



# TEST REPORT

**APPLICANT** : BLU Products, Inc.

**PRODUCT NAME** : Smart Phone

**MODEL NAME** : STUDIO X10L 2022

**BRAND NAME** : BLU

**FCC ID** : YHLBLUX10L22

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

**RECEIPT DATE** : 2022-02-28

**TEST DATE** : 2022-03-14 to 2022-03-25

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Change History		
Version	Date	Reason for change
1.0	2022-04-06	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>	10#	
<b>Hardware Version:</b>	A507-MB-V3.6	
<b>Software Version:</b>	BLU_S0590LL_V11.0.G.01.00_GENERIC_0120_1817	
<b>Modulation Type:</b>	QPSK, 16QAM, 64QAM	
<b>Carrier Aggregation:</b>	Not Support	
<b>Operation Band:</b>	Band 2 / 4 / 5 / 7	
<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 7	Tx: 2500MHz–2570MHz Rx: 2620MHz–2690MHz
<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 7	5 MHz, 10MHz, 15MHz, 20MHz



<b>Antenna Type:</b>	Fixed Internal Antenna	
<b>Antenna Gain:</b>	LTE Band 2	-0.45dBi
	LTE Band 4	-0.53dBi
	LTE Band 5	-0.64dBi
	LTE Band 7	-1.22dBi
<b>Accessory Information:</b>	Battery	
	Brand Name:	BLU
	Model No.:	C775444200L
	Serial No.:	N/A
	Capacity:	2000mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	Shenzhen Aerospace Electronic Co.,Ltd.
	AC Adapter	
	Brand Name:	BLU
	Model No.:	US-FC-0750
	Serial No.:	N/A
	Rated Output:	5V=750mA
	Rated Input:	100-240V~50/60Hz, 0.2A
	Manufacturer:	Dongguan Jieyuan Electronic Technology Co., LTD

**Note 1:** SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.

**Note 2:** 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	64QAM	QPSK	16QAM	64QAM	
20	0.191	0.160	0.123	18M1G7D	18M1W7D	18M1W7D	
15	0.190	0.158	0.122	13M6G7D	13M5W7D	13M5W7D	
10	0.189	0.158	0.121	9M02G7D	8M99W7D	9M02W7D	
5	0.188	0.158	0.121	4M51G7D	4M51W7D	4M51W7D	
3	0.191	0.158	0.122	2M73G7D	2M73W7D	2M73W7D	
1.4	0.190	0.158	0.122	1M10G7D	1M10W7D	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	64QAM	QPSK	16QAM	64QAM	
20	0.183	0.165	0.125	18M0G7D	18M0W7D	18M1W7D	
15	0.181	0.164	0.124	13M5G7D	13M5W7D	13M5W7D	
10	0.182	0.165	0.125	9M02G7D	8M99W7D	9M00W7D	
5	0.180	0.164	0.126	4M52G7D	4M51W7D	4M51W7D	
3	0.182	0.162	0.123	2M72G7D	2M72W7D	2M72W7D	
1.4	0.180	0.164	0.124	1M10G7D	1M10W7D	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	64QAM	QPSK	16QAM	64QAM	
10	0.118	0.090	0.074	9M01G7D	8M98W7D	9M01W7D	
5	0.116	0.090	0.074	4M50G7D	4M50W7D	4M50W7D	
3	0.116	0.090	0.073	2M72G7D	2M71W7D	2M73W7D	
1.4	0.116	0.094	0.072	1M10G7D	1M10W7D	1M10W7D	
<b>LTE Band 7</b>		<b>Maximum E.R.P./E.I.R.P. (W)</b>			<b>Emission Designator (99%OBW)</b>		
BW(MHz)	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	
20	0.156	0.136	0.102	18M0G7D	18M0W7D	18M0W7D	
15	0.154	0.136	0.102	13M5G7D	13M5W7D	13M5W7D	
10	0.153	0.136	0.103	9M02G7D	8M98W7D	9M00W7D	
5	0.154	0.137	0.103	4M50G7D	4M51W7D	4M51W7D	



## 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(d)(4) 27.50(h)(2)	Transmitter Conducted Output Power and E.R.P./E.I.R.P.	Mar. 24, 2022	Chen Hao Li Huaijie	PASS	No deviation
2.1049	Occupied Bandwidth	Mar. 14, 2022	Li Huaijie	PASS	No deviation
2.1055 22.355 24.235 27.54	Frequency Stability	Mar. 25, 2022	Li Huaijie	PASS	No deviation
24.232(d), 27.50(d)(5)	Peak to Average Radio	Mar. 14, 2022	Li Huaijie	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Conducted Spurious Emissions	Mar. 14, 2022	Li Huaijie	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Band Edge	Mar. 14, 2022	Li Huaijie	PASS	No deviation
2.1053	Radiated	Mar. 13, 2022	Li Hanbin	PASS	No



22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Spurious Emissions				deviation
<p><b>Note 1:</b> The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 and ANSI/TIA-603-E-2016.</p> <p><b>Note 2:</b> 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.</p> <p><b>Note 3:</b> 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.</p> <p><b>Note 4:</b> When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.</p>					

## 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 L&M 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.

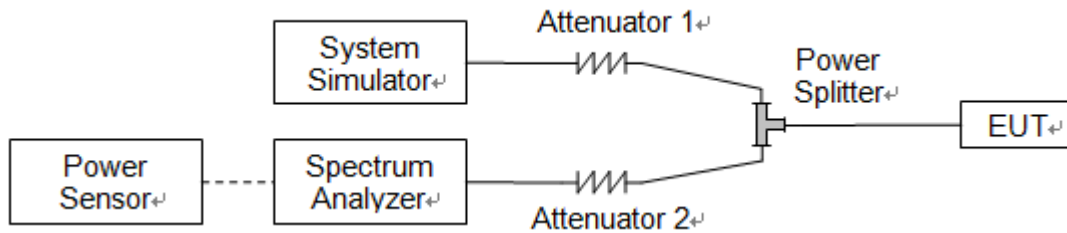
According to FCC section 27.50 (d)(4) for LTE Band 4, Fixed, mobile and portable (hand-held) stations in the 1710-1755MHz band are limited to 1wat E.I.R.P.

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 (h)(2) for LTE Band 7, Mobile and other user stations. Mobile stations are limited to 2 watts E.I.R.P. All user stations are limited to 2 watts transmitter output power.



### 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	23.25	23.27	23.19
20	QPSK	1	49	23.05	23.12	23.11
20	QPSK	1	99	22.98	23.08	23.04
20	QPSK	50	0	22.60	22.61	22.55
20	QPSK	50	24	22.44	22.50	22.34
20	QPSK	50	50	22.12	22.14	22.25
20	QPSK	100	0	22.22	22.46	22.34
20	16QAM	1	0	22.47	22.50	22.48
20	16QAM	1	49	22.22	22.29	22.30
20	16QAM	1	99	22.05	22.15	22.21
20	16QAM	50	0	21.23	21.22	21.18
20	16QAM	50	24	21.11	21.18	21.16
20	16QAM	50	50	21.12	21.17	21.15
20	16QAM	100	0	21.21	21.24	21.21
20	64QAM	1	0	21.24	21.34	21.26
20	64QAM	1	49	21.19	21.23	21.20
20	64QAM	1	99	21.12	21.15	21.12
20	64QAM	50	0	21.23	21.23	21.20
20	64QAM	50	24	21.20	21.24	21.25
20	64QAM	50	50	21.13	21.29	21.20
20	64QAM	100	0	21.22	21.11	21.16



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	23.15	23.23	23.17
15	QPSK	1	37	22.99	23.08	23.09
15	QPSK	1	74	22.92	23.04	23.02
15	QPSK	36	0	22.09	21.97	22.08
15	QPSK	36	20	21.93	22.01	22.07
15	QPSK	36	39	22.06	22.10	22.11
15	QPSK	75	0	21.92	21.95	22.12
15	16QAM	1	0	22.39	22.44	22.44
15	16QAM	1	37	22.14	22.23	22.26
15	16QAM	1	74	21.97	22.09	22.17
15	16QAM	36	0	21.15	21.16	21.14
15	16QAM	36	20	21.03	21.12	21.12
15	16QAM	36	39	21.04	21.11	21.11
15	16QAM	75	0	21.13	21.18	21.17
15	64QAM	1	0	21.18	21.30	21.24
15	64QAM	1	37	21.13	21.19	21.18
15	64QAM	1	74	21.06	21.11	21.10
15	64QAM	36	0	21.17	21.19	21.18
15	64QAM	36	20	21.14	21.20	21.23
15	64QAM	36	39	21.07	21.25	21.18
15	64QAM	75	0	21.16	21.12	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				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	23.18	23.22	23.16
10	QPSK	1	25	22.98	23.07	23.08
10	QPSK	1	49	22.91	23.03	23.01
10	QPSK	25	0	22.08	21.96	22.07
10	QPSK	25	12	21.92	22.00	22.06
10	QPSK	25	25	22.05	22.09	22.10
10	QPSK	50	0	21.91	21.94	22.11
10	16QAM	1	0	22.38	22.43	22.43
10	16QAM	1	25	22.13	22.22	22.25
10	16QAM	1	49	21.96	22.08	22.16
10	16QAM	25	0	21.14	21.15	21.13
10	16QAM	25	12	21.02	21.11	21.11
10	16QAM	25	25	21.03	21.10	21.10
10	16QAM	50	0	21.12	21.17	21.16
10	64QAM	1	0	21.17	21.29	21.23
10	64QAM	1	25	21.12	21.18	21.17
10	64QAM	1	49	21.05	21.10	21.09
10	64QAM	25	0	21.16	21.18	21.17
10	64QAM	25	12	21.13	21.19	21.22
10	64QAM	25	25	21.06	21.24	21.17
10	64QAM	50	0	21.15	21.06	21.13



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	23.19	23.20	23.17
5	QPSK	1	12	23.00	23.05	23.07
5	QPSK	1	24	22.93	23.01	23.00
5	QPSK	12	0	22.10	21.94	22.06
5	QPSK	12	7	21.94	21.98	22.05
5	QPSK	12	13	22.07	22.07	22.08
5	QPSK	25	0	21.93	21.92	22.09
5	16QAM	1	0	22.40	22.41	22.43
5	16QAM	1	12	22.15	22.20	22.25
5	16QAM	1	24	21.98	22.06	22.16
5	16QAM	12	0	21.16	21.13	21.13
5	16QAM	12	7	21.04	21.09	21.11
5	16QAM	12	13	21.05	21.08	21.10
5	16QAM	25	0	21.14	21.15	21.16
5	64QAM	1	0	21.19	21.27	21.23
5	64QAM	1	12	21.14	21.16	21.15
5	64QAM	1	24	21.07	21.08	21.09
5	64QAM	12	0	21.18	21.16	21.15
5	64QAM	12	7	21.15	21.17	21.21
5	64QAM	12	13	21.08	21.22	21.17
5	64QAM	25	0	21.17	21.04	21.09



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	23.21	23.25	23.17
3	QPSK	1	8	23.01	23.10	23.08
3	QPSK	1	14	22.94	23.06	23.03
3	QPSK	8	0	22.11	21.99	22.08
3	QPSK	8	4	21.95	22.03	22.06
3	QPSK	8	7	22.08	22.12	22.08
3	QPSK	15	0	21.94	21.97	22.07
3	16QAM	1	0	22.39	22.44	22.42
3	16QAM	1	8	22.14	22.23	22.24
3	16QAM	1	14	21.97	22.09	22.15
3	16QAM	8	0	21.15	21.16	21.12
3	16QAM	8	4	21.03	21.12	21.10
3	16QAM	8	7	21.04	21.11	21.09
3	16QAM	15	0	21.13	21.18	21.15
3	64QAM	1	0	21.20	21.32	21.24
3	64QAM	1	8	21.15	21.21	21.18
3	64QAM	1	14	21.08	21.13	21.10
3	64QAM	8	0	21.19	21.21	21.18
3	64QAM	8	4	21.16	21.22	21.23
3	64QAM	8	7	21.09	21.27	21.18
3	64QAM	15	0	21.18	21.09	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	23.18	23.24	23.14
1.4	QPSK	1	3	22.99	23.09	23.06
1.4	QPSK	1	5	22.93	23.05	22.99
1.4	QPSK	3	0	22.06	22.03	22.05
1.4	QPSK	3	1	22.01	22.02	22.04
1.4	QPSK	3	3	22.04	22.11	22.08
1.4	QPSK	6	0	21.90	21.96	22.09
1.4	16QAM	1	0	22.38	22.45	22.41
1.4	16QAM	1	3	22.13	22.24	22.23
1.4	16QAM	1	5	21.96	22.10	22.14
1.4	16QAM	3	0	22.13	22.17	22.11
1.4	16QAM	3	1	22.04	22.13	22.09
1.4	16QAM	3	3	22.03	22.12	22.08
1.4	16QAM	6	0	21.13	21.21	21.16
1.4	64QAM	1	0	21.16	21.31	21.21
1.4	64QAM	1	3	21.12	21.20	21.15
1.4	64QAM	1	5	21.06	21.12	21.07
1.4	64QAM	3	0	21.15	21.20	21.15
1.4	64QAM	3	1	21.14	21.21	21.20
1.4	64QAM	3	3	21.08	21.26	21.15
1.4	64QAM	6	0	21.13	21.08	21.11



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				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	23.04	23.16	23.07
20	QPSK	1	49	23.04	23.08	23.03
20	QPSK	1	99	23.01	23.01	22.98
20	QPSK	50	0	22.35	22.51	22.45
20	QPSK	50	24	22.37	22.36	22.38
20	QPSK	50	50	22.36	22.32	22.35
20	QPSK	100	0	22.26	22.42	22.31
20	16QAM	1	0	22.54	22.62	22.71
20	16QAM	1	49	22.38	22.48	22.53
20	16QAM	1	99	22.35	22.52	22.48
20	16QAM	50	0	21.19	21.27	21.29
20	16QAM	50	24	21.13	21.12	21.16
20	16QAM	50	50	21.03	21.08	21.10
20	16QAM	100	0	21.10	21.17	21.13
20	64QAM	1	0	21.49	21.22	21.31
20	64QAM	1	49	21.30	21.18	21.22
20	64QAM	1	99	21.13	21.14	21.15
20	64QAM	50	0	21.17	21.22	21.19
20	64QAM	50	24	21.13	21.16	21.17
20	64QAM	50	50	21.10	21.11	21.13
20	64QAM	100	0	21.09	21.10	21.12





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	23.03	23.11	23.04
15	QPSK	1	37	23.03	23.03	23.00
15	QPSK	1	74	23.00	22.96	22.95
15	QPSK	36	0	22.00	22.12	22.08
15	QPSK	36	20	22.02	22.49	22.53
15	QPSK	36	39	22.01	22.45	22.50
15	QPSK	75	0	21.91	22.55	22.46
15	16QAM	1	0	22.53	22.57	22.68
15	16QAM	1	37	22.35	22.41	22.48
15	16QAM	1	74	22.32	22.45	22.43
15	16QAM	36	0	21.16	21.20	21.24
15	16QAM	36	20	21.10	21.05	21.11
15	16QAM	36	39	21.00	21.01	21.05
15	16QAM	75	0	21.07	21.10	21.08
15	64QAM	1	0	21.48	21.17	21.28
15	64QAM	1	37	21.29	21.13	21.19
15	64QAM	1	74	21.12	21.09	21.12
15	64QAM	36	0	21.16	21.17	21.16
15	64QAM	36	20	21.12	21.11	21.14
15	64QAM	36	39	21.09	21.06	21.10
15	64QAM	75	0	21.08	21.05	21.09



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	23.05	23.13	23.06
10	QPSK	1	25	23.03	23.05	23.02
10	QPSK	1	49	23.01	22.98	22.97
10	QPSK	25	0	22.00	22.14	22.10
10	QPSK	25	12	22.04	21.99	22.03
10	QPSK	25	25	22.01	21.95	22.00
10	QPSK	50	0	21.92	22.05	21.96
10	16QAM	1	0	22.53	22.59	22.70
10	16QAM	1	25	22.37	22.45	22.52
10	16QAM	1	49	22.34	22.49	22.47
10	16QAM	25	0	21.18	21.24	21.28
10	16QAM	25	12	21.12	21.09	21.15
10	16QAM	25	25	21.02	21.05	21.09
10	16QAM	50	0	21.09	21.14	21.12
10	64QAM	1	0	21.51	21.22	21.33
10	64QAM	1	25	21.32	21.18	21.24
10	64QAM	1	49	21.15	21.14	21.17
10	64QAM	25	0	21.19	21.22	21.21
10	64QAM	25	12	21.15	21.16	21.19
10	64QAM	25	25	21.12	21.11	21.15
10	64QAM	50	0	21.11	21.10	21.14



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	23.06	23.08	23.05
5	QPSK	1	12	23.06	23.00	23.01
5	QPSK	1	24	23.03	22.93	22.96
5	QPSK	12	0	22.02	22.08	22.08
5	QPSK	12	7	22.56	22.45	22.53
5	QPSK	12	13	22.55	22.41	22.50
5	QPSK	25	0	22.45	22.51	22.46
5	16QAM	1	0	22.55	22.53	22.68
5	16QAM	1	12	22.39	22.39	22.50
5	16QAM	1	24	22.36	22.43	22.45
5	16QAM	12	0	21.22	21.20	21.28
5	16QAM	12	7	21.16	21.05	21.15
5	16QAM	12	13	21.06	21.01	21.09
5	16QAM	25	0	21.13	21.10	21.12
5	64QAM	1	0	21.52	21.15	21.30
5	64QAM	1	12	21.33	21.11	21.21
5	64QAM	1	24	21.16	21.07	21.14
5	64QAM	12	0	21.20	21.15	21.18
5	64QAM	12	7	21.16	21.09	21.16
5	64QAM	12	13	21.13	21.04	21.12
5	64QAM	25	0	21.12	21.03	21.11



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				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	22.98	23.12	22.99
3	QPSK	1	8	22.98	23.04	22.95
3	QPSK	1	14	22.95	22.97	22.90
3	QPSK	8	0	22.47	22.65	22.55
3	QPSK	8	4	22.49	22.50	22.48
3	QPSK	8	7	22.48	22.46	22.45
3	QPSK	15	0	22.38	22.56	22.41
3	16QAM	1	0	22.48	22.58	22.63
3	16QAM	1	8	22.32	22.44	22.45
3	16QAM	1	14	22.29	22.48	22.40
3	16QAM	8	0	21.13	21.23	21.23
3	16QAM	8	4	21.07	21.08	21.10
3	16QAM	8	7	20.97	21.04	21.04
3	16QAM	15	0	21.04	21.13	21.07
3	64QAM	1	0	21.43	21.18	21.25
3	64QAM	1	8	21.24	21.14	21.16
3	64QAM	1	14	21.07	21.10	21.09
3	64QAM	8	0	21.11	21.18	21.13
3	64QAM	8	4	21.07	21.12	21.11
3	64QAM	8	7	21.04	21.07	21.07
3	64QAM	15	0	21.03	21.06	21.06



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	22.99	23.09	23.05
1.4	QPSK	1	3	22.99	23.01	23.03
1.4	QPSK	1	5	22.96	22.94	22.99
1.4	QPSK	3	0	22.54	22.68	22.66
1.4	QPSK	3	1	22.56	22.53	22.59
1.4	QPSK	3	3	22.55	22.49	22.58
1.4	QPSK	6	0	21.86	22.00	21.95
1.4	16QAM	1	0	22.48	22.54	22.69
1.4	16QAM	1	3	22.32	22.40	22.51
1.4	16QAM	1	5	22.29	22.44	22.46
1.4	16QAM	3	0	22.13	22.19	22.27
1.4	16QAM	3	1	22.07	22.04	22.14
1.4	16QAM	3	3	21.97	22.00	22.08
1.4	16QAM	6	0	21.04	21.09	21.11
1.4	64QAM	1	0	21.45	21.16	21.31
1.4	64QAM	1	3	21.26	21.12	21.22
1.4	64QAM	1	5	21.09	21.08	21.15
1.4	64QAM	3	0	21.13	21.16	21.19
1.4	64QAM	3	1	21.09	21.10	21.17
1.4	64QAM	3	3	21.06	21.05	21.13
1.4	64QAM	6	0	21.03	21.02	21.10



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	23.28	23.50	23.31
10	QPSK	1	25	23.19	23.36	23.24
10	QPSK	1	49	23.11	23.38	23.15
10	QPSK	25	0	22.37	22.56	22.39
10	QPSK	25	12	22.51	22.45	22.43
10	QPSK	25	25	22.35	22.47	22.38
10	QPSK	50	0	22.22	22.48	22.42
10	16QAM	1	0	22.35	22.26	22.29
10	16QAM	1	25	22.21	22.24	22.25
10	16QAM	1	49	21.97	22.14	22.19
10	16QAM	25	0	21.47	21.26	21.33
10	16QAM	25	12	21.35	21.17	21.15
10	16QAM	25	25	21.32	21.27	21.25
10	16QAM	50	0	21.24	21.14	21.19
10	64QAM	1	0	21.11	21.27	21.23
10	64QAM	1	25	21.14	21.26	21.19
10	64QAM	1	49	21.08	21.46	21.17
10	64QAM	25	0	21.13	21.30	21.25
10	64QAM	25	12	21.23	21.24	21.19
10	64QAM	25	25	21.16	21.19	21.14
10	64QAM	50	0	21.09	21.06	21.09



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	23.31	23.45	23.35
5	QPSK	1	12	23.20	23.37	23.29
5	QPSK	1	24	23.13	23.35	23.17
5	QPSK	12	0	22.12	22.18	22.14
5	QPSK	12	7	22.31	22.20	22.18
5	QPSK	12	13	22.10	22.22	22.13
5	QPSK	25	0	22.30	22.09	22.17
5	16QAM	1	0	22.32	22.23	22.26
5	16QAM	1	12	22.18	22.21	22.22
5	16QAM	1	24	21.94	22.11	22.16
5	16QAM	12	0	21.44	21.23	21.30
5	16QAM	12	7	21.32	21.14	21.12
5	16QAM	12	13	21.29	21.24	21.22
5	16QAM	25	0	21.21	21.11	21.16
5	64QAM	1	0	21.14	21.30	21.26
5	64QAM	1	12	21.17	21.29	21.22
5	64QAM	1	24	21.11	21.49	21.20
5	64QAM	12	0	21.16	21.33	21.28
5	64QAM	12	7	21.26	21.27	21.22
5	64QAM	12	13	21.19	21.22	21.17
5	64QAM	25	0	21.12	21.09	21.12



