



# TEST REPORT

**APPLICANT** : Reliance Communications LLC

**PRODUCT NAME** : Orbic Smartwrist

**MODEL NAME** : RC178LW

**BRAND NAME** : Orbic

**FCC ID** : 2ABGH-RC178LW

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

**RECEIPT DATE** : 2020-12-17

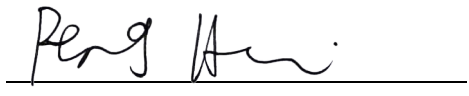
**TEST DATE** : 2020-12-16 to 2021-03-10

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Change History		
Version	Date	Reason for change
1.0	2021-03-15	First edition



# 1. Technical Information

Note: Provide by applicant.

## 1.1. Applicant and Manufacturer Information

<b>Applicant:</b>	Reliance Communications LLC
<b>Applicant Address:</b>	91 Colin Drive, Unit 1, HOLBROOK, New York 11741, United States
<b>Manufacturer:</b>	Unimaxcomm
<b>Manufacturer Address:</b>	Room 602, Floor 6th, Building B, Software Park T3, Hi-Tech Park South, Nanshan District, Shenzhen, P.R. China

## 1.2. Equipment Under Test (EUT) Description

<b>Product Name:</b>	Orbic Smartwrist	
<b>Serial No.:</b>	(N/A, marked #1 by test site)	
<b>Hardware Version:</b>	V1.1	
<b>Software Version:</b>	ORB178LW_v1.0.2_BVZWS	
<b>Modulation Type:</b>	QPSK, 16QAM	
<b>Carrier Aggregation:</b>	Not support	
<b>Operation Band:</b>	Band 2 / 4 / 5 / 12 / 13 / 66 / 71	
<b>Frequency Range:</b>	LTE Band 2	Tx: 1850MHz–1910MHz
		Rx: 1930MHz–1990MHz
	LTE Band 4	Tx: 1710MHz–1755MHz
		Rx: 2110MHz–2155MHz
	LTE Band 5	Tx: 824MHz–849MHz
		Rx: 869MHz–894MHz
	LTE Band 12	Tx: 699MHz - 716MHz
		Rx: 729MHz – 746MHz
	LTE Band 13	Tx: 777MHz–787MHz
		Rx: 746MHz–756MHz
	LTE Band 66	Tx: 1710MHz –1780MHz
		Rx: 2110MHz –2200MHz
	LTE Band 71	Tx: 663MHz –698MHz
		Rx: 617MHz –652MHz



<b>Channel Bandwidth:</b>	LTE Band 2	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 4	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 5	1.4MHz, 3MHz, 5MHz, 10MHz
	LTE Band 12	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 13	5 MHz, 10MHz
	LTE Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 71	5MHz, 10MHz, 15MHz, 20MHz
<b>Antenna Type:</b>	PIFA Antenna	
<b>Antenna Gain:</b>	LTE Band 2	0.6dBi
	LTE Band 4	0.6dBi
	LTE Band 5	0.5dBi
	LTE Band 12	0.5dBi
	LTE Band 13	0.5dBi
	LTE Band 66	0.6dBi
	LTE Band 71	0.6dBi
<b>Accessory Information:</b>	Battery	
	Brand Name:	Orbic
	Model No.:	BTE-430
	Serial No.:	(N/A, marked #1 by test site)
	Capacity:	420mAh
	Rated Voltage:	3.87V
	Charge Limit:	4.45V
	Manufacturer:	JIADE ENERGY TECHNOLOGY (ZHUHAI)CO.,LTD
	Charging Base	
	Brand Name:	UNI
	Model No.:	W1-U01
	Serial No.:	(N/A, marked #1 by test site)
	Rated Output:	5V=1.5A
	Rated Input:	5V=2.0A
	Manufacturer:	SHEN ZHEN JINFULIN ELECTRONICS CO.,LTD

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



### 1.3. Maximum E.R.P./E.I.R.P. and Emission Designator

<b>LTE Band 2</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM	
20	0.239	0.208	17M9G7D	17M9W7D	
15	0.237	0.206	13M5G7D	13M4W7D	
10	0.231	0.199	8M99G7D	8M96W7D	
5	0.231	0.205	4M51G7D	4M51W7D	
3	0.235	0.203	2M70G7D	2M70W7D	
1.4	0.237	0.208	1M10G7D	1M10W7D	
<b>LTE Band 4</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM	
20	0.259	0.198	17M9G7D	17M9W7D	
15	0.239	0.195	13M5G7D	13M5W7D	
10	0.237	0.197	9M00G7D	8M96W7D	
5	0.238	0.196	4M50G7D	4M51W7D	
3	0.236	0.191	2M70G7D	2M70W7D	
1.4	0.236	0.193	1M10G7D	1M10W7D	
<b>LTE Band 5</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM	
10	0.142	0.121	8M99G7D	8M95W7D	
5	0.140	0.123	4M51G7D	4M50W7D	
3	0.137	0.117	2M70G7D	2M70W7D	
1.4	0.147	0.118	1M10G7D	1M10W7D	
<b>LTE Band 12</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM	
10	0.144	0.123	8M99G7D	8M95W7D	
5	0.136	0.122	4M50G7D	4M50W7D	
3	0.141	0.122	2M70G7D	2M70W7D	
1.4	0.142	0.119	1M10G7D	1M10W7D	
<b>LTE Band 13</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM	
10	0.128	0.101	8M96G7D	8M94W7D	
5	0.127	0.096	4M50G7D	4M51W7D	



<b>LTE Band 66</b>	<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.261	0.205	18M0G7D	18M0W7D
15	0.251	0.216	13M4G7D	13M5W7D
10	0.263	0.213	8M99G7D	8M94W7D
5	0.261	0.208	4M50G7D	4M50W7D
3	0.253	0.210	2M70G7D	2M69W7D
1.4	0.256	0.211	1M10G7D	1M10W7D
<b>LTE Band 71</b>	<b>Maximum E.R.P./E.I.R.P. (W)</b>		<b>Emission Designator (99%OBW)</b>	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.150	0.138	17M9G7D	17M9W7D
15	0.146	0.125	13M5G7D	13M4W7D
10	0.147	0.129	8M99G7D	8M94W7D
5	0.146	0.122	4M50G7D	4M50W7D



## 1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2, Part 22, Part 24, 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	Method Determination /Remark
2.1046 22.913(a)(2) 24.232(c) 27.50(b)(10) 27.50(c)(10) 27.50(d)(4)	Transmitter Conducted Output Power and E.R.P./E.I.R.P.	Mar 08&10, 2021	Chen Hao Lin Jiayong	PASS	No deviation
2.1049	Occupied Bandwidth	Dec 16&24&25, 2020	Ling Keye	PASS	No deviation
2.1055 22.355 24.235 27.54	Frequency Stability	Mar 08, 2021	Ling Keye	PASS	No deviation
24.232(d), 27.50(d)(5)	Peak to Average Radio	Dec 24&25, 2020 Feb 10, 2021	Ling Keye	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(c)(2) 27.53(g) 27.53(h)	Conducted Spurious Emissions	Dec 16&24, 2020	Ling Keye	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(c)(2)	Band Edge	Dec 17&24&25, 2020	Ling Keye	PASS	No deviation



27.53(g) 27.53(h)					
2.1051 22.917(a) 24.238(a) 27.53(c)(2) 27.53(g) 27.53(h)	Radiated Spurious Emissions	Feb 21&22, 2021 Mar 05, 2021	Lin Jiayong	PASS	No deviation

**Note 1:** The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 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 23.5dB contains two parts that cable loss 13.5dB and Attenuator 10dB.

**Note 3:** Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

**Note 4:** When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% risk level.

## 1.5. 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, Part 27 F&H&L&N Requirements

### 2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.

#### 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 E.I.R.P. and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

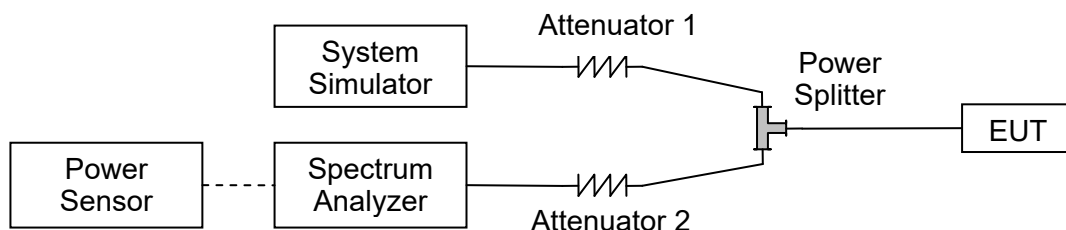
According to FCC section 27.50 (d)(4) for LTE Band 4/66, Fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat E.I.R.P.

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

According to FCC section 27.50 (c)(10) for LTE Band 12/71, Portable stations (hand-held devices) operating in the 704-716MHz band are limited to 3watts E.R.P.

According to FCC section 27.50 (b)(10) for LTE Band 13, Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts E.R.P.

#### 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.

$E.I.R.P. (dBm) = \text{Conducted Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$E.R.P. (dBm) = E.I.R.P. (dBm) - 2.15$

**2.1.4. Result****Conducted Output Power:**

<b>LTE Band 2</b>						
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	23.11	23.18	23.15
20	QPSK	1	49	23.08	22.93	23.01
20	QPSK	1	99	23.07	23.14	23.12
20	QPSK	50	0	22.48	22.52	22.23
20	QPSK	50	24	22.31	22.31	22.26
20	QPSK	50	50	22.41	22.38	22.33
20	QPSK	100	0	22.45	22.26	22.36
20	16QAM	1	0	22.58	22.32	22.22
20	16QAM	1	49	22.35	22.64	22.45
20	16QAM	1	99	22.36	22.26	22.35
20	16QAM	50	0	22.23	22.06	22.22
20	16QAM	50	24	22.19	22.16	22.34
20	16QAM	50	50	22.35	22.04	22.00
20	16QAM	100	0	22.28	22.04	22.24



LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	23.14	22.97	23.04
15	QPSK	1	37	22.97	23.01	23.04
15	QPSK	1	74	22.97	23.01	23.14
15	QPSK	36	0	22.29	22.18	21.91
15	QPSK	36	20	22.34	22.03	22.02
15	QPSK	36	39	22.22	22.06	22.27
15	QPSK	75	0	22.32	22.09	22.35
15	16QAM	1	0	22.38	22.19	22.34
15	16QAM	1	37	22.54	22.01	22.12
15	16QAM	1	74	22.15	22.14	22.18
15	16QAM	36	0	22.42	22.05	22.23
15	16QAM	36	20	22.36	22.12	22.27
15	16QAM	36	39	22.28	22.08	22.22
15	16QAM	75	0	22.31	22.19	22.24



LTE Band 2						
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	23.03	22.88	23.03
10	QPSK	1	25	23.00	22.91	22.92
10	QPSK	1	49	22.97	22.90	23.03
10	QPSK	25	0	22.31	22.05	22.33
10	QPSK	25	12	22.28	22.04	22.24
10	QPSK	25	25	22.26	22.09	22.34
10	QPSK	50	0	22.24	22.02	22.04
10	16QAM	1	0	22.30	22.26	21.88
10	16QAM	1	25	22.38	22.21	22.16
10	16QAM	1	49	22.36	22.26	22.03
10	16QAM	25	0	22.29	22.02	22.07
10	16QAM	25	12	22.11	22.19	22.05
10	16QAM	25	25	22.15	22.25	22.16
10	16QAM	50	0	22.17	22.14	22.23



LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	22.88	22.93	22.91
5	QPSK	1	12	23.03	23.04	23.01
5	QPSK	1	24	22.92	22.96	22.88
5	QPSK	12	0	22.31	22.04	22.37
5	QPSK	12	7	22.33	22.03	22.21
5	QPSK	12	13	22.21	22.01	22.29
5	QPSK	25	0	22.29	22.19	22.44
5	16QAM	1	0	22.50	22.12	22.47
5	16QAM	1	12	22.46	22.42	22.44
5	16QAM	1	24	22.51	22.26	22.25
5	16QAM	12	0	22.28	22.27	22.38
5	16QAM	12	7	22.30	22.07	22.26
5	16QAM	12	13	22.20	22.19	22.33
5	16QAM	25	0	22.36	22.10	22.29



LTE Band 2						
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	23.09	23.02	23.01
3	QPSK	1	8	23.05	23.04	23.05
3	QPSK	1	14	23.03	22.97	23.11
3	QPSK	8	0	22.22	22.05	22.24
3	QPSK	8	4	22.27	22.07	22.15
3	QPSK	8	7	22.31	22.07	22.09
3	QPSK	15	0	22.26	22.04	22.18
3	16QAM	1	0	22.30	22.44	22.25
3	16QAM	1	8	22.39	22.19	22.23
3	16QAM	1	14	22.35	22.21	22.44
3	16QAM	8	0	22.47	22.04	22.18
3	16QAM	8	4	22.25	22.11	22.16
3	16QAM	8	7	22.33	22.08	22.18
3	16QAM	15	0	22.32	22.23	22.22



LTE Band 2						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	23.07	23.03	23.05
1.4	QPSK	1	3	23.08	22.97	22.98
1.4	QPSK	1	5	22.95	23.11	23.00
1.4	QPSK	3	0	23.12	22.90	23.06
1.4	QPSK	3	1	23.14	23.01	23.05
1.4	QPSK	3	3	23.09	22.96	22.95
1.4	QPSK	6	0	22.38	22.21	22.20
1.4	16QAM	1	0	22.42	22.42	22.36
1.4	16QAM	1	3	22.49	22.47	22.13
1.4	16QAM	1	5	22.43	22.48	22.13
1.4	16QAM	3	0	22.41	22.34	22.38
1.4	16QAM	3	1	22.59	22.33	22.40
1.4	16QAM	3	3	22.45	22.27	22.43
1.4	16QAM	6	0	22.25	22.29	22.26





LTE Band 4						
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	23.32	23.54	23.51
20	QPSK	1	49	23.16	23.15	22.94
20	QPSK	1	99	22.98	22.96	22.98
20	QPSK	50	0	22.22	22.25	22.21
20	QPSK	50	24	22.10	22.06	22.21
20	QPSK	50	50	22.22	22.01	22.12
20	QPSK	100	0	22.03	22.16	22.14
20	16QAM	1	0	22.21	22.15	22.08
20	16QAM	1	49	22.02	22.11	22.34
20	16QAM	1	99	22.22	22.12	22.12
20	16QAM	50	0	22.36	22.17	22.28
20	16QAM	50	24	22.30	22.20	22.13
20	16QAM	50	50	22.23	22.04	22.01
20	16QAM	100	0	22.25	22.11	22.15



LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.19	23.14	23.02
15	QPSK	1	37	22.93	23.04	23.04
15	QPSK	1	74	23.07	22.95	23.00
15	QPSK	36	0	22.31	22.16	22.21
15	QPSK	36	20	22.32	22.24	22.22
15	QPSK	36	39	22.24	22.22	22.13
15	QPSK	75	0	22.34	22.17	22.22
15	16QAM	1	0	22.13	22.15	22.03
15	16QAM	1	37	22.03	22.03	22.27
15	16QAM	1	74	22.31	21.92	22.20
15	16QAM	36	0	22.30	22.19	22.16
15	16QAM	36	20	22.23	22.18	22.19
15	16QAM	36	39	22.19	22.10	22.04
15	16QAM	75	0	22.29	22.16	22.11



LTE Band 4						
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	22.88	23.15	23.07
10	QPSK	1	25	22.88	23.05	22.92
10	QPSK	1	49	23.11	23.02	23.08
10	QPSK	25	0	22.34	22.23	22.24
10	QPSK	25	12	22.38	22.28	22.17
10	QPSK	25	25	22.27	22.17	22.18
10	QPSK	50	0	22.31	22.24	22.29
10	16QAM	1	0	22.12	22.15	22.24
10	16QAM	1	25	22.03	22.19	22.25
10	16QAM	1	49	22.22	22.26	22.08
10	16QAM	25	0	22.21	22.28	22.26
10	16QAM	25	12	21.93	22.35	22.18
10	16QAM	25	25	22.20	22.25	22.20
10	16QAM	50	0	22.32	22.16	22.20



LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.17	23.02	23.00
5	QPSK	1	12	23.16	23.04	22.98
5	QPSK	1	24	23.01	22.86	23.02
5	QPSK	12	0	22.28	22.16	22.26
5	QPSK	12	7	22.34	22.21	22.17
5	QPSK	12	13	22.26	22.14	22.23
5	QPSK	25	0	22.28	22.22	22.25
5	16QAM	1	0	22.04	22.26	22.16
5	16QAM	1	12	22.12	22.18	22.24
5	16QAM	1	24	22.24	22.17	22.24
5	16QAM	12	0	22.26	22.13	22.26
5	16QAM	12	7	22.24	22.26	22.33
5	16QAM	12	13	22.16	22.17	22.15
5	16QAM	25	0	22.23	22.06	22.25



LTE Band 4						
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	22.99	23.10	23.12
3	QPSK	1	8	23.07	23.00	23.03
3	QPSK	1	14	22.71	23.06	23.00
3	QPSK	8	0	22.12	22.04	22.03
3	QPSK	8	4	22.03	22.03	22.08
3	QPSK	8	7	22.22	22.25	22.12
3	QPSK	15	0	22.15	22.16	22.10
3	16QAM	1	0	22.13	22.02	22.13
3	16QAM	1	8	22.03	22.15	22.26
3	16QAM	1	14	22.12	22.12	22.23
3	16QAM	8	0	21.95	22.21	21.99
3	16QAM	8	4	21.99	21.91	21.95
3	16QAM	8	7	21.92	22.15	21.96
3	16QAM	15	0	21.98	22.03	22.26



LTE Band 4						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.12	23.07	22.95
1.4	QPSK	1	3	23.07	23.10	22.95
1.4	QPSK	1	5	23.10	22.98	23.02
1.4	QPSK	3	0	22.94	23.11	23.09
1.4	QPSK	3	1	22.74	23.07	23.00
1.4	QPSK	3	3	23.07	22.81	23.07
1.4	QPSK	6	0	22.23	22.12	22.21
1.4	16QAM	1	0	22.26	22.06	21.92
1.4	16QAM	1	3	22.03	22.22	22.03
1.4	16QAM	1	5	22.05	22.05	22.04
1.4	16QAM	3	0	22.09	22.03	22.10
1.4	16QAM	3	1	21.92	22.23	22.02
1.4	16QAM	3	3	22.26	22.13	22.16
1.4	16QAM	6	0	22.11	22.11	22.15



LTE Band 5						
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	23.05	23.18	23.08
10	QPSK	1	25	23.03	23.13	23.14
10	QPSK	1	49	22.99	23.11	23.09
10	QPSK	25	0	22.42	22.56	22.49
10	QPSK	25	12	22.49	22.42	22.49
10	QPSK	25	25	22.41	22.49	22.41
10	QPSK	50	0	22.53	22.40	22.24
10	16QAM	1	0	22.32	22.36	22.01
10	16QAM	1	25	22.49	22.42	22.07
10	16QAM	1	49	22.29	22.02	22.17
10	16QAM	25	0	21.92	22.14	22.06
10	16QAM	25	12	22.24	22.11	22.03
10	16QAM	25	25	22.06	22.13	22.12
10	16QAM	50	0	22.24	22.12	22.06



LTE Band 5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	22.98	23.09	23.11
5	QPSK	1	12	22.89	22.93	23.06
5	QPSK	1	24	22.98	23.01	22.99
5	QPSK	12	0	22.25	22.55	22.21
5	QPSK	12	7	22.51	22.58	22.16
5	QPSK	12	13	22.45	22.49	22.23
5	QPSK	25	0	22.31	22.60	22.23
5	16QAM	1	0	22.03	22.24	22.07
5	16QAM	1	12	22.12	22.10	22.56
5	16QAM	1	24	22.06	22.11	22.36
5	16QAM	12	0	22.25	22.13	22.13
5	16QAM	12	7	22.12	22.15	22.14
5	16QAM	12	13	22.22	22.02	22.18
5	16QAM	25	0	22.34	22.24	22.21





LTE Band 5						
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	22.69	23.03	22.83
3	QPSK	1	8	22.69	22.98	22.91
3	QPSK	1	14	22.69	23.11	22.89
3	QPSK	8	0	22.42	22.32	22.53
3	QPSK	8	4	22.49	22.35	22.43
3	QPSK	8	7	22.37	22.41	22.32
3	QPSK	15	0	22.43	22.45	22.24
3	16QAM	1	0	22.12	22.00	22.33
3	16QAM	1	8	22.12	22.24	22.23
3	16QAM	1	14	22.10	22.12	22.31
3	16QAM	8	0	22.24	22.09	22.11
3	16QAM	8	4	22.03	22.14	22.32
3	16QAM	8	7	22.13	22.25	22.21
3	16QAM	15	0	22.12	22.19	22.14



LTE Band 5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20407	20525	20643
Frequency (MHz)				824.7	836.5	848.3
1.4	QPSK	1	0	23.12	23.00	23.21
1.4	QPSK	1	3	23.31	23.06	23.21
1.4	QPSK	1	5	23.20	22.90	22.98
1.4	QPSK	3	0	23.19	23.06	23.08
1.4	QPSK	3	1	23.04	23.14	23.15
1.4	QPSK	3	3	23.13	23.06	23.15
1.4	QPSK	6	0	22.29	22.07	22.24
1.4	16QAM	1	0	22.11	22.07	22.12
1.4	16QAM	1	3	22.18	22.15	22.17
1.4	16QAM	1	5	22.16	22.17	22.17
1.4	16QAM	3	0	22.22	22.21	22.20
1.4	16QAM	3	1	22.12	22.14	22.17
1.4	16QAM	3	3	22.37	22.15	22.24
1.4	16QAM	6	0	22.15	22.29	22.24



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23060	23095	23130
Frequency (MHz)				704	707.5	711
10	QPSK	1	0	23.09	23.23	22.99
10	QPSK	1	25	22.99	23.14	23.08
10	QPSK	1	49	22.96	23.14	23.01
10	QPSK	25	0	22.15	22.20	22.08
10	QPSK	25	12	22.13	22.00	22.18
10	QPSK	25	25	22.17	22.08	22.15
10	QPSK	50	0	22.04	22.08	22.00
10	16QAM	1	0	22.32	22.13	22.35
10	16QAM	1	25	22.35	22.50	22.36
10	16QAM	1	49	22.54	22.43	22.38
10	16QAM	25	0	21.45	21.33	21.41
10	16QAM	25	12	21.30	21.46	21.50
10	16QAM	25	25	21.54	21.49	21.36
10	16QAM	50	0	21.58	21.39	21.34



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5
5	QPSK	1	0	22.99	22.92	22.94
5	QPSK	1	12	22.81	23.13	23.10
5	QPSK	1	24	22.82	22.99	23.02
5	QPSK	12	0	21.82	21.87	22.11
5	QPSK	12	7	21.81	22.02	22.14
5	QPSK	12	13	22.00	22.10	22.26
5	QPSK	25	0	22.11	21.92	22.21
5	16QAM	1	0	22.22	22.29	22.31
5	16QAM	1	12	22.28	22.52	22.29
5	16QAM	1	24	22.24	22.30	22.53
5	16QAM	12	0	21.20	21.22	21.17
5	16QAM	12	7	21.17	21.46	21.26
5	16QAM	12	13	21.25	21.33	21.26
5	16QAM	25	0	21.23	21.36	21.25



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5
3	QPSK	1	0	22.70	22.98	23.11
3	QPSK	1	8	22.72	23.01	23.11
3	QPSK	1	14	22.84	22.99	23.15
3	QPSK	8	0	22.12	21.99	22.25
3	QPSK	8	4	22.30	22.10	22.32
3	QPSK	8	7	22.31	22.04	22.23
3	QPSK	15	0	22.34	21.91	22.26
3	16QAM	1	0	22.19	22.50	22.33
3	16QAM	1	8	22.29	22.45	22.31
3	16QAM	1	14	22.22	22.48	22.33
3	16QAM	8	0	21.32	21.01	21.19
3	16QAM	8	4	21.11	21.06	21.17
3	16QAM	8	7	21.09	21.20	21.35
3	16QAM	15	0	21.12	21.03	21.32



LTE Band 12						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3
1.4	QPSK	1	0	22.74	22.89	23.18
1.4	QPSK	1	3	22.68	22.95	23.01
1.4	QPSK	1	5	22.72	22.99	23.09
1.4	QPSK	3	0	22.83	23.03	23.01
1.4	QPSK	3	1	22.75	23.06	22.88
1.4	QPSK	3	3	22.90	23.07	22.99
1.4	QPSK	6	0	22.32	22.11	22.28
1.4	16QAM	1	0	22.22	22.40	22.34
1.4	16QAM	1	3	22.13	22.20	22.20
1.4	16QAM	1	5	22.19	22.11	22.30
1.4	16QAM	3	0	22.29	22.02	22.03
1.4	16QAM	3	1	22.23	22.14	22.18
1.4	16QAM	3	3	22.17	21.98	22.25
1.4	16QAM	6	0	21.13	21.15	21.46



LTE Band 13						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	23230	/
Frequency (MHz)				/	782	/
10	QPSK	1	0	/	22.72	/
10	QPSK	1	25	/	22.68	/
10	QPSK	1	49	/	22.71	/
10	QPSK	25	0	/	21.95	/
10	QPSK	25	12	/	21.77	/
10	QPSK	25	25	/	21.75	/
10	QPSK	50	0	/	21.75	/
10	16QAM	1	0	/	21.46	/
10	16QAM	1	25	/	21.68	/
10	16QAM	1	49	/	21.49	/
10	16QAM	25	0	/	21.69	/
10	16QAM	25	12	/	21.61	/
10	16QAM	25	25	/	21.52	/
10	16QAM	50	0	/	21.40	/



LTE Band 13						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23205	23230	23255
Frequency (MHz)				779.5	782	784.5
5	QPSK	1	0	22.51	22.70	22.37
5	QPSK	1	12	22.63	22.65	22.34
5	QPSK	1	24	22.34	22.47	22.54
5	QPSK	12	0	21.17	21.23	21.30
5	QPSK	12	7	21.27	21.31	21.39
5	QPSK	12	13	21.37	21.26	21.24
5	QPSK	25	0	21.56	21.59	21.46
5	16QAM	1	0	21.40	21.38	21.15
5	16QAM	1	12	21.25	21.17	21.25
5	16QAM	1	24	21.48	21.17	21.49
5	16QAM	12	0	21.27	21.37	21.49
5	16QAM	12	7	21.24	21.29	21.48
5	16QAM	12	13	21.33	21.20	21.59
5	16QAM	25	0	21.32	21.22	21.24





LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				132072	132322	132572
Frequency (MHz)				1720	1745	1770
20	QPSK	1	0	23.40	23.64	23.51
20	QPSK	1	49	23.34	23.57	23.32
20	QPSK	1	99	23.24	23.16	23.22
20	QPSK	50	0	22.36	22.79	22.50
20	QPSK	50	24	22.48	22.68	22.63
20	QPSK	50	50	22.50	22.62	22.79
20	QPSK	100	0	22.55	22.62	22.19
20	16QAM	1	0	22.42	22.37	22.35
20	16QAM	1	49	22.52	22.35	22.31
20	16QAM	1	99	22.38	22.37	22.39
20	16QAM	50	0	21.35	21.56	21.28
20	16QAM	50	24	21.45	21.67	21.25
20	16QAM	50	50	21.50	21.70	21.32
20	16QAM	100	0	21.49	21.64	21.22



LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5
15	QPSK	1	0	23.11	23.39	23.08
15	QPSK	1	37	23.37	23.37	23.04
15	QPSK	1	74	23.38	23.20	23.34
15	QPSK	36	0	22.37	22.59	22.24
15	QPSK	36	20	22.38	22.65	22.19
15	QPSK	36	39	22.40	22.64	22.29
15	QPSK	75	0	22.43	22.56	22.08
15	16QAM	1	0	22.25	22.50	22.30
15	16QAM	1	37	22.49	22.75	22.25
15	16QAM	1	74	22.51	22.32	22.35
15	16QAM	36	0	21.31	21.53	21.54
15	16QAM	36	20	21.33	21.61	21.55
15	16QAM	36	39	21.36	21.49	21.50
15	16QAM	75	0	21.40	21.56	21.44



LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				132022	132322	132622
Frequency (MHz)				1715	1745	1775
10	QPSK	1	0	23.39	23.48	23.52
10	QPSK	1	25	23.44	23.60	23.39
10	QPSK	1	49	23.22	23.35	23.37
10	QPSK	25	0	22.35	22.65	22.52
10	QPSK	25	12	22.39	22.66	22.39
10	QPSK	25	25	22.40	22.70	22.54
10	QPSK	50	0	22.39	22.70	22.39
10	16QAM	1	0	22.32	22.69	22.35
10	16QAM	1	25	22.49	22.44	22.35
10	16QAM	1	49	22.38	22.35	22.39
10	16QAM	25	0	21.38	21.68	21.55
10	16QAM	25	12	21.45	21.35	21.66
10	16QAM	25	25	21.67	21.22	21.25
10	16QAM	50	0	21.44	21.71	21.51



LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5
5	QPSK	1	0	23.31	23.32	23.30
5	QPSK	1	12	23.18	23.56	23.24
5	QPSK	1	24	23.23	23.34	23.29
5	QPSK	12	0	22.37	22.62	22.63
5	QPSK	12	7	22.31	22.59	22.62
5	QPSK	12	13	22.33	22.61	22.55
5	QPSK	25	0	22.22	22.62	22.62
5	16QAM	1	0	22.17	22.59	22.42
5	16QAM	1	12	22.29	22.12	22.39
5	16QAM	1	24	22.31	22.52	22.40
5	16QAM	12	0	21.52	21.64	21.70
5	16QAM	12	7	21.59	21.66	21.49
5	16QAM	12	13	21.53	21.66	21.22
5	16QAM	25	0	21.35	21.63	21.14



LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5
3	QPSK	1	0	23.31	23.35	23.32
3	QPSK	1	8	23.28	23.43	23.42
3	QPSK	1	14	23.19	23.19	23.19
3	QPSK	8	0	22.58	22.56	22.52
3	QPSK	8	4	22.57	22.54	22.56
3	QPSK	8	7	22.52	22.55	22.45
3	QPSK	15	0	22.47	22.49	22.38
3	16QAM	1	0	22.52	22.49	22.53
3	16QAM	1	8	22.62	22.63	22.62
3	16QAM	1	14	22.41	22.47	22.46
3	16QAM	8	0	21.77	21.55	21.62
3	16QAM	8	4	21.55	21.62	21.55
3	16QAM	8	7	21.62	21.55	21.54
3	16QAM	15	0	21.55	21.64	21.56



LTE Band 66						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3
1.4	QPSK	1	0	23.32	23.36	23.33
1.4	QPSK	1	3	23.48	23.44	23.43
1.4	QPSK	1	5	23.20	23.20	23.20
1.4	QPSK	3	0	22.59	22.57	22.53
1.4	QPSK	3	1	22.58	22.55	22.57
1.4	QPSK	3	3	22.53	22.56	22.46
1.4	QPSK	6	0	22.48	22.50	22.39
1.4	16QAM	1	0	22.53	22.50	22.54
1.4	16QAM	1	3	22.63	22.64	22.63
1.4	16QAM	1	5	22.42	22.48	22.47
1.4	16QAM	3	0	22.49	22.27	22.34
1.4	16QAM	3	1	22.27	22.34	22.27
1.4	16QAM	3	3	22.34	22.27	22.26
1.4	16QAM	6	0	21.27	21.36	21.28



LTE Band 71						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				133222	133322	133372
Frequency (MHz)				673	683	688
20	QPSK	1	0	23.24	23.42	23.13
20	QPSK	1	49	23.36	23.38	23.34
20	QPSK	1	99	23.21	23.32	23.19
20	QPSK	50	0	22.60	22.73	22.63
20	QPSK	50	24	22.53	22.59	22.63
20	QPSK	50	50	22.66	22.61	22.51
20	QPSK	100	0	22.46	22.49	22.38
20	16QAM	1	0	22.70	22.64	22.67
20	16QAM	1	49	23.04	22.67	22.77
20	16QAM	1	99	22.67	22.64	22.66
20	16QAM	50	0	21.49	21.49	21.56
20	16QAM	50	24	21.53	21.51	21.48
20	16QAM	50	50	21.45	21.41	21.32
20	16QAM	100	0	21.49	21.47	21.40



LTE Band 71						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				133197	133297	133397
Frequency (MHz)				670.8	680.5	690.5
15	QPSK	1	0	23.25	23.12	23.12
15	QPSK	1	37	23.17	23.29	23.26
15	QPSK	1	74	23.18	23.16	23.12
15	QPSK	36	0	22.22	22.29	22.26
15	QPSK	36	20	22.20	22.17	22.12
15	QPSK	36	39	22.26	22.13	22.00
15	QPSK	75	0	22.21	22.17	22.16
15	16QAM	1	0	22.33	22.45	22.27
15	16QAM	1	37	22.63	22.58	22.47
15	16QAM	1	74	22.37	22.37	22.44
15	16QAM	36	0	21.24	21.39	21.20
15	16QAM	36	20	21.33	21.22	21.22
15	16QAM	36	39	21.24	21.14	21.04
15	16QAM	75	0	21.28	21.15	21.22





LTE Band 71						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				133172	133272	133422
Frequency (MHz)				668	678	693
10	QPSK	1	0	23.27	23.27	23.29
10	QPSK	1	25	23.32	23.26	23.21
10	QPSK	1	49	23.21	23.03	23.11
10	QPSK	25	0	22.32	22.21	22.27
10	QPSK	25	12	22.40	22.30	22.25
10	QPSK	25	25	22.31	22.23	22.19
10	QPSK	50	0	22.40	22.30	22.08
10	16QAM	1	0	22.32	22.38	22.34
10	16QAM	1	25	22.77	22.75	22.38
10	16QAM	1	49	22.71	22.37	22.35
10	16QAM	25	0	21.34	21.21	21.29
10	16QAM	25	12	21.37	21.34	21.17
10	16QAM	25	25	21.38	21.26	21.25
10	16QAM	50	0	21.36	21.32	21.18



LTE Band 71						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				133147	133247	133447
Frequency (MHz)				665.5	675.5	695.5
5	QPSK	1	0	23.18	23.08	23.08
5	QPSK	1	12	23.26	23.29	23.24
5	QPSK	1	24	23.18	23.10	23.02
5	QPSK	12	0	22.24	22.25	22.22
5	QPSK	12	7	22.36	22.29	22.23
5	QPSK	12	13	22.26	22.19	22.22
5	QPSK	25	0	22.32	22.28	22.27
5	16QAM	1	0	22.38	22.18	22.52
5	16QAM	1	12	22.42	22.53	22.44
5	16QAM	1	24	22.34	22.09	22.49
5	16QAM	12	0	21.31	21.23	21.25
5	16QAM	12	7	21.30	21.37	21.22
5	16QAM	12	13	21.28	21.19	21.17
5	16QAM	25	0	21.29	21.26	21.15



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

LTE Band 2				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	23.71	0.235	23.78	0.239	23.75	0.237
20	QPSK	1	49	23.68	0.233	23.53	0.225	23.61	0.230
20	QPSK	1	99	23.67	0.233	23.74	0.237	23.72	0.236
20	QPSK	50	0	23.08	0.203	23.12	0.205	22.83	0.192
20	QPSK	50	24	22.91	0.195	22.91	0.195	22.86	0.193
20	QPSK	50	50	23.01	0.200	22.98	0.199	22.93	0.196
20	QPSK	100	0	23.05	0.202	22.86	0.193	22.96	0.198
20	16QAM	1	0	23.18	0.208	22.92	0.196	22.82	0.191
20	16QAM	1	49	22.95	0.197	23.24	0.211	23.05	0.202
20	16QAM	1	99	22.96	0.198	22.86	0.193	22.95	0.197
20	16QAM	50	0	22.83	0.192	22.66	0.185	22.82	0.191
20	16QAM	50	24	22.79	0.190	22.76	0.189	22.94	0.197
20	16QAM	50	50	22.95	0.197	22.64	0.184	22.60	0.182
20	16QAM	100	0	22.88	0.194	22.64	0.184	22.84	0.192



LTE Band 2				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				18675		18900		19125	
Frequency (MHz)				1857.5		1880		1902.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	23.74	0.237	23.57	0.228	23.64	0.231
15	QPSK	1	37	23.57	0.228	23.61	0.230	23.64	0.231
15	QPSK	1	74	23.57	0.228	23.61	0.230	23.74	0.237
15	QPSK	36	0	22.89	0.195	22.78	0.190	22.51	0.178
15	QPSK	36	20	22.94	0.197	22.63	0.183	22.62	0.183
15	QPSK	36	39	22.82	0.191	22.66	0.185	22.87	0.194
15	QPSK	75	0	22.92	0.196	22.69	0.186	22.95	0.197
15	16QAM	1	0	22.98	0.199	22.79	0.190	22.94	0.197
15	16QAM	1	37	23.14	0.206	22.61	0.182	22.72	0.187
15	16QAM	1	74	22.75	0.188	22.74	0.188	22.78	0.190
15	16QAM	36	0	23.02	0.200	22.65	0.184	22.83	0.192
15	16QAM	36	20	22.96	0.198	22.72	0.187	22.87	0.194
15	16QAM	36	39	22.88	0.194	22.68	0.185	22.82	0.191
15	16QAM	75	0	22.91	0.195	22.79	0.190	22.84	0.192



LTE Band 2				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	23.63	0.231	23.48	0.223	23.63	0.231
10	QPSK	1	25	23.60	0.229	23.51	0.224	23.52	0.225
10	QPSK	1	49	23.57	0.228	23.50	0.224	23.63	0.231
10	QPSK	25	0	22.91	0.195	22.65	0.184	22.93	0.196
10	QPSK	25	12	22.88	0.194	22.64	0.184	22.84	0.192
10	QPSK	25	25	22.86	0.193	22.69	0.186	22.94	0.197
10	QPSK	50	0	22.84	0.192	22.62	0.183	22.64	0.184
10	16QAM	1	0	22.90	0.195	22.86	0.193	22.48	0.177
10	16QAM	1	25	22.98	0.199	22.81	0.191	22.76	0.189
10	16QAM	1	49	22.96	0.198	22.86	0.193	22.63	0.183
10	16QAM	25	0	22.89	0.195	22.62	0.183	22.67	0.185
10	16QAM	25	12	22.71	0.187	22.79	0.190	22.65	0.184
10	16QAM	25	25	22.75	0.188	22.85	0.193	22.76	0.189
10	16QAM	50	0	22.77	0.189	22.74	0.188	22.83	0.192



LTE Band 2				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				18625		18900		19175	
Frequency (MHz)				1852.5		1880		1907.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	23.48	0.223	23.53	0.225	23.51	0.224
5	QPSK	1	12	23.63	0.231	23.64	0.231	23.61	0.230
5	QPSK	1	24	23.52	0.225	23.56	0.227	23.48	0.223
5	QPSK	12	0	22.91	0.195	22.64	0.184	22.97	0.198
5	QPSK	12	7	22.93	0.196	22.63	0.183	22.81	0.191
5	QPSK	12	13	22.81	0.191	22.61	0.182	22.89	0.195
5	QPSK	25	0	22.89	0.195	22.79	0.190	23.04	0.201
5	16QAM	1	0	23.10	0.204	22.72	0.187	23.07	0.203
5	16QAM	1	12	23.06	0.202	23.02	0.200	23.04	0.201
5	16QAM	1	24	23.11	0.205	22.86	0.193	22.85	0.193
5	16QAM	12	0	22.88	0.194	22.87	0.194	22.98	0.199
5	16QAM	12	7	22.90	0.195	22.67	0.185	22.86	0.193
5	16QAM	12	13	22.80	0.191	22.79	0.190	22.93	0.196
5	16QAM	25	0	22.96	0.198	22.70	0.186	22.89	0.195



LTE Band 2				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	23.69	0.234	23.62	0.230	23.61	0.230
3	QPSK	1	8	23.65	0.232	23.64	0.231	23.65	0.232
3	QPSK	1	14	23.63	0.231	23.57	0.228	23.71	0.235
3	QPSK	8	0	22.82	0.191	22.65	0.184	22.84	0.192
3	QPSK	8	4	22.87	0.194	22.67	0.185	22.75	0.188
3	QPSK	8	7	22.91	0.195	22.67	0.185	22.69	0.186
3	QPSK	15	0	22.86	0.193	22.64	0.184	22.78	0.190
3	16QAM	1	0	22.90	0.195	23.04	0.201	22.85	0.193
3	16QAM	1	8	22.99	0.199	22.79	0.190	22.83	0.192
3	16QAM	1	14	22.95	0.197	22.81	0.191	23.04	0.201
3	16QAM	8	0	23.07	0.203	22.64	0.184	22.78	0.190
3	16QAM	8	4	22.85	0.193	22.71	0.187	22.76	0.189
3	16QAM	8	7	22.93	0.196	22.68	0.185	22.78	0.190
3	16QAM	15	0	22.92	0.196	22.83	0.192	22.82	0.191



LTE Band 2				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				18607		18900		19193	
Frequency (MHz)				1850.7		1880		1909.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	23.67	0.233	23.63	0.231	23.65	0.232
1.4	QPSK	1	3	23.68	0.233	23.57	0.228	23.58	0.228
1.4	QPSK	1	5	23.55	0.226	23.71	0.235	23.60	0.229
1.4	QPSK	3	0	23.72	0.236	23.50	0.224	23.66	0.232
1.4	QPSK	3	1	23.74	0.237	23.61	0.230	23.65	0.232
1.4	QPSK	3	3	23.69	0.234	23.56	0.227	23.55	0.226
1.4	QPSK	6	0	22.98	0.199	22.81	0.191	22.80	0.191
1.4	16QAM	1	0	23.02	0.200	23.02	0.200	22.96	0.198
1.4	16QAM	1	3	23.09	0.204	23.07	0.203	22.73	0.187
1.4	16QAM	1	5	23.03	0.201	23.08	0.203	22.73	0.187
1.4	16QAM	3	0	23.01	0.200	22.94	0.197	22.98	0.199
1.4	16QAM	3	1	23.19	0.208	22.93	0.196	23.00	0.200
1.4	16QAM	3	3	23.05	0.202	22.87	0.194	23.03	0.201
1.4	16QAM	6	0	22.85	0.193	22.89	0.195	22.86	0.193





LTE Band 4				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	23.92	0.247	24.14	0.259	24.11	0.258
20	QPSK	1	49	23.76	0.238	23.75	0.237	23.54	0.226
20	QPSK	1	99	23.58	0.228	23.56	0.227	23.58	0.228
20	QPSK	50	0	22.82	0.191	22.85	0.193	22.81	0.191
20	QPSK	50	24	22.70	0.186	22.66	0.185	22.81	0.191
20	QPSK	50	50	22.82	0.191	22.61	0.182	22.72	0.187
20	QPSK	100	0	22.63	0.183	22.76	0.189	22.74	0.188
20	16QAM	1	0	22.81	0.191	22.75	0.188	22.68	0.185
20	16QAM	1	49	22.62	0.183	22.71	0.187	22.94	0.197
20	16QAM	1	99	22.82	0.191	22.72	0.187	22.72	0.187
20	16QAM	50	0	22.96	0.198	22.77	0.189	22.88	0.194
20	16QAM	50	24	22.90	0.195	22.80	0.191	22.73	0.187
20	16QAM	50	50	22.83	0.192	22.64	0.184	22.61	0.182
20	16QAM	100	0	22.85	0.193	22.71	0.187	22.75	0.188



LTE Band 4				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20025		20175		20325	
Frequency (MHz)				1717.5		1732.5		1747.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	23.79	0.239	23.74	0.237	23.62	0.230
15	QPSK	1	37	23.53	0.225	23.64	0.231	23.64	0.231
15	QPSK	1	74	23.67	0.233	23.55	0.226	23.60	0.229
15	QPSK	36	0	22.91	0.195	22.76	0.189	22.81	0.191
15	QPSK	36	20	22.92	0.196	22.84	0.192	22.82	0.191
15	QPSK	36	39	22.84	0.192	22.82	0.191	22.73	0.187
15	QPSK	75	0	22.94	0.197	22.77	0.189	22.82	0.191
15	16QAM	1	0	22.73	0.187	22.75	0.188	22.63	0.183
15	16QAM	1	37	22.63	0.183	22.63	0.183	22.87	0.194
15	16QAM	1	74	22.91	0.195	22.52	0.179	22.80	0.191
15	16QAM	36	0	22.90	0.195	22.79	0.190	22.76	0.189
15	16QAM	36	20	22.83	0.192	22.78	0.190	22.79	0.190
15	16QAM	36	39	22.79	0.190	22.70	0.186	22.64	0.184
15	16QAM	75	0	22.89	0.195	22.76	0.189	22.71	0.187



LTE Band 4				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	23.48	0.223	23.75	0.237	23.67	0.233
10	QPSK	1	25	23.48	0.223	23.65	0.232	23.52	0.225
10	QPSK	1	49	23.71	0.235	23.62	0.230	23.68	0.233
10	QPSK	25	0	22.94	0.197	22.83	0.192	22.84	0.192
10	QPSK	25	12	22.98	0.199	22.88	0.194	22.77	0.189
10	QPSK	25	25	22.87	0.194	22.77	0.189	22.78	0.190
10	QPSK	50	0	22.91	0.195	22.84	0.192	22.89	0.195
10	16QAM	1	0	22.72	0.187	22.75	0.188	22.84	0.192
10	16QAM	1	25	22.63	0.183	22.79	0.190	22.85	0.193
10	16QAM	1	49	22.82	0.191	22.86	0.193	22.68	0.185
10	16QAM	25	0	22.81	0.191	22.88	0.194	22.86	0.193
10	16QAM	25	12	22.53	0.179	22.95	0.197	22.78	0.190
10	16QAM	25	25	22.80	0.191	22.85	0.193	22.80	0.191
10	16QAM	50	0	22.92	0.196	22.76	0.189	22.80	0.191



LTE Band 4				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				19975		20175		20375	
Frequency (MHz)				1712.5		1732.5		1752.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	23.77	0.238	23.62	0.230	23.60	0.229
5	QPSK	1	12	23.76	0.238	23.64	0.231	23.58	0.228
5	QPSK	1	24	23.61	0.230	23.46	0.222	23.62	0.230
5	QPSK	12	0	22.88	0.194	22.76	0.189	22.86	0.193
5	QPSK	12	7	22.94	0.197	22.81	0.191	22.77	0.189
5	QPSK	12	13	22.86	0.193	22.74	0.188	22.83	0.192
5	QPSK	25	0	22.88	0.194	22.82	0.191	22.85	0.193
5	16QAM	1	0	22.64	0.184	22.86	0.193	22.76	0.189
5	16QAM	1	12	22.72	0.187	22.78	0.190	22.84	0.192
5	16QAM	1	24	22.84	0.192	22.77	0.189	22.84	0.192
5	16QAM	12	0	22.86	0.193	22.73	0.187	22.86	0.193
5	16QAM	12	7	22.84	0.192	22.86	0.193	22.93	0.196
5	16QAM	12	13	22.76	0.189	22.77	0.189	22.75	0.188
5	16QAM	25	0	22.83	0.192	22.66	0.185	22.85	0.193



LTE Band 4				Measured E.I.R.P.					
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	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	23.59	0.229	23.70	0.234	23.72	0.236
3	QPSK	1	8	23.67	0.233	23.60	0.229	23.63	0.231
3	QPSK	1	14	23.31	0.214	23.66	0.232	23.60	0.229
3	QPSK	8	0	22.72	0.187	22.64	0.184	22.63	0.183
3	QPSK	8	4	22.63	0.183	22.63	0.183	22.68	0.185
3	QPSK	8	7	22.82	0.191	22.85	0.193	22.72	0.187
3	QPSK	15	0	22.75	0.188	22.76	0.189	22.70	0.186
3	16QAM	1	0	22.73	0.187	22.62	0.183	22.73	0.187
3	16QAM	1	8	22.63	0.183	22.75	0.188	22.86	0.193
3	16QAM	1	14	22.72	0.187	22.72	0.187	22.83	0.192
3	16QAM	8	0	22.55	0.180	22.81	0.191	22.59	0.182
3	16QAM	8	4	22.59	0.182	22.51	0.178	22.55	0.180
3	16QAM	8	7	22.52	0.179	22.75	0.188	22.56	0.180
3	16QAM	15	0	22.58	0.181	22.63	0.183	22.86	0.193



LTE Band 4				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				19957		20175		20393	
Frequency (MHz)				1710.7		1732.5		1754.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	23.72	0.236	23.67	0.233	23.55	0.226
1.4	QPSK	1	3	23.67	0.233	23.70	0.234	23.55	0.226
1.4	QPSK	1	5	23.70	0.234	23.58	0.228	23.62	0.230
1.4	QPSK	3	0	23.54	0.226	23.71	0.235	23.69	0.234
1.4	QPSK	3	1	23.34	0.216	23.67	0.233	23.60	0.229
1.4	QPSK	3	3	23.67	0.233	23.41	0.219	23.67	0.233
1.4	QPSK	6	0	22.83	0.192	22.72	0.187	22.81	0.191
1.4	16QAM	1	0	22.86	0.193	22.66	0.185	22.52	0.179
1.4	16QAM	1	3	22.63	0.183	22.82	0.191	22.63	0.183
1.4	16QAM	1	5	22.65	0.184	22.65	0.184	22.64	0.184
1.4	16QAM	3	0	22.69	0.186	22.63	0.183	22.70	0.186
1.4	16QAM	3	1	22.52	0.179	22.83	0.192	22.62	0.183
1.4	16QAM	3	3	22.86	0.193	22.73	0.187	22.76	0.189
1.4	16QAM	6	0	22.71	0.187	22.71	0.187	22.75	0.188



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20450		20525		20600	
Frequency (MHz)				829		836.5		844	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	21.40	0.138	21.53	0.142	21.43	0.139
10	QPSK	1	25	21.38	0.137	21.48	0.141	21.49	0.141
10	QPSK	1	49	21.34	0.136	21.46	0.140	21.44	0.139
10	QPSK	25	0	20.77	0.119	20.91	0.123	20.84	0.121
10	QPSK	25	12	20.84	0.121	20.77	0.119	20.84	0.121
10	QPSK	25	25	20.76	0.119	20.84	0.121	20.76	0.119
10	QPSK	50	0	20.88	0.122	20.75	0.119	20.59	0.115
10	16QAM	1	0	20.67	0.117	20.71	0.118	20.36	0.109
10	16QAM	1	25	20.84	0.121	20.77	0.119	20.42	0.110
10	16QAM	1	49	20.64	0.116	20.37	0.109	20.52	0.113
10	16QAM	25	0	20.27	0.106	20.49	0.112	20.41	0.110
10	16QAM	25	12	20.59	0.115	20.46	0.111	20.38	0.109
10	16QAM	25	25	20.41	0.110	20.48	0.112	20.47	0.111
10	16QAM	50	0	20.59	0.115	20.47	0.111	20.41	0.110



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20425		20525		20625	
Frequency (MHz)				826.5		836.5		846.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	21.33	0.136	21.44	0.139	21.46	0.140
5	QPSK	1	12	21.24	0.133	21.28	0.134	21.41	0.138
5	QPSK	1	24	21.33	0.136	21.36	0.137	21.34	0.136
5	QPSK	12	0	20.60	0.115	20.90	0.123	20.56	0.114
5	QPSK	12	7	20.86	0.122	20.93	0.124	20.51	0.112
5	QPSK	12	13	20.80	0.120	20.84	0.121	20.58	0.114
5	QPSK	25	0	20.66	0.116	20.95	0.124	20.58	0.114
5	16QAM	1	0	20.38	0.109	20.59	0.115	20.42	0.110
5	16QAM	1	12	20.47	0.111	20.45	0.111	20.91	0.123
5	16QAM	1	24	20.41	0.110	20.46	0.111	20.71	0.118
5	16QAM	12	0	20.60	0.115	20.48	0.112	20.48	0.112
5	16QAM	12	7	20.47	0.111	20.50	0.112	20.49	0.112
5	16QAM	12	13	20.57	0.114	20.37	0.109	20.53	0.113
5	16QAM	25	0	20.69	0.117	20.59	0.115	20.56	0.114





LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20415		20525		20635	
Frequency (MHz)				825.5		836.5		847.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	21.04	0.127	21.38	0.137	21.18	0.131
3	QPSK	1	8	21.04	0.127	21.33	0.136	21.26	0.134
3	QPSK	1	14	21.04	0.127	21.46	0.140	21.24	0.133
3	QPSK	8	0	20.77	0.119	20.67	0.117	20.88	0.122
3	QPSK	8	4	20.84	0.121	20.70	0.117	20.78	0.120
3	QPSK	8	7	20.72	0.118	20.76	0.119	20.67	0.117
3	QPSK	15	0	20.78	0.120	20.80	0.120	20.59	0.115
3	16QAM	1	0	20.47	0.111	20.35	0.108	20.68	0.117
3	16QAM	1	8	20.47	0.111	20.59	0.115	20.58	0.114
3	16QAM	1	14	20.45	0.111	20.47	0.111	20.66	0.116
3	16QAM	8	0	20.59	0.115	20.44	0.111	20.46	0.111
3	16QAM	8	4	20.38	0.109	20.49	0.112	20.67	0.117
3	16QAM	8	7	20.48	0.112	20.60	0.115	20.56	0.114
3	16QAM	15	0	20.47	0.111	20.54	0.113	20.49	0.112



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20407		20525		20643	
Frequency (MHz)				824.7		836.5		848.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	21.47	0.140	21.35	0.136	21.56	0.143
1.4	QPSK	1	3	21.66	0.147	21.41	0.138	21.56	0.143
1.4	QPSK	1	5	21.55	0.143	21.25	0.133	21.33	0.136
1.4	QPSK	3	0	21.54	0.143	21.41	0.138	21.43	0.139
1.4	QPSK	3	1	21.39	0.138	21.49	0.141	21.50	0.141
1.4	QPSK	3	3	21.48	0.141	21.41	0.138	21.50	0.141
1.4	QPSK	6	0	20.64	0.116	20.42	0.110	20.59	0.115
1.4	16QAM	1	0	20.46	0.111	20.42	0.110	20.47	0.111
1.4	16QAM	1	3	20.53	0.113	20.50	0.112	20.52	0.113
1.4	16QAM	1	5	20.51	0.112	20.52	0.113	20.52	0.113
1.4	16QAM	3	0	20.57	0.114	20.56	0.114	20.55	0.114
1.4	16QAM	3	1	20.47	0.111	20.49	0.112	20.52	0.113
1.4	16QAM	3	3	20.72	0.118	20.50	0.112	20.59	0.115
1.4	16QAM	6	0	20.50	0.112	20.64	0.116	20.59	0.115



LTE Band 12				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23060		23095		23130	
Frequency (MHz)				704		707.5		711	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	21.44	0.139	21.58	0.144	21.34	0.136
10	QPSK	1	25	21.34	0.136	21.49	0.141	21.43	0.139
10	QPSK	1	49	21.31	0.135	21.49	0.141	21.36	0.137
10	QPSK	25	0	20.50	0.112	20.55	0.114	20.43	0.110
10	QPSK	25	12	20.48	0.112	20.35	0.108	20.53	0.113
10	QPSK	25	25	20.52	0.113	20.43	0.110	20.50	0.112
10	QPSK	50	0	20.39	0.109	20.43	0.110	20.35	0.108
10	16QAM	1	0	20.67	0.117	20.48	0.112	20.70	0.117
10	16QAM	1	25	20.70	0.117	20.85	0.122	20.71	0.118
10	16QAM	1	49	20.89	0.123	20.78	0.120	20.73	0.118
10	16QAM	25	0	19.80	0.095	19.68	0.093	19.76	0.095
10	16QAM	25	12	19.65	0.092	19.81	0.096	19.85	0.097
10	16QAM	25	25	19.89	0.097	19.84	0.096	19.71	0.094
10	16QAM	50	0	19.93	0.098	19.74	0.094	19.69	0.093



LTE Band 12				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23035		23095		23155	
Frequency (MHz)				701.5		707.5		713.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	21.34	0.136	21.27	0.134	21.29	0.135
5	QPSK	1	12	21.16	0.131	21.48	0.141	21.45	0.140
5	QPSK	1	24	21.17	0.131	21.34	0.136	21.37	0.137
5	QPSK	12	0	20.17	0.104	20.22	0.105	20.46	0.111
5	QPSK	12	7	20.16	0.104	20.37	0.109	20.49	0.112
5	QPSK	12	13	20.35	0.108	20.45	0.111	20.61	0.115
5	QPSK	25	0	20.46	0.111	20.27	0.106	20.56	0.114
5	16QAM	1	0	20.57	0.114	20.64	0.116	20.66	0.116
5	16QAM	1	12	20.63	0.116	20.87	0.122	20.64	0.116
5	16QAM	1	24	20.59	0.115	20.65	0.116	20.88	0.122
5	16QAM	12	0	19.55	0.090	19.57	0.091	19.52	0.090
5	16QAM	12	7	19.52	0.090	19.81	0.096	19.61	0.091
5	16QAM	12	13	19.60	0.091	19.68	0.093	19.61	0.091
5	16QAM	25	0	19.58	0.091	19.71	0.094	19.60	0.091



LTE Band 12				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23025		23095		23165	
Frequency (MHz)				700.5		707.5		714.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	21.05	0.127	21.33	0.136	21.46	0.140
3	QPSK	1	8	21.07	0.128	21.36	0.137	21.46	0.140
3	QPSK	1	14	21.19	0.132	21.34	0.136	21.50	0.141
3	QPSK	8	0	20.47	0.111	20.34	0.108	20.60	0.115
3	QPSK	8	4	20.65	0.116	20.45	0.111	20.67	0.117
3	QPSK	8	7	20.66	0.116	20.39	0.109	20.58	0.114
3	QPSK	15	0	20.69	0.117	20.26	0.106	20.61	0.115
3	16QAM	1	0	20.54	0.113	20.85	0.122	20.68	0.117
3	16QAM	1	8	20.64	0.116	20.80	0.120	20.66	0.116
3	16QAM	1	14	20.57	0.114	20.83	0.121	20.68	0.117
3	16QAM	8	0	19.67	0.093	19.36	0.086	19.54	0.090
3	16QAM	8	4	19.46	0.088	19.41	0.087	19.52	0.090
3	16QAM	8	7	19.44	0.088	19.55	0.090	19.70	0.093
3	16QAM	15	0	19.47	0.089	19.38	0.087	19.67	0.093



