



# TEST REPORT

**APPLICANT** : BLU Products, Inc.

**PRODUCT NAME** : Smart Phone

**MODEL NAME** : TANK FLIP

**BRAND NAME** : BLU

**FCC ID** : YHLBLUTKFP

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

**RECEIPT DATE** : 2022-04-06

**TEST DATE** : 2022-04-06 to 2022-04-19

**ISSUE DATE** : 2022-04-28

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Change History		
Version	Date	Reason for change
1.0	2022-04-28	First edition



# 1. Technical Information

Note: Provide by applicant.

## 1.1. Applicant and Manufacturer Information

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

## 1.2. Equipment Under Test (EUT) Description

<b>Product Name:</b>	Smart Phone	
<b>Sample No.:</b>	22#	
<b>Hardware Version:</b>	V01B	
<b>Software Version:</b>	BLU_T0100UU_V8.1.0.03.05_GENERIC 21-04-2022 20:30	
<b>Modulation Type:</b>	QPSK, 16QAM	
<b>Carrier Aggregation:</b>	Not Support	
<b>Operation Band:</b>	Band 2 / 4 / 5 / 7 / 12 / 13 / 66	
<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	
<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



<b>Channel Bandwidth:</b>	LTE Band 13	5 MHz, 10MHz
	LTE Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
<b>Antenna Type:</b>	Fixed Internal Antenna	
<b>Antenna Gain:</b>	LTE Band 2	-0.50dBi
	LTE Band 4	-0.80dBi
	LTE Band 5	-0.70dBi
	LTE Band 12	-2.50dBi
	LTE Band 13	-1.50dBi
	LTE Band 66	-0.80dBi
<b>Accessory Information:</b>	Battery	
	Brand Name:	BLU
	Model No.:	C533955135L
	Serial No.:	N/A
	Capacity:	1350mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	NINGBO VEKEN BATTERY CO., LTD
	AC Adapter	
	Brand Name:	BLU
	Model No.:	US-MB-0550
	Serial No.:	N/A
	Rated Output:	5V=0.55A
	Rated Input:	100-240V~50/60Hz, 0.25A
	Manufacturer:	Shenzhen Bajunda Electronic 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		0.159	0.137	18M0G7D	18M0W7D
15		0.156	0.134	13M5G7D	13M5W7D
10		0.152	0.136	9M04G7D	9M00W7D
5		0.153	0.136	4M52G7D	4M51W7D
3		0.156	0.129	2M69G7D	2M70W7D
1.4		0.160	0.128	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		0.150	0.118	18M0G7D	18M1W7D
15		0.147	0.115	13M5G7D	13M5W7D
10		0.145	0.116	9M05G7D	9M00W7D
5		0.144	0.116	4M52G7D	4M52W7D
3		0.147	0.119	2M69G7D	2M70W7D
1.4		0.144	0.119	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		0.095	0.076	9M02G7D	8M99W7D
5		0.094	0.078	4M52G7D	4M52W7D
3		0.094	0.077	2M69G7D	2M69W7D
1.4		0.094	0.077	1M09G7D	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		0.061	0.049	9M04G7D	9M00W7D
5		0.059	0.048	4M52G7D	4M51W7D
3		0.060	0.051	2M69G7D	2M69W7D
1.4		0.059	0.050	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		0.078	0.065	9M02G7D	8M99W7D
5		0.076	0.066	4M52G7D	4M51W7D



LTE Band 66 BW(MHz)	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
	QPSK	16QAM	QPSK	16QAM
20	0.152	0.120	18M0G7D	18M0W7D
15	0.150	0.120	13M5G7D	13M5W7D
10	0.151	0.120	9M04G7D	8M99W7D
5	0.150	0.125	4M52G7D	4M52W7D
3	0.151	0.116	2M69G7D	2M71W7D
1.4	0.150	0.115	1M10G7D	1M10W7D



## 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.	Apr. 19, 2022	Yu Zhizheng Li Huaijie	PASS	No deviation
2.1049	Occupied Bandwidth	Apr. 07&08, 2022	Li Huaijie	PASS	No deviation
2.1055 22.355 24.235 27.54	Frequency Stability	Apr. 11, 2022	Li Huaijie	PASS	No deviation
24.232(d), 27.50(d)(5)	Peak to Average Radio	Apr. 07&08, 2022	Li Huaijie	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(c)(2) 27.53(g) 27.53(h)	Conducted Spurious Emissions	Apr. 08, 2022	Li Huaijie	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(c)(2)	Band Edge	Apr. 07&08, 2022	Li Huaijie	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	Apr. 13&14&15, 2022	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 24.5dB contains two parts that cable loss 14.5dB 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% confidence intervals.

## 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 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.

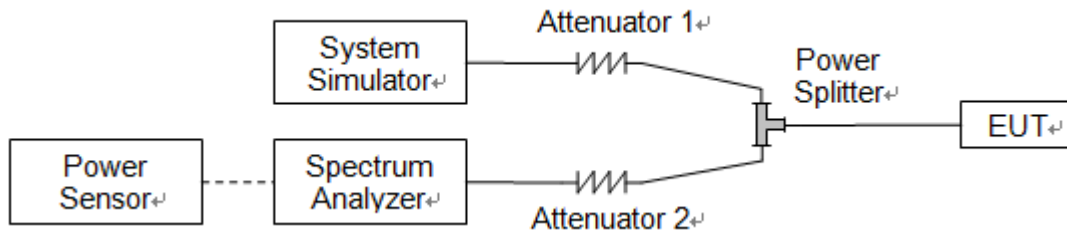
According to FCC section 27.50 (d)(4) for LTE Band 4/66, Fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat E.I.R.P.

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, 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) = Conducted Output Power (dBm) + Antenna Gain (dBi)

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



2.1.4. Result

Conducted Output Power:

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				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	22.35	22.52	22.49
20	QPSK	1	49	22.31	22.39	22.32
20	QPSK	1	99	22.29	22.45	22.43
20	QPSK	50	0	21.47	21.56	21.49
20	QPSK	50	24	21.48	21.53	21.53
20	QPSK	50	50	21.53	21.49	21.55
20	QPSK	100	0	21.46	21.55	21.51
20	16QAM	1	0	21.52	21.52	21.54
20	16QAM	1	49	21.36	21.66	21.62
20	16QAM	1	99	21.61	21.46	21.86
20	16QAM	50	0	21.54	21.51	21.49
20	16QAM	50	24	21.50	21.55	21.56
20	16QAM	50	50	21.58	21.55	21.62
20	16QAM	100	0	21.61	21.62	21.49



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	22.26	22.29	22.20
15	QPSK	1	37	22.05	22.41	22.29
15	QPSK	1	74	22.42	22.34	22.42
15	QPSK	36	0	21.45	21.54	21.53
15	QPSK	36	20	21.44	21.63	21.60
15	QPSK	36	39	21.56	21.57	21.54
15	QPSK	75	0	21.48	21.54	21.50
15	16QAM	1	0	21.57	21.65	21.59
15	16QAM	1	37	21.70	21.73	21.59
15	16QAM	1	74	21.65	21.77	21.77
15	16QAM	36	0	21.44	21.49	21.52
15	16QAM	36	20	21.53	21.46	21.59
15	16QAM	36	39	21.58	21.67	21.64
15	16QAM	75	0	21.45	21.47	21.56



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	22.11	22.10	22.20
10	QPSK	1	25	22.22	22.32	22.20
10	QPSK	1	49	22.11	22.19	22.11
10	QPSK	25	0	21.44	21.45	21.41
10	QPSK	25	12	21.40	21.52	21.45
10	QPSK	25	25	21.31	21.44	21.40
10	QPSK	50	0	21.37	21.46	21.44
10	16QAM	1	0	21.85	21.78	21.77
10	16QAM	1	25	21.54	21.50	21.57
10	16QAM	1	49	21.49	21.57	21.36
10	16QAM	25	0	21.57	21.56	21.11
10	16QAM	25	12	21.19	21.15	21.14
10	16QAM	25	25	21.14	21.10	21.09
10	16QAM	50	0	21.10	21.03	21.07



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	22.25	22.30	22.24
5	QPSK	1	12	22.24	22.35	22.22
5	QPSK	1	24	22.20	22.36	22.29
5	QPSK	12	0	21.61	21.52	21.59
5	QPSK	12	7	21.44	21.49	21.41
5	QPSK	12	13	21.43	21.42	21.45
5	QPSK	25	0	21.42	21.40	21.42
5	16QAM	1	0	21.55	21.45	21.83
5	16QAM	1	12	21.53	21.46	21.83
5	16QAM	1	24	21.56	21.43	21.82
5	16QAM	12	0	21.26	21.29	21.06
5	16QAM	12	7	21.16	21.18	21.12
5	16QAM	12	13	21.19	21.08	21.03
5	16QAM	25	0	21.11	21.09	21.07



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	22.30	22.08	22.20
3	QPSK	1	8	22.23	22.44	22.27
3	QPSK	1	14	22.42	22.29	22.29
3	QPSK	8	0	21.61	21.56	21.58
3	QPSK	8	4	21.49	21.43	21.44
3	QPSK	8	7	21.49	21.43	21.39
3	QPSK	15	0	21.41	21.49	21.42
3	16QAM	1	0	21.57	21.48	21.42
3	16QAM	1	8	21.61	21.55	21.51
3	16QAM	1	14	21.54	21.51	21.39
3	16QAM	8	0	20.97	21.10	21.02
3	16QAM	8	4	21.22	21.19	21.25
3	16QAM	8	7	21.12	21.17	21.20
3	16QAM	15	0	21.15	21.19	21.14



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	22.17	22.19	22.15
1.4	QPSK	1	3	22.27	22.25	22.24
1.4	QPSK	1	5	22.24	22.22	22.20
1.4	QPSK	3	0	22.48	22.48	22.44
1.4	QPSK	3	1	22.52	22.49	22.47
1.4	QPSK	3	3	22.53	22.53	22.47
1.4	QPSK	6	0	21.39	21.37	21.36
1.4	16QAM	1	0	21.42	21.42	21.36
1.4	16QAM	1	3	21.38	21.58	21.56
1.4	16QAM	1	5	21.26	21.46	21.14
1.4	16QAM	3	0	21.28	21.33	21.30
1.4	16QAM	3	1	21.46	21.28	21.33
1.4	16QAM	3	3	21.48	21.45	21.19
1.4	16QAM	6	0	21.49	21.42	21.37





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	22.43	22.55	22.50
20	QPSK	1	49	22.29	22.37	22.36
20	QPSK	1	99	22.21	22.34	22.46
20	QPSK	50	0	21.50	21.63	21.60
20	QPSK	50	24	21.50	21.58	21.58
20	QPSK	50	50	21.39	21.50	21.51
20	QPSK	100	0	21.49	21.53	21.60
20	16QAM	1	0	21.36	21.44	21.33
20	16QAM	1	49	21.51	21.28	21.42
20	16QAM	1	99	21.30	21.52	21.28
20	16QAM	50	0	21.17	21.22	21.32
20	16QAM	50	24	21.13	21.24	21.13
20	16QAM	50	50	21.09	21.10	21.10
20	16QAM	100	0	21.11	21.19	21.20



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				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.30	22.34	22.44
15	QPSK	1	37	22.34	22.43	22.35
15	QPSK	1	74	22.21	22.43	22.46
15	QPSK	36	0	21.44	21.51	21.54
15	QPSK	36	20	21.48	21.61	21.57
15	QPSK	36	39	21.53	21.52	21.61
15	QPSK	75	0	21.48	21.50	21.51
15	16QAM	1	0	21.18	21.40	21.12
15	16QAM	1	37	21.26	21.26	21.10
15	16QAM	1	74	21.12	21.42	21.21
15	16QAM	36	0	21.13	21.15	21.34
15	16QAM	36	20	21.08	21.15	21.21
15	16QAM	36	39	21.04	21.13	21.19
15	16QAM	75	0	21.15	21.16	21.25



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				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	22.22	22.41	22.24
10	QPSK	1	25	22.20	22.33	22.34
10	QPSK	1	49	22.28	22.11	22.34
10	QPSK	25	0	21.27	21.49	21.51
10	QPSK	25	12	21.39	21.45	21.49
10	QPSK	25	25	21.28	21.39	21.46
10	QPSK	50	0	21.34	21.44	21.36
10	16QAM	1	0	21.09	21.24	21.00
10	16QAM	1	25	21.36	21.10	21.42
10	16QAM	1	49	21.43	21.33	21.32
10	16QAM	25	0	21.09	21.08	21.07
10	16QAM	25	12	21.01	21.11	21.08
10	16QAM	25	25	21.35	21.26	21.35
10	16QAM	50	0	21.29	21.33	21.45



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	22.12	22.34	22.39
5	QPSK	1	12	22.18	22.33	22.30
5	QPSK	1	24	22.13	22.25	22.24
5	QPSK	12	0	21.35	21.35	21.39
5	QPSK	12	7	21.35	21.46	21.43
5	QPSK	12	13	21.30	21.47	21.39
5	QPSK	25	0	21.33	21.37	21.43
5	16QAM	1	0	20.99	21.40	21.08
5	16QAM	1	12	21.10	21.45	21.04
5	16QAM	1	24	21.04	21.39	20.99
5	16QAM	12	0	21.03	20.97	21.00
5	16QAM	12	7	21.06	21.10	21.08
5	16QAM	12	13	21.33	21.40	21.44
5	16QAM	25	0	21.34	21.45	21.38



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	22.24	22.25	22.37
3	QPSK	1	8	22.33	22.47	22.41
3	QPSK	1	14	22.13	22.32	22.32
3	QPSK	8	0	21.33	21.39	21.40
3	QPSK	8	4	21.39	21.47	21.49
3	QPSK	8	7	21.35	21.45	21.45
3	QPSK	15	0	21.35	21.41	21.35
3	16QAM	1	0	21.19	21.28	21.32
3	16QAM	1	8	21.41	21.41	21.15
3	16QAM	1	14	21.32	21.10	21.18
3	16QAM	8	0	21.11	21.12	21.21
3	16QAM	8	4	21.21	21.21	21.22
3	16QAM	8	7	21.43	21.51	21.55
3	16QAM	15	0	21.43	21.41	21.48



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	21.99	22.20	22.21
1.4	QPSK	1	3	22.33	22.33	22.37
1.4	QPSK	1	5	22.19	22.28	22.30
1.4	QPSK	3	0	22.27	22.24	22.23
1.4	QPSK	3	1	22.23	22.33	22.38
1.4	QPSK	3	3	22.22	22.29	22.28
1.4	QPSK	6	0	21.11	21.20	21.20
1.4	16QAM	1	0	21.08	21.55	21.21
1.4	16QAM	1	3	21.21	21.29	21.33
1.4	16QAM	1	5	21.27	21.43	21.23
1.4	16QAM	3	0	21.30	21.34	21.25
1.4	16QAM	3	1	21.31	21.34	21.36
1.4	16QAM	3	3	21.30	21.42	21.31
1.4	16QAM	6	0	21.21	21.22	21.13



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	22.61	22.62	22.43
10	QPSK	1	25	22.47	22.50	22.30
10	QPSK	1	49	22.39	22.51	22.19
10	QPSK	25	0	21.52	21.54	21.35
10	QPSK	25	12	21.28	21.30	21.35
10	QPSK	25	25	21.28	21.39	21.44
10	QPSK	50	0	21.34	21.22	21.36
10	16QAM	1	0	21.38	21.57	21.28
10	16QAM	1	25	21.61	21.64	21.32
10	16QAM	1	49	21.44	21.50	21.57
10	16QAM	25	0	21.53	21.54	21.36
10	16QAM	25	12	21.47	21.55	21.33
10	16QAM	25	25	21.50	21.43	21.46
10	16QAM	50	0	21.51	21.42	21.32



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	22.56	22.52	22.50
5	QPSK	1	12	22.46	22.57	22.41
5	QPSK	1	24	22.46	22.41	22.41
5	QPSK	12	0	21.43	21.48	21.34
5	QPSK	12	7	21.50	21.51	21.43
5	QPSK	12	13	21.55	21.39	21.34
5	QPSK	25	0	21.46	21.42	21.34
5	16QAM	1	0	21.75	21.68	21.44
5	16QAM	1	12	21.45	21.67	21.43
5	16QAM	1	24	21.32	21.67	21.50
5	16QAM	12	0	21.41	21.50	21.49
5	16QAM	12	7	21.48	21.51	21.33
5	16QAM	12	13	21.48	21.39	21.44
5	16QAM	25	0	21.49	21.54	21.49





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	22.25	22.56	22.41
3	QPSK	1	8	22.51	22.52	22.43
3	QPSK	1	14	22.52	22.50	22.24
3	QPSK	8	0	21.36	21.49	21.47
3	QPSK	8	4	21.50	21.56	21.53
3	QPSK	8	7	21.45	21.47	21.34
3	QPSK	15	0	21.43	21.49	21.48
3	16QAM	1	0	21.45	21.56	21.63
3	16QAM	1	8	21.38	21.64	21.48
3	16QAM	1	14	21.43	21.69	21.44
3	16QAM	8	0	21.39	21.48	21.22
3	16QAM	8	4	21.55	21.66	21.23
3	16QAM	8	7	21.47	21.53	21.27
3	16QAM	15	0	21.41	21.43	20.98



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	22.46	22.53	22.57
1.4	QPSK	1	3	22.59	22.52	22.59
1.4	QPSK	1	5	22.48	22.42	22.43
1.4	QPSK	3	0	22.49	22.55	22.51
1.4	QPSK	3	1	22.55	22.42	22.52
1.4	QPSK	3	3	22.56	22.48	22.48
1.4	QPSK	6	0	21.59	21.58	21.57
1.4	16QAM	1	0	21.54	21.35	21.52
1.4	16QAM	1	3	21.34	21.58	21.47
1.4	16QAM	1	5	21.73	21.41	21.47
1.4	16QAM	3	0	21.26	21.24	21.38
1.4	16QAM	3	1	21.29	21.56	21.42
1.4	16QAM	3	3	21.37	21.48	21.36
1.4	16QAM	6	0	21.56	21.43	21.47



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	22.31	22.47	22.36
10	QPSK	1	25	22.17	22.30	22.33
10	QPSK	1	49	22.27	22.28	22.27
10	QPSK	25	0	21.56	21.66	21.57
10	QPSK	25	12	21.53	21.47	21.26
10	QPSK	25	25	21.58	21.64	21.57
10	QPSK	50	0	21.59	21.61	21.52
10	16QAM	1	0	21.52	21.07	21.20
10	16QAM	1	25	21.27	21.22	21.36
10	16QAM	1	49	21.36	21.41	21.30
10	16QAM	25	0	21.25	21.27	21.21
10	16QAM	25	12	21.29	21.33	21.22
10	16QAM	25	25	21.34	21.35	21.29
10	16QAM	50	0	21.24	21.32	21.37



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	22.06	22.22	22.17
5	QPSK	1	12	22.22	22.38	22.22
5	QPSK	1	24	22.18	22.37	22.23
5	QPSK	12	0	21.29	21.36	21.35
5	QPSK	12	7	21.40	21.42	21.39
5	QPSK	12	13	21.35	21.38	21.35
5	QPSK	25	0	21.31	21.43	21.39
5	16QAM	1	0	21.32	21.34	21.36
5	16QAM	1	12	21.49	21.44	21.45
5	16QAM	1	24	21.45	21.43	21.39
5	16QAM	12	0	21.19	21.16	21.19
5	16QAM	12	7	21.33	21.38	21.22
5	16QAM	12	13	21.28	21.25	21.30
5	16QAM	25	0	21.29	21.25	21.27



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	22.14	22.23	22.08
3	QPSK	1	8	22.32	22.31	22.41
3	QPSK	1	14	22.26	22.37	22.32
3	QPSK	8	0	21.37	21.35	21.35
3	QPSK	8	4	21.40	21.43	21.44
3	QPSK	8	7	21.35	21.43	21.37
3	QPSK	15	0	21.34	21.42	21.28
3	16QAM	1	0	21.35	21.71	21.30
3	16QAM	1	8	21.55	21.53	21.48
3	16QAM	1	14	21.38	21.43	21.29
3	16QAM	8	0	21.35	21.24	21.27
3	16QAM	8	4	21.40	21.37	21.48
3	16QAM	8	7	21.24	21.27	21.33
3	16QAM	15	0	21.22	21.15	21.14



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	22.17	22.21	22.14
1.4	QPSK	1	3	22.28	22.27	22.29
1.4	QPSK	1	5	22.17	22.22	22.18
1.4	QPSK	3	0	22.12	22.25	22.23
1.4	QPSK	3	1	22.33	22.33	22.34
1.4	QPSK	3	3	22.28	22.30	22.26
1.4	QPSK	6	0	21.34	21.31	21.29
1.4	16QAM	1	0	21.38	21.32	21.17
1.4	16QAM	1	3	21.19	21.62	21.29
1.4	16QAM	1	5	21.31	21.32	21.31
1.4	16QAM	3	0	21.15	21.18	21.19
1.4	16QAM	3	1	21.31	21.39	21.23
1.4	16QAM	3	3	21.14	21.28	21.28
1.4	16QAM	6	0	21.07	21.27	21.17



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	/	22.58	/
10	QPSK	1	25	/	22.20	/
10	QPSK	1	49	/	22.30	/
10	QPSK	25	0	/	21.67	/
10	QPSK	25	12	/	21.48	/
10	QPSK	25	25	/	21.42	/
10	QPSK	50	0	/	21.45	/
10	16QAM	1	0	/	21.57	/
10	16QAM	1	25	/	21.49	/
10	16QAM	1	49	/	21.79	/
10	16QAM	25	0	/	21.27	/
10	16QAM	25	12	/	21.22	/
10	16QAM	25	25	/	21.35	/
10	16QAM	50	0	/	21.12	/



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	22.32	22.44	22.44
5	QPSK	1	12	22.40	22.13	22.33
5	QPSK	1	24	22.16	22.34	22.37
5	QPSK	12	0	21.38	21.46	21.55
5	QPSK	12	7	21.45	21.44	21.53
5	QPSK	12	13	21.37	21.53	21.51
5	QPSK	25	0	21.44	21.41	21.51
5	16QAM	1	0	21.51	21.87	21.66
5	16QAM	1	12	21.57	21.72	21.60
5	16QAM	1	24	21.67	21.49	21.50
5	16QAM	12	0	21.10	21.07	21.00
5	16QAM	12	7	21.11	21.00	21.12
5	16QAM	12	13	21.08	21.07	21.11
5	16QAM	25	0	21.12	21.16	21.18





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	22.60	22.63	22.57
20	QPSK	1	49	22.58	22.52	22.45
20	QPSK	1	99	22.52	22.48	22.46
20	QPSK	50	0	21.41	21.50	21.43
20	QPSK	50	24	21.42	21.47	21.47
20	QPSK	50	50	21.47	21.43	21.49
20	QPSK	100	0	21.40	21.49	21.45
20	16QAM	1	0	21.46	21.46	21.48
20	16QAM	1	49	21.30	21.60	21.56
20	16QAM	1	99	21.55	21.40	21.19
20	16QAM	50	0	21.48	21.45	21.43
20	16QAM	50	24	21.44	21.49	21.50
20	16QAM	50	50	21.52	21.49	21.56
20	16QAM	100	0	21.55	21.56	21.43

<b>LTE Band 66</b>
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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	22.41	22.44	22.35
15	QPSK	1	37	22.20	22.56	22.44
15	QPSK	1	74	22.57	22.49	22.57
15	QPSK	36	0	21.27	21.36	21.35
15	QPSK	36	20	21.26	21.45	21.42
15	QPSK	36	39	21.38	21.39	21.36
15	QPSK	75	0	21.30	21.36	21.32
15	16QAM	1	0	21.39	21.47	21.41
15	16QAM	1	37	21.52	21.55	21.41
15	16QAM	1	74	21.47	21.59	21.59
15	16QAM	36	0	21.26	21.31	21.34
15	16QAM	36	20	21.35	21.28	21.41
15	16QAM	36	39	21.40	21.49	21.46
15	16QAM	75	0	21.27	21.29	21.38



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	22.38	22.37	22.47
10	QPSK	1	25	22.49	22.59	22.47
10	QPSK	1	49	22.38	22.46	22.38
10	QPSK	25	0	21.38	21.39	21.35
10	QPSK	25	12	21.34	21.46	21.39
10	QPSK	25	25	21.25	21.38	21.34
10	QPSK	50	0	21.31	21.40	21.38
10	16QAM	1	0	21.18	21.11	21.10
10	16QAM	1	25	21.48	21.44	21.51
10	16QAM	1	49	21.43	21.51	21.30
10	16QAM	25	0	21.33	21.32	21.29
10	16QAM	25	12	21.49	21.29	21.29
10	16QAM	25	25	21.29	21.49	21.59
10	16QAM	50	0	21.25	21.18	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				131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5
5	QPSK	1	0	22.52	22.57	22.51
5	QPSK	1	12	22.51	22.46	22.49
5	QPSK	1	24	22.47	22.55	22.56
5	QPSK	12	0	21.37	21.28	21.35
5	QPSK	12	7	21.38	21.43	21.35
5	QPSK	12	13	21.37	21.36	21.39
5	QPSK	25	0	21.36	21.34	21.36
5	16QAM	1	0	21.49	21.39	21.77
5	16QAM	1	12	21.47	21.40	21.77
5	16QAM	1	24	21.50	21.37	21.76
5	16QAM	12	0	21.20	21.19	21.19
5	16QAM	12	7	21.49	21.30	21.29
5	16QAM	12	13	21.29	21.20	21.39
5	16QAM	25	0	21.39	21.24	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				131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5
3	QPSK	1	0	22.46	22.53	22.45
3	QPSK	1	8	22.56	22.59	22.42
3	QPSK	1	14	22.57	22.44	22.44
3	QPSK	8	0	21.25	21.20	21.22
3	QPSK	8	4	21.31	21.25	21.26
3	QPSK	8	7	21.31	21.25	21.21
3	QPSK	15	0	21.23	21.31	21.24
3	16QAM	1	0	21.39	21.30	21.24
3	16QAM	1	8	21.43	21.37	21.33
3	16QAM	1	14	21.36	21.33	21.21
3	16QAM	8	0	21.18	21.31	21.23
3	16QAM	8	4	21.25	21.22	21.28
3	16QAM	8	7	21.15	21.20	21.23
3	16QAM	15	0	21.18	21.22	21.17



