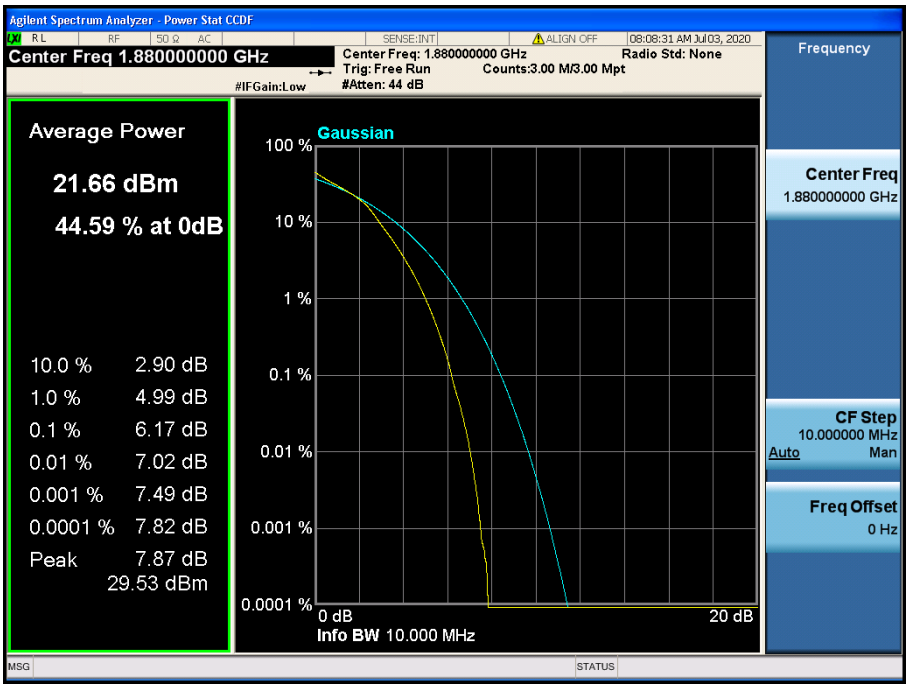
LTE Band 2 / 15 MHz / QPSK - RB Size 75



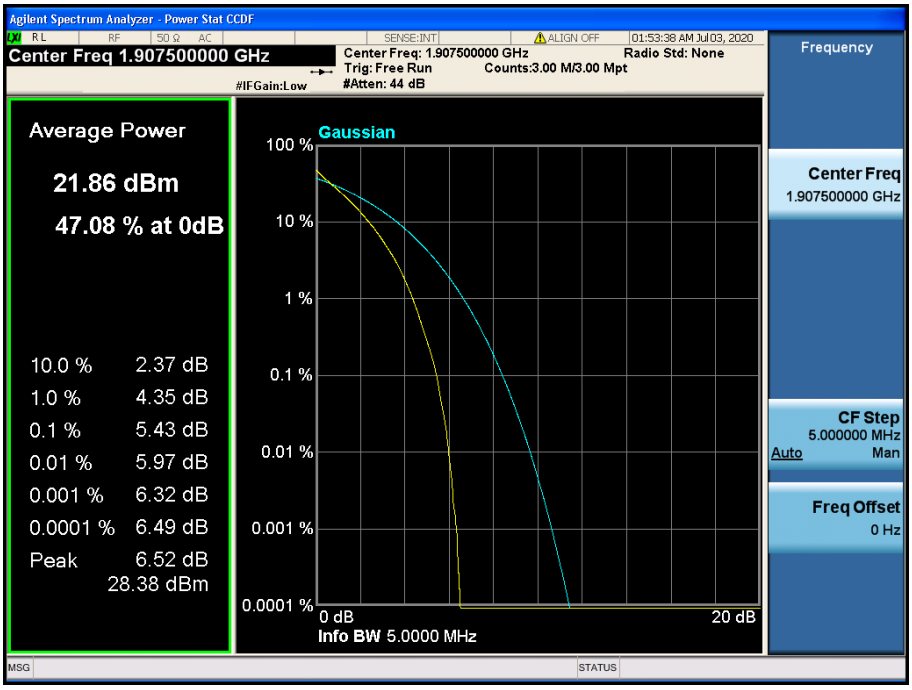
LTE Band 2 / 15 MHz / 16QAM - RB Size 75



