



REPORT No.: SZ18100096W05

TEST REPORT

APPLICANT : BLU Products, Inc.

PRODUCT NAME : Smart phone

MODEL NAME : C6L

BRAND NAME : BLU

FCC ID : YHLBLUC6L

STANDARD(S) : 47 CFR Part 22, Subpart H
47 CFR Part 24, Subpart E
47 CFR Part 27, Subpart H&L&M

TEST DATE : 2018-11-08 to 2018-12-17

ISSUE DATE : 2018-12-17

Tested by: Gao Mingzhou
Gao Mingzhou (Test Engineer)

Approved by: Peng Huarui
Peng Huarui (Supervisor)

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.

MORLAB

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555
Http://www.morlab.cn

Fax: 86-755-36698525
E-mail: service@morlab.cn





DIRECTORY

1. Technical Information	4
1.1. Applicant and Manufacturer Information	4
1.2. Equipment Under Test (EUT) Description	4
1.3. Test Standards and Results	8
1.4. Environmental Conditions	9
2. 47 CFR Part 2, Part 22H, Part 24E and 27H&L&M Requirements	10
2.1. Transmitter Conducted Output Power And ERP/EIPR	10
2.2. Occupied Bandwidth	38
2.3. Frequency Stability	76
2.4. Peak to Average Radio	80
2.5. Conducted Spurious Emissions	118
2.6. Band Edge	209
2.7. Radiated Spurious Emissions	245
Annex A Test Uncertainty	284
Annex B Testing Laboratory Information	285



REPORT No.: SZ18100096W05

Change History		
Version	Date	Reason for change
1.0	2018-12-17	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	BLU Products, Inc.
Applicant Address:	10814 NW 33rd St # 100 Doral, FL 33172, USA
Manufacturer:	BLU Products, Inc.
Manufacturer Address:	10814 NW 33rd St # 100 Doral, FL 33172, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	Smart phone	
Serial No:	(N/A, marked #1 by test site)	
Hardware Version:	FS097-MB-V1.0A	
Software Version:	BLU_C5_PLUS_V8.1.G.01.03_GENERIC_01-11-2018_1359_debug	
Modulation Type:	QPSK, 16QAM	
Operation Band:	Band 2 / 4 / 5 / 7 / 12 / 17	
Frequency Range:	LTE Band 2	Tx: 1850.7MHz -1909.3MHz
		Rx: 1930.7MHz -1989.3MHz
	LTE Band 4	Tx: 1710.7MHz -1754.3MHz
		Rx: 2110.7MHz - 2154.3MHz
	LTE Band 5	Tx: 824.7MHz -848.3MHz
		Rx: 869.7MHz – 893.3MHz
	LTE Band 7	Tx: 2502.5MHz - 2567.5MHz
		Rx: 2622.5MHz – 2687.5MHz
	LTE Band 12	Tx: 699.7MHz - 715.3MHz
		Rx: 729.7MHz – 745.3MHz
	LTE Band 17	Tx: 706.5MHz - 713.5MHz
		Rx: 736.5MHz – 743.5MHz



Channel Bandwidth	LTE Band 2	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz
	LTE Band 4	1.4MHz, 3 MHz, 5 MHz, 10MHz, 15 MHz, 20 MHz
	LTE Band 5	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 7	5 MHz, 10MHz, 15 MHz, 20 MHz
	LTE Band 12	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 17	5 MHz, 10MHz
Emission Designator:	1M09G7D (LTE Band 2, QPSK, BW 1.4MHz) 1M09W7D (LTE Band 2, 16QAM, BW 1.4MHz) 2M68G7D (LTE Band 2, QPSK, BW 3MHz) 2M68 W7D (LTE Band 2, 16QAM, BW 3MHz) 4M48G7D (LTE Band 2, QPSK, BW 5MHz) 4M47W7D (LTE Band 2, 16QAM, BW 5MHz) 8M95G7D (LTE Band 2, QPSK, BW 10MHz) 8M94W7D (LTE Band 2, 16QAM, BW 10MHz) 13M4G7D (LTE Band 2, QPSK, BW 15MHz) 13M4W7D (LTE Band 2, 16QAM, BW 15MHz) 17M9G7D (LTE Band 2, QPSK, BW 20MHz) 17M9W7D (LTE Band 2, 16QAM, BW 20MHz) 1M08G7D (LTE Band 4, QPSK, BW 1.4MHz) 1M09W7D (LTE Band 4, 16QAM, BW 1.4MHz) 2M68G7D (LTE Band 4, QPSK, BW 3MHz) 2M68W7D (LTE Band 4, 16QAM, BW 3MHz) 4M46G7D (LTE Band 4, QPSK, BW 5MHz) 4M47W7D (LTE Band 4, 16QAM, BW 5MHz) 8M94G7D (LTE Band 4, QPSK, BW 10MHz) 8M93W7D (LTE Band 4, 16QAM, BW 10MHz) 13M4G7D (LTE Band 4, QPSK, BW 15MHz) 13M4W7D (LTE Band 4, 16QAM, BW 15MHz) 17M9G7D (LTE Band 4, QPSK, BW 20MHz) 17M9W7D (LTE Band 4, 16QAM, BW 20MHz) 1M09G7D (LTE Band 5, QPSK, BW 1.4MHz) 1M09W7D (LTE Band 5, 16QAM, BW 1.4MHz) 2M68G7D (LTE Band 5, QPSK, BW 3MHz) 2M69W7D (LTE Band 5, 16QAM, BW 3MHz) 4M47G7D (LTE Band 5, QPSK, BW 5MHz) 4M47W7D (LTE Band 5, 16QAM, BW 5MHz) 8M91G7D (LTE Band 5, QPSK, BW 10MHz) 8M93W7D (LTE Band 5, 16QAM, BW 10MHz)	



	4M46G7D (LTE Band 7, QPSK, BW 5MHz) 4M46W7D (LTE Band 7, 16QAM, BW 5MHz) 8M94G7D (LTE Band 7, QPSK, BW 10MHz) 8M93W7D (LTE Band 7, 16QAM, BW 10MHz) 13M4G7D (LTE Band 7, QPSK, BW 15MHz) 13M4W7D (LTE Band 7, 16QAM, BW 15MHz) 17M9G7D (LTE Band 7, QPSK, BW 20MHz) 17M9W7D (LTE Band 7, 16QAM, BW 20MHz) 1M09G7D (LTE Band 12, QPSK, BW 1.4MHz) 1M09W7D (LTE Band 12, 16QAM, BW 1.4MHz) 2M68G7D (LTE Band 12, QPSK, BW 3MHz) 2M68W7D (LTE Band 12, 16QAM, BW 3MHz) 4M46G7D (LTE Band 12, QPSK, BW 5MHz) 4M46W7D (LTE Band 12, 16QAM, BW 5MHz) 8M96G7D (LTE Band 12, QPSK, BW 10MHz) 8M96W7D (LTE Band 12, 16QAM, BW 10MHz) 4M47G7D (LTE Band 17, QPSK, BW 5MHz) 4M47W7D (LTE Band 17, 16QAM, BW 5MHz) 8M94G7D (LTE Band 17, QPSK, BW 10MHz) 8M94W7D (LTE Band 17, 16QAM, BW 10MHz)	
Antenna Type:	PIFA Antenna	
Antenna Gain:	LTE Band 2	-1.5 dBi
	LTE Band 4	-1.2 dBi
	LTE Band 5	-2.0 dBi
	LTE Band 7	-2.0 dBi
	LTE Band 12	-2.0 dBi
	LTE Band 17	-2.0 dBi
Operating voltage:	Normal(NV)	3.8V
	Lowest(LV)	3.5V
	Highest(HV)	4.35V
Accessory Information:	Battery	
	Brand Name:	BLU
	Model No.:	C6L
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	2500mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V



Accessory Information:	AC Adapter	
	Brand Name:	N/A
	Model No.:	US-WW-1002
	Serial No.:	(N/A, marked #1 by test site)
	Rated Input:	100-240V~ 50/60Hz 0.2A
	Rated Output:	5V= 1.0A

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

Section	Description	Test Date	Test Engineer	Result
2.1046, 22.913(a)(2), 24.232(c), 27.50(c)(10) 27.50(d)(4), 27.50(h)(2)	Transmitter Conducted Output Power and ERP/EIRP	Nov 08, 2018 Dec 17, 2018	Gao Mingzhou Wang Dalong	PASS
2.1049	Occupied Bandwidth	Nov 08, 2018	Gao Mingzhou	PASS
2.1055, 22.355, 24.235, 27.54	Frequency Stability	Nov 08, 2018	Gao Mingzhou	PASS
24.232(d), 27.50(d)(5)	Peak to Average Ratio	Nov 14&15, 2018	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Conducted Spurious Emissions	Nov 19&20, 2018	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Band Edge	Nov 15&26, 2018 Dec 12, 2018	Gao Mingzhou	PASS
2.1051, 22.917(a), 24.238, 27.53(g)(h)(m)(4)	Radiated Spurious Emissions	Nov 26, 2018	Wang Dalong	PASS

Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 (Oct 27, 2017) and ANSI/TIA-603-E-2016.

Note 2: The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipments. The ref offset 26.5dB contains two parts that cable loss 16.5dB and Attenuator 10dB.



1.4. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR Part 2, Part 22H, Part 24E and 27H&L&M Requirements

2.1. Transmitter Conducted Output Power And ERP/EIPR

2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

According to FCC section 24.232 (c) for LTE Band 2, Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

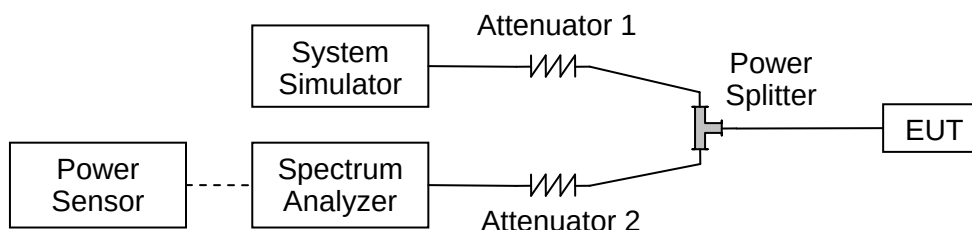
According to FCC section 27.50 (d) for LTE Band 4, fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat EIRP.

According to FCC section 22.913 (a.2) for LTE Band 5, the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 27.50 (h) for LTE Band 7, Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

According to FCC section 27.50 (c) for LTE Band 12/17, Portable stations (hand-held devices) operating in the 704-716MHz band are limited to 3watts ERP.

2.1.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.



2.1.3. Test procedure

KDB 971168 D01v03 Section 5.2 and ANSI/TIA-603-E-2016.

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

$ERP \text{ (dBm)} = EIPR \text{ (dBm)} - 2.15$

2.1.4. Result

**Transmitter Conducted Output Power**

LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	22.89	22.62	22.74
20	QPSK	1	49	22.62	22.68	22.55
20	QPSK	1	99	22.58	22.71	22.71
20	QPSK	50	0	21.78	21.56	21.62
20	QPSK	50	24	21.68	21.70	21.53
20	QPSK	50	50	21.67	21.77	21.55
20	QPSK	100	0	21.74	21.67	21.51
20	16QAM	1	0	22.05	21.26	21.38
20	16QAM	1	49	22.06	21.58	21.00
20	16QAM	1	99	21.67	21.64	21.60
20	16QAM	50	0	20.68	20.65	20.81
20	16QAM	50	24	20.87	20.63	20.66
20	16QAM	50	50	20.91	20.65	20.68
20	16QAM	100	0	20.88	20.68	20.67
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	22.21	22.12	22.23
15	QPSK	1	37	22.15	22.06	22.14
15	QPSK	1	74	22.25	22.06	22.23
15	QPSK	36	0	21.36	21.20	21.31
15	QPSK	36	20	21.29	21.19	21.23
15	QPSK	36	39	21.40	21.18	21.31
15	QPSK	75	0	21.28	21.24	21.26
15	16QAM	1	0	22.08	21.66	21.82
15	16QAM	1	37	21.91	21.87	21.58
15	16QAM	1	74	22.00	21.46	21.95
15	16QAM	36	0	20.33	20.22	20.31
15	16QAM	36	20	20.25	20.24	20.24
15	16QAM	36	39	20.42	20.20	20.27
15	16QAM	75	0	20.38	20.28	20.29



LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	22.65	22.65	22.58
10	QPSK	1	25	22.59	22.62	22.64
10	QPSK	1	49	22.49	22.69	22.68
10	QPSK	25	0	21.76	21.74	21.59
10	QPSK	25	12	21.52	21.73	21.54
10	QPSK	25	25	21.74	21.73	21.69
10	QPSK	50	0	21.48	21.69	21.62
10	16QAM	1	0	21.82	22.19	21.60
10	16QAM	1	25	21.66	21.79	21.99
10	16QAM	1	49	21.88	22.21	21.88
10	16QAM	25	0	20.91	20.82	20.68
10	16QAM	25	12	20.77	20.52	20.64
10	16QAM	25	25	20.67	20.55	20.73
10	16QAM	50	0	20.59	20.70	20.74
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	22.64	22.67	22.71
5	QPSK	1	12	22.66	22.66	22.75
5	QPSK	1	24	22.59	22.73	22.74
5	QPSK	12	0	21.74	21.70	21.56
5	QPSK	12	7	21.68	21.74	21.67
5	QPSK	12	13	21.75	21.81	21.69
5	QPSK	25	0	21.71	21.59	21.65
5	16QAM	1	0	22.10	21.94	22.13
5	16QAM	1	12	21.68	21.73	21.93
5	16QAM	1	24	22.00	22.09	22.23
5	16QAM	12	0	20.86	20.65	20.78
5	16QAM	12	7	20.97	20.59	20.90
5	16QAM	12	13	20.91	20.72	20.91
5	16QAM	25	0	20.91	20.71	20.91