LTE Band 12				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23017		23095		23173	
Frequency (MHz)				699.7		707.5		715.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	21.09	0.129	21.24	0.133	21.53	0.142
1.4	QPSK	1	3	21.03	0.127	21.30	0.135	21.36	0.137
1.4	QPSK	1	5	21.07	0.128	21.34	0.136	21.44	0.139
1.4	QPSK	3	0	21.18	0.131	21.38	0.137	21.36	0.137
1.4	QPSK	3	1	21.10	0.129	21.41	0.138	21.23	0.133
1.4	QPSK	3	3	21.25	0.133	21.42	0.139	21.34	0.136
1.4	QPSK	6	0	20.67	0.117	20.46	0.111	20.63	0.116
1.4	16QAM	1	0	20.57	0.114	20.75	0.119	20.69	0.117
1.4	16QAM	1	3	20.48	0.112	20.55	0.114	20.55	0.114
1.4	16QAM	1	5	20.54	0.113	20.46	0.111	20.65	0.116
1.4	16QAM	3	0	20.64	0.116	20.37	0.109	20.38	0.109
1.4	16QAM	3	1	20.58	0.114	20.49	0.112	20.53	0.113
1.4	16QAM	3	3	20.52	0.113	20.33	0.108	20.60	0.115
1.4	16QAM	6	0	19.48	0.089	19.50	0.089	19.81	0.096



LTE Band 13				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				/		23230		/	
Frequency (MHz)				/		782		/	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	/	/	21.07	0.128	/	/
10	QPSK	1	25	/	/	21.03	0.127	/	/
10	QPSK	1	49	/	/	21.06	0.128	/	/
10	QPSK	25	0	/	/	20.30	0.107	/	/
10	QPSK	25	12	/	/	20.12	0.103	/	/
10	QPSK	25	25	/	/	20.10	0.102	/	/
10	QPSK	50	0	/	/	20.10	0.102	/	/
10	16QAM	1	0	/	/	19.81	0.096	/	/
10	16QAM	1	25	/	/	20.03	0.101	/	/
10	16QAM	1	49	/	/	19.84	0.096	/	/
10	16QAM	25	0	/	/	20.04	0.101	/	/
10	16QAM	25	12	/	/	19.96	0.099	/	/
10	16QAM	25	25	/	/	19.87	0.097	/	/
10	16QAM	50	0	/	/	19.75	0.094	/	/



LTE Band 13				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23205		23230		23255	
Frequency (MHz)				779.5		782		784.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	20.86	0.122	21.05	0.127	20.72	0.118
5	QPSK	1	12	20.98	0.125	21.00	0.126	20.69	0.117
5	QPSK	1	24	20.69	0.117	20.82	0.121	20.89	0.123
5	QPSK	12	0	19.52	0.090	19.58	0.091	19.65	0.092
5	QPSK	12	7	19.62	0.092	19.66	0.092	19.74	0.094
5	QPSK	12	13	19.72	0.094	19.61	0.091	19.59	0.091
5	QPSK	25	0	19.91	0.098	19.94	0.099	19.81	0.096
5	16QAM	1	0	19.75	0.094	19.73	0.094	19.50	0.089
5	16QAM	1	12	19.60	0.091	19.52	0.090	19.60	0.091
5	16QAM	1	24	19.83	0.096	19.52	0.090	19.84	0.096
5	16QAM	12	0	19.62	0.092	19.72	0.094	19.84	0.096
5	16QAM	12	7	19.59	0.091	19.64	0.092	19.83	0.096
5	16QAM	12	13	19.68	0.093	19.55	0.090	19.94	0.099
5	16QAM	25	0	19.67	0.093	19.57	0.091	19.59	0.091





LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				132072		132322		132572	
Frequency (MHz)				1720		1745		1770	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	24.00	0.251	24.24	0.265	24.11	0.258
20	QPSK	1	49	23.94	0.248	24.17	0.261	23.92	0.247
20	QPSK	1	99	23.84	0.242	23.76	0.238	23.82	0.241
20	QPSK	50	0	22.96	0.198	23.39	0.218	23.10	0.204
20	QPSK	50	24	23.08	0.203	23.28	0.213	23.23	0.210
20	QPSK	50	50	23.10	0.204	23.22	0.210	23.39	0.218
20	QPSK	100	0	23.15	0.207	23.22	0.210	22.79	0.190
20	16QAM	1	0	23.02	0.200	22.97	0.198	22.95	0.197
20	16QAM	1	49	23.12	0.205	22.95	0.197	22.91	0.195
20	16QAM	1	99	22.98	0.199	22.97	0.198	22.99	0.199
20	16QAM	50	0	21.95	0.157	22.16	0.164	21.88	0.154
20	16QAM	50	24	22.05	0.160	22.27	0.169	21.85	0.153
20	16QAM	50	50	22.10	0.162	22.30	0.170	21.92	0.156
20	16QAM	100	0	22.09	0.162	22.24	0.167	21.82	0.152



LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				132047		132322		132597	
Frequency (MHz)				1717.5		1745		1772.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	23.71	0.235	23.99	0.251	23.68	0.233
15	QPSK	1	37	23.97	0.249	23.97	0.249	23.64	0.231
15	QPSK	1	74	23.98	0.250	23.80	0.240	23.94	0.248
15	QPSK	36	0	22.97	0.198	23.19	0.208	22.84	0.192
15	QPSK	36	20	22.98	0.199	23.25	0.211	22.79	0.190
15	QPSK	36	39	23.00	0.200	23.24	0.211	22.89	0.195
15	QPSK	75	0	23.03	0.201	23.16	0.207	22.68	0.185
15	16QAM	1	0	22.85	0.193	23.10	0.204	22.90	0.195
15	16QAM	1	37	23.09	0.204	23.35	0.216	22.85	0.193
15	16QAM	1	74	23.11	0.205	22.92	0.196	22.95	0.197
15	16QAM	36	0	21.91	0.155	22.13	0.163	22.14	0.164
15	16QAM	36	20	21.93	0.156	22.21	0.166	22.15	0.164
15	16QAM	36	39	21.96	0.157	22.09	0.162	22.10	0.162
15	16QAM	75	0	22.00	0.158	22.16	0.164	22.04	0.160



LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				132022		132322		132622	
Frequency (MHz)				1715		1745		1775	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	23.99	0.251	24.08	0.256	24.12	0.258
10	QPSK	1	25	24.04	0.254	24.20	0.263	23.99	0.251
10	QPSK	1	49	23.82	0.241	23.95	0.248	23.97	0.249
10	QPSK	25	0	22.95	0.197	23.25	0.211	23.12	0.205
10	QPSK	25	12	22.99	0.199	23.26	0.212	22.99	0.199
10	QPSK	25	25	23.00	0.200	23.30	0.214	23.14	0.206
10	QPSK	50	0	22.99	0.199	23.30	0.214	22.99	0.199
10	16QAM	1	0	22.92	0.196	23.29	0.213	22.95	0.197
10	16QAM	1	25	23.09	0.204	23.04	0.201	22.95	0.197
10	16QAM	1	49	22.98	0.199	22.95	0.197	22.99	0.199
10	16QAM	25	0	21.98	0.158	22.28	0.169	22.15	0.164
10	16QAM	25	12	22.05	0.160	21.95	0.157	22.26	0.168
10	16QAM	25	25	22.27	0.169	21.82	0.152	21.85	0.153
10	16QAM	50	0	22.04	0.160	22.31	0.170	22.11	0.163



LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				131997		132322		132647	
Frequency (MHz)				1712.5		1745		1777.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	23.91	0.246	23.92	0.247	23.90	0.245
5	QPSK	1	12	23.78	0.239	24.16	0.261	23.84	0.242
5	QPSK	1	24	23.83	0.242	23.94	0.248	23.89	0.245
5	QPSK	12	0	22.97	0.198	23.22	0.210	23.23	0.210
5	QPSK	12	7	22.91	0.195	23.19	0.208	23.22	0.210
5	QPSK	12	13	22.93	0.196	23.21	0.209	23.15	0.207
5	QPSK	25	0	22.82	0.191	23.22	0.210	23.22	0.210
5	16QAM	1	0	22.77	0.189	23.19	0.208	23.02	0.200
5	16QAM	1	12	22.89	0.195	22.72	0.187	22.99	0.199
5	16QAM	1	24	22.91	0.195	23.12	0.205	23.00	0.200
5	16QAM	12	0	22.12	0.163	22.24	0.167	22.30	0.170
5	16QAM	12	7	22.19	0.166	22.26	0.168	22.09	0.162
5	16QAM	12	13	22.13	0.163	22.26	0.168	21.82	0.152
5	16QAM	25	0	21.95	0.157	22.23	0.167	21.74	0.149



LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				131987		132322		132657	
Frequency (MHz)				1711.5		1745		1778.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	23.91	0.246	23.95	0.248	23.92	0.247
3	QPSK	1	8	23.88	0.244	24.03	0.253	24.02	0.252
3	QPSK	1	14	23.79	0.239	23.79	0.239	23.79	0.239
3	QPSK	8	0	23.18	0.208	23.16	0.207	23.12	0.205
3	QPSK	8	4	23.17	0.207	23.14	0.206	23.16	0.207
3	QPSK	8	7	23.12	0.205	23.15	0.207	23.05	0.202
3	QPSK	15	0	23.07	0.203	23.09	0.204	22.98	0.199
3	16QAM	1	0	23.12	0.205	23.09	0.204	23.13	0.206
3	16QAM	1	8	23.22	0.210	23.23	0.210	23.22	0.210
3	16QAM	1	14	23.01	0.200	23.07	0.203	23.06	0.202
3	16QAM	8	0	22.37	0.173	22.15	0.164	22.22	0.167
3	16QAM	8	4	22.15	0.164	22.22	0.167	22.15	0.164
3	16QAM	8	7	22.22	0.167	22.15	0.164	22.14	0.164
3	16QAM	15	0	22.15	0.164	22.24	0.167	22.16	0.164



LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				131979		132322		132665	
Frequency (MHz)				1710.7		1745		1779.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	23.92	0.247	23.96	0.249	23.93	0.247
1.4	QPSK	1	3	24.08	0.256	24.04	0.254	24.03	0.253
1.4	QPSK	1	5	23.80	0.240	23.80	0.240	23.80	0.240
1.4	QPSK	3	0	23.19	0.208	23.17	0.207	23.13	0.206
1.4	QPSK	3	1	23.18	0.208	23.15	0.207	23.17	0.207
1.4	QPSK	3	3	23.13	0.206	23.16	0.207	23.06	0.202
1.4	QPSK	6	0	23.08	0.203	23.10	0.204	22.99	0.199
1.4	16QAM	1	0	23.13	0.206	23.10	0.204	23.14	0.206
1.4	16QAM	1	3	23.23	0.210	23.24	0.211	23.23	0.210
1.4	16QAM	1	5	23.02	0.200	23.08	0.203	23.07	0.203
1.4	16QAM	3	0	23.09	0.204	22.87	0.194	22.94	0.197
1.4	16QAM	3	1	22.87	0.194	22.94	0.197	22.87	0.194
1.4	16QAM	3	3	22.94	0.197	22.87	0.194	22.86	0.193
1.4	16QAM	6	0	21.87	0.154	21.96	0.157	21.88	0.154



LTE Band 71				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				133222		133322		133372	
Frequency (MHz)				673		683		688	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	21.59	0.144	21.77	0.150	21.48	0.141
20	QPSK	1	49	21.71	0.148	21.73	0.149	21.69	0.148
20	QPSK	1	99	21.56	0.143	21.67	0.147	21.54	0.143
20	QPSK	50	0	20.95	0.124	21.08	0.128	20.98	0.125
20	QPSK	50	24	20.88	0.122	20.94	0.124	20.98	0.125
20	QPSK	50	50	21.01	0.126	20.96	0.125	20.86	0.122
20	QPSK	100	0	20.81	0.121	20.84	0.121	20.73	0.118
20	16QAM	1	0	21.05	0.127	20.99	0.126	21.02	0.126
20	16QAM	1	49	21.39	0.138	21.02	0.126	21.12	0.129
20	16QAM	1	99	21.02	0.126	20.99	0.126	21.01	0.126
20	16QAM	50	0	19.84	0.096	19.84	0.096	19.91	0.098
20	16QAM	50	24	19.88	0.097	19.86	0.097	19.83	0.096
20	16QAM	50	50	19.80	0.095	19.76	0.095	19.67	0.093
20	16QAM	100	0	19.84	0.096	19.82	0.096	19.75	0.094



LTE Band 71				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				133197		133297		133397	
Frequency (MHz)				670.8		680.5		690.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	21.60	0.145	21.47	0.140	21.47	0.140
15	QPSK	1	37	21.52	0.142	21.64	0.146	21.61	0.145
15	QPSK	1	74	21.53	0.142	21.51	0.142	21.47	0.140
15	QPSK	36	0	20.57	0.114	20.64	0.116	20.61	0.115
15	QPSK	36	20	20.55	0.114	20.52	0.113	20.47	0.111
15	QPSK	36	39	20.61	0.115	20.48	0.112	20.35	0.108
15	QPSK	75	0	20.56	0.114	20.52	0.113	20.51	0.112
15	16QAM	1	0	20.68	0.117	20.80	0.120	20.62	0.115
15	16QAM	1	37	20.98	0.125	20.93	0.124	20.82	0.121
15	16QAM	1	74	20.72	0.118	20.72	0.118	20.79	0.120
15	16QAM	36	0	19.59	0.091	19.74	0.094	19.55	0.090
15	16QAM	36	20	19.68	0.093	19.57	0.091	19.57	0.091
15	16QAM	36	39	19.59	0.091	19.49	0.089	19.39	0.087
15	16QAM	75	0	19.63	0.092	19.50	0.089	19.57	0.091





LTE Band 71				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				133172		133272		133422	
Frequency (MHz)				668		678		693	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	21.62	0.145	21.62	0.145	21.64	0.146
10	QPSK	1	25	21.67	0.147	21.61	0.145	21.56	0.143
10	QPSK	1	49	21.56	0.143	21.38	0.137	21.46	0.140
10	QPSK	25	0	20.67	0.117	20.56	0.114	20.62	0.115
10	QPSK	25	12	20.75	0.119	20.65	0.116	20.60	0.115
10	QPSK	25	25	20.66	0.116	20.58	0.114	20.54	0.113
10	QPSK	50	0	20.75	0.119	20.65	0.116	20.43	0.110
10	16QAM	1	0	20.67	0.117	20.73	0.118	20.69	0.117
10	16QAM	1	25	21.12	0.129	21.10	0.129	20.73	0.118
10	16QAM	1	49	21.06	0.128	20.72	0.118	20.70	0.117
10	16QAM	25	0	19.69	0.093	19.56	0.090	19.64	0.092
10	16QAM	25	12	19.72	0.094	19.69	0.093	19.52	0.090
10	16QAM	25	25	19.73	0.094	19.61	0.091	19.60	0.091
10	16QAM	50	0	19.71	0.094	19.67	0.093	19.53	0.090



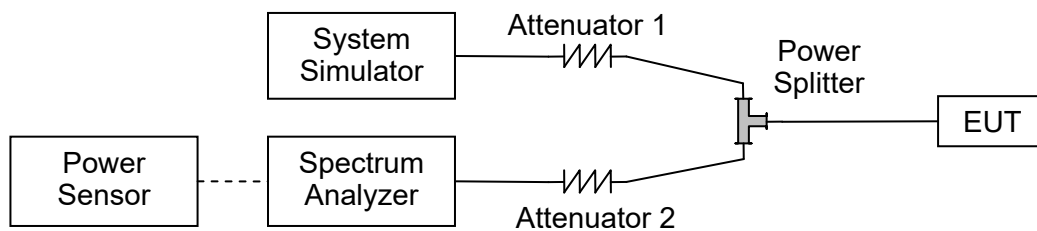
LTE Band 71				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				133147		133247		133447	
Frequency (MHz)				665.5		675.5		695.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	21.53	0.142	21.43	0.139	21.43	0.139
5	QPSK	1	12	21.61	0.145	21.64	0.146	21.59	0.144
5	QPSK	1	24	21.53	0.142	21.45	0.140	21.37	0.137
5	QPSK	12	0	20.59	0.115	20.60	0.115	20.57	0.114
5	QPSK	12	7	20.71	0.118	20.64	0.116	20.58	0.114
5	QPSK	12	13	20.61	0.115	20.54	0.113	20.57	0.114
5	QPSK	25	0	20.67	0.117	20.63	0.116	20.62	0.115
5	16QAM	1	0	20.73	0.118	20.53	0.113	20.87	0.122
5	16QAM	1	12	20.77	0.119	20.88	0.122	20.79	0.120
5	16QAM	1	24	20.69	0.117	20.44	0.111	20.84	0.121
5	16QAM	12	0	19.66	0.092	19.58	0.091	19.60	0.091
5	16QAM	12	7	19.65	0.092	19.72	0.094	19.57	0.091
5	16QAM	12	13	19.63	0.092	19.54	0.090	19.52	0.090
5	16QAM	25	0	19.64	0.092	19.61	0.091	19.50	0.089

## 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(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.31
	Low	16QAM	1.10	1.31
	Mid	QPSK	1.10	1.30
	Mid	16QAM	1.10	1.32
	High	QPSK	1.10	1.32
	High	16QAM	1.10	1.32
3	Low	QPSK	2.70	2.98
	Low	16QAM	2.70	3.01
	Mid	QPSK	2.70	3.01
	Mid	16QAM	2.70	2.99
	High	QPSK	2.70	3.02
	High	16QAM	2.70	3.02
5	Low	QPSK	4.50	5.04
	Low	16QAM	4.50	5.00
	Mid	QPSK	4.51	5.04
	Mid	16QAM	4.51	5.04
	High	QPSK	4.51	5.06
	High	16QAM	4.51	5.02
10	Low	QPSK	8.98	9.90
	Low	16QAM	8.96	9.77
	Mid	QPSK	8.99	9.91
	Mid	16QAM	8.96	9.85
	High	QPSK	8.98	9.87
	High	16QAM	8.94	9.81
15	Low	QPSK	13.43	14.66
	Low	16QAM	13.43	14.63
	Mid	QPSK	13.42	14.72
	Mid	16QAM	13.42	14.72
	High	QPSK	13.45	14.66
	High	16QAM	13.43	14.65
20	Low	QPSK	17.90	19.54
	Low	16QAM	17.90	19.40
	Mid	QPSK	17.88	19.43
	Mid	16QAM	17.90	19.55
	High	QPSK	17.86	19.59
	High	16QAM	17.93	19.47



LTE Band 4				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.32
	Low	16QAM	1.10	1.31
	Mid	QPSK	1.10	1.29
	Mid	16QAM	1.10	1.32
	High	QPSK	1.10	1.29
	High	16QAM	1.10	1.32
3	Low	QPSK	2.70	2.98
	Low	16QAM	2.70	3.00
	Mid	QPSK	2.70	2.98
	Mid	16QAM	2.70	3.00
	High	QPSK	2.70	3.00
	High	16QAM	2.70	2.99
5	Low	QPSK	4.49	5.07
	Low	16QAM	4.49	5.02
	Mid	QPSK	4.50	5.01
	Mid	16QAM	4.51	5.00
	High	QPSK	4.50	5.06
	High	16QAM	4.50	5.02
10	Low	QPSK	9.00	9.91
	Low	16QAM	8.96	9.87
	Mid	QPSK	8.98	9.89
	Mid	16QAM	8.94	9.83
	High	QPSK	8.98	10.00
	High	16QAM	8.95	9.80
15	Low	QPSK	13.36	14.31
	Low	16QAM	13.41	14.71
	Mid	QPSK	13.45	14.66
	Mid	16QAM	13.42	14.65
	High	QPSK	13.45	14.69
	High	16QAM	13.45	14.79
20	Low	QPSK	17.85	19.46
	Low	16QAM	17.88	19.41
	Mid	QPSK	17.90	19.46
	Mid	16QAM	17.91	19.40
	High	QPSK	17.91	19.56
	High	16QAM	17.92	19.52



LTE Band 5				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.27
	Low	16QAM	1.10	1.31
	Mid	QPSK	1.10	1.27
	Mid	16QAM	1.10	1.29
	High	QPSK	1.10	1.28
	High	16QAM	1.10	1.30
3	Low	QPSK	2.70	3.00
	Low	16QAM	2.70	2.99
	Mid	QPSK	2.70	2.98
	Mid	16QAM	2.70	2.99
	High	QPSK	2.70	2.98
	High	16QAM	2.70	3.00
5	Low	QPSK	4.51	5.02
	Low	16QAM	4.50	5.00
	Mid	QPSK	4.50	5.02
	Mid	16QAM	4.50	5.02
	High	QPSK	4.50	5.03
	High	16QAM	4.50	4.99
10	Low	QPSK	8.98	9.87
	Low	16QAM	8.95	9.79
	Mid	QPSK	8.99	9.86
	Mid	16QAM	8.95	9.85
	High	QPSK	8.99	9.87
	High	16QAM	8.94	9.78



LTE Band 12				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.28
	Low	16QAM	1.10	1.29
	Mid	QPSK	1.10	1.27
	Mid	16QAM	1.10	1.28
	High	QPSK	1.10	1.28
	High	16QAM	1.10	1.29
3	Low	QPSK	2.70	2.98
	Low	16QAM	2.70	3.00
	Mid	QPSK	2.70	2.98
	Mid	16QAM	2.70	3.00
	High	QPSK	2.70	2.97
	High	16QAM	2.70	2.99
5	Low	QPSK	4.50	5.00
	Low	16QAM	4.50	5.03
	Mid	QPSK	4.50	5.00
	Mid	16QAM	4.50	4.99
	High	QPSK	4.49	5.02
	High	16QAM	4.50	4.95
10	Low	QPSK	8.98	9.87
	Low	16QAM	8.95	9.76
	Mid	QPSK	8.99	9.83
	Mid	16QAM	8.95	9.81
	High	QPSK	8.98	9.85
	High	16QAM	8.95	9.83



LTE Band 13				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
5	Low	QPSK	4.50	5.00
	Low	16QAM	4.50	5.03
	Mid	QPSK	4.50	5.02
	Mid	16QAM	4.51	5.00
	High	QPSK	4.50	5.02
	High	16QAM	4.50	5.01
10	Low	QPSK	/	/
	Low	16QAM	/	/
	Mid	QPSK	8.96	9.81
	Mid	16QAM	8.94	9.74
	High	QPSK	/	/
	High	16QAM	/	/





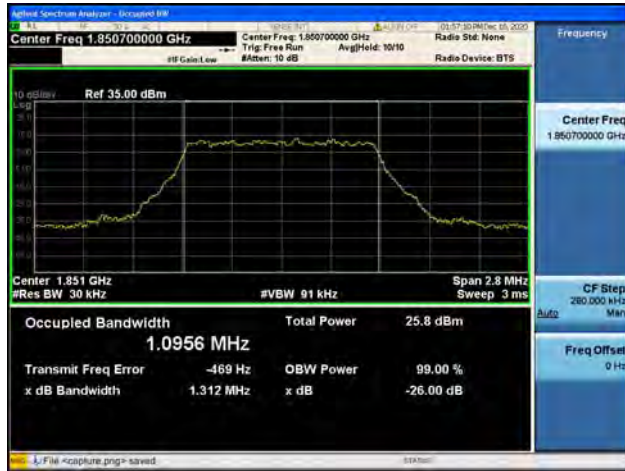
LTE Band 66				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.27
	Low	16QAM	1.10	1.30
	Mid	QPSK	1.10	1.29
	Mid	16QAM	1.10	1.29
	High	QPSK	1.09	1.28
	High	16QAM	1.10	1.29
3	Low	QPSK	2.70	2.99
	Low	16QAM	2.69	2.99
	Mid	QPSK	2.69	2.97
	Mid	16QAM	2.69	2.98
	High	QPSK	2.69	2.98
	High	16QAM	2.69	2.99
5	Low	QPSK	4.50	4.99
	Low	16QAM	4.50	5.01
	Mid	QPSK	4.49	5.03
	Mid	16QAM	4.49	4.96
	High	QPSK	4.50	5.02
	High	16QAM	4.50	5.00
10	Low	QPSK	8.99	9.85
	Low	16QAM	8.94	9.74
	Mid	QPSK	8.99	9.83
	Mid	16QAM	8.94	9.80
	High	QPSK	8.98	9.88
	High	16QAM	8.93	9.77
15	Low	QPSK	13.44	14.53
	Low	16QAM	13.42	14.65
	Mid	QPSK	13.44	14.65
	Mid	16QAM	13.46	14.62
	High	QPSK	13.43	14.58
	High	16QAM	13.41	14.62
20	Low	QPSK	17.89	19.37
	Low	16QAM	17.92	19.41
	Mid	QPSK	17.98	19.43
	Mid	16QAM	17.99	19.50
	High	QPSK	17.89	19.36
	High	16QAM	17.93	19.41



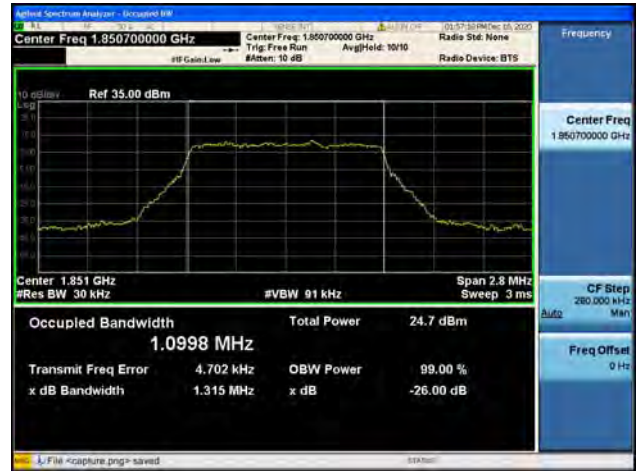
LTE Band 71				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
5	Low	QPSK	4.49	5.00
	Low	16QAM	4.49	4.95
	Mid	QPSK	4.50	5.03
	Mid	16QAM	4.50	5.00
	High	QPSK	4.49	5.01
	High	16QAM	4.50	4.99
10	Low	QPSK	8.97	9.79
	Low	16QAM	8.93	9.78
	Mid	QPSK	8.99	9.87
	Mid	16QAM	8.94	9.82
	High	QPSK	8.97	9.88
	High	16QAM	8.93	9.75
15	Low	QPSK	13.43	14.66
	Low	16QAM	13.42	14.62
	Mid	QPSK	13.45	14.70
	Mid	16QAM	13.44	14.59
	High	QPSK	13.44	14.66
	High	16QAM	13.42	14.63
20	Low	QPSK	17.86	19.38
	Low	16QAM	17.89	19.30
	Mid	QPSK	17.86	19.42
	Mid	16QAM	17.91	19.44
	High	QPSK	17.84	19.35
	High	16QAM	17.89	19.36