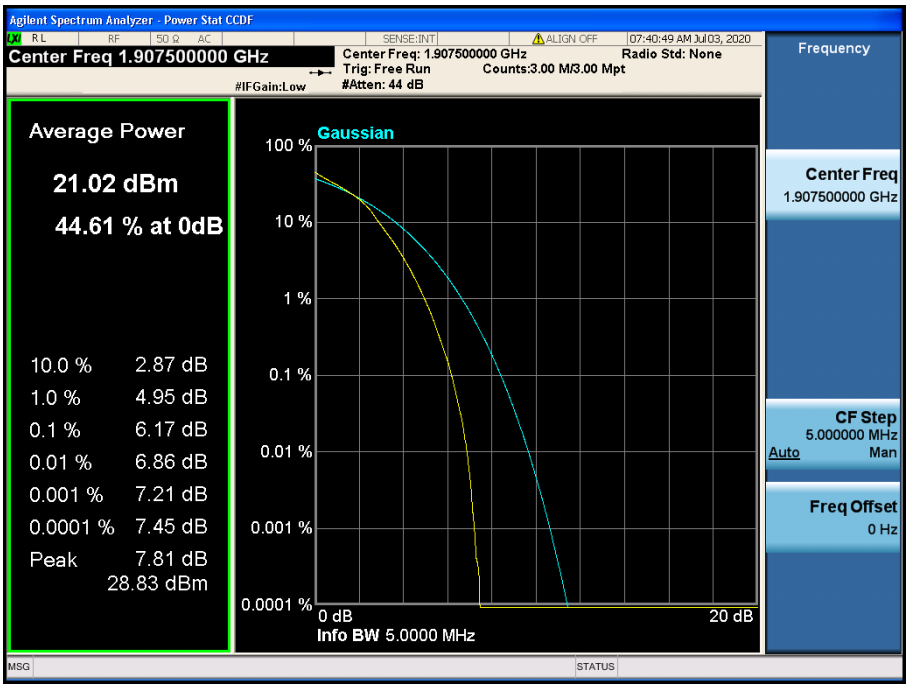
LTE Band 2 / 10 MHz / QPSK - RB Size 50



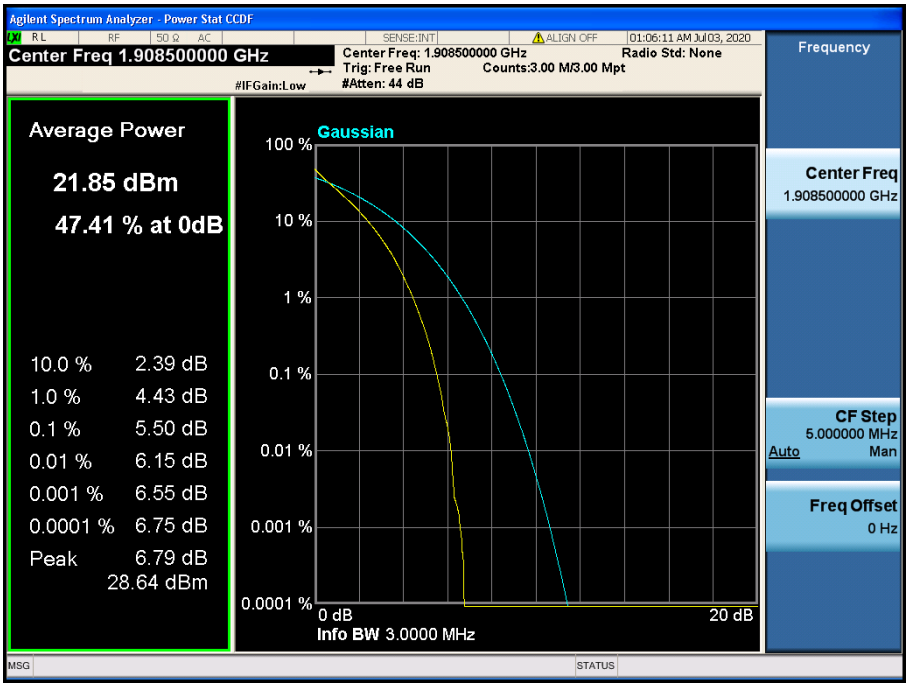
LTE Band 2 / 10 MHz / 16QAM - RB Size 50