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	22.52	22.55	22.50
1.4	QPSK	1	3	22.42	22.40	22.39
1.4	QPSK	1	5	22.39	22.37	22.35
1.4	QPSK	3	0	22.12	22.12	22.08
1.4	QPSK	3	1	22.16	22.13	22.11
1.4	QPSK	3	3	22.18	22.22	22.11
1.4	QPSK	6	0	21.21	21.19	21.18
1.4	16QAM	1	0	21.24	21.24	21.18
1.4	16QAM	1	3	21.20	21.40	21.38
1.4	16QAM	1	5	21.08	21.28	20.96
1.4	16QAM	3	0	21.10	21.15	21.12
1.4	16QAM	3	1	21.28	21.10	21.15
1.4	16QAM	3	3	21.30	21.27	21.01
1.4	16QAM	6	0	21.31	21.24	21.19



**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	21.85	0.153	22.02	0.159	21.99	0.158
20	QPSK	1	49	21.81	0.152	21.89	0.155	21.82	0.152
20	QPSK	1	99	21.79	0.151	21.95	0.157	21.93	0.156
20	QPSK	50	0	20.97	0.125	21.06	0.128	20.99	0.126
20	QPSK	50	24	20.98	0.125	21.03	0.127	21.03	0.127
20	QPSK	50	50	21.03	0.127	20.99	0.126	21.05	0.127
20	QPSK	100	0	20.96	0.125	21.05	0.127	21.01	0.126
20	16QAM	1	0	21.02	0.126	21.02	0.126	21.04	0.127
20	16QAM	1	49	20.86	0.122	21.16	0.131	21.12	0.129
20	16QAM	1	99	21.11	0.129	20.96	0.125	21.36	0.137
20	16QAM	50	0	21.04	0.127	21.01	0.126	20.99	0.126
20	16QAM	50	24	21.00	0.126	21.05	0.127	21.06	0.128
20	16QAM	50	50	21.08	0.128	21.05	0.127	21.12	0.129
20	16QAM	100	0	21.11	0.129	21.12	0.129	20.99	0.126



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	21.76	0.150	21.79	0.151	21.70	0.148
15	QPSK	1	37	21.55	0.143	21.91	0.155	21.79	0.151
15	QPSK	1	74	21.92	0.156	21.84	0.153	21.92	0.156
15	QPSK	36	0	20.95	0.124	21.04	0.127	21.03	0.127
15	QPSK	36	20	20.94	0.124	21.13	0.130	21.10	0.129
15	QPSK	36	39	21.06	0.128	21.07	0.128	21.04	0.127
15	QPSK	75	0	20.98	0.125	21.04	0.127	21.00	0.126
15	16QAM	1	0	21.07	0.128	21.15	0.130	21.09	0.129
15	16QAM	1	37	21.20	0.132	21.23	0.133	21.09	0.129
15	16QAM	1	74	21.15	0.130	21.27	0.134	21.27	0.134
15	16QAM	36	0	20.94	0.124	20.99	0.126	21.02	0.126
15	16QAM	36	20	21.03	0.127	20.96	0.125	21.09	0.129
15	16QAM	36	39	21.08	0.128	21.17	0.131	21.14	0.130
15	16QAM	75	0	20.95	0.124	20.97	0.125	21.06	0.128





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	21.61	0.145	21.60	0.145	21.70	0.148
10	QPSK	1	25	21.72	0.149	21.82	0.152	21.70	0.148
10	QPSK	1	49	21.61	0.145	21.69	0.148	21.61	0.145
10	QPSK	25	0	20.94	0.124	20.95	0.124	20.91	0.123
10	QPSK	25	12	20.90	0.123	21.02	0.126	20.95	0.124
10	QPSK	25	25	20.81	0.121	20.94	0.124	20.90	0.123
10	QPSK	50	0	20.87	0.122	20.96	0.125	20.94	0.124
10	16QAM	1	0	21.35	0.136	21.28	0.134	21.27	0.134
10	16QAM	1	25	21.04	0.127	21.00	0.126	21.07	0.128
10	16QAM	1	49	20.99	0.126	21.07	0.128	20.86	0.122
10	16QAM	25	0	21.07	0.128	21.06	0.128	20.61	0.115
10	16QAM	25	12	20.69	0.117	20.65	0.116	20.64	0.116
10	16QAM	25	25	20.64	0.116	20.60	0.115	20.59	0.115
10	16QAM	50	0	20.60	0.115	20.53	0.113	20.57	0.114



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	21.75	0.150	21.80	0.151	21.74	0.149
5	QPSK	1	12	21.74	0.149	21.85	0.153	21.72	0.149
5	QPSK	1	24	21.70	0.148	21.86	0.153	21.79	0.151
5	QPSK	12	0	21.11	0.129	21.02	0.126	21.09	0.129
5	QPSK	12	7	20.94	0.124	20.99	0.126	20.91	0.123
5	QPSK	12	13	20.93	0.124	20.92	0.124	20.95	0.124
5	QPSK	25	0	20.92	0.124	20.90	0.123	20.92	0.124
5	16QAM	1	0	21.05	0.127	20.95	0.124	21.33	0.136
5	16QAM	1	12	21.03	0.127	20.96	0.125	21.33	0.136
5	16QAM	1	24	21.06	0.128	20.93	0.124	21.32	0.136
5	16QAM	12	0	20.76	0.119	20.79	0.120	20.56	0.114
5	16QAM	12	7	20.66	0.116	20.68	0.117	20.62	0.115
5	16QAM	12	13	20.69	0.117	20.58	0.114	20.53	0.113
5	16QAM	25	0	20.61	0.115	20.59	0.115	20.57	0.114



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	21.80	0.151	21.58	0.144	21.70	0.148
3	QPSK	1	8	21.73	0.149	21.94	0.156	21.77	0.150
3	QPSK	1	14	21.92	0.156	21.79	0.151	21.79	0.151
3	QPSK	8	0	21.11	0.129	21.06	0.128	21.08	0.128
3	QPSK	8	4	20.99	0.126	20.93	0.124	20.94	0.124
3	QPSK	8	7	20.99	0.126	20.93	0.124	20.89	0.123
3	QPSK	15	0	20.91	0.123	20.99	0.126	20.92	0.124
3	16QAM	1	0	21.07	0.128	20.98	0.125	20.92	0.124
3	16QAM	1	8	21.11	0.129	21.05	0.127	21.01	0.126
3	16QAM	1	14	21.04	0.127	21.01	0.126	20.89	0.123
3	16QAM	8	0	20.47	0.111	20.60	0.115	20.52	0.113
3	16QAM	8	4	20.72	0.118	20.69	0.117	20.75	0.119
3	16QAM	8	7	20.62	0.115	20.67	0.117	20.70	0.117
3	16QAM	15	0	20.65	0.116	20.69	0.117	20.64	0.116



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	21.67	0.147	21.69	0.148	21.65	0.146
1.4	QPSK	1	3	21.77	0.150	21.75	0.150	21.74	0.149
1.4	QPSK	1	5	21.74	0.149	21.72	0.149	21.70	0.148
1.4	QPSK	3	0	21.98	0.158	21.98	0.158	21.94	0.156
1.4	QPSK	3	1	22.02	0.159	21.99	0.158	21.97	0.157
1.4	QPSK	3	3	22.03	0.160	22.03	0.160	21.97	0.157
1.4	QPSK	6	0	20.89	0.123	20.87	0.122	20.86	0.122
1.4	16QAM	1	0	20.92	0.124	20.92	0.124	20.86	0.122
1.4	16QAM	1	3	20.88	0.122	21.08	0.128	21.06	0.128
1.4	16QAM	1	5	20.76	0.119	20.96	0.125	20.64	0.116
1.4	16QAM	3	0	20.78	0.120	20.83	0.121	20.80	0.120
1.4	16QAM	3	1	20.96	0.125	20.78	0.120	20.83	0.121
1.4	16QAM	3	3	20.98	0.125	20.95	0.124	20.69	0.117
1.4	16QAM	6	0	20.99	0.126	20.92	0.124	20.87	0.122



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	21.63	0.146	21.75	0.150	21.70	0.148
20	QPSK	1	49	21.49	0.141	21.57	0.144	21.56	0.143
20	QPSK	1	99	21.41	0.138	21.54	0.143	21.66	0.147
20	QPSK	50	0	20.70	0.117	20.83	0.121	20.80	0.120
20	QPSK	50	24	20.70	0.117	20.78	0.120	20.78	0.120
20	QPSK	50	50	20.59	0.115	20.70	0.117	20.71	0.118
20	QPSK	100	0	20.69	0.117	20.73	0.118	20.80	0.120
20	16QAM	1	0	20.56	0.114	20.64	0.116	20.53	0.113
20	16QAM	1	49	20.71	0.118	20.48	0.112	20.62	0.115
20	16QAM	1	99	20.50	0.112	20.72	0.118	20.48	0.112
20	16QAM	50	0	20.37	0.109	20.42	0.110	20.52	0.113
20	16QAM	50	24	20.33	0.108	20.44	0.111	20.33	0.108
20	16QAM	50	50	20.29	0.107	20.30	0.107	20.30	0.107
20	16QAM	100	0	20.31	0.107	20.39	0.109	20.40	0.110



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	21.50	0.141	21.54	0.143	21.64	0.146
15	QPSK	1	37	21.54	0.143	21.63	0.146	21.55	0.143
15	QPSK	1	74	21.41	0.138	21.63	0.146	21.66	0.147
15	QPSK	36	0	20.64	0.116	20.71	0.118	20.74	0.119
15	QPSK	36	20	20.68	0.117	20.81	0.121	20.77	0.119
15	QPSK	36	39	20.73	0.118	20.72	0.118	20.81	0.121
15	QPSK	75	0	20.68	0.117	20.70	0.117	20.71	0.118
15	16QAM	1	0	20.38	0.109	20.60	0.115	20.32	0.108
15	16QAM	1	37	20.46	0.111	20.46	0.111	20.30	0.107
15	16QAM	1	74	20.32	0.108	20.62	0.115	20.41	0.110
15	16QAM	36	0	20.33	0.108	20.35	0.108	20.54	0.113
15	16QAM	36	20	20.28	0.107	20.35	0.108	20.41	0.110
15	16QAM	36	39	20.24	0.106	20.33	0.108	20.39	0.109
15	16QAM	75	0	20.35	0.108	20.36	0.109	20.45	0.111



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	21.42	0.139	21.61	0.145	21.44	0.139
10	QPSK	1	25	21.40	0.138	21.53	0.142	21.54	0.143
10	QPSK	1	49	21.48	0.141	21.31	0.135	21.54	0.143
10	QPSK	25	0	20.47	0.111	20.69	0.117	20.71	0.118
10	QPSK	25	12	20.59	0.115	20.65	0.116	20.69	0.117
10	QPSK	25	25	20.48	0.112	20.59	0.115	20.66	0.116
10	QPSK	50	0	20.54	0.113	20.64	0.116	20.56	0.114
10	16QAM	1	0	20.29	0.107	20.44	0.111	20.20	0.105
10	16QAM	1	25	20.56	0.114	20.30	0.107	20.62	0.115
10	16QAM	1	49	20.63	0.116	20.53	0.113	20.52	0.113
10	16QAM	25	0	20.29	0.107	20.28	0.107	20.27	0.106
10	16QAM	25	12	20.21	0.105	20.31	0.107	20.28	0.107
10	16QAM	25	25	20.55	0.114	20.46	0.111	20.55	0.114
10	16QAM	50	0	20.49	0.112	20.53	0.113	20.65	0.116



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	21.32	0.136	21.54	0.143	21.59	0.144
5	QPSK	1	12	21.38	0.137	21.53	0.142	21.50	0.141
5	QPSK	1	24	21.33	0.136	21.45	0.140	21.44	0.139
5	QPSK	12	0	20.55	0.114	20.55	0.114	20.59	0.115
5	QPSK	12	7	20.55	0.114	20.66	0.116	20.63	0.116
5	QPSK	12	13	20.50	0.112	20.67	0.117	20.59	0.115
5	QPSK	25	0	20.53	0.113	20.57	0.114	20.63	0.116
5	16QAM	1	0	20.19	0.104	20.60	0.115	20.28	0.107
5	16QAM	1	12	20.30	0.107	20.65	0.116	20.24	0.106
5	16QAM	1	24	20.24	0.106	20.59	0.115	20.19	0.104
5	16QAM	12	0	20.23	0.105	20.17	0.104	20.20	0.105
5	16QAM	12	7	20.26	0.106	20.30	0.107	20.28	0.107
5	16QAM	12	13	20.53	0.113	20.60	0.115	20.64	0.116
5	16QAM	25	0	20.54	0.113	20.65	0.116	20.58	0.114





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	21.44	0.139	21.45	0.140	21.57	0.144
3	QPSK	1	8	21.53	0.142	21.67	0.147	21.61	0.145
3	QPSK	1	14	21.33	0.136	21.52	0.142	21.52	0.142
3	QPSK	8	0	20.53	0.113	20.59	0.115	20.60	0.115
3	QPSK	8	4	20.59	0.115	20.67	0.117	20.69	0.117
3	QPSK	8	7	20.55	0.114	20.65	0.116	20.65	0.116
3	QPSK	15	0	20.55	0.114	20.61	0.115	20.55	0.114
3	16QAM	1	0	20.39	0.109	20.48	0.112	20.52	0.113
3	16QAM	1	8	20.61	0.115	20.61	0.115	20.35	0.108
3	16QAM	1	14	20.52	0.113	20.30	0.107	20.38	0.109
3	16QAM	8	0	20.31	0.107	20.32	0.108	20.41	0.110
3	16QAM	8	4	20.41	0.110	20.41	0.110	20.42	0.110
3	16QAM	8	7	20.63	0.116	20.71	0.118	20.75	0.119
3	16QAM	15	0	20.63	0.116	20.61	0.115	20.68	0.117



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	21.19	0.132	21.40	0.138	21.41	0.138
1.4	QPSK	1	3	21.53	0.142	21.53	0.142	21.57	0.144
1.4	QPSK	1	5	21.39	0.138	21.48	0.141	21.50	0.141
1.4	QPSK	3	0	21.47	0.140	21.44	0.139	21.43	0.139
1.4	QPSK	3	1	21.43	0.139	21.53	0.142	21.58	0.144
1.4	QPSK	3	3	21.42	0.139	21.49	0.141	21.48	0.141
1.4	QPSK	6	0	20.31	0.107	20.40	0.110	20.40	0.110
1.4	16QAM	1	0	20.28	0.107	20.75	0.119	20.41	0.110
1.4	16QAM	1	3	20.41	0.110	20.49	0.112	20.53	0.113
1.4	16QAM	1	5	20.47	0.111	20.63	0.116	20.43	0.110
1.4	16QAM	3	0	20.50	0.112	20.54	0.113	20.45	0.111
1.4	16QAM	3	1	20.51	0.112	20.54	0.113	20.56	0.114
1.4	16QAM	3	3	20.50	0.112	20.62	0.115	20.51	0.112
1.4	16QAM	6	0	20.41	0.110	20.42	0.110	20.33	0.108



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	19.76	0.095	19.77	0.095	19.58	0.091
10	QPSK	1	25	19.62	0.092	19.65	0.092	19.45	0.088
10	QPSK	1	49	19.54	0.090	19.66	0.092	19.34	0.086
10	QPSK	25	0	18.67	0.074	18.69	0.074	18.50	0.071
10	QPSK	25	12	18.43	0.070	18.45	0.070	18.50	0.071
10	QPSK	25	25	18.43	0.070	18.54	0.071	18.59	0.072
10	QPSK	50	0	18.49	0.071	18.37	0.069	18.51	0.071
10	16QAM	1	0	18.53	0.071	18.72	0.074	18.43	0.070
10	16QAM	1	25	18.76	0.075	18.79	0.076	18.47	0.070
10	16QAM	1	49	18.59	0.072	18.65	0.073	18.72	0.074
10	16QAM	25	0	18.68	0.074	18.69	0.074	18.51	0.071
10	16QAM	25	12	18.62	0.073	18.70	0.074	18.48	0.070
10	16QAM	25	25	18.65	0.073	18.58	0.072	18.61	0.073
10	16QAM	50	0	18.66	0.073	18.57	0.072	18.47	0.070



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	19.71	0.094	19.67	0.093	19.65	0.092
5	QPSK	1	12	19.61	0.091	19.72	0.094	19.56	0.090
5	QPSK	1	24	19.61	0.091	19.56	0.090	19.56	0.090
5	QPSK	12	0	18.58	0.072	18.63	0.073	18.49	0.071
5	QPSK	12	7	18.65	0.073	18.66	0.073	18.58	0.072
5	QPSK	12	13	18.70	0.074	18.54	0.071	18.49	0.071
5	QPSK	25	0	18.61	0.073	18.57	0.072	18.49	0.071
5	16QAM	1	0	18.90	0.078	18.83	0.076	18.59	0.072
5	16QAM	1	12	18.60	0.072	18.82	0.076	18.58	0.072
5	16QAM	1	24	18.47	0.070	18.82	0.076	18.65	0.073
5	16QAM	12	0	18.56	0.072	18.65	0.073	18.64	0.073
5	16QAM	12	7	18.63	0.073	18.66	0.073	18.48	0.070
5	16QAM	12	13	18.63	0.073	18.54	0.071	18.59	0.072
5	16QAM	25	0	18.64	0.073	18.69	0.074	18.64	0.073



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	19.40	0.087	19.71	0.094	19.56	0.090
3	QPSK	1	8	19.66	0.092	19.67	0.093	19.58	0.091
3	QPSK	1	14	19.67	0.093	19.65	0.092	19.39	0.087
3	QPSK	8	0	18.51	0.071	18.64	0.073	18.62	0.073
3	QPSK	8	4	18.65	0.073	18.71	0.074	18.68	0.074
3	QPSK	8	7	18.60	0.072	18.62	0.073	18.49	0.071
3	QPSK	15	0	18.58	0.072	18.64	0.073	18.63	0.073
3	16QAM	1	0	18.60	0.072	18.71	0.074	18.78	0.076
3	16QAM	1	8	18.53	0.071	18.79	0.076	18.63	0.073
3	16QAM	1	14	18.58	0.072	18.84	0.077	18.59	0.072
3	16QAM	8	0	18.54	0.071	18.63	0.073	18.37	0.069
3	16QAM	8	4	18.70	0.074	18.81	0.076	18.38	0.069
3	16QAM	8	7	18.62	0.073	18.68	0.074	18.42	0.070
3	16QAM	15	0	18.56	0.072	18.58	0.072	18.13	0.065



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	19.61	0.091	19.68	0.093	19.72	0.094
1.4	QPSK	1	3	19.74	0.094	19.67	0.093	19.74	0.094
1.4	QPSK	1	5	19.63	0.092	19.57	0.091	19.58	0.091
1.4	QPSK	3	0	19.64	0.092	19.70	0.093	19.66	0.092
1.4	QPSK	3	1	19.70	0.093	19.57	0.091	19.67	0.093
1.4	QPSK	3	3	19.71	0.094	19.63	0.092	19.63	0.092
1.4	QPSK	6	0	18.74	0.075	18.73	0.075	18.72	0.074
1.4	16QAM	1	0	18.69	0.074	18.50	0.071	18.67	0.074
1.4	16QAM	1	3	18.49	0.071	18.73	0.075	18.62	0.073
1.4	16QAM	1	5	18.88	0.077	18.56	0.072	18.62	0.073
1.4	16QAM	3	0	18.41	0.069	18.39	0.069	18.53	0.071
1.4	16QAM	3	1	18.44	0.070	18.71	0.074	18.57	0.072
1.4	16QAM	3	3	18.52	0.071	18.63	0.073	18.51	0.071
1.4	16QAM	6	0	18.71	0.074	18.58	0.072	18.62	0.073



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	17.66	0.058	17.82	0.061	17.71	0.059
10	QPSK	1	25	17.52	0.056	17.65	0.058	17.68	0.059
10	QPSK	1	49	17.62	0.058	17.63	0.058	17.62	0.058
10	QPSK	25	0	16.91	0.049	17.01	0.050	16.92	0.049
10	QPSK	25	12	16.88	0.049	16.82	0.048	16.61	0.046
10	QPSK	25	25	16.93	0.049	16.99	0.050	16.92	0.049
10	QPSK	50	0	16.94	0.049	16.96	0.050	16.87	0.049
10	16QAM	1	0	16.87	0.049	16.42	0.044	16.55	0.045
10	16QAM	1	25	16.62	0.046	16.57	0.045	16.71	0.047
10	16QAM	1	49	16.71	0.047	16.76	0.047	16.65	0.046
10	16QAM	25	0	16.60	0.046	16.62	0.046	16.56	0.045
10	16QAM	25	12	16.64	0.046	16.68	0.047	16.57	0.045
10	16QAM	25	25	16.69	0.047	16.70	0.047	16.64	0.046
10	16QAM	50	0	16.59	0.046	16.67	0.046	16.72	0.047



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	17.41	0.055	17.57	0.057	17.52	0.056
5	QPSK	1	12	17.57	0.057	17.73	0.059	17.57	0.057
5	QPSK	1	24	17.53	0.057	17.72	0.059	17.58	0.057
5	QPSK	12	0	16.64	0.046	16.71	0.047	16.70	0.047
5	QPSK	12	7	16.75	0.047	16.77	0.048	16.74	0.047
5	QPSK	12	13	16.70	0.047	16.73	0.047	16.70	0.047
5	QPSK	25	0	16.66	0.046	16.78	0.048	16.74	0.047
5	16QAM	1	0	16.67	0.046	16.69	0.047	16.71	0.047
5	16QAM	1	12	16.84	0.048	16.79	0.048	16.80	0.048
5	16QAM	1	24	16.80	0.048	16.78	0.048	16.74	0.047
5	16QAM	12	0	16.54	0.045	16.51	0.045	16.54	0.045
5	16QAM	12	7	16.68	0.047	16.73	0.047	16.57	0.045
5	16QAM	12	13	16.63	0.046	16.60	0.046	16.65	0.046
5	16QAM	25	0	16.64	0.046	16.60	0.046	16.62	0.046





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	17.49	0.056	17.58	0.057	17.43	0.055
3	QPSK	1	8	17.67	0.058	17.66	0.058	17.76	0.060
3	QPSK	1	14	17.61	0.058	17.72	0.059	17.67	0.058
3	QPSK	8	0	16.72	0.047	16.70	0.047	16.70	0.047
3	QPSK	8	4	16.75	0.047	16.78	0.048	16.79	0.048
3	QPSK	8	7	16.70	0.047	16.78	0.048	16.72	0.047
3	QPSK	15	0	16.69	0.047	16.77	0.048	16.63	0.046
3	16QAM	1	0	16.70	0.047	17.06	0.051	16.65	0.046
3	16QAM	1	8	16.90	0.049	16.88	0.049	16.83	0.048
3	16QAM	1	14	16.73	0.047	16.78	0.048	16.64	0.046
3	16QAM	8	0	16.70	0.047	16.59	0.046	16.62	0.046
3	16QAM	8	4	16.75	0.047	16.72	0.047	16.83	0.048
3	16QAM	8	7	16.59	0.046	16.62	0.046	16.68	0.047
3	16QAM	15	0	16.57	0.045	16.50	0.045	16.49	0.045



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	17.52	0.056	17.56	0.057	17.49	0.056
1.4	QPSK	1	3	17.63	0.058	17.62	0.058	17.64	0.058
1.4	QPSK	1	5	17.52	0.056	17.57	0.057	17.53	0.057
1.4	QPSK	3	0	17.47	0.056	17.60	0.058	17.58	0.057
1.4	QPSK	3	1	17.68	0.059	17.68	0.059	17.69	0.059
1.4	QPSK	3	3	17.63	0.058	17.65	0.058	17.61	0.058
1.4	QPSK	6	0	16.69	0.047	16.66	0.046	16.64	0.046
1.4	16QAM	1	0	16.73	0.047	16.67	0.046	16.52	0.045
1.4	16QAM	1	3	16.54	0.045	16.97	0.050	16.64	0.046
1.4	16QAM	1	5	16.66	0.046	16.67	0.046	16.66	0.046
1.4	16QAM	3	0	16.50	0.045	16.53	0.045	16.54	0.045
1.4	16QAM	3	1	16.66	0.046	16.74	0.047	16.58	0.045
1.4	16QAM	3	3	16.49	0.045	16.63	0.046	16.63	0.046
1.4	16QAM	6	0	16.42	0.044	16.62	0.046	16.52	0.045