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	23.24	23.42	23.25
3	QPSK	1	8	23.15	23.28	23.18
3	QPSK	1	14	23.07	23.30	23.09
3	QPSK	8	0	22.03	22.05	22.03
3	QPSK	8	4	22.22	22.07	22.07
3	QPSK	8	7	22.01	22.09	22.02
3	QPSK	15	0	22.21	21.96	22.06
3	16QAM	1	0	22.33	22.20	22.25
3	16QAM	1	8	22.19	22.18	22.21
3	16QAM	1	14	21.95	22.08	22.15
3	16QAM	8	0	21.45	21.20	21.29
3	16QAM	8	4	21.33	21.11	21.11
3	16QAM	8	7	21.30	21.21	21.21
3	16QAM	15	0	21.22	21.08	21.15
3	64QAM	1	0	21.09	21.21	21.19
3	64QAM	1	8	21.12	21.20	21.15
3	64QAM	1	14	21.06	21.40	21.13
3	64QAM	8	0	21.11	21.24	21.21
3	64QAM	8	4	21.21	21.18	21.15
3	64QAM	8	7	21.14	21.13	21.10
3	64QAM	15	0	21.07	21.00	21.05





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	23.33	23.43	23.26
1.4	QPSK	1	3	23.24	23.29	23.19
1.4	QPSK	1	5	23.16	23.31	23.10
1.4	QPSK	3	0	22.12	22.06	22.04
1.4	QPSK	3	1	22.31	22.08	22.08
1.4	QPSK	3	3	22.10	22.10	22.03
1.4	QPSK	6	0	22.33	22.00	22.10
1.4	16QAM	1	0	22.38	22.17	22.22
1.4	16QAM	1	3	22.24	22.15	22.18
1.4	16QAM	1	5	22.00	22.05	22.12
1.4	16QAM	3	0	22.50	22.17	22.26
1.4	16QAM	3	1	22.38	22.08	22.08
1.4	16QAM	3	3	22.35	22.18	22.18
1.4	16QAM	6	0	21.29	21.07	21.14
1.4	64QAM	1	0	21.16	21.20	21.18
1.4	64QAM	1	3	21.19	21.19	21.14
1.4	64QAM	1	5	21.13	21.39	21.12
1.4	64QAM	3	0	21.18	21.23	21.20
1.4	64QAM	3	1	21.28	21.17	21.14
1.4	64QAM	3	3	21.21	21.12	21.09
1.4	64QAM	6	0	21.15	21.00	21.05



LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20850	21100	21350
Frequency (MHz)				2510	2535	2560
20	QPSK	1	0	22.94	23.16	23.08
20	QPSK	1	49	22.93	23.08	23.02
20	QPSK	1	99	23.03	22.91	23.00
20	QPSK	50	0	22.49	22.50	22.47
20	QPSK	50	24	22.47	22.49	22.46
20	QPSK	50	50	22.39	22.45	22.43
20	QPSK	100	0	22.42	22.46	22.41
20	16QAM	1	0	22.47	22.21	22.39
20	16QAM	1	49	22.27	22.09	22.31
20	16QAM	1	99	22.54	22.25	22.23
20	16QAM	50	0	21.63	21.69	21.68
20	16QAM	50	24	21.54	21.64	21.61
20	16QAM	50	50	21.62	21.57	21.59
20	16QAM	100	0	21.63	21.58	21.53
20	64QAM	1	0	21.29	21.25	21.30
20	64QAM	1	49	21.08	21.28	21.27
20	64QAM	1	99	21.13	21.26	21.25
20	64QAM	50	0	21.09	21.12	21.13
20	64QAM	50	24	21.17	21.08	21.09
20	64QAM	50	50	21.06	21.04	21.06
20	64QAM	100	0	21.07	21.06	21.08



LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20825	21100	21375
Frequency (MHz)				2507.5	2535	2562.5
15	QPSK	1	0	22.87	23.09	23.01
15	QPSK	1	37	22.86	23.01	22.95
15	QPSK	1	74	22.96	22.84	22.93
15	QPSK	36	0	22.45	22.46	22.43
15	QPSK	36	20	22.43	22.45	22.42
15	QPSK	36	39	22.55	22.41	22.39
15	QPSK	75	0	22.38	22.46	22.37
15	16QAM	1	0	22.49	22.23	22.41
15	16QAM	1	37	22.29	22.11	22.33
15	16QAM	1	74	22.56	22.27	22.25
15	16QAM	36	0	21.62	21.68	21.67
15	16QAM	36	20	21.53	21.63	21.60
15	16QAM	36	39	21.61	21.56	21.58
15	16QAM	75	0	21.62	21.57	21.52
15	64QAM	1	0	21.28	21.24	21.29
15	64QAM	1	37	21.07	21.27	21.26
15	64QAM	1	74	21.12	21.25	21.24
15	64QAM	36	0	21.07	21.10	21.11
15	64QAM	36	20	21.15	21.06	21.07
15	64QAM	36	39	21.04	21.02	21.04
15	64QAM	75	0	21.05	21.04	21.06



LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20800	21100	21400
Frequency (MHz)				2505	2535	2565
10	QPSK	1	0	22.94	23.08	22.98
10	QPSK	1	25	22.93	23.00	22.92
10	QPSK	1	49	23.03	22.83	22.90
10	QPSK	25	0	22.52	22.45	22.40
10	QPSK	25	12	22.50	22.44	22.39
10	QPSK	25	25	22.62	22.40	22.36
10	QPSK	50	0	22.45	22.45	22.34
10	16QAM	1	0	22.54	22.20	22.36
10	16QAM	1	25	22.34	22.08	22.28
10	16QAM	1	49	22.42	22.24	22.20
10	16QAM	25	0	21.67	21.65	21.62
10	16QAM	25	12	21.58	21.60	21.55
10	16QAM	25	25	21.66	21.53	21.53
10	16QAM	50	0	21.67	21.54	21.47
10	64QAM	1	0	21.35	21.28	21.26
10	64QAM	1	25	21.14	21.26	21.23
10	64QAM	1	49	21.19	21.24	21.21
10	64QAM	25	0	21.14	21.09	21.08
10	64QAM	25	12	21.22	21.05	21.04
10	64QAM	25	25	21.11	21.01	21.01
10	64QAM	50	0	21.12	21.03	21.03



LTE Band 7						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20775	21100	21425
Frequency (MHz)				2502.5	2535	2567.5
5	QPSK	1	0	22.90	23.10	22.95
5	QPSK	1	12	22.89	23.02	22.89
5	QPSK	1	24	22.99	22.85	22.87
5	QPSK	12	0	22.48	22.47	22.37
5	QPSK	12	7	22.46	22.46	22.36
5	QPSK	12	13	22.58	22.42	22.33
5	QPSK	25	0	22.41	22.47	22.31
5	16QAM	1	0	22.52	22.24	22.35
5	16QAM	1	12	22.32	22.12	22.27
5	16QAM	1	24	22.59	22.28	22.19
5	16QAM	12	0	21.69	21.73	21.65
5	16QAM	12	7	21.60	21.68	21.58
5	16QAM	12	13	21.68	21.61	21.56
5	16QAM	25	0	21.69	21.62	21.50
5	64QAM	1	0	21.35	21.29	21.27
5	64QAM	1	12	21.14	21.32	21.24
5	64QAM	1	24	21.19	21.30	21.22
5	64QAM	12	0	21.14	21.15	21.09
5	64QAM	12	7	21.22	21.11	21.05
5	64QAM	12	13	21.11	21.07	21.02
5	64QAM	25	0	21.12	21.09	21.04



**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	22.80	0.191	22.82	0.191	22.74	0.188
20	QPSK	1	49	22.60	0.182	22.67	0.185	22.66	0.185
20	QPSK	1	99	22.53	0.179	22.63	0.183	22.59	0.182
20	QPSK	50	0	22.15	0.164	22.16	0.164	22.10	0.162
20	QPSK	50	24	21.99	0.158	22.05	0.160	21.89	0.155
20	QPSK	50	50	21.67	0.147	21.69	0.148	21.80	0.151
20	QPSK	100	0	21.77	0.150	22.01	0.159	21.89	0.155
20	16QAM	1	0	22.02	0.159	22.05	0.160	22.03	0.160
20	16QAM	1	49	21.77	0.150	21.84	0.153	21.85	0.153
20	16QAM	1	99	21.60	0.145	21.70	0.148	21.76	0.150
20	16QAM	50	0	20.78	0.120	20.77	0.119	20.73	0.118
20	16QAM	50	24	20.66	0.116	20.73	0.118	20.71	0.118
20	16QAM	50	50	20.67	0.117	20.72	0.118	20.70	0.117
20	16QAM	100	0	20.76	0.119	20.79	0.120	20.76	0.119
20	64QAM	1	0	20.79	0.120	20.89	0.123	20.81	0.121
20	64QAM	1	49	20.74	0.119	20.78	0.120	20.75	0.119
20	64QAM	1	99	20.67	0.117	20.70	0.117	20.67	0.117
20	64QAM	50	0	20.78	0.120	20.78	0.120	20.75	0.119
20	64QAM	50	24	20.75	0.119	20.79	0.120	20.80	0.120
20	64QAM	50	50	20.68	0.117	20.84	0.121	20.75	0.119
20	64QAM	100	0	20.77	0.119	20.66	0.116	20.71	0.118



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	22.70	0.186	22.78	0.190	22.72	0.187
15	QPSK	1	37	22.54	0.179	22.63	0.183	22.64	0.184
15	QPSK	1	74	22.47	0.177	22.59	0.182	22.57	0.181
15	QPSK	36	0	21.64	0.146	21.52	0.142	21.63	0.146
15	QPSK	36	20	21.48	0.141	21.56	0.143	21.62	0.145
15	QPSK	36	39	21.61	0.145	21.65	0.146	21.66	0.147
15	QPSK	75	0	21.47	0.140	21.50	0.141	21.67	0.147
15	16QAM	1	0	21.94	0.156	21.99	0.158	21.99	0.158
15	16QAM	1	37	21.69	0.148	21.78	0.151	21.81	0.152
15	16QAM	1	74	21.52	0.142	21.64	0.146	21.72	0.149
15	16QAM	36	0	20.70	0.117	20.71	0.118	20.69	0.117
15	16QAM	36	20	20.58	0.114	20.67	0.117	20.67	0.117
15	16QAM	36	39	20.59	0.115	20.66	0.116	20.66	0.116
15	16QAM	75	0	20.68	0.117	20.73	0.118	20.72	0.118
15	64QAM	1	0	20.73	0.118	20.85	0.122	20.79	0.120
15	64QAM	1	37	20.68	0.117	20.74	0.119	20.73	0.118
15	64QAM	1	74	20.61	0.115	20.66	0.116	20.65	0.116
15	64QAM	36	0	20.72	0.118	20.74	0.119	20.73	0.118
15	64QAM	36	20	20.69	0.117	20.75	0.119	20.78	0.120
15	64QAM	36	39	20.62	0.115	20.80	0.120	20.73	0.118
15	64QAM	75	0	20.71	0.118	20.67	0.117	20.69	0.117



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	22.73	0.187	22.77	0.189	22.71	0.187
10	QPSK	1	25	22.53	0.179	22.62	0.183	22.63	0.183
10	QPSK	1	49	22.46	0.176	22.58	0.181	22.56	0.180
10	QPSK	25	0	21.63	0.146	21.51	0.142	21.62	0.145
10	QPSK	25	12	21.47	0.140	21.55	0.143	21.61	0.145
10	QPSK	25	25	21.60	0.145	21.64	0.146	21.65	0.146
10	QPSK	50	0	21.46	0.140	21.49	0.141	21.66	0.147
10	16QAM	1	0	21.93	0.156	21.98	0.158	21.98	0.158
10	16QAM	1	25	21.68	0.147	21.77	0.150	21.80	0.151
10	16QAM	1	49	21.51	0.142	21.63	0.146	21.71	0.148
10	16QAM	25	0	20.69	0.117	20.70	0.117	20.68	0.117
10	16QAM	25	12	20.57	0.114	20.66	0.116	20.66	0.116
10	16QAM	25	25	20.58	0.114	20.65	0.116	20.65	0.116
10	16QAM	50	0	20.67	0.117	20.72	0.118	20.71	0.118
10	64QAM	1	0	20.72	0.118	20.84	0.121	20.78	0.120
10	64QAM	1	25	20.67	0.117	20.73	0.118	20.72	0.118
10	64QAM	1	49	20.60	0.115	20.65	0.116	20.64	0.116
10	64QAM	25	0	20.71	0.118	20.73	0.118	20.72	0.118
10	64QAM	25	12	20.68	0.117	20.74	0.119	20.77	0.119
10	64QAM	25	25	20.61	0.115	20.79	0.120	20.72	0.118
10	64QAM	50	0	20.70	0.117	20.61	0.115	20.68	0.117





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	22.74	0.188	22.75	0.188	22.72	0.187
5	QPSK	1	12	22.55	0.180	22.60	0.182	22.62	0.183
5	QPSK	1	24	22.48	0.177	22.56	0.180	22.55	0.180
5	QPSK	12	0	21.65	0.146	21.49	0.141	21.61	0.145
5	QPSK	12	7	21.49	0.141	21.53	0.142	21.60	0.145
5	QPSK	12	13	21.62	0.145	21.62	0.145	21.63	0.146
5	QPSK	25	0	21.48	0.141	21.47	0.140	21.64	0.146
5	16QAM	1	0	21.95	0.157	21.96	0.157	21.98	0.158
5	16QAM	1	12	21.70	0.148	21.75	0.150	21.80	0.151
5	16QAM	1	24	21.53	0.142	21.61	0.145	21.71	0.148
5	16QAM	12	0	20.71	0.118	20.68	0.117	20.68	0.117
5	16QAM	12	7	20.59	0.115	20.64	0.116	20.66	0.116
5	16QAM	12	13	20.60	0.115	20.63	0.116	20.65	0.116
5	16QAM	25	0	20.69	0.117	20.70	0.117	20.71	0.118
5	64QAM	1	0	20.74	0.119	20.82	0.121	20.78	0.120
5	64QAM	1	12	20.69	0.117	20.71	0.118	20.70	0.117
5	64QAM	1	24	20.62	0.115	20.63	0.116	20.64	0.116
5	64QAM	12	0	20.73	0.118	20.71	0.118	20.70	0.117
5	64QAM	12	7	20.70	0.117	20.72	0.118	20.76	0.119
5	64QAM	12	13	20.63	0.116	20.77	0.119	20.72	0.118
5	64QAM	25	0	20.72	0.118	20.59	0.115	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				18615		18900		19185	
Frequency (MHz)				1851.5		1880		1908.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	22.76	0.189	22.80	0.191	22.72	0.187
3	QPSK	1	8	22.56	0.180	22.65	0.184	22.63	0.183
3	QPSK	1	14	22.49	0.177	22.61	0.182	22.58	0.181
3	QPSK	8	0	21.66	0.147	21.54	0.143	21.63	0.146
3	QPSK	8	4	21.50	0.141	21.58	0.144	21.61	0.145
3	QPSK	8	7	21.63	0.146	21.67	0.147	21.63	0.146
3	QPSK	15	0	21.49	0.141	21.52	0.142	21.62	0.145
3	16QAM	1	0	21.94	0.156	21.99	0.158	21.97	0.157
3	16QAM	1	8	21.69	0.148	21.78	0.151	21.79	0.151
3	16QAM	1	14	21.52	0.142	21.64	0.146	21.70	0.148
3	16QAM	8	0	20.70	0.117	20.71	0.118	20.67	0.117
3	16QAM	8	4	20.58	0.114	20.67	0.117	20.65	0.116
3	16QAM	8	7	20.59	0.115	20.66	0.116	20.64	0.116
3	16QAM	15	0	20.68	0.117	20.73	0.118	20.70	0.117
3	64QAM	1	0	20.75	0.119	20.87	0.122	20.79	0.120
3	64QAM	1	8	20.70	0.117	20.76	0.119	20.73	0.118
3	64QAM	1	14	20.63	0.116	20.68	0.117	20.65	0.116
3	64QAM	8	0	20.74	0.119	20.76	0.119	20.73	0.118
3	64QAM	8	4	20.71	0.118	20.77	0.119	20.78	0.120
3	64QAM	8	7	20.64	0.116	20.82	0.121	20.73	0.118
3	64QAM	15	0	20.73	0.118	20.64	0.116	20.69	0.117



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	22.73	0.187	22.79	0.190	22.69	0.186
1.4	QPSK	1	3	22.54	0.179	22.64	0.184	22.61	0.182
1.4	QPSK	1	5	22.48	0.177	22.60	0.182	22.54	0.179
1.4	QPSK	3	0	21.61	0.145	21.58	0.144	21.60	0.145
1.4	QPSK	3	1	21.56	0.143	21.57	0.144	21.59	0.144
1.4	QPSK	3	3	21.59	0.144	21.66	0.147	21.63	0.146
1.4	QPSK	6	0	21.45	0.140	21.51	0.142	21.64	0.146
1.4	16QAM	1	0	21.93	0.156	22.00	0.158	21.96	0.157
1.4	16QAM	1	3	21.68	0.147	21.79	0.151	21.78	0.151
1.4	16QAM	1	5	21.51	0.142	21.65	0.146	21.69	0.148
1.4	16QAM	3	0	21.68	0.147	21.72	0.149	21.66	0.147
1.4	16QAM	3	1	21.59	0.144	21.68	0.147	21.64	0.146
1.4	16QAM	3	3	21.58	0.144	21.67	0.147	21.63	0.146
1.4	16QAM	6	0	20.68	0.117	20.76	0.119	20.71	0.118
1.4	64QAM	1	0	20.71	0.118	20.86	0.122	20.76	0.119
1.4	64QAM	1	3	20.67	0.117	20.75	0.119	20.70	0.117
1.4	64QAM	1	5	20.61	0.115	20.67	0.117	20.62	0.115
1.4	64QAM	3	0	20.70	0.117	20.75	0.119	20.70	0.117
1.4	64QAM	3	1	20.69	0.117	20.76	0.119	20.75	0.119
1.4	64QAM	3	3	20.63	0.116	20.81	0.121	20.70	0.117
1.4	64QAM	6	0	20.68	0.117	20.63	0.116	20.66	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				20050		20175		20300	
Frequency (MHz)				1720		1732.5		1745	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	22.51	0.178	22.63	0.183	22.54	0.179
20	QPSK	1	49	22.51	0.178	22.55	0.180	22.50	0.178
20	QPSK	1	99	22.48	0.177	22.48	0.177	22.45	0.176
20	QPSK	50	0	21.82	0.152	21.98	0.158	21.92	0.156
20	QPSK	50	24	21.84	0.153	21.83	0.152	21.85	0.153
20	QPSK	50	50	21.83	0.152	21.79	0.151	21.82	0.152
20	QPSK	100	0	21.73	0.149	21.89	0.155	21.78	0.151
20	16QAM	1	0	22.01	0.159	22.09	0.162	22.18	0.165
20	16QAM	1	49	21.85	0.153	21.95	0.157	22.00	0.158
20	16QAM	1	99	21.82	0.152	21.99	0.158	21.95	0.157
20	16QAM	50	0	20.66	0.116	20.74	0.119	20.76	0.119
20	16QAM	50	24	20.60	0.115	20.59	0.115	20.63	0.116
20	16QAM	50	50	20.50	0.112	20.55	0.114	20.57	0.114
20	16QAM	100	0	20.57	0.114	20.64	0.116	20.60	0.115
20	64QAM	1	0	20.96	0.125	20.69	0.117	20.78	0.120
20	64QAM	1	49	20.77	0.119	20.65	0.116	20.69	0.117
20	64QAM	1	99	20.60	0.115	20.61	0.115	20.62	0.115
20	64QAM	50	0	20.64	0.116	20.69	0.117	20.66	0.116
20	64QAM	50	24	20.60	0.115	20.63	0.116	20.64	0.116
20	64QAM	50	50	20.57	0.114	20.58	0.114	20.60	0.115
20	64QAM	100	0	20.56	0.114	20.57	0.114	20.59	0.115



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	22.50	0.178	22.58	0.181	22.51	0.178
15	QPSK	1	37	22.50	0.178	22.50	0.178	22.47	0.177
15	QPSK	1	74	22.47	0.177	22.43	0.175	22.42	0.175
15	QPSK	36	0	21.47	0.140	21.59	0.144	21.55	0.143
15	QPSK	36	20	21.49	0.141	21.96	0.157	22.00	0.158
15	QPSK	36	39	21.48	0.141	21.92	0.156	21.97	0.157
15	QPSK	75	0	21.38	0.137	22.02	0.159	21.93	0.156
15	16QAM	1	0	22.00	0.158	22.04	0.160	22.15	0.164
15	16QAM	1	37	21.82	0.152	21.88	0.154	21.95	0.157
15	16QAM	1	74	21.79	0.151	21.92	0.156	21.90	0.155
15	16QAM	36	0	20.63	0.116	20.67	0.117	20.71	0.118
15	16QAM	36	20	20.57	0.114	20.52	0.113	20.58	0.114
15	16QAM	36	39	20.47	0.111	20.48	0.112	20.52	0.113
15	16QAM	75	0	20.54	0.113	20.57	0.114	20.55	0.114
15	64QAM	1	0	20.95	0.124	20.64	0.116	20.75	0.119
15	64QAM	1	37	20.76	0.119	20.60	0.115	20.66	0.116
15	64QAM	1	74	20.59	0.115	20.56	0.114	20.59	0.115
15	64QAM	36	0	20.63	0.116	20.64	0.116	20.63	0.116
15	64QAM	36	20	20.59	0.115	20.58	0.114	20.61	0.115
15	64QAM	36	39	20.56	0.114	20.53	0.113	20.57	0.114
15	64QAM	75	0	20.55	0.114	20.52	0.113	20.56	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				20000		20175		20350	
Frequency (MHz)				1715		1732.5		1750	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	22.52	0.179	22.60	0.182	22.53	0.179
10	QPSK	1	25	22.50	0.178	22.52	0.179	22.49	0.177
10	QPSK	1	49	22.48	0.177	22.45	0.176	22.44	0.175
10	QPSK	25	0	21.47	0.140	21.61	0.145	21.57	0.144
10	QPSK	25	12	21.51	0.142	21.46	0.140	21.50	0.141
10	QPSK	25	25	21.48	0.141	21.42	0.139	21.47	0.140
10	QPSK	50	0	21.39	0.138	21.52	0.142	21.43	0.139
10	16QAM	1	0	22.00	0.158	22.06	0.161	22.17	0.165
10	16QAM	1	25	21.84	0.153	21.92	0.156	21.99	0.158
10	16QAM	1	49	21.81	0.152	21.96	0.157	21.94	0.156
10	16QAM	25	0	20.65	0.116	20.71	0.118	20.75	0.119
10	16QAM	25	12	20.59	0.115	20.56	0.114	20.62	0.115
10	16QAM	25	25	20.49	0.112	20.52	0.113	20.56	0.114
10	16QAM	50	0	20.56	0.114	20.61	0.115	20.59	0.115
10	64QAM	1	0	20.98	0.125	20.69	0.117	20.80	0.120
10	64QAM	1	25	20.79	0.120	20.65	0.116	20.71	0.118
10	64QAM	1	49	20.62	0.115	20.61	0.115	20.64	0.116
10	64QAM	25	0	20.66	0.116	20.69	0.117	20.68	0.117
10	64QAM	25	12	20.62	0.115	20.63	0.116	20.66	0.116
10	64QAM	25	25	20.59	0.115	20.58	0.114	20.62	0.115
10	64QAM	50	0	20.58	0.114	20.57	0.114	20.61	0.115