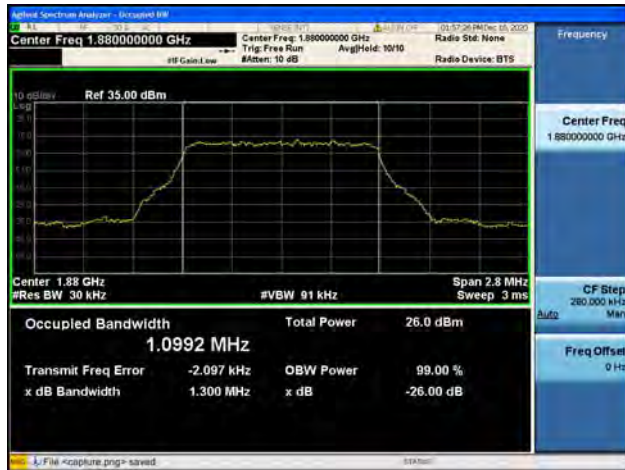
Band2 / 1.4MHz / Low CH / QPSK



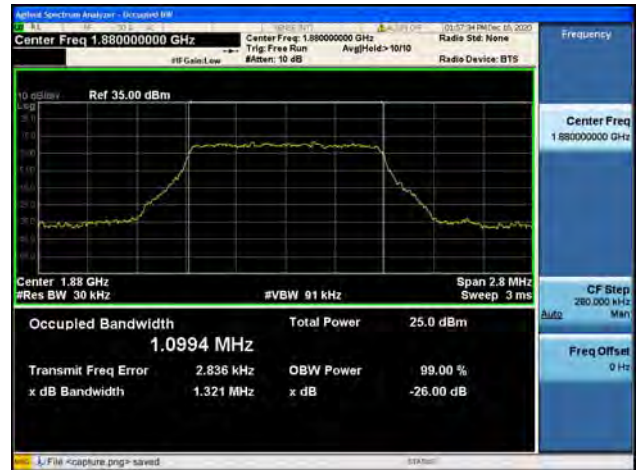
Band2 / 1.4MHz / Low CH / 16QAM



Band2 / 1.4MHz / Mid CH / QPSK



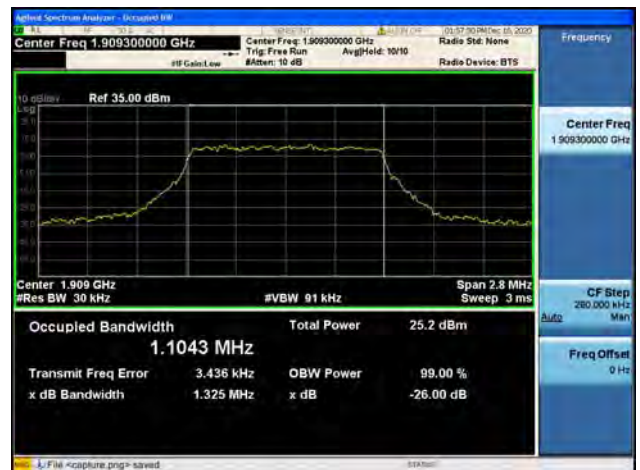
Band2 / 1.4MHz / Mid CH / 16QAM



Band2 / 1.4MHz / High CH / QPSK



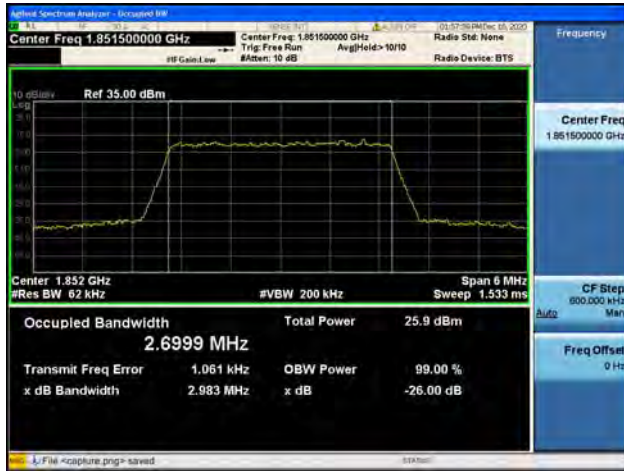
Band2 / 1.4MHz / High CH / 16QAM



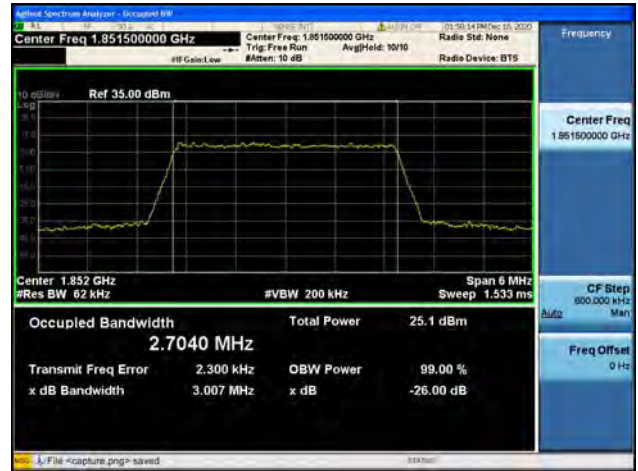




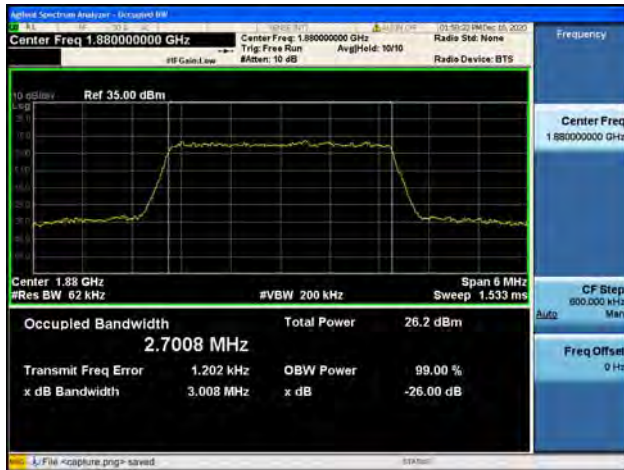
Band2 / 3MHz / Low CH / QPSK



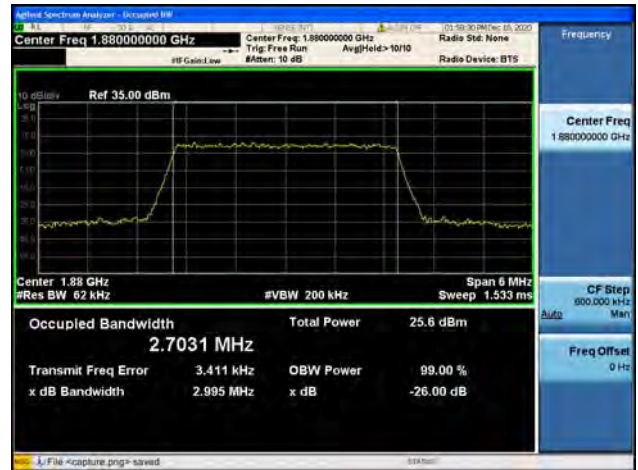
Band2 / 3MHz / Low CH / 16QAM



Band2 / 3MHz / Mid CH / QPSK



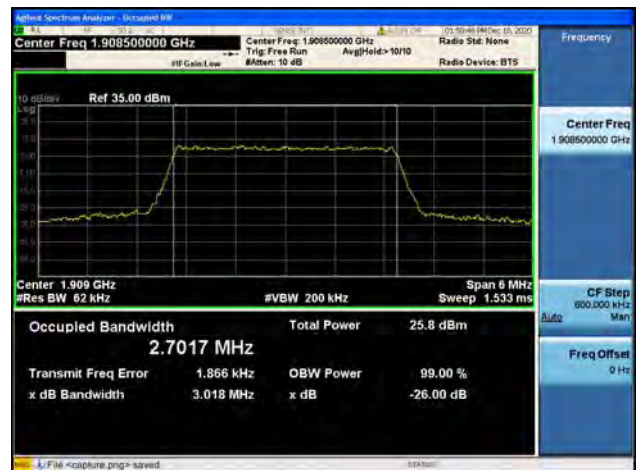
Band2 / 3MHz / Mid CH / 16QAM



Band2 / 3MHz / High CH / QPSK

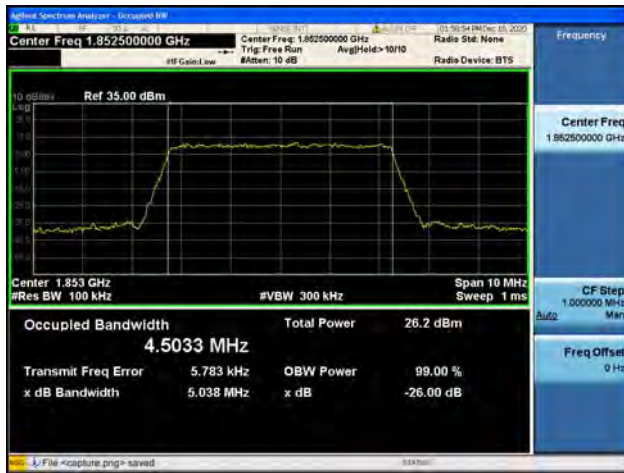


Band2 / 3MHz / High CH / 16QAM





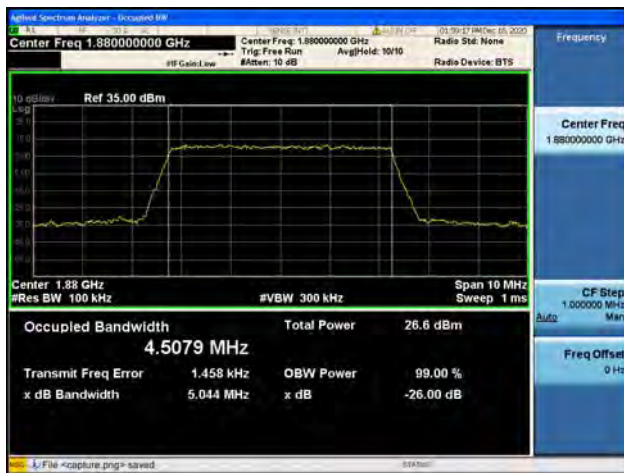
Band2 / 5MHz / Low CH / QPSK



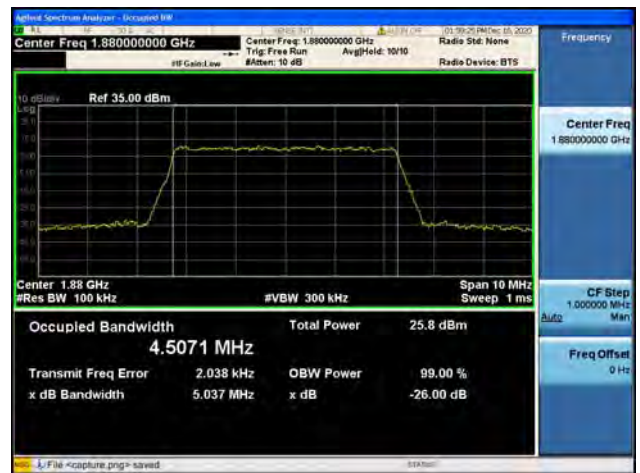
Band2 / 5MHz / Low CH / 16QAM



Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / Mid CH / 16QAM



Band2 / 5MHz / High CH / QPSK



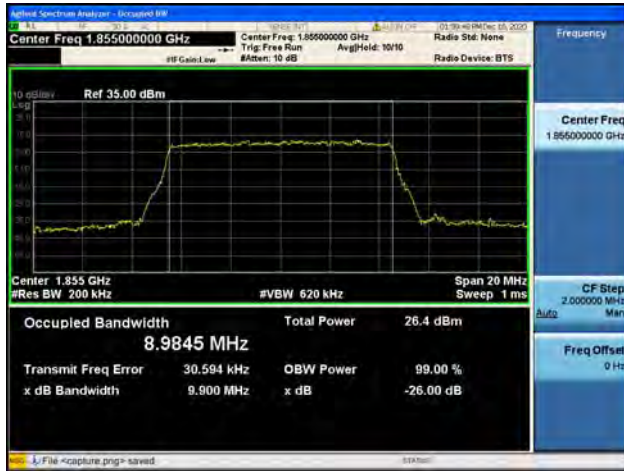
Band2 / 5MHz / High CH / 16QAM



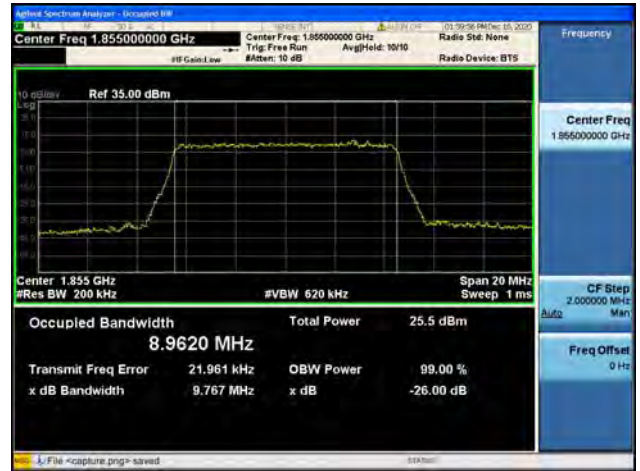




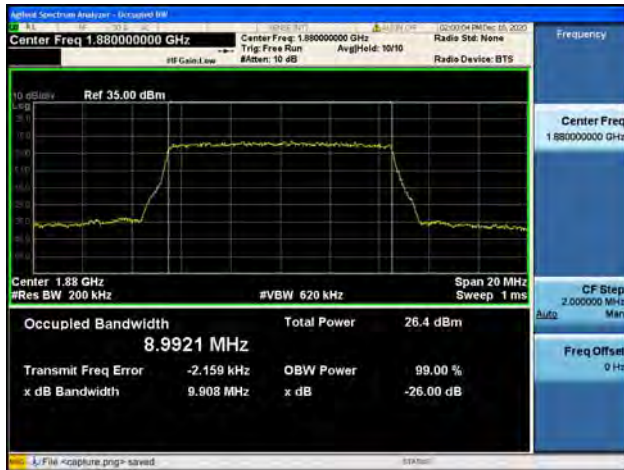
Band2 / 10MHz / Low CH / QPSK



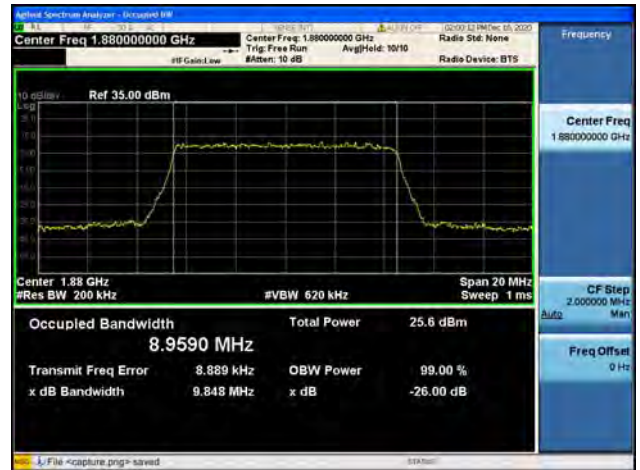
Band2 / 10MHz / Low CH / 16QAM



Band2 / 10MHz / Mid CH / QPSK



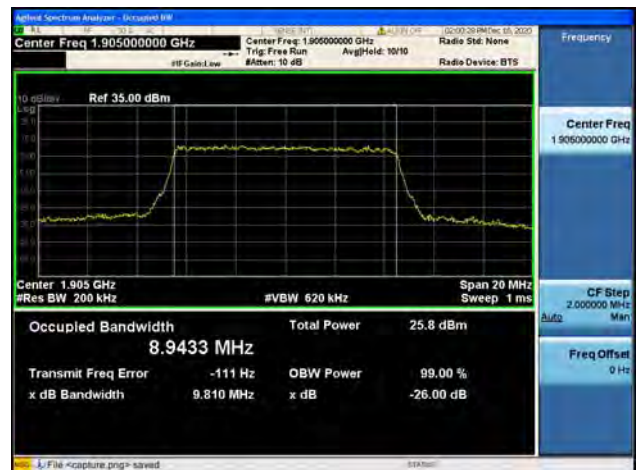
Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / High CH / QPSK

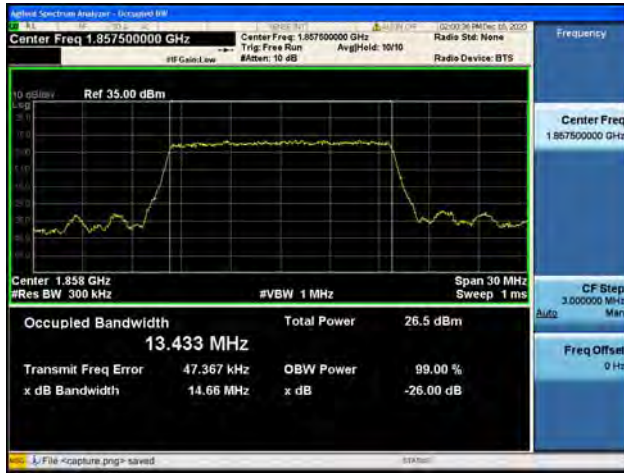


Band2 / 10MHz / High CH / 16QAM

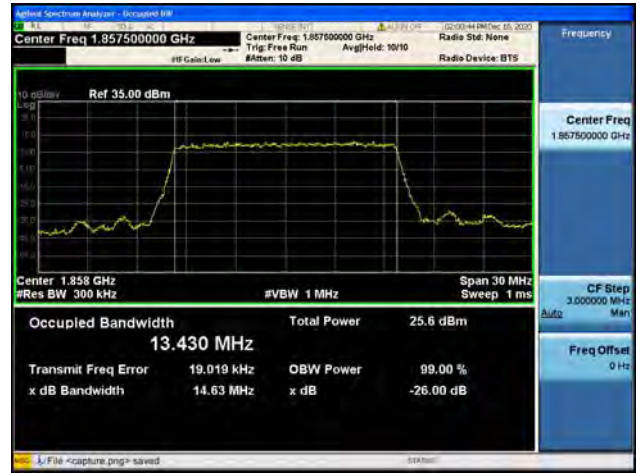




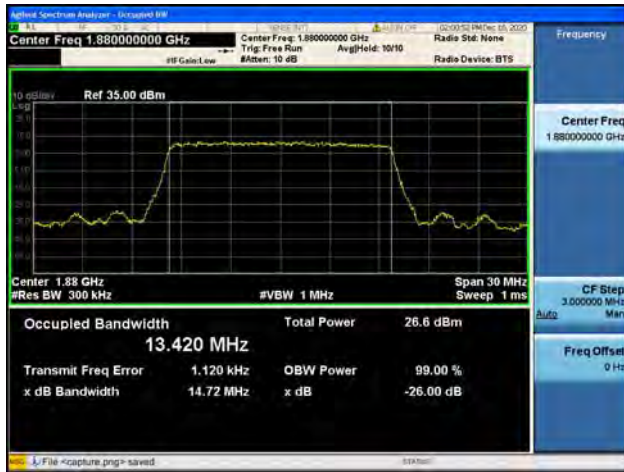
Band2 / 15MHz / Low CH / QPSK



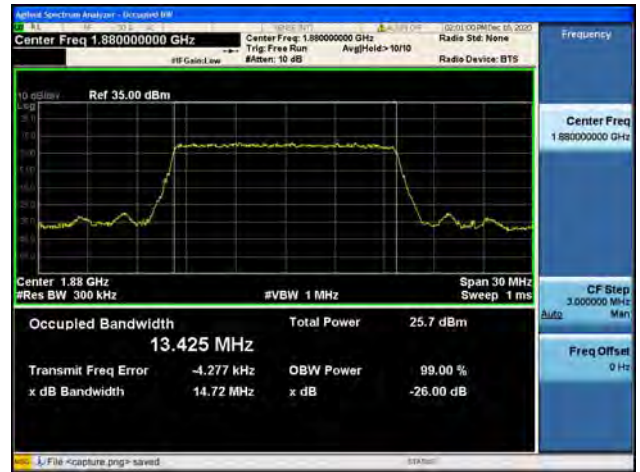
Band2 / 15MHz / Low CH / 16QAM



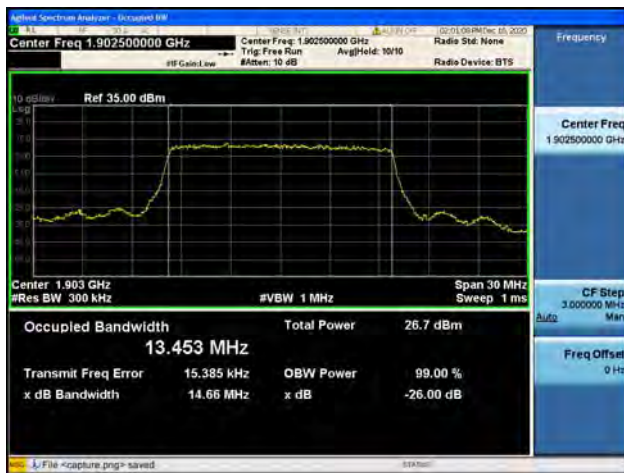
Band2 / 15MHz / Mid CH / QPSK



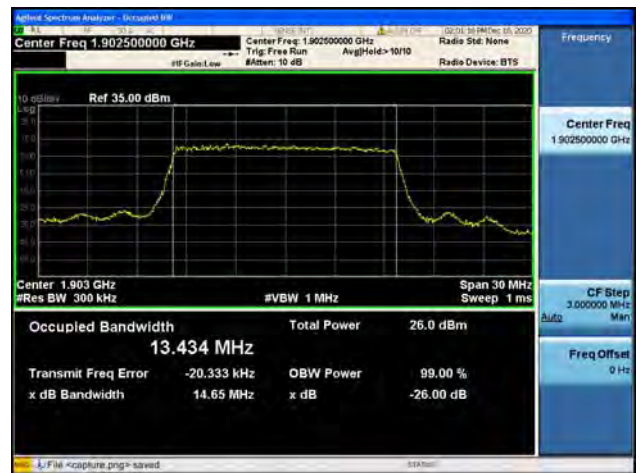
Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / High CH / QPSK



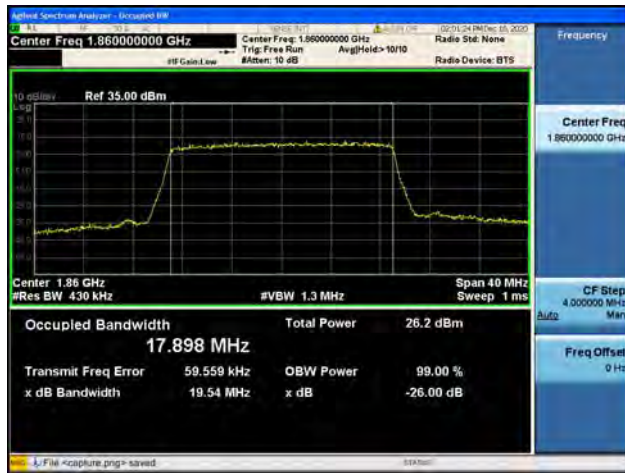
Band2 / 15MHz / High CH / 16QAM







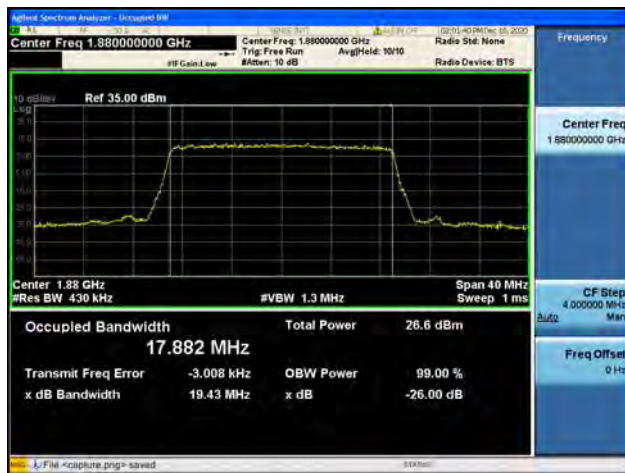
Band2 / 20MHz / Low CH / QPSK



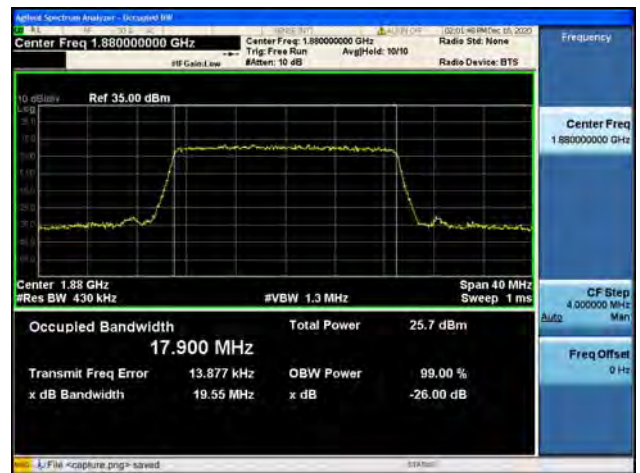
Band2 / 20MHz / Low CH / 16QAM



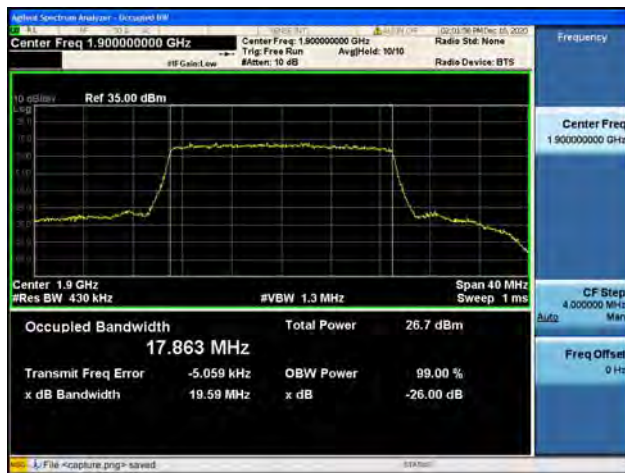
Band2 / 20MHz / Mid CH / QPSK



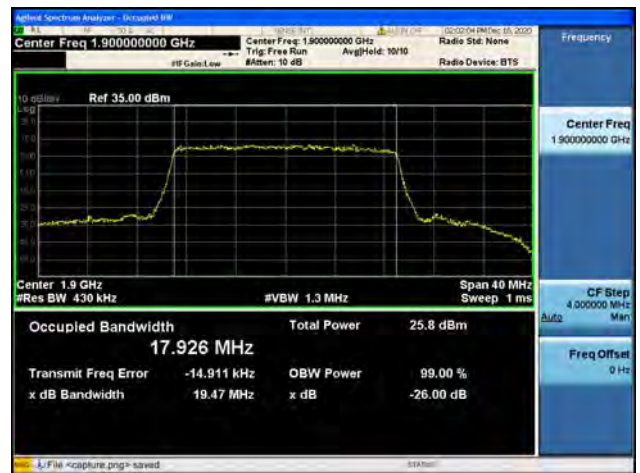
Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / High CH / QPSK



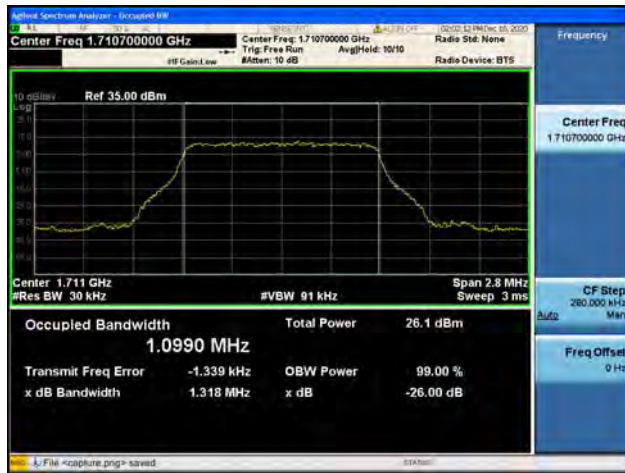
Band2 / 20MHz / High CH / 16QAM



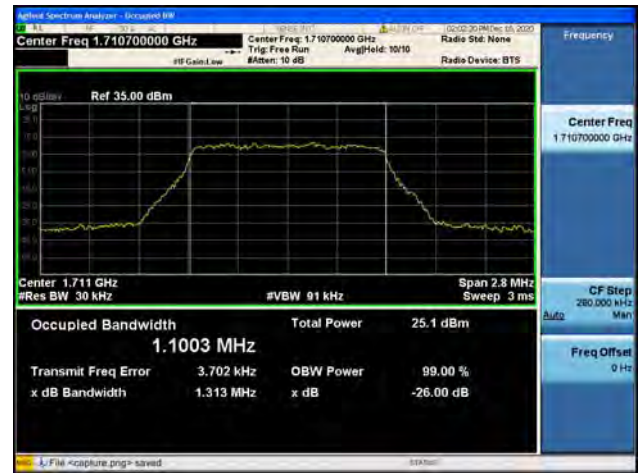




Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Mid CH / QPSK



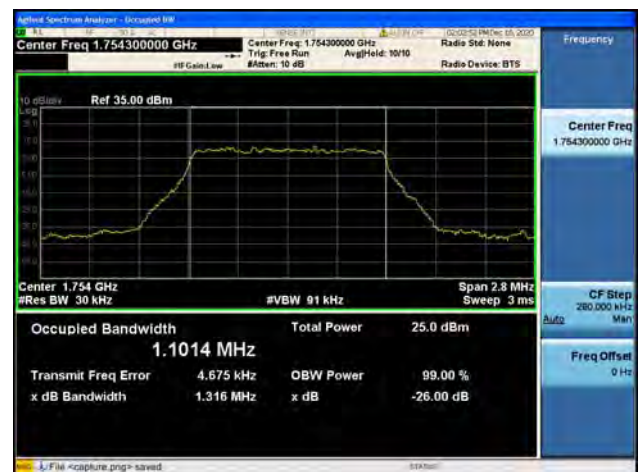
Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / High CH / QPSK