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	/	/	18.93	0.078	/	/
10	QPSK	1	25	/	/	18.55	0.072	/	/
10	QPSK	1	49	/	/	18.65	0.073	/	/
10	QPSK	25	0	/	/	18.02	0.063	/	/
10	QPSK	25	12	/	/	17.83	0.061	/	/
10	QPSK	25	25	/	/	17.77	0.060	/	/
10	QPSK	50	0	/	/	17.80	0.060	/	/
10	16QAM	1	0	/	/	17.92	0.062	/	/
10	16QAM	1	25	/	/	17.84	0.061	/	/
10	16QAM	1	49	/	/	18.14	0.065	/	/
10	16QAM	25	0	/	/	17.62	0.058	/	/
10	16QAM	25	12	/	/	17.57	0.057	/	/
10	16QAM	25	25	/	/	17.70	0.059	/	/
10	16QAM	50	0	/	/	17.47	0.056	/	/



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	18.67	0.074	18.79	0.076	18.79	0.076
5	QPSK	1	12	18.75	0.075	18.48	0.070	18.68	0.074
5	QPSK	1	24	18.51	0.071	18.69	0.074	18.72	0.074
5	QPSK	12	0	17.73	0.059	17.81	0.060	17.90	0.062
5	QPSK	12	7	17.80	0.060	17.79	0.060	17.88	0.061
5	QPSK	12	13	17.72	0.059	17.88	0.061	17.86	0.061
5	QPSK	25	0	17.79	0.060	17.76	0.060	17.86	0.061
5	16QAM	1	0	17.86	0.061	18.22	0.066	18.01	0.063
5	16QAM	1	12	17.92	0.062	18.07	0.064	17.95	0.062
5	16QAM	1	24	18.02	0.063	17.84	0.061	17.85	0.061
5	16QAM	12	0	17.45	0.056	17.42	0.055	17.35	0.054
5	16QAM	12	7	17.46	0.056	17.35	0.054	17.47	0.056
5	16QAM	12	13	17.43	0.055	17.42	0.055	17.46	0.056
5	16QAM	25	0	17.47	0.056	17.51	0.056	17.53	0.057



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	21.80	0.151	21.83	0.152	21.77	0.150
20	QPSK	1	49	21.78	0.151	21.72	0.149	21.65	0.146
20	QPSK	1	99	21.72	0.149	21.68	0.147	21.66	0.147
20	QPSK	50	0	20.61	0.115	20.70	0.117	20.63	0.116
20	QPSK	50	24	20.62	0.115	20.67	0.117	20.67	0.117
20	QPSK	50	50	20.67	0.117	20.63	0.116	20.69	0.117
20	QPSK	100	0	20.60	0.115	20.69	0.117	20.65	0.116
20	16QAM	1	0	20.66	0.116	20.66	0.116	20.68	0.117
20	16QAM	1	49	20.50	0.112	20.80	0.120	20.76	0.119
20	16QAM	1	99	20.75	0.119	20.60	0.115	20.39	0.109
20	16QAM	50	0	20.68	0.117	20.65	0.116	20.63	0.116
20	16QAM	50	24	20.64	0.116	20.69	0.117	20.70	0.117
20	16QAM	50	50	20.72	0.118	20.69	0.117	20.76	0.119
20	16QAM	100	0	20.75	0.119	20.76	0.119	20.63	0.116



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	21.61	0.145	21.64	0.146	21.55	0.143
15	QPSK	1	37	21.40	0.138	21.76	0.150	21.64	0.146
15	QPSK	1	74	21.77	0.150	21.69	0.148	21.77	0.150
15	QPSK	36	0	20.47	0.111	20.56	0.114	20.55	0.114
15	QPSK	36	20	20.46	0.111	20.65	0.116	20.62	0.115
15	QPSK	36	39	20.58	0.114	20.59	0.115	20.56	0.114
15	QPSK	75	0	20.50	0.112	20.56	0.114	20.52	0.113
15	16QAM	1	0	20.59	0.115	20.67	0.117	20.61	0.115
15	16QAM	1	37	20.72	0.118	20.75	0.119	20.61	0.115
15	16QAM	1	74	20.67	0.117	20.79	0.120	20.79	0.120
15	16QAM	36	0	20.46	0.111	20.51	0.112	20.54	0.113
15	16QAM	36	20	20.55	0.114	20.48	0.112	20.61	0.115
15	16QAM	36	39	20.60	0.115	20.69	0.117	20.66	0.116
15	16QAM	75	0	20.47	0.111	20.49	0.112	20.58	0.114



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	21.58	0.144	21.57	0.144	21.67	0.147
10	QPSK	1	25	21.69	0.148	21.79	0.151	21.67	0.147
10	QPSK	1	49	21.58	0.144	21.66	0.147	21.58	0.144
10	QPSK	25	0	20.58	0.114	20.59	0.115	20.55	0.114
10	QPSK	25	12	20.54	0.113	20.66	0.116	20.59	0.115
10	QPSK	25	25	20.45	0.111	20.58	0.114	20.54	0.113
10	QPSK	50	0	20.51	0.112	20.60	0.115	20.58	0.114
10	16QAM	1	0	20.38	0.109	20.31	0.107	20.30	0.107
10	16QAM	1	25	20.68	0.117	20.64	0.116	20.71	0.118
10	16QAM	1	49	20.63	0.116	20.71	0.118	20.50	0.112
10	16QAM	25	0	20.53	0.113	20.52	0.113	20.49	0.112
10	16QAM	25	12	20.69	0.117	20.49	0.112	20.49	0.112
10	16QAM	25	25	20.49	0.112	20.69	0.117	20.79	0.120
10	16QAM	50	0	20.45	0.111	20.38	0.109	20.42	0.110



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	21.72	0.149	21.77	0.150	21.71	0.148
5	QPSK	1	12	21.71	0.148	21.66	0.147	21.69	0.148
5	QPSK	1	24	21.67	0.147	21.75	0.150	21.76	0.150
5	QPSK	12	0	20.57	0.114	20.48	0.112	20.55	0.114
5	QPSK	12	7	20.58	0.114	20.63	0.116	20.55	0.114
5	QPSK	12	13	20.57	0.114	20.56	0.114	20.59	0.115
5	QPSK	25	0	20.56	0.114	20.54	0.113	20.56	0.114
5	16QAM	1	0	20.69	0.117	20.59	0.115	20.97	0.125
5	16QAM	1	12	20.67	0.117	20.60	0.115	20.97	0.125
5	16QAM	1	24	20.70	0.117	20.57	0.114	20.96	0.125
5	16QAM	12	0	20.40	0.110	20.39	0.109	20.39	0.109
5	16QAM	12	7	20.69	0.117	20.50	0.112	20.49	0.112
5	16QAM	12	13	20.49	0.112	20.40	0.110	20.59	0.115
5	16QAM	25	0	20.59	0.115	20.44	0.111	20.42	0.110





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	21.66	0.147	21.73	0.149	21.65	0.146
3	QPSK	1	8	21.76	0.150	21.79	0.151	21.62	0.145
3	QPSK	1	14	21.77	0.150	21.64	0.146	21.64	0.146
3	QPSK	8	0	20.45	0.111	20.40	0.110	20.42	0.110
3	QPSK	8	4	20.51	0.112	20.45	0.111	20.46	0.111
3	QPSK	8	7	20.51	0.112	20.45	0.111	20.41	0.110
3	QPSK	15	0	20.43	0.110	20.51	0.112	20.44	0.111
3	16QAM	1	0	20.59	0.115	20.50	0.112	20.44	0.111
3	16QAM	1	8	20.63	0.116	20.57	0.114	20.53	0.113
3	16QAM	1	14	20.56	0.114	20.53	0.113	20.41	0.110
3	16QAM	8	0	20.38	0.109	20.51	0.112	20.43	0.110
3	16QAM	8	4	20.45	0.111	20.42	0.110	20.48	0.112
3	16QAM	8	7	20.35	0.108	20.40	0.110	20.43	0.110
3	16QAM	15	0	20.38	0.109	20.42	0.110	20.37	0.109



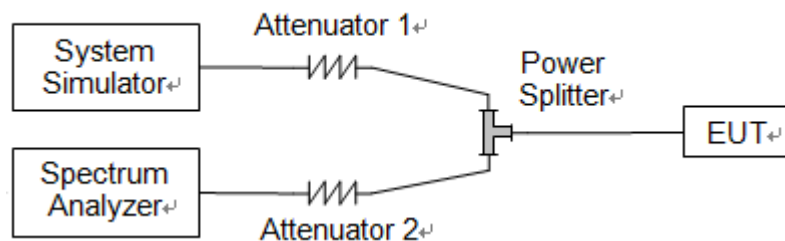
LTE Band 66				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				131979		132322		132665	
Frequency (MHz)				1710.7		1745		1779.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	21.72	0.149	21.75	0.150	21.70	0.148
1.4	QPSK	1	3	21.62	0.145	21.60	0.145	21.59	0.144
1.4	QPSK	1	5	21.59	0.144	21.57	0.144	21.55	0.143
1.4	QPSK	3	0	21.32	0.136	21.32	0.136	21.28	0.134
1.4	QPSK	3	1	21.36	0.137	21.33	0.136	21.31	0.135
1.4	QPSK	3	3	21.38	0.137	21.42	0.139	21.31	0.135
1.4	QPSK	6	0	20.41	0.110	20.39	0.109	20.38	0.109
1.4	16QAM	1	0	20.44	0.111	20.44	0.111	20.38	0.109
1.4	16QAM	1	3	20.40	0.110	20.60	0.115	20.58	0.114
1.4	16QAM	1	5	20.28	0.107	20.48	0.112	20.16	0.104
1.4	16QAM	3	0	20.30	0.107	20.35	0.108	20.32	0.108
1.4	16QAM	3	1	20.48	0.112	20.30	0.107	20.35	0.108
1.4	16QAM	3	3	20.50	0.112	20.47	0.111	20.21	0.105
1.4	16QAM	6	0	20.51	0.112	20.44	0.111	20.39	0.109

## 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	1.09	1.27
	Low	16QAM	1.10	1.30
	Mid	QPSK	1.09	1.28
	Mid	16QAM	1.10	1.27
	High	QPSK	1.10	1.28
	High	16QAM	1.10	1.30
3	Low	QPSK	2.69	2.92
	Low	16QAM	2.70	2.93
	Mid	QPSK	2.69	3.21
	Mid	16QAM	2.69	2.93
	High	QPSK	2.69	2.91
	High	16QAM	2.69	2.93
5	Low	QPSK	4.51	5.19
	Low	16QAM	4.50	5.12
	Mid	QPSK	4.51	5.21
	Mid	16QAM	4.51	5.17
	High	QPSK	4.52	5.22
	High	16QAM	4.51	5.19
10	Low	QPSK	9.01	10.04
	Low	16QAM	8.99	9.97
	Mid	QPSK	9.03	10.12
	Mid	16QAM	8.99	9.94
	High	QPSK	9.04	10.12
	High	16QAM	9.00	9.94
15	Low	QPSK	13.50	15.02
	Low	16QAM	13.50	15.21
	Mid	QPSK	13.50	15.05
	Mid	16QAM	13.52	15.04
	High	QPSK	13.53	15.07
	High	16QAM	13.52	15.00
20	Low	QPSK	17.95	19.76
	Low	16QAM	17.97	19.67
	Mid	QPSK	18.00	19.74
	Mid	16QAM	18.02	19.80
	High	QPSK	18.02	19.64
	High	16QAM	18.00	20.19



LTE Band 4				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.27
	Low	16QAM	1.10	1.29
	Mid	QPSK	1.09	1.27
	Mid	16QAM	1.10	1.28
	High	QPSK	1.09	1.26
	High	16QAM	1.10	1.31
3	Low	QPSK	2.69	2.92
	Low	16QAM	2.70	2.93
	Mid	QPSK	2.69	2.92
	Mid	16QAM	2.69	2.93
	High	QPSK	2.69	2.92
	High	16QAM	2.70	2.94
5	Low	QPSK	4.52	5.21
	Low	16QAM	4.52	5.21
	Mid	QPSK	4.52	5.20
	Mid	16QAM	4.52	5.15
	High	QPSK	4.52	5.20
	High	16QAM	4.52	5.15
10	Low	QPSK	9.00	10.03
	Low	16QAM	8.99	10.05
	Mid	QPSK	9.05	10.72
	Mid	16QAM	8.99	10.00
	High	QPSK	9.02	9.97
	High	16QAM	9.00	9.99
15	Low	QPSK	13.49	15.00
	Low	16QAM	13.51	15.08
	Mid	QPSK	13.51	15.97
	Mid	16QAM	13.51	14.95
	High	QPSK	13.48	15.03
	High	16QAM	13.50	14.93
20	Low	QPSK	17.98	19.86
	Low	16QAM	18.03	19.75
	Mid	QPSK	17.98	19.76
	Mid	16QAM	18.05	19.80
	High	QPSK	17.97	19.91
	High	16QAM	17.98	19.70



LTE Band 5				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.27
	Low	16QAM	1.10	1.29
	Mid	QPSK	1.09	1.28
	Mid	16QAM	1.10	1.29
	High	QPSK	1.09	1.29
	High	16QAM	1.09	1.29
3	Low	QPSK	2.69	2.91
	Low	16QAM	2.68	2.93
	Mid	QPSK	2.69	2.91
	Mid	16QAM	2.69	2.93
	High	QPSK	2.69	2.91
	High	16QAM	2.69	2.92
5	Low	QPSK	4.52	5.20
	Low	16QAM	4.50	5.10
	Mid	QPSK	4.52	5.22
	Mid	16QAM	4.50	5.11
	High	QPSK	4.51	5.17
	High	16QAM	4.52	5.15
10	Low	QPSK	9.02	10.06
	Low	16QAM	8.97	9.85
	Mid	QPSK	9.02	10.11
	Mid	16QAM	8.99	10.02
	High	QPSK	9.00	10.09
	High	16QAM	8.99	10.01



LTE Band 12				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.27
	Low	16QAM	1.10	1.30
	Mid	QPSK	1.09	1.28
	Mid	16QAM	1.10	1.29
	High	QPSK	1.10	1.28
	High	16QAM	1.10	1.31
3	Low	QPSK	2.69	2.92
	Low	16QAM	2.69	2.92
	Mid	QPSK	2.69	2.93
	Mid	16QAM	2.68	2.85
	High	QPSK	2.69	2.93
	High	16QAM	2.68	2.93
5	Low	QPSK	4.50	5.20
	Low	16QAM	4.51	5.15
	Mid	QPSK	4.52	5.24
	Mid	16QAM	4.51	5.13
	High	QPSK	4.50	5.09
	High	16QAM	4.50	5.10
10	Low	QPSK	8.98	9.92
	Low	16QAM	8.93	9.95
	Mid	QPSK	9.04	10.11
	Mid	16QAM	9.00	9.96
	High	QPSK	9.01	10.02
	High	16QAM	8.95	9.66



LTE Band 13				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
5	Low	QPSK	4.51	5.22
	Low	16QAM	4.51	5.15
	Mid	QPSK	4.52	5.21
	Mid	16QAM	4.51	5.18
	High	QPSK	4.52	5.19
	High	16QAM	4.51	5.20
10	Low	QPSK	8.98	10.16
	Low	16QAM	8.99	10.02
	Mid	QPSK	9.02	10.07
	Mid	16QAM	8.99	9.99
	High	QPSK	9.02	10.14
	High	16QAM	8.99	9.99

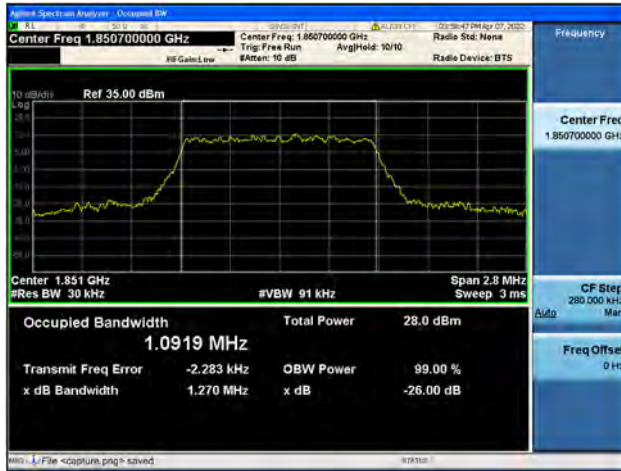




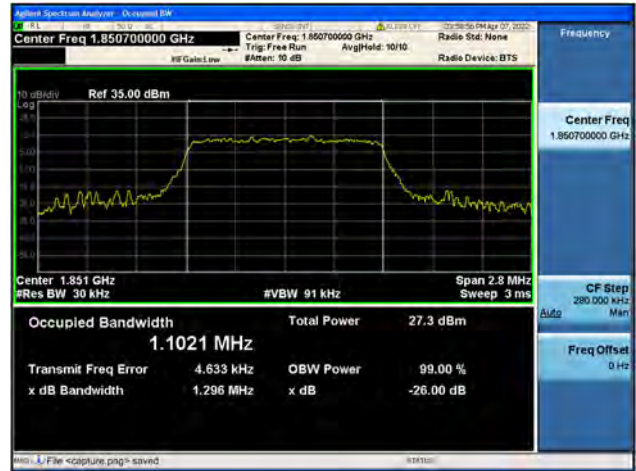
LTE Band 66				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.27
	Low	16QAM	1.10	1.28
	Mid	QPSK	1.09	1.24
	Mid	16QAM	1.10	1.30
	High	QPSK	1.10	1.27
	High	16QAM	1.10	1.30
3	Low	QPSK	2.69	2.92
	Low	16QAM	2.70	2.94
	Mid	QPSK	2.69	2.93
	Mid	16QAM	2.71	2.91
	High	QPSK	2.69	2.92
	High	16QAM	2.69	2.92
5	Low	QPSK	4.52	5.18
	Low	16QAM	4.52	5.13
	Mid	QPSK	4.51	5.14
	Mid	16QAM	4.52	5.19
	High	QPSK	4.51	5.21
	High	16QAM	4.51	5.12
10	Low	QPSK	9.04	10.19
	Low	16QAM	8.98	10.06
	Mid	QPSK	9.03	10.14
	Mid	16QAM	8.99	9.98
	High	QPSK	9.01	10.04
	High	16QAM	8.98	9.90
15	Low	QPSK	13.48	15.10
	Low	16QAM	13.52	15.04
	Mid	QPSK	13.52	15.04
	Mid	16QAM	13.49	14.95
	High	QPSK	13.47	14.93
	High	16QAM	13.48	15.09
20	Low	QPSK	17.97	19.67
	Low	16QAM	18.02	19.73
	Mid	QPSK	17.98	19.73
	Mid	16QAM	18.02	19.72
	High	QPSK	17.95	19.75
	High	16QAM	17.94	19.66