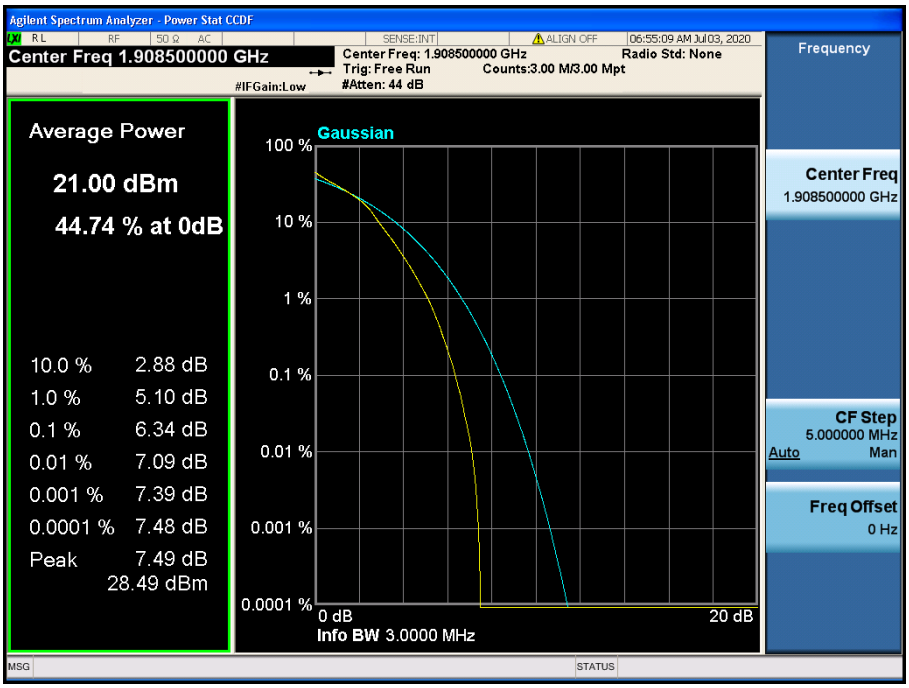
LTE Band 2 / 5 MHz / QPSK - RB Size 25



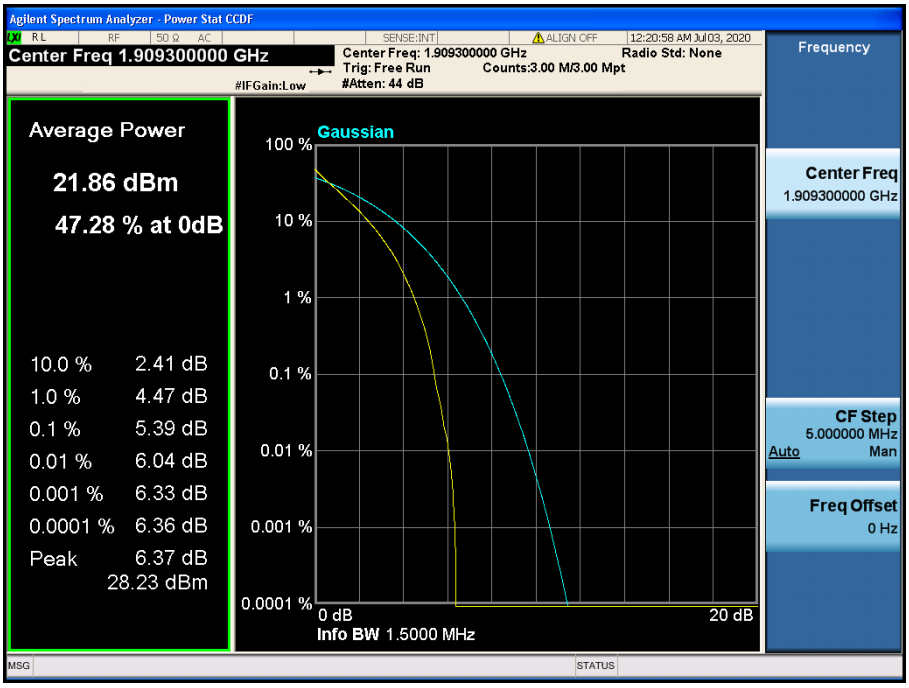
LTE Band 2 / 5 MHz / 16QAM - RB Size 25



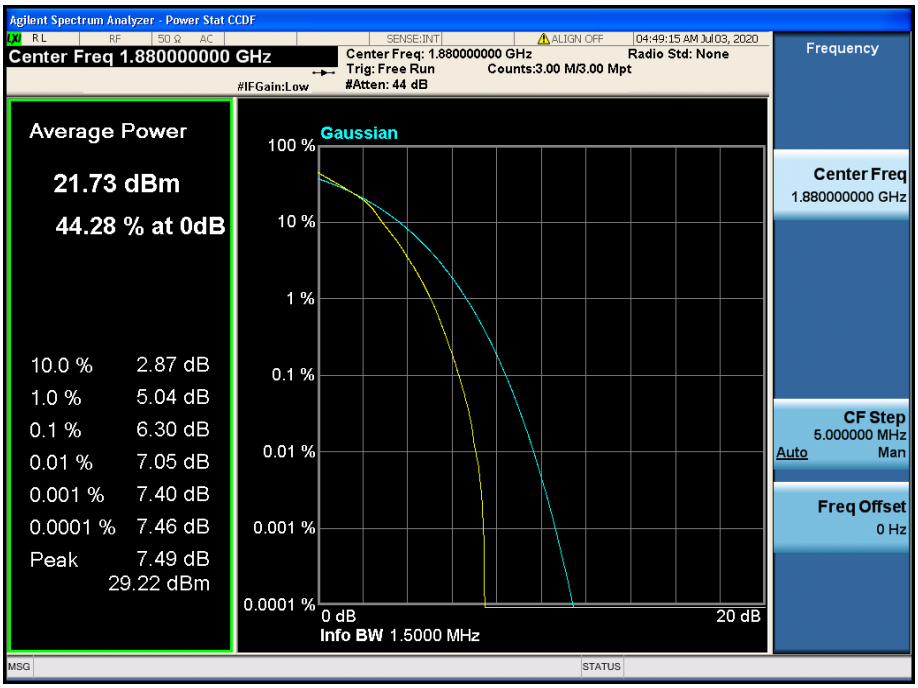
LTE Band 2 / 3 MHz / QPSK - RB Size 15



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