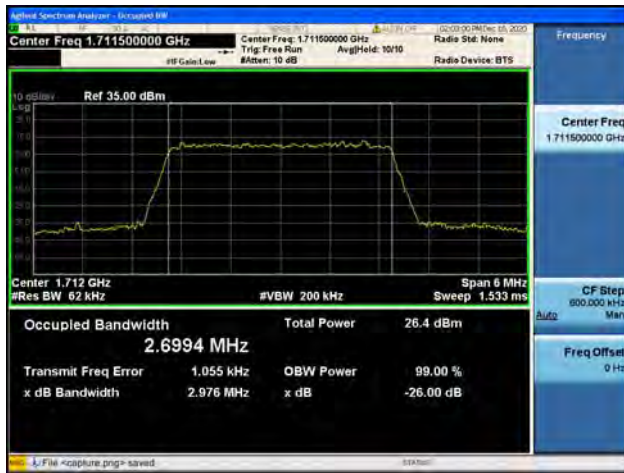


Band4 / 1.4MHz / High CH / 16QAM

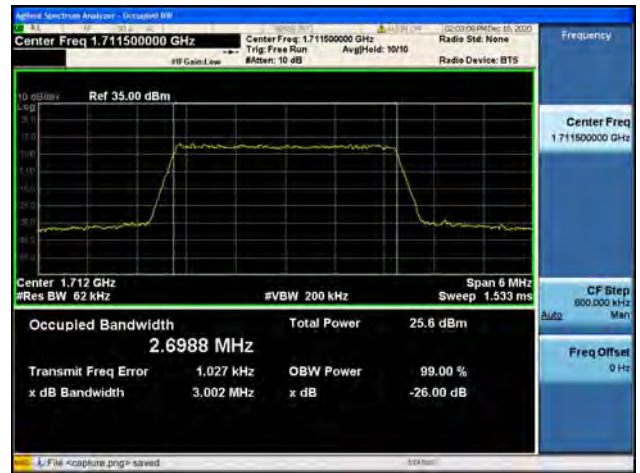




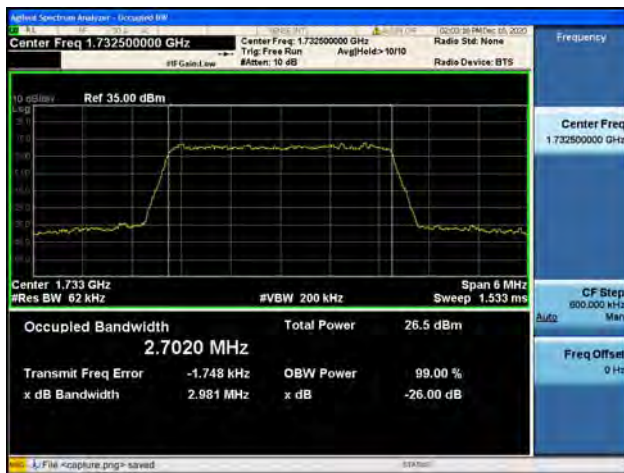
Band4 / 3MHz / Low CH / QPSK



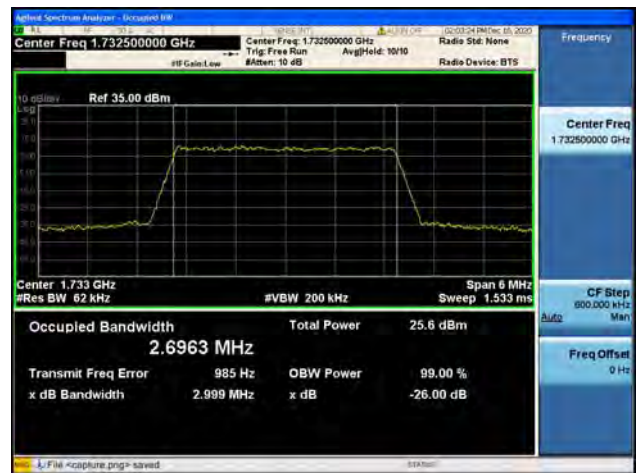
Band4 / 3MHz / Low CH / 16QAM



Band4 / 3MHz / Mid CH / QPSK



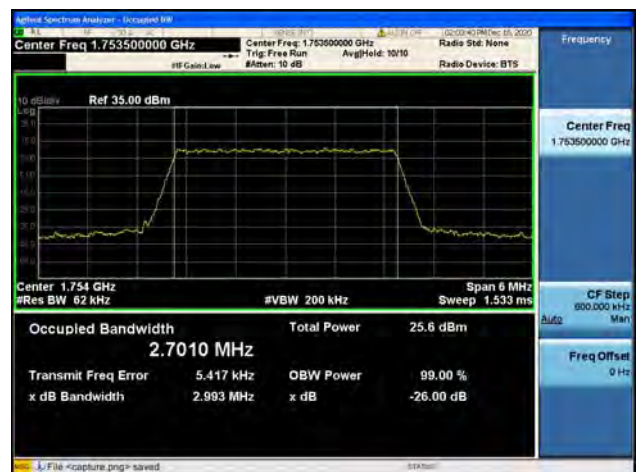
Band4 / 3MHz / Mid CH / 16QAM



Band4 / 3MHz / High CH / QPSK



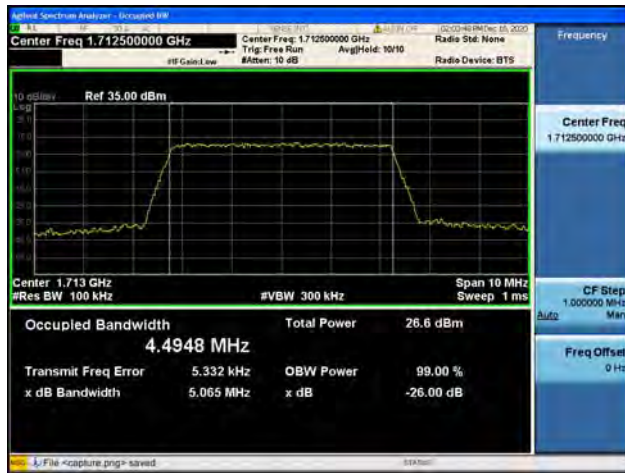
Band4 / 3MHz / High CH / 16QAM







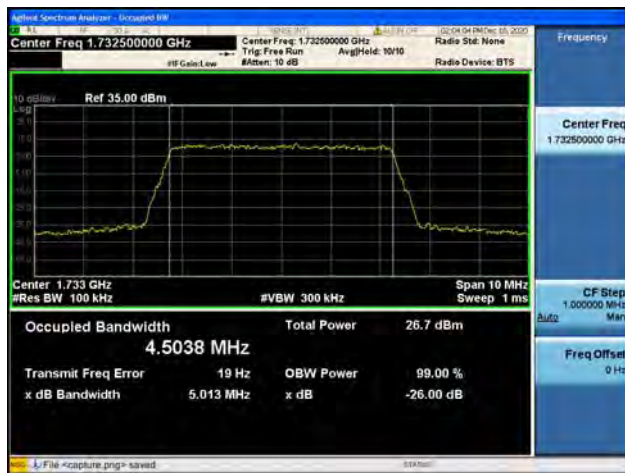
Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



Band4 / 5MHz / Mid CH / QPSK



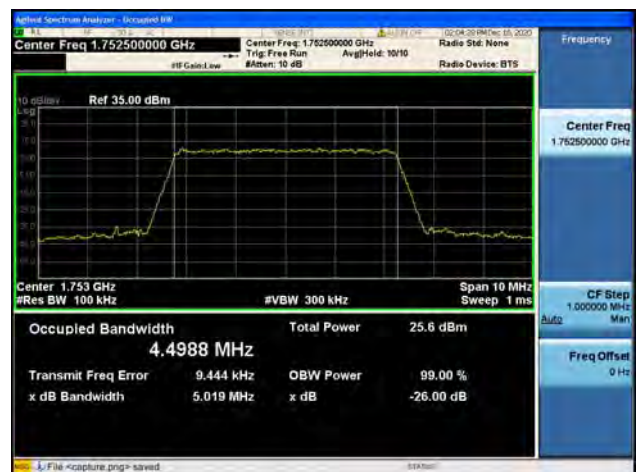
Band4 / 5MHz / Mid CH / 16QAM



Band4 / 5MHz / High CH / QPSK

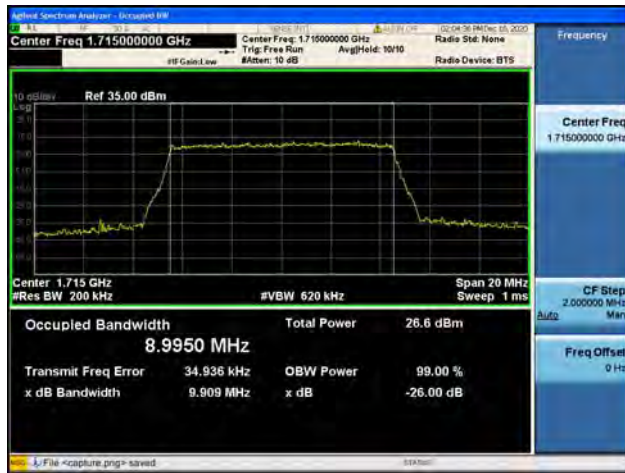


Band4 / 5MHz / High CH / 16QAM

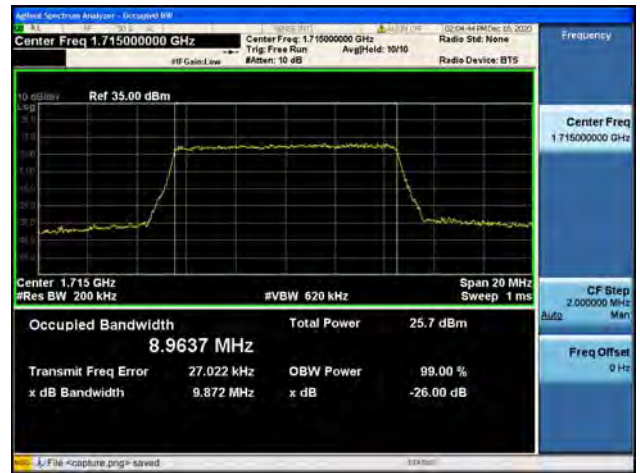




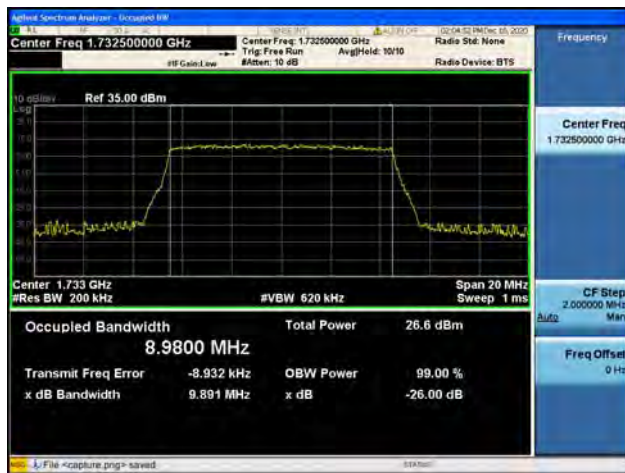
Band4 / 10MHz / Low CH / QPSK



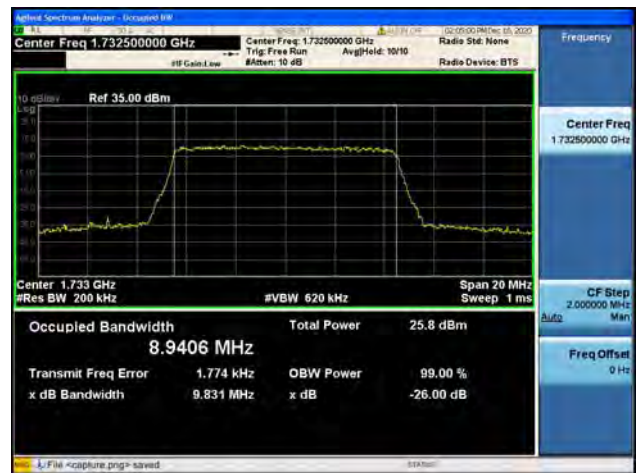
Band4 / 10MHz / Low CH / 16QAM



Band4 / 10MHz / Mid CH / QPSK



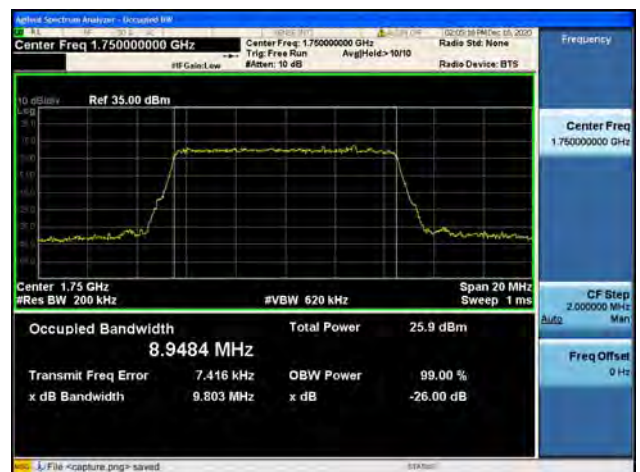
Band4 / 10MHz / Mid CH / 16QAM



Band4 / 10MHz / High CH / QPSK



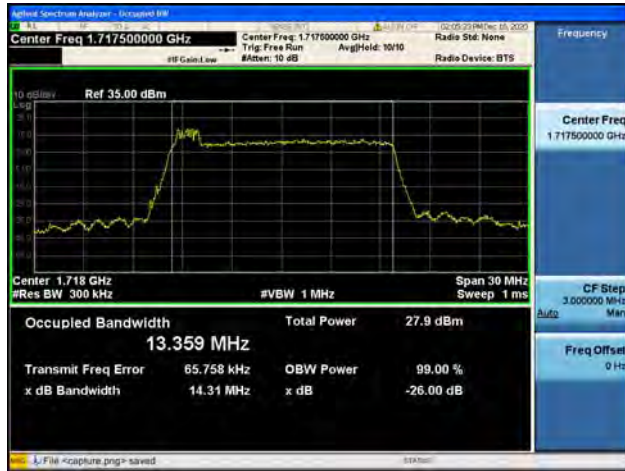
Band4 / 10MHz / High CH / 16QAM



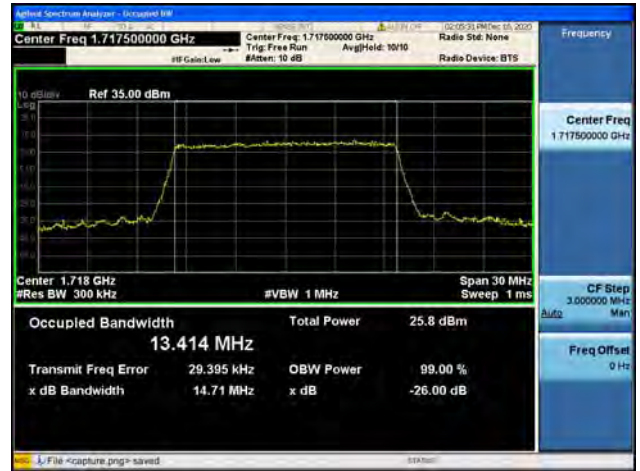




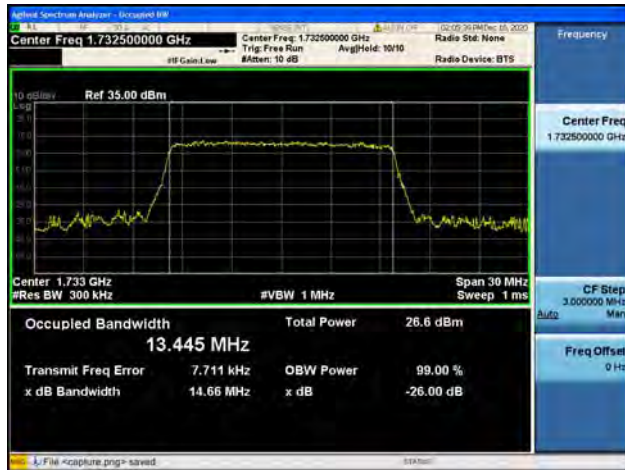
Band4 / 15MHz / Low CH / QPSK



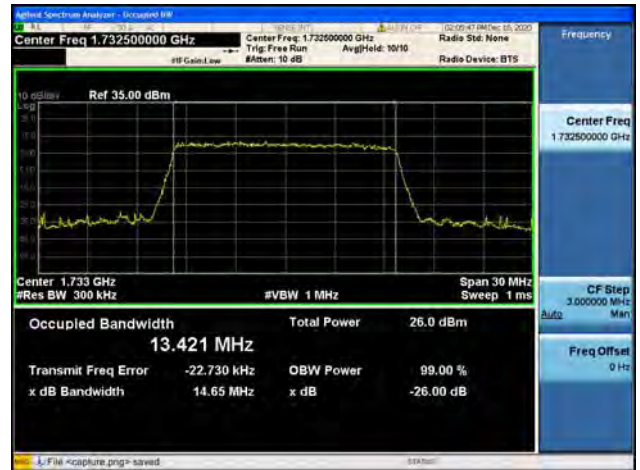
Band4 / 15MHz / Low CH / 16QAM



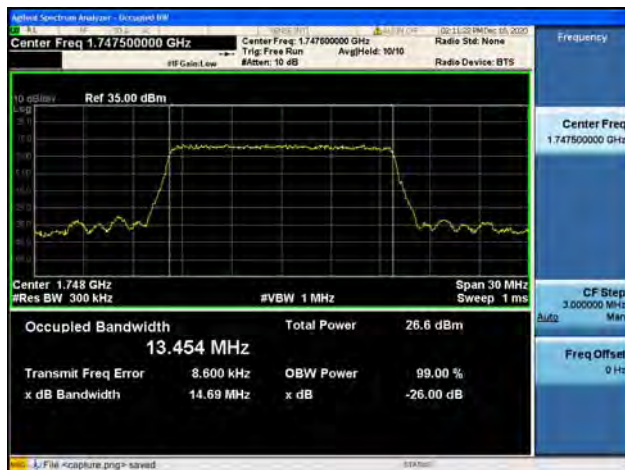
Band4 / 15MHz / Mid CH / QPSK



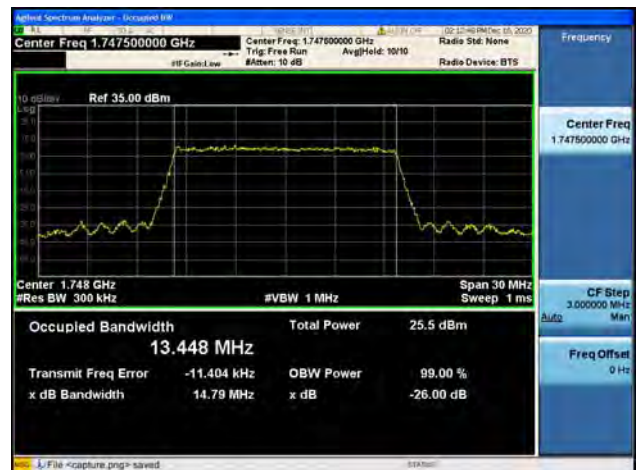
Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / High CH / QPSK