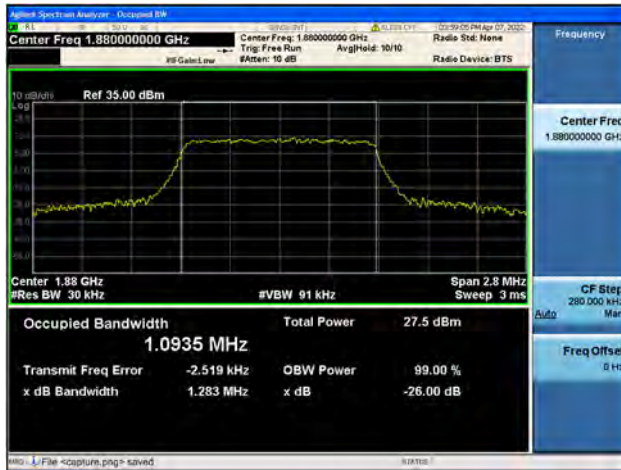
Band2 / 1.4MHz / Low CH / QPSK



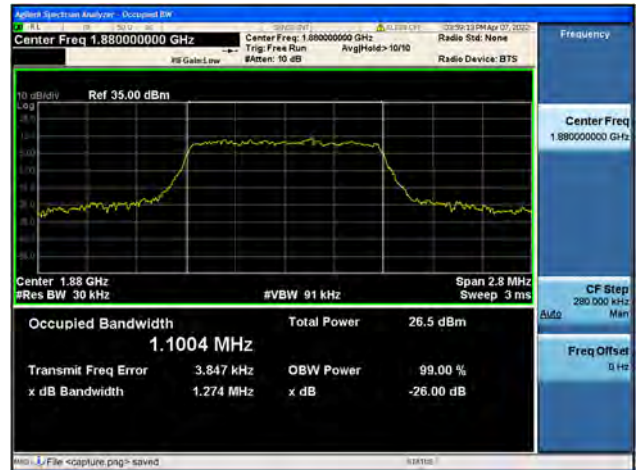
Band2 / 1.4MHz / Low CH / 16QAM



Band2 / 1.4MHz / Mid CH / QPSK



Band2 / 1.4MHz / Mid CH / 16QAM



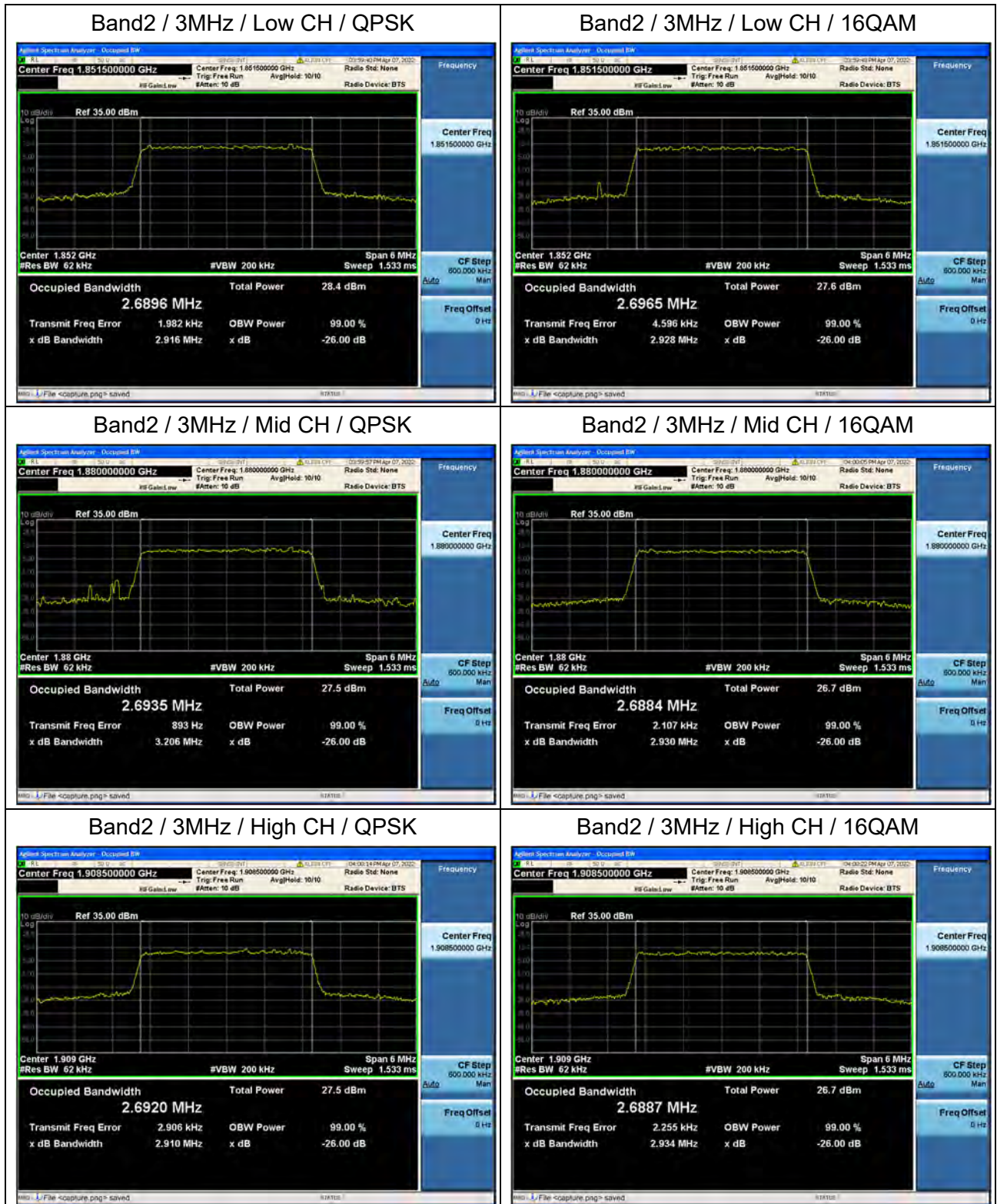
Band2 / 1.4MHz / High CH / QPSK



Band2 / 1.4MHz / High CH / 16QAM





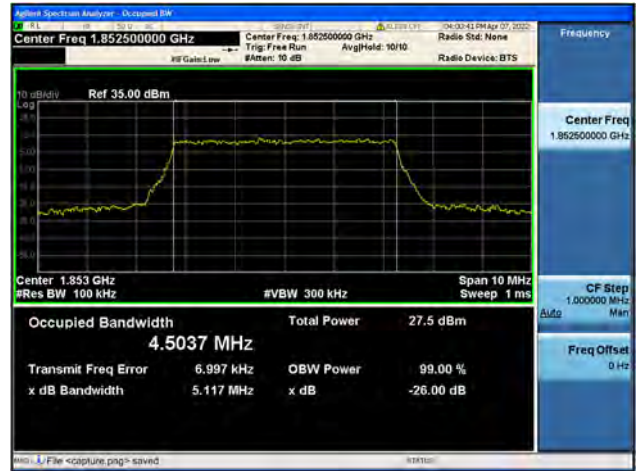




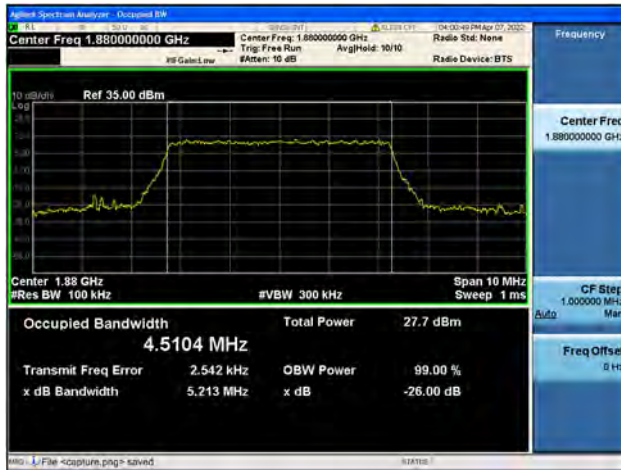
Band2 / 5MHz / Low CH / QPSK



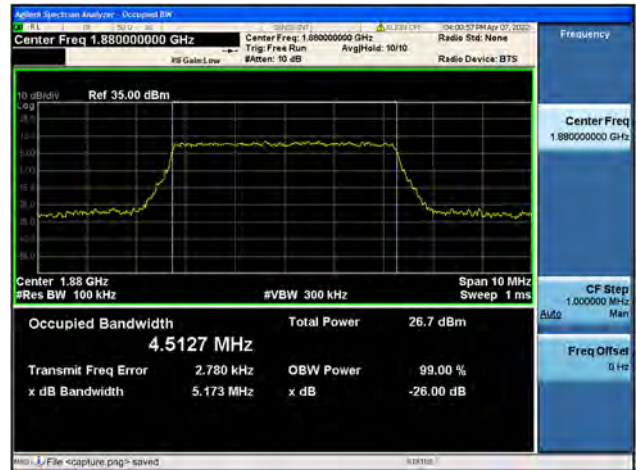
Band2 / 5MHz / Low CH / 16QAM



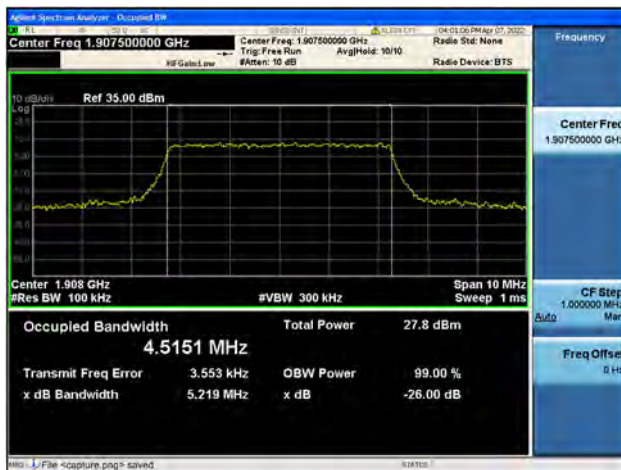
Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / Mid CH / 16QAM



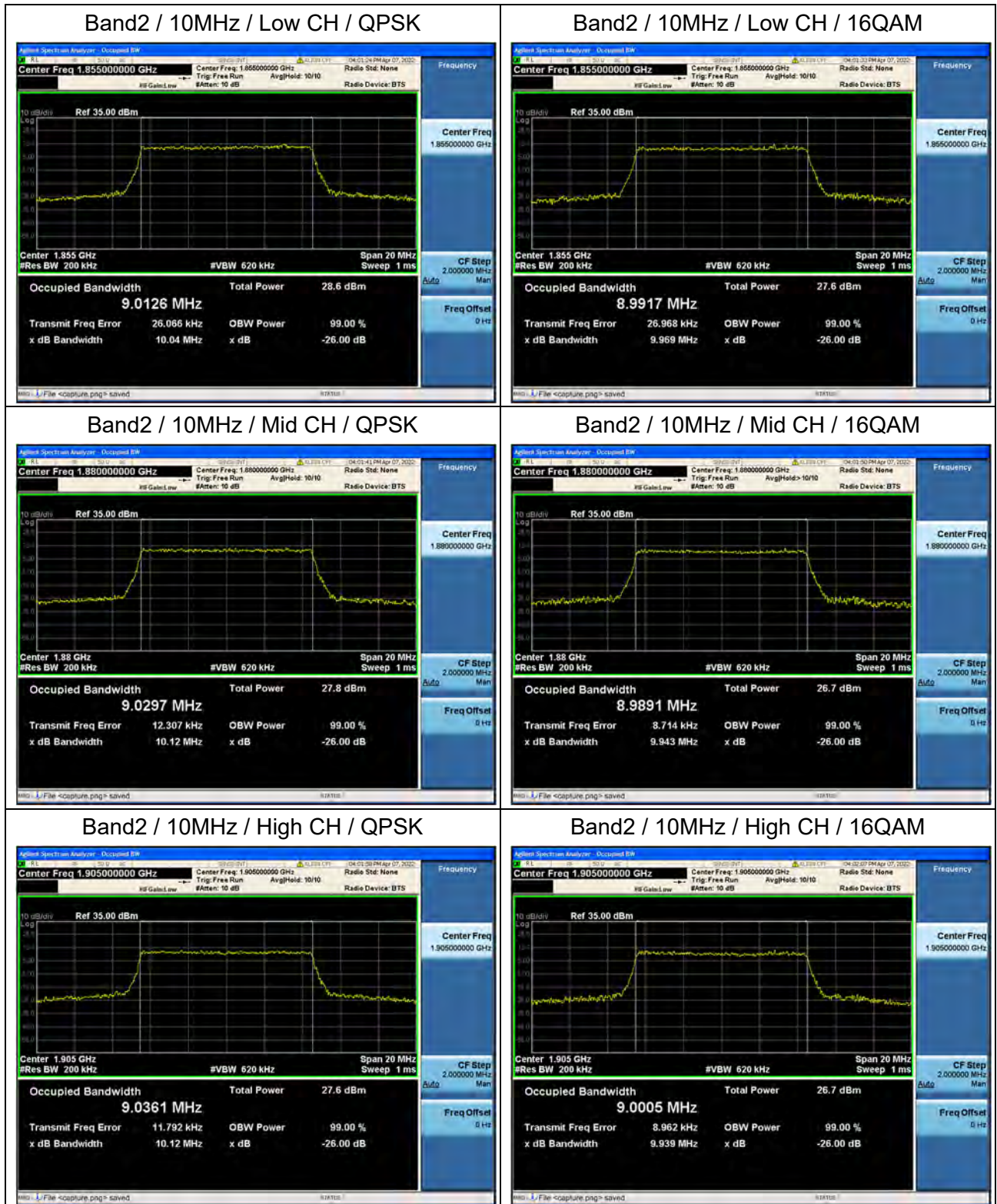
Band2 / 5MHz / High CH / QPSK

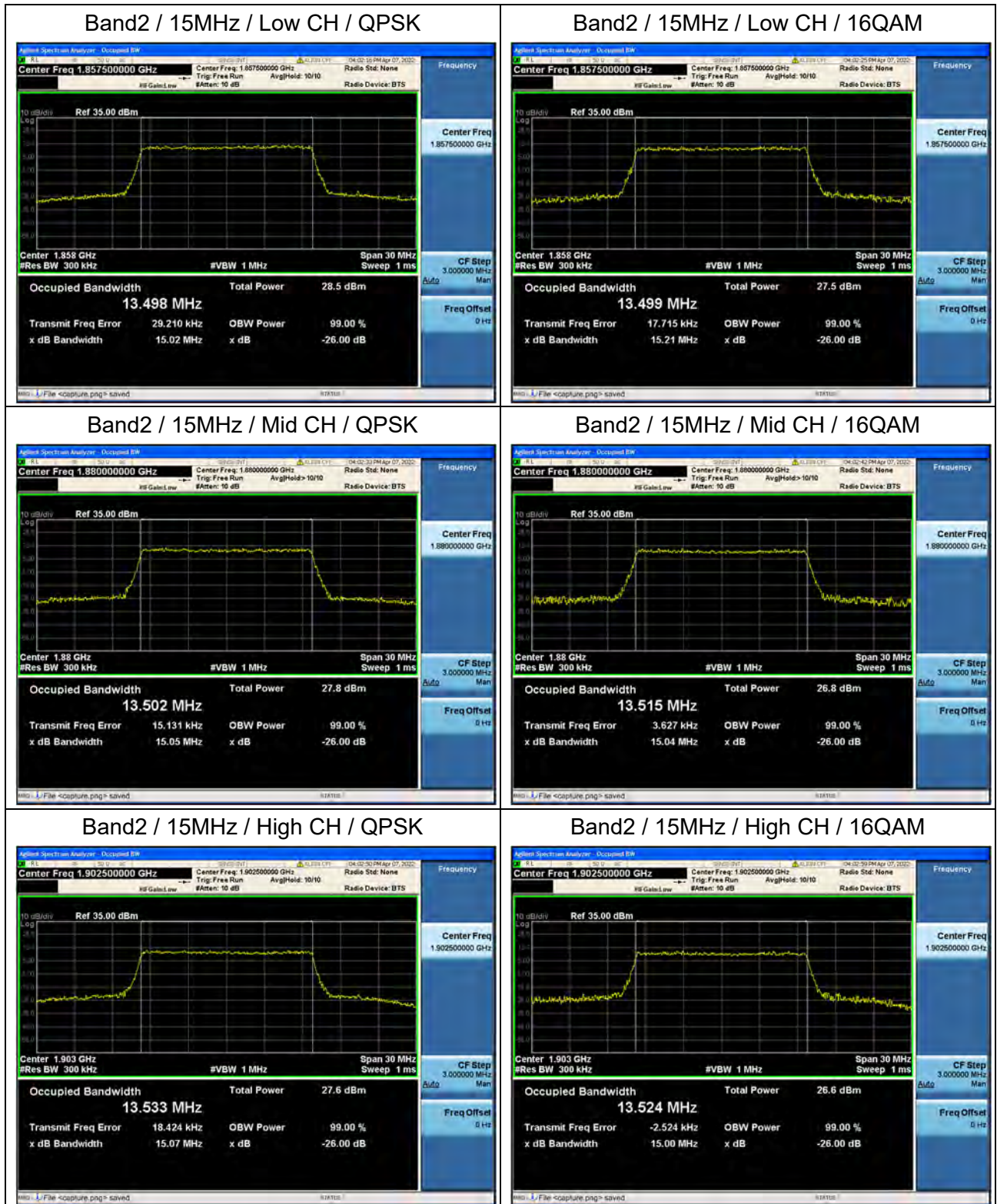


Band2 / 5MHz / High CH / 16QAM

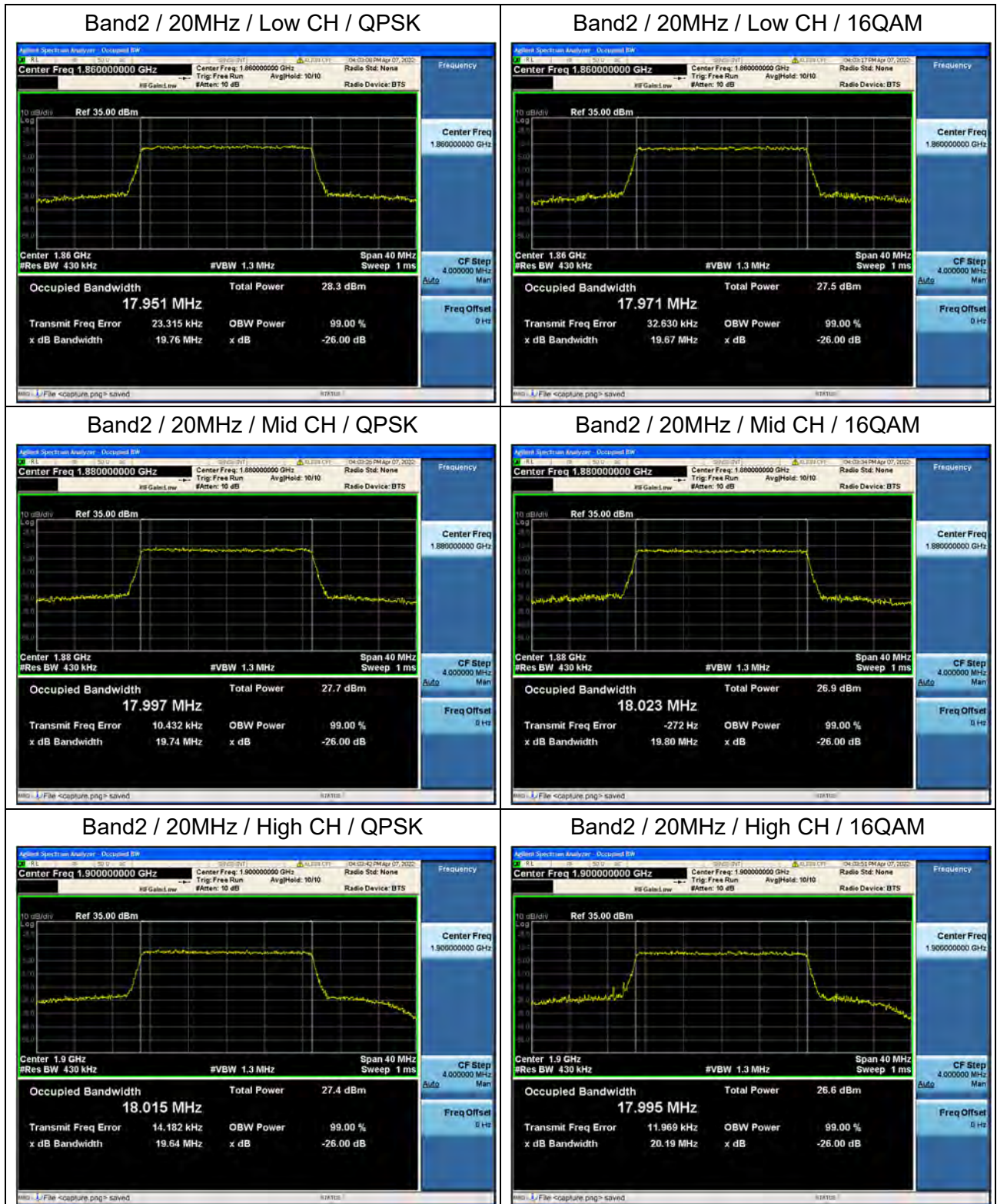










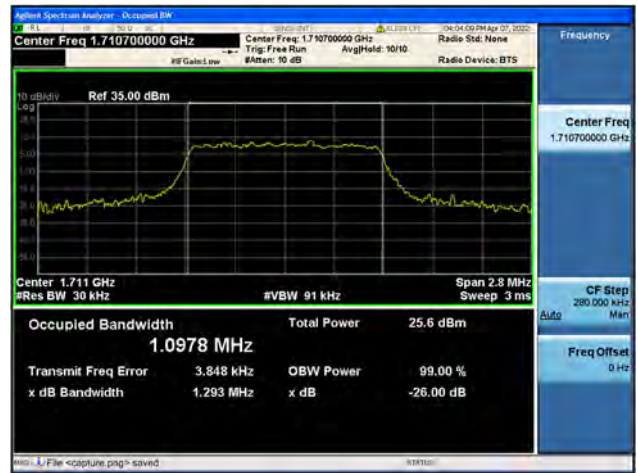




Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Mid CH / QPSK



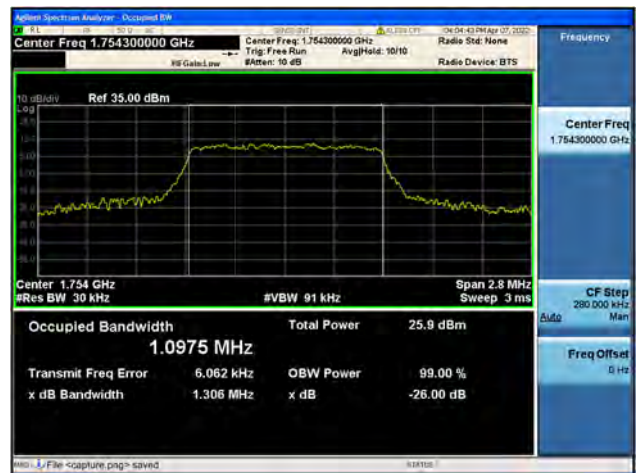
Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / High CH / QPSK



Band4 / 1.4MHz / High CH / 16QAM





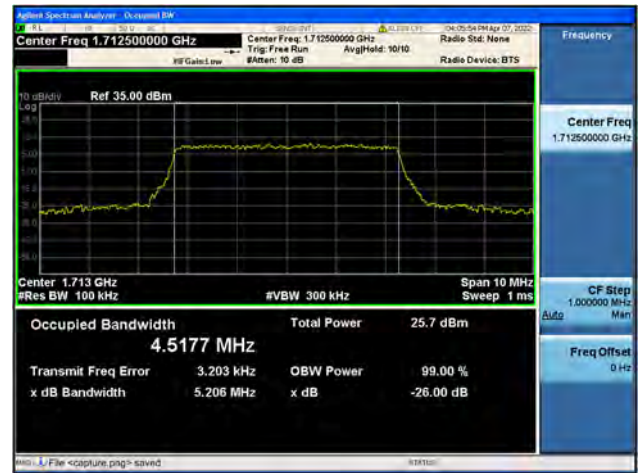




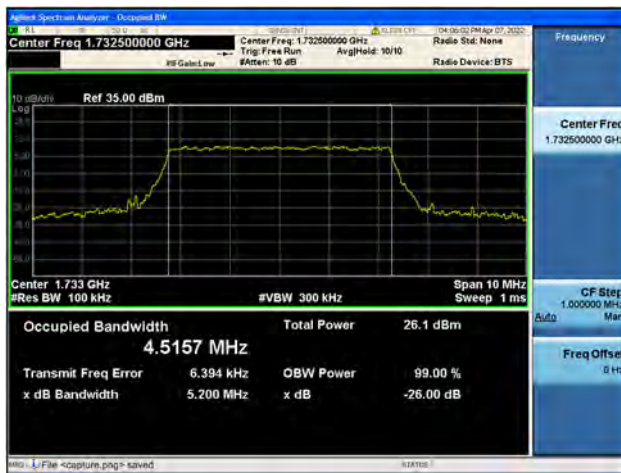
Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



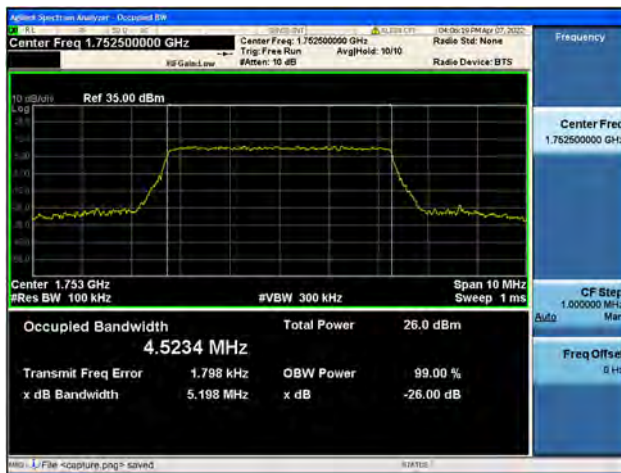
Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / Mid CH / 16QAM