8.3 BAND EDGE EMISSIONS(Conducted)

8.3.1 LTE Band 17

- Lower Band Edge

LTE Band 17 / 10MHz / QPSK - RB Size/Offset (25/0)

- Lower Extended Band Edge

LTE Band 17 / 10MHz / QPSK - RB Size/Offset (25/0)

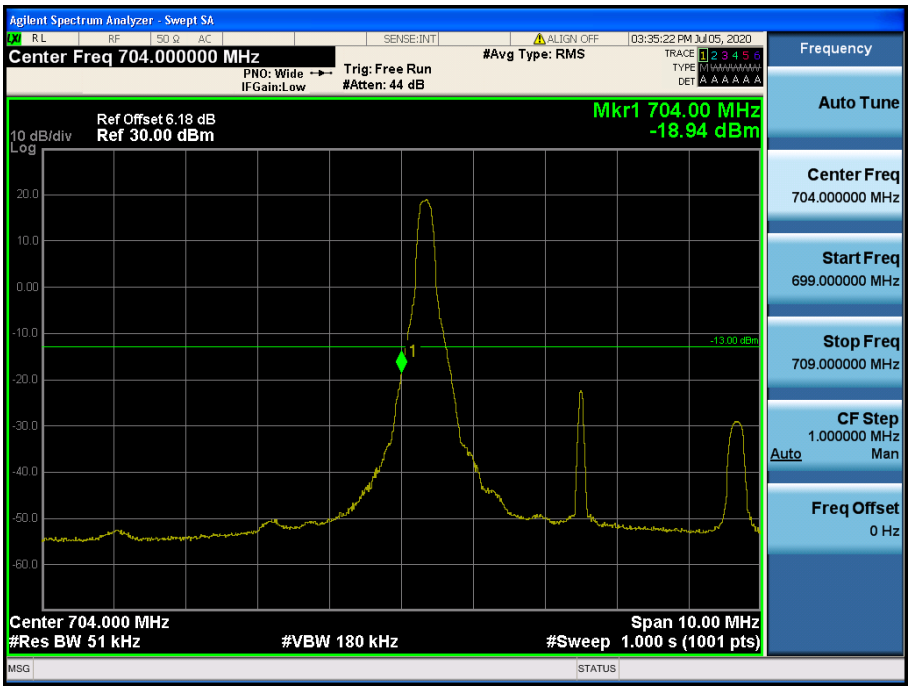
- Upper Band Edge

LTE Band 17 / 10MHz / QPSK - RB Size/Offset (25/25)