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	22.53	0.179	22.55	0.180	22.52	0.179
5	QPSK	1	12	22.53	0.179	22.47	0.177	22.48	0.177
5	QPSK	1	24	22.50	0.178	22.40	0.174	22.43	0.175
5	QPSK	12	0	21.49	0.141	21.55	0.143	21.55	0.143
5	QPSK	12	7	22.03	0.160	21.92	0.156	22.00	0.158
5	QPSK	12	13	22.02	0.159	21.88	0.154	21.97	0.157
5	QPSK	25	0	21.92	0.156	21.98	0.158	21.93	0.156
5	16QAM	1	0	22.02	0.159	22.00	0.158	22.15	0.164
5	16QAM	1	12	21.86	0.153	21.86	0.153	21.97	0.157
5	16QAM	1	24	21.83	0.152	21.90	0.155	21.92	0.156
5	16QAM	12	0	20.69	0.117	20.67	0.117	20.75	0.119
5	16QAM	12	7	20.63	0.116	20.52	0.113	20.62	0.115
5	16QAM	12	13	20.53	0.113	20.48	0.112	20.56	0.114
5	16QAM	25	0	20.60	0.115	20.57	0.114	20.59	0.115
5	64QAM	1	0	20.99	0.126	20.62	0.115	20.77	0.119
5	64QAM	1	12	20.80	0.120	20.58	0.114	20.68	0.117
5	64QAM	1	24	20.63	0.116	20.54	0.113	20.61	0.115
5	64QAM	12	0	20.67	0.117	20.62	0.115	20.65	0.116
5	64QAM	12	7	20.63	0.116	20.56	0.114	20.63	0.116
5	64QAM	12	13	20.60	0.115	20.51	0.112	20.59	0.115
5	64QAM	25	0	20.59	0.115	20.50	0.112	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	22.45	0.176	22.59	0.182	22.46	0.176
3	QPSK	1	8	22.45	0.176	22.51	0.178	22.42	0.175
3	QPSK	1	14	22.42	0.175	22.44	0.175	22.37	0.173
3	QPSK	8	0	21.94	0.156	22.12	0.163	22.02	0.159
3	QPSK	8	4	21.96	0.157	21.97	0.157	21.95	0.157
3	QPSK	8	7	21.95	0.157	21.93	0.156	21.92	0.156
3	QPSK	15	0	21.85	0.153	22.03	0.160	21.88	0.154
3	16QAM	1	0	21.95	0.157	22.05	0.160	22.10	0.162
3	16QAM	1	8	21.79	0.151	21.91	0.155	21.92	0.156
3	16QAM	1	14	21.76	0.150	21.95	0.157	21.87	0.154
3	16QAM	8	0	20.60	0.115	20.70	0.117	20.70	0.117
3	16QAM	8	4	20.54	0.113	20.55	0.114	20.57	0.114
3	16QAM	8	7	20.44	0.111	20.51	0.112	20.51	0.112
3	16QAM	15	0	20.51	0.112	20.60	0.115	20.54	0.113
3	64QAM	1	0	20.90	0.123	20.65	0.116	20.72	0.118
3	64QAM	1	8	20.71	0.118	20.61	0.115	20.63	0.116
3	64QAM	1	14	20.54	0.113	20.57	0.114	20.56	0.114
3	64QAM	8	0	20.58	0.114	20.65	0.116	20.60	0.115
3	64QAM	8	4	20.54	0.113	20.59	0.115	20.58	0.114
3	64QAM	8	7	20.51	0.112	20.54	0.113	20.54	0.113
3	64QAM	15	0	20.50	0.112	20.53	0.113	20.53	0.113





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	22.46	0.176	22.56	0.180	22.52	0.179
1.4	QPSK	1	3	22.46	0.176	22.48	0.177	22.50	0.178
1.4	QPSK	1	5	22.43	0.175	22.41	0.174	22.46	0.176
1.4	QPSK	3	0	22.01	0.159	22.15	0.164	22.13	0.163
1.4	QPSK	3	1	22.03	0.160	22.00	0.158	22.06	0.161
1.4	QPSK	3	3	22.02	0.159	21.96	0.157	22.05	0.160
1.4	QPSK	6	0	21.33	0.136	21.47	0.140	21.42	0.139
1.4	16QAM	1	0	21.95	0.157	22.01	0.159	22.16	0.164
1.4	16QAM	1	3	21.79	0.151	21.87	0.154	21.98	0.158
1.4	16QAM	1	5	21.76	0.150	21.91	0.155	21.93	0.156
1.4	16QAM	3	0	21.60	0.145	21.66	0.147	21.74	0.149
1.4	16QAM	3	1	21.54	0.143	21.51	0.142	21.61	0.145
1.4	16QAM	3	3	21.44	0.139	21.47	0.140	21.55	0.143
1.4	16QAM	6	0	20.51	0.112	20.56	0.114	20.58	0.114
1.4	64QAM	1	0	20.92	0.124	20.63	0.116	20.78	0.120
1.4	64QAM	1	3	20.73	0.118	20.59	0.115	20.69	0.117
1.4	64QAM	1	5	20.56	0.114	20.55	0.114	20.62	0.115
1.4	64QAM	3	0	20.60	0.115	20.63	0.116	20.66	0.116
1.4	64QAM	3	1	20.56	0.114	20.57	0.114	20.64	0.116
1.4	64QAM	3	3	20.53	0.113	20.52	0.113	20.60	0.115
1.4	64QAM	6	0	20.50	0.112	20.49	0.112	20.57	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				20450		20525		20600	
Frequency (MHz)				829		836.5		844	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	20.49	0.112	20.71	0.118	20.52	0.113
10	QPSK	1	25	20.40	0.110	20.57	0.114	20.45	0.111
10	QPSK	1	49	20.32	0.108	20.59	0.115	20.36	0.109
10	QPSK	25	0	19.58	0.091	19.77	0.095	19.60	0.091
10	QPSK	25	12	19.72	0.094	19.66	0.092	19.64	0.092
10	QPSK	25	25	19.56	0.090	19.68	0.093	19.59	0.091
10	QPSK	50	0	19.43	0.088	19.69	0.093	19.63	0.092
10	16QAM	1	0	19.56	0.090	19.47	0.089	19.50	0.089
10	16QAM	1	25	19.42	0.087	19.45	0.088	19.46	0.088
10	16QAM	1	49	19.18	0.083	19.35	0.086	19.40	0.087
10	16QAM	25	0	18.68	0.074	18.47	0.070	18.54	0.071
10	16QAM	25	12	18.56	0.072	18.38	0.069	18.36	0.069
10	16QAM	25	25	18.53	0.071	18.48	0.070	18.46	0.070
10	16QAM	50	0	18.45	0.070	18.35	0.068	18.40	0.069
10	64QAM	1	0	18.32	0.068	18.48	0.070	18.44	0.070
10	64QAM	1	25	18.35	0.068	18.47	0.070	18.40	0.069
10	64QAM	1	49	18.29	0.067	18.67	0.074	18.38	0.069
10	64QAM	25	0	18.34	0.068	18.51	0.071	18.46	0.070
10	64QAM	25	12	18.44	0.070	18.45	0.070	18.40	0.069
10	64QAM	25	25	18.37	0.069	18.40	0.069	18.35	0.068
10	64QAM	50	0	18.30	0.068	18.27	0.067	18.30	0.068



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	20.52	0.113	20.66	0.116	20.56	0.114
5	QPSK	1	12	20.41	0.110	20.58	0.114	20.50	0.112
5	QPSK	1	24	20.34	0.108	20.56	0.114	20.38	0.109
5	QPSK	12	0	19.33	0.086	19.39	0.087	19.35	0.086
5	QPSK	12	7	19.52	0.090	19.41	0.087	19.39	0.087
5	QPSK	12	13	19.31	0.085	19.43	0.088	19.34	0.086
5	QPSK	25	0	19.51	0.089	19.30	0.085	19.38	0.087
5	16QAM	1	0	19.53	0.090	19.44	0.088	19.47	0.089
5	16QAM	1	12	19.39	0.087	19.42	0.087	19.43	0.088
5	16QAM	1	24	19.15	0.082	19.32	0.086	19.37	0.086
5	16QAM	12	0	18.65	0.073	18.44	0.070	18.51	0.071
5	16QAM	12	7	18.53	0.071	18.35	0.068	18.33	0.068
5	16QAM	12	13	18.50	0.071	18.45	0.070	18.43	0.070
5	16QAM	25	0	18.42	0.070	18.32	0.068	18.37	0.069
5	64QAM	1	0	18.35	0.068	18.51	0.071	18.47	0.070
5	64QAM	1	12	18.38	0.069	18.50	0.071	18.43	0.070
5	64QAM	1	24	18.32	0.068	18.70	0.074	18.41	0.069
5	64QAM	12	0	18.37	0.069	18.54	0.071	18.49	0.071
5	64QAM	12	7	18.47	0.070	18.48	0.070	18.43	0.070
5	64QAM	12	13	18.40	0.069	18.43	0.070	18.38	0.069
5	64QAM	25	0	18.33	0.068	18.30	0.068	18.33	0.068



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	20.45	0.111	20.63	0.116	20.46	0.111
3	QPSK	1	8	20.36	0.109	20.49	0.112	20.39	0.109
3	QPSK	1	14	20.28	0.107	20.51	0.112	20.30	0.107
3	QPSK	8	0	19.24	0.084	19.26	0.084	19.24	0.084
3	QPSK	8	4	19.43	0.088	19.28	0.085	19.28	0.085
3	QPSK	8	7	19.22	0.084	19.30	0.085	19.23	0.084
3	QPSK	15	0	19.42	0.087	19.17	0.083	19.27	0.085
3	16QAM	1	0	19.54	0.090	19.41	0.087	19.46	0.088
3	16QAM	1	8	19.40	0.087	19.39	0.087	19.42	0.087
3	16QAM	1	14	19.16	0.082	19.29	0.085	19.36	0.086
3	16QAM	8	0	18.66	0.073	18.41	0.069	18.50	0.071
3	16QAM	8	4	18.54	0.071	18.32	0.068	18.32	0.068
3	16QAM	8	7	18.51	0.071	18.42	0.070	18.42	0.070
3	16QAM	15	0	18.43	0.070	18.29	0.067	18.36	0.069
3	64QAM	1	0	18.30	0.068	18.42	0.070	18.40	0.069
3	64QAM	1	8	18.33	0.068	18.41	0.069	18.36	0.069
3	64QAM	1	14	18.27	0.067	18.61	0.073	18.34	0.068
3	64QAM	8	0	18.32	0.068	18.45	0.070	18.42	0.070
3	64QAM	8	4	18.42	0.070	18.39	0.069	18.36	0.069
3	64QAM	8	7	18.35	0.068	18.34	0.068	18.31	0.068
3	64QAM	15	0	18.28	0.067	18.21	0.066	18.26	0.067



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	20.54	0.113	20.64	0.116	20.47	0.111
1.4	QPSK	1	3	20.45	0.111	20.50	0.112	20.40	0.110
1.4	QPSK	1	5	20.37	0.109	20.52	0.113	20.31	0.107
1.4	QPSK	3	0	19.33	0.086	19.27	0.085	19.25	0.084
1.4	QPSK	3	1	19.52	0.090	19.29	0.085	19.29	0.085
1.4	QPSK	3	3	19.31	0.085	19.31	0.085	19.24	0.084
1.4	QPSK	6	0	19.54	0.090	19.21	0.083	19.31	0.085
1.4	16QAM	1	0	19.59	0.091	19.38	0.087	19.43	0.088
1.4	16QAM	1	3	19.45	0.088	19.36	0.086	19.39	0.087
1.4	16QAM	1	5	19.21	0.083	19.26	0.084	19.33	0.086
1.4	16QAM	3	0	19.71	0.094	19.38	0.087	19.47	0.089
1.4	16QAM	3	1	19.59	0.091	19.29	0.085	19.29	0.085
1.4	16QAM	3	3	19.56	0.090	19.39	0.087	19.39	0.087
1.4	16QAM	6	0	18.50	0.071	18.28	0.067	18.35	0.068
1.4	64QAM	1	0	18.37	0.069	18.41	0.069	18.39	0.069
1.4	64QAM	1	3	18.40	0.069	18.40	0.069	18.35	0.068
1.4	64QAM	1	5	18.34	0.068	18.60	0.072	18.33	0.068
1.4	64QAM	3	0	18.39	0.069	18.44	0.070	18.41	0.069
1.4	64QAM	3	1	18.49	0.071	18.38	0.069	18.35	0.068
1.4	64QAM	3	3	18.42	0.070	18.33	0.068	18.30	0.068
1.4	64QAM	6	0	18.36	0.069	18.21	0.066	18.26	0.067



LTE Band 7				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20850		21100		21350	
Frequency (MHz)				2510		2535		2560	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	21.72	0.149	21.94	0.156	21.86	0.153
20	QPSK	1	49	21.71	0.148	21.86	0.153	21.80	0.151
20	QPSK	1	99	21.81	0.152	21.69	0.148	21.78	0.151
20	QPSK	50	0	21.27	0.134	21.28	0.134	21.25	0.133
20	QPSK	50	24	21.25	0.133	21.27	0.134	21.24	0.133
20	QPSK	50	50	21.17	0.131	21.23	0.133	21.21	0.132
20	QPSK	100	0	21.20	0.132	21.24	0.133	21.19	0.132
20	16QAM	1	0	21.25	0.133	20.99	0.126	21.17	0.131
20	16QAM	1	49	21.05	0.127	20.87	0.122	21.09	0.129
20	16QAM	1	99	21.32	0.136	21.03	0.127	21.01	0.126
20	16QAM	50	0	20.41	0.110	20.47	0.111	20.46	0.111
20	16QAM	50	24	20.32	0.108	20.42	0.110	20.39	0.109
20	16QAM	50	50	20.40	0.110	20.35	0.108	20.37	0.109
20	16QAM	100	0	20.41	0.110	20.36	0.109	20.31	0.107
20	64QAM	1	0	20.07	0.102	20.03	0.101	20.08	0.102
20	64QAM	1	49	19.86	0.097	20.06	0.101	20.05	0.101
20	64QAM	1	99	19.91	0.098	20.04	0.101	20.03	0.101
20	64QAM	50	0	19.87	0.097	19.90	0.098	19.91	0.098
20	64QAM	50	24	19.95	0.099	19.86	0.097	19.87	0.097
20	64QAM	50	50	19.84	0.096	19.82	0.096	19.84	0.096
20	64QAM	100	0	19.85	0.097	19.84	0.096	19.86	0.097



LTE Band 7				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20825		21100		21375	
Frequency (MHz)				2507.5		2535		2562.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	21.65	0.146	21.87	0.154	21.79	0.151
15	QPSK	1	37	21.64	0.146	21.79	0.151	21.73	0.149
15	QPSK	1	74	21.74	0.149	21.62	0.145	21.71	0.148
15	QPSK	36	0	21.23	0.133	21.24	0.133	21.21	0.132
15	QPSK	36	20	21.21	0.132	21.23	0.133	21.20	0.132
15	QPSK	36	39	21.33	0.136	21.19	0.132	21.17	0.131
15	QPSK	75	0	21.16	0.131	21.24	0.133	21.15	0.130
15	16QAM	1	0	21.27	0.134	21.01	0.126	21.19	0.132
15	16QAM	1	37	21.07	0.128	20.89	0.123	21.11	0.129
15	16QAM	1	74	21.34	0.136	21.05	0.127	21.03	0.127
15	16QAM	36	0	20.40	0.110	20.46	0.111	20.45	0.111
15	16QAM	36	20	20.31	0.107	20.41	0.110	20.38	0.109
15	16QAM	36	39	20.39	0.109	20.34	0.108	20.36	0.109
15	16QAM	75	0	20.40	0.110	20.35	0.108	20.30	0.107
15	64QAM	1	0	20.06	0.101	20.02	0.100	20.07	0.102
15	64QAM	1	37	19.85	0.097	20.05	0.101	20.04	0.101
15	64QAM	1	74	19.90	0.098	20.03	0.101	20.02	0.100
15	64QAM	36	0	19.85	0.097	19.88	0.097	19.89	0.097
15	64QAM	36	20	19.93	0.098	19.84	0.096	19.85	0.097
15	64QAM	36	39	19.82	0.096	19.80	0.095	19.82	0.096
15	64QAM	75	0	19.83	0.096	19.82	0.096	19.84	0.096



LTE Band 7				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20800		21100		21400	
Frequency (MHz)				2505		2535		2565	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	21.72	0.149	21.86	0.153	21.76	0.150
10	QPSK	1	25	21.71	0.148	21.78	0.151	21.70	0.148
10	QPSK	1	49	21.81	0.152	21.61	0.145	21.68	0.147
10	QPSK	25	0	21.30	0.135	21.23	0.133	21.18	0.131
10	QPSK	25	12	21.28	0.134	21.22	0.132	21.17	0.131
10	QPSK	25	25	21.40	0.138	21.18	0.131	21.14	0.130
10	QPSK	50	0	21.23	0.133	21.23	0.133	21.12	0.129
10	16QAM	1	0	21.32	0.136	20.98	0.125	21.14	0.130
10	16QAM	1	25	21.12	0.129	20.86	0.122	21.06	0.128
10	16QAM	1	49	21.20	0.132	21.02	0.126	20.98	0.125
10	16QAM	25	0	20.45	0.111	20.43	0.110	20.40	0.110
10	16QAM	25	12	20.36	0.109	20.38	0.109	20.33	0.108
10	16QAM	25	25	20.44	0.111	20.31	0.107	20.31	0.107
10	16QAM	50	0	20.45	0.111	20.32	0.108	20.25	0.106
10	64QAM	1	0	20.13	0.103	20.06	0.101	20.04	0.101
10	64QAM	1	25	19.92	0.098	20.04	0.101	20.01	0.100
10	64QAM	1	49	19.97	0.099	20.02	0.100	19.99	0.100
10	64QAM	25	0	19.92	0.098	19.87	0.097	19.86	0.097
10	64QAM	25	12	20.00	0.100	19.83	0.096	19.82	0.096
10	64QAM	25	25	19.89	0.097	19.79	0.095	19.79	0.095
10	64QAM	50	0	19.90	0.098	19.81	0.096	19.81	0.096





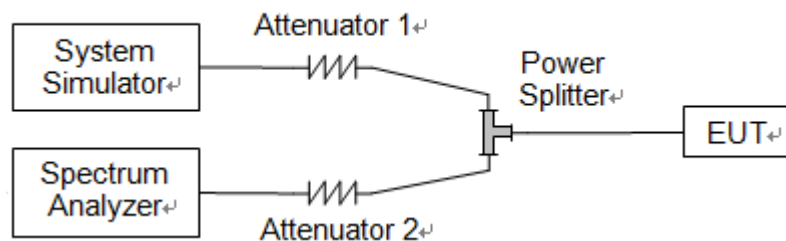
LTE Band 7				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20775		21100		21425	
Frequency (MHz)				2502.5		2535		2567.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	21.68	0.147	21.88	0.154	21.73	0.149
5	QPSK	1	12	21.67	0.147	21.80	0.151	21.67	0.147
5	QPSK	1	24	21.77	0.150	21.63	0.146	21.65	0.146
5	QPSK	12	0	21.26	0.134	21.25	0.133	21.15	0.130
5	QPSK	12	7	21.24	0.133	21.24	0.133	21.14	0.130
5	QPSK	12	13	21.36	0.137	21.20	0.132	21.11	0.129
5	QPSK	25	0	21.19	0.132	21.25	0.133	21.09	0.129
5	16QAM	1	0	21.30	0.135	21.02	0.126	21.13	0.130
5	16QAM	1	12	21.10	0.129	20.90	0.123	21.05	0.127
5	16QAM	1	24	21.37	0.137	21.06	0.128	20.97	0.125
5	16QAM	12	0	20.47	0.111	20.51	0.112	20.43	0.110
5	16QAM	12	7	20.38	0.109	20.46	0.111	20.36	0.109
5	16QAM	12	13	20.46	0.111	20.39	0.109	20.34	0.108
5	16QAM	25	0	20.47	0.111	20.40	0.110	20.28	0.107
5	64QAM	1	0	20.13	0.103	20.07	0.102	20.05	0.101
5	64QAM	1	12	19.92	0.098	20.10	0.102	20.02	0.100
5	64QAM	1	24	19.97	0.099	20.08	0.102	20.00	0.100
5	64QAM	12	0	19.92	0.098	19.93	0.098	19.87	0.097
5	64QAM	12	7	20.00	0.100	19.89	0.097	19.83	0.096
5	64QAM	12	13	19.89	0.097	19.85	0.097	19.80	0.095
5	64QAM	25	0	19.90	0.098	19.87	0.097	19.82	0.096