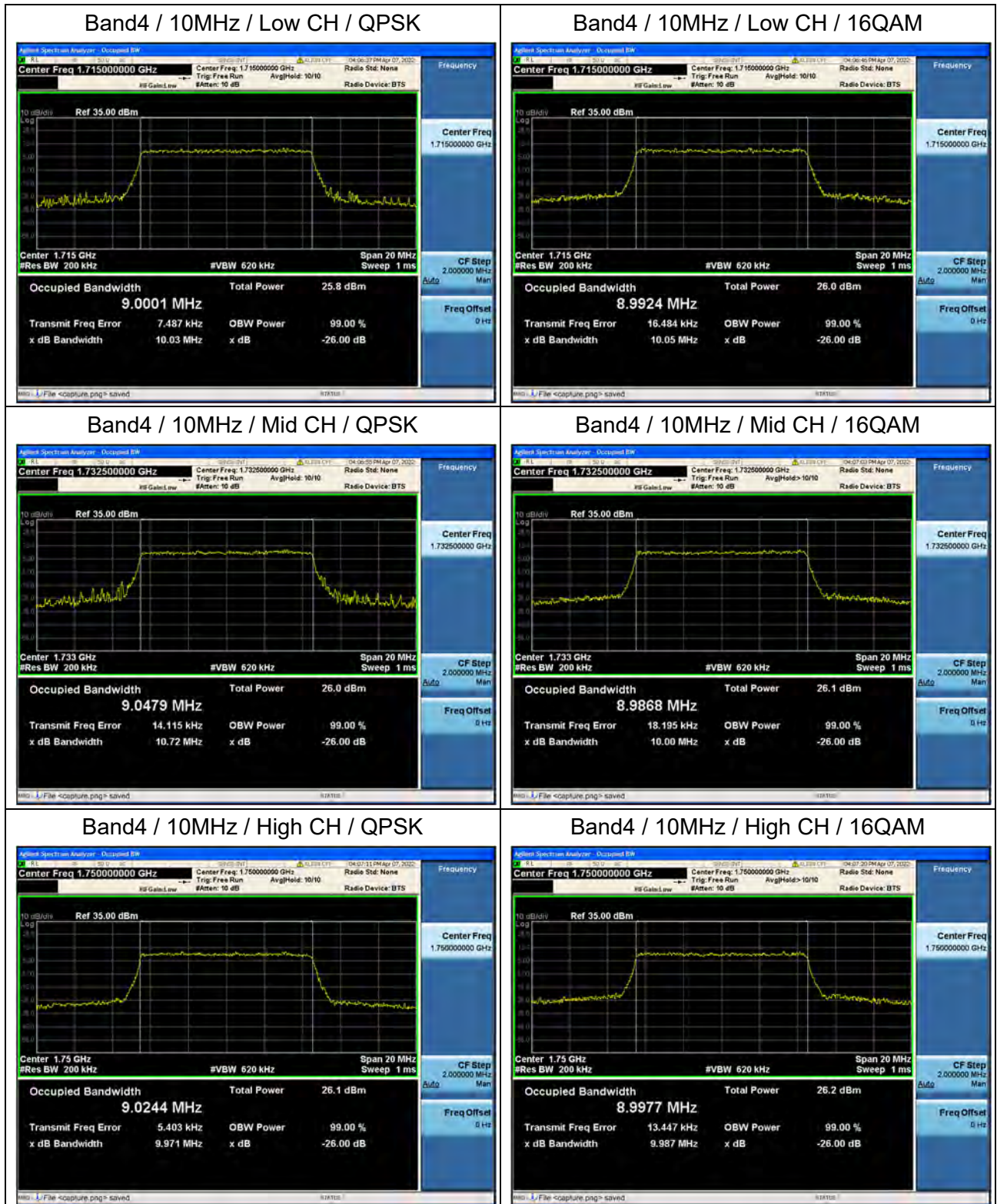
Band4 / 5MHz / High CH / QPSK

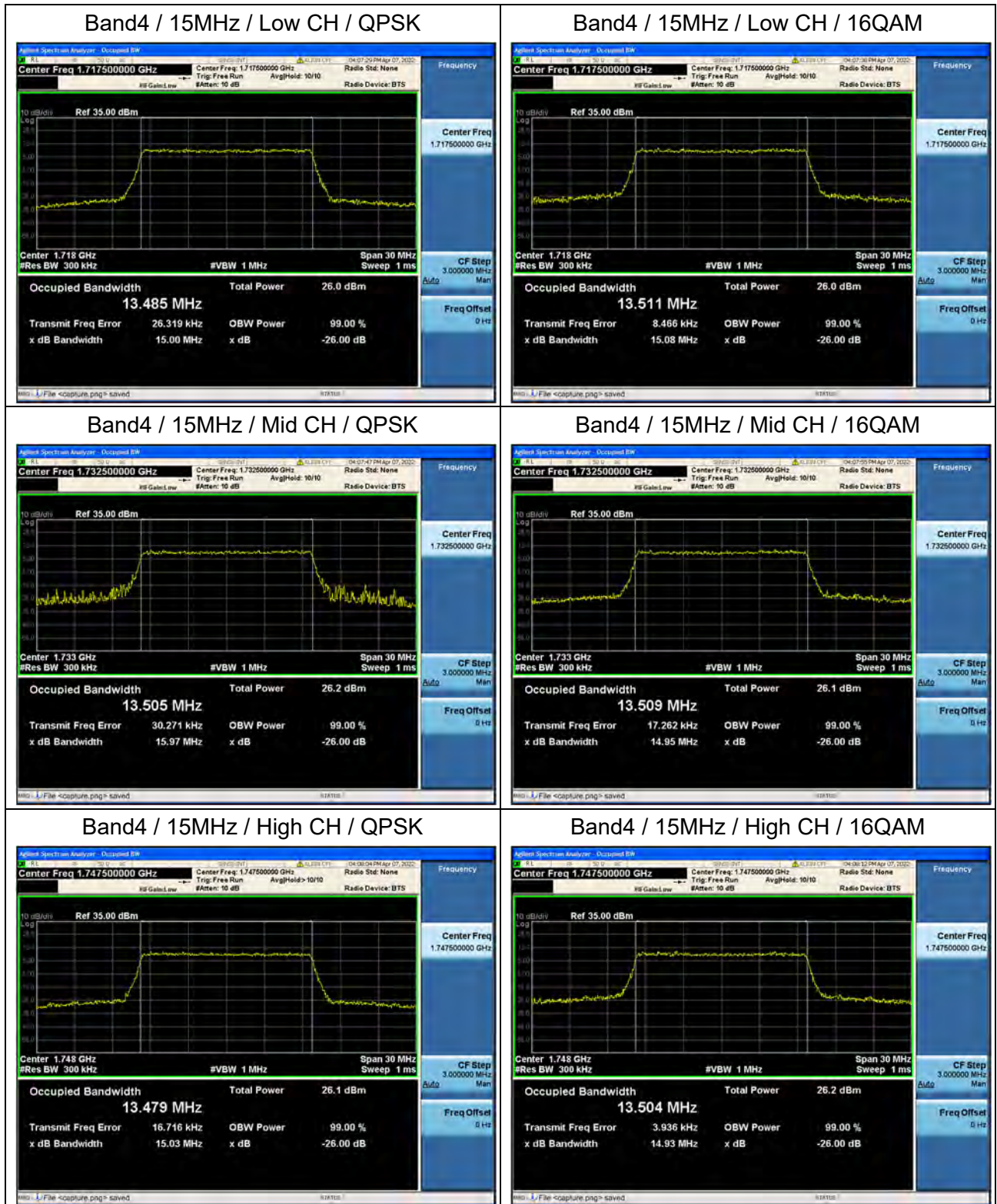


Band4 / 5MHz / High CH / 16QAM

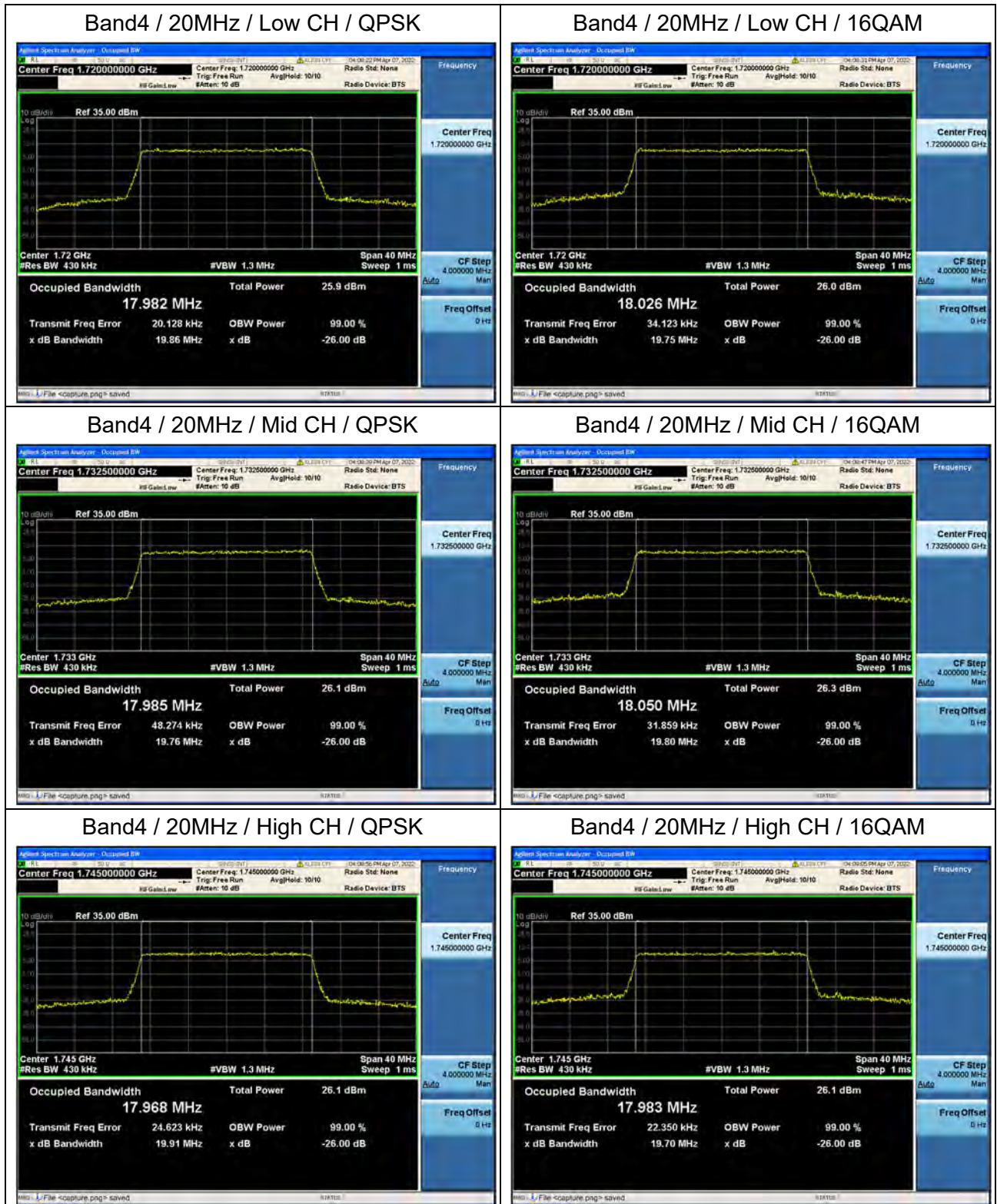










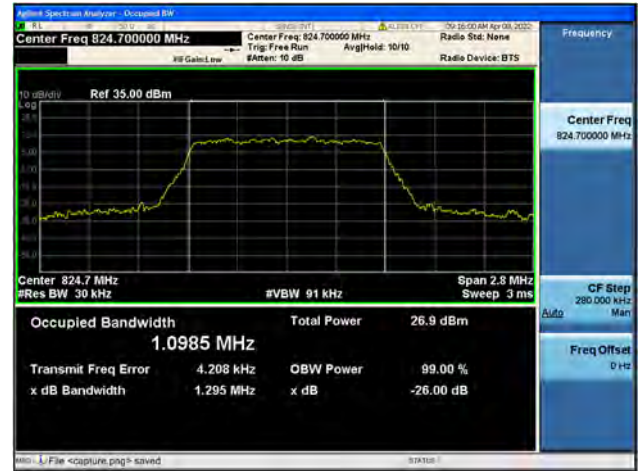




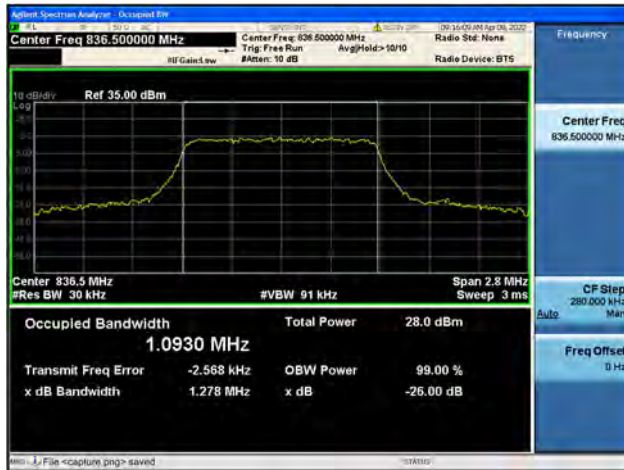
Band5 / 1.4MHz / Low CH / QPSK



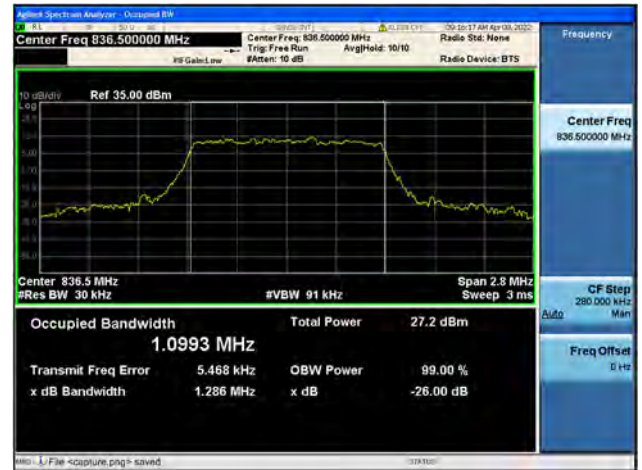
Band5 / 1.4MHz / Low CH / 16QAM



Band5 / 1.4MHz / Mid CH / QPSK



Band5 / 1.4MHz / Mid CH / 16QAM



Band5 / 1.4MHz / High CH / QPSK



Band5 / 1.4MHz / High CH / 16QAM







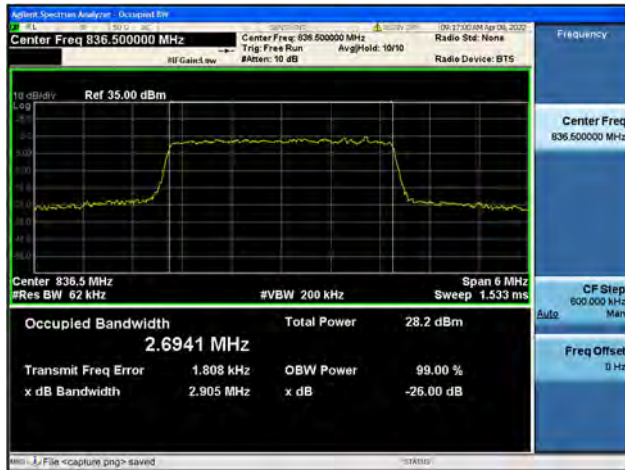
Band5 / 3MHz / Low CH / QPSK



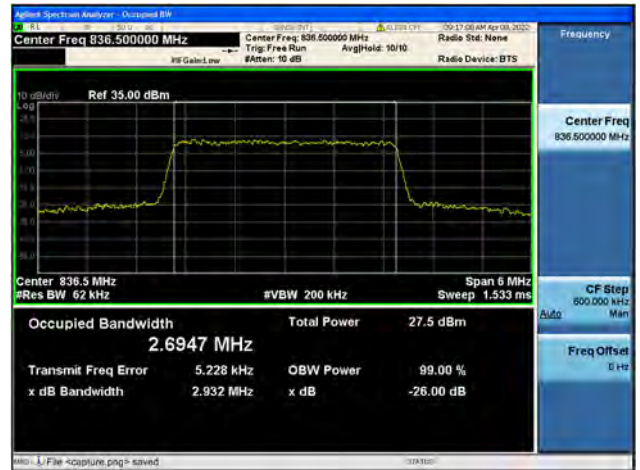
Band5 / 3MHz / Low CH / 16QAM



Band5 / 3MHz / Mid CH / QPSK



Band5 / 3MHz / Mid CH / 16QAM



Band5 / 3MHz / High CH / QPSK



Band5 / 3MHz / High CH / 16QAM





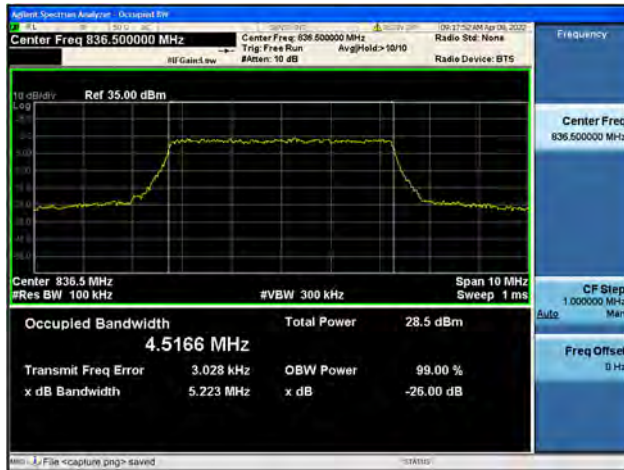
Band5 / 5MHz / Low CH / QPSK



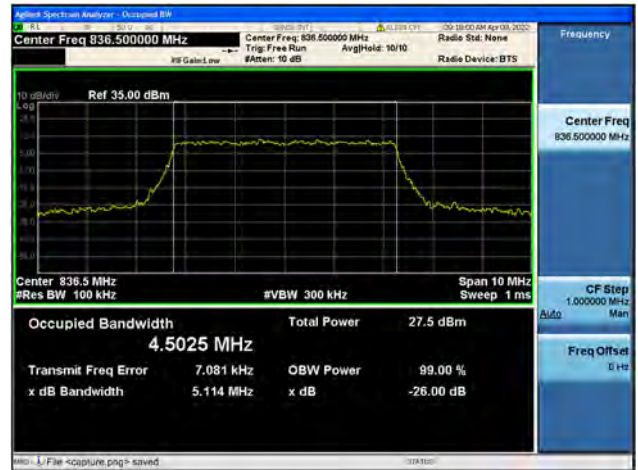
Band5 / 5MHz / Low CH / 16QAM



Band5 / 5MHz / Mid CH / QPSK



Band5 / 5MHz / Mid CH / 16QAM



Band5 / 5MHz / High CH / QPSK



Band5 / 5MHz / High CH / 16QAM







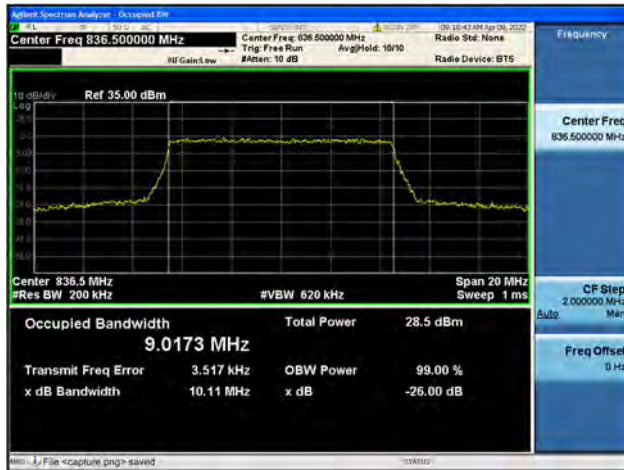
Band5 / 10MHz / Low CH / QPSK



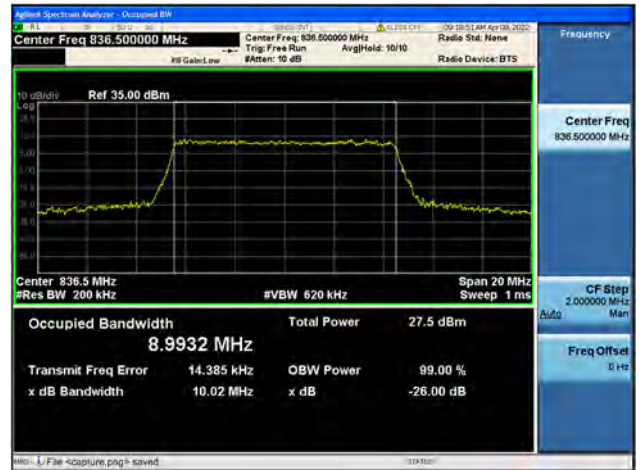
Band5 / 10MHz / Low CH / 16QAM



Band5 / 10MHz / Mid CH / QPSK



Band5 / 10MHz / Mid CH / 16QAM



Band5 / 10MHz / High CH / QPSK



Band5 / 10MHz / High CH / 16QAM

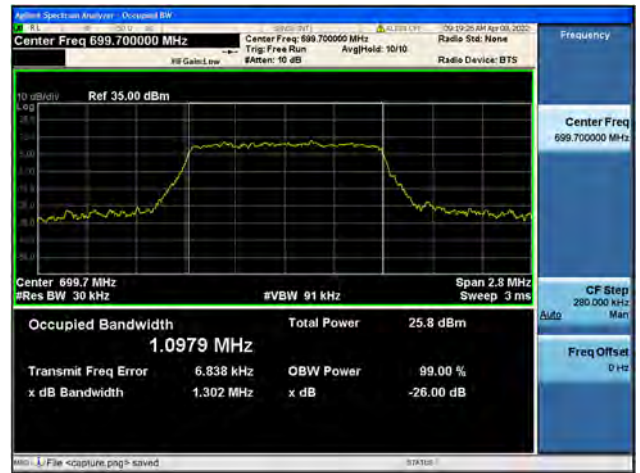




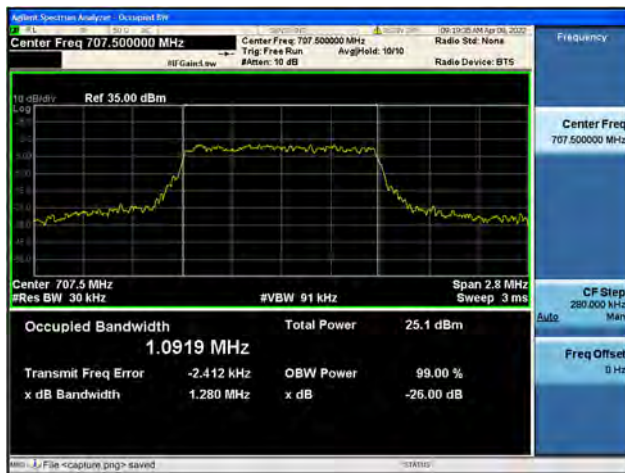
Band12 / 1.4MHz / Low CH / QPSK



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



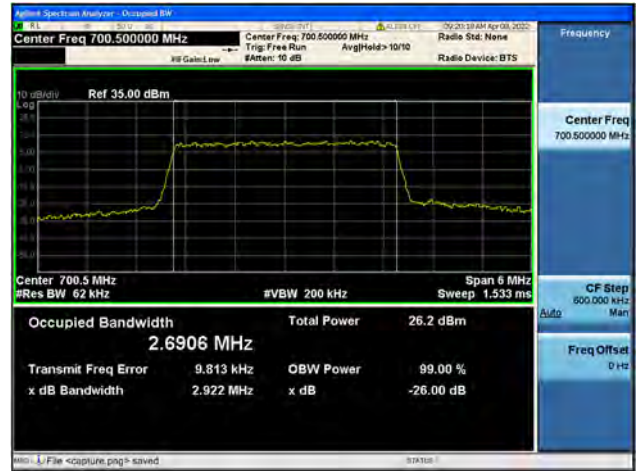




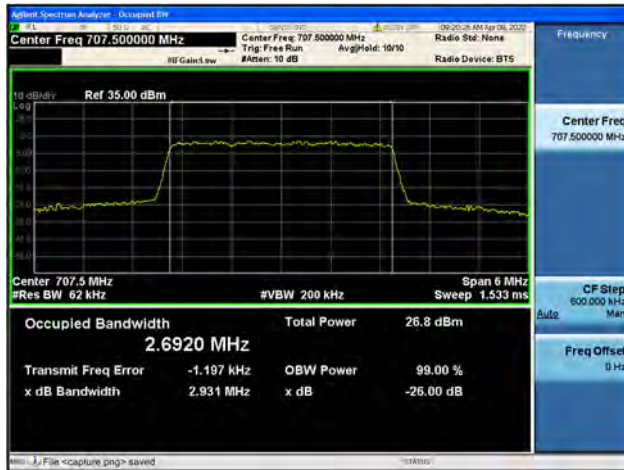
Band12 / 3MHz / Low CH / QPSK



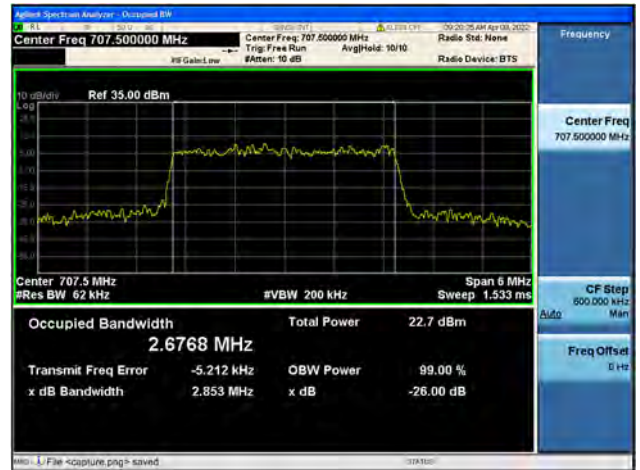
Band12 / 3MHz / Low CH / 16QAM



Band12 / 3MHz / Mid CH / QPSK



Band12 / 3MHz / Mid CH / 16QAM



Band12 / 3MHz / High CH / QPSK



Band12 / 3MHz / High CH / 16QAM





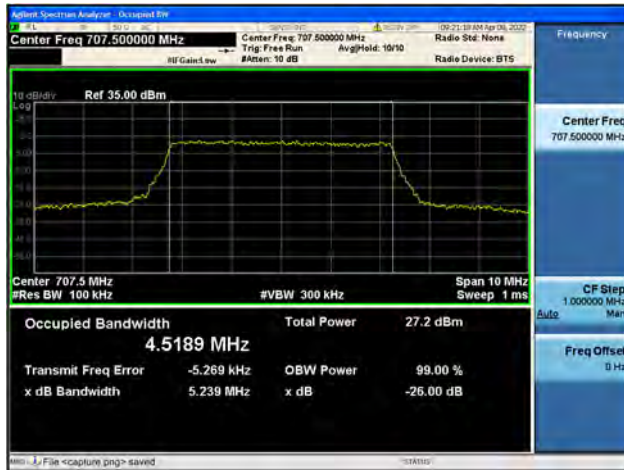
Band12 / 5MHz / Low CH / QPSK



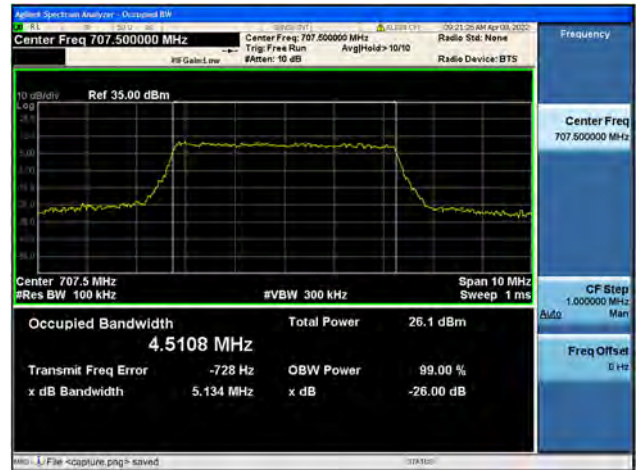
Band12 / 5MHz / Low CH / 16QAM



Band12 / 5MHz / Mid CH / QPSK



Band12 / 5MHz / Mid CH / 16QAM



Band12 / 5MHz / High CH / QPSK



Band12 / 5MHz / High CH / 16QAM







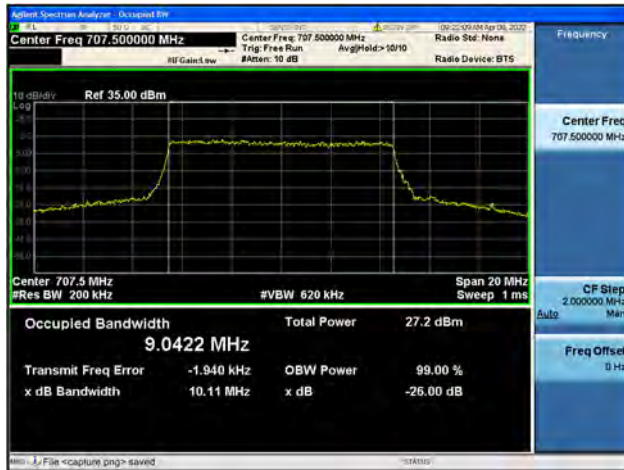
Band12 / 10MHz / Low CH / QPSK



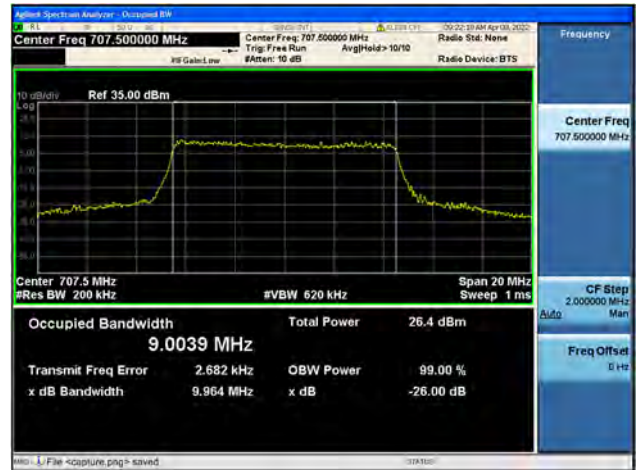
Band12 / 10MHz / Low CH / 16QAM



Band12 / 10MHz / Mid CH / QPSK



Band12 / 10MHz / Mid CH / 16QAM



Band12 / 10MHz / High CH / QPSK

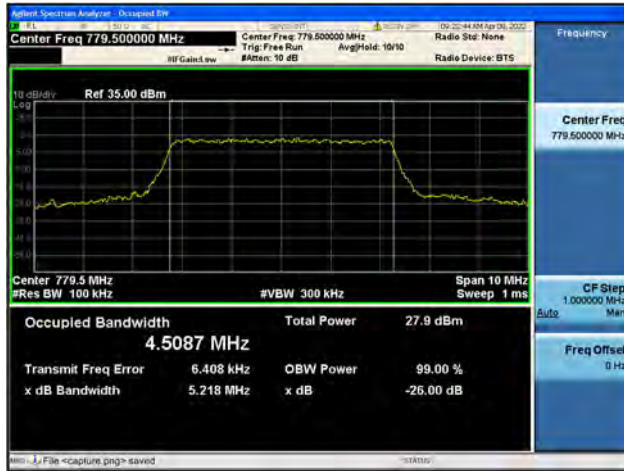


Band12 / 10MHz / High CH / 16QAM

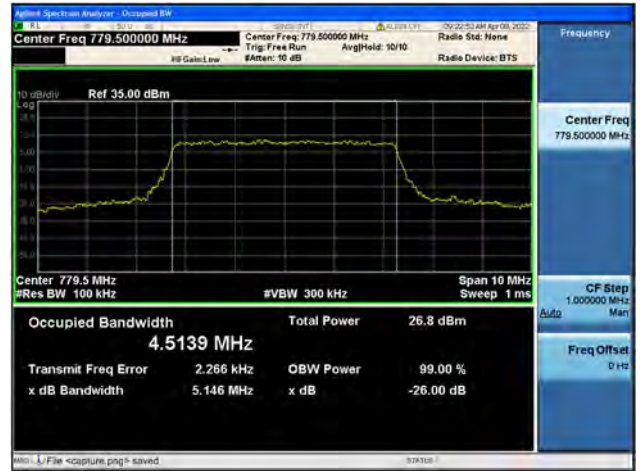




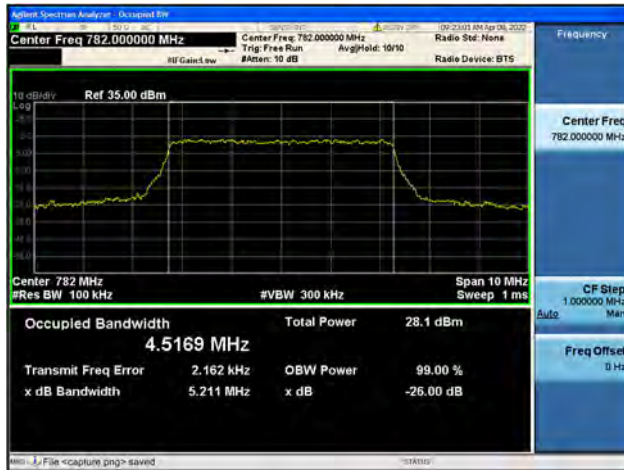
Band13 / 5MHz / Low CH / QPSK



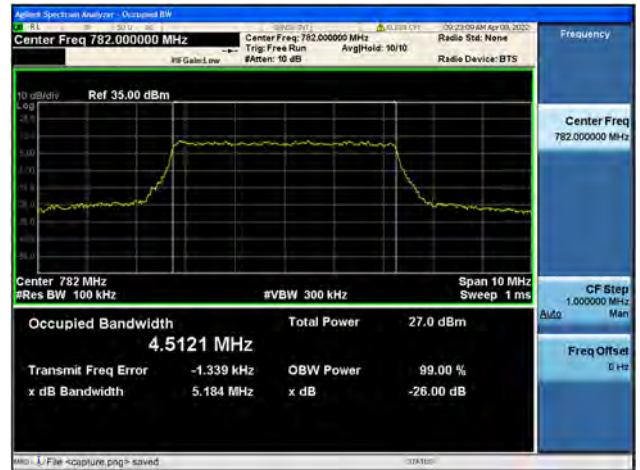