LTE Band2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5
3	QPSK	1	0	22.72	22.73	22.72
3	QPSK	1	8	22.64	22.69	22.70
3	QPSK	1	14	22.61	22.67	22.68
3	QPSK	8	0	21.72	21.68	21.58
3	QPSK	8	4	21.73	21.70	21.61
3	QPSK	8	7	21.67	21.66	21.54
3	QPSK	15	0	21.71	21.67	21.67
3	16QAM	1	0	21.62	21.92	21.69
3	16QAM	1	8	21.70	21.56	21.75
3	16QAM	1	14	21.78	21.68	21.95
3	16QAM	8	0	20.90	20.51	20.55
3	16QAM	8	4	20.59	20.96	20.61
3	16QAM	8	7	20.72	20.77	20.56
3	16QAM	15	0	21.08	20.75	20.79
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	22.70	22.68	22.65
1.4	QPSK	1	3	22.67	22.00	22.76
1.4	QPSK	1	5	22.65	22.78	22.77
1.4	QPSK	3	0	22.83	22.77	22.70
1.4	QPSK	3	1	22.79	22.85	22.74
1.4	QPSK	3	3	22.85	22.81	22.79
1.4	QPSK	6	0	21.74	21.82	21.56
1.4	16QAM	1	0	21.78	21.94	21.96
1.4	16QAM	1	3	22.85	21.52	22.26
1.4	16QAM	1	5	22.76	22.69	22.56
1.4	16QAM	3	0	22.81	21.83	21.81
1.4	16QAM	3	1	22.73	21.77	21.50
1.4	16QAM	3	3	22.77	21.96	21.79
1.4	16QAM	6	0	20.89	20.57	20.65



LTE Band4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	22.93	22.92	23.06
20	QPSK	1	49	22.92	22.96	22.87
20	QPSK	1	99	23.00	23.14	23.24
20	QPSK	50	0	21.94	21.94	22.27
20	QPSK	50	24	21.99	21.82	22.07
20	QPSK	50	50	21.85	21.83	21.91
20	QPSK	100	0	21.95	21.97	21.91
20	16QAM	1	0	22.58	22.25	22.83
20	16QAM	1	49	22.74	22.23	22.48
20	16QAM	1	99	22.44	22.32	22.20
20	16QAM	50	0	20.93	20.99	21.07
20	16QAM	50	24	21.07	20.99	21.05
20	16QAM	50	50	20.86	20.95	20.96
20	16QAM	100	0	21.17	21.10	21.07
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.89	23.02	23.07
15	QPSK	1	37	22.84	22.94	22.98
15	QPSK	1	74	22.91	22.79	22.94
15	QPSK	36	0	21.98	22.10	22.08
15	QPSK	36	20	21.87	21.86	22.23
15	QPSK	36	39	21.93	21.80	21.76
15	QPSK	75	0	22.14	21.98	22.05
15	16QAM	1	0	22.20	22.76	22.95
15	16QAM	1	37	22.37	22.30	22.97
15	16QAM	1	74	22.73	22.29	22.91
15	16QAM	36	0	20.95	21.16	21.04
15	16QAM	36	20	21.01	20.89	21.07
15	16QAM	36	39	20.91	21.00	20.94
15	16QAM	75	0	21.15	21.04	21.11



LTE Band4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	22.89	23.08	23.08
10	QPSK	1	25	22.97	23.04	23.16
10	QPSK	1	49	22.88	23.00	23.04
10	QPSK	25	0	21.01	21.96	22.32
10	QPSK	25	12	21.98	21.98	21.83
10	QPSK	25	25	22.01	21.93	21.79
10	QPSK	50	0	21.95	21.96	21.93
10	16QAM	1	0	22.77	22.12	22.38
10	16QAM	1	25	22.58	21.70	22.76
10	16QAM	1	49	22.26	22.11	22.52
10	16QAM	25	0	21.08	21.13	21.15
10	16QAM	25	12	20.82	21.23	20.82
10	16QAM	25	25	20.97	21.15	20.86
10	16QAM	50	0	20.98	20.91	21.18
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.01	23.12	23.05
5	QPSK	1	12	23.20	23.10	23.00
5	QPSK	1	24	23.02	23.09	23.01
5	QPSK	12	0	21.94	21.94	21.97
5	QPSK	12	7	22.09	21.93	21.81
5	QPSK	12	13	22.07	21.97	21.86
5	QPSK	25	0	22.10	21.96	21.80
5	16QAM	1	0	22.13	22.14	22.56
5	16QAM	1	12	21.93	21.60	22.48
5	16QAM	1	24	22.16	21.80	22.96
5	16QAM	12	0	20.95	20.98	20.99
5	16QAM	12	7	21.10	21.05	20.88
5	16QAM	12	13	21.24	20.95	20.84
5	16QAM	25	0	21.26	21.08	20.90



LTE Band4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	22.83	22.86	22.83
3	QPSK	1	8	22.68	22.87	22.85
3	QPSK	1	14	23.04	22.92	23.04
3	QPSK	8	0	21.81	21.86	21.95
3	QPSK	8	4	21.86	21.89	21.86
3	QPSK	8	7	22.01	21.86	22.05
3	QPSK	15	0	21.97	21.85	21.80
3	16QAM	1	0	22.18	22.15	22.88
3	16QAM	1	8	22.14	22.12	22.81
3	16QAM	1	14	22.30	22.09	22.93
3	16QAM	8	0	20.91	21.11	21.17
3	16QAM	8	4	21.05	20.95	21.24
3	16QAM	8	7	21.18	21.13	21.13
3	16QAM	15	0	20.92	21.13	20.92
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.79	22.97	22.69
1.4	QPSK	1	3	22.78	23.01	23.08
1.4	QPSK	1	5	22.85	22.93	22.93
1.4	QPSK	3	0	22.84	23.08	22.97
1.4	QPSK	3	1	23.00	23.15	23.21
1.4	QPSK	3	3	22.95	23.01	23.17
1.4	QPSK	6	0	21.90	22.01	22.17
1.4	16QAM	1	0	22.50	22.44	22.36
1.4	16QAM	1	3	22.40	22.30	22.78
1.4	16QAM	1	5	22.40	22.36	22.44
1.4	16QAM	3	0	22.21	22.09	22.06
1.4	16QAM	3	1	22.30	22.06	22.34
1.4	16QAM	3	3	22.23	22.18	22.48
1.4	16QAM	6	0	20.72	20.55	20.78



LTE Band5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	22.79	22.76	22.86
10	QPSK	1	25	22.72	22.89	22.69
10	QPSK	1	49	22.92	23.06	22.96
10	QPSK	25	0	21.76	21.99	21.87
10	QPSK	25	12	21.66	21.96	21.77
10	QPSK	25	25	21.87	21.78	21.97
10	QPSK	50	0	21.67	22.10	21.71
10	16QAM	1	0	22.26	22.34	22.56
10	16QAM	1	25	21.88	22.27	22.07
10	16QAM	1	49	22.38	22.29	22.18
10	16QAM	25	0	20.56	20.96	20.78
10	16QAM	25	12	20.59	20.67	20.71
10	16QAM	25	25	20.69	20.87	20.92
10	16QAM	50	0	20.72	20.67	20.75
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	22.96	22.86	22.86
5	QPSK	1	12	22.97	22.87	23.04
5	QPSK	1	24	22.77	22.94	23.02
5	QPSK	12	0	21.96	21.93	21.83
5	QPSK	12	7	21.61	22.04	21.94
5	QPSK	12	13	21.88	21.86	21.89
5	QPSK	25	0	21.61	21.89	21.92
5	16QAM	1	0	21.79	22.34	21.61
5	16QAM	1	12	21.87	22.55	22.01
5	16QAM	1	24	21.61	22.30	21.66
5	16QAM	12	0	20.84	21.07	20.70
5	16QAM	12	7	20.73	20.79	21.09
5	16QAM	12	13	20.66	20.58	20.93
5	16QAM	25	0	21.06	20.66	21.13



LTE Band5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20415	20525	20635
Frequency (MHz)				825.5	836.5	847.5
3	QPSK	1	0	22.99	22.91	22.88
3	QPSK	1	8	22.85	22.85	22.68
3	QPSK	1	14	22.55	22.64	22.71
3	QPSK	8	0	21.90	21.94	22.00
3	QPSK	8	4	21.82	21.95	21.96
3	QPSK	8	7	21.80	21.87	21.89
3	QPSK	15	0	21.76	21.90	21.93
3	16QAM	1	0	22.10	22.22	22.35
3	16QAM	1	8	22.11	22.22	22.56
3	16QAM	1	14	21.99	22.07	22.49
3	16QAM	8	0	21.09	20.88	21.17
3	16QAM	8	4	20.99	20.89	21.09
3	16QAM	8	7	20.84	20.85	20.79
3	16QAM	15	0	21.01	20.87	20.92
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	22.88	22.76	22.65
1.4	QPSK	1	3	22.87	22.77	22.73
1.4	QPSK	1	5	22.83	22.84	22.79
1.4	QPSK	3	0	22.90	22.96	22.99
1.4	QPSK	3	1	22.98	22.87	22.91
1.4	QPSK	3	3	22.99	22.94	22.97
1.4	QPSK	6	0	21.82	21.84	21.85
1.4	16QAM	1	0	21.76	22.05	21.70
1.4	16QAM	1	3	21.61	22.12	22.20
1.4	16QAM	1	5	21.58	22.48	22.05
1.4	16QAM	3	0	22.11	22.33	22.02
1.4	16QAM	3	1	22.18	22.37	22.05
1.4	16QAM	3	3	22.13	22.19	22.02
1.4	16QAM	6	0	20.67	20.45	20.44



LTE Band7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	22.17	22.12	22.19
20	QPSK	1	49	22.15	22.23	22.22
20	QPSK	1	99	22.28	22.33	22.36
20	QPSK	50	0	21.27	21.30	21.37
20	QPSK	50	24	21.29	21.36	21.36
20	QPSK	50	50	21.34	21.30	21.27
20	QPSK	100	0	21.32	21.53	21.30
20	16QAM	1	0	21.29	21.94	22.09
20	16QAM	1	49	21.93	21.64	21.82
20	16QAM	1	99	22.05	22.09	21.90
20	16QAM	50	0	20.51	20.56	20.43
20	16QAM	50	24	20.51	20.43	20.53
20	16QAM	50	50	20.47	20.55	20.47
20	16QAM	100	0	20.59	20.48	20.53
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	21.80	22.24	22.07
15	QPSK	1	37	22.17	22.24	22.10
15	QPSK	1	74	22.26	22.24	22.18
15	QPSK	36	0	21.25	21.29	21.23
15	QPSK	36	20	21.26	20.98	21.30
15	QPSK	36	39	21.31	21.22	21.30
15	QPSK	75	0	21.38	20.99	21.31
15	16QAM	1	0	21.88	21.89	21.80
15	16QAM	1	37	21.81	21.59	21.90
15	16QAM	1	74	22.32	21.89	22.13
15	16QAM	36	0	20.35	20.32	20.37
15	16QAM	36	20	20.45	20.47	20.35
15	16QAM	36	39	20.34	20.41	20.34
15	16QAM	75	0	20.31	20.42	20.44



LTE Band7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	22.02	22.02	22.25
10	QPSK	1	25	22.07	22.12	22.21
10	QPSK	1	49	22.21	22.21	22.26
10	QPSK	25	0	21.28	21.00	21.19
10	QPSK	25	12	21.18	21.46	21.14
10	QPSK	25	25	21.44	21.27	21.32
10	QPSK	50	0	21.22	21.46	21.34
10	16QAM	1	0	21.88	20.95	21.48
10	16QAM	1	25	21.90	21.66	20.92
10	16QAM	1	49	22.01	21.55	21.36
10	16QAM	25	0	21.03	20.54	20.63
10	16QAM	25	12	20.34	20.64	20.56
10	16QAM	25	25	20.53	20.59	20.46
10	16QAM	50	0	20.43	20.48	20.42
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	22.21	21.93	22.22
5	QPSK	1	12	22.30	21.92	22.16
5	QPSK	1	24	22.23	22.09	22.14
5	QPSK	12	0	21.21	21.33	21.20
5	QPSK	12	7	21.21	21.12	21.31
5	QPSK	12	13	21.23	21.21	21.20
5	QPSK	25	0	21.24	21.14	21.23
5	16QAM	1	0	21.26	21.85	21.47
5	16QAM	1	12	21.12	21.71	21.56
5	16QAM	1	24	21.66	21.57	21.60
5	16QAM	12	0	20.41	21.23	20.41
5	16QAM	12	7	21.28	21.30	20.46
5	16QAM	12	13	20.43	20.45	20.48
5	16QAM	25	0	20.96	20.35	20.64



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130
Frequency (MHz)				704	707.5	711
10	QPSK	1	0	23.06	23.16	23.28
10	QPSK	1	25	23.00	23.05	22.98
10	QPSK	1	49	23.15	23.14	23.08
10	QPSK	25	0	22.18	22.12	22.31
10	QPSK	25	12	21.87	22.24	22.30
10	QPSK	25	25	22.18	22.16	22.15
10	QPSK	50	0	21.86	22.19	22.10
10	16QAM	1	0	22.03	21.87	22.22
10	16QAM	1	25	21.67	21.90	21.71
10	16QAM	1	49	22.36	22.11	22.34
10	16QAM	25	0	21.15	21.28	21.08
10	16QAM	25	12	21.22	21.34	21.14
10	16QAM	25	25	21.33	21.14	21.43
10	16QAM	50	0	21.01	21.19	21.00
Channel				23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5
5	QPSK	1	0	23.21	23.18	23.03
5	QPSK	1	12	23.26	23.15	23.26
5	QPSK	1	24	23.15	23.01	23.19
5	QPSK	12	0	22.14	22.13	22.10
5	QPSK	12	7	22.20	22.24	22.30
5	QPSK	12	13	22.17	21.93	22.24
5	QPSK	25	0	22.14	21.98	22.26
5	16QAM	1	0	22.37	22.08	22.42
5	16QAM	1	12	21.86	21.87	22.27
5	16QAM	1	24	22.20	22.17	21.95
5	16QAM	12	0	21.00	21.12	20.90
5	16QAM	12	7	21.23	20.99	21.10
5	16QAM	12	13	20.99	21.30	21.13
5	16QAM	25	0	21.06	21.24	21.16