- Upper Extended Band Edge

LTE Band 17 / 10MHz / QPSK - RB Size/Offset (25/25)

- Lower Band Edge

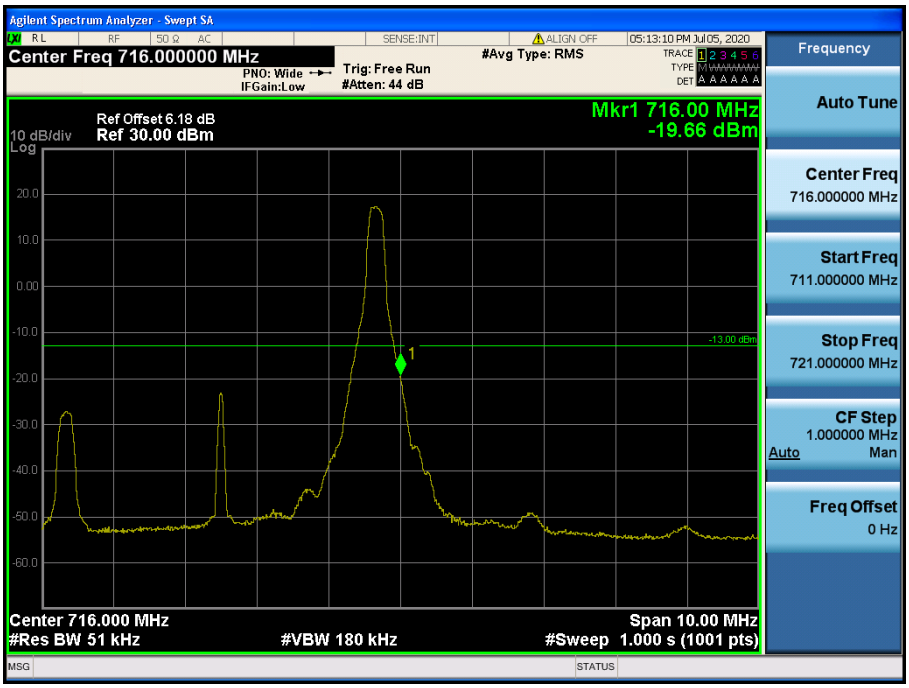


LTE Band 17 / 5MHz / QPSK - RB Size/Offset (1/0)

- Lower Extended Band Edge

LTE Band 17 / 5MHz / QPSK - RB Size/Offset (12/0)

- Upper Band Edge



LTE Band 17 / 5MHz / 16QAM - RB Size/Offset (1/24)

- Upper Extended Band Edge

LTE Band 17 / 5MHz / QPSK - RB Size/Offset (12/13)