Band13 / 5MHz / Low CH / 16QAM



Band13 / 5MHz / Mid CH / QPSK



Band13 / 5MHz / Mid CH / 16QAM



Band13 / 5MHz / High CH / QPSK



Band13 / 5MHz / High CH / 16QAM



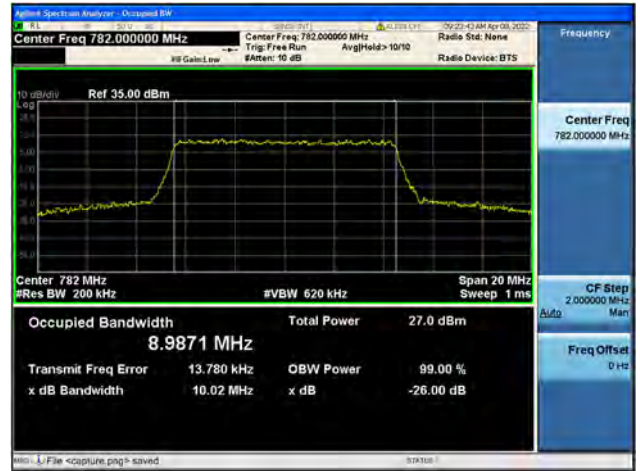




Band13 / 10MHz / Low CH / QPSK



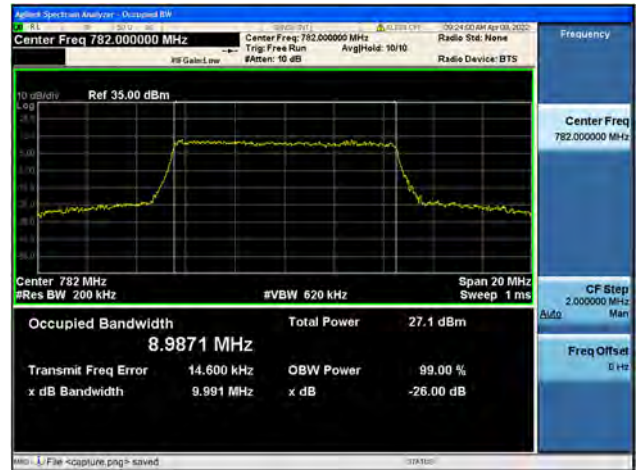
Band13 / 10MHz / Low CH / 16QAM



Band13 / 10MHz / Mid CH / QPSK



Band13 / 10MHz / Mid CH / 16QAM



Band13 / 10MHz / High CH / QPSK

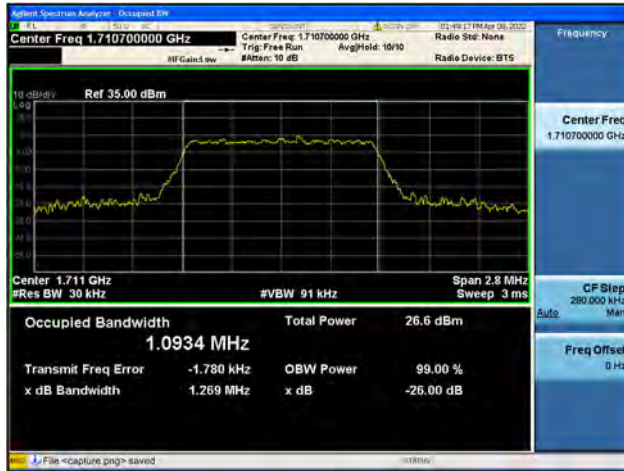


Band13 / 10MHz / High CH / 16QAM

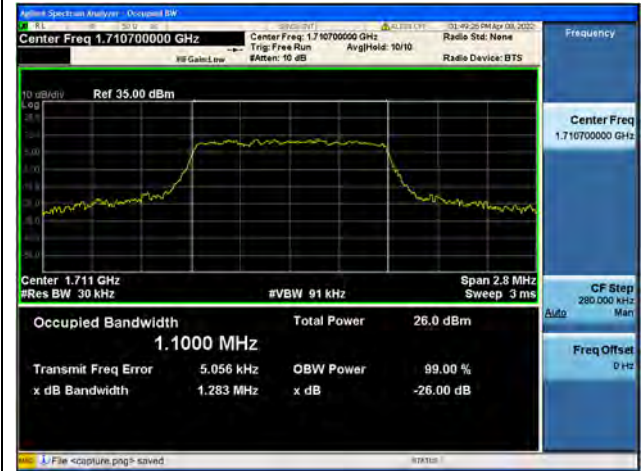




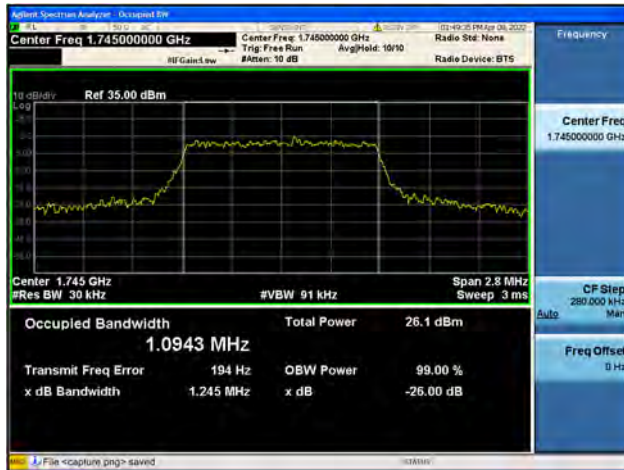
Band66 / 1.4MHz / Low CH / QPSK



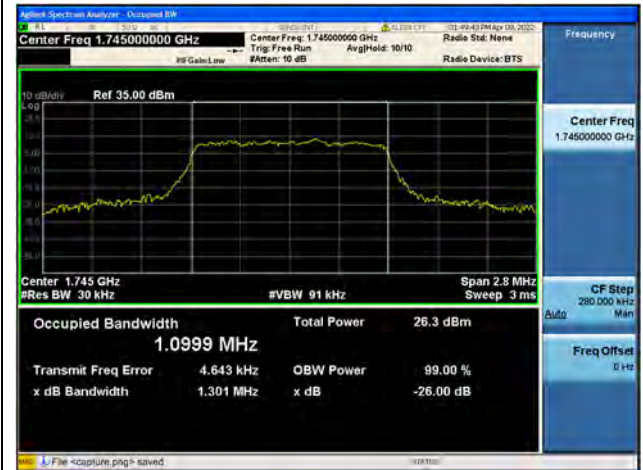
Band66 / 1.4MHz / Low CH / 16QAM



Band66 / 1.4MHz / Mid CH / QPSK



Band66 / 1.4MHz / Mid CH / 16QAM



Band66 / 1.4MHz / High CH / QPSK



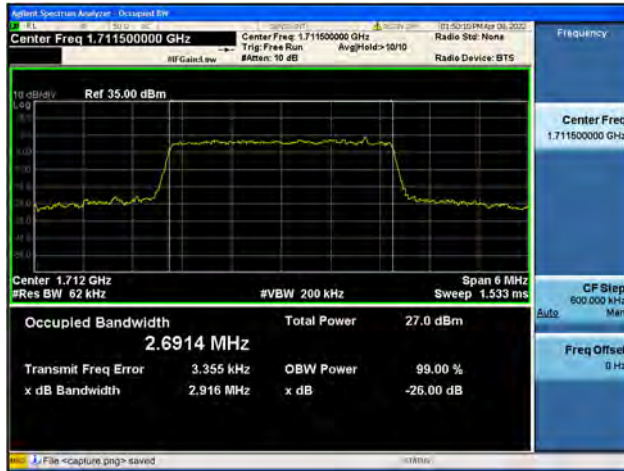
Band66 / 1.4MHz / High CH / 16QAM







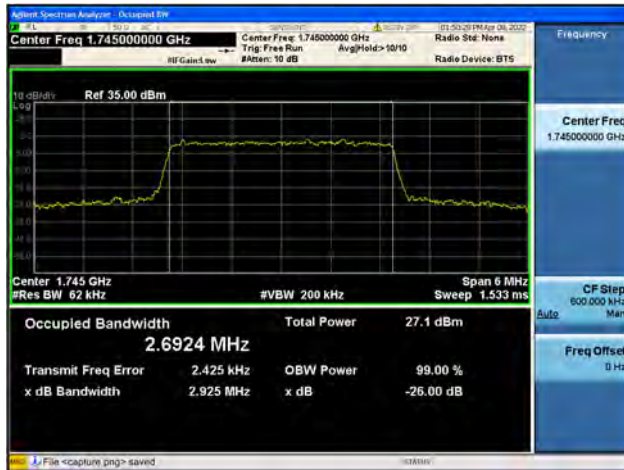
Band66 / 3MHz / Low CH / QPSK



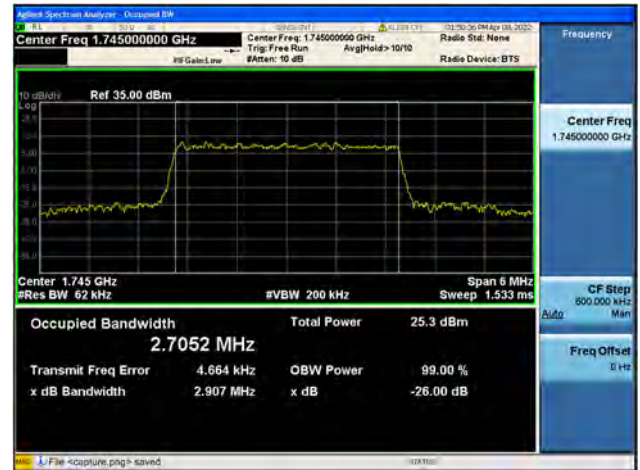
Band66 / 3MHz / Low CH / 16QAM



Band66 / 3MHz / Mid CH / QPSK



Band66 / 3MHz / Mid CH / 16QAM



Band66 / 3MHz / High CH / QPSK

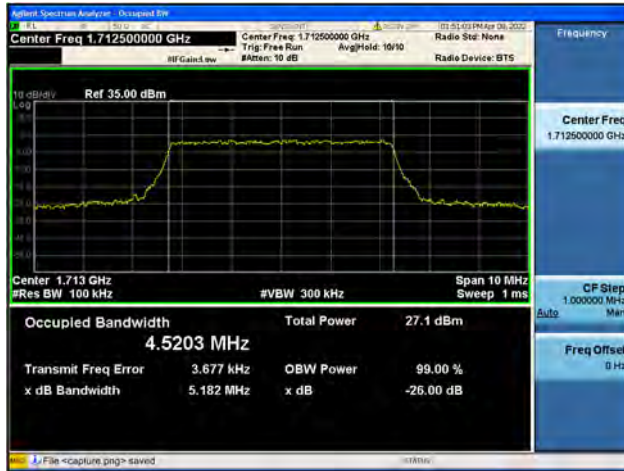


Band66 / 3MHz / High CH / 16QAM





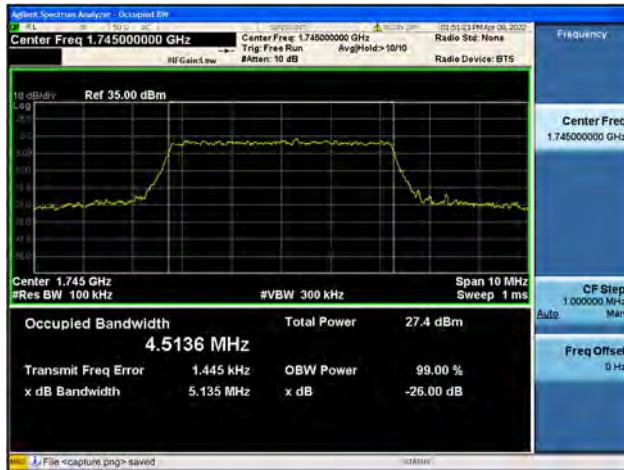
Band66 / 5MHz / Low CH / QPSK



Band66 / 5MHz / Low CH / 16QAM



Band66 / 5MHz / Mid CH / QPSK



Band66 / 5MHz / Mid CH / 16QAM



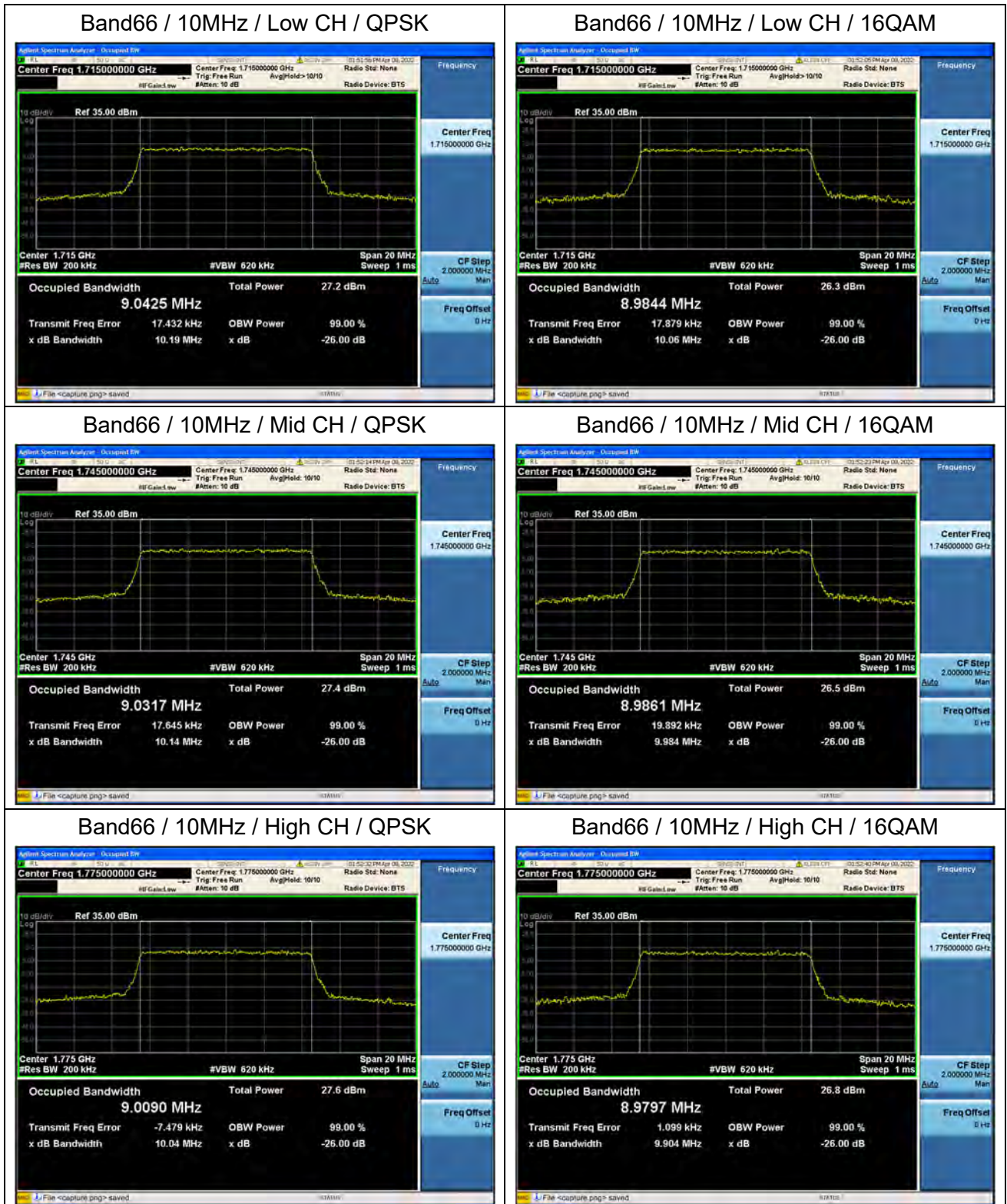
Band66 / 5MHz / High CH / QPSK



Band66 / 5MHz / High CH / 16QAM





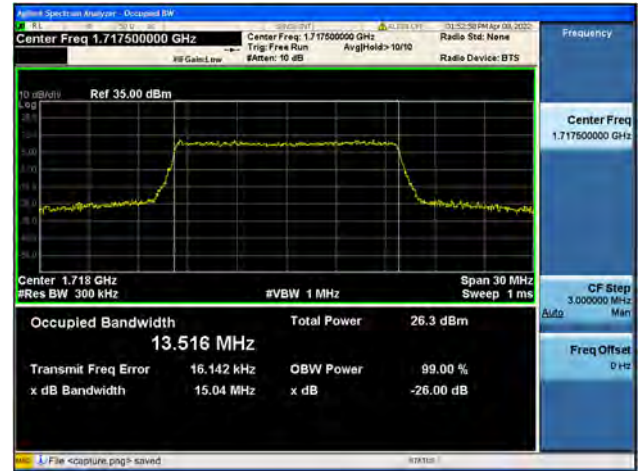




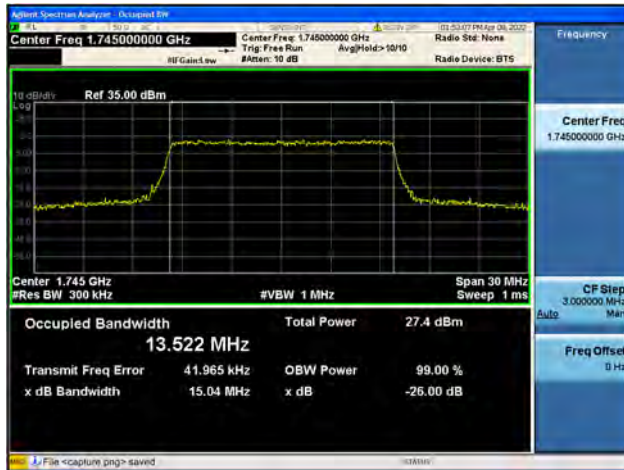
Band66 / 15MHz / Low CH / QPSK



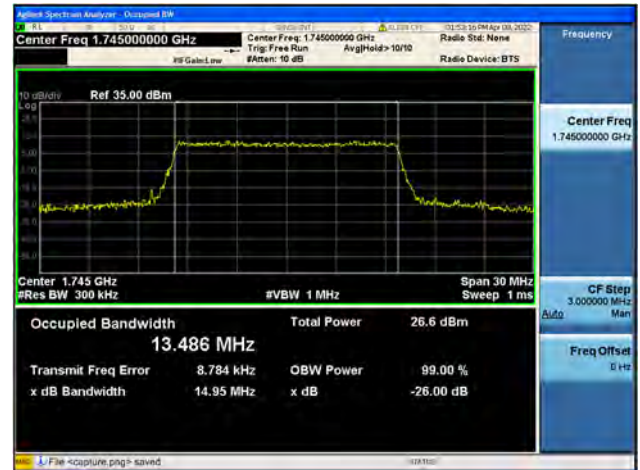
Band66 / 15MHz / Low CH / 16QAM



Band66 / 15MHz / Mid CH / QPSK



Band66 / 15MHz / Mid CH / 16QAM



Band66 / 15MHz / High CH / QPSK



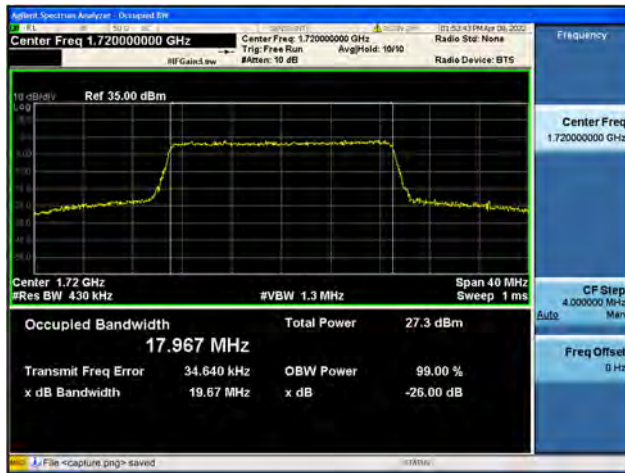
Band66 / 15MHz / High CH / 16QAM







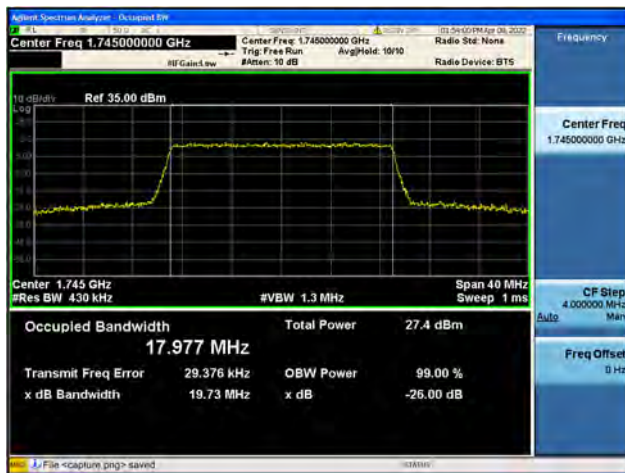
Band66 / 20MHz / Low CH / QPSK



Band66 / 20MHz / Low CH / 16QAM



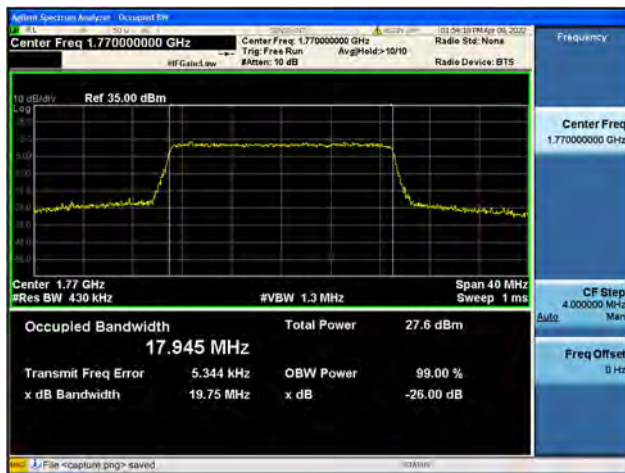
Band66 / 20MHz / Mid CH / QPSK



Band66 / 20MHz / Mid CH / 16QAM



Band66 / 20MHz / High CH / QPSK



Band66 / 20MHz / High CH / 16QAM



## 2.3. Frequency Stability

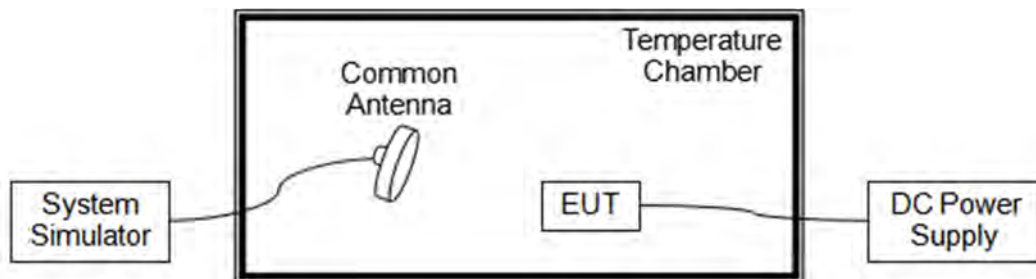
### 2.3.1. Requirement

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 3.80V, 4.35V and 3.60V, 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>
Normal	3.80	+20(Ref)	-21	-0.011	PASS
Normal		-10	49	0.026	
Normal		0	-44	-0.023	
Normal		+10	-43	-0.023	
Normal		+20	-52	-0.028	
Normal		+30	-49	-0.026	
Normal		+40	56	0.030	
Normal		+50	43	0.023	
Normal		+55	-34	-0.018	
High	4.35	+20	47	0.025	
BATT.ENDPOINT	3.60	+20	-52	-0.028	