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5
3	QPSK	1	0	22.87	23.09	22.98
3	QPSK	1	8	23.18	23.03	23.02
3	QPSK	1	14	23.00	23.11	23.01
3	QPSK	8	0	22.14	22.22	22.20
3	QPSK	8	4	22.14	22.25	22.07
3	QPSK	8	7	22.20	22.36	22.18
3	QPSK	15	0	22.14	22.25	22.21
3	16QAM	1	0	22.54	22.43	22.76
3	16QAM	1	8	22.36	22.37	22.66
3	16QAM	1	14	22.47	22.57	22.75
3	16QAM	8	0	20.99	21.26	21.09
3	16QAM	8	4	21.24	21.31	21.04
3	16QAM	8	7	21.10	21.44	20.98
3	16QAM	15	0	21.08	21.36	21.34
Channel				23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3
1.4	QPSK	1	0	23.05	23.23	22.87
1.4	QPSK	1	3	23.04	23.28	23.02
1.4	QPSK	1	5	23.06	23.20	22.89
1.4	QPSK	3	0	23.03	23.22	23.12
1.4	QPSK	3	1	23.07	23.25	23.21
1.4	QPSK	3	3	23.21	23.30	23.17
1.4	QPSK	6	0	22.30	22.21	21.93
1.4	16QAM	1	0	22.15	22.43	22.09
1.4	16QAM	1	3	22.11	22.18	22.17
1.4	16QAM	1	5	21.80	22.25	22.26
1.4	16QAM	3	0	22.23	22.50	22.35
1.4	16QAM	3	1	22.30	22.37	22.35
1.4	16QAM	3	3	22.35	22.37	22.38
1.4	16QAM	6	0	20.63	21.07	20.47



LTE Band 17						
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	22.92	22.99	23.02
10	QPSK	1	25	22.93	22.90	22.96
10	QPSK	1	49	23.05	23.08	23.39
10	QPSK	25	0	22.15	22.08	22.15
10	QPSK	25	12	22.10	22.08	22.06
10	QPSK	25	25	22.15	22.05	22.18
10	QPSK	50	0	22.23	22.10	22.11
10	16QAM	1	0	22.30	22.75	22.47
10	16QAM	1	25	22.42	22.22	22.35
10	16QAM	1	49	23.00	22.74	22.58
10	16QAM	25	0	21.17	21.09	20.91
10	16QAM	25	12	21.19	20.92	21.00
10	16QAM	25	25	21.06	20.97	20.91
10	16QAM	50	0	21.12	20.87	20.91
Channel				23035	23095	23155
Frequency (MHz)				706.5	707.5	713.5
5	QPSK	1	0	23.10	23.11	23.06
5	QPSK	1	12	23.16	23.16	23.30
5	QPSK	1	24	23.20	23.00	23.36
5	QPSK	12	0	22.21	22.20	22.15
5	QPSK	12	7	22.21	22.09	22.36
5	QPSK	12	13	22.11	22.16	22.29
5	QPSK	25	0	22.24	22.10	22.31
5	16QAM	1	0	22.24	22.03	22.31
5	16QAM	1	12	22.28	21.88	22.31
5	16QAM	1	24	21.90	22.28	22.00
5	16QAM	12	0	21.23	21.04	20.95
5	16QAM	12	7	21.08	20.96	21.03
5	16QAM	12	13	21.13	20.98	21.18
5	16QAM	25	0	21.16	21.08	21.19

**Effective Radiated Power and Effective Isotropic Radiated Power**

LTE Band2				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	21.39	21.12	21.24
20	QPSK	1	49	21.12	21.18	21.05
20	QPSK	1	99	21.08	21.21	21.21
20	QPSK	50	0	20.28	20.06	20.12
20	QPSK	50	24	20.18	20.20	20.03
20	QPSK	50	50	20.17	20.27	20.05
20	QPSK	100	0	20.24	20.17	20.01
20	16QAM	1	0	20.55	19.76	19.88
20	16QAM	1	49	20.56	20.08	19.50
20	16QAM	1	99	20.17	20.14	20.10
20	16QAM	50	0	19.18	19.15	19.31
20	16QAM	50	24	19.37	19.13	19.16
20	16QAM	50	50	19.41	19.15	19.18
20	16QAM	100	0	19.38	19.18	19.17
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	20.71	20.62	20.73
15	QPSK	1	37	20.65	20.56	20.64
15	QPSK	1	74	20.75	20.56	20.73
15	QPSK	36	0	19.86	19.70	19.81
15	QPSK	36	20	19.79	19.69	19.73
15	QPSK	36	39	19.90	19.68	19.81
15	QPSK	75	0	19.78	19.74	19.76
15	16QAM	1	0	20.58	20.16	20.32
15	16QAM	1	37	20.41	20.37	20.08
15	16QAM	1	74	20.50	19.96	20.45
15	16QAM	36	0	18.83	18.72	18.81
15	16QAM	36	20	18.75	18.74	18.74
15	16QAM	36	39	18.92	18.70	18.77
15	16QAM	75	0	18.88	18.78	18.79



LTE Band2				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	21.15	21.15	21.08
10	QPSK	1	25	21.09	21.12	21.14
10	QPSK	1	49	20.99	21.19	21.18
10	QPSK	25	0	20.26	20.24	20.09
10	QPSK	25	12	20.02	20.23	20.04
10	QPSK	25	25	20.24	20.23	20.19
10	QPSK	50	0	19.98	20.19	20.12
10	16QAM	1	0	20.32	20.69	20.10
10	16QAM	1	25	20.16	20.29	20.49
10	16QAM	1	49	20.38	20.71	20.38
10	16QAM	25	0	19.41	19.32	19.18
10	16QAM	25	12	19.27	19.02	19.14
10	16QAM	25	25	19.17	19.05	19.23
10	16QAM	50	0	19.09	19.20	19.24
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	21.14	21.17	21.21
5	QPSK	1	12	21.16	21.16	21.25
5	QPSK	1	24	21.09	21.23	21.24
5	QPSK	12	0	20.24	20.20	20.06
5	QPSK	12	7	20.18	20.24	20.17
5	QPSK	12	13	20.25	20.31	20.19
5	QPSK	25	0	20.21	20.09	20.15
5	16QAM	1	0	20.60	20.44	20.63
5	16QAM	1	12	20.18	20.23	20.43
5	16QAM	1	24	20.50	20.59	20.73
5	16QAM	12	0	19.36	19.15	19.28
5	16QAM	12	7	19.47	19.09	19.40
5	16QAM	12	13	19.41	19.22	19.41
5	16QAM	25	0	19.41	19.21	19.41



LTE Band2				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5
3	QPSK	1	0	21.22	21.23	21.22
3	QPSK	1	8	21.14	21.19	21.20
3	QPSK	1	14	21.11	21.17	21.18
3	QPSK	8	0	20.22	20.18	20.08
3	QPSK	8	4	20.23	20.20	20.11
3	QPSK	8	7	20.17	20.16	20.04
3	QPSK	15	0	20.21	20.17	20.17
3	16QAM	1	0	20.12	20.42	20.19
3	16QAM	1	8	20.20	20.06	20.25
3	16QAM	1	14	20.28	20.18	20.45
3	16QAM	8	0	19.40	19.01	19.05
3	16QAM	8	4	19.09	19.46	19.11
3	16QAM	8	7	19.22	19.27	19.06
3	16QAM	15	0	19.58	19.25	19.29
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	21.20	21.18	21.15
1.4	QPSK	1	3	21.17	20.50	21.26
1.4	QPSK	1	5	21.15	21.28	21.27
1.4	QPSK	3	0	21.33	21.27	21.20
1.4	QPSK	3	1	21.29	21.35	21.24
1.4	QPSK	3	3	21.35	21.31	21.29
1.4	QPSK	6	0	20.24	20.32	20.06
1.4	16QAM	1	0	20.28	20.44	20.46
1.4	16QAM	1	3	21.35	20.02	20.76
1.4	16QAM	1	5	21.26	21.19	21.06
1.4	16QAM	3	0	21.31	20.33	20.31
1.4	16QAM	3	1	21.23	20.27	20.00
1.4	16QAM	3	3	21.27	20.46	20.29
1.4	16QAM	6	0	19.39	19.07	19.15



LTE Band4				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	21.73	21.72	21.86
20	QPSK	1	49	21.72	21.76	21.67
20	QPSK	1	99	21.80	21.94	22.04
20	QPSK	50	0	20.74	20.74	21.07
20	QPSK	50	24	20.79	20.62	20.87
20	QPSK	50	50	20.65	20.63	20.71
20	QPSK	100	0	20.75	20.77	20.71
20	16QAM	1	0	21.38	21.05	21.63
20	16QAM	1	49	21.54	21.03	21.28
20	16QAM	1	99	21.24	21.12	21.00
20	16QAM	50	0	19.73	19.79	19.87
20	16QAM	50	24	19.87	19.79	19.85
20	16QAM	50	50	19.66	19.75	19.76
20	16QAM	100	0	19.97	19.90	19.87
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	21.69	21.82	21.87
15	QPSK	1	37	21.64	21.74	21.78
15	QPSK	1	74	21.71	21.59	21.74
15	QPSK	36	0	20.78	20.90	20.88
15	QPSK	36	20	20.67	20.66	21.03
15	QPSK	36	39	20.73	20.60	20.56
15	QPSK	75	0	20.94	20.78	20.85
15	16QAM	1	0	21.00	21.56	21.75
15	16QAM	1	37	21.17	21.10	21.77
15	16QAM	1	74	21.53	21.09	21.71
15	16QAM	36	0	19.75	19.96	19.84
15	16QAM	36	20	19.81	19.69	19.87
15	16QAM	36	39	19.71	19.80	19.74
15	16QAM	75	0	19.95	19.84	19.91



LTE Band4				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	21.69	21.88	21.88
10	QPSK	1	25	21.77	21.84	21.96
10	QPSK	1	49	21.68	21.80	21.84
10	QPSK	25	0	19.81	20.76	21.12
10	QPSK	25	12	20.78	20.78	20.63
10	QPSK	25	25	20.81	20.73	20.59
10	QPSK	50	0	20.75	20.76	20.73
10	16QAM	1	0	21.57	20.92	21.18
10	16QAM	1	25	21.38	20.50	21.56
10	16QAM	1	49	21.06	20.91	21.32
10	16QAM	25	0	19.88	19.93	19.95
10	16QAM	25	12	19.62	20.03	19.62
10	16QAM	25	25	19.77	19.95	19.66
10	16QAM	50	0	19.78	19.71	19.98
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	21.81	21.92	21.85
5	QPSK	1	12	22.00	21.90	21.80
5	QPSK	1	24	21.82	21.89	21.81
5	QPSK	12	0	20.74	20.74	20.77
5	QPSK	12	7	20.89	20.73	20.61
5	QPSK	12	13	20.87	20.77	20.66
5	QPSK	25	0	20.90	20.76	20.60
5	16QAM	1	0	20.93	20.94	21.36
5	16QAM	1	12	20.73	20.40	21.28
5	16QAM	1	24	20.96	20.60	21.76
5	16QAM	12	0	19.75	19.78	19.79
5	16QAM	12	7	19.90	19.85	19.68
5	16QAM	12	13	20.04	19.75	19.64
5	16QAM	25	0	20.06	19.88	19.70



LTE Band4				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	21.63	21.66	21.63
3	QPSK	1	8	21.48	21.67	21.65
3	QPSK	1	14	21.84	21.72	21.84
3	QPSK	8	0	20.61	20.66	20.75
3	QPSK	8	4	20.66	20.69	20.66
3	QPSK	8	7	20.81	20.66	20.85
3	QPSK	15	0	20.77	20.65	20.60
3	16QAM	1	0	20.98	20.95	21.68
3	16QAM	1	8	20.94	20.92	21.61
3	16QAM	1	14	21.10	20.89	21.73
3	16QAM	8	0	19.71	19.91	19.97
3	16QAM	8	4	19.85	19.75	20.04
3	16QAM	8	7	19.98	19.93	19.93
3	16QAM	15	0	19.72	19.93	19.72
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	21.59	21.77	21.49
1.4	QPSK	1	3	21.58	21.81	21.88
1.4	QPSK	1	5	21.65	21.73	21.73
1.4	QPSK	3	0	21.64	21.88	21.77
1.4	QPSK	3	1	21.80	21.95	22.01
1.4	QPSK	3	3	21.75	21.81	21.97
1.4	QPSK	6	0	20.70	20.81	20.97
1.4	16QAM	1	0	21.30	21.24	21.16
1.4	16QAM	1	3	21.20	21.10	21.58
1.4	16QAM	1	5	21.20	21.16	21.24
1.4	16QAM	3	0	21.01	20.89	20.86
1.4	16QAM	3	1	21.10	20.86	21.14
1.4	16QAM	3	3	21.03	20.98	21.28
1.4	16QAM	6	0	19.52	19.35	19.58



LTE Band5				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20450	20525	20600
Frequency (MHz)				829	836.5	844
10	QPSK	1	0	18.64	18.61	18.71
10	QPSK	1	25	18.57	18.74	18.54
10	QPSK	1	49	18.77	18.91	18.81
10	QPSK	25	0	17.61	17.84	17.72
10	QPSK	25	12	17.51	17.81	17.62
10	QPSK	25	25	17.72	17.63	17.82
10	QPSK	50	0	17.52	17.95	17.56
10	16QAM	1	0	18.11	18.19	18.41
10	16QAM	1	25	17.73	18.12	17.92
10	16QAM	1	49	18.23	18.14	18.03
10	16QAM	25	0	16.41	16.81	16.63
10	16QAM	25	12	16.44	16.52	16.56
10	16QAM	25	25	16.54	16.72	16.77
10	16QAM	50	0	16.57	16.52	16.60
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	18.81	18.71	18.71
5	QPSK	1	12	18.82	18.72	18.89
5	QPSK	1	24	18.62	18.79	18.87
5	QPSK	12	0	17.81	17.78	17.68
5	QPSK	12	7	17.46	17.89	17.79
5	QPSK	12	13	17.73	17.71	17.74
5	QPSK	25	0	17.46	17.74	17.77
5	16QAM	1	0	17.64	18.19	17.46
5	16QAM	1	12	17.72	18.40	17.86
5	16QAM	1	24	17.46	18.15	17.51
5	16QAM	12	0	16.69	16.92	16.55
5	16QAM	12	7	16.58	16.64	16.94
5	16QAM	12	13	16.51	16.43	16.78
5	16QAM	25	0	16.91	16.51	16.98