## 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	1.25
	Low	16QAM	1.10	1.28
	Low	64QAM	1.10	1.24
	Mid	QPSK	1.10	1.25
	Mid	16QAM	1.10	1.25
	Mid	64QAM	1.10	1.26
	High	QPSK	1.10	1.26
	High	16QAM	1.10	1.45
	High	64QAM	1.10	1.27
3	Low	QPSK	2.73	3.08
	Low	16QAM	2.72	3.05
	Low	64QAM	2.73	3.06
	Mid	QPSK	2.72	3.06
	Mid	16QAM	2.72	3.06
	Mid	64QAM	2.71	3.07
	High	QPSK	2.72	3.07
	High	16QAM	2.73	3.07
	High	64QAM	2.72	3.09
5	Low	QPSK	4.51	5.01
	Low	16QAM	4.51	4.96
	Low	64QAM	4.50	4.98
	Mid	QPSK	4.50	4.95
	Mid	16QAM	4.50	5.00
	Mid	64QAM	4.51	4.95
	High	QPSK	4.50	5.00
	High	16QAM	4.50	4.99
	High	64QAM	4.50	4.98
10	Low	QPSK	9.02	9.95
	Low	16QAM	8.98	9.85
	Low	64QAM	9.00	10.00
	Mid	QPSK	9.01	9.77
	Mid	16QAM	8.99	9.81
	Mid	64QAM	9.00	9.84
	High	QPSK	9.02	9.92
	High	16QAM	8.98	9.85
	High	64QAM	9.02	9.92



15	Low	QPSK	13.51	15.00
	Low	16QAM	13.48	14.90
	Low	64QAM	13.50	14.98
	Mid	QPSK	13.48	14.89
	Mid	16QAM	13.47	15.00
	Mid	64QAM	13.50	14.94
	High	QPSK	13.55	14.97
	High	16QAM	13.53	15.13
	High	64QAM	13.53	15.01
20	Low	QPSK	18.02	19.99
	Low	16QAM	18.07	19.76
	Low	64QAM	18.02	19.69
	Mid	QPSK	18.00	19.80
	Mid	16QAM	18.04	19.80
	Mid	64QAM	18.02	19.74
	High	QPSK	18.10	20.05
	High	16QAM	18.09	19.86
	High	64QAM	18.07	19.82



LTE Band 4				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.10	1.25
	Low	16QAM	1.10	1.25
	Low	64QAM	1.09	1.25
	Mid	QPSK	1.10	1.24
	Mid	16QAM	1.10	1.24
	Mid	64QAM	1.09	1.25
	High	QPSK	1.10	1.24
	High	16QAM	1.10	1.26
	High	64QAM	1.10	1.25
3	Low	QPSK	2.72	3.04
	Low	16QAM	2.71	3.05
	Low	64QAM	2.71	3.05
	Mid	QPSK	2.71	3.05
	Mid	16QAM	2.72	3.06
	Mid	64QAM	2.72	3.04
	High	QPSK	2.72	3.07
	High	16QAM	2.71	3.06
	High	64QAM	2.72	3.09
5	Low	QPSK	4.50	4.95
	Low	16QAM	4.50	4.98
	Low	64QAM	4.51	5.51
	Mid	QPSK	4.49	4.97
	Mid	16QAM	4.50	4.97
	Mid	64QAM	4.49	4.96
	High	QPSK	4.52	5.20
	High	16QAM	4.51	5.00
	High	64QAM	4.51	4.97
10	Low	QPSK	9.02	9.87
	Low	16QAM	8.99	9.82
	Low	64QAM	8.98	9.84
	Mid	QPSK	9.00	9.86
	Mid	16QAM	8.98	9.89
	Mid	64QAM	8.98	9.89
	High	QPSK	9.01	9.87
	High	16QAM	8.99	9.78
	High	64QAM	9.00	9.87



15	Low	QPSK	13.43	14.86
	Low	16QAM	13.48	14.91
	Low	64QAM	13.47	14.83
	Mid	QPSK	13.48	14.87
	Mid	16QAM	13.49	14.82
	Mid	64QAM	13.48	14.87
	High	QPSK	13.51	14.85
	High	16QAM	13.50	14.94
	High	64QAM	13.49	14.94
20	Low	QPSK	17.96	19.78
	Low	16QAM	17.99	19.78
	Low	64QAM	17.97	19.71
	Mid	QPSK	18.00	19.85
	Mid	16QAM	18.01	19.86
	Mid	64QAM	18.02	19.73
	High	QPSK	18.03	19.85
	High	16QAM	18.02	19.71
	High	64QAM	18.05	19.78



LTE Band 5				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
1.4	Low	QPSK	1.09	1.24
	Low	16QAM	1.10	1.25
	Low	64QAM	1.10	1.25
	Mid	QPSK	1.10	1.25
	Mid	16QAM	1.10	1.25
	Mid	64QAM	1.10	1.25
	High	QPSK	1.10	1.24
	High	16QAM	1.10	1.25
	High	64QAM	1.10	1.25
3	Low	QPSK	2.72	3.05
	Low	16QAM	2.71	3.07
	Low	64QAM	2.72	3.06
	Mid	QPSK	2.72	3.06
	Mid	16QAM	2.71	3.05
	Mid	64QAM	2.72	3.05
	High	QPSK	2.72	3.05
	High	16QAM	2.71	3.04
	High	64QAM	2.73	3.05
5	Low	QPSK	4.50	4.97
	Low	16QAM	4.50	4.95
	Low	64QAM	4.50	4.96
	Mid	QPSK	4.50	4.95
	Mid	16QAM	4.50	4.99
	Mid	64QAM	4.50	4.98
	High	QPSK	4.50	4.99
	High	16QAM	4.50	4.98
	High	64QAM	4.49	4.98
10	Low	QPSK	8.99	9.88
	Low	16QAM	8.97	9.87
	Low	64QAM	9.01	9.85
	Mid	QPSK	9.01	9.82
	Mid	16QAM	8.98	9.82
	Mid	64QAM	8.99	9.86
	High	QPSK	8.98	9.89
	High	16QAM	8.96	9.83
	High	64QAM	9.00	9.87

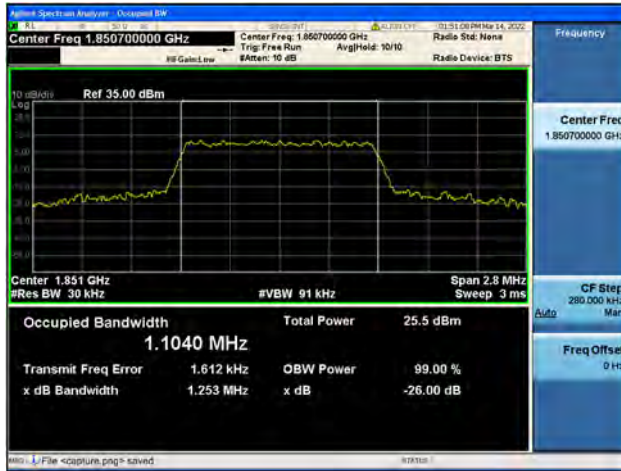


LTE Band 7				
BW(MHz)	Channel Level	Modulation	99% BW(MHz)	26dB BW(MHz)
5	Low	QPSK	4.50	4.96
	Low	16QAM	4.51	4.98
	Low	64QAM	4.50	4.96
	Mid	QPSK	4.50	4.96
	Mid	16QAM	4.50	5.00
	Mid	64QAM	4.51	4.92
	High	QPSK	4.50	4.99
	High	16QAM	4.50	4.97
	High	64QAM	4.49	4.97
10	Low	QPSK	9.01	9.81
	Low	16QAM	8.96	9.85
	Low	64QAM	8.97	9.83
	Mid	QPSK	9.01	9.87
	Mid	16QAM	8.97	9.84
	Mid	64QAM	9.00	9.89
	High	QPSK	9.02	9.87
	High	16QAM	8.98	9.82
	High	64QAM	8.99	9.91
15	Low	QPSK	13.46	14.94
	Low	16QAM	13.49	15.02
	Low	64QAM	13.48	14.95
	Mid	QPSK	13.51	15.01
	Mid	16QAM	13.50	15.01
	Mid	64QAM	13.48	14.93
	High	QPSK	13.45	14.70
	High	16QAM	13.51	14.89
	High	64QAM	13.49	14.98
20	Low	QPSK	17.80	18.95
	Low	16QAM	17.88	19.06
	Low	64QAM	17.87	18.90
	Mid	QPSK	17.99	19.90
	Mid	16QAM	18.04	19.84
	Mid	64QAM	18.02	19.72
	High	QPSK	18.03	19.80
	High	16QAM	18.04	19.66
	High	64QAM	17.99	19.70