8.3.2 LTE Band 5

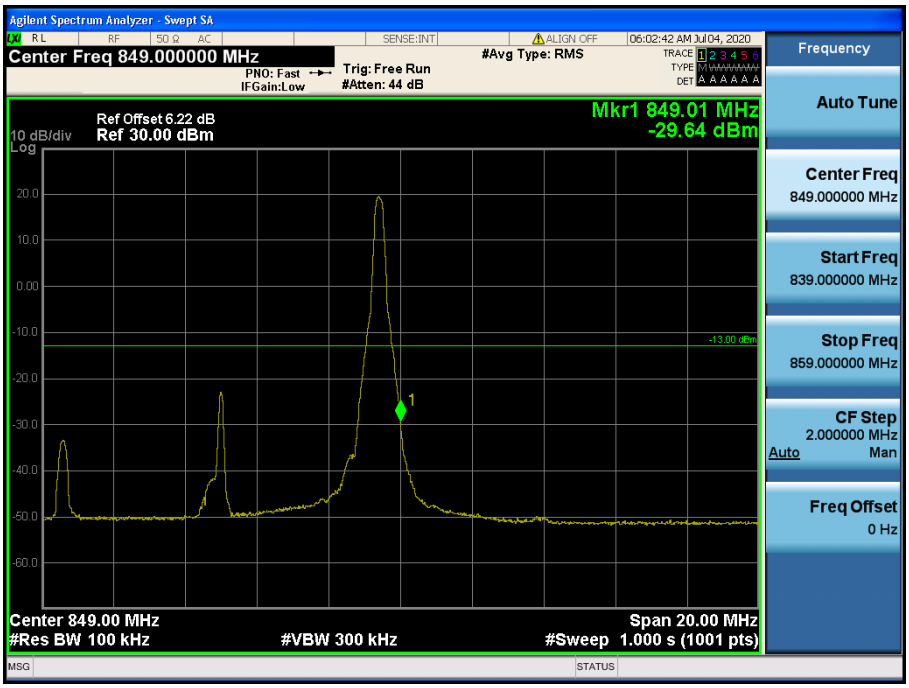
- Lower Band Edge

LTE Band 5 / 10MHz / 16QAM - RB Size/Offset (25/0)

- Lower Extended Band Edge

LTE Band 5 / 10MHz / QPSK - RB Size/Offset (50/0)

- Upper Band Edge

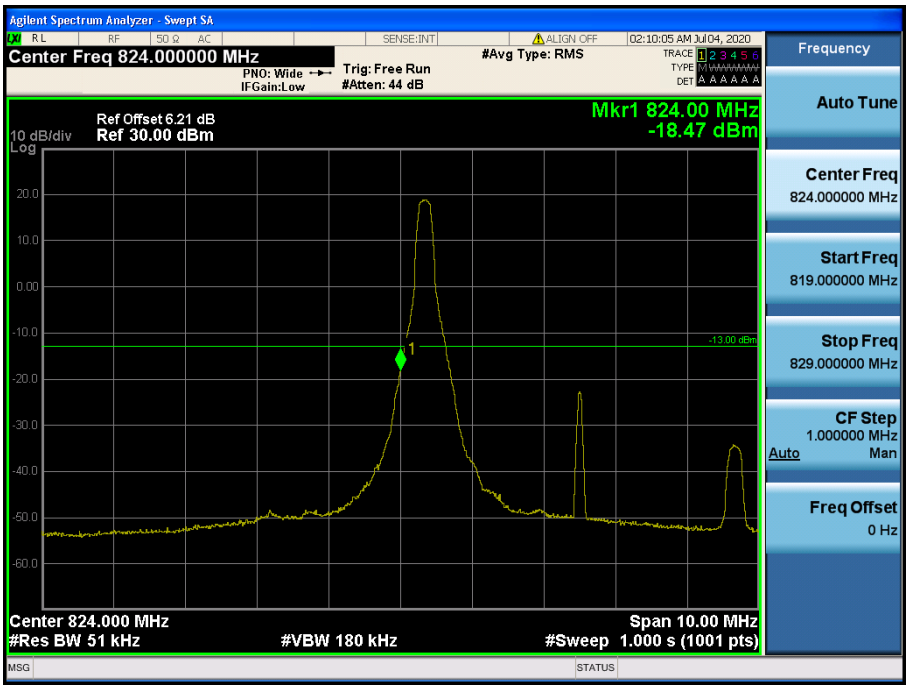


LTE Band 5 / 10MHz / 16QAM - RB Size/Offset (1/49)

- Upper Extended Band Edge

LTE Band 5 / 10MHz / QPSK - RB Size/Offset (50/0)