LTE Band5				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20415	20525	20635
Frequency (MHz)				825.5	836.5	847.5
3	QPSK	1	0	18.84	18.76	18.73
3	QPSK	1	8	18.70	18.70	18.53
3	QPSK	1	14	18.40	18.49	18.56
3	QPSK	8	0	17.75	17.79	17.85
3	QPSK	8	4	17.67	17.80	17.81
3	QPSK	8	7	17.65	17.72	17.74
3	QPSK	15	0	17.61	17.75	17.78
3	16QAM	1	0	17.95	18.07	18.20
3	16QAM	1	8	17.96	18.07	18.41
3	16QAM	1	14	17.84	17.92	18.34
3	16QAM	8	0	16.94	16.73	17.02
3	16QAM	8	4	16.84	16.74	16.94
3	16QAM	8	7	16.69	16.70	16.64
3	16QAM	15	0	16.86	16.72	16.77
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	18.73	18.61	18.50
1.4	QPSK	1	3	18.72	18.62	18.58
1.4	QPSK	1	5	18.68	18.69	18.64
1.4	QPSK	3	0	18.75	18.81	18.84
1.4	QPSK	3	1	18.83	18.72	18.76
1.4	QPSK	3	3	18.84	18.79	18.82
1.4	QPSK	6	0	17.67	17.69	17.70
1.4	16QAM	1	0	17.61	17.90	17.55
1.4	16QAM	1	3	17.46	17.97	18.05
1.4	16QAM	1	5	17.43	18.33	17.90
1.4	16QAM	3	0	17.96	18.18	17.87
1.4	16QAM	3	1	18.03	18.22	17.90
1.4	16QAM	3	3	17.98	18.04	17.87
1.4	16QAM	6	0	16.52	16.30	16.29



LTE Band7				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	22.65	24.88	24.99
20	QPSK	1	49	24.85	24.88	24.69
20	QPSK	1	99	24.68	23.98	24.88
20	QPSK	50	0	24.69	24.85	24.84
20	QPSK	50	24	25.96	25.81	25.82
20	QPSK	50	50	24.63	24.88	24.63
20	QPSK	100	0	24.89	24.83	24.67
20	16QAM	1	0	24.69	24.32	23.64
20	16QAM	1	49	24.52	24.27	24.81
20	16QAM	1	99	24.37	24.96	24.96
20	16QAM	50	0	24.85	24.96	24.77
20	16QAM	50	24	24.81	24.71	24.52
20	16QAM	50	50	23.92	23.74	23.15
20	16QAM	100	0	23.85	23.57	23.84
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	24.75	24.85	24.69
15	QPSK	1	37	24.39	24.87	24.72
15	QPSK	1	74	24.67	24.39	24.81
15	QPSK	36	0	24.64	24.87	24.79
15	QPSK	36	20	24.69	24.27	24.64
15	QPSK	36	39	24.18	24.72	24.63
15	QPSK	75	0	24.67	24.58	24.56
15	16QAM	1	0	24.86	24.63	24.55
15	16QAM	1	37	24.67	24.87	24.63
15	16QAM	1	74	24.52	22.87	23.45
15	16QAM	36	0	22.47	22.25	22.18
15	16QAM	36	20	22.42	22.39	22.22
15	16QAM	36	39	22.26	22.25	22.23
15	16QAM	75	0	22.39	22.22	22.13



LTE Band7				Measured EIRP		
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	24.29	24.24	24.03
10	QPSK	1	25	24.39	24.45	24.15
10	QPSK	1	49	24.14	24.27	24.00
10	QPSK	25	0	23.35	23.27	23.26
10	QPSK	25	12	23.30	23.43	23.15
10	QPSK	25	25	23.14	23.25	23.18
10	QPSK	50	0	23.25	23.33	23.14
10	16QAM	1	0	23.18	23.05	23.18
10	16QAM	1	25	23.25	23.09	22.90
10	16QAM	1	49	23.81	22.98	22.34
10	16QAM	25	0	22.31	22.25	22.01
10	16QAM	25	12	22.28	22.14	22.18
10	16QAM	25	25	22.14	22.09	22.13
10	16QAM	50	0	22.18	22.47	22.03
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	24.26	24.12	24.35
5	QPSK	1	12	24.37	24.31	24.21
5	QPSK	1	24	24.12	24.24	24.08
5	QPSK	12	0	23.27	23.32	23.32
5	QPSK	12	7	23.34	24.47	24.32
5	QPSK	12	13	23.27	24.28	24.17
5	QPSK	25	0	24.42	24.21	23.42
5	16QAM	1	0	24.31	22.12	22.87
5	16QAM	1	12	23.65	22.54	22.62
5	16QAM	1	24	22.12	22.77	22.65
5	16QAM	12	0	21.49	22.25	22.21
5	16QAM	12	7	20.58	22.36	22.43
5	16QAM	12	13	21.39	22.38	22.31
5	16QAM	25	0	21.27	22.43	22.28



LTE Band12				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23060	23095	23130
Frequency (MHz)				704	707.5	711
10	QPSK	1	0	18.91	18.91	19.13
10	QPSK	1	25	18.85	18.85	18.83
10	QPSK	1	49	19.00	19.00	18.93
10	QPSK	25	0	18.03	18.03	18.16
10	QPSK	25	12	17.72	17.72	18.15
10	QPSK	25	25	18.03	18.03	18.00
10	QPSK	50	0	17.71	17.71	17.95
10	16QAM	1	0	17.88	17.88	18.07
10	16QAM	1	25	17.52	17.52	17.56
10	16QAM	1	49	18.21	18.21	18.19
10	16QAM	25	0	17.00	17.00	16.93
10	16QAM	25	12	17.07	17.07	16.99
10	16QAM	25	25	17.18	17.18	17.28
10	16QAM	50	0	16.86	16.86	16.85
Channel				23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5
5	QPSK	1	0	19.06	19.06	18.88
5	QPSK	1	12	19.11	19.11	19.11
5	QPSK	1	24	19.00	19.00	19.04
5	QPSK	12	0	17.99	17.99	17.95
5	QPSK	12	7	18.05	18.05	18.15
5	QPSK	12	13	18.02	18.02	18.09
5	QPSK	25	0	17.99	17.99	18.11
5	16QAM	1	0	18.22	18.22	18.27
5	16QAM	1	12	17.71	17.71	18.12
5	16QAM	1	24	18.05	18.05	17.80
5	16QAM	12	0	16.85	16.85	16.75
5	16QAM	12	7	17.08	17.08	16.95
5	16QAM	12	13	16.84	16.84	16.98
5	16QAM	25	0	16.91	16.91	17.01



LTE Band12				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5
3	QPSK	1	0	18.72	18.72	18.83
3	QPSK	1	8	19.03	19.03	18.87
3	QPSK	1	14	18.85	18.85	18.86
3	QPSK	8	0	17.99	17.99	18.05
3	QPSK	8	4	17.99	17.99	17.92
3	QPSK	8	7	18.05	18.05	18.03
3	QPSK	15	0	17.99	17.99	18.06
3	16QAM	1	0	18.39	18.39	18.61
3	16QAM	1	8	18.21	18.21	18.51
3	16QAM	1	14	18.32	18.32	18.60
3	16QAM	8	0	16.84	16.84	16.94
3	16QAM	8	4	17.09	17.09	16.89
3	16QAM	8	7	16.95	16.95	16.83
3	16QAM	15	0	16.93	16.93	17.19
Channel				23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3
1.4	QPSK	1	0	18.90	18.90	18.72
1.4	QPSK	1	3	18.89	18.89	18.87
1.4	QPSK	1	5	18.91	18.91	18.74
1.4	QPSK	3	0	18.88	18.88	18.97
1.4	QPSK	3	1	18.92	18.92	19.06
1.4	QPSK	3	3	19.06	19.06	19.02
1.4	QPSK	6	0	18.15	18.15	17.78
1.4	16QAM	1	0	18.00	18.00	17.94
1.4	16QAM	1	3	17.96	17.96	18.02
1.4	16QAM	1	5	17.65	17.65	18.11
1.4	16QAM	3	0	18.08	18.08	18.20
1.4	16QAM	3	1	18.15	18.15	18.20
1.4	16QAM	3	3	18.20	18.20	18.23
1.4	16QAM	6	0	16.48	16.48	16.32



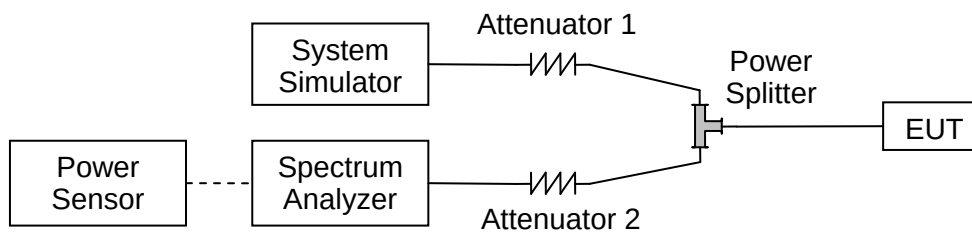
LTE Band 17				Measured ERP		
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23780	23790	23800
Frequency (MHz)				709	710	711
10	QPSK	1	0	18.77	18.84	18.87
10	QPSK	1	25	18.78	18.75	18.81
10	QPSK	1	49	18.90	18.93	19.24
10	QPSK	25	0	18.00	17.93	18.00
10	QPSK	25	12	17.95	17.93	17.91
10	QPSK	25	25	18.00	17.90	18.03
10	QPSK	50	0	18.08	17.95	17.96
10	16QAM	1	0	18.15	18.60	18.32
10	16QAM	1	25	18.27	18.07	18.20
10	16QAM	1	49	18.85	18.59	18.43
10	16QAM	25	0	17.02	16.94	16.76
10	16QAM	25	12	17.04	16.77	16.85
10	16QAM	25	25	16.91	16.82	16.76
10	16QAM	50	0	16.97	16.72	16.76
Channel				23035	23095	23155
Frequency (MHz)				706.5	707.5	713.5
5	QPSK	1	0	18.95	18.96	18.91
5	QPSK	1	12	19.01	19.01	19.15
5	QPSK	1	24	19.05	18.85	19.21
5	QPSK	12	0	18.06	18.05	18.00
5	QPSK	12	7	18.06	17.94	18.21
5	QPSK	12	13	17.96	18.01	18.14
5	QPSK	25	0	18.09	17.95	18.16
5	16QAM	1	0	18.09	17.88	18.16
5	16QAM	1	12	18.13	17.73	18.16
5	16QAM	1	24	17.75	18.13	17.85
5	16QAM	12	0	17.08	16.89	16.80
5	16QAM	12	7	16.93	16.81	16.88
5	16QAM	12	13	16.98	16.83	17.03
5	16QAM	25	0	17.01	16.93	17.04

2.2. Occupied Bandwidth

2.2.1. Requirement

According to FCC section 2.1049, the occupied bandwidth 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 radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.2.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.2.3. Test procedure

KDB 971168 D01v03 Section 4.1 and ANSI/TIA-603-E-2016.

2.2.4. Test Result

LTE Band 2, BW: 1.4MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.084	1.212	1.084	1.224
18900	1880.0	1.086	1.224	1.087	1.222
19192	1909.2	1.085	1.225	1.084	1.214



LTE Band 2, BW: 3MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.677	2.937	2.673	2.943
18900	1880.0	2.681	2.952	2.684	2.958
19184	1908.4	2.678	2.959	2.680	2.942
LTE Band 2, BW: 5MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.463	4.754	4.457	4.782
18900	1880.0	4.477	4.783	4.465	4.758
19175	1907.5	4.454	4.779	4.452	4.919
LTE Band 2, BW: 10MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18650	1855.0	8.934	9.369	8.903	9.406
18900	1880.0	8.945	9.329	8.937	9.406
19150	1905.0	8.922	9.353	8.911	9.324
LTE Band 2, BW: 15MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18675	1857.5	13.388	13.93	13.356	14.12
18900	1880.0	13.349	14.19	13.347	13.95
19125	1902.5	13.349	13.87	13.425	13.99
LTE Band 2, BW: 20MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
18700	1860.0	17.905	18.74	17.869	18.68
18900	1880.0	17.873	18.69	17.821	18.78
19100	1900.0	17.927	18.69	17.927	18.75



LTE Band 2 99%&26dB Bandwidth

1.4MHz/QPSK/Low CH



1.4MHz/16QAM/Low CH

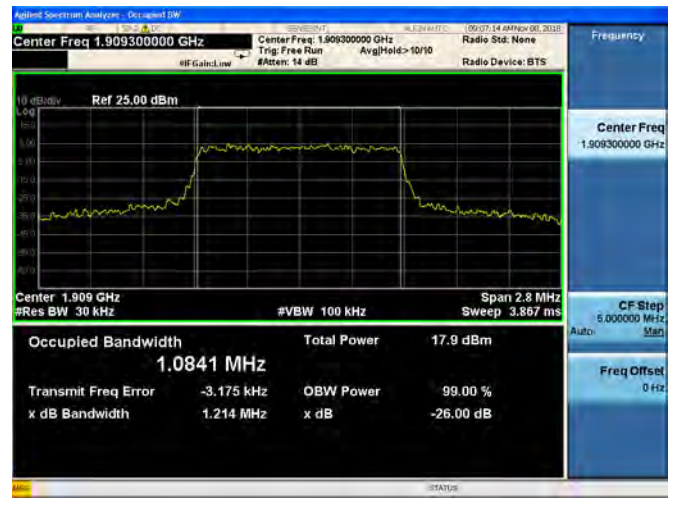


1.4MHz/QPSK/Mid CH



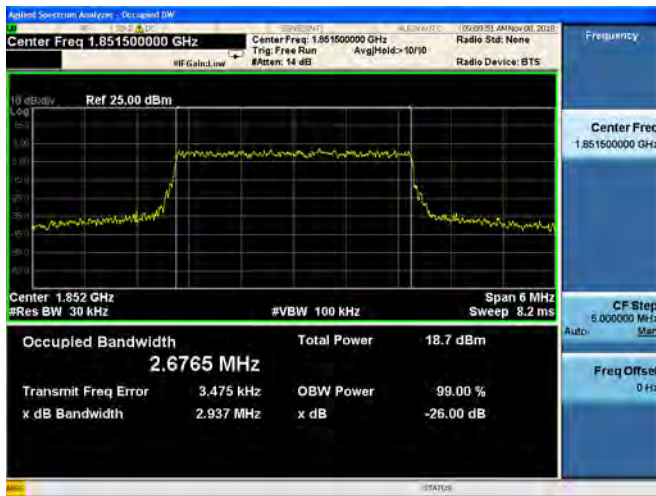
1.4MHz/16QAM/Mid CH



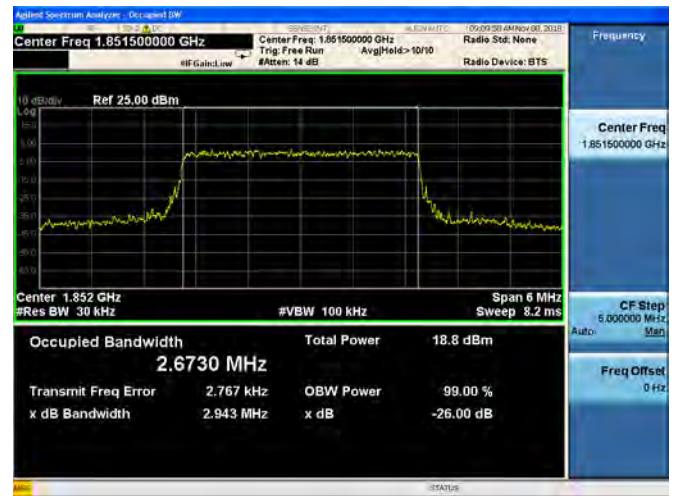
**1.4MHz/QPSK/High CH****1.4MHz/16QAM/High CH**