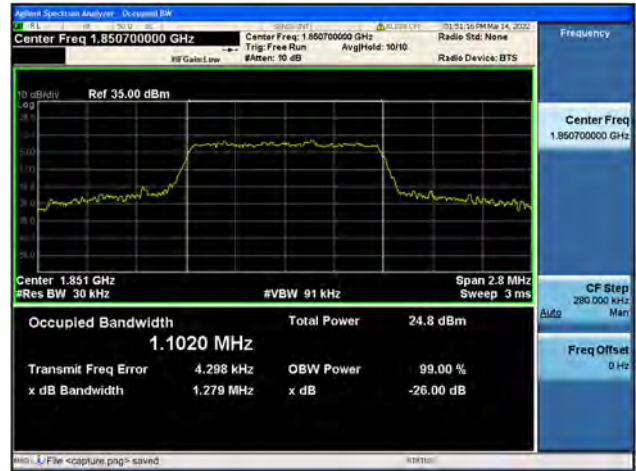




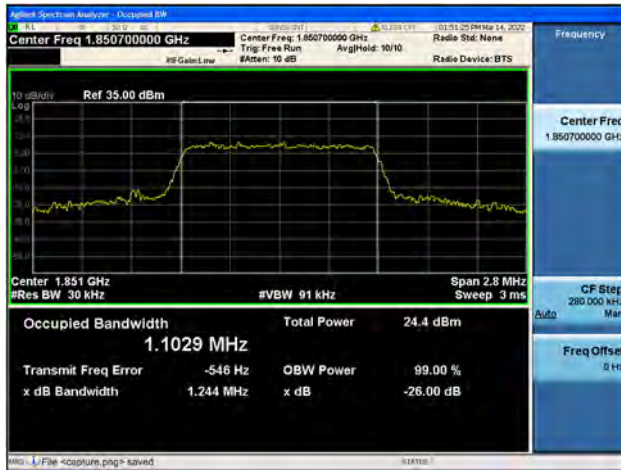
Band2 / 1.4MHz / Low CH / QPSK



Band2 / 1.4MHz / Low CH / 16QAM



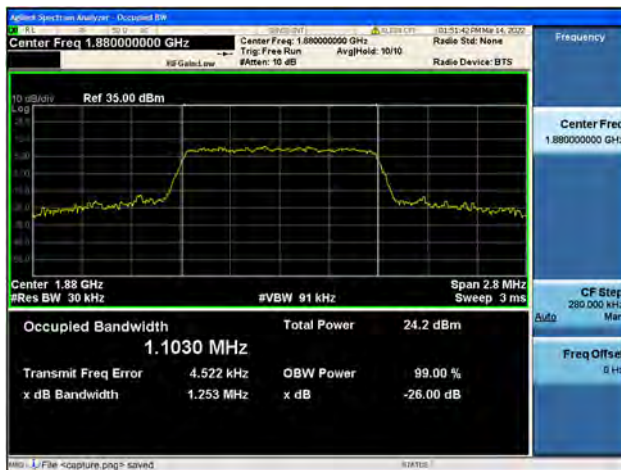
Band2 / 1.4MHz / Low CH / 64QAM



Band2 / 1.4MHz / Mid CH / QPSK

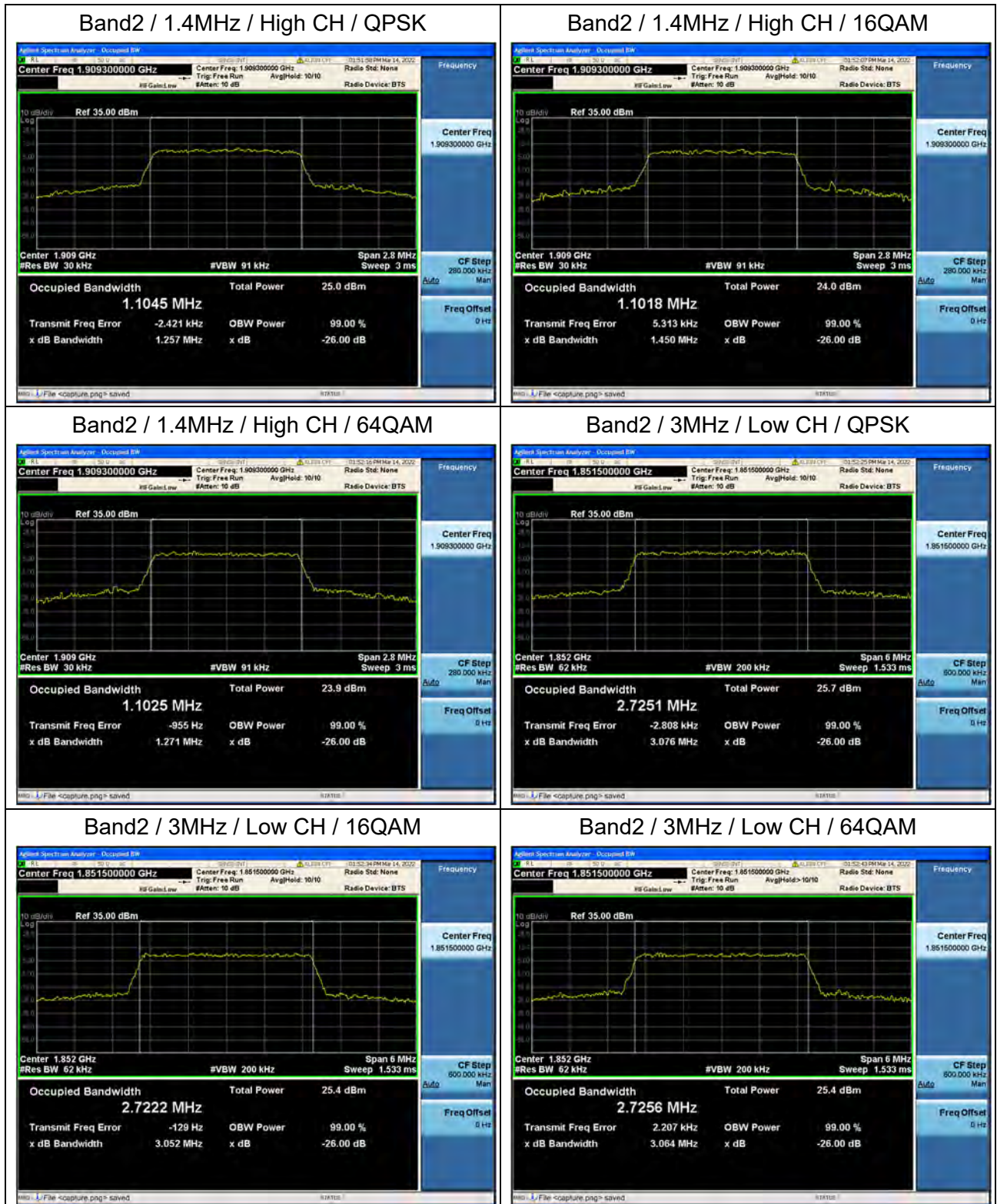


Band2 / 1.4MHz / Mid CH / 16QAM

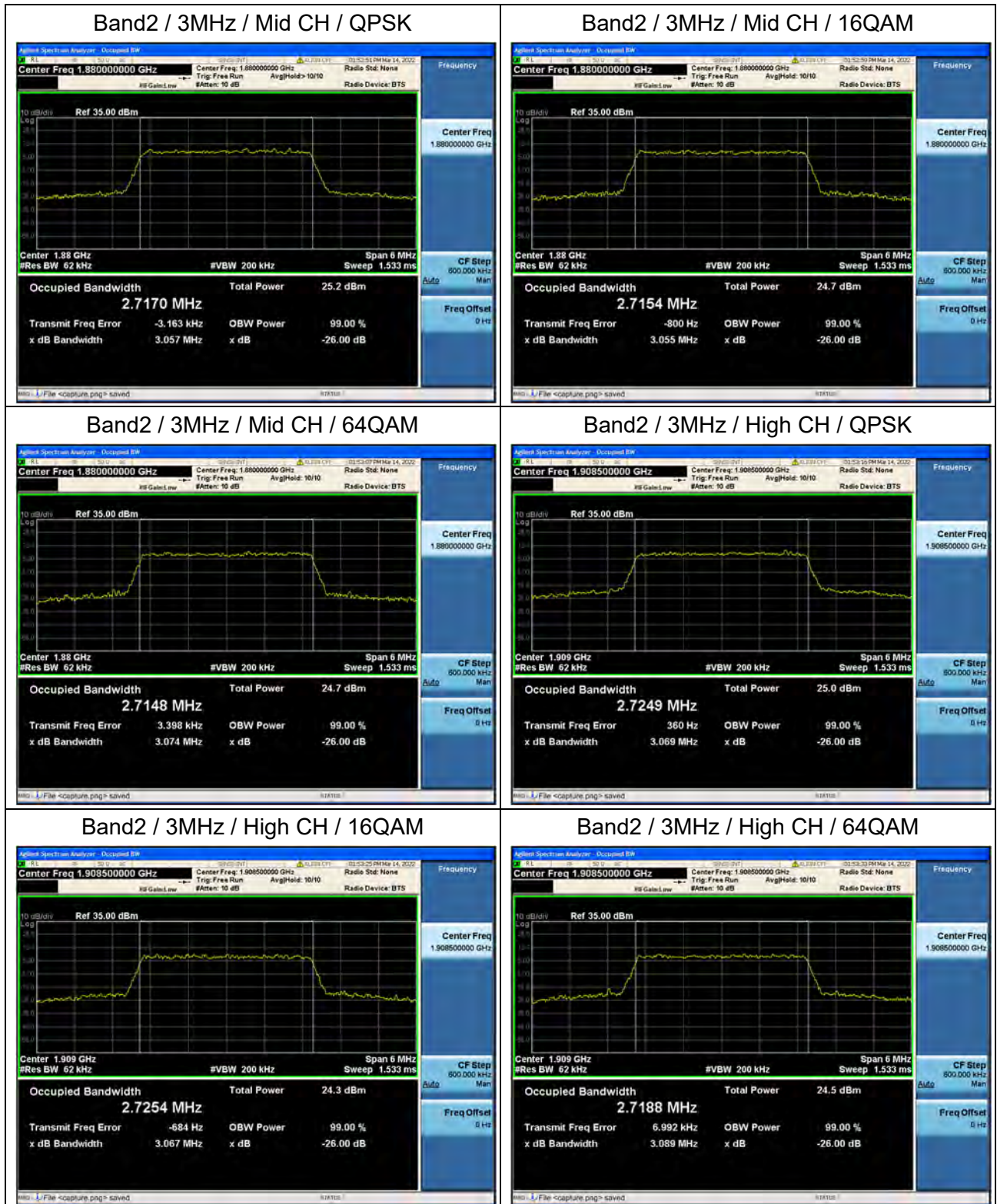


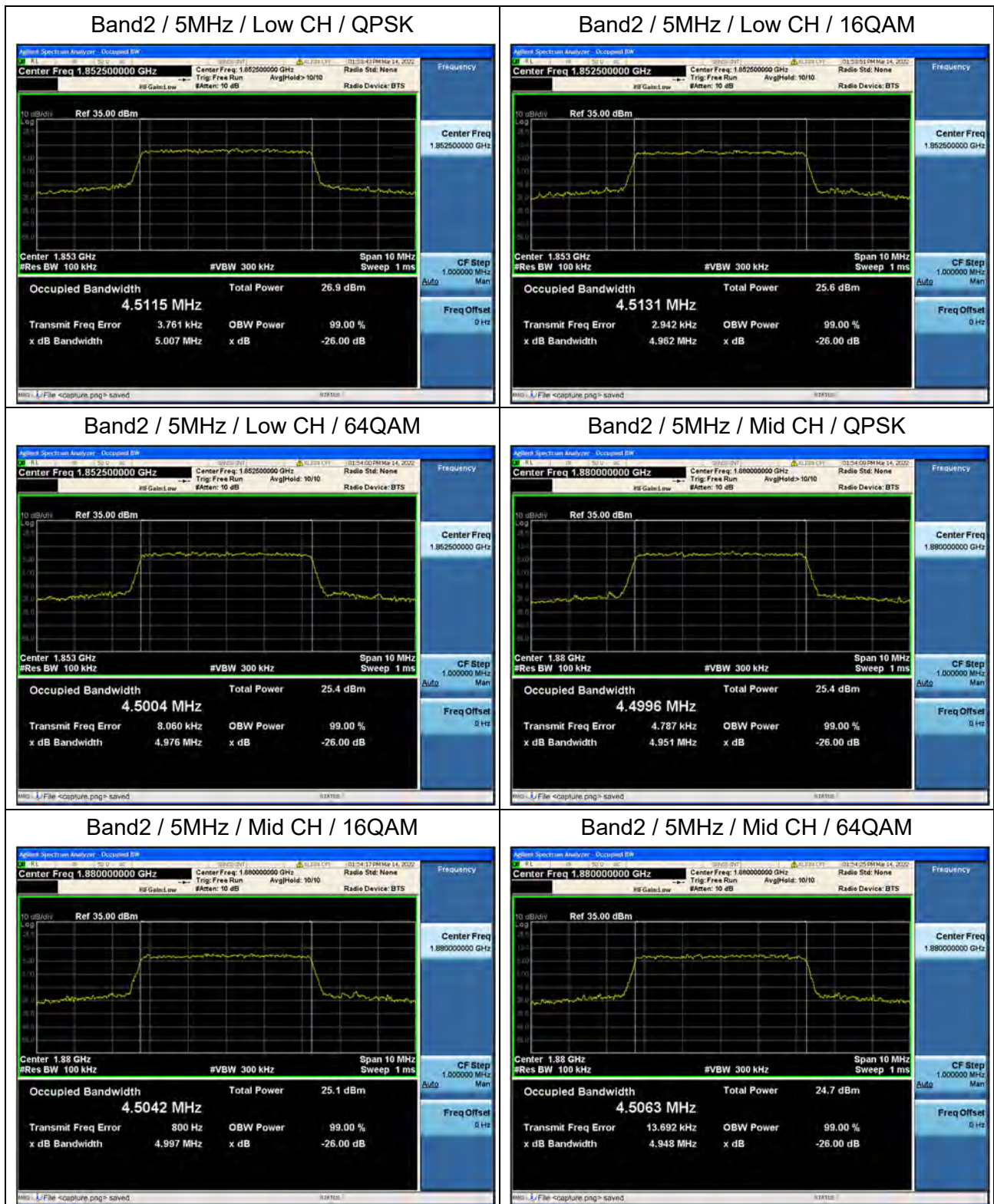
Band2 / 1.4MHz / Mid CH / 64QAM







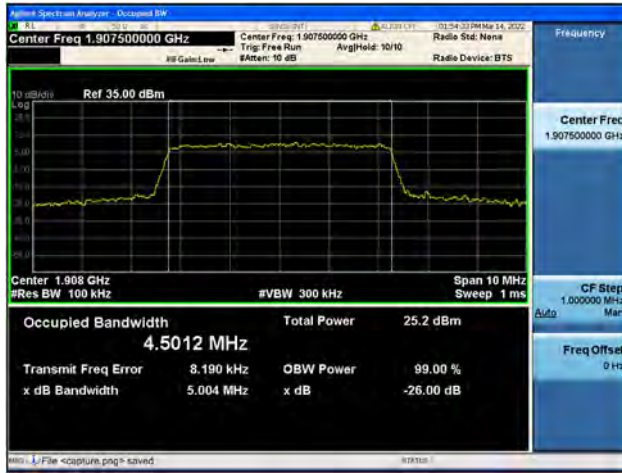








Band2 / 5MHz / High CH / QPSK



Band2 / 5MHz / High CH / 16QAM



Band2 / 5MHz / High CH / 64QAM



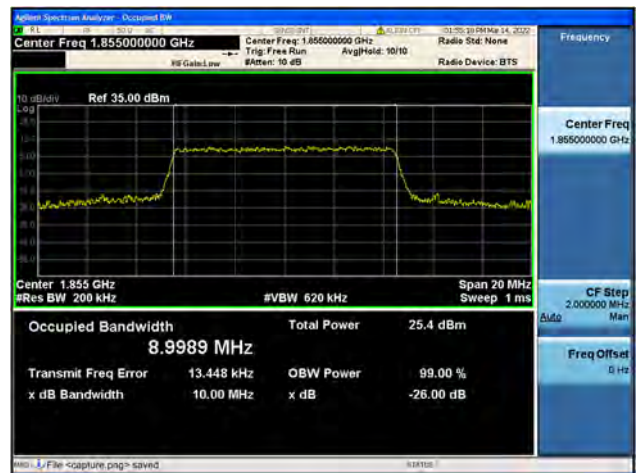
Band2 / 10MHz / Low CH / QPSK



Band2 / 10MHz / Low CH / 16QAM



Band2 / 10MHz / Low CH / 64QAM

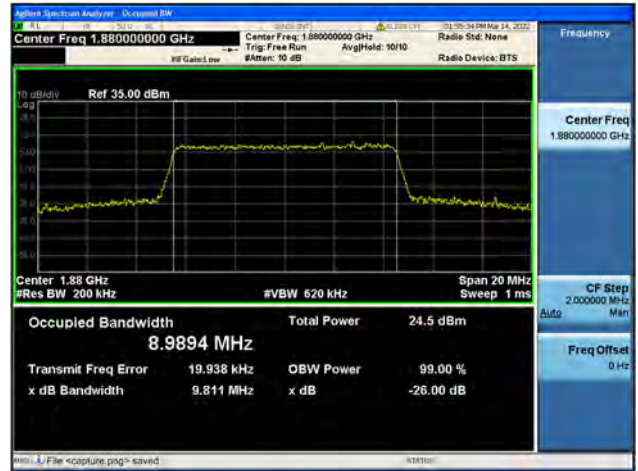




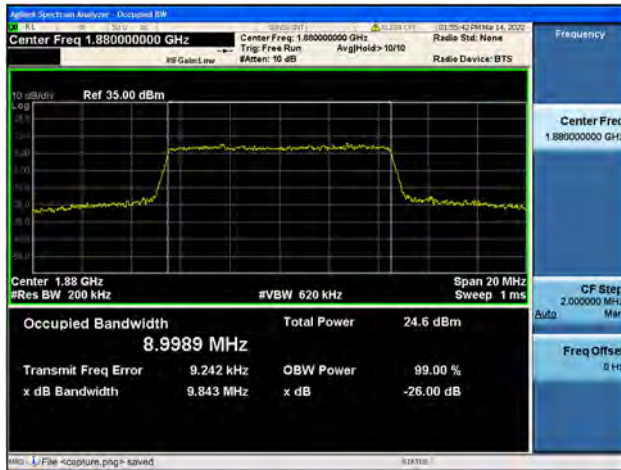
Band2 / 10MHz / Mid CH / QPSK



Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / Mid CH / 64QAM



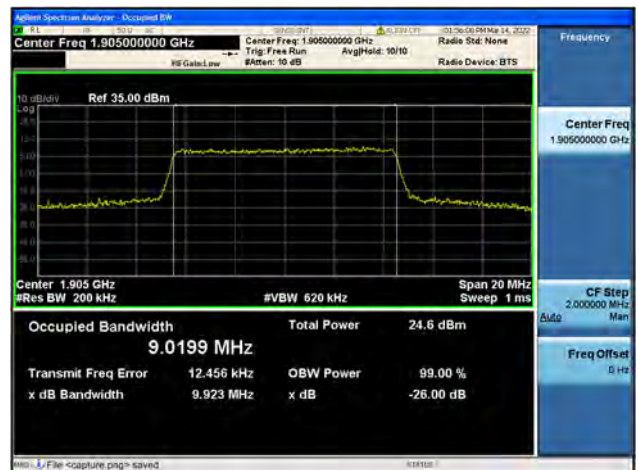
Band2 / 10MHz / High CH / QPSK



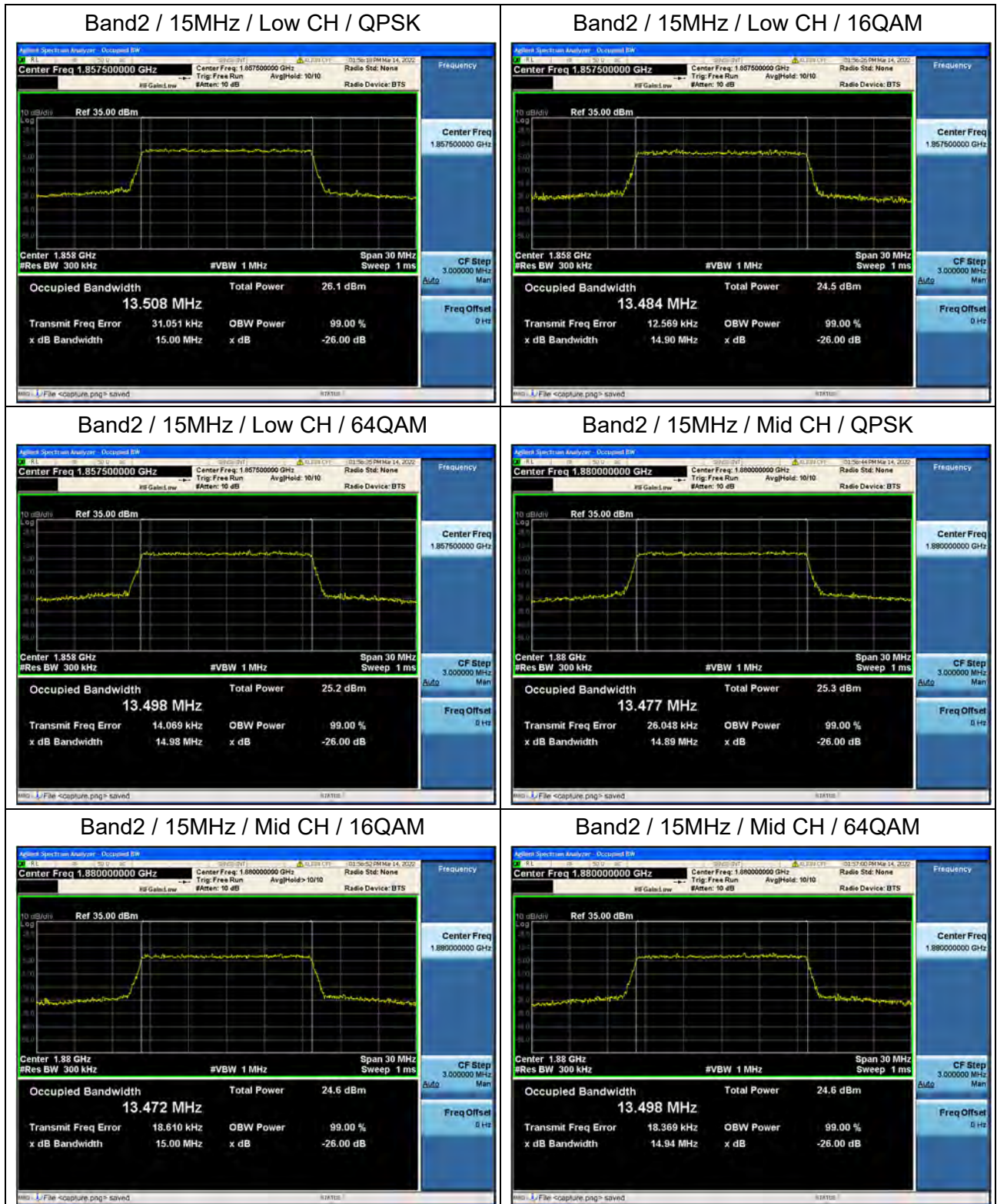
Band2 / 10MHz / High CH / 16QAM



Band2 / 10MHz / High CH / 64QAM









Band2 / 15MHz / High CH / QPSK



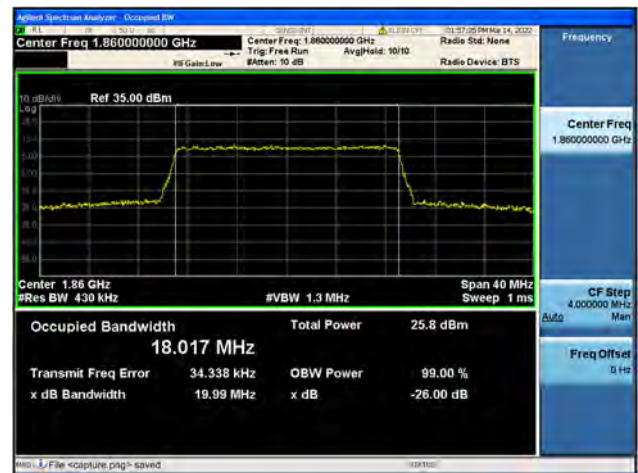
Band2 / 15MHz / High CH / 16QAM



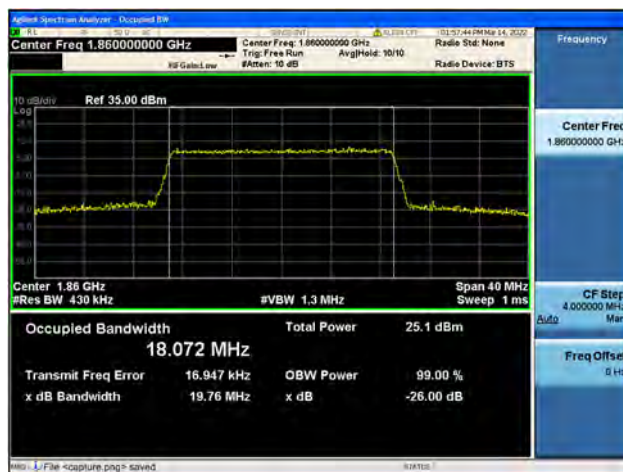
Band2 / 15MHz / High CH / 64QAM



Band2 / 20MHz / Low CH / QPSK



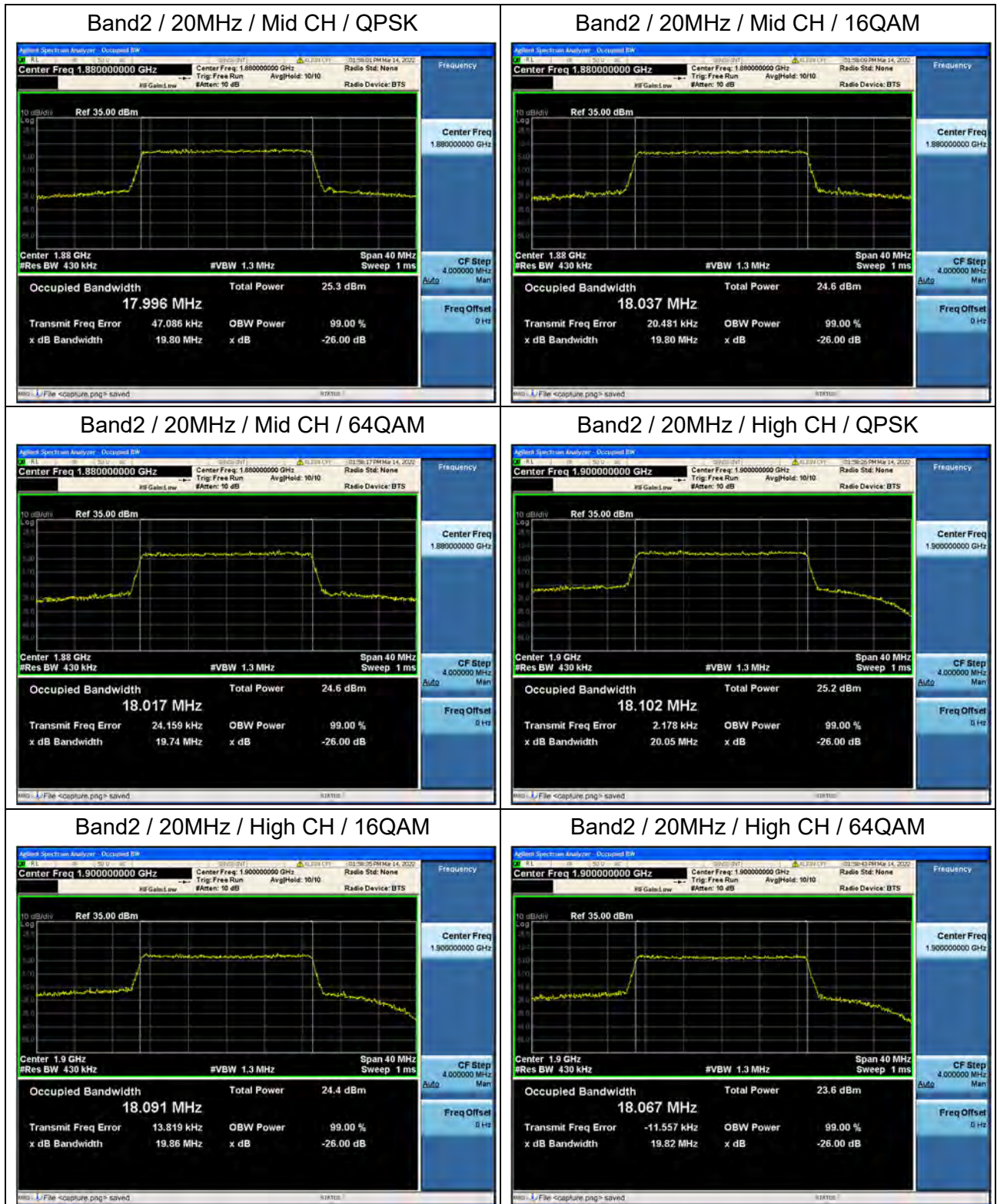
Band2 / 20MHz / Low CH / 16QAM



Band2 / 20MHz / Low CH / 64QAM





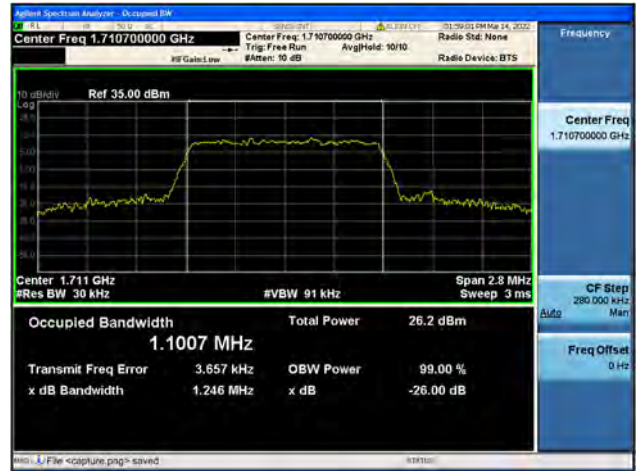




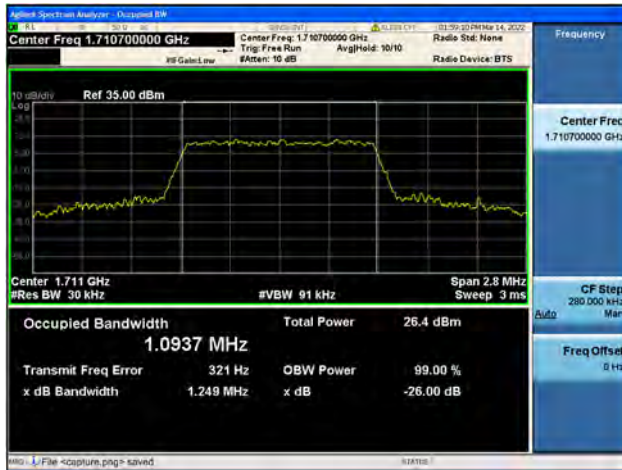
Band4 / 1.4MHz / Low CH / QPSK



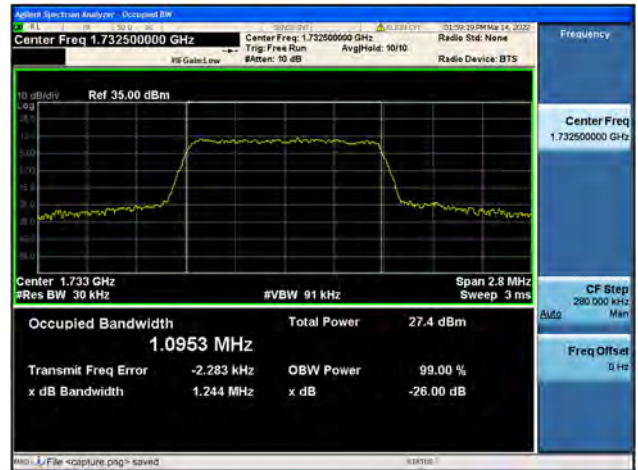
Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Low CH / 64QAM