<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>
Normal	3.80	+20(Ref)	44	0.025	PASS
Normal		-10	-37	-0.021	
Normal		0	-17	-0.010	
Normal		+10	-24	-0.014	
Normal		+20	-39	-0.023	
Normal		+30	19	0.011	
Normal		+40	-38	-0.022	
Normal		+50	-39	-0.023	
Normal		+55	-21	-0.012	
High	4.35	+20	-29	-0.017	
BATT.ENDPOINT	3.60	+20	34	0.020	



LTE Band 5, QPSK, Channel 20525, Frequency 836.5MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	-51	-0.061	PASS
Normal		-10	-33	-0.039	
Normal		0	50	0.060	
Normal		+10	-19	-0.023	
Normal		+20	-14	-0.017	
Normal		+30	54	0.065	
Normal		+40	21	0.025	
Normal		+50	17	0.020	
Normal		+55	52	0.062	
High	4.35	+20	-47	-0.056	
BATT.ENDPOINT	3.60	+20	-54	-0.065	

LTE Band 12, QPSK, Channel 23095, Frequency 707.5MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	-51	-0.061	PASS
Normal		-10	-33	-0.039	
Normal		0	50	0.060	
Normal		+10	-19	-0.023	
Normal		+20	-14	-0.017	
Normal		+30	54	0.065	
Normal		+40	21	0.025	
Normal		+50	17	0.020	
Normal		+55	52	0.062	
High	4.35	+20	-47	-0.056	
BATT.ENDPOINT	3.60	+20	-54	-0.065	





LTE Band 13, QPSK, Channel 23230, Frequency 782.0MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	31	0.040	PASS
Normal		-10	44	0.056	
Normal		0	-53	-0.068	
Normal		+10	44	0.056	
Normal		+20	17	0.022	
Normal		+30	26	0.033	
Normal		+40	31	0.040	
Normal		+50	-38	-0.049	
Normal		+55	-22	-0.028	
High	4.35	+20	35	0.045	
BATT.ENDPOINT	3.60	+20	48	0.061	

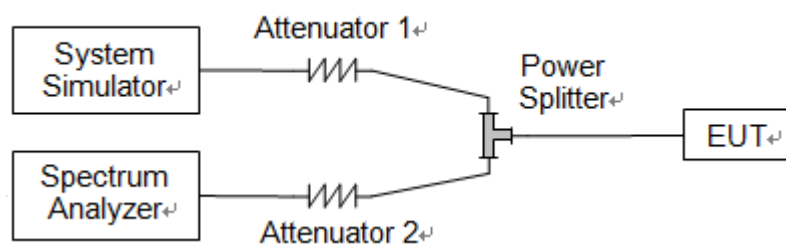
LTE Band 66, QPSK, Channel 132322, Frequency 1745.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	49	0.028	PASS
Normal		-10	29	0.017	
Normal		0	-43	-0.025	
Normal		+10	56	0.032	
Normal		+20	-17	-0.010	
Normal		+30	29	0.017	
Normal		+40	-42	-0.024	
Normal		+50	-24	-0.014	
Normal		+55	45	0.026	
High	4.35	+20	-22	-0.013	
BATT.ENDPOINT	3.60	+20	29	0.017	

## 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



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	5.18	<=13	PASS
	Low	16QAM	6.08	<=13	PASS
	Mid	QPSK	5.33	<=13	PASS
	Mid	16QAM	6.04	<=13	PASS
	High	QPSK	4.66	<=13	PASS
	High	16QAM	5.51	<=13	PASS
3	Low	QPSK	5.33	<=13	PASS
	Low	16QAM	6.13	<=13	PASS
	Mid	QPSK	5.42	<=13	PASS
	Mid	16QAM	6.23	<=13	PASS
	High	QPSK	4.89	<=13	PASS
	High	16QAM	5.78	<=13	PASS
5	Low	QPSK	5.47	<=13	PASS
	Low	16QAM	6.11	<=13	PASS
	Mid	QPSK	5.54	<=13	PASS
	Mid	16QAM	6.26	<=13	PASS
	High	QPSK	5.20	<=13	PASS
	High	16QAM	5.91	<=13	PASS
10	Low	QPSK	5.45	<=13	PASS
	Low	16QAM	6.16	<=13	PASS
	Mid	QPSK	5.73	<=13	PASS
	Mid	16QAM	6.29	<=13	PASS
	High	QPSK	5.29	<=13	PASS
	High	16QAM	6.04	<=13	PASS
15	Low	QPSK	5.36	<=13	PASS
	Low	16QAM	5.98	<=13	PASS
	Mid	QPSK	5.49	<=13	PASS
	Mid	16QAM	6.15	<=13	PASS
	High	QPSK	5.16	<=13	PASS
	High	16QAM	5.93	<=13	PASS
20	Low	QPSK	5.38	<=13	PASS
	Low	16QAM	6.12	<=13	PASS
	Mid	QPSK	5.46	<=13	PASS
	Mid	16QAM	6.18	<=13	PASS
	High	QPSK	5.31	<=13	PASS
	High	16QAM	6.09	<=13	PASS



LTE Band 4					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	5.13	<=13	PASS
	Low	16QAM	5.53	<=13	PASS
	Mid	QPSK	5.25	<=13	PASS
	Mid	16QAM	5.77	<=13	PASS
	High	QPSK	5.50	<=13	PASS
	High	16QAM	5.88	<=13	PASS
3	Low	QPSK	5.30	<=13	PASS
	Low	16QAM	5.80	<=13	PASS
	Mid	QPSK	5.29	<=13	PASS
	Mid	16QAM	5.91	<=13	PASS
	High	QPSK	5.48	<=13	PASS
	High	16QAM	6.02	<=13	PASS
5	Low	QPSK	5.57	<=13	PASS
	Low	16QAM	5.92	<=13	PASS
	Mid	QPSK	5.50	<=13	PASS
	Mid	16QAM	5.88	<=13	PASS
	High	QPSK	5.68	<=13	PASS
	High	16QAM	6.05	<=13	PASS
10	Low	QPSK	5.63	<=13	PASS
	Low	16QAM	6.05	<=13	PASS
	Mid	QPSK	5.57	<=13	PASS
	Mid	16QAM	6.05	<=13	PASS
	High	QPSK	5.55	<=13	PASS
	High	16QAM	6.01	<=13	PASS
15	Low	QPSK	5.55	<=13	PASS
	Low	16QAM	6.02	<=13	PASS
	Mid	QPSK	5.39	<=13	PASS
	Mid	16QAM	5.94	<=13	PASS
	High	QPSK	5.54	<=13	PASS
	High	16QAM	5.89	<=13	PASS
20	Low	QPSK	5.61	<=13	PASS
	Low	16QAM	6.11	<=13	PASS
	Mid	QPSK	5.53	<=13	PASS
	Mid	16QAM	6.04	<=13	PASS
	High	QPSK	5.51	<=13	PASS
	High	16QAM	6.07	<=13	PASS



LTE Band 66					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	4.64	<=13	PASS
	Low	16QAM	5.04	<=13	PASS
	Mid	QPSK	4.76	<=13	PASS
	Mid	16QAM	5.17	<=13	PASS
	High	QPSK	4.66	<=13	PASS
	High	16QAM	4.86	<=13	PASS
3	Low	QPSK	4.93	<=13	PASS
	Low	16QAM	5.25	<=13	PASS
	Mid	QPSK	4.88	<=13	PASS
	Mid	16QAM	5.37	<=13	PASS
	High	QPSK	4.80	<=13	PASS
	High	16QAM	5.09	<=13	PASS
5	Low	QPSK	5.22	<=13	PASS
	Low	16QAM	5.60	<=13	PASS
	Mid	QPSK	5.20	<=13	PASS
	Mid	16QAM	5.54	<=13	PASS
	High	QPSK	5.09	<=13	PASS
	High	16QAM	5.44	<=13	PASS
10	Low	QPSK	5.31	<=13	PASS
	Low	16QAM	5.81	<=13	PASS
	Mid	QPSK	5.22	<=13	PASS
	Mid	16QAM	5.61	<=13	PASS
	High	QPSK	5.20	<=13	PASS
	High	16QAM	5.54	<=13	PASS
15	Low	QPSK	5.20	<=13	PASS
	Low	16QAM	5.67	<=13	PASS
	Mid	QPSK	5.06	<=13	PASS
	Mid	16QAM	5.36	<=13	PASS
	High	QPSK	5.07	<=13	PASS
	High	16QAM	5.39	<=13	PASS
20	Low	QPSK	5.31	<=13	PASS
	Low	16QAM	5.79	<=13	PASS
	Mid	QPSK	5.21	<=13	PASS
	Mid	16QAM	5.59	<=13	PASS
	High	QPSK	5.24	<=13	PASS
	High	16QAM	5.66	<=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