3MHz/QPSK/Low CH



3MHz/16QAM/Low CH



3MHz/QPSK/Mid CH



3MHz/16QAM/Mid CH



3MHz/QPSK/High CH

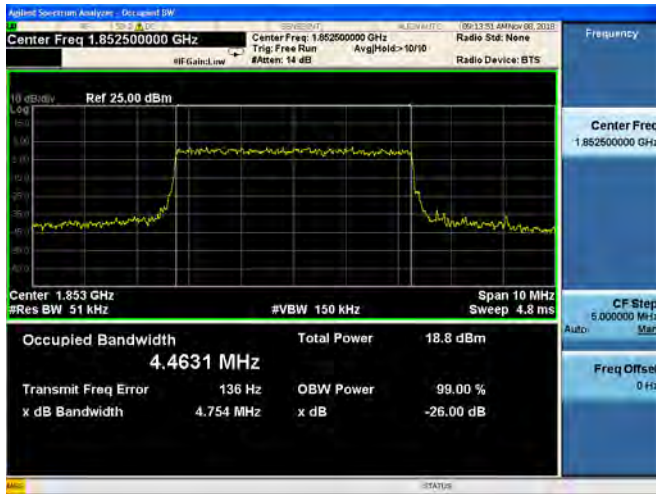


3MHz/16QAM/High CH

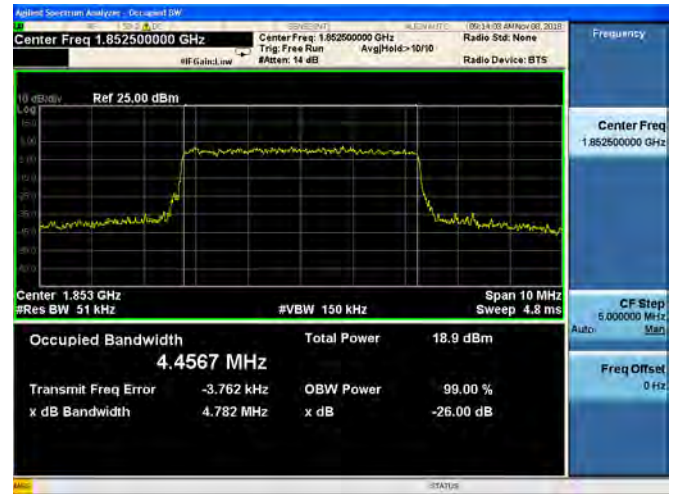




5MHz/QPSK/Low CH



5MHz/16QAM/Low CH



5MHz/QPSK/Mid CH



5MHz/16QAM/Mid CH



5MHz/QPSK/High CH



5MHz/16QAM/High CH

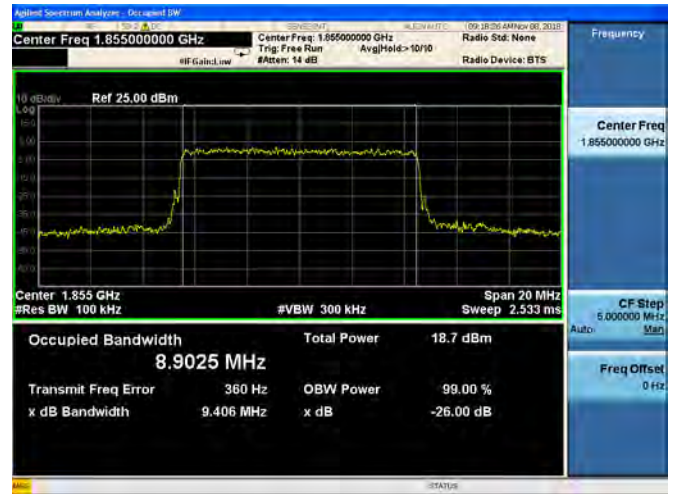




10MHz/QPSK/Low CH



10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH



10MHz/16QAM/Mid CH

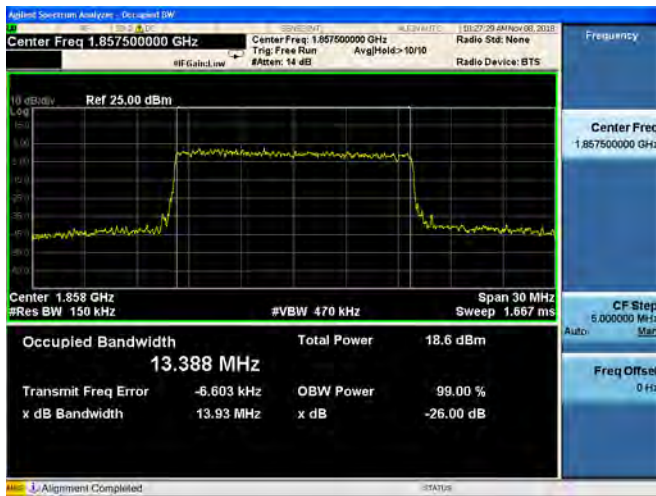
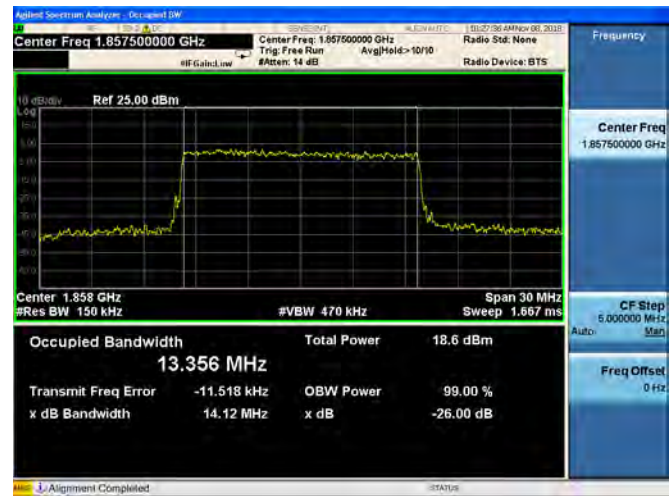
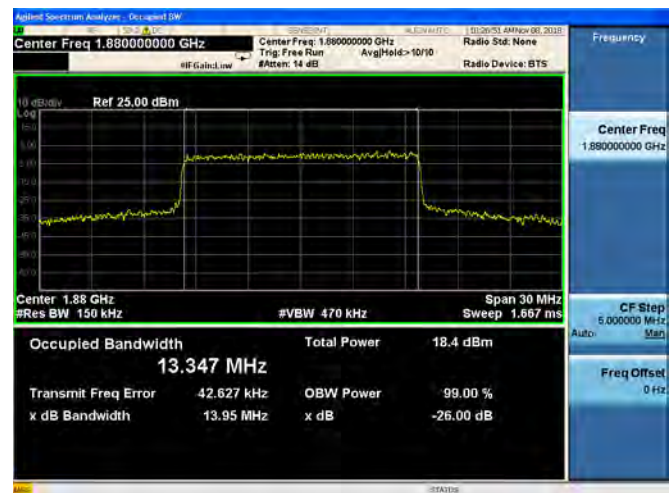
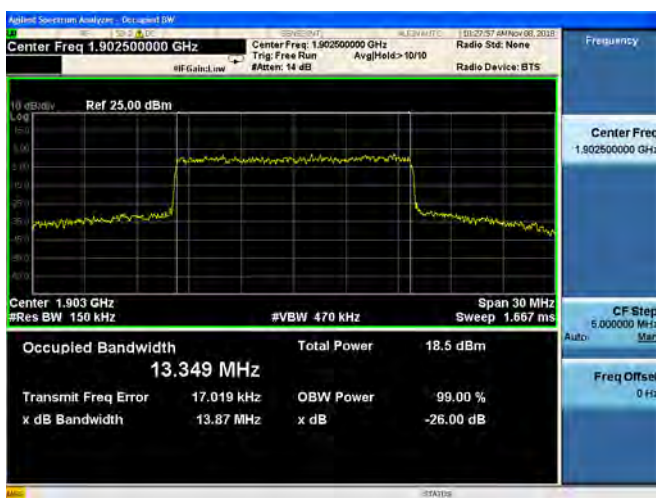


10MHz/QPSK/High CH



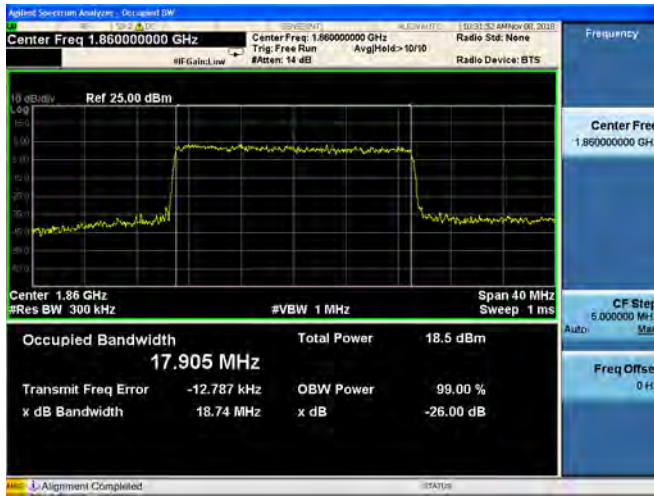
10MHz/16QAM/High CH



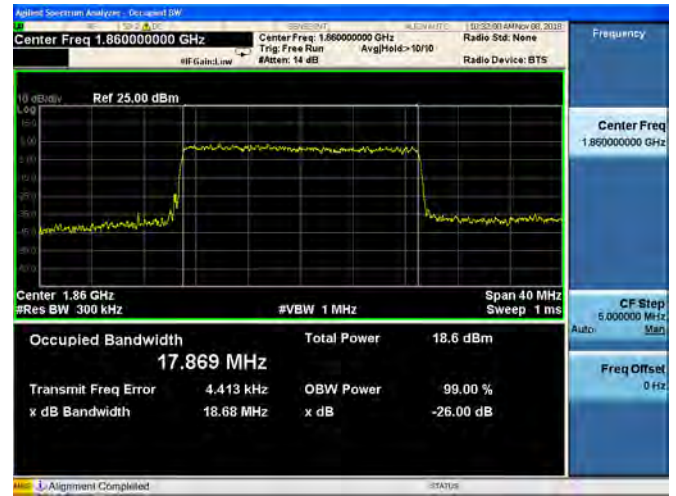
**15MHz/QPSK/Low CH****15MHz/16QAM/Low CH****15MHz/QPSK/Mid CH****15MHz/16QAM/Mid CH****15MHz/QPSK/High CH****15MHz/16QAM/High CH**



20MHz/QPSK/Low CH



20MHz/16QAM/Low CH



20MHz/QPSK/Mid CH



20MHz/16QAM/Mid CH



20MHz/QPSK/High CH



20MHz/16QAM/High CH





LTE Band 4, BW: 1.4MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.082	1.232	1.084	1.219
20175	1732.5	1.083	1.218	1.086	1.217
20392	1754.2	1.083	1.224	1.084	1.222
LTE Band 4, BW: 3MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.673	2.980	2.676	2.944
20175	1732.5	2.680	2.955	2.684	2.899
20384	1753.4	2.677	2.903	2.683	2.906
LTE Band 4, BW: 5MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.459	4.657	4.458	4.717
20175	1732.5	4.456	4.787	4.466	4.807
20375	1752.5	4.457	4.691	4.463	4.817
LTE Band 4, BW: 10MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20000	1715.0	8.936	9.362	8.933	9.286
20175	1732.5	8.903	9.393	8.906	9.379
20350	1750.0	8.915	9.440	8.913	9.406
LTE Band 4, BW: 15MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20025	1717.5	13.361	14.01	13.358	13.85
20175	1732.5	13.387	13.90	13.387	13.91
20325	1747.5	13.362	13.90	13.334	13.89

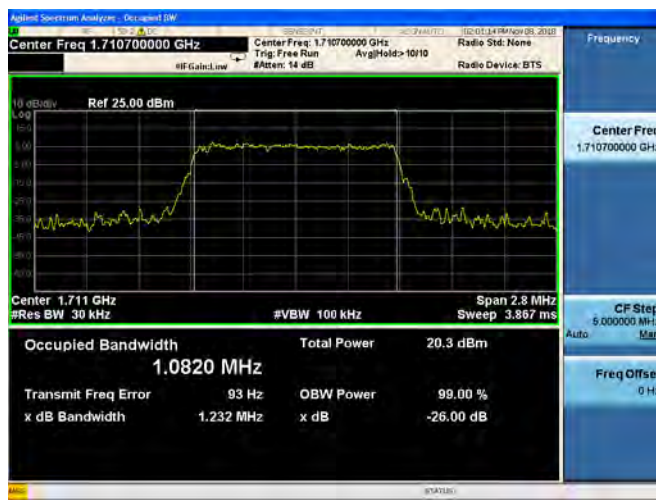


LTE Band 4, BW: 20MHz

Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20050	1720.0	17.866	18.68	17.858	18.69
20175	1732.5	17.886	18.70	17.898	18.74
20300	1745.0	17.856	18.79	17.860	18.71