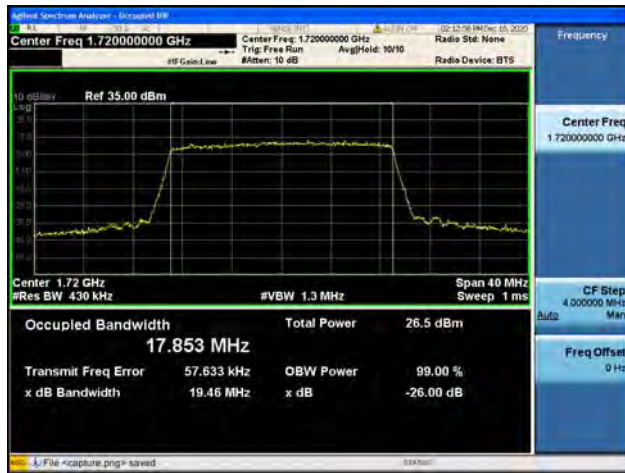


Band4 / 15MHz / High CH / 16QAM





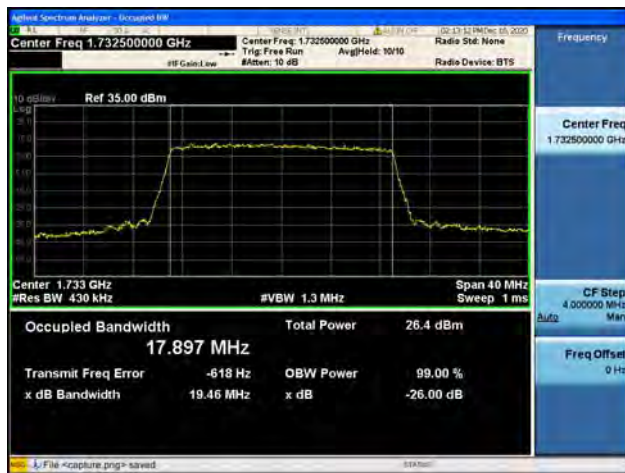
Band4 / 20MHz / Low CH / QPSK



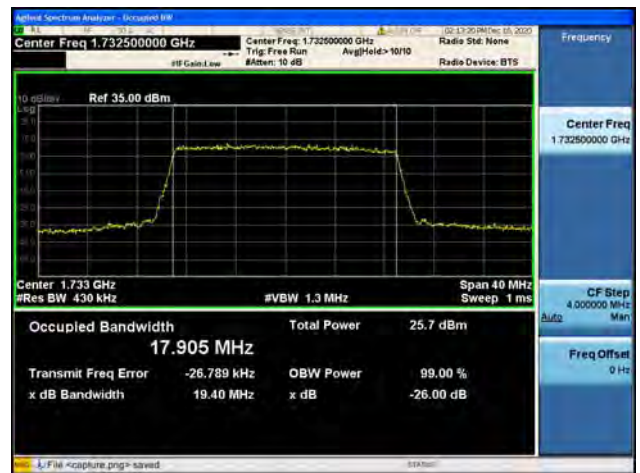
Band4 / 20MHz / Low CH / 16QAM



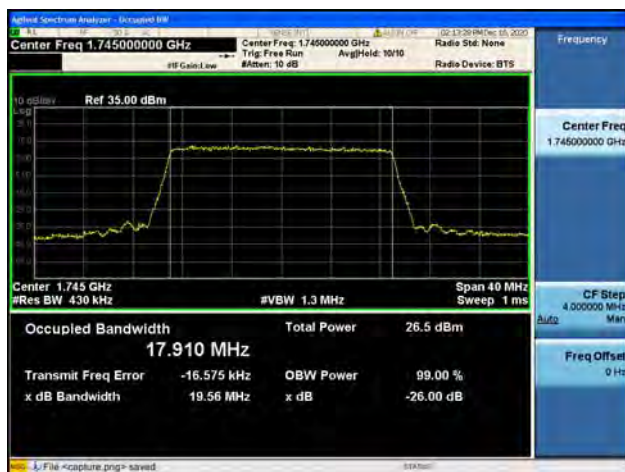
Band4 / 20MHz / Mid CH / QPSK



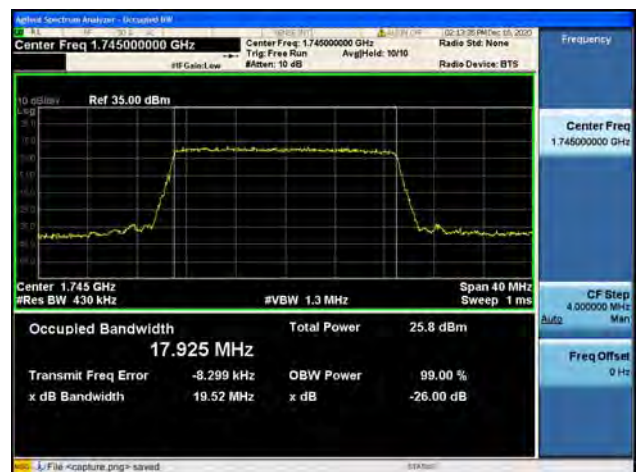
Band4 / 20MHz / Mid CH / 16QAM



Band4 / 20MHz / High CH / QPSK



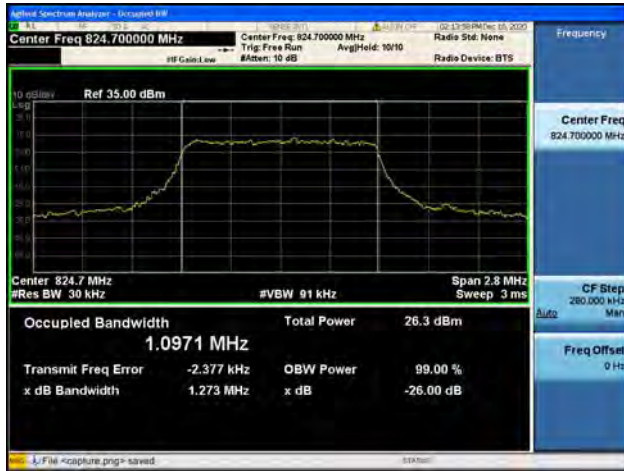
Band4 / 20MHz / High CH / 16QAM







Band5 / 1.4MHz / Low CH / QPSK



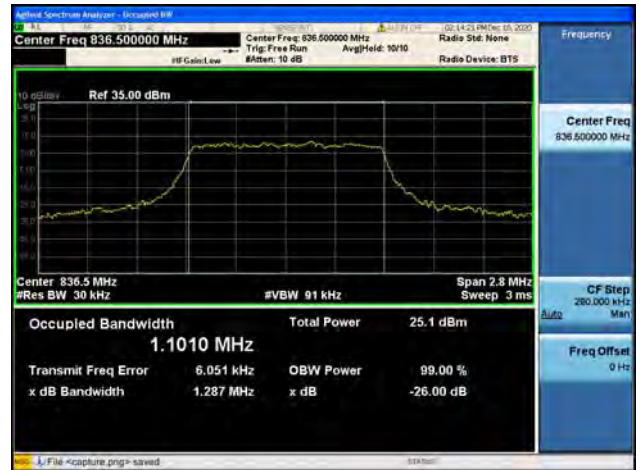
Band5 / 1.4MHz / Low CH / 16QAM



Band5 / 1.4MHz / Mid CH / QPSK



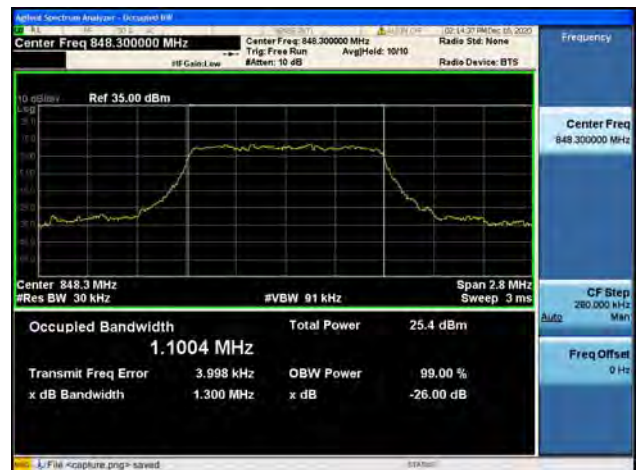
Band5 / 1.4MHz / Mid CH / 16QAM



Band5 / 1.4MHz / High CH / QPSK

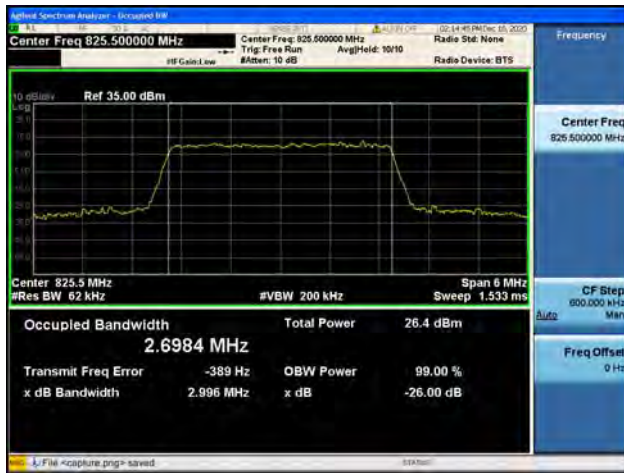


Band5 / 1.4MHz / High CH / 16QAM





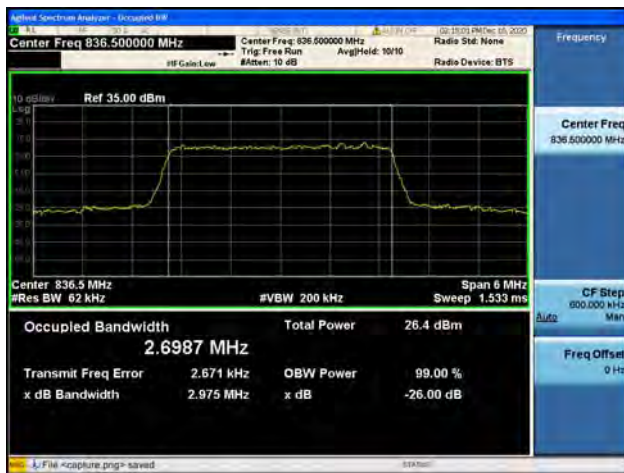
Band5 / 3MHz / Low CH / QPSK



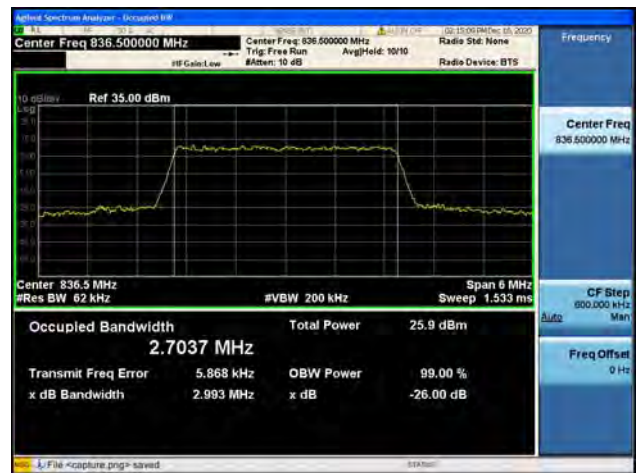
Band5 / 3MHz / Low CH / 16QAM



Band5 / 3MHz / Mid CH / QPSK



Band5 / 3MHz / Mid CH / 16QAM



Band5 / 3MHz / High CH / QPSK



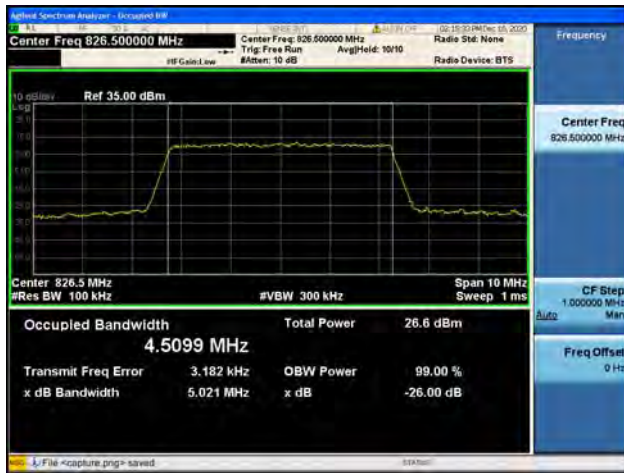
Band5 / 3MHz / High CH / 16QAM







Band5 / 5MHz / Low CH / QPSK



Band5 / 5MHz / Low CH / 16QAM



Band5 / 5MHz / Mid CH / QPSK



Band5 / 5MHz / Mid CH / 16QAM



Band5 / 5MHz / High CH / QPSK

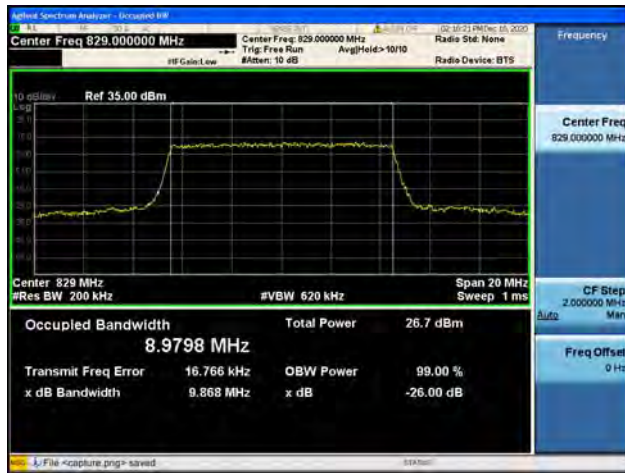


Band5 / 5MHz / High CH / 16QAM

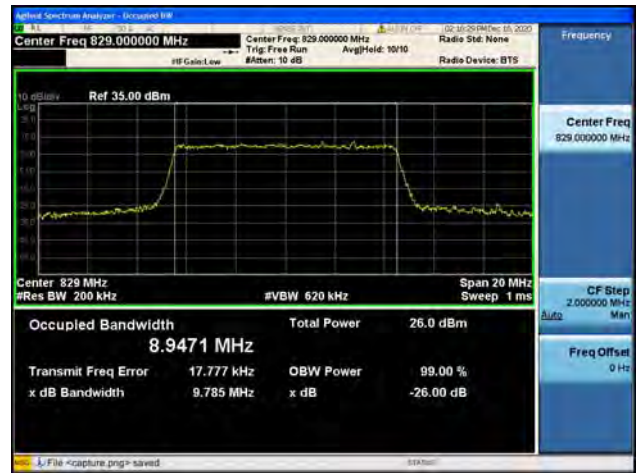




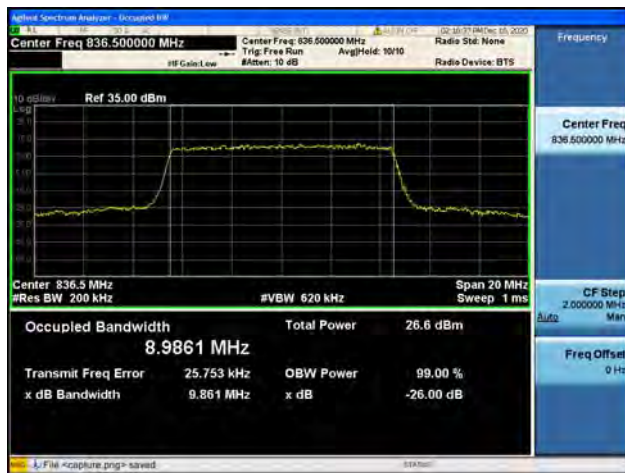
Band5 / 10MHz / Low CH / QPSK



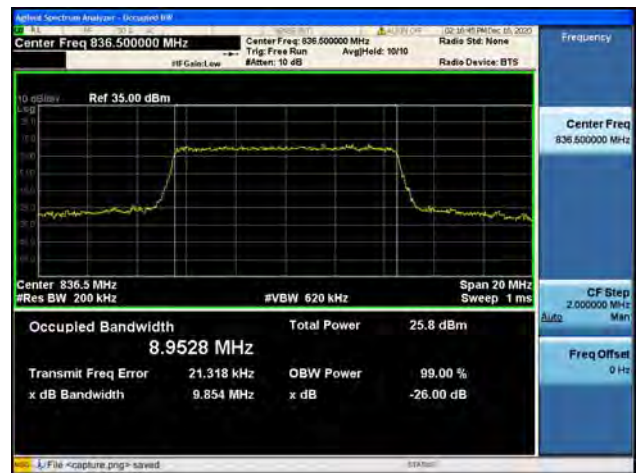
Band5 / 10MHz / Low CH / 16QAM



Band5 / 10MHz / Mid CH / QPSK



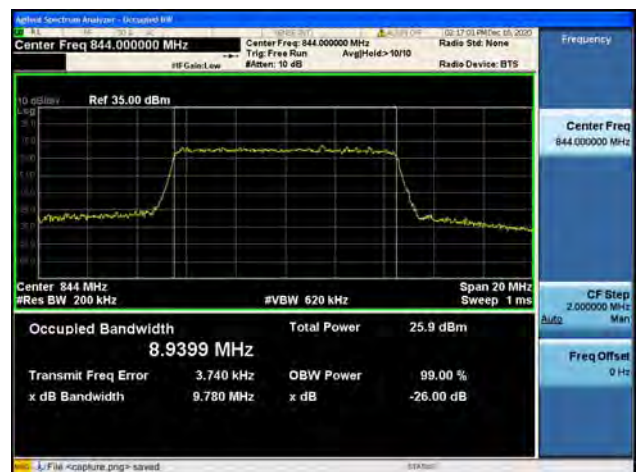
Band5 / 10MHz / Mid CH / 16QAM



Band5 / 10MHz / High CH / QPSK



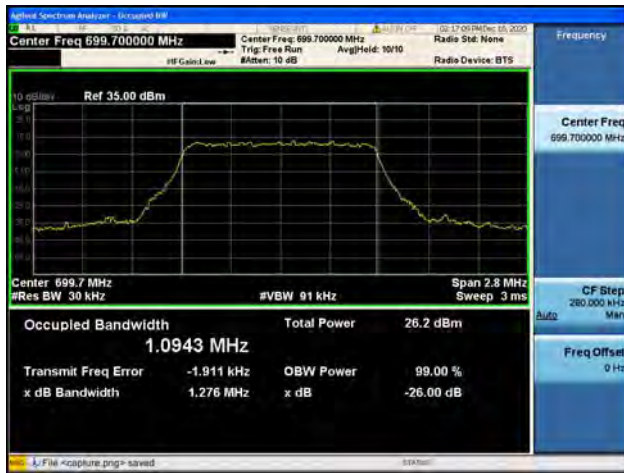
Band5 / 10MHz / High CH / 16QAM



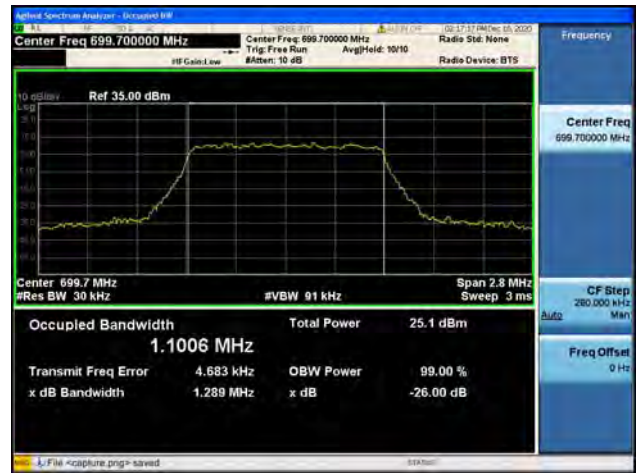




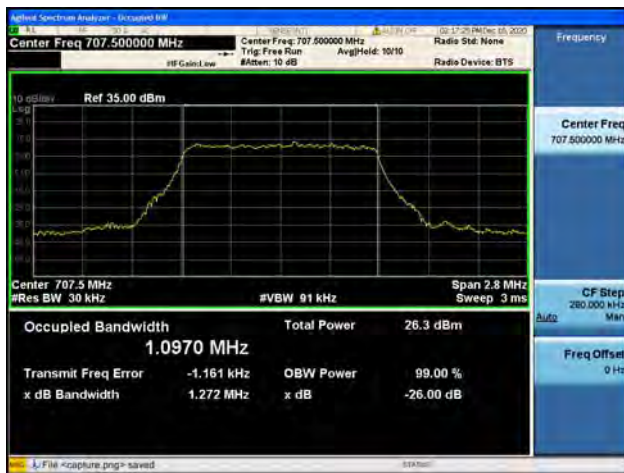
Band12 / 1.4MHz / Low CH / QPSK



Band12 / 1.4MHz / Low CH / 16QAM



Band12 / 1.4MHz / Mid CH / QPSK



Band12 / 1.4MHz / Mid CH / 16QAM



Band12 / 1.4MHz / High CH / QPSK

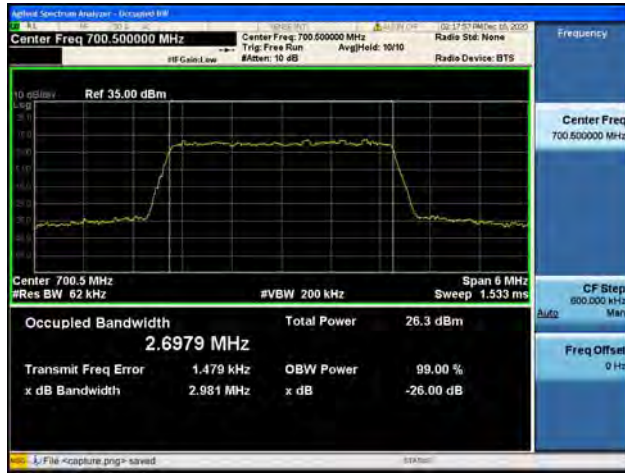


Band12 / 1.4MHz / High CH / 16QAM





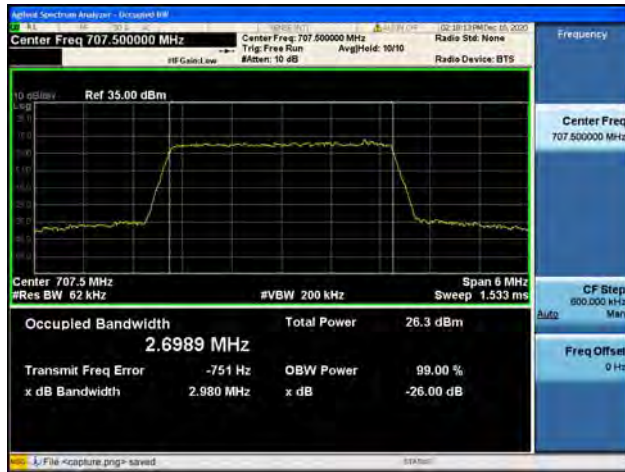
Band12 / 3MHz / Low CH / QPSK



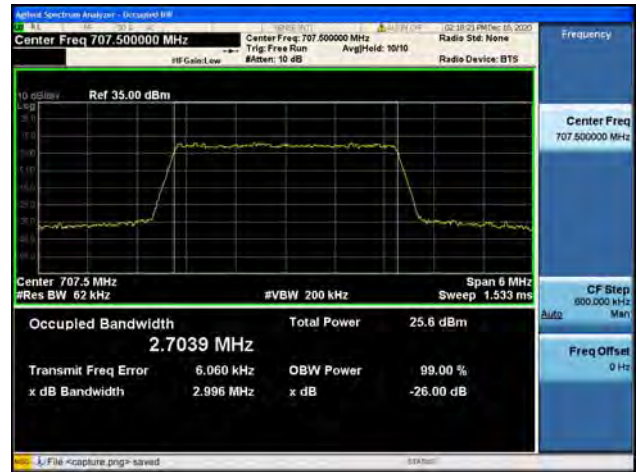
Band12 / 3MHz / Low CH / 16QAM



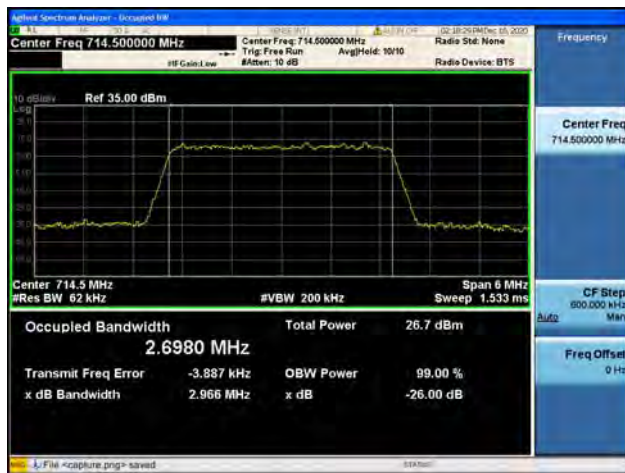
Band12 / 3MHz / Mid CH / QPSK



Band12 / 3MHz / Mid CH / 16QAM



Band12 / 3MHz / High CH / QPSK



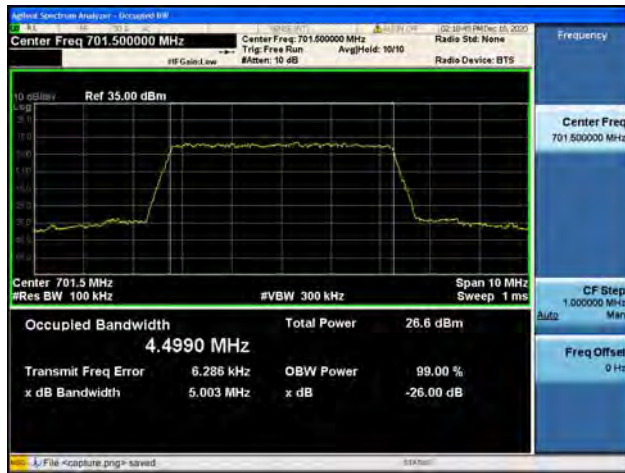
Band12 / 3MHz / High CH / 16QAM



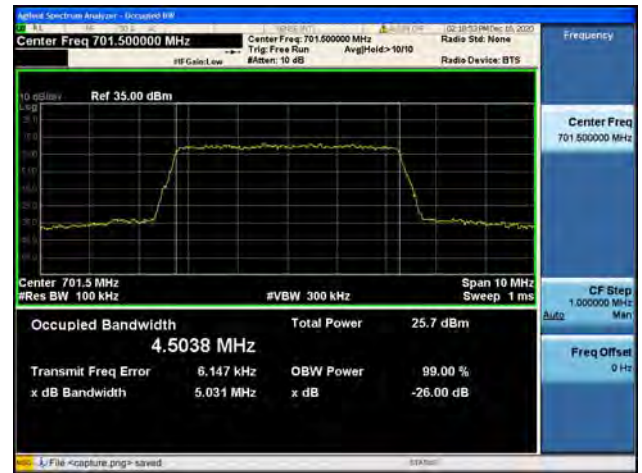




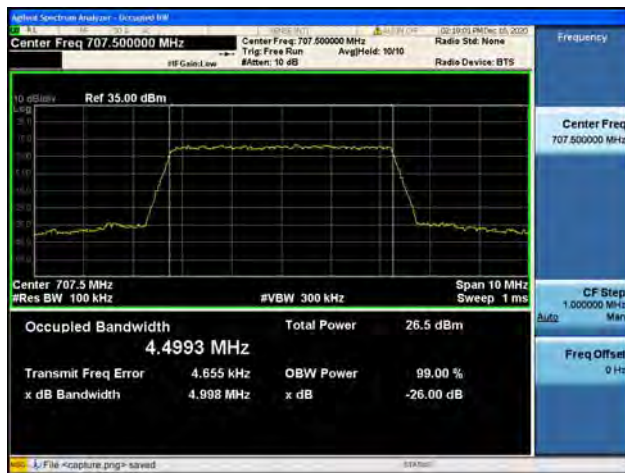
Band12 / 5MHz / Low CH / QPSK



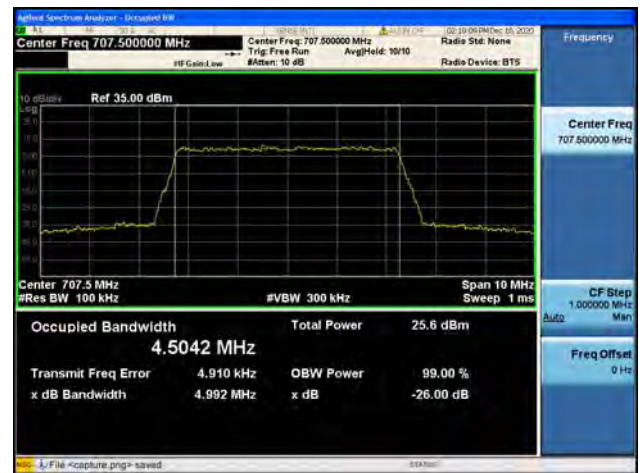
Band12 / 5MHz / Low CH / 16QAM



Band12 / 5MHz / Mid CH / QPSK



Band12 / 5MHz / Mid CH / 16QAM



Band12 / 5MHz / High CH / QPSK

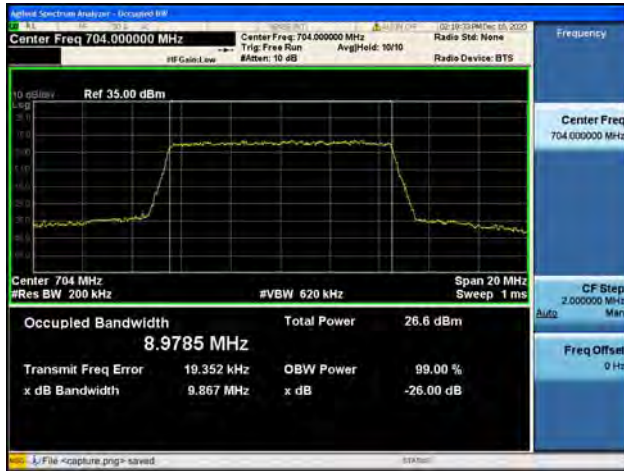


Band12 / 5MHz / High CH / 16QAM

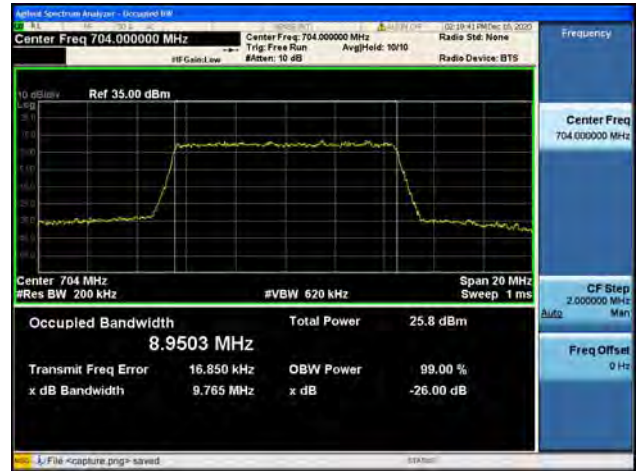




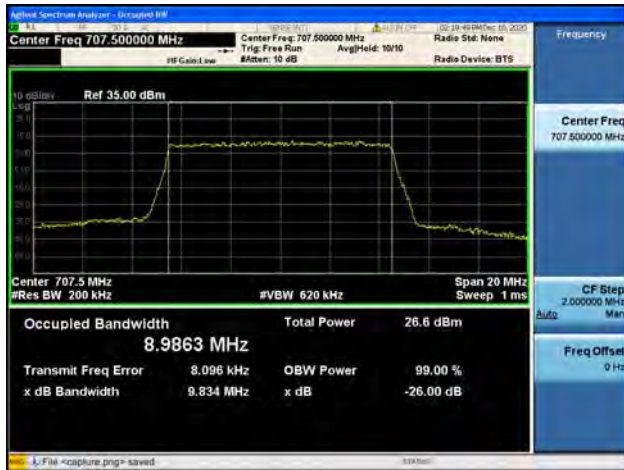
Band12 / 10MHz / Low CH / QPSK



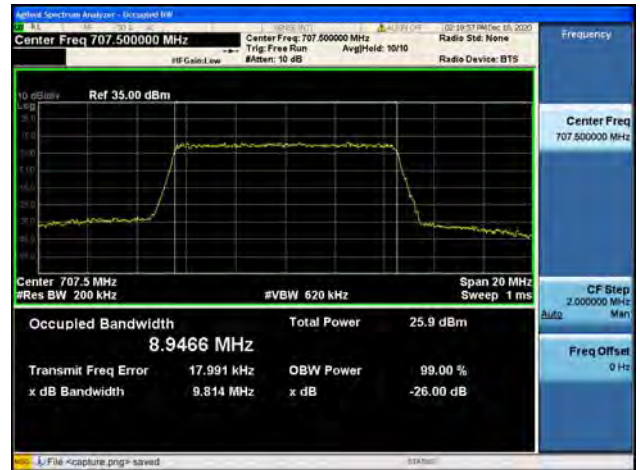
Band12 / 10MHz / Low CH / 16QAM



Band12 / 10MHz / Mid CH / QPSK



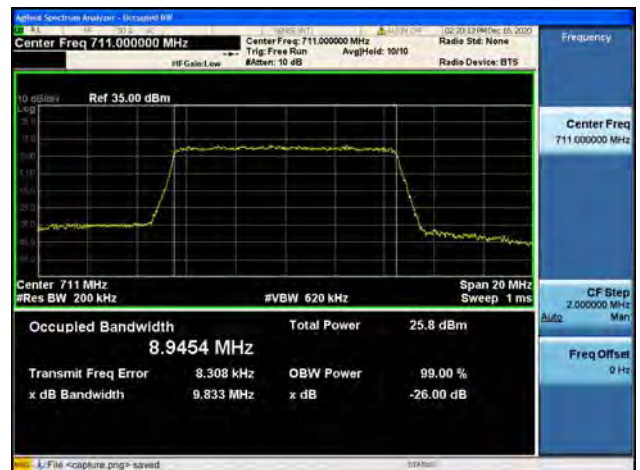
Band12 / 10MHz / Mid CH / 16QAM



Band12 / 10MHz / High CH / QPSK



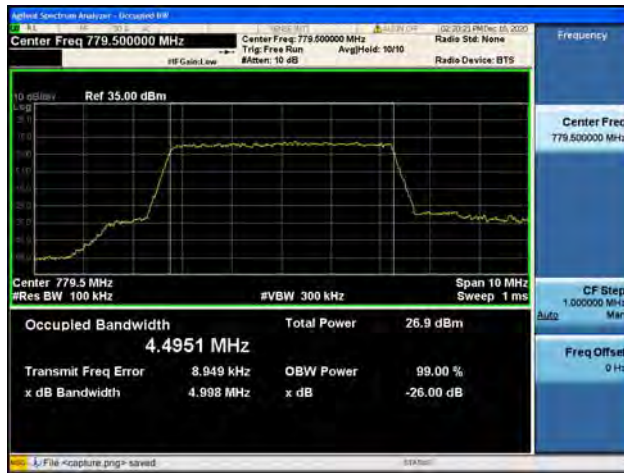
Band12 / 10MHz / High CH / 16QAM



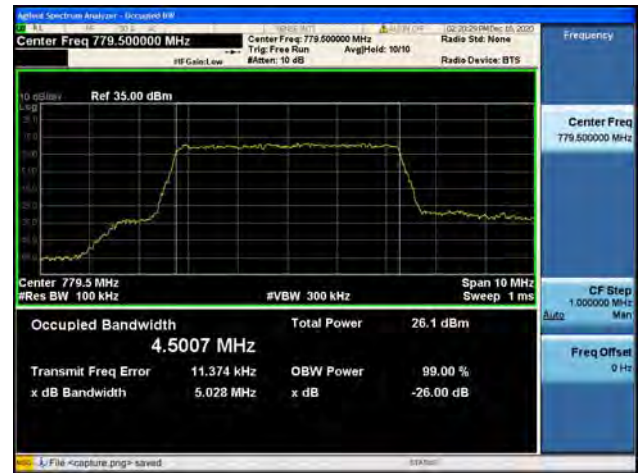




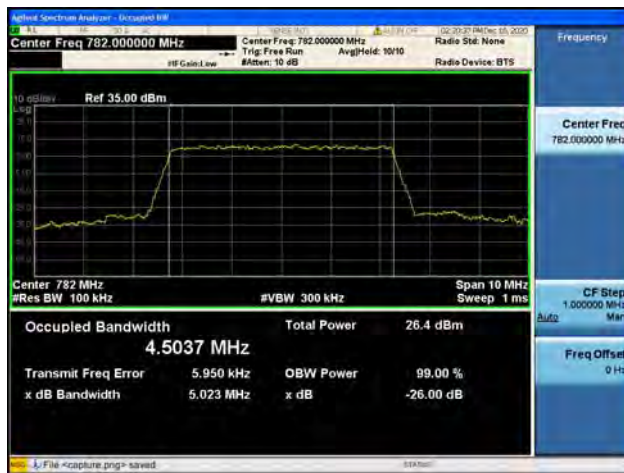
Band13 / 5MHz / Low CH / QPSK



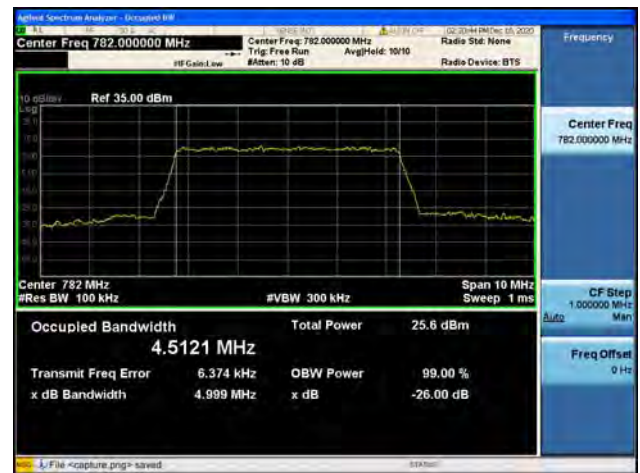
Band13 / 5MHz / Low CH / 16QAM



Band13 / 5MHz / Mid CH / QPSK



Band13 / 5MHz / Mid CH / 16QAM



Band13 / 5MHz / High CH / QPSK



Band13 / 5MHz / High CH / 16QAM





Band13 / 10MHz / Low CH / QPSK



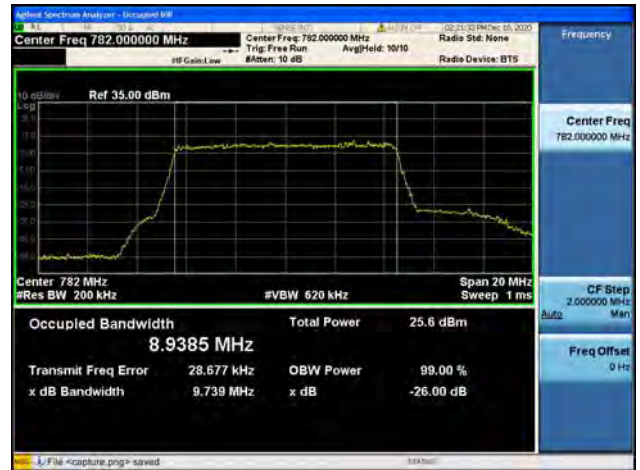
Band13 / 10MHz / Low CH / 16QAM



Band13 / 10MHz / Mid CH / QPSK



Band13 / 10MHz / Mid CH / 16QAM



Band13 / 10MHz / High CH / QPSK



Band13 / 10MHz / High CH / 16QAM



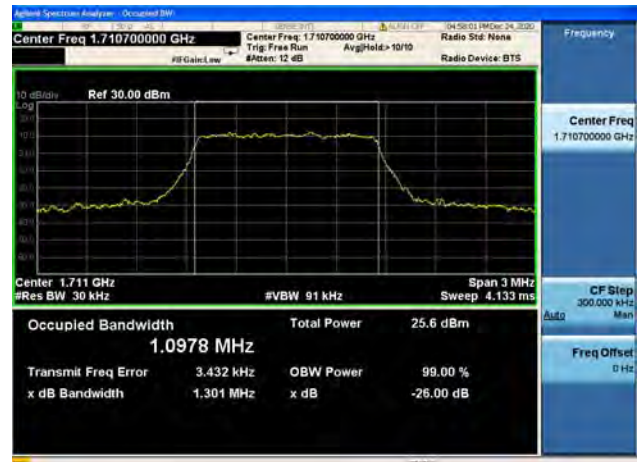




Band66 / 1.4MHz / Low CH / QPSK



Band66 / 1.4MHz / Low CH / 16QAM



Band66 / 1.4MHz / Mid CH / QPSK



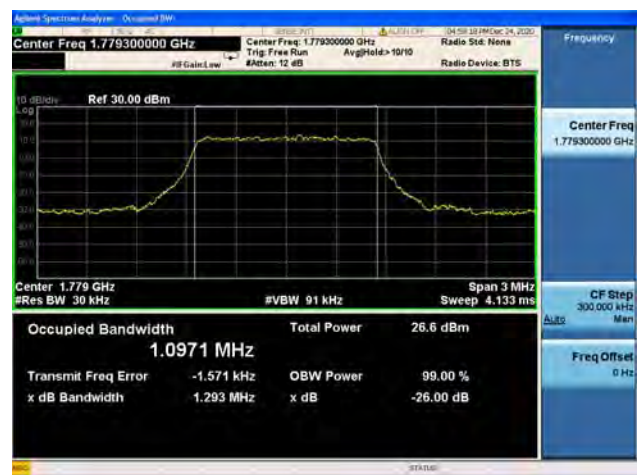
Band66 / 1.4MHz / Mid CH / 16QAM



Band66 / 1.4MHz / High CH / QPSK

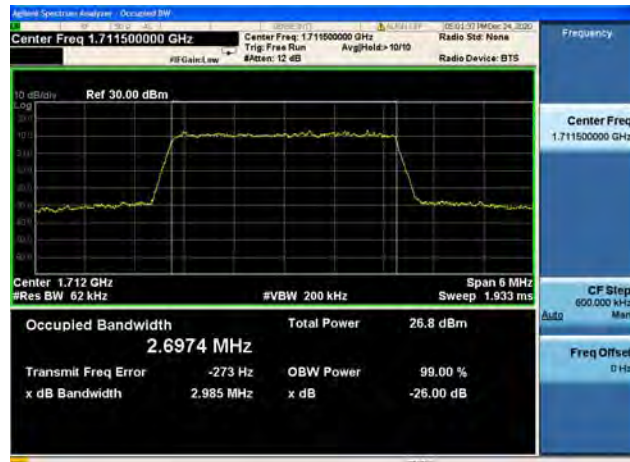


Band66 / 1.4MHz / High CH / 16QAM





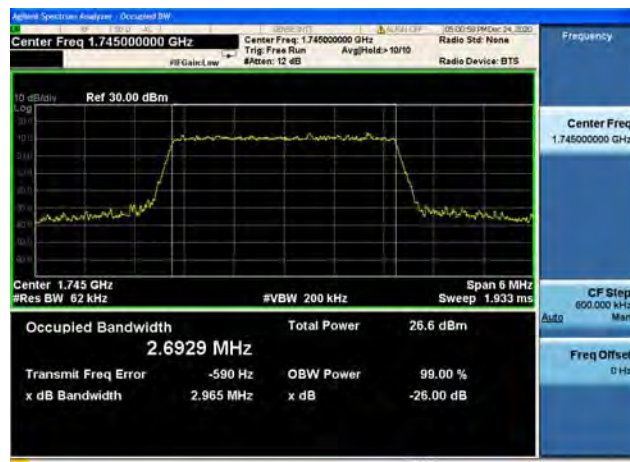
Band66 / 3MHz / Low CH / QPSK



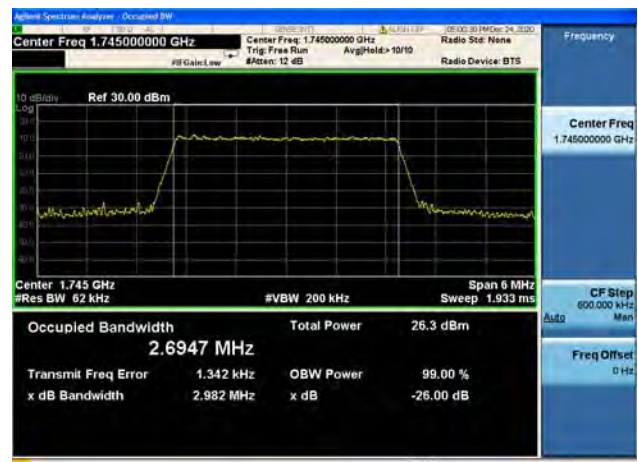
Band66 / 3MHz / Low CH / 16QAM



Band66 / 3MHz / Mid CH / QPSK



Band66 / 3MHz / Mid CH / 16QAM



Band66 / 3MHz / High CH / QPSK



Band66 / 3MHz / High CH / 16QAM







Band66 / 5MHz / Low CH / QPSK



Band66 / 5MHz / Low CH / 16QAM



Band66 / 5MHz / Mid CH / QPSK



Band66 / 5MHz / Mid CH / 16QAM



Band66 / 5MHz / High CH / QPSK



Band66 / 5MHz / High CH / 16QAM





Band66 / 10MHz / Low CH / QPSK



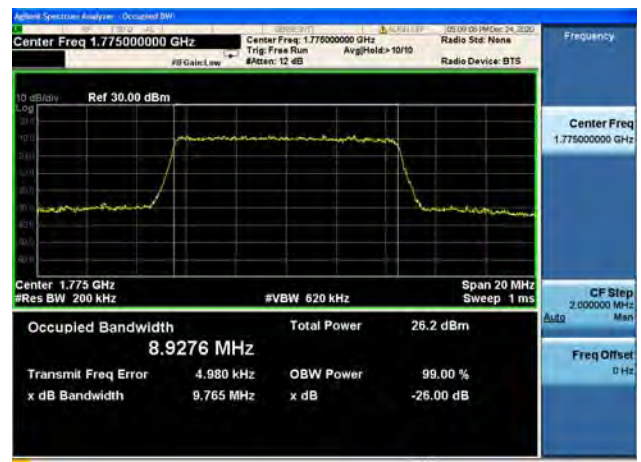
Band66 / 10MHz / Low CH / 16QAM



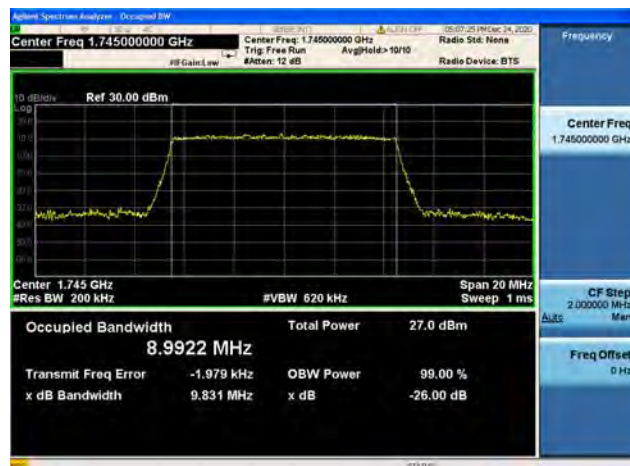
Band66 / 10MHz / Mid CH / QPSK



Band66 / 10MHz / Mid CH / 16QAM



Band66 / 10MHz / High CH / QPSK



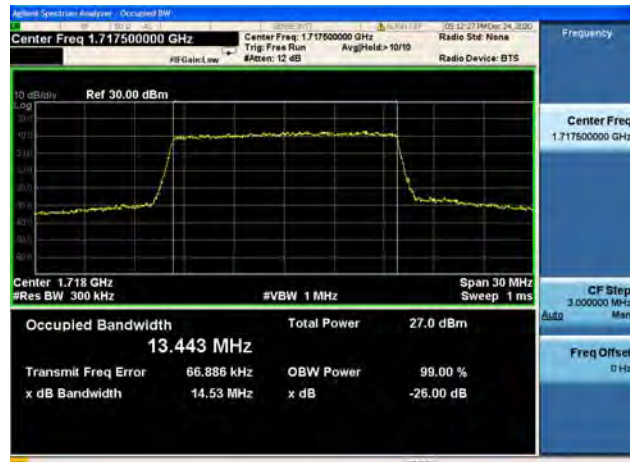
Band66 / 10MHz / High CH / 16QAM







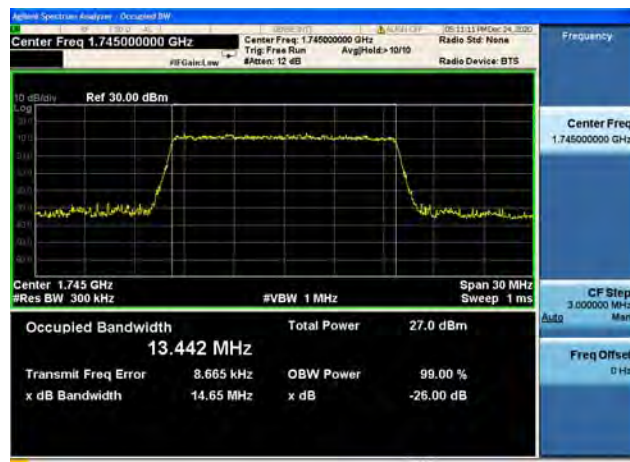
Band66 / 15MHz / Low CH / QPSK



Band66 / 15MHz / Low CH / 16QAM



Band66 / 15MHz / Mid CH / QPSK



Band66 / 15MHz / Mid CH / 16QAM



Band66 / 15MHz / High CH / QPSK



Band66 / 15MHz / High CH / 16QAM





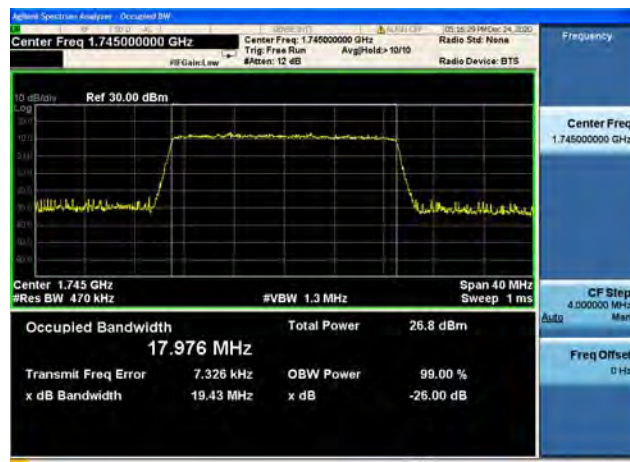
Band66 / 20MHz / Low CH / QPSK



Band66 / 20MHz / Low CH / 16QAM



Band66 / 20MHz / Mid CH / QPSK



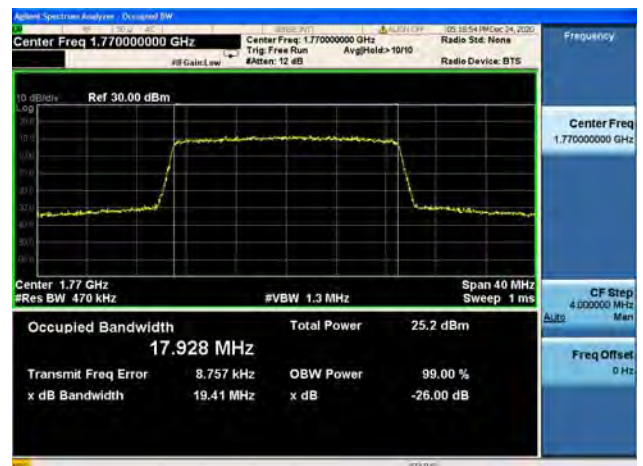
Band66 / 20MHz / Mid CH / 16QAM



Band66 / 20MHz / High CH / QPSK



Band66 / 20MHz / High CH / 16QAM







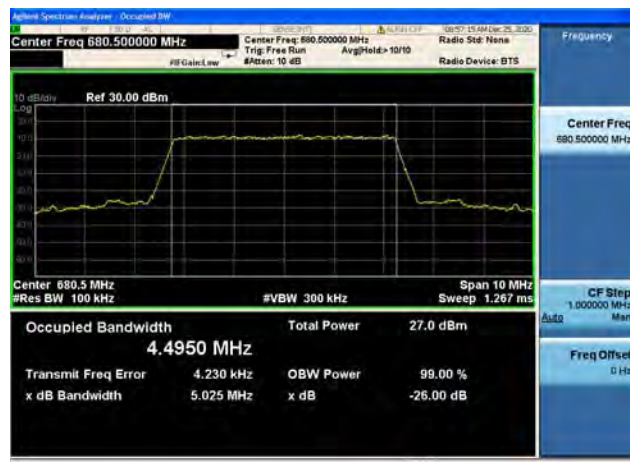
Band71 / 5MHz / Low CH / QPSK



Band71 / 5MHz / Low CH / 16QAM



Band71 / 5MHz / Mid CH / QPSK



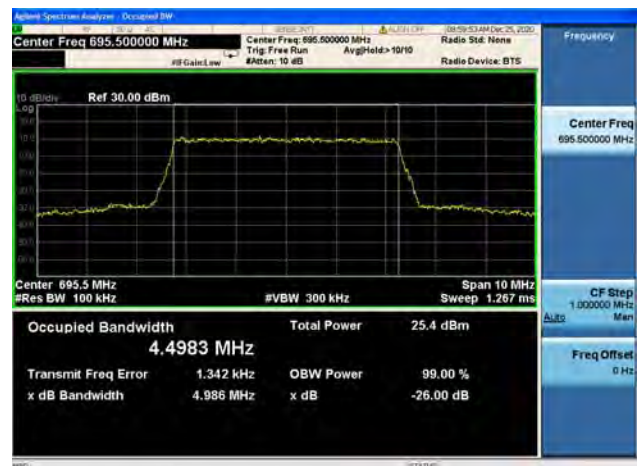
Band71 / 5MHz / Mid CH / 16QAM



Band71 / 5MHz / High CH / QPSK



Band71 / 5MHz / High CH / 16QAM









Band71 / 15MHz / Low CH / QPSK



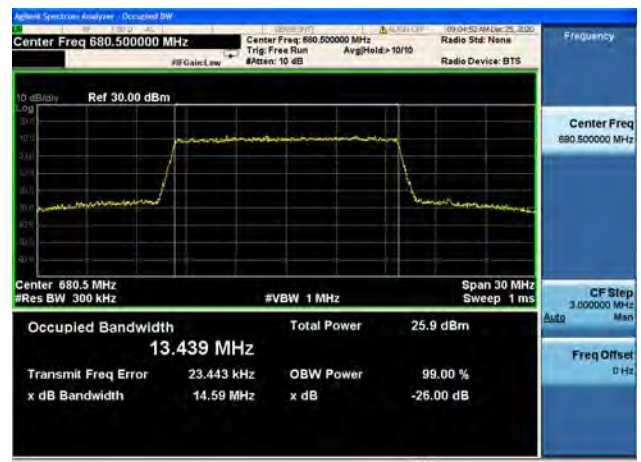
Band71 / 15MHz / Low CH / 16QAM



Band71 / 15MHz / Mid CH / QPSK



Band71 / 15MHz / Mid CH / 16QAM



Band71 / 15MHz / High CH / QPSK



Band71 / 15MHz / High CH / 16QAM





Band71 / 20MHz / Low CH / QPSK



Band71 / 20MHz / Low CH / 16QAM



Band71 / 20MHz / Mid CH / QPSK



Band71 / 20MHz / Mid CH / 16QAM



Band71 / 20MHz / High CH / QPSK



Band71 / 20MHz / High CH / 16QAM



## 2.3. Frequency Stability

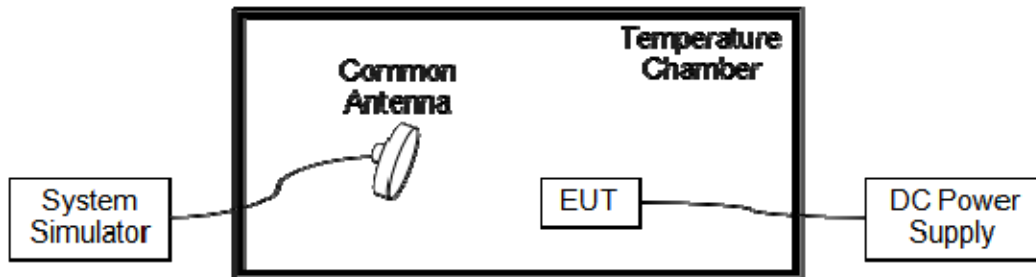
### 2.3.1. Requirement

According to FCC section 2.1055, 24.235, 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  at intervals of not more than  $10^{\circ}\text{C}$ .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