Band4 / 1.4MHz / Mid CH / QPSK



Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / Mid CH / 64QAM



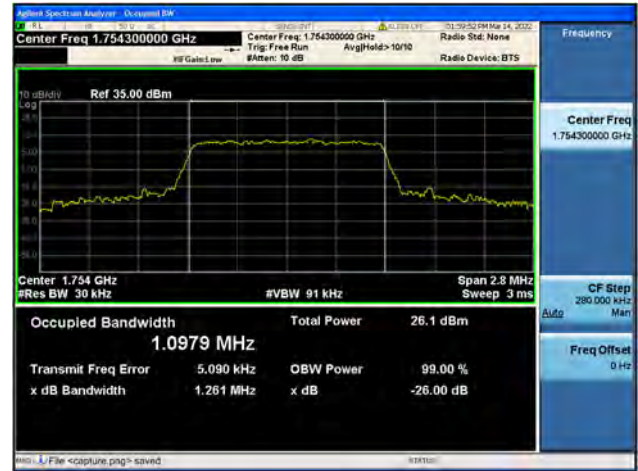




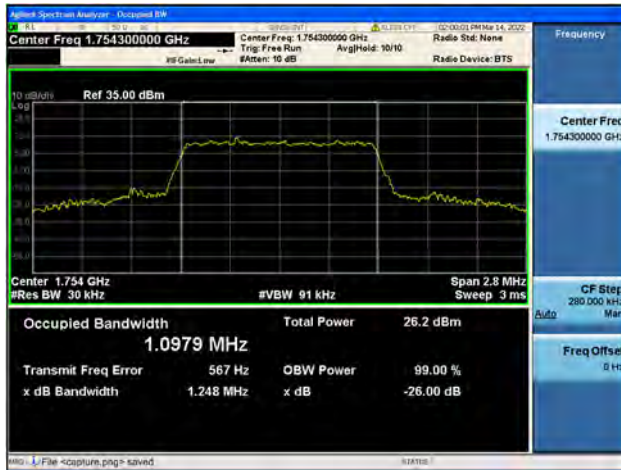
Band4 / 1.4MHz / High CH / QPSK



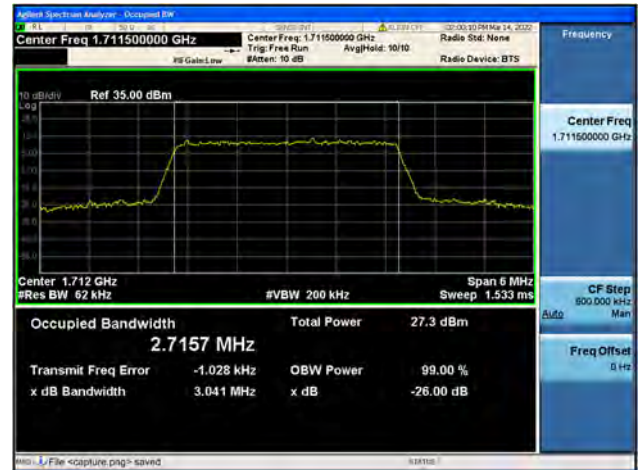
Band4 / 1.4MHz / High CH / 16QAM



Band4 / 1.4MHz / High CH / 64QAM



Band4 / 3MHz / Low CH / QPSK



Band4 / 3MHz / Low CH / 16QAM



Band4 / 3MHz / Low CH / 64QAM





Band4 / 3MHz / Mid CH / QPSK



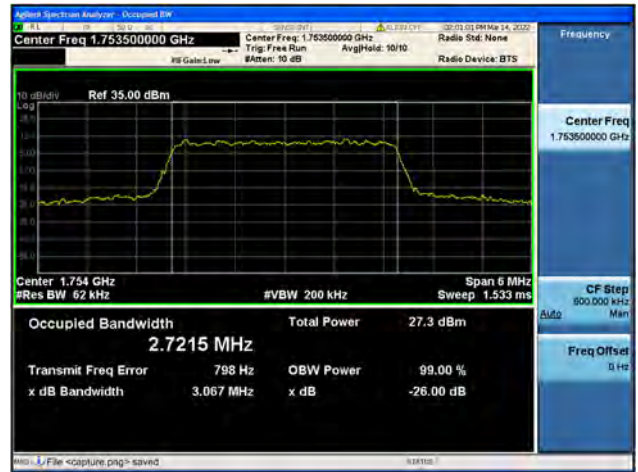
Band4 / 3MHz / Mid CH / 16QAM



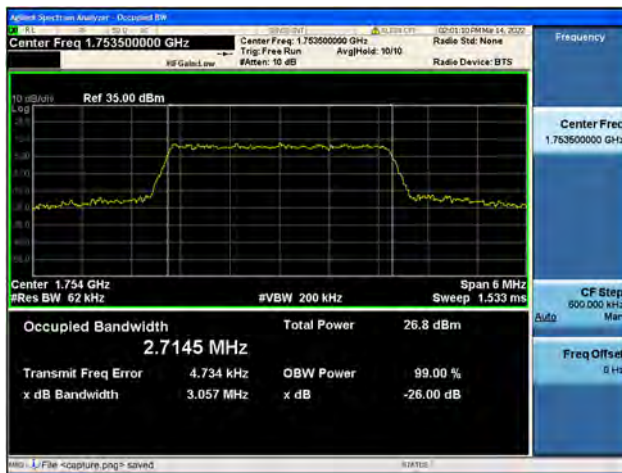
Band4 / 3MHz / Mid CH / 64QAM



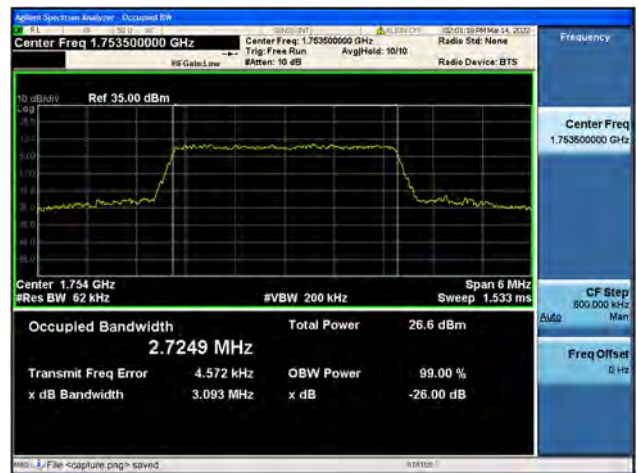
Band4 / 3MHz / High CH / QPSK



Band4 / 3MHz / High CH / 16QAM



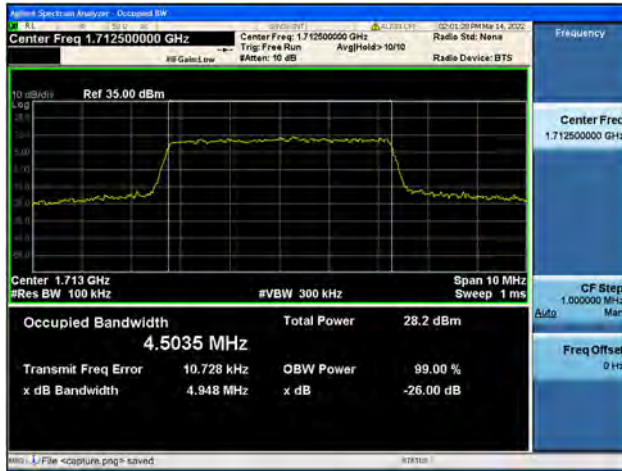
Band4 / 3MHz / High CH / 64QAM



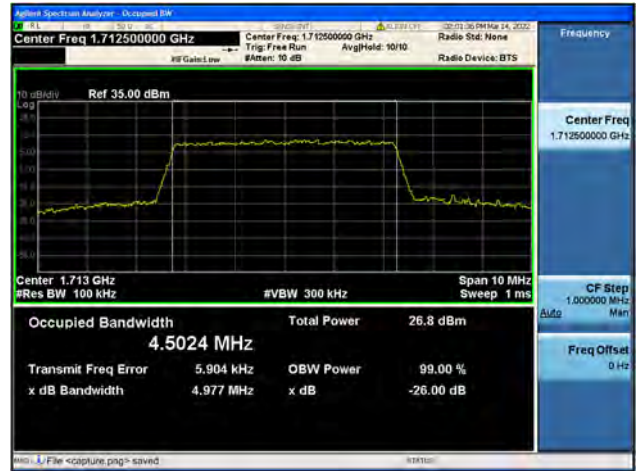




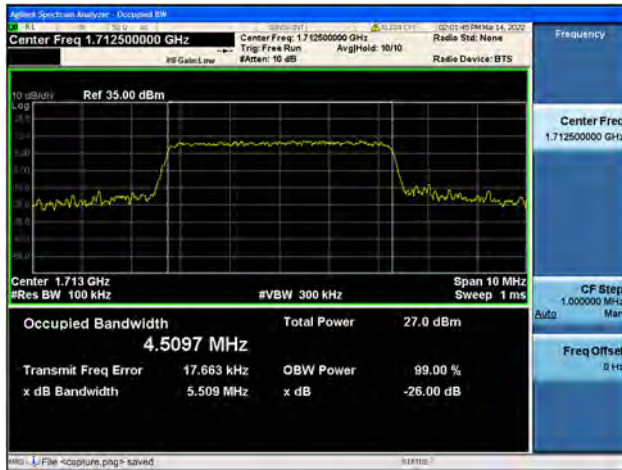
Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



Band4 / 5MHz / Low CH / 64QAM



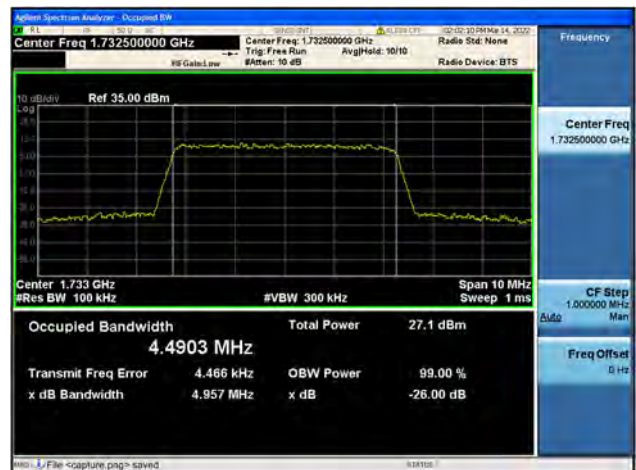
Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / Mid CH / 16QAM