LTE Band 4 99%&26dB Bandwidth

1.4MHz/QPSK/Low CH



1.4MHz/16QAM/Low CH

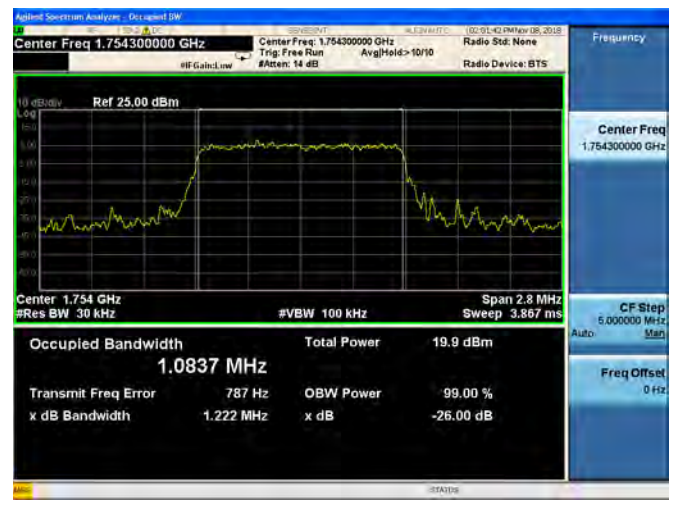


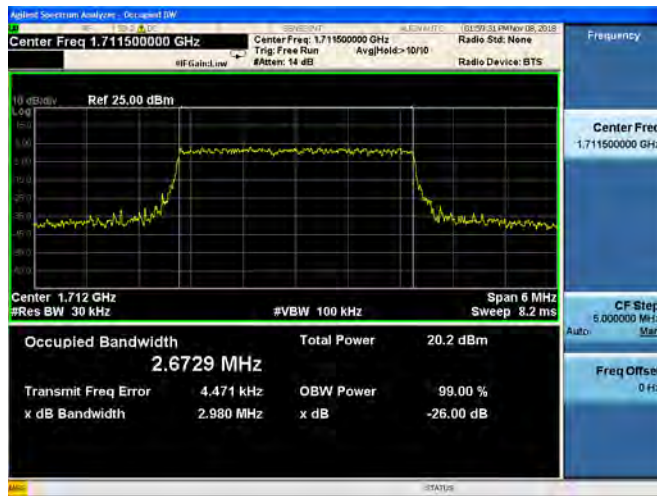
1.4MHz/QPSK/Mid CH



1.4MHz/16QAM/Mid CH



**1.4MHz/QPSK/High CH****1.4MHz/16QAM/High CH**

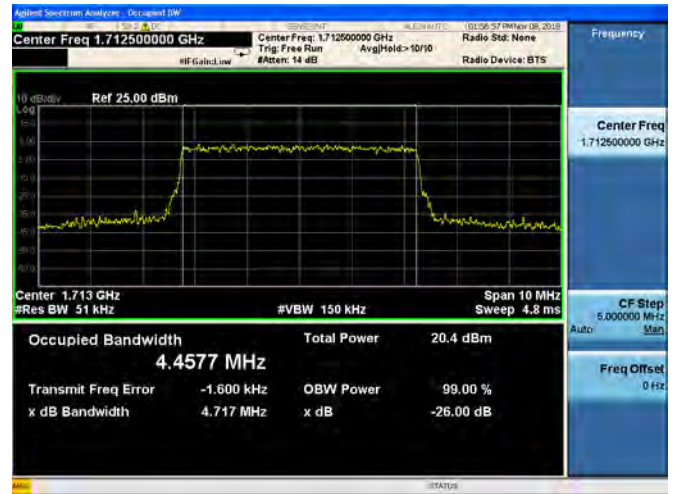
**3MHz/QPSK/Low CH****3MHz/16QAM/Low CH****3MHz/QPSK/Mid CH****3MHz/16QAM/Mid CH****3MHz/QPSK/High CH****3MHz/16QAM/High CH**



5MHz/QPSK/Low CH



5MHz/16QAM/Low CH



5MHz/QPSK/Mid CH



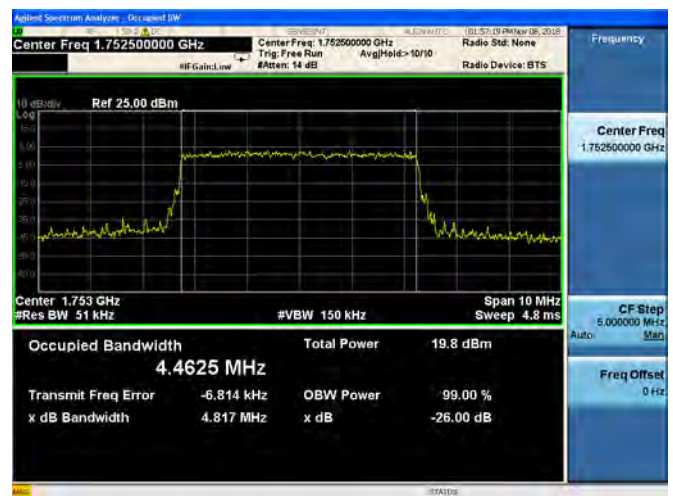
5MHz/16QAM/Mid CH



5MHz/QPSK/High CH



5MHz/16QAM/High CH

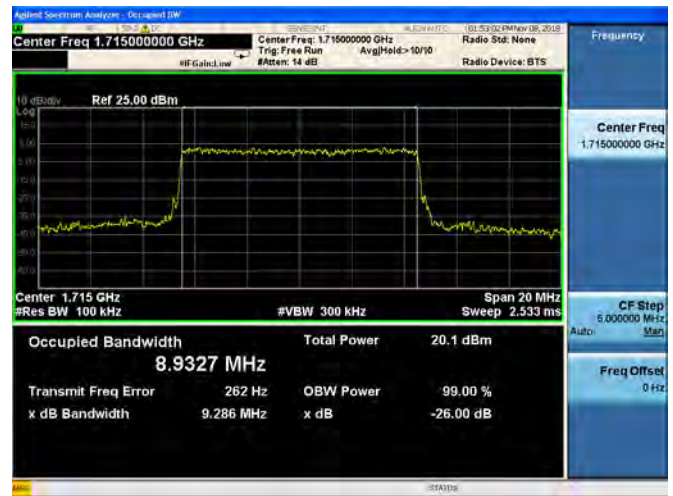




10MHz/QPSK/Low CH



10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH



10MHz/16QAM/Mid CH



10MHz/QPSK/High CH

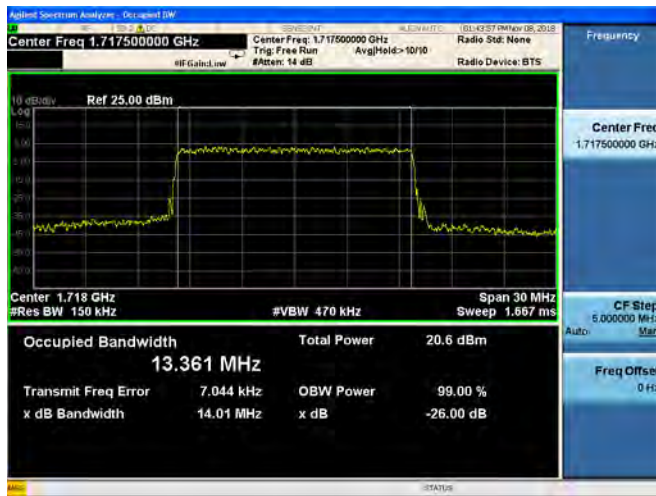


10MHz/16QAM/High CH

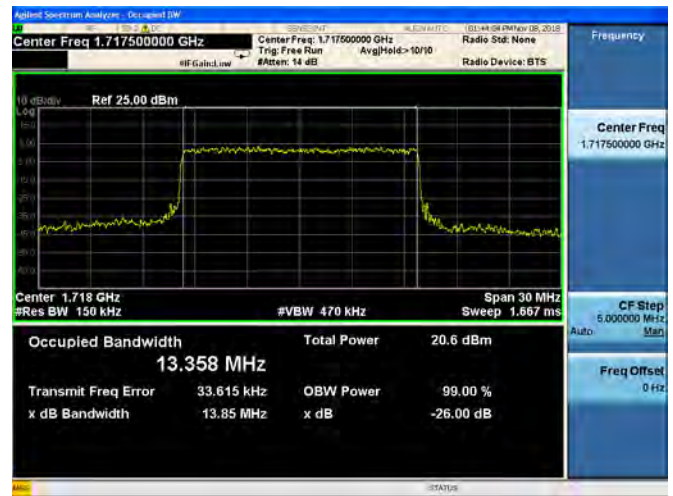




15MHz/QPSK/Low CH



15MHz/16QAM/Low CH



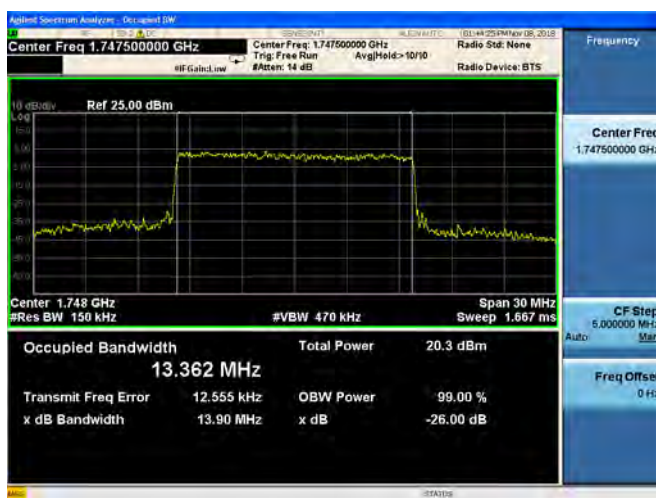
15MHz/QPSK/Mid CH



15MHz/16QAM/Mid CH



15MHz/QPSK/High CH



15MHz/16QAM/High CH

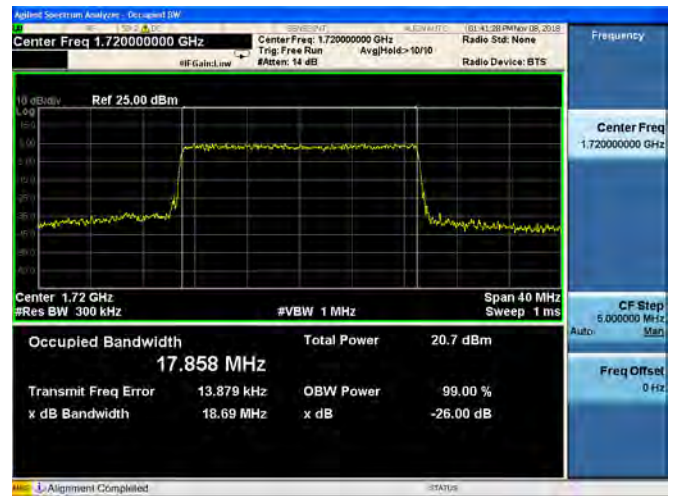




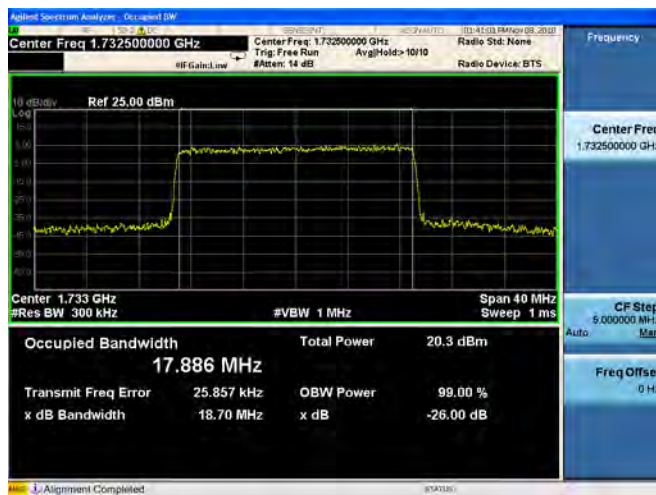
20MHz/QPSK/Low CH



20MHz/16QAM/Low CH



20MHz/QPSK/Mid CH



20MHz/16QAM/Mid CH



20MHz/QPSK/High CH



20MHz/16QAM/High CH



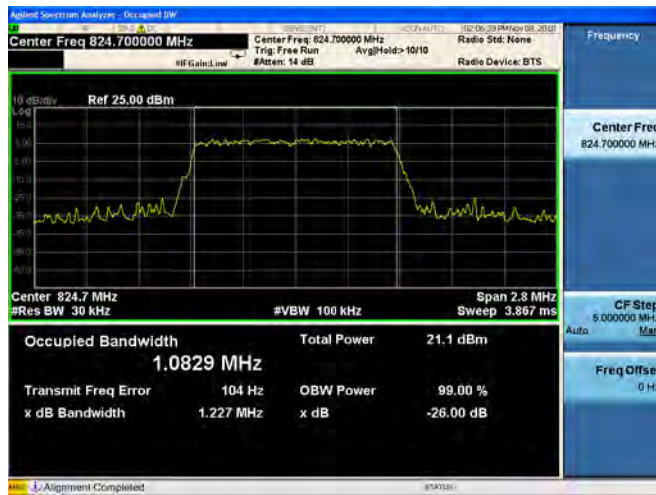


LTE Band 5, BW: 1.4MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20407	824.7	1.083	1.227	1.088	1.223
20525	836.5	1.085	1.229	1.089	1.224
20643	848.3	1.091	1.223	1.087	1.229
LTE Band 5, BW: 3MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20415	825.5	2.681	2.901	2.674	2.927
20525	836.5	2.669	2.892	2.685	2.915
20635	847.5	2.671	2.948	2.679	2.939
LTE Band 5, BW: 5MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20425	826.5	4.454	4.712	4.466	4.711
20525	836.5	4.465	4.780	4.464	4.739
20625	846.5	4.459	4.670	4.455	4.781
LTE Band 5, BW: 10MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20450	829.0	8.908	9.327	8.905	9.403
20525	836.5	8.907	9.260	8.906	9.349
20600	844.0	8.895	9.399	8.925	9.277