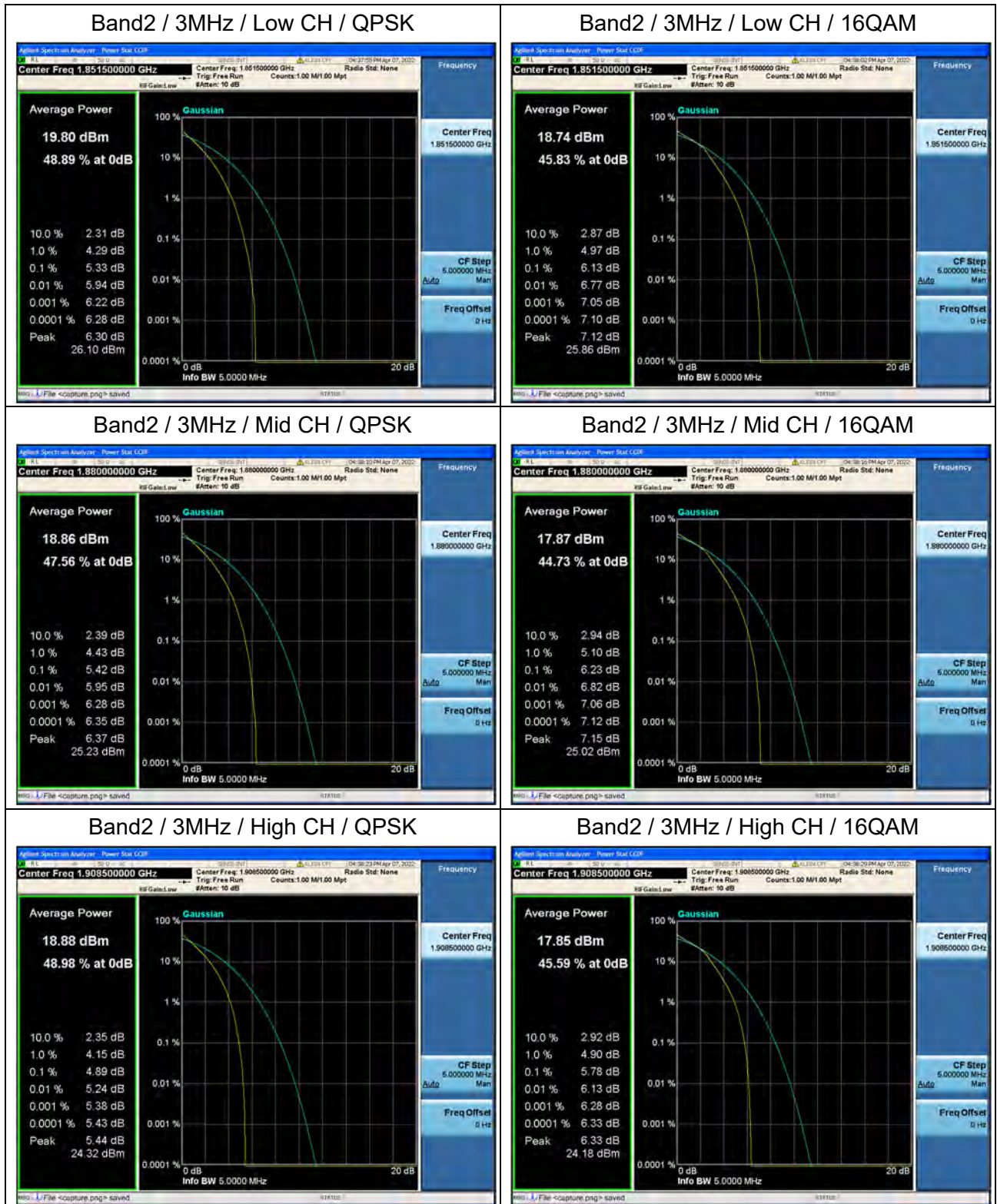
Band2 / 1.4MHz / High CH / QPSK

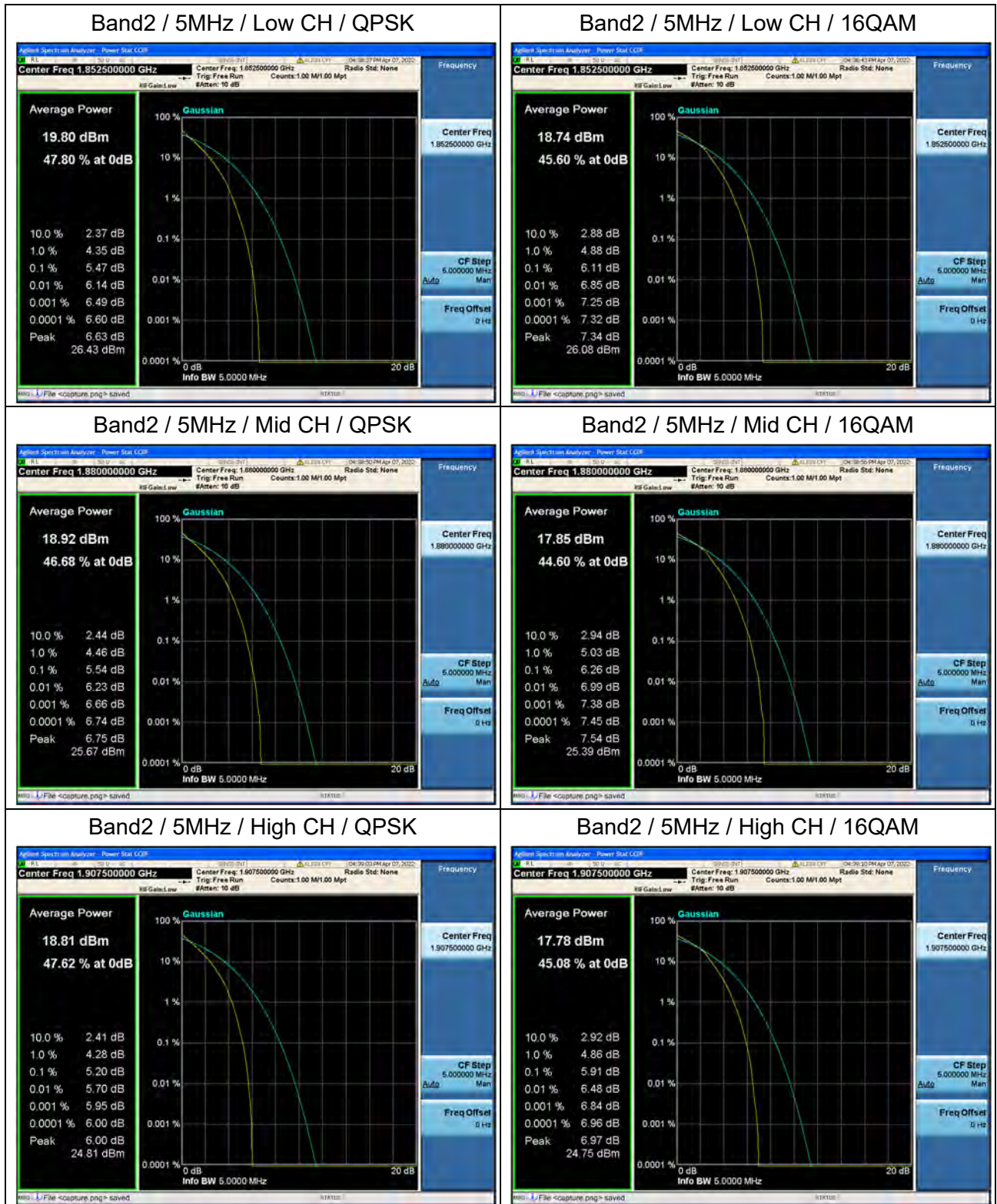


Band2 / 1.4MHz / High CH / 16QAM









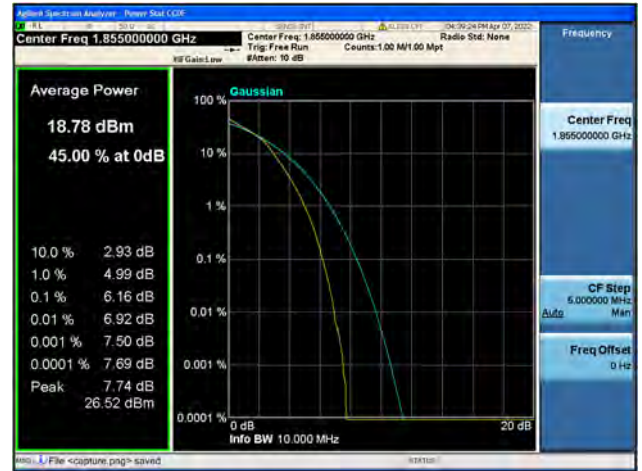




Band2 / 10MHz / Low CH / QPSK



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

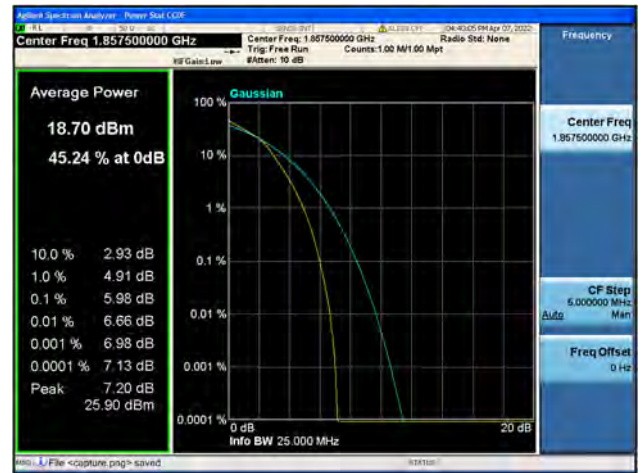




Band2 / 15MHz / Low CH / QPSK



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



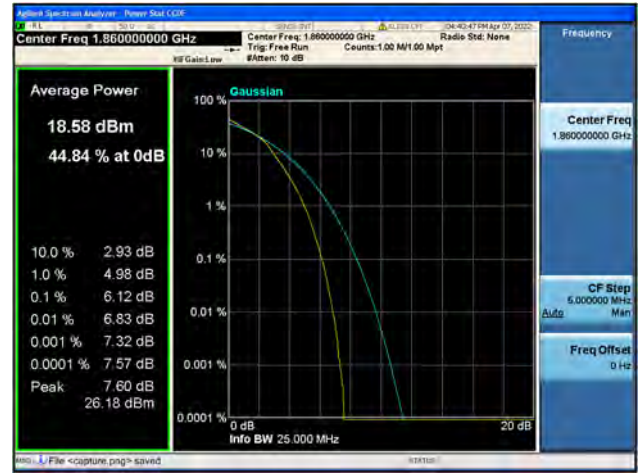




Band2 / 20MHz / Low CH / QPSK



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

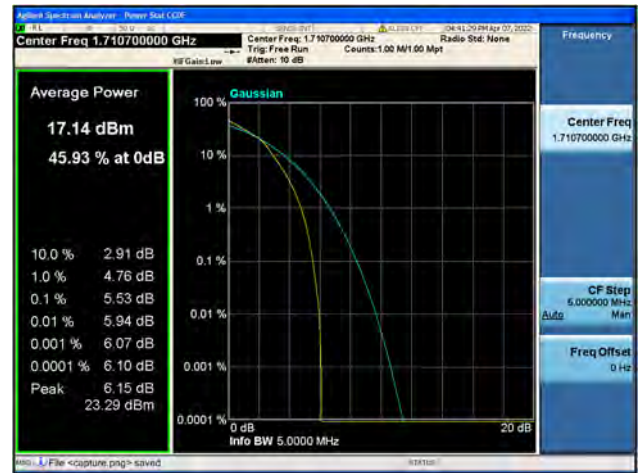




Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Mid CH / QPSK



Band4 / 1.4MHz / Mid CH / 16QAM



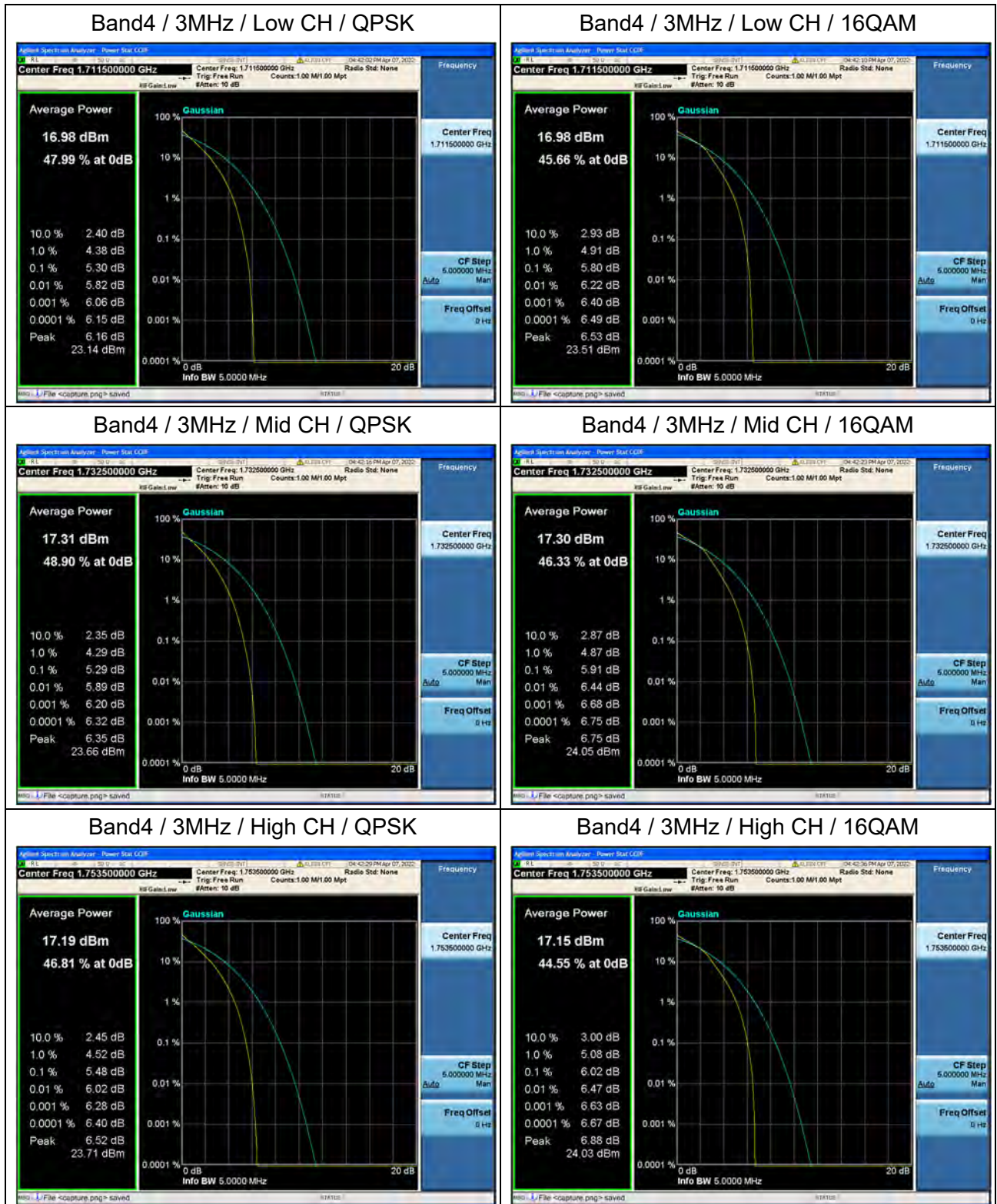
Band4 / 1.4MHz / High CH / QPSK

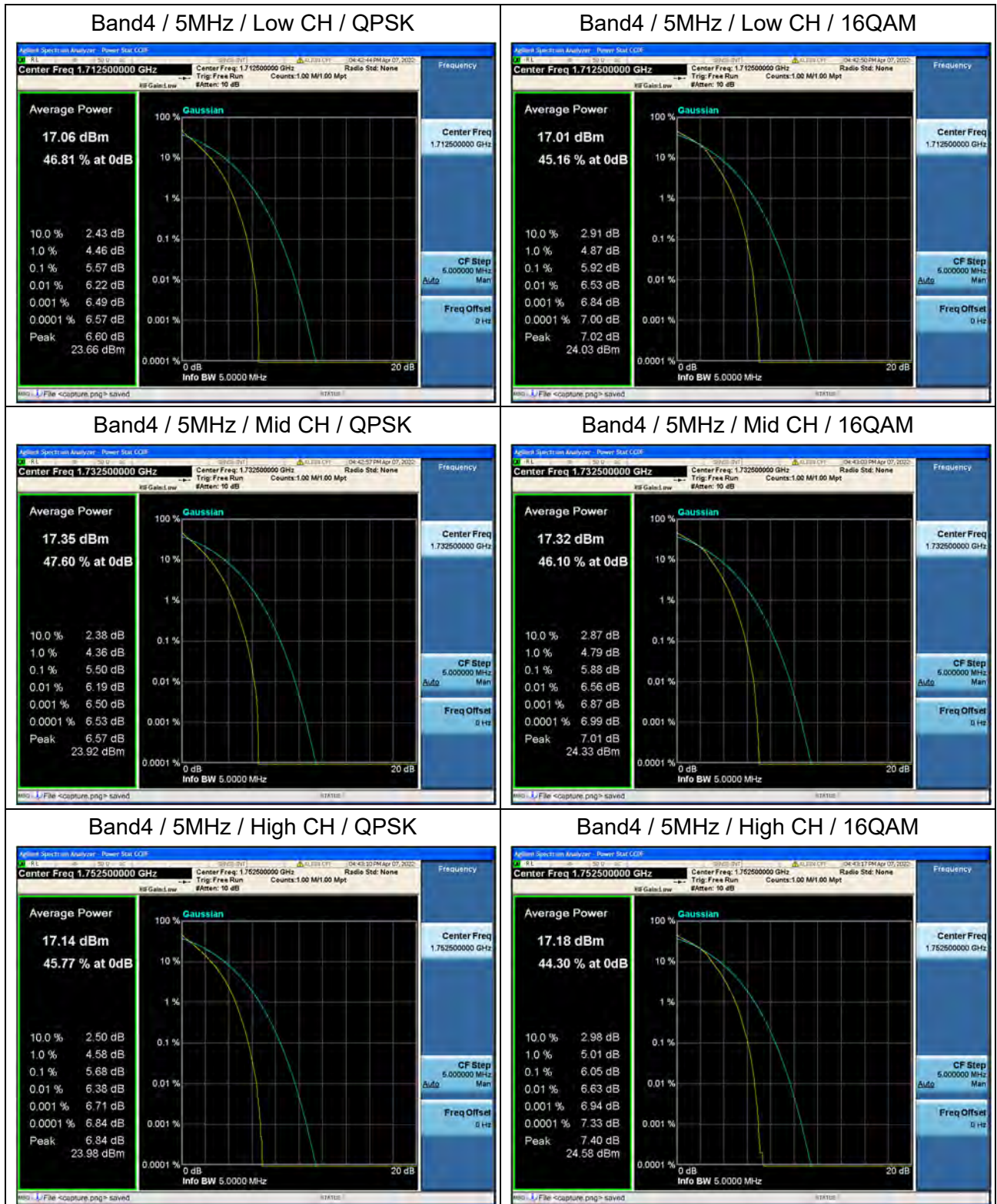


Band4 / 1.4MHz / High CH / 16QAM

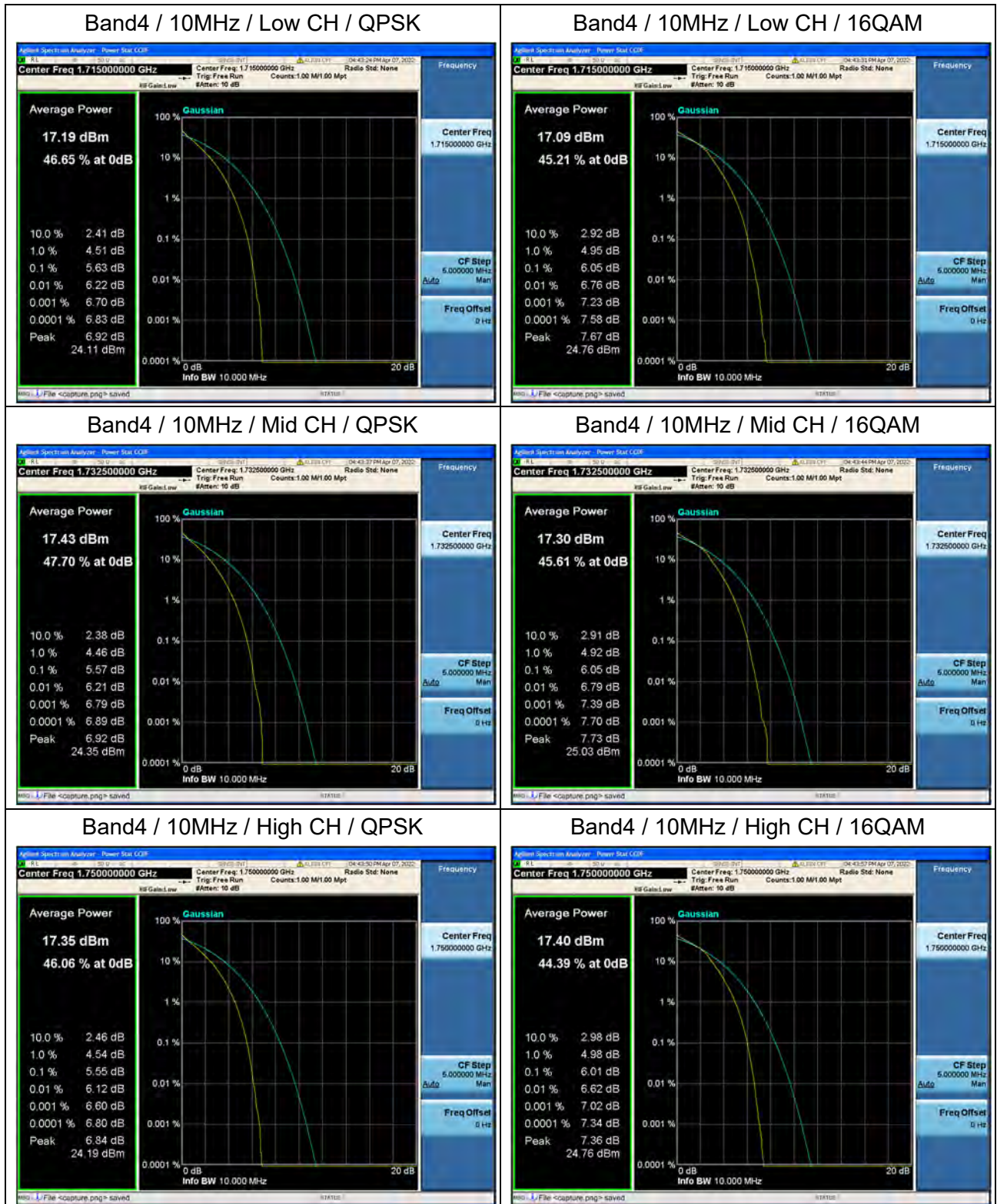


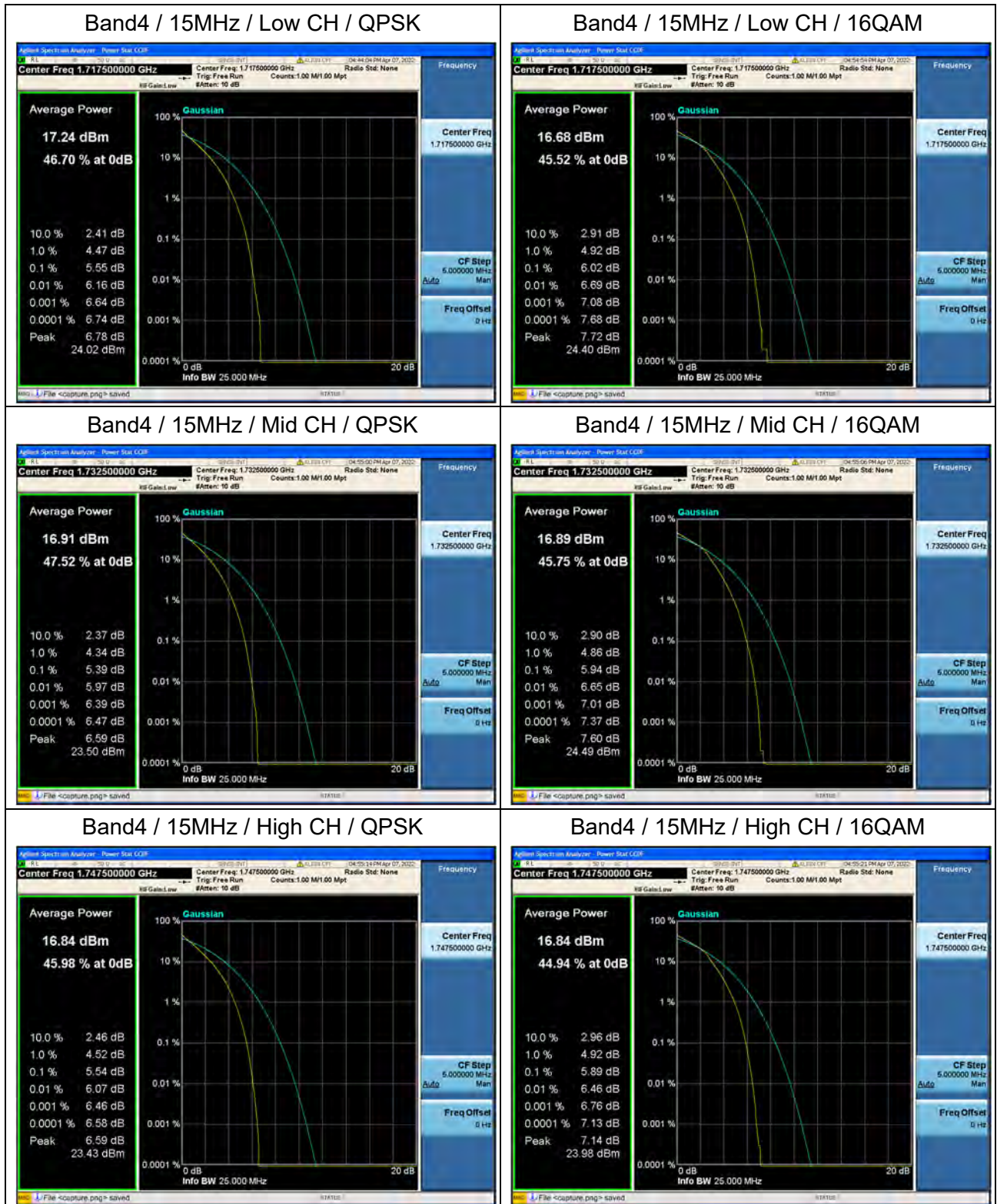




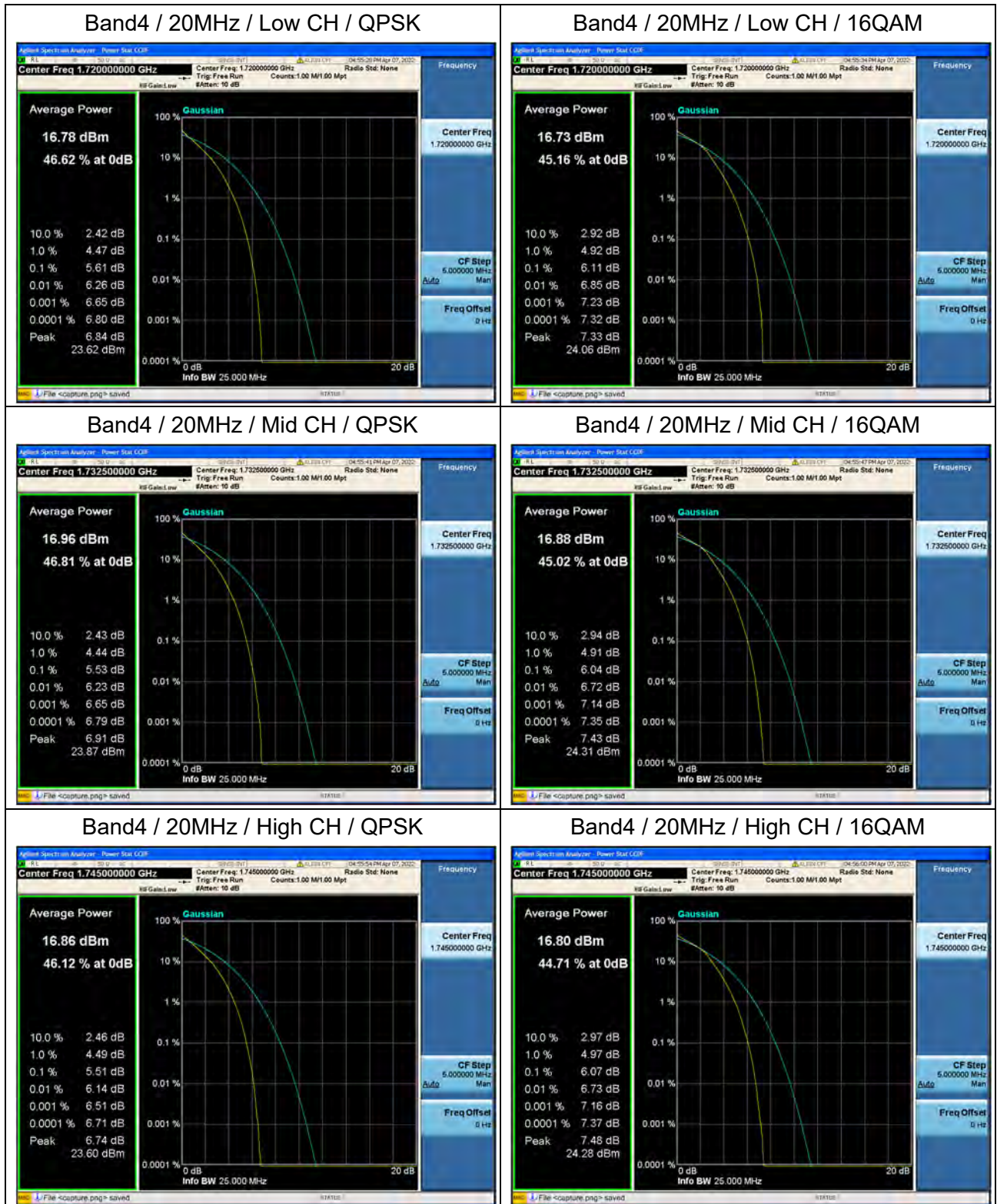














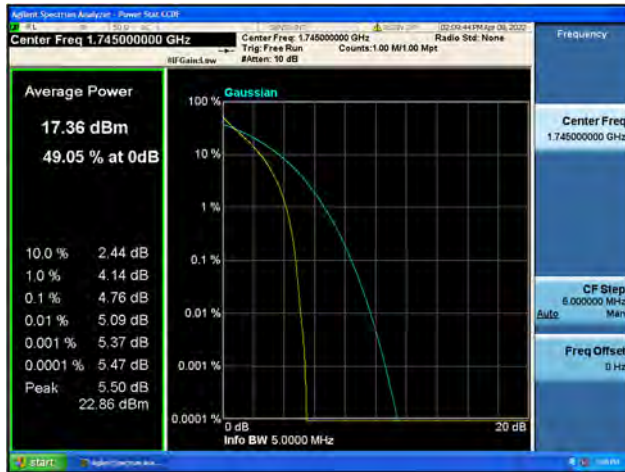
Band66 / 1.4MHz / Low CH / QPSK



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



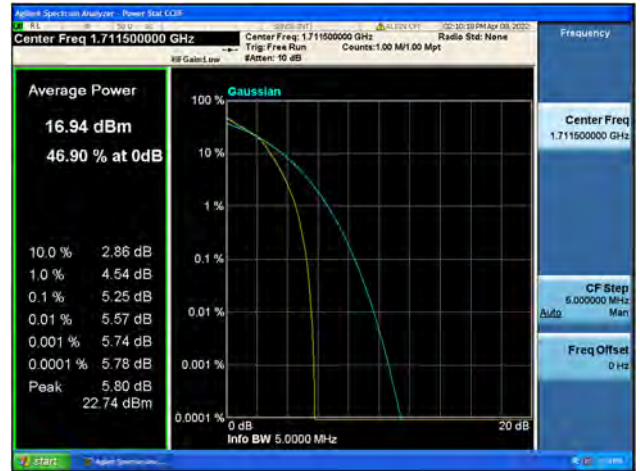




Band66 / 3MHz / Low CH / QPSK



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



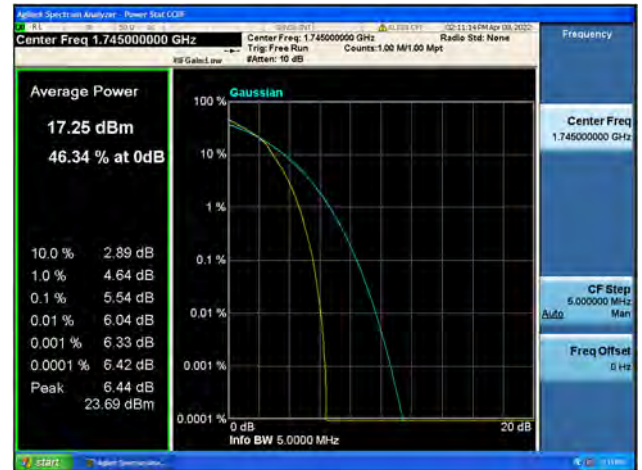
Band66 / 5MHz / Low CH / 16QAM



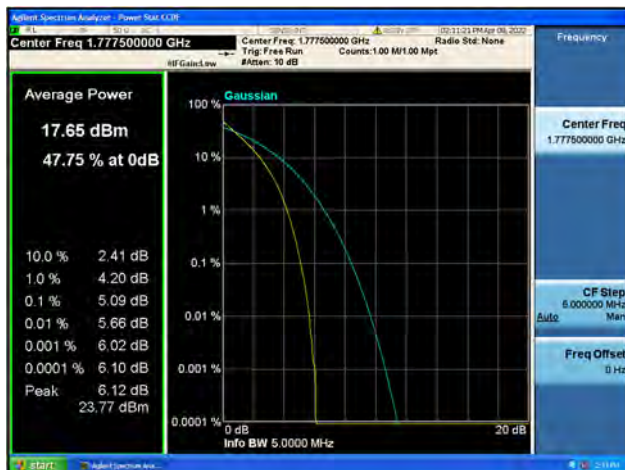
Band66 / 5MHz / Mid CH / QPSK



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



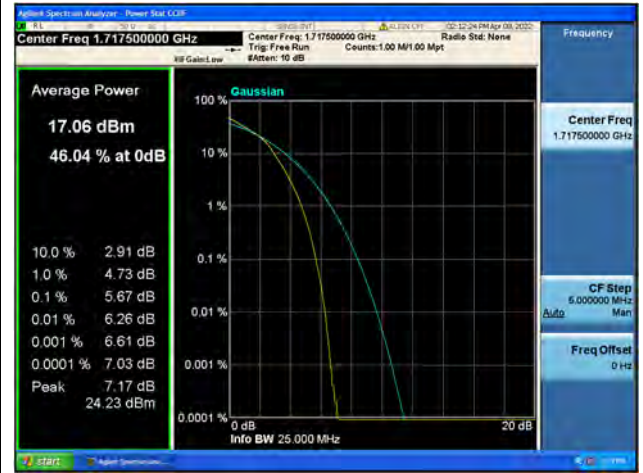




Band66 / 15MHz / Low CH / QPSK



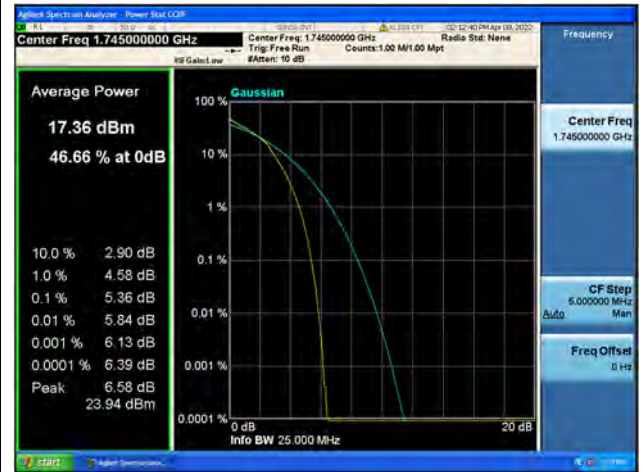
Band66 / 15MHz / Low CH / 16QAM



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



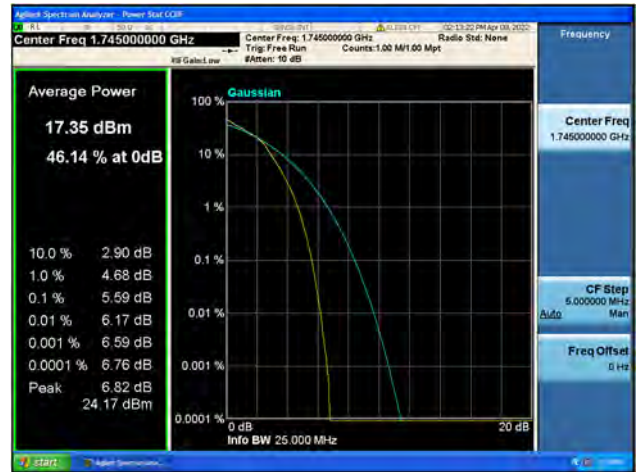
Band66 / 20MHz / Low CH / 16QAM



Band66 / 20MHz / Mid CH / QPSK



Band66 / 20MHz / Mid CH / 16QAM



Band66 / 20MHz / High CH / QPSK



Band66 / 20MHz / High CH / 16QAM



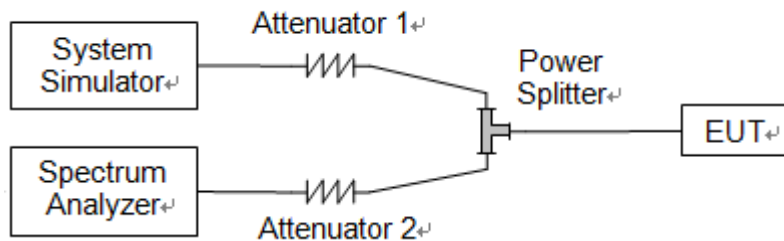


## 2.5. Conducted Spurious Emissions

### 2.5.1. Requirement

According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43+10*\log(P)$ dB. This calculated to be -13dBm.

### 2.5.2. 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.

### 2.5.3. Test Procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.