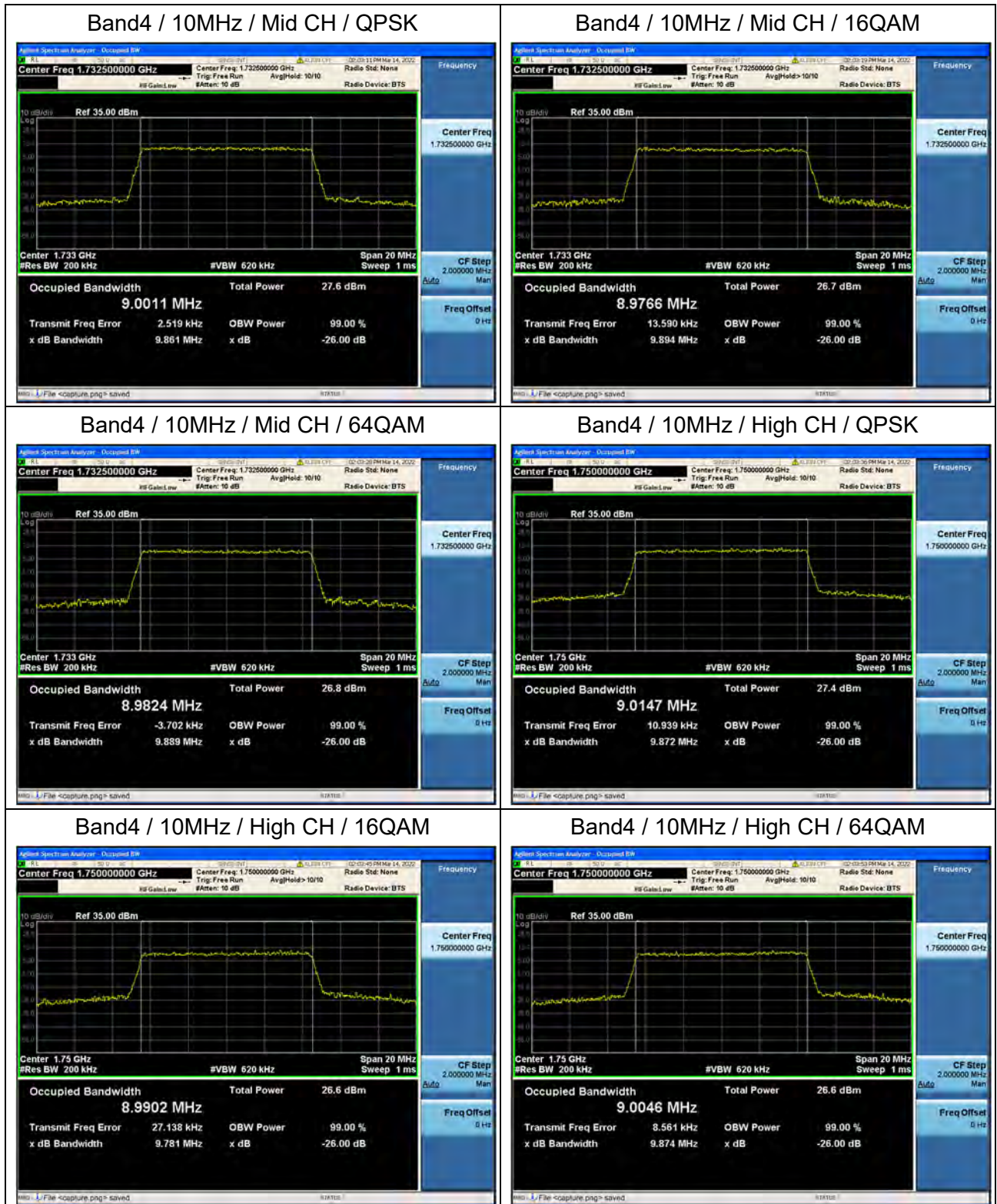


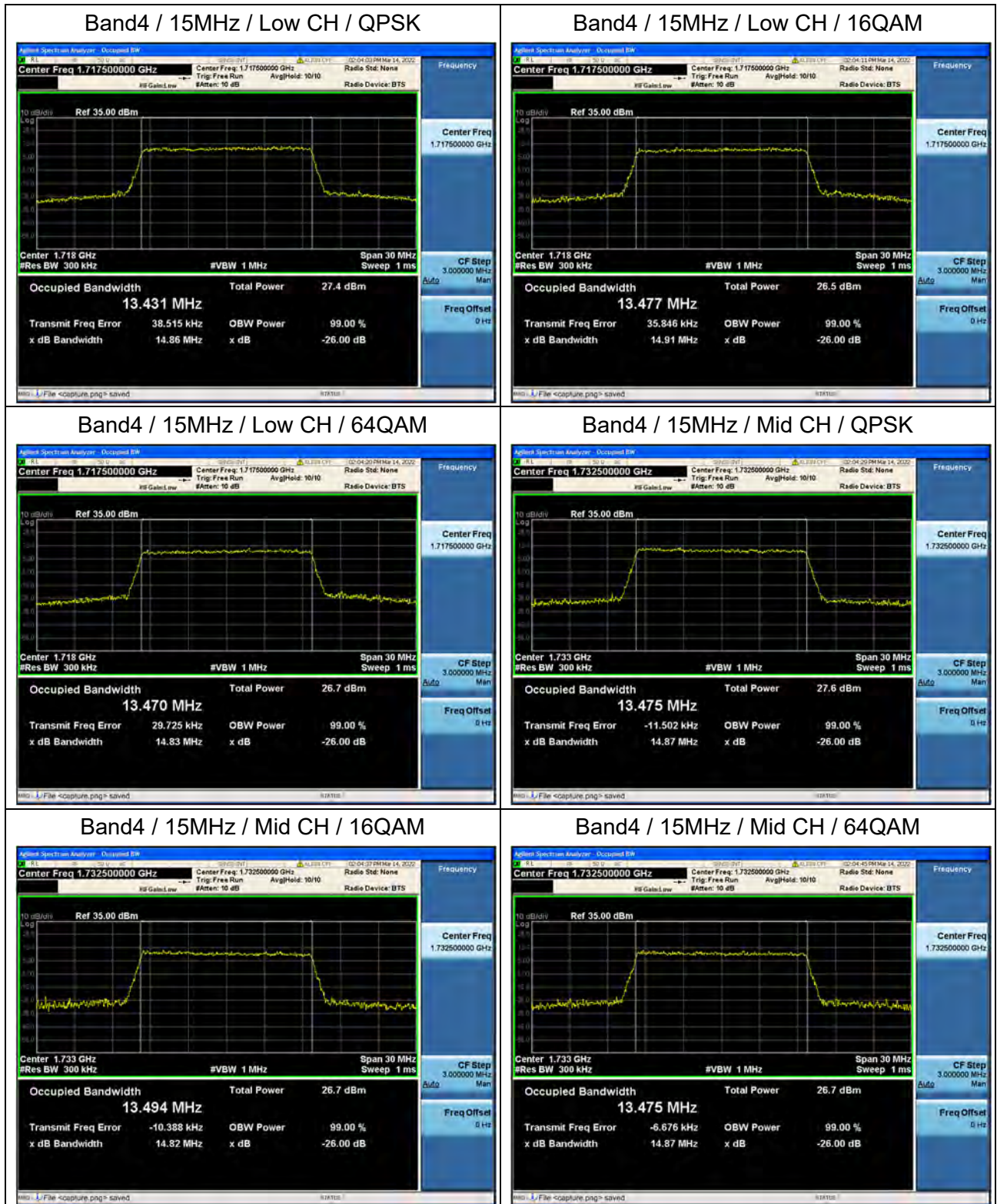
Band4 / 5MHz / Mid CH / 64QAM







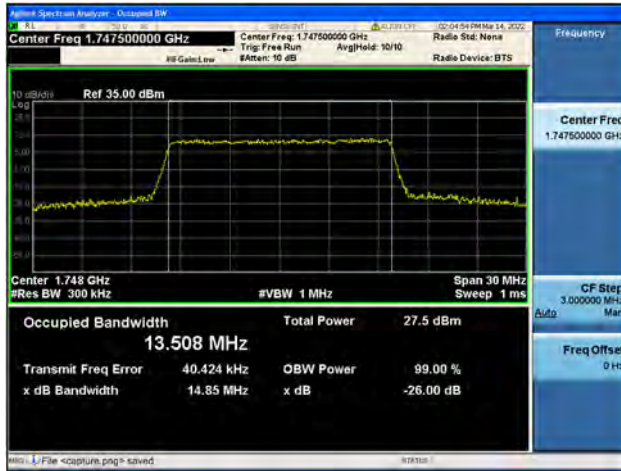




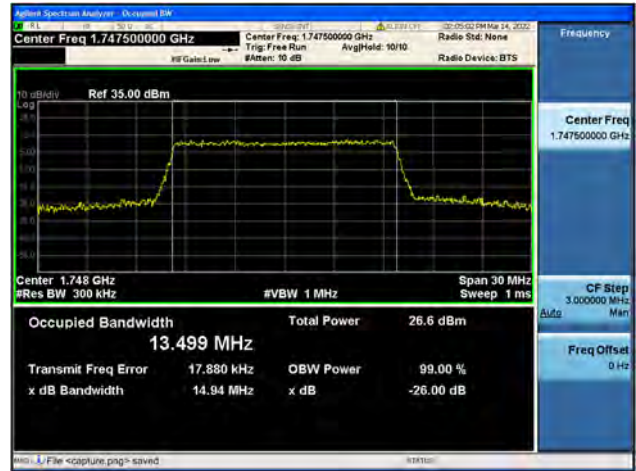




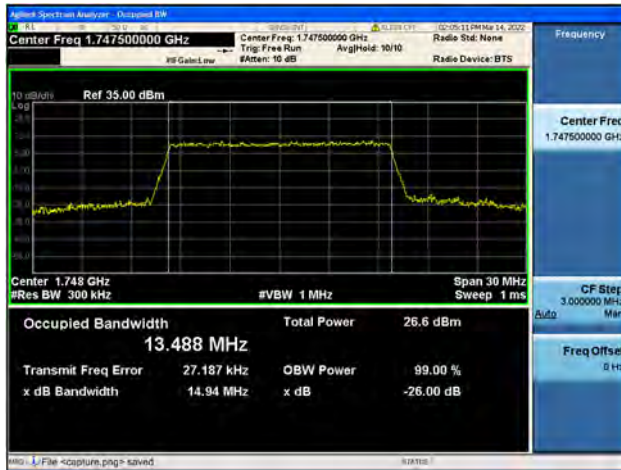
Band4 / 15MHz / High CH / QPSK



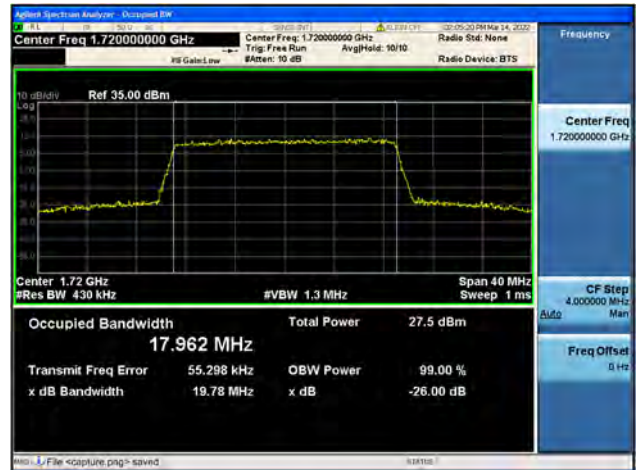
Band4 / 15MHz / High CH / 16QAM



Band4 / 15MHz / High CH / 64QAM



Band4 / 20MHz / Low CH / QPSK

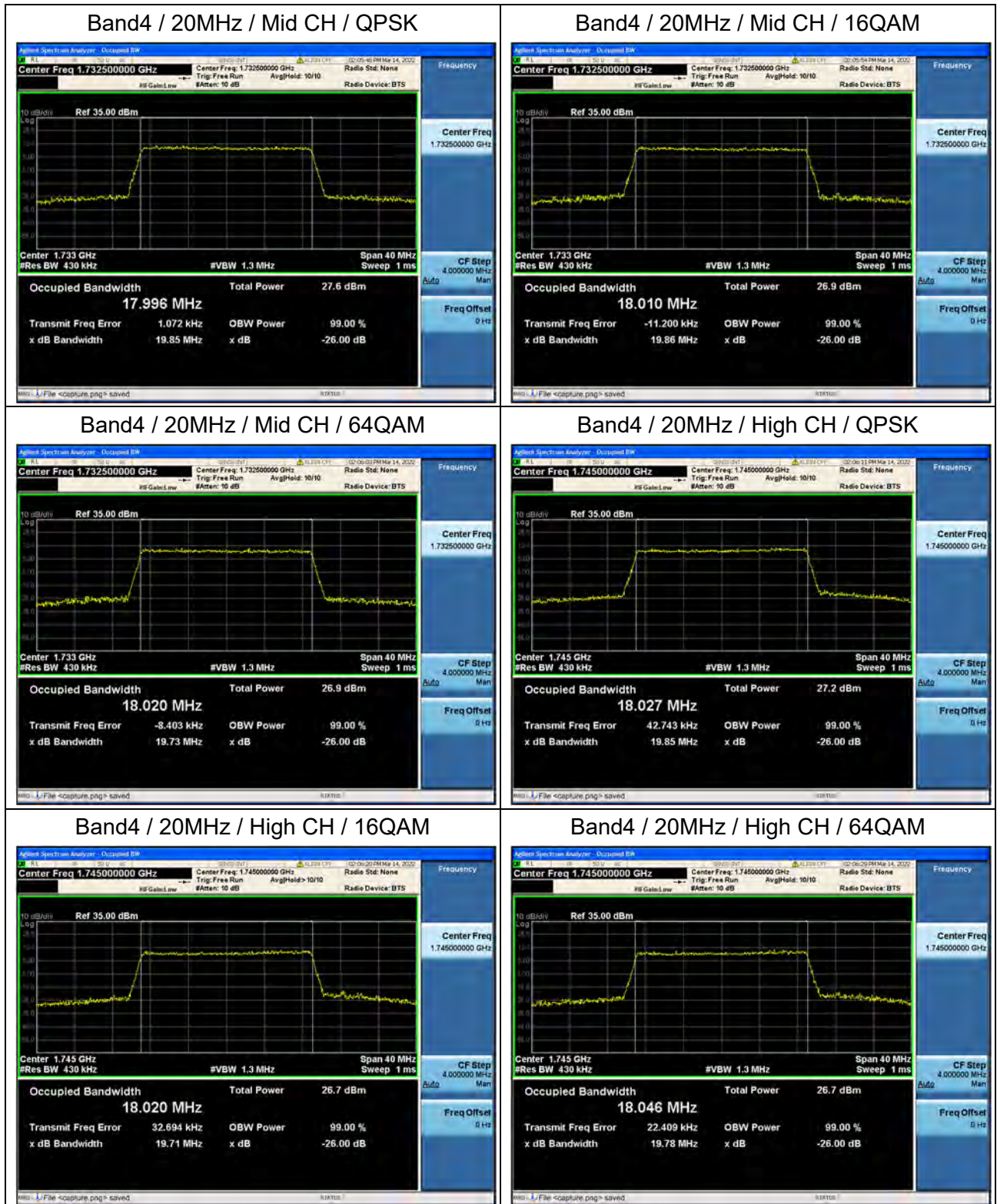


Band4 / 20MHz / Low CH / 16QAM



Band4 / 20MHz / Low CH / 64QAM





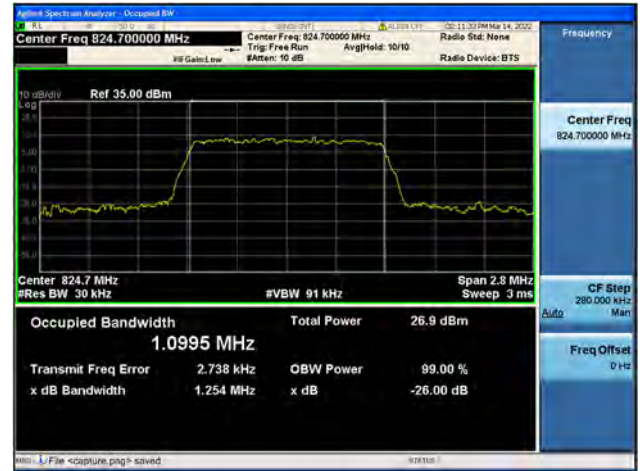




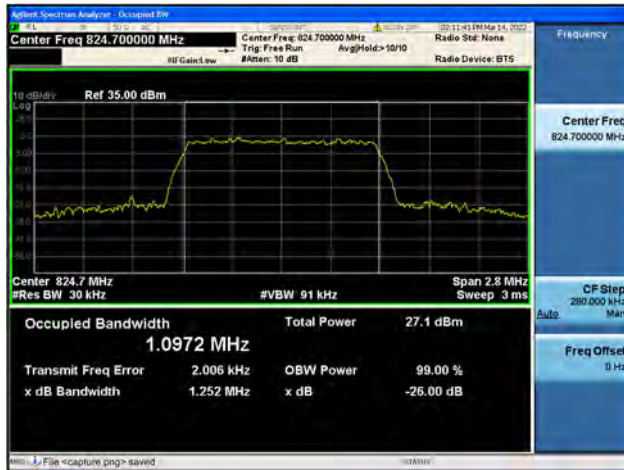
Band5 / 1.4MHz / Low CH / QPSK



Band5 / 1.4MHz / Low CH / 16QAM



Band5 / 1.4MHz / Low CH / 64QAM



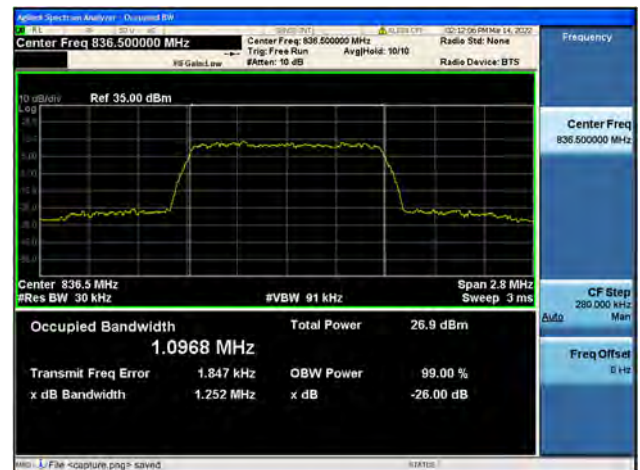
Band5 / 1.4MHz / Mid CH / QPSK



Band5 / 1.4MHz / Mid CH / 16QAM

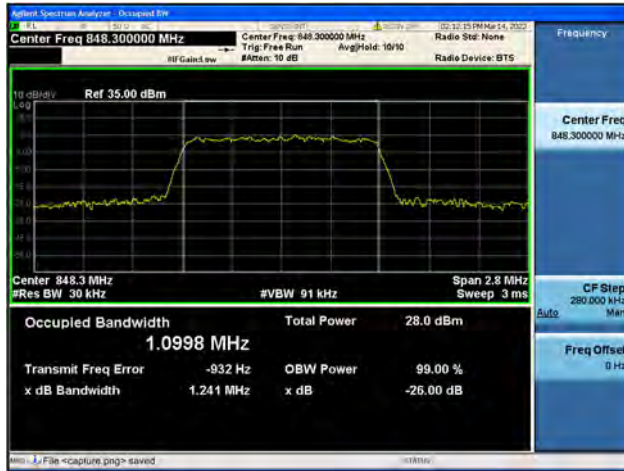


Band5 / 1.4MHz / Mid CH / 64QAM

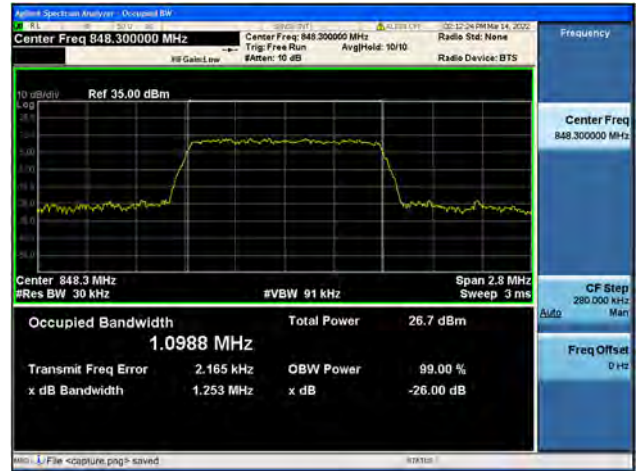




Band5 / 1.4MHz / High CH / QPSK



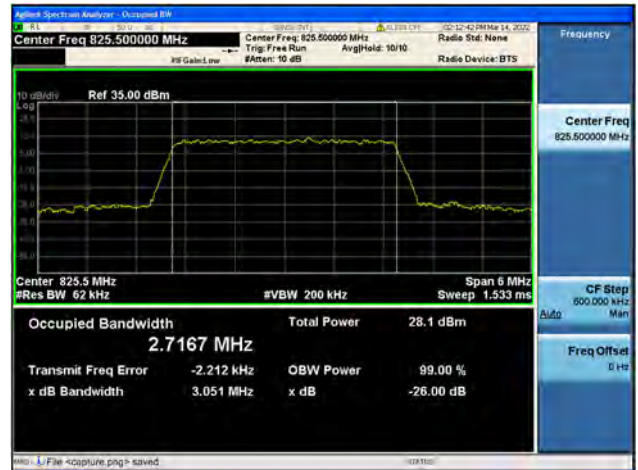
Band5 / 1.4MHz / High CH / 16QAM



Band5 / 1.4MHz / High CH / 64QAM



Band5 / 3MHz / Low CH / QPSK



Band5 / 3MHz / Low CH / 16QAM



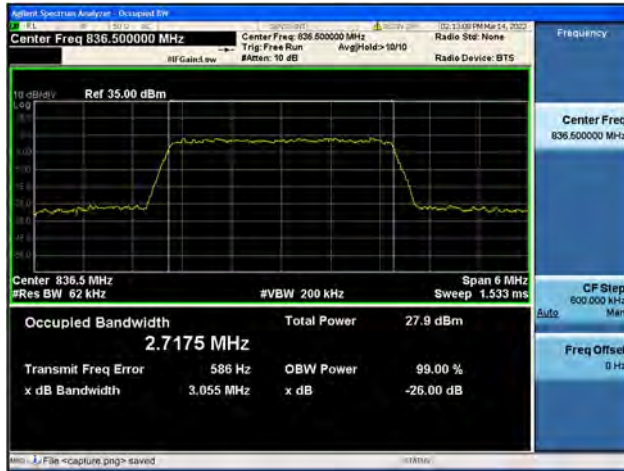
Band5 / 3MHz / Low CH / 64QAM







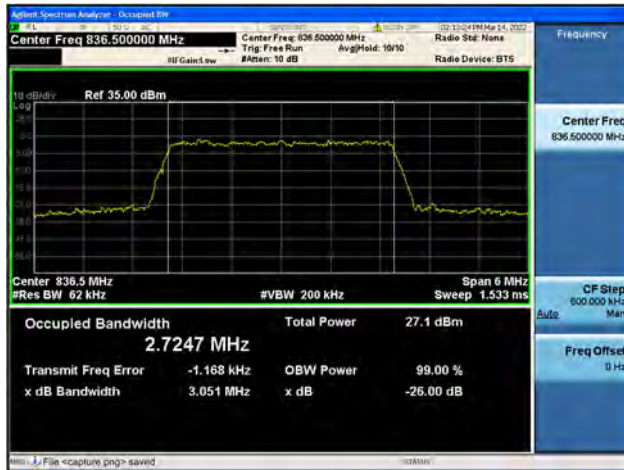
Band5 / 3MHz / Mid CH / QPSK



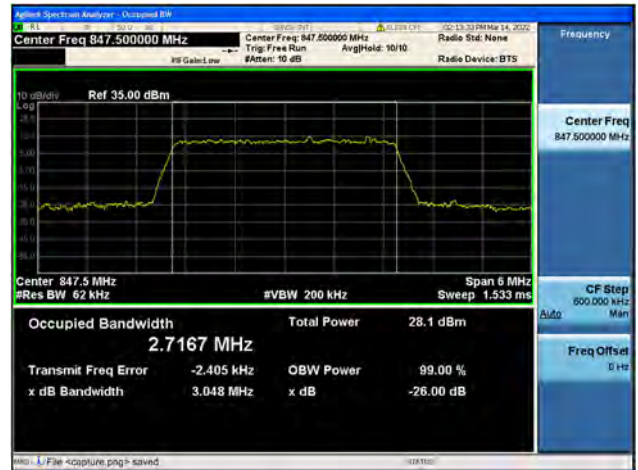
Band5 / 3MHz / Mid CH / 16QAM



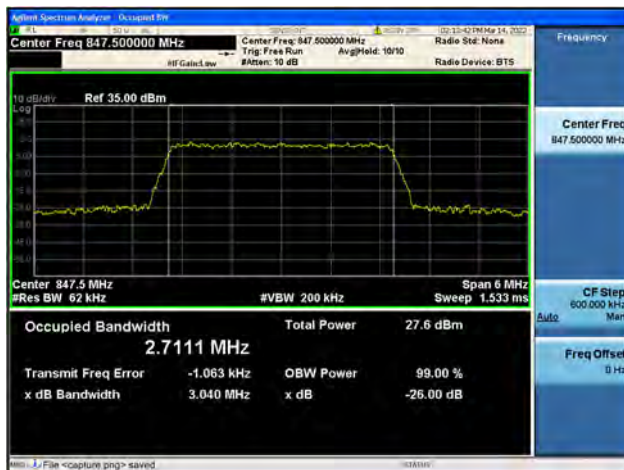
Band5 / 3MHz / Mid CH / 64QAM



Band5 / 3MHz / High CH / QPSK



Band5 / 3MHz / High CH / 16QAM

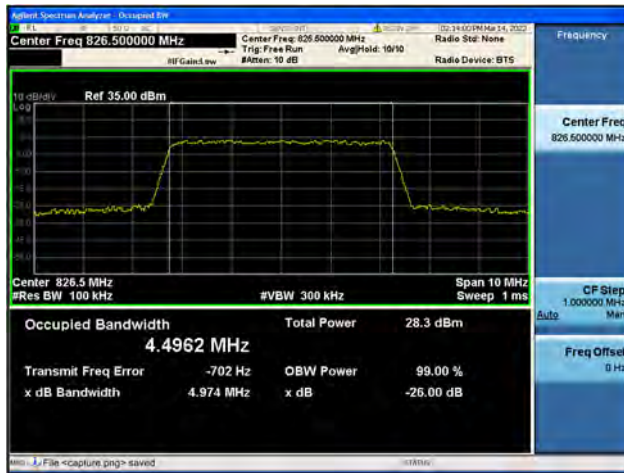


Band5 / 3MHz / High CH / 64QAM





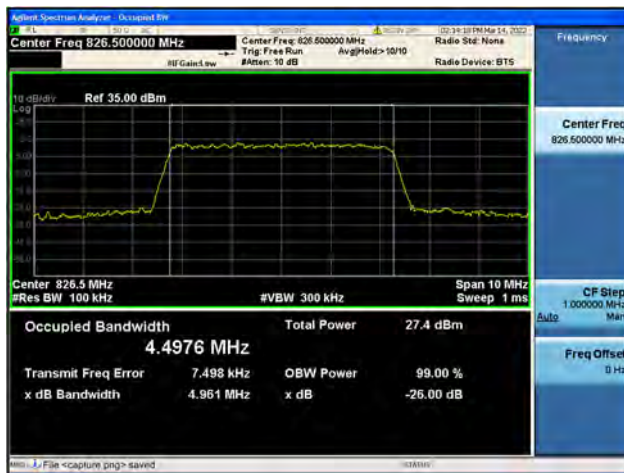
Band5 / 5MHz / Low CH / QPSK



Band5 / 5MHz / Low CH / 16QAM



Band5 / 5MHz / Low CH / 64QAM



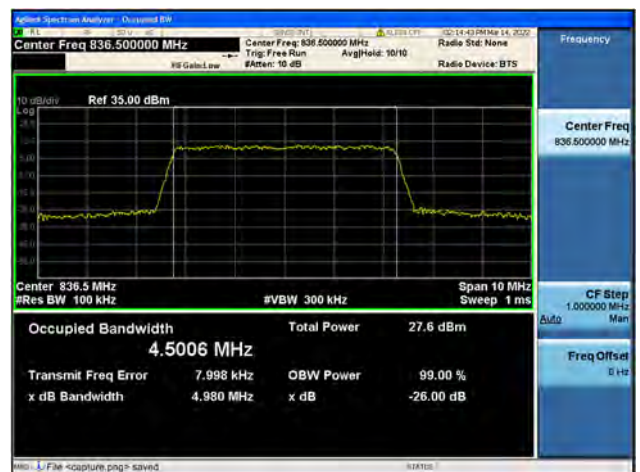
Band5 / 5MHz / Mid CH / QPSK



Band5 / 5MHz / Mid CH / 16QAM



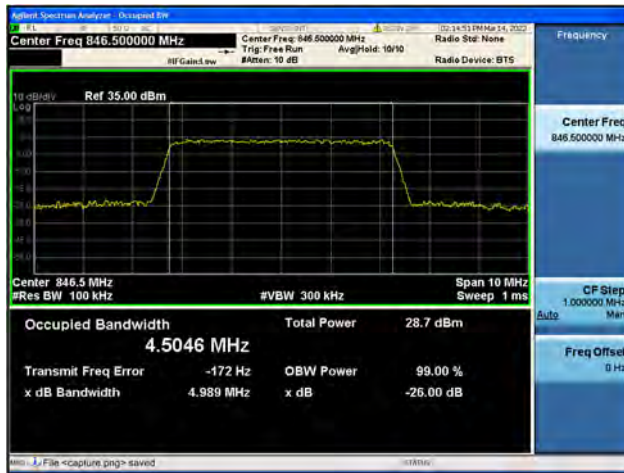
Band5 / 5MHz / Mid CH / 64QAM



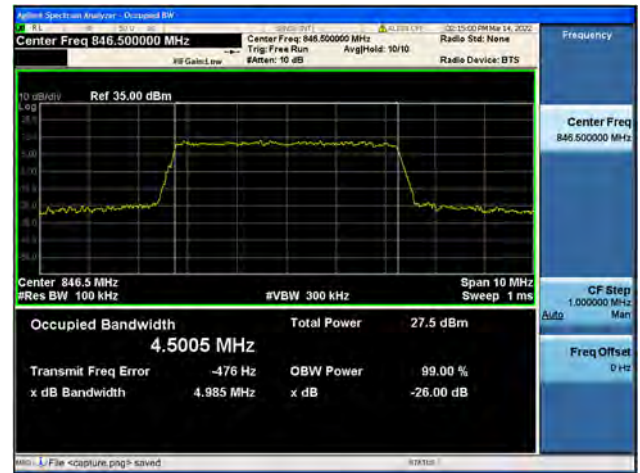




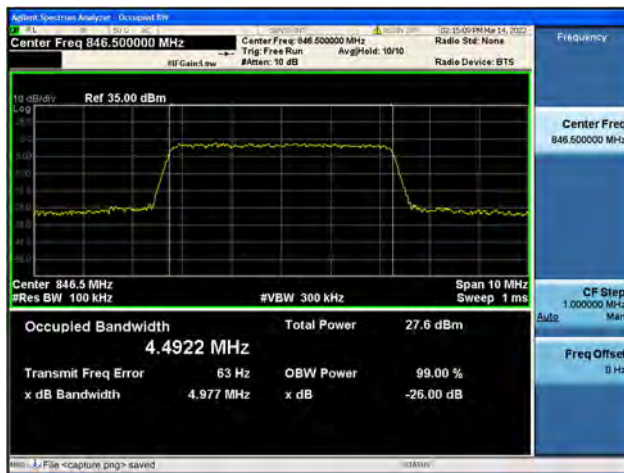
Band5 / 5MHz / High CH / QPSK



Band5 / 5MHz / High CH / 16QAM



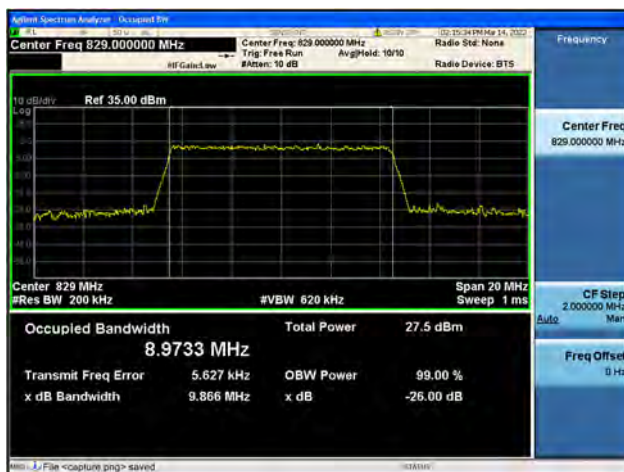
Band5 / 5MHz / High CH / 64QAM



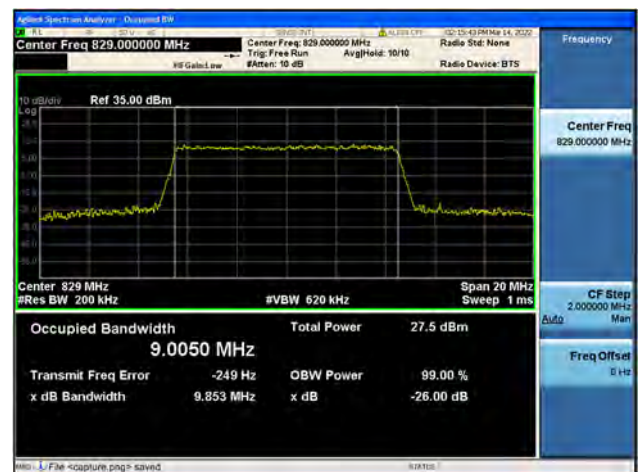
Band5 / 10MHz / Low CH / QPSK



Band5 / 10MHz / Low CH / 16QAM



Band5 / 10MHz / Low CH / 64QAM

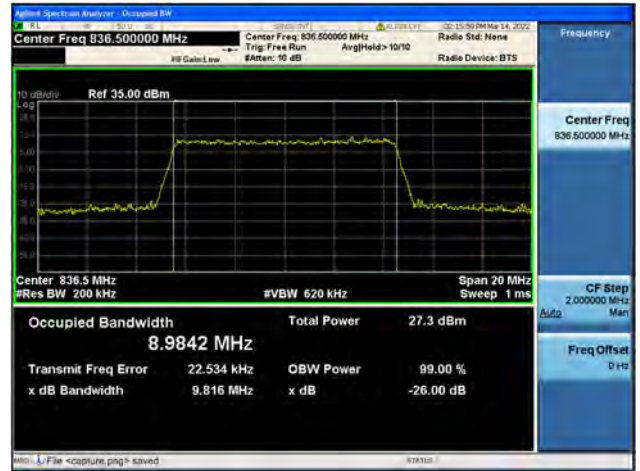




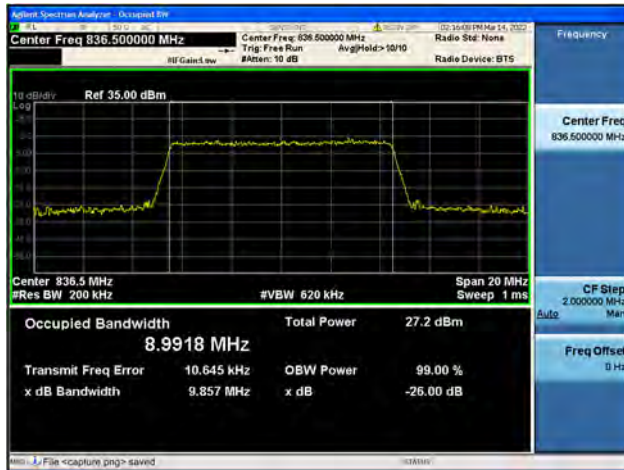
Band5 / 10MHz / Mid CH / QPSK



Band5 / 10MHz / Mid CH / 16QAM



Band5 / 10MHz / Mid CH / 64QAM



Band5 / 10MHz / High CH / QPSK



Band5 / 10MHz / High CH / 16QAM



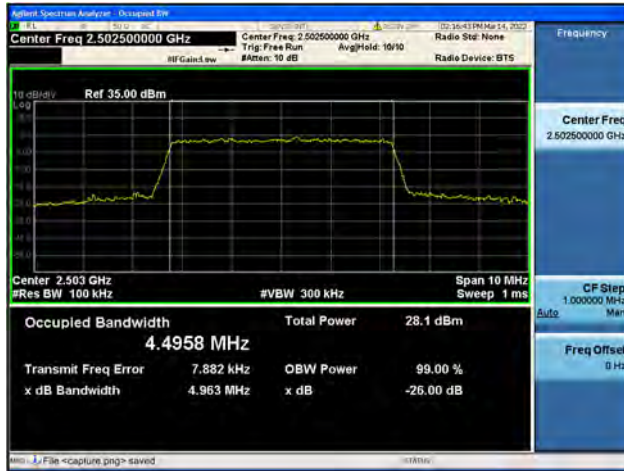
Band5 / 10MHz / High CH / 64QAM







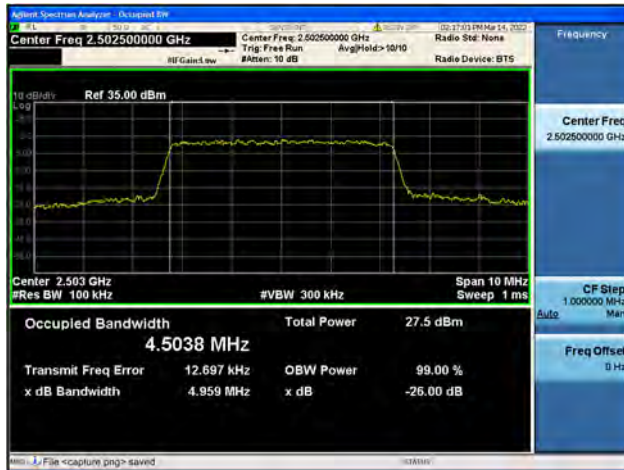
Band7 / 5MHz / Low CH / QPSK



Band7 / 5MHz / Low CH / 16QAM



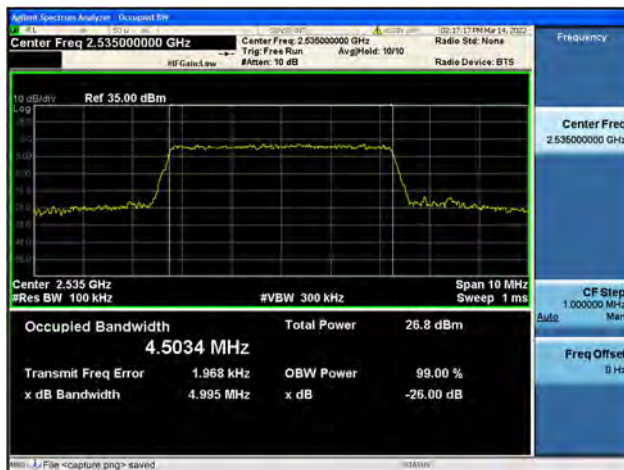
Band7 / 5MHz / Low CH / 64QAM



Band7 / 5MHz / Mid CH / QPSK



Band7 / 5MHz / Mid CH / 16QAM

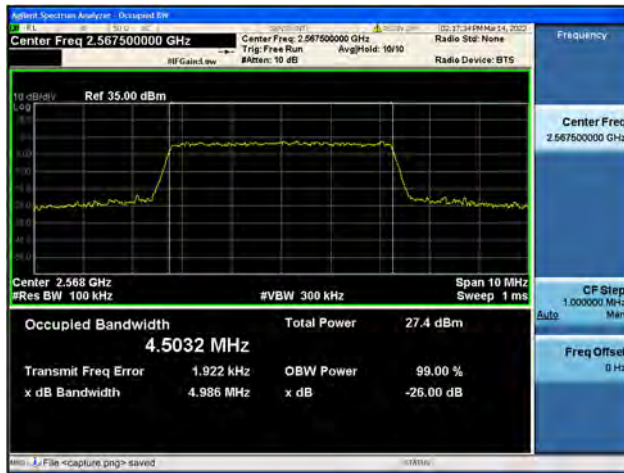


Band7 / 5MHz / Mid CH / 64QAM





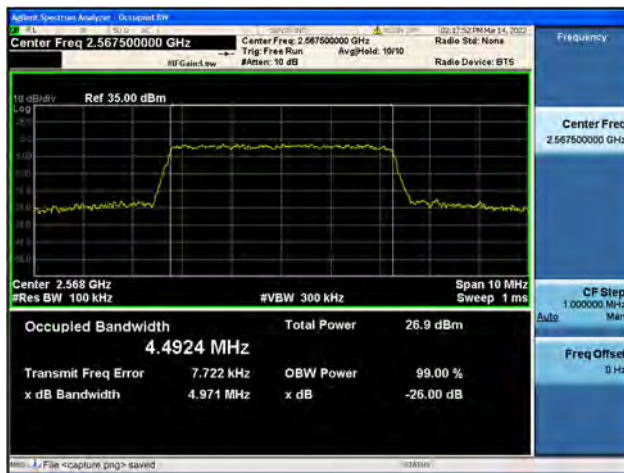
Band7 / 5MHz / High CH / QPSK



Band7 / 5MHz / High CH / 16QAM



Band7 / 5MHz / High CH / 64QAM



Band7 / 10MHz / Low CH / QPSK



Band7 / 10MHz / Low CH / 16QAM



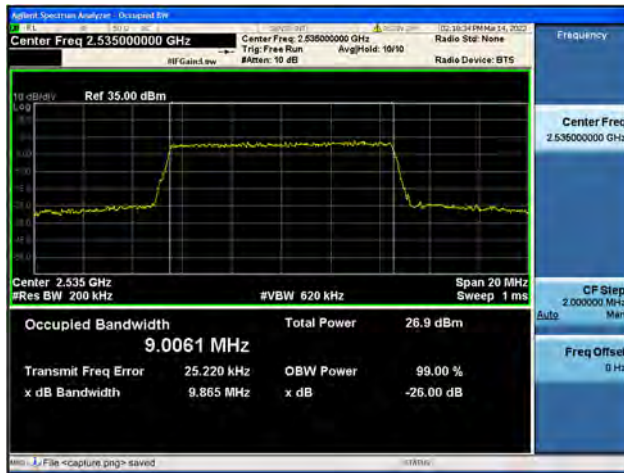
Band7 / 10MHz / Low CH / 64QAM







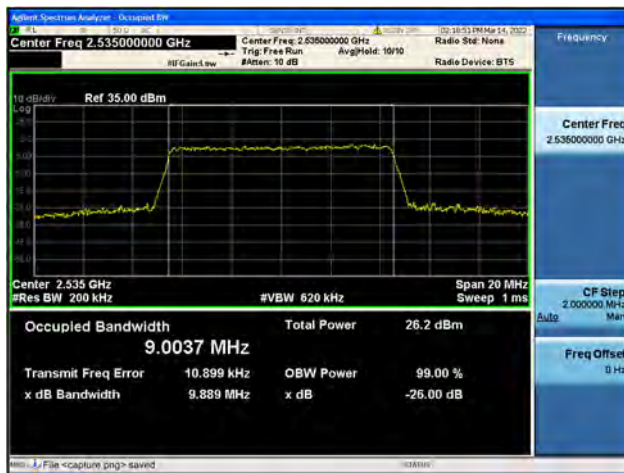
Band7 / 10MHz / Mid CH / QPSK



Band7 / 10MHz / Mid CH / 16QAM



Band7 / 10MHz / Mid CH / 64QAM



Band7 / 10MHz / High CH / QPSK



Band7 / 10MHz / High CH / 16QAM

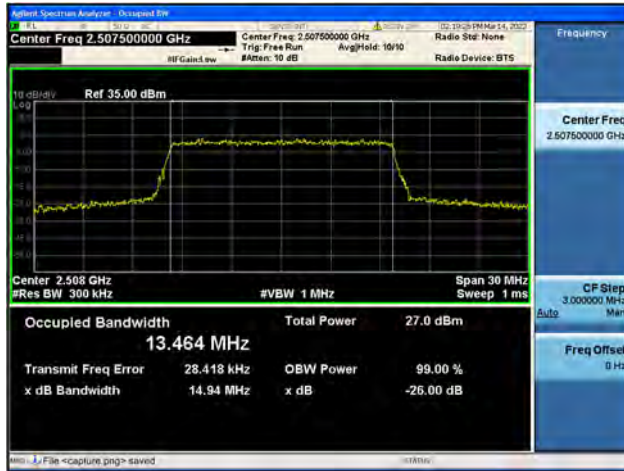


Band7 / 10MHz / High CH / 64QAM





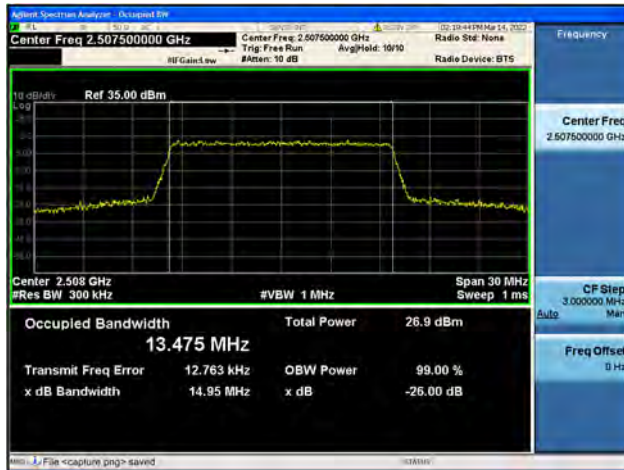
Band7 / 15MHz / Low CH / QPSK



Band7 / 15MHz / Low CH / 16QAM



Band7 / 15MHz / Low CH / 64QAM



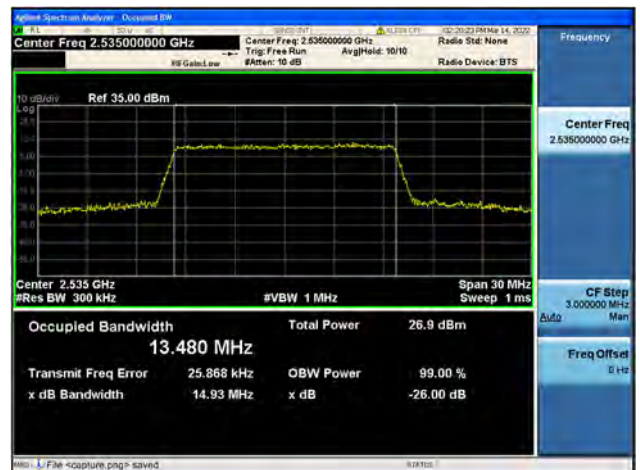
Band7 / 15MHz / Mid CH / QPSK



Band7 / 15MHz / Mid CH / 16QAM



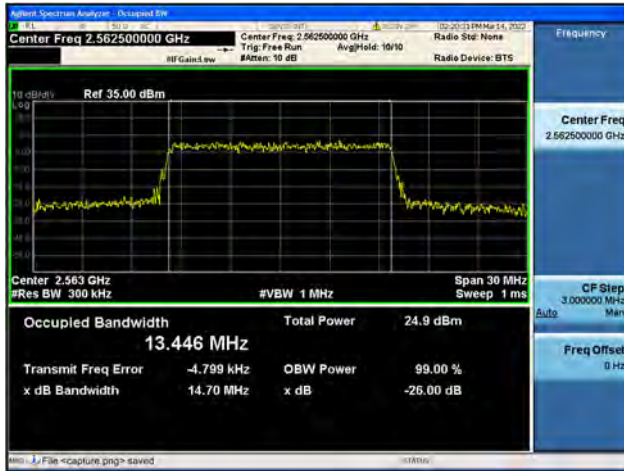
Band7 / 15MHz / Mid CH / 64QAM







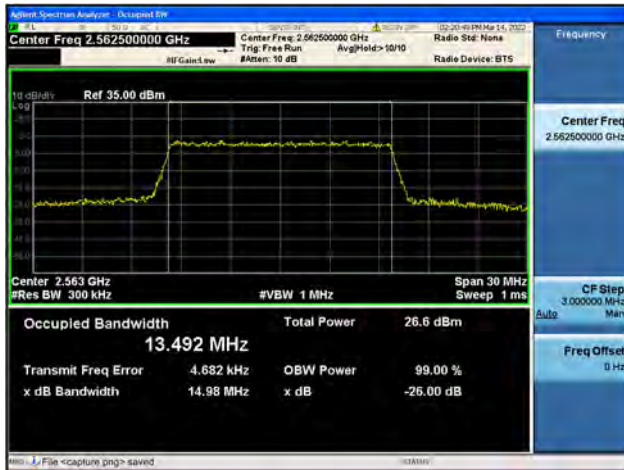