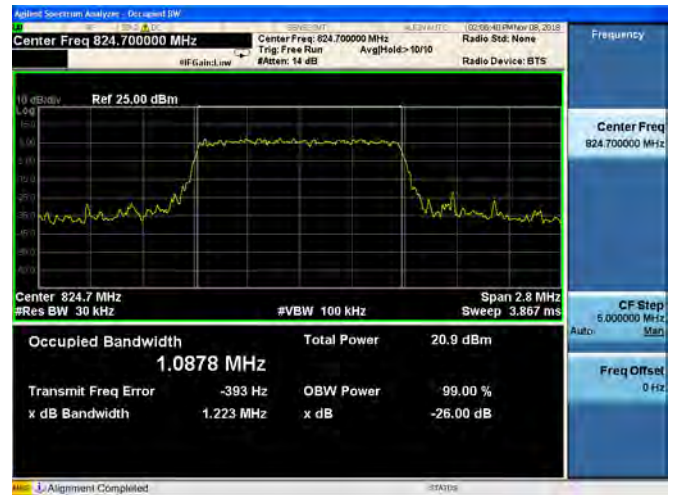


LTE Band 5 99%&26dB Bandwidth

1.4MHz/QPSK/Low CH



1.4MHz/16QAM/Low CH

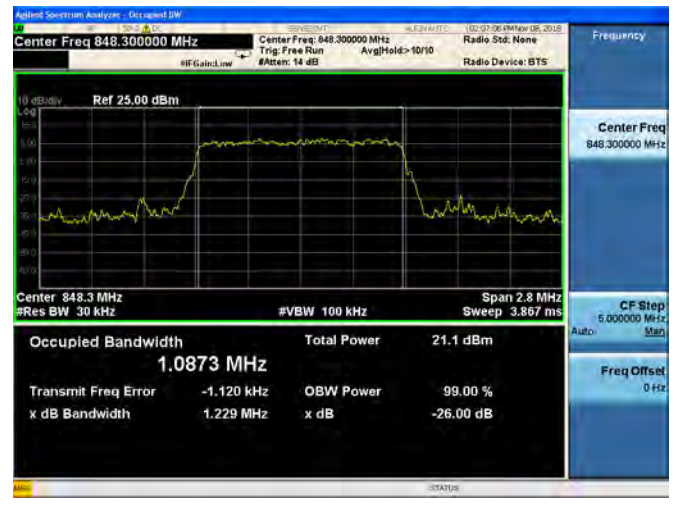


1.4MHz/QPSK/Mid CH



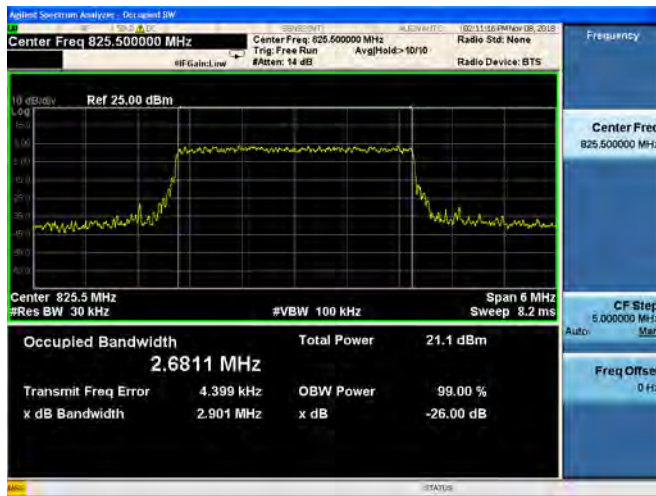
1.4MHz/16QAM/Mid CH



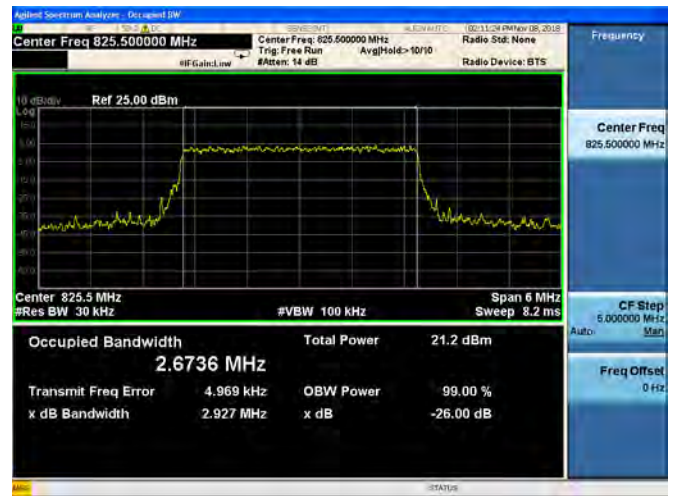
**1.4MHz/QPSK/High CH****1.4MHz/16QAM/High CH**



3MHz/QPSK/Low CH



3MHz/16QAM/Low CH



3MHz/QPSK/Mid CH



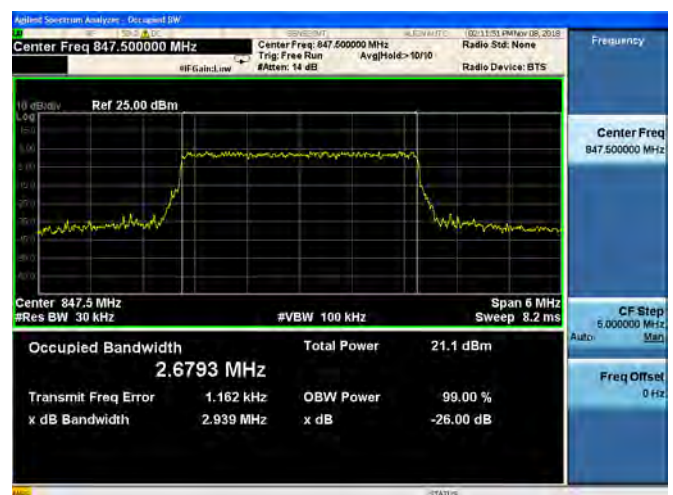
3MHz/16QAM/Mid CH



3MHz/QPSK/High CH



3MHz/16QAM/High CH





5MHz/QPSK/Low CH



5MHz/16QAM/Low CH



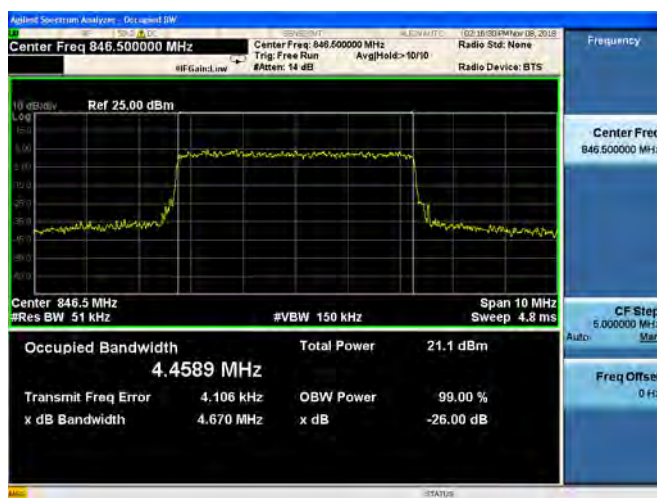
5MHz/QPSK/Mid CH



5MHz/16QAM/Mid CH



5MHz/QPSK/High CH



5MHz/16QAM/High CH

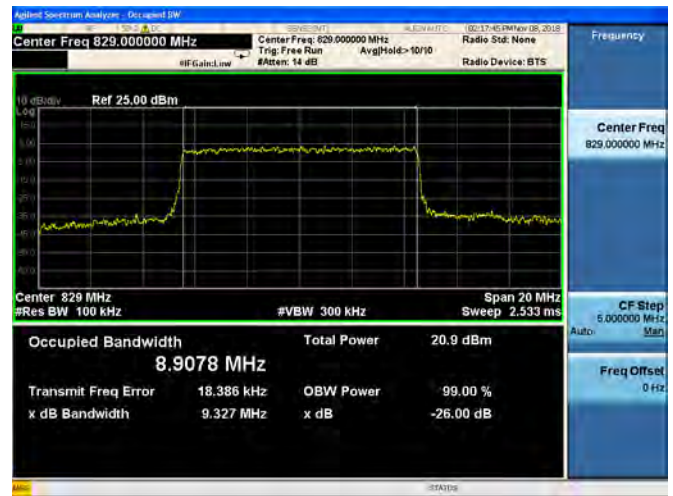




10MHz/QPSK/Low CH



10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH



10MHz/16QAM/Mid CH



10MHz/QPSK/High CH



10MHz/16QAM/High CH





LTE Band 7, BW: 5MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20775	2502.5	4.458	4.706	4.455	4.773
21100	2535.0	4.458	4.789	4.453	4.780
21425	2567.5	4.451	4.748	4.452	4.697
LTE Band 7, BW: 10MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20800	2505.0	8.942	9.362	8.914	9.350
21100	2535.0	8.934	9.343	8.901	9.401
21400	2565.0	8.900	9.371	8.926	9.396
LTE Band 7, BW: 15MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20825	2507.5	13.382	13.91	13.341	14.07
21100	2535.0	13.398	14.02	13.355	13.90
21375	2562.5	13.368	13.94	13.370	13.88
LTE Band 7, BW: 20MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
20850	2510.0	17.843	18.71	17.840	18.66
21100	2535.0	17.914	18.69	17.908	18.70
21350	2560.0	17.754	18.66	17.805	18.71