**Note:** The operating temperature of EUT is from  $-10^{\circ}\text{C}$  to  $55^{\circ}\text{C}$ , which are specified by the applicant.

### 2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

### 2.3.3. Test Procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.





**2.3.4. Test Result**

The nominal, highest and lowest extreme voltages are separately 3.87V, 4.45V and 3.00V, which are specified by the applicant; the normal temperature here used is 20°C.

<b>LTE Band 2, QPSK, Channel 18900, Frequency 1880.0MHz</b>					
<b>Limit =Within Authorized Band</b>					
<b>Voltage(%)</b>	<b>Power (VDC)</b>	<b>Temp(°C)</b>	<b>Fre. Dev.(Hz)</b>	<b>Deviation (ppm)</b>	<b>Result</b>
100	3.87	+20(Ref)	-12	-0.006	PASS
100		-10	25	0.013	
100		0	27	0.014	
100		+10	32	0.017	
100		+20	12	0.006	
100		+30	22	0.012	
100		+40	41	0.022	
100		+50	-38	-0.020	
100		+55	-33	-0.018	
115	4.45	+20	14	0.007	
85	3.00	+20	19	0.010	

<b>LTE Band 4, QPSK, Channel 20175, Frequency 1732.5MHz</b>					
<b>Limit =Within Authorized Band</b>					
<b>Voltage(%)</b>	<b>Power (VDC)</b>	<b>Temp(°C)</b>	<b>Fre. Dev.(Hz)</b>	<b>Deviation (ppm)</b>	<b>Result</b>
100	3.87	+20(Ref)	21	0.012	PASS
100		-10	29	0.017	
100		0	11	0.006	
100		+10	34	0.020	
100		+20	-34	-0.020	
100		+30	-19	-0.011	
100		+40	17	0.010	
100		+50	21	0.012	
100		+55	-45	-0.026	
115	4.45	+20	-24	-0.014	
85	3.00	+20	16	0.009	



LTE Band 5, QPSK, Channel 20525, Frequency 836.5MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	13	0.016	PASS
100		-10	-20	-0.024	
100		0	18	0.022	
100		+10	11	0.013	
100		+20	21	0.025	
100		+30	-34	-0.041	
100		+40	-28	-0.033	
100		+50	22	0.026	
100		+55	-42	-0.050	
115		4.45	+20	21	
85	3.00	+20	11	0.013	

LTE Band 12, QPSK, Channel 23095, Frequency 707.5MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	17	0.024	PASS
100		-10	-14	-0.020	
100		0	28	0.040	
100		+10	-26	-0.037	
100		+20	50	0.071	
100		+30	-17	-0.024	
100		+40	47	0.066	
100		+50	15	0.021	
100		+55	41	0.058	
115		4.45	+20	21	
85	3.00	+20	10	0.014	



LTE Band 13, QPSK, Channel 23230, Frequency 782MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	21	0.027	PASS
100		-10	-12	-0.015	
100		0	16	0.020	
100		+10	33	0.042	
100		+20	-26	-0.033	
100		+30	13	0.017	
100		+40	-30	-0.038	
100		+50	27	0.035	
100		+55	10	0.013	
115		4.45	+20	12	
85	3.00	+20	15	0.019	

LTE Band 66, QPSK, Channel 132322, Frequency 1745.0MHz Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	18	0.010	PASS
100		-10	15	0.009	
100		0	29	0.017	
100		+10	33	0.019	
100		+20	13	0.007	
100		+30	21	0.012	
100		+40	-16	-0.009	
100		+50	30	0.017	
100		+55	10	0.006	
115		4.45	+20	12	
85	3.00	+20	21	0.012	





LTE Band 71, QPSK, Channel 133297, Frequency 680.5MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.87	+20(Ref)	20	0.029	PASS
100		-10	39	0.057	
100		0	14	0.021	
100		+10	18	0.026	
100		+20	32	0.047	
100		+30	45	0.066	
100		+40	-16	-0.024	
100		+50	30	0.044	
100		+55	57	0.084	
115		4.45	+20	11	
85	3.00	+20	36	0.053	

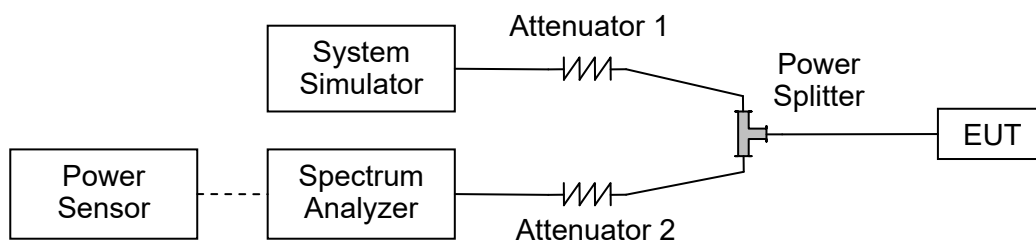
## 2.4. Peak to Average Ratio

### 2.4.1. Requirement

According to FCC section 24.232(d) and 27.50(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

### 2.4.2. Test Description

#### Test Set:



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.

### 2.4.3. Test Procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

### 2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.



LTE Band 2					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.23	<=13	PASS
	Low	16QAM	4.92	<=13	PASS
	Mid	QPSK	3.98	<=13	PASS
	Mid	16QAM	4.79	<=13	PASS
	High	QPSK	4.05	<=13	PASS
	High	16QAM	4.76	<=13	PASS
3	Low	QPSK	4.47	<=13	PASS
	Low	16QAM	5.24	<=13	PASS
	Mid	QPSK	4.27	<=13	PASS
	Mid	16QAM	5.05	<=13	PASS
	High	QPSK	4.30	<=13	PASS
	High	16QAM	5.07	<=13	PASS
5	Low	QPSK	4.41	<=13	PASS
	Low	16QAM	5.10	<=13	PASS
	Mid	QPSK	4.34	<=13	PASS
	Mid	16QAM	5.00	<=13	PASS
	High	QPSK	4.28	<=13	PASS
	High	16QAM	4.97	<=13	PASS
10	Low	QPSK	4.45	<=13	PASS
	Low	16QAM	5.20	<=13	PASS
	Mid	QPSK	4.38	<=13	PASS
	Mid	16QAM	5.12	<=13	PASS
	High	QPSK	4.24	<=13	PASS
	High	16QAM	5.05	<=13	PASS
15	Low	QPSK	4.27	<=13	PASS
	Low	16QAM	5.05	<=13	PASS
	Mid	QPSK	4.19	<=13	PASS
	Mid	16QAM	4.98	<=13	PASS
	High	QPSK	4.01	<=13	PASS
	High	16QAM	4.88	<=13	PASS
20	Low	QPSK	4.35	<=13	PASS
	Low	16QAM	5.13	<=13	PASS
	Mid	QPSK	4.30	<=13	PASS
	Mid	16QAM	5.11	<=13	PASS
	High	QPSK	4.23	<=13	PASS
	High	16QAM	5.01	<=13	PASS



LTE Band 4					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.30	<=13	PASS
	Low	16QAM	5.02	<=13	PASS
	Mid	QPSK	4.32	<=13	PASS
	Mid	16QAM	4.98	<=13	PASS
	High	QPSK	4.29	<=13	PASS
	High	16QAM	4.94	<=13	PASS
3	Low	QPSK	4.60	<=13	PASS
	Low	16QAM	5.31	<=13	PASS
	Mid	QPSK	4.56	<=13	PASS
	Mid	16QAM	5.35	<=13	PASS
	High	QPSK	4.49	<=13	PASS
	High	16QAM	5.26	<=13	PASS
5	Low	QPSK	4.46	<=13	PASS
	Low	16QAM	5.20	<=13	PASS
	Mid	QPSK	4.49	<=13	PASS
	Mid	16QAM	5.14	<=13	PASS
	High	QPSK	4.42	<=13	PASS
	High	16QAM	5.13	<=13	PASS
10	Low	QPSK	4.55	<=13	PASS
	Low	16QAM	5.32	<=13	PASS
	Mid	QPSK	4.50	<=13	PASS
	Mid	16QAM	5.30	<=13	PASS
	High	QPSK	4.5	<=13	PASS
	High	16QAM	5.32	<=13	PASS
15	Low	QPSK	4.36	<=13	PASS
	Low	16QAM	5.17	<=13	PASS
	Mid	QPSK	4.33	<=13	PASS
	Mid	16QAM	5.17	<=13	PASS
	High	QPSK	4.35	<=13	PASS
	High	16QAM	5.12	<=13	PASS
20	Low	QPSK	4.35	<=13	PASS
	Low	16QAM	5.19	<=13	PASS
	Mid	QPSK	4.42	<=13	PASS
	Mid	16QAM	5.26	<=13	PASS
	High	QPSK	4.48	<=13	PASS
	High	16QAM	5.27	<=13	PASS



LTE Band 66					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.98	<=13	PASS
	Low	16QAM	5.90	<=13	PASS
	Mid	QPSK	5.23	<=13	PASS
	Mid	16QAM	5.83	<=13	PASS
	High	QPSK	4.93	<=13	PASS
	High	16QAM	5.53	<=13	PASS
3	Low	QPSK	5.14	<=13	PASS
	Low	16QAM	6.03	<=13	PASS
	Mid	QPSK	5.26	<=13	PASS
	Mid	16QAM	6.01	<=13	PASS
	High	QPSK	4.86	<=13	PASS
	High	16QAM	5.41	<=13	PASS
5	Low	QPSK	5.44	<=13	PASS
	Low	16QAM	5.97	<=13	PASS
	Mid	QPSK	5.40	<=13	PASS
	Mid	16QAM	6.09	<=13	PASS
	High	QPSK	4.98	<=13	PASS
	High	16QAM	5.60	<=13	PASS
10	Low	QPSK	5.15	<=13	PASS
	Low	16QAM	5.92	<=13	PASS
	Mid	QPSK	5.36	<=13	PASS
	Mid	16QAM	6.04	<=13	PASS
	High	QPSK	5.38	<=13	PASS
	High	16QAM	5.76	<=13	PASS
15	Low	QPSK	4.84	<=13	PASS
	Low	16QAM	5.51	<=13	PASS
	Mid	QPSK	5.04	<=13	PASS
	Mid	16QAM	5.56	<=13	PASS
	High	QPSK	5.32	<=13	PASS
	High	16QAM	5.72	<=13	PASS
20	Low	QPSK	4.97	<=13	PASS
	Low	16QAM	5.37	<=13	PASS
	Mid	QPSK	5.35	<=13	PASS
	Mid	16QAM	6.11	<=13	PASS
	High	QPSK	5.00	<=13	PASS
	High	16QAM	5.88	<=13	PASS





LTE Band 71					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
5	Low	QPSK	5.65	<=13	PASS
	Low	16QAM	6.30	<=13	PASS
	Mid	QPSK	5.65	<=13	PASS
	Mid	16QAM	6.29	<=13	PASS
	High	QPSK	5.30	<=13	PASS
	High	16QAM	6.16	<=13	PASS
10	Low	QPSK	5.33	<=13	PASS
	Low	16QAM	6.13	<=13	PASS
	Mid	QPSK	5.44	<=13	PASS
	Mid	16QAM	5.84	<=13	PASS
	High	QPSK	5.39	<=13	PASS
	High	16QAM	6.23	<=13	PASS
15	Low	QPSK	5.43	<=13	PASS
	Low	16QAM	6.28	<=13	PASS
	Mid	QPSK	5.41	<=13	PASS
	Mid	16QAM	5.48	<=13	PASS
	High	QPSK	5.29	<=13	PASS
	High	16QAM	6.14	<=13	PASS
20	Low	QPSK	5.33	<=13	PASS
	Low	16QAM	6.28	<=13	PASS
	Mid	QPSK	5.54	<=13	PASS
	Mid	16QAM	6.19	<=13	PASS
	High	QPSK	5.20	<=13	PASS
	High	16QAM	6.22	<=13	PASS