- Lower Band Edge

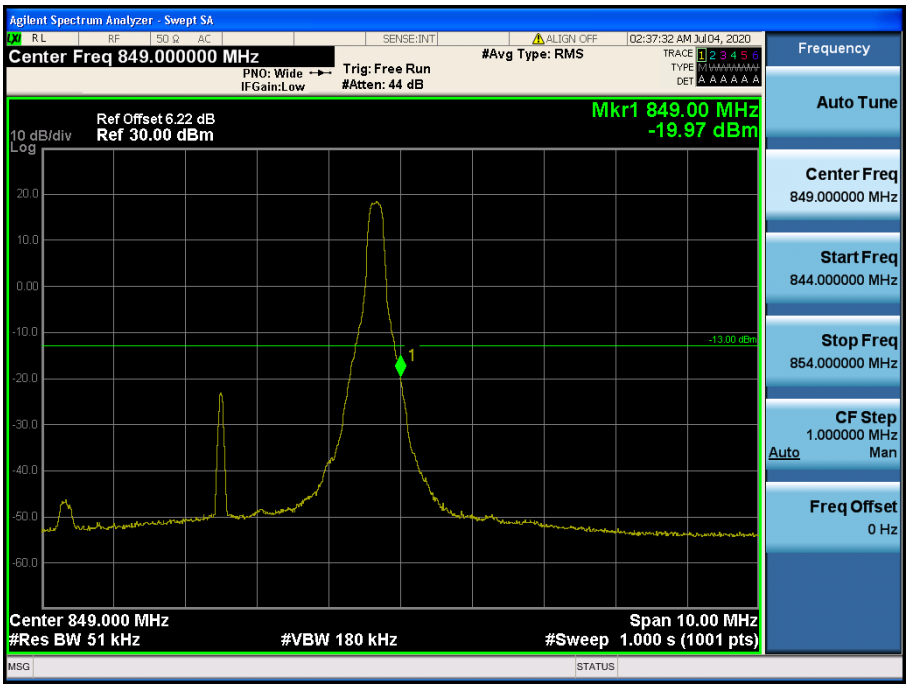


LTE Band 5 / 5MHz / QPSK - RB Size/Offset (1/0)

- Lower Extended Band Edge

LTE Band 5 / 5MHz / QPSK - RB Size/Offset (12/0)

- Upper Band Edge

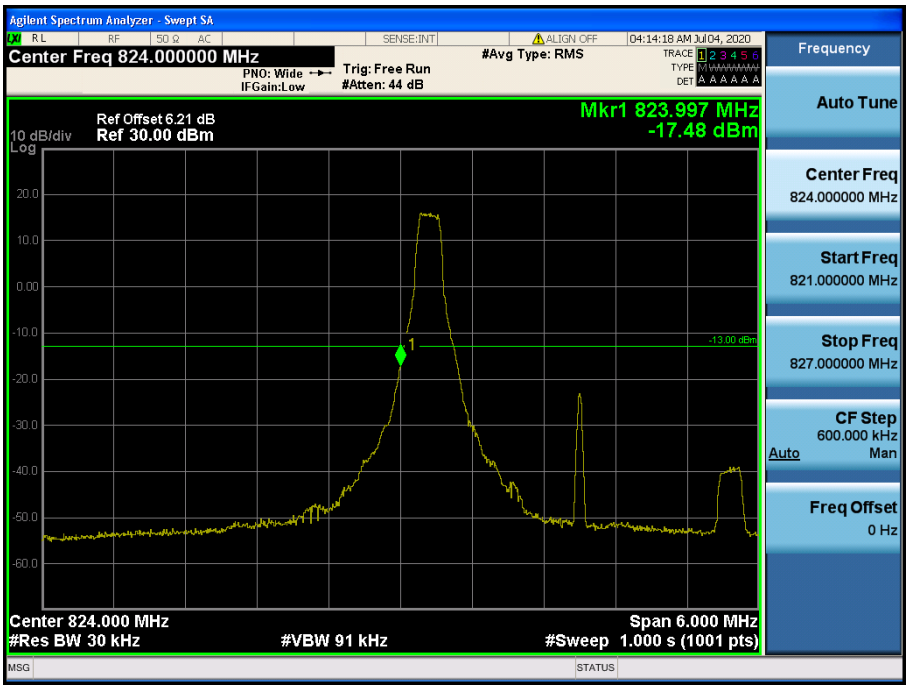


LTE Band 5 / 5MHz / QPSK - RB Size/Offset (1/24)

- Upper Extended Band Edge

LTE Band 5 / 5MHz / 16QAM - RB Size/Offset (12/13)