LTE Band 7 99%&26dB Bandwidth

5MHz/QPSK/Low CH



5MHz/16QAM/Low CH



5MHz/QPSK/Mid CH

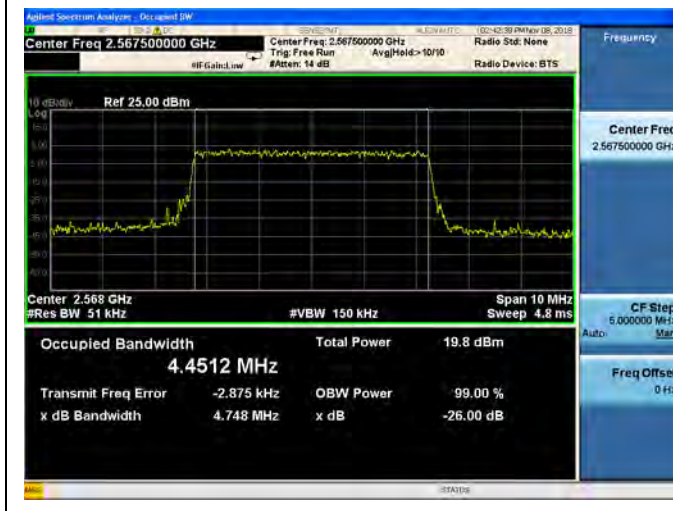


5MHz/16QAM/Mid CH





5MHz/QPSK/High CH

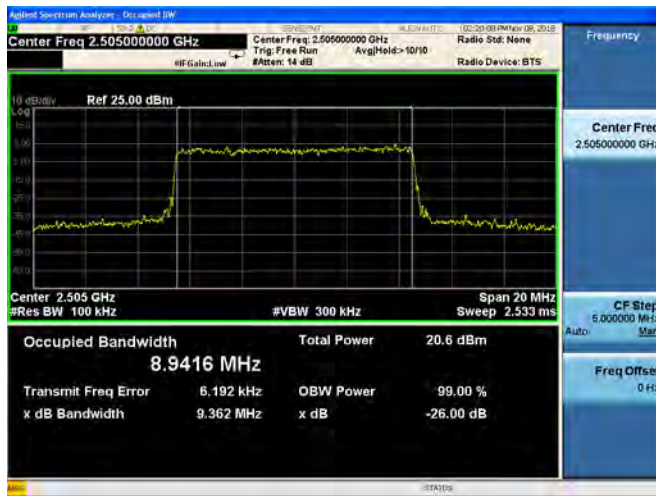


5MHz/16QAM/High CH

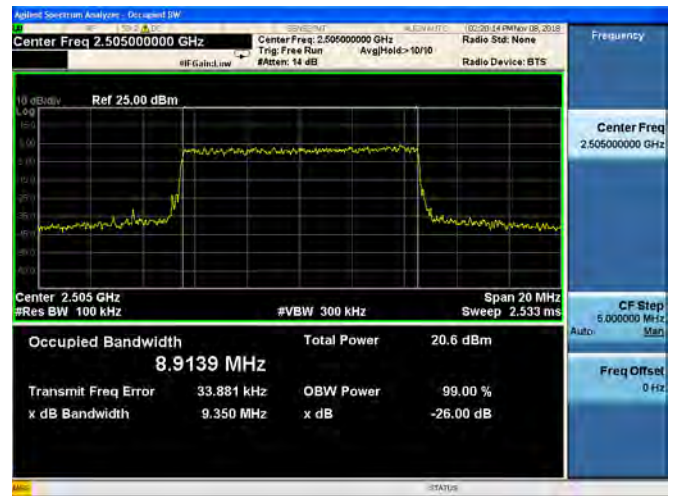




10MHz/QPSK/Low CH



10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH



10MHz/16QAM/Mid CH



10MHz/QPSK/High CH

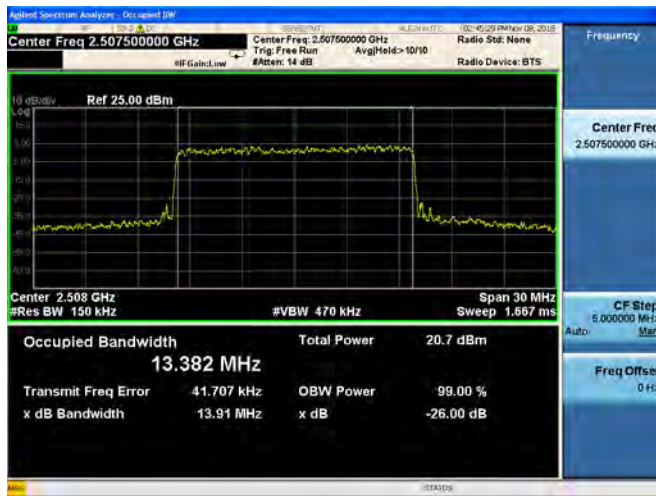


10MHz/16QAM/High CH





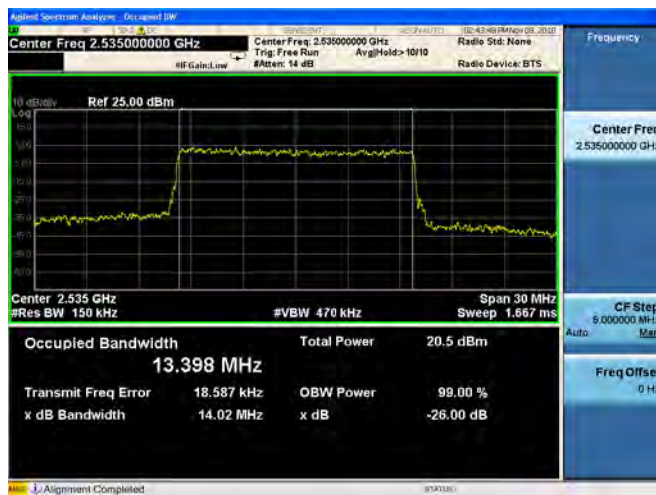
15MHz/QPSK/Low CH



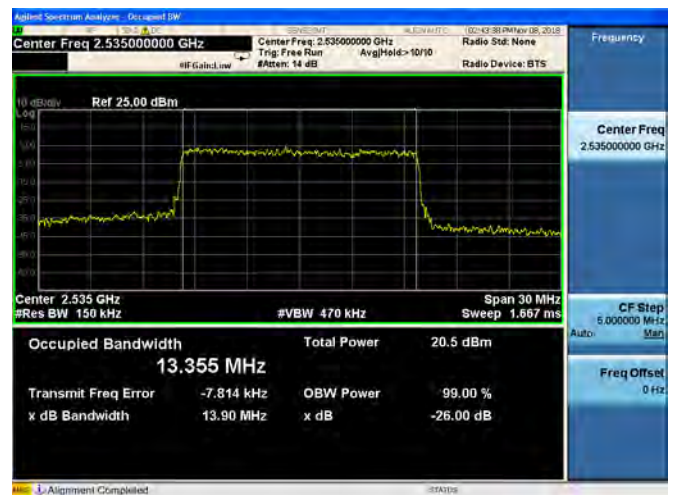
15MHz/16QAM/Low CH



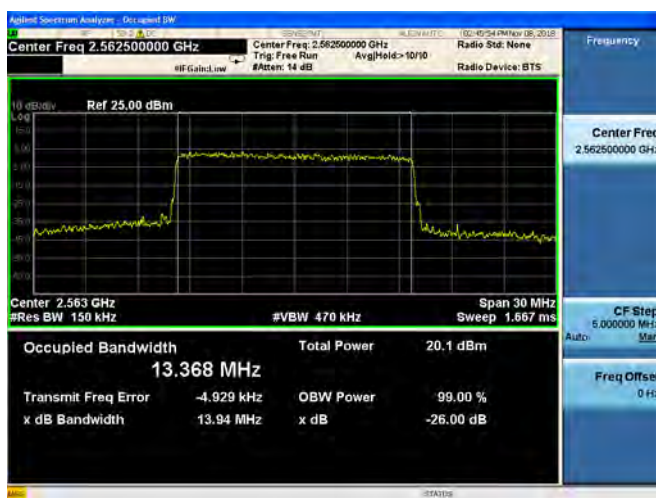
15MHz/QPSK/Mid CH



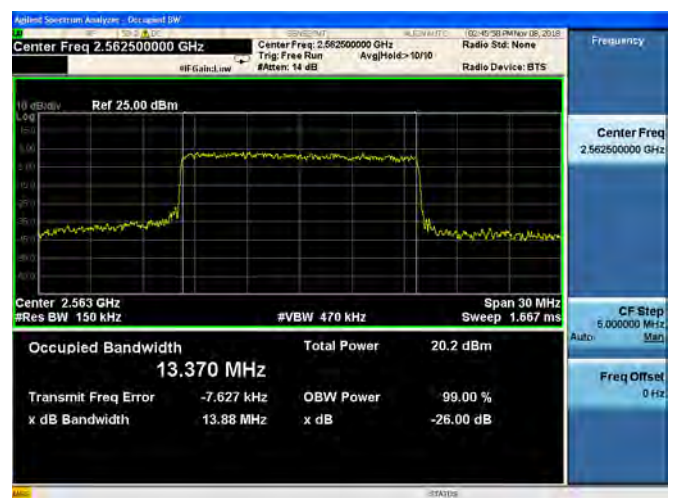
15MHz/16QAM/Mid CH



15MHz/QPSK/High CH



15MHz/16QAM/High CH





20MHz/16QAM/Low CH



20MHz/16QAM/Mid CH



20MHz/16QAM/High CH



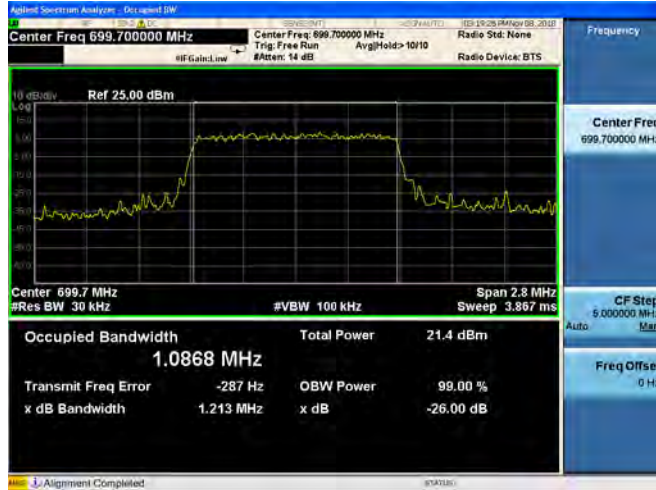


LTE Band 12, BW: 1.4MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.087	1.213	1.082	1.215
23095	707.5	1.085	1.218	1.088	1.220
23173	715.3	1.088	1.214	1.085	1.211
LTE Band 12, BW: 3MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.679	2.898	2.669	2.873
23095	707.5	2.676	2.948	2.671	2.903
23165	714.5	2.679	2.890	2.676	2.950
LTE Band 12, BW: 5MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
23035	701.5	4.445	4.655	4.441	4.690
23095	707.5	4.458	4.788	4.459	4.726
23165	714.5	4.442	4.725	4.450	4.661
LTE Band 12, BW: 10MHz					
Channel	Frequency (MHz)	QPSK		16QAM	
		99% Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)
23060	704.0	8.854	9.297	8.887	9.326
23095	707.5	8.957	9.417	8.956	9.343
23130	711.0	8.891	9.475	8.887	9.317

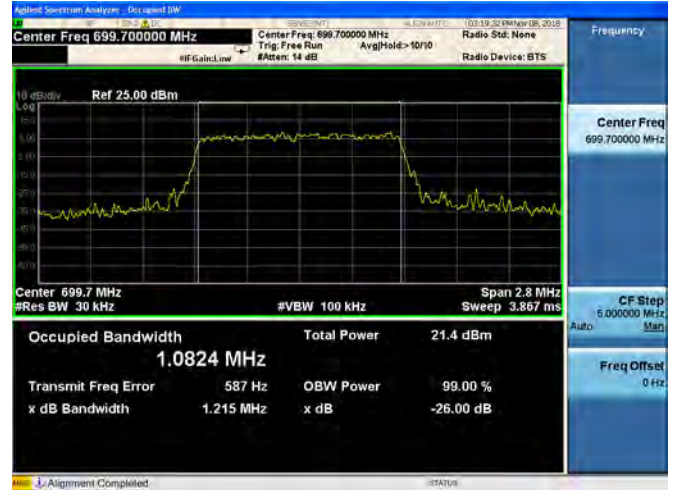


LTE Band 12 99%&26dB Bandwidth

1.4MHz/QPSK/Low CH



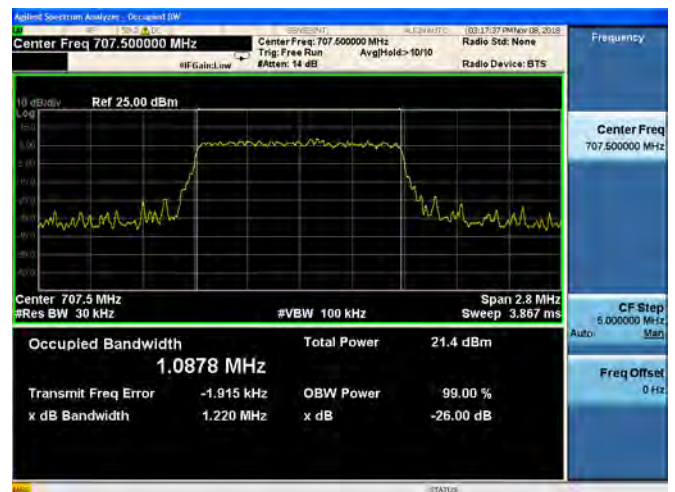
1.4MHz/16QAM/Low CH



1.4MHz/QPSK/Mid CH



1.4MHz/16QAM/Mid CH



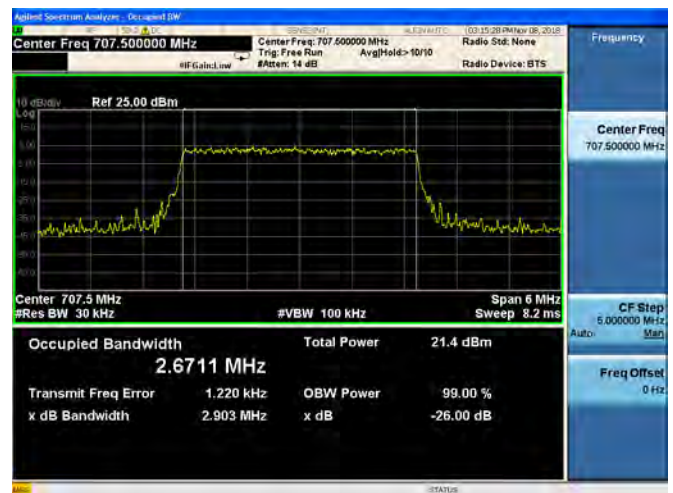
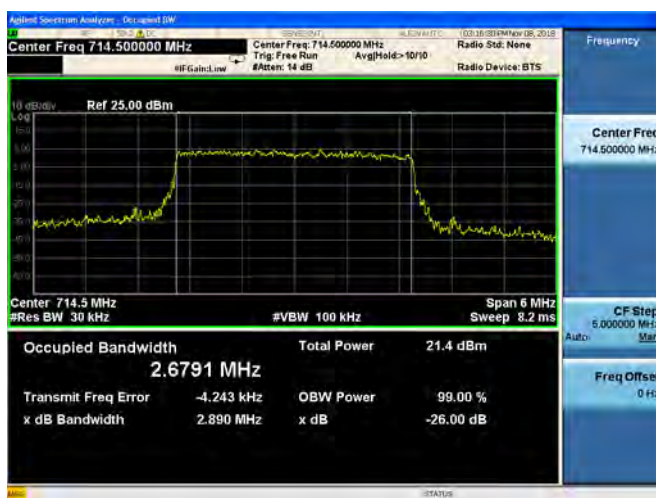


1.4MHz/QPSK/High CH



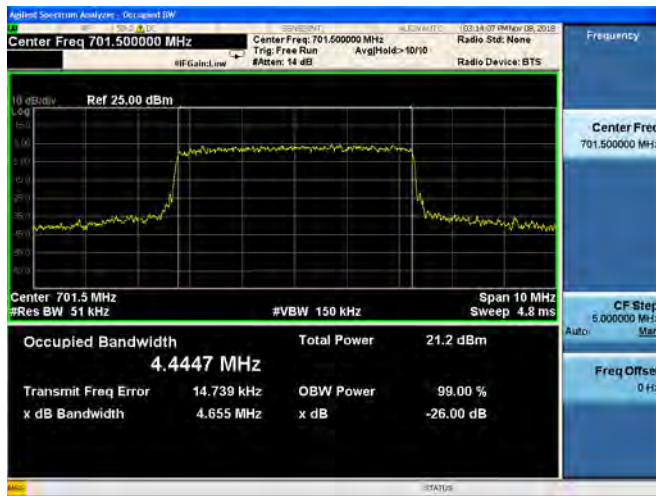
1.4MHz/16QAM/High CH



**3MHz/QPSK/Low CH****3MHz/16QAM/Low CH****3MHz/QPSK/Mid CH****3MHz/16QAM/Mid CH****3MHz/QPSK/High CH****3MHz/16QAM/High CH**



5MHz/QPSK/Low CH



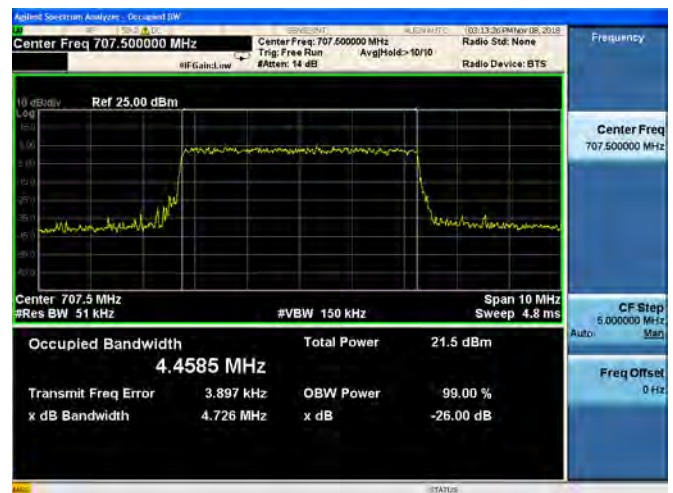
5MHz/16QAM/Low CH



5MHz/QPSK/Mid CH



5MHz/16QAM/Mid CH



5MHz/QPSK/High CH



5MHz/16QAM/High CH





10MHz/QPSK/Low CH



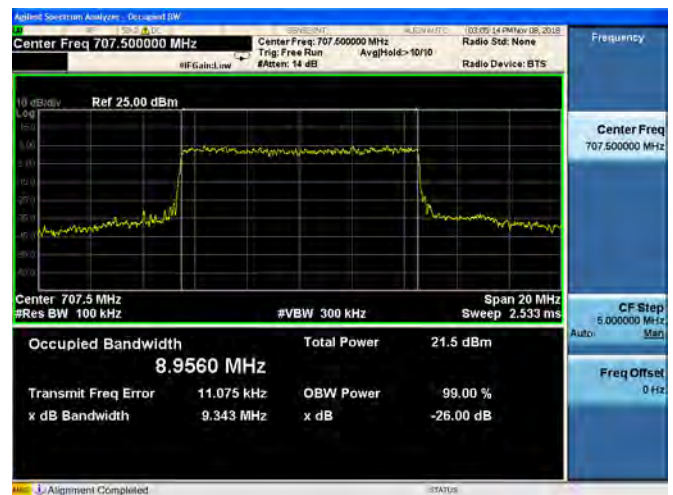
10MHz/16QAM/Low CH



10MHz/QPSK/Mid CH



10MHz/16QAM/Mid CH



10MHz/QPSK/High CH



10MHz/16QAM/High CH