Band2 / 1.4MHz / Low CH / QPSK



Band2 / 1.4MHz / Low CH / 16QAM



Band2 / 1.4MHz / Mid CH / QPSK



Band2 / 1.4MHz / Mid CH / 16QAM



Band2 / 1.4MHz / High CH / QPSK

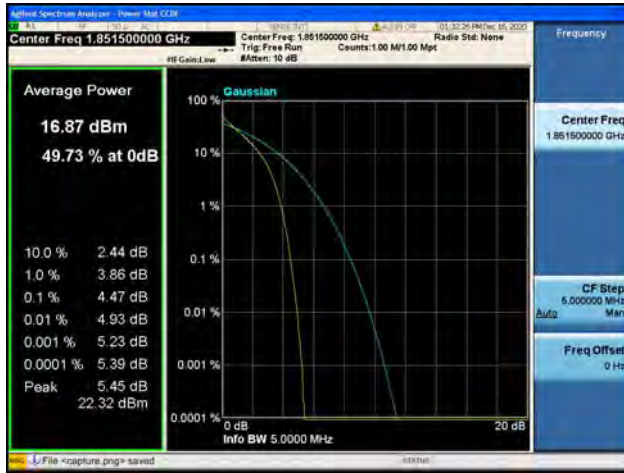


Band2 / 1.4MHz / High CH / 16QAM





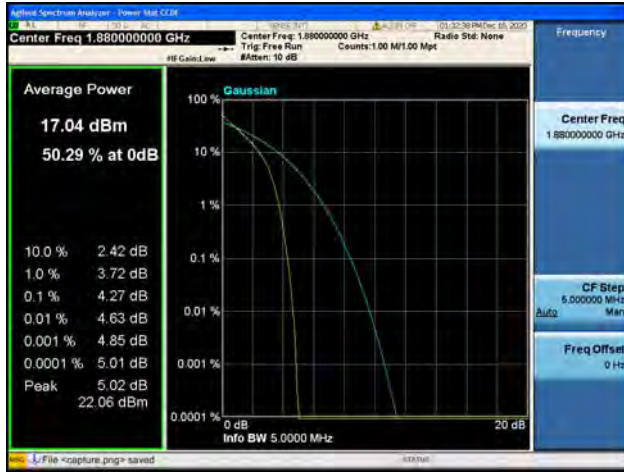
Band2 / 3MHz / Low CH / QPSK



Band2 / 3MHz / Low CH / 16QAM



Band2 / 3MHz / Mid CH / QPSK



Band2 / 3MHz / Mid CH / 16QAM



Band2 / 3MHz / High CH / QPSK



Band2 / 3MHz / High CH / 16QAM







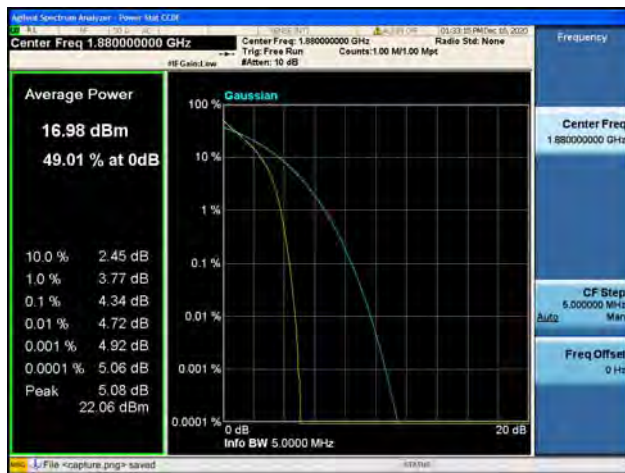
Band2 / 5MHz / Low CH / QPSK



Band2 / 5MHz / Low CH / 16QAM



Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / Mid CH / 16QAM



Band2 / 5MHz / High CH / QPSK



Band2 / 5MHz / High CH / 16QAM





Band2 / 10MHz / Low CH / QPSK



Band2 / 10MHz / Low CH / 16QAM



Band2 / 10MHz / Mid CH / QPSK



Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / High CH / QPSK



Band2 / 10MHz / High CH / 16QAM







Band2 / 15MHz / Low CH / QPSK



Band2 / 15MHz / Low CH / 16QAM



Band2 / 15MHz / Mid CH / QPSK



Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / High CH / QPSK



Band2 / 15MHz / High CH / 16QAM





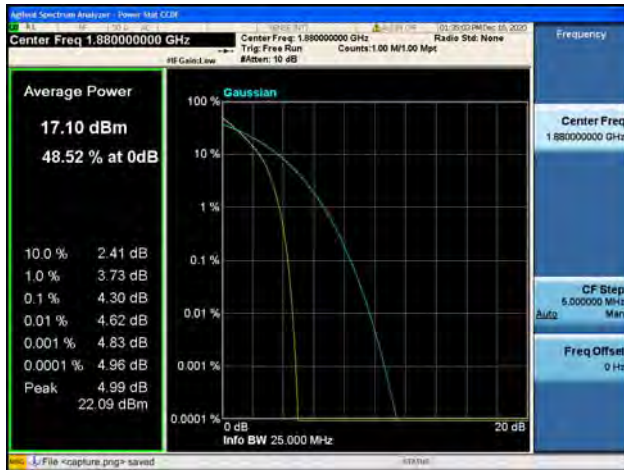
Band2 / 20MHz / Low CH / QPSK



Band2 / 20MHz / Low CH / 16QAM



Band2 / 20MHz / Mid CH / QPSK



Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / High CH / QPSK



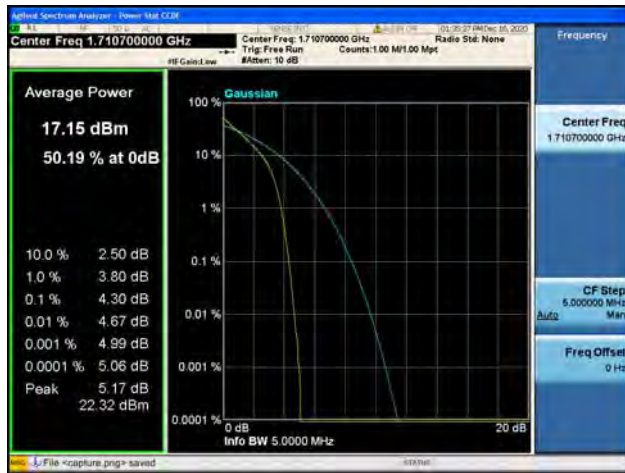
Band2 / 20MHz / High CH / 16QAM







Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Mid CH / QPSK



Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / High CH / QPSK



Band4 / 1.4MHz / High CH / 16QAM





Band4 / 3MHz / Low CH / QPSK



Band4 / 3MHz / Low CH / 16QAM



Band4 / 3MHz / Mid CH / QPSK



Band4 / 3MHz / Mid CH / 16QAM



Band4 / 3MHz / High CH / QPSK



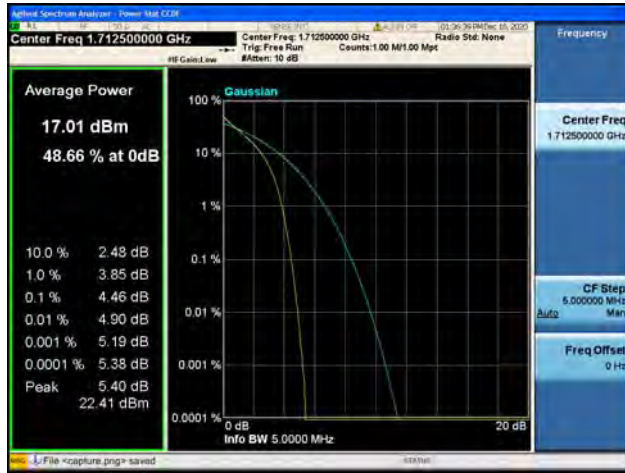
Band4 / 3MHz / High CH / 16QAM







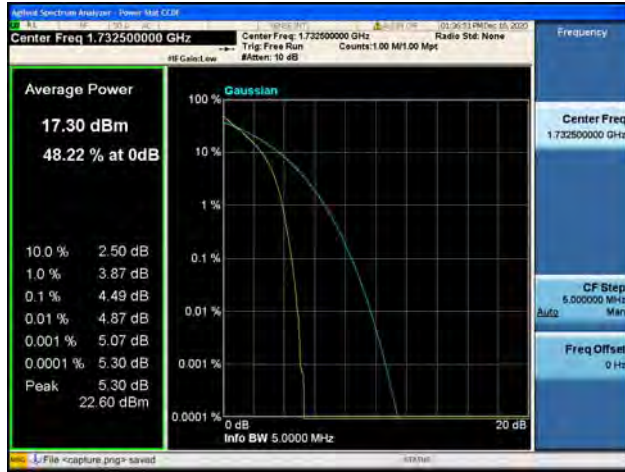
Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



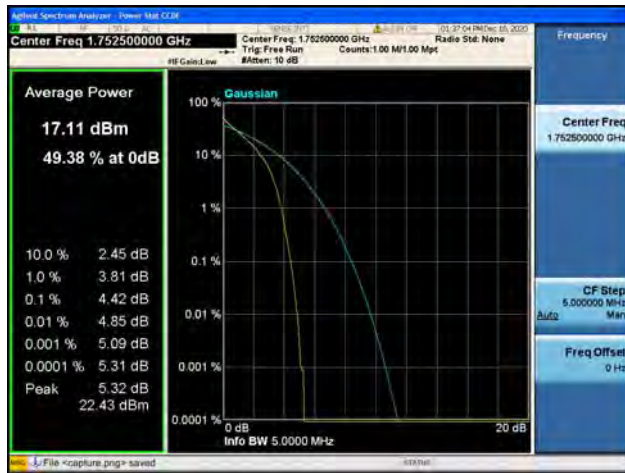
Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / Mid CH / 16QAM



Band4 / 5MHz / High CH / QPSK



Band4 / 5MHz / High CH / 16QAM



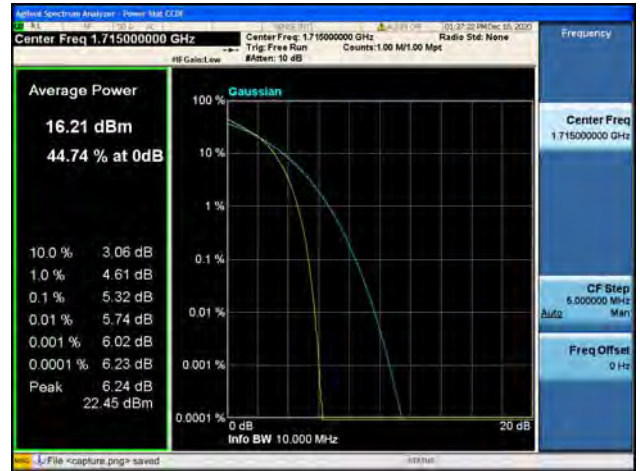




Band4 / 10MHz / Low CH / QPSK



Band4 / 10MHz / Low CH / 16QAM



Band4 / 10MHz / Mid CH / QPSK



Band4 / 10MHz / Mid CH / 16QAM



Band4 / 10MHz / High CH / QPSK



Band4 / 10MHz / High CH / 16QAM





Band4 / 15MHz / Low CH / QPSK



Band4 / 15MHz / Low CH / 16QAM



Band4 / 15MHz / Mid CH / QPSK



Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / High CH / QPSK



Band4 / 15MHz / High CH / 16QAM







Band4 / 20MHz / Low CH / QPSK



Band4 / 20MHz / Low CH / 16QAM



Band4 / 20MHz / Mid CH / QPSK



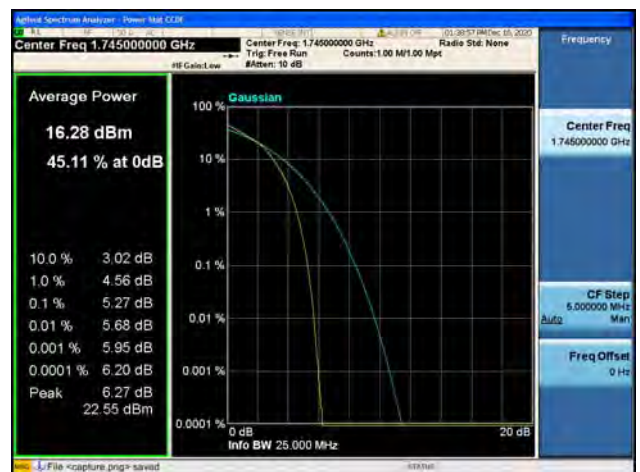
Band4 / 20MHz / Mid CH / 16QAM



Band4 / 20MHz / High CH / QPSK



Band4 / 20MHz / High CH / 16QAM

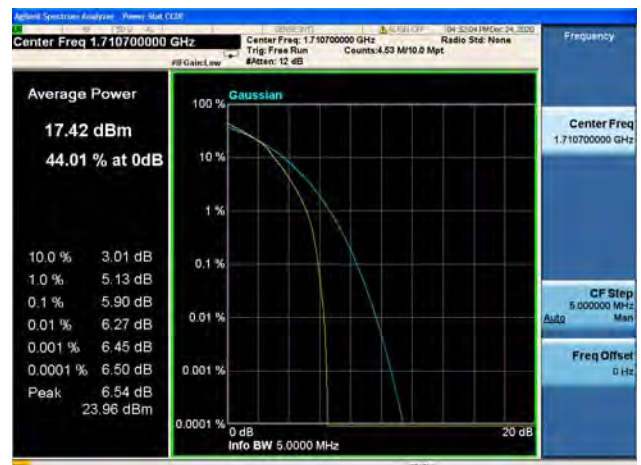




Band66 / 1.4MHz / Low CH / QPSK



Band66 / 1.4MHz / Low CH / 16QAM



Band66 / 1.4MHz / Mid CH / QPSK



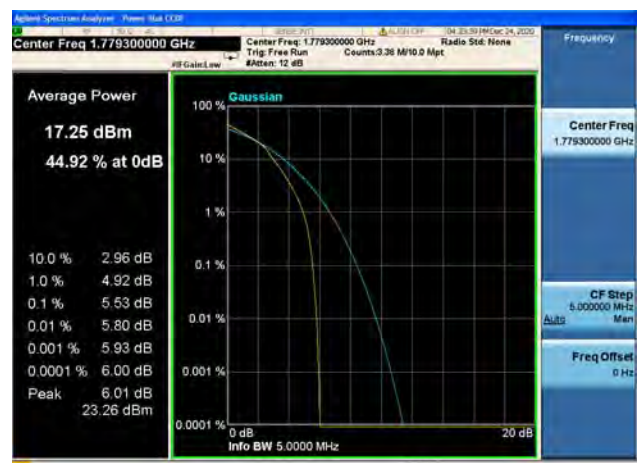
Band66 / 1.4MHz / Mid CH / 16QAM



Band66 / 1.4MHz / High CH / QPSK



Band66 / 1.4MHz / High CH / 16QAM







Band66 / 3MHz / Low CH / QPSK



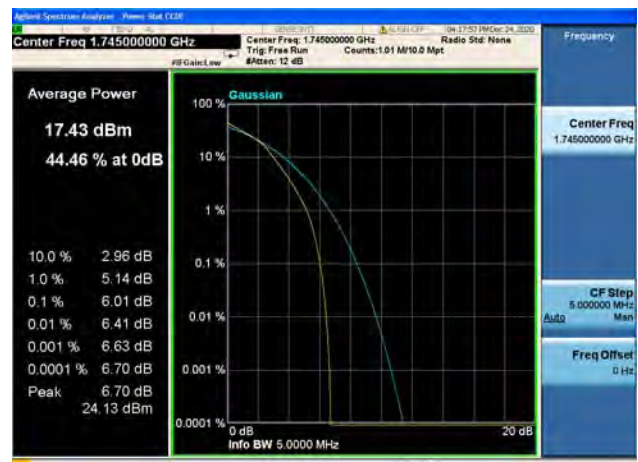
Band66 / 3MHz / Low CH / 16QAM



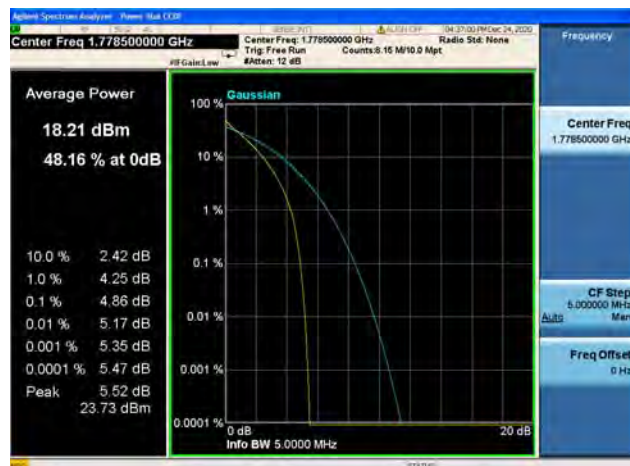
Band66 / 3MHz / Mid CH / QPSK



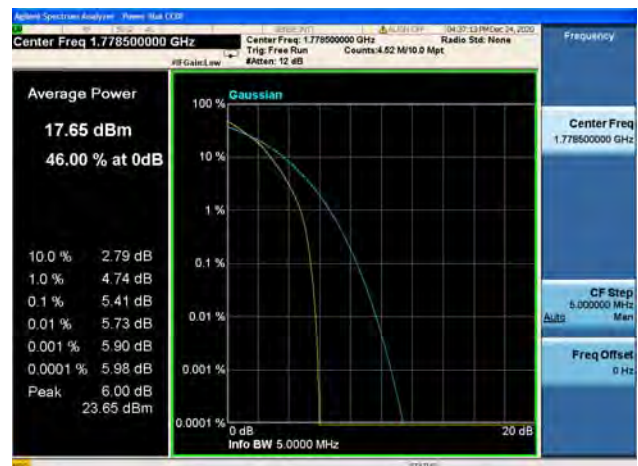
Band66 / 3MHz / Mid CH / 16QAM



Band66 / 3MHz / High CH / QPSK



Band66 / 3MHz / High CH / 16QAM







Band66 / 5MHz / Low CH / QPSK



Band66 / 5MHz / Low CH / 16QAM



Band66 / 5MHz / Mid CH / QPSK



Band66 / 5MHz / Mid CH / 16QAM



Band66 / 5MHz / High CH / QPSK



Band66 / 5MHz / High CH / 16QAM

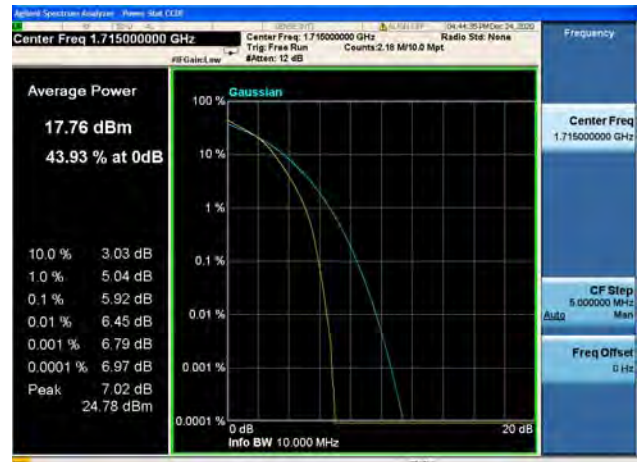




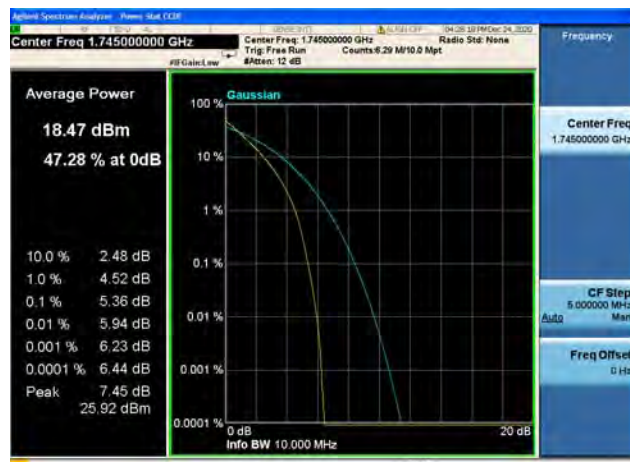
Band66 / 10MHz / Low CH / QPSK



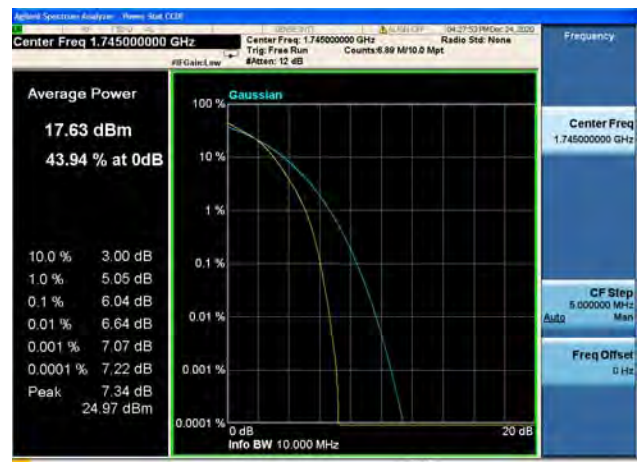
Band66 / 10MHz / Low CH / 16QAM



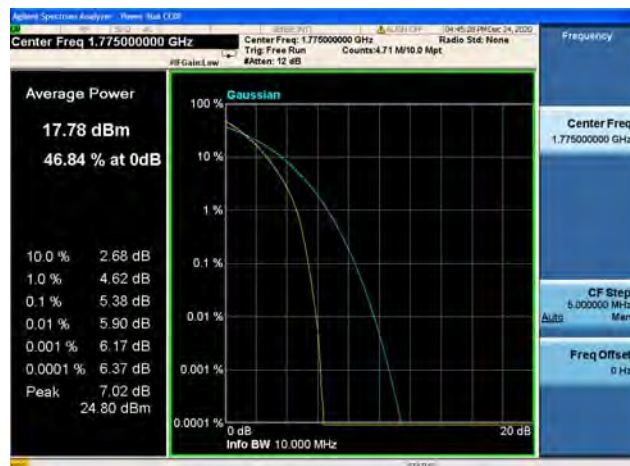
Band66 / 10MHz / Mid CH / QPSK



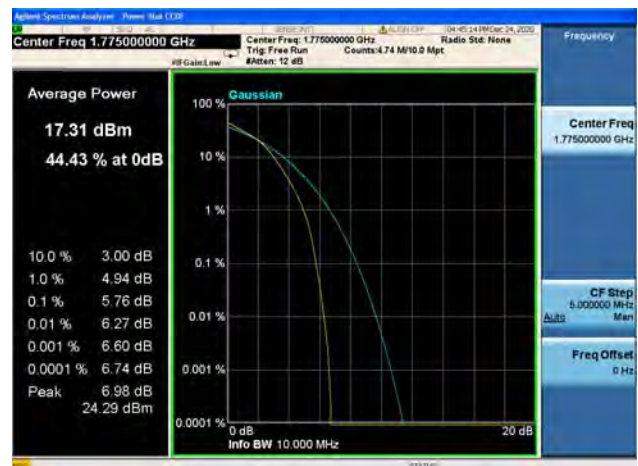
Band66 / 10MHz / Mid CH / 16QAM



Band66 / 10MHz / High CH / QPSK



Band66 / 10MHz / High CH / 16QAM







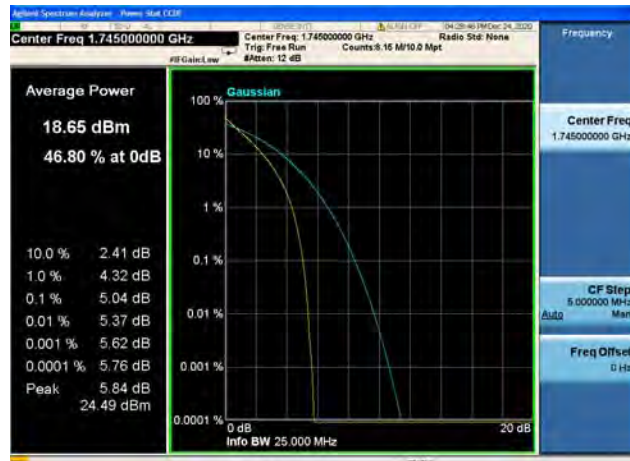
Band66 / 15MHz / Low CH / QPSK



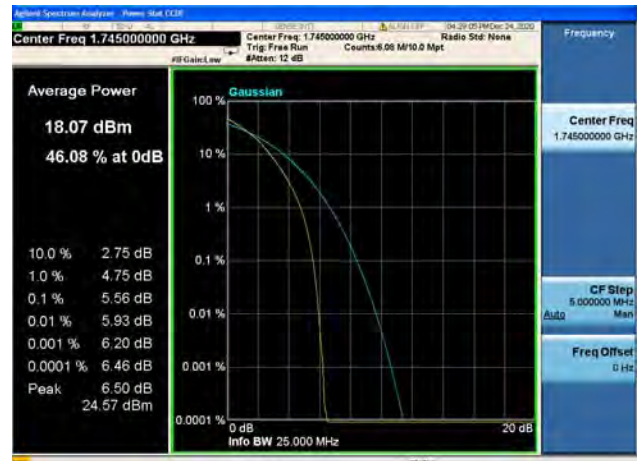
Band66 / 15MHz / Low CH / 16QAM



Band66 / 15MHz / Mid CH / QPSK



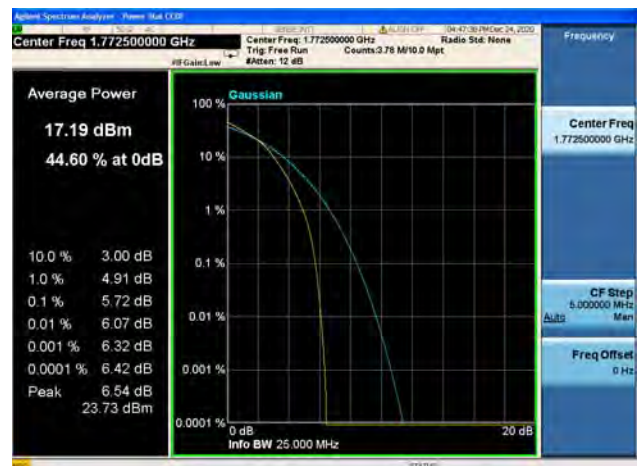
Band66 / 15MHz / Mid CH / 16QAM



Band66 / 15MHz / High CH / QPSK

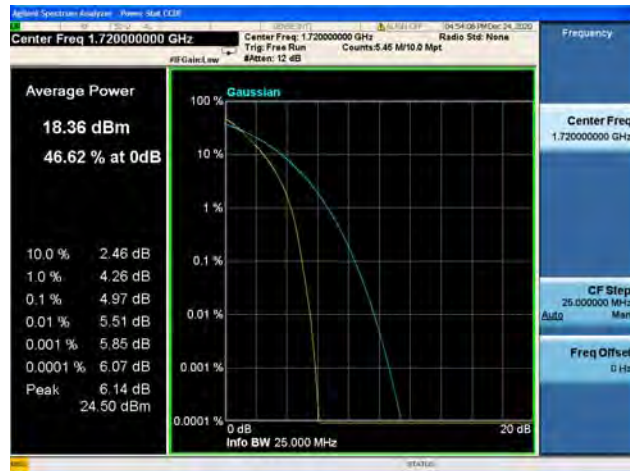


Band66 / 15MHz / High CH / 16QAM

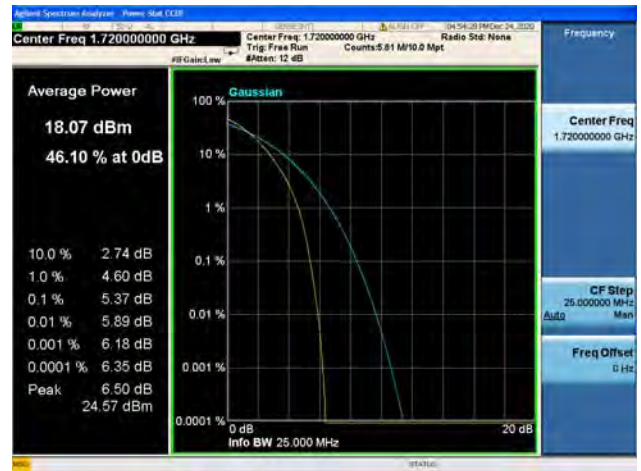




Band66 / 20MHz / Low CH / QPSK



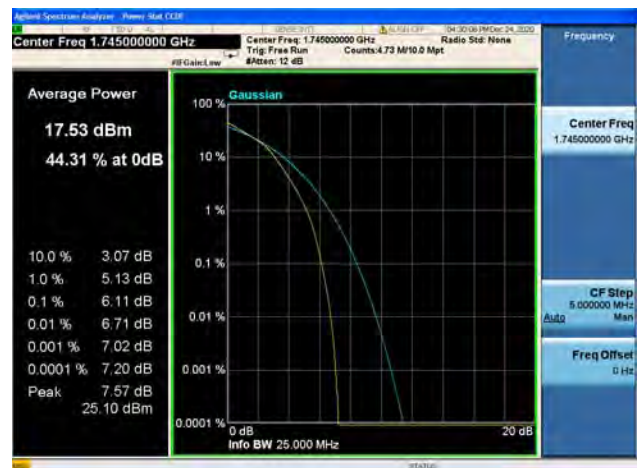
Band66 / 20MHz / Low CH / 16QAM



Band66 / 20MHz / Mid CH / QPSK



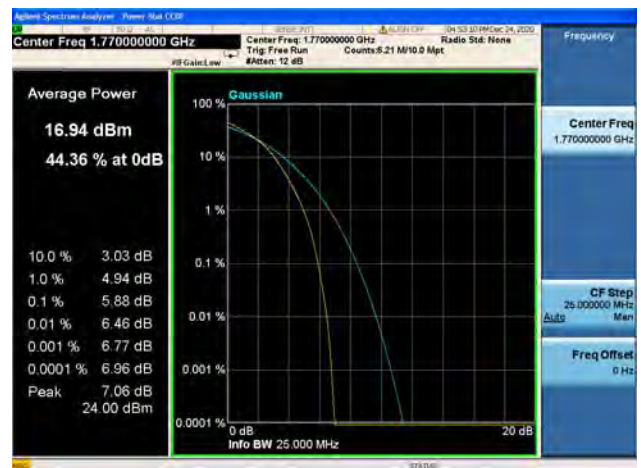
Band66 / 20MHz / Mid CH / 16QAM



Band66 / 20MHz / High CH / QPSK



Band66 / 20MHz / High CH / 16QAM







Band71 / 5MHz / Low CH / QPSK



Band71 / 5MHz / Low CH / 16QAM



Band71 / 5MHz / Mid CH / QPSK



Band71 / 5MHz / Mid CH / 16QAM



Band71 / 5MHz / High CH / QPSK



Band71 / 5MHz / High CH / 16QAM







Band71 / 10MHz / Low CH / QPSK



Band71 / 10MHz / Low CH / 16QAM



Band71 / 10MHz / Mid CH / QPSK



Band71 / 10MHz / Mid CH / 16QAM



Band71 / 10MHz / High CH / QPSK



Band71 / 10MHz / High CH / 16QAM