- Lower Band Edge

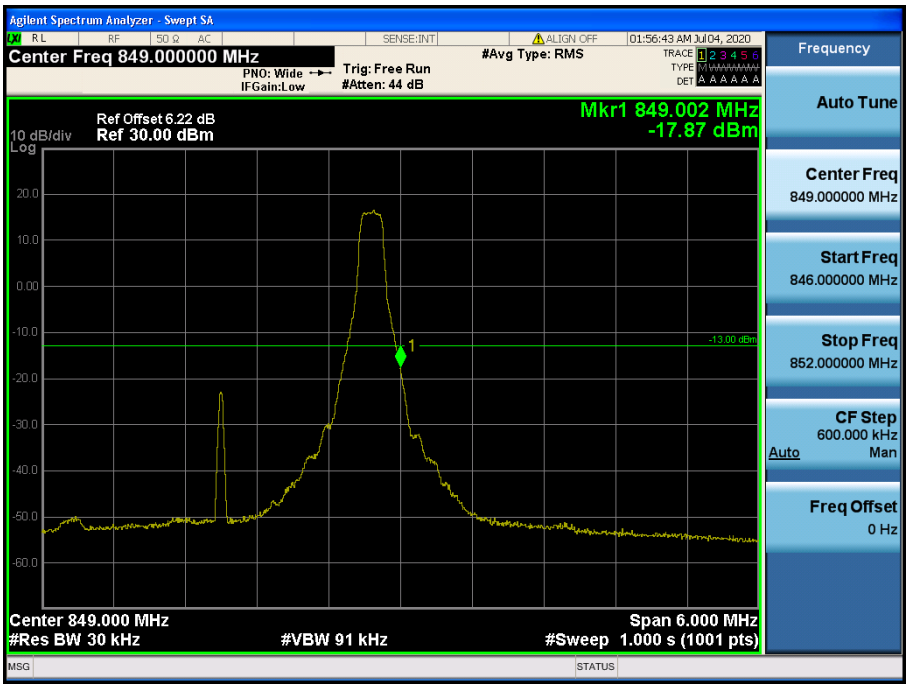


LTE Band 5 / 3MHz / 16QAM - RB Size/Offset (1/0)

- Lower Extended Band Edge

LTE Band 5 / 3MHz / QPSK - RB Size/Offset (8/0)

- Upper Band Edge

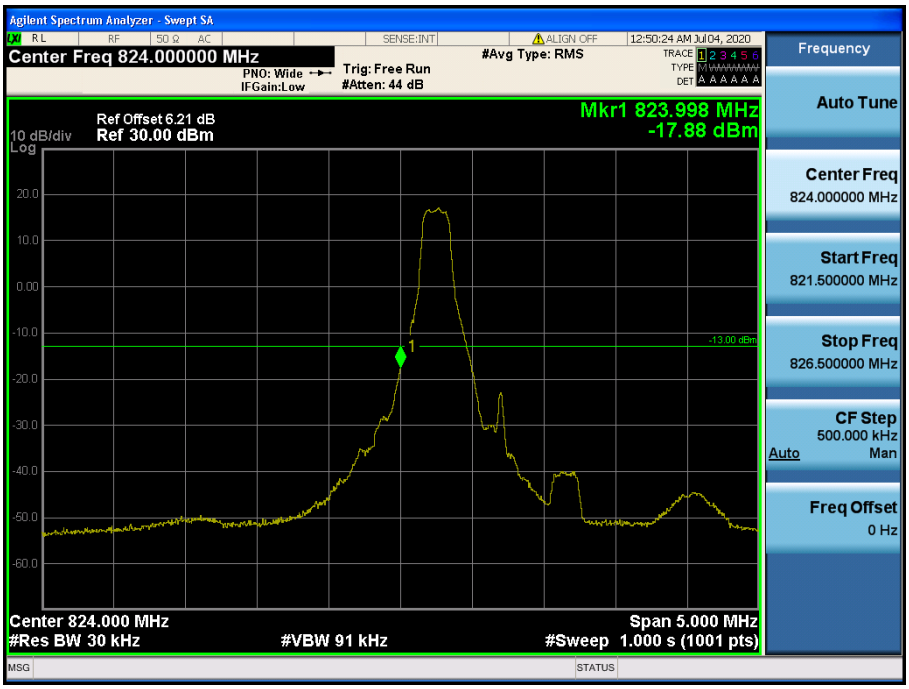


LTE Band 5 / 3MHz / QPSK - RB Size/Offset (1/14)

- Upper Extended Band Edge

LTE Band 5 / 3MHz / QPSK - RB Size/Offset (8/7)

- Lower Band Edge



LTE Band 5 / 1.4MHz / QPSK - RB Size/Offset (1/0)

- Lower Extended Band Edge

LTE Band 5 / 1.4MHz / 16QAM - RB Size/Offset (6/0)