Band7 / 15MHz / High CH / QPSK



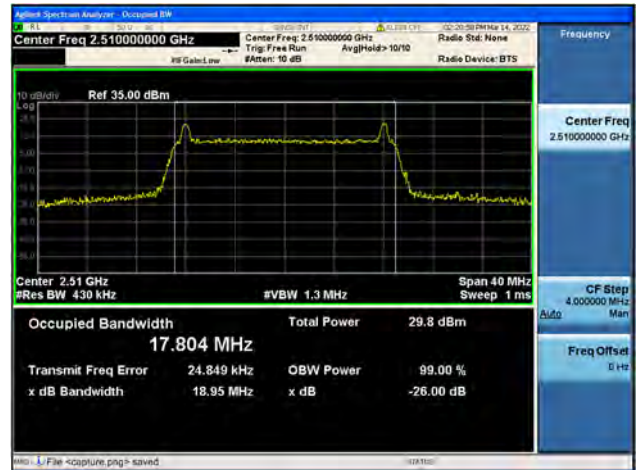
Band7 / 15MHz / High CH / 16QAM



Band7 / 15MHz / High CH / 64QAM



Band7 / 20MHz / Low CH / QPSK



Band7 / 20MHz / Low CH / 16QAM

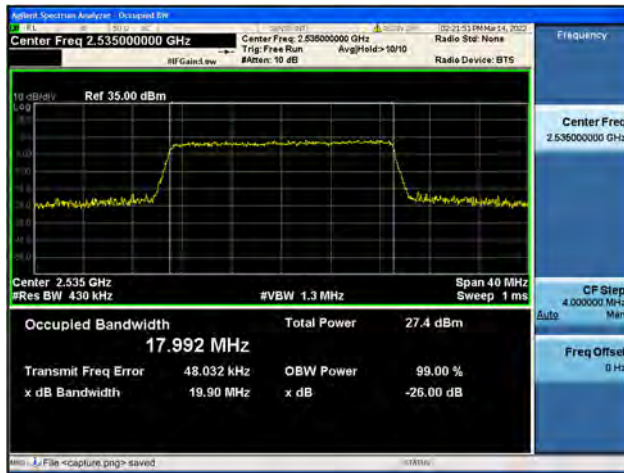


Band7 / 20MHz / Low CH / 64QAM





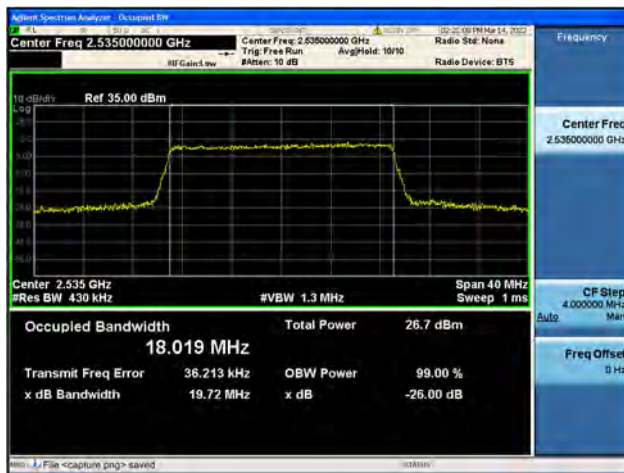
Band7 / 20MHz / Mid CH / QPSK



Band7 / 20MHz / Mid CH / 16QAM



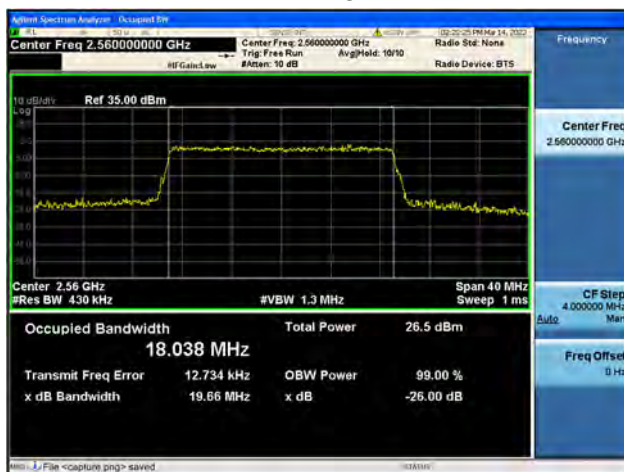
Band7 / 20MHz / Mid CH / 64QAM



Band7 / 20MHz / High CH / QPSK



Band7 / 20MHz / High CH / 16QAM



Band7 / 20MHz / High CH / 64QAM





## 2.3. Frequency Stability

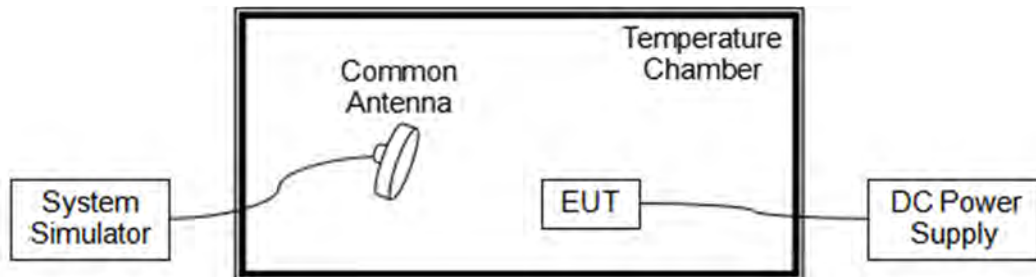
### 2.3.1. Requirement

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  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ , 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)	57	0.030	PASS
Normal		-20	48	0.026	
Normal		-10	14	0.007	
Normal		0	36	0.019	
Normal		+10	-42	-0.022	
Normal		+20	21	0.011	
Normal		+30	37	0.020	
Normal		+40	-54	-0.029	
Normal		+50	13	0.007	
Normal		+60	28	0.015	
High	4.35	+20	27	0.014	
BATT.ENDPOINT	3.60	+20	54	0.029	

<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)	-34	-0.020	PASS
Normal		-20	19	0.011	
Normal		-10	-26	-0.015	
Normal		0	46	0.027	
Normal		+10	19	0.011	
Normal		+20	21	0.012	
Normal		+30	50	0.029	
Normal		+40	-51	-0.029	
Normal		+50	-42	-0.024	
Normal		+60	42	0.024	
High	4.35	+20	-14	-0.008	
BATT.ENDPOINT	3.60	+20	14	0.008	





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)	39	0.047	PASS
Normal		-20	37	0.044	
Normal		-10	50	0.060	
Normal		0	-53	-0.063	
Normal		+10	55	0.066	
Normal		+20	16	0.019	
Normal		+30	47	0.056	
Normal		+40	20	0.024	
Normal		+50	17	0.020	
Normal		+60	-50	-0.060	
High	4.35	+20	-41	-0.049	
BATT.ENDPOINT	3.60	+20	-34	-0.041	

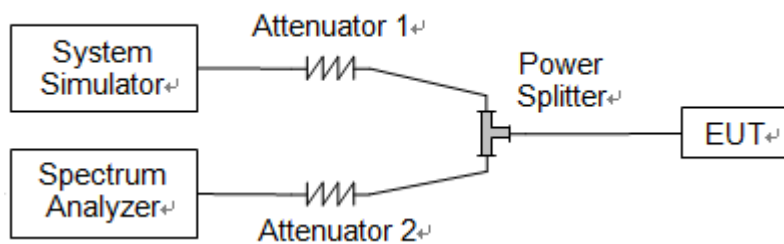
LTE Band 7, QPSK, Channel 21100, Frequency 2535MHz Limit= Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	22	0.009	PASS
Normal		-20	-31	-0.012	
Normal		-10	-21	-0.008	
Normal		0	-38	-0.015	
Normal		+10	24	0.009	
Normal		+20	-19	-0.007	
Normal		+30	43	0.017	
Normal		+40	45	0.018	
Normal		+50	36	0.014	
Normal		+60	-26	-0.010	
High	4.35	+20	18	0.007	
BATT.ENDPOINT	3.60	+20	55	0.022	

## 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	3.83	<=13	PASS
	Low	16QAM	5.00	<=13	PASS
	Low	64QAM	4.76	<=13	PASS
	Mid	QPSK	4.34	<=13	PASS
	Mid	16QAM	5.27	<=13	PASS
	Mid	64QAM	5.09	<=13	PASS
	High	QPSK	3.36	<=13	PASS
	High	16QAM	4.46	<=13	PASS
	High	64QAM	4.24	<=13	PASS
3	Low	QPSK	4.15	<=13	PASS
	Low	16QAM	4.87	<=13	PASS
	Low	64QAM	4.86	<=13	PASS
	Mid	QPSK	4.40	<=13	PASS
	Mid	16QAM	5.30	<=13	PASS
	Mid	64QAM	5.19	<=13	PASS
	High	QPSK	3.82	<=13	PASS
	High	16QAM	4.64	<=13	PASS
	High	64QAM	4.58	<=13	PASS
5	Low	QPSK	4.74	<=13	PASS
	Low	16QAM	5.28	<=13	PASS
	Low	64QAM	5.23	<=13	PASS
	Mid	QPSK	4.80	<=13	PASS
	Mid	16QAM	5.24	<=13	PASS
	Mid	64QAM	5.26	<=13	PASS
	High	QPSK	4.58	<=13	PASS
	High	16QAM	5.06	<=13	PASS
	High	64QAM	5.57	<=13	PASS
10	Low	QPSK	4.86	<=13	PASS
	Low	16QAM	5.58	<=13	PASS
	Low	64QAM	5.59	<=13	PASS
	Mid	QPSK	4.95	<=13	PASS
	Mid	16QAM	5.58	<=13	PASS
	Mid	64QAM	5.61	<=13	PASS
	High	QPSK	4.66	<=13	PASS
	High	16QAM	5.52	<=13	PASS
	High	64QAM	5.30	<=13	PASS



15	Low	QPSK	4.64	<=13	PASS
	Low	16QAM	5.42	<=13	PASS
	Low	64QAM	5.35	<=13	PASS
	Mid	QPSK	4.53	<=13	PASS
	Mid	16QAM	5.29	<=13	PASS
	Mid	64QAM	5.34	<=13	PASS
	High	QPSK	4.43	<=13	PASS
	High	16QAM	5.21	<=13	PASS
	High	64QAM	5.20	<=13	PASS
20	Low	QPSK	4.73	<=13	PASS
	Low	16QAM	5.71	<=13	PASS
	Low	64QAM	5.75	<=13	PASS
	Mid	QPSK	4.56	<=13	PASS
	Mid	16QAM	5.42	<=13	PASS
	Mid	64QAM	5.29	<=13	PASS
	High	QPSK	4.63	<=13	PASS
	High	16QAM	5.36	<=13	PASS
	High	64QAM	5.41	<=13	PASS



LTE Band 4					
BW(MHz)	Channel Level	Modulation	PAR Radio(dB)	Limit(dB)	Verdict
1.4	Low	QPSK	5.28	<=13	PASS
	Low	16QAM	6.09	<=13	PASS
	Low	64QAM	5.93	<=13	PASS
	Mid	QPSK	5.51	<=13	PASS
	Mid	16QAM	7.27	<=13	PASS
	Mid	64QAM	7.35	<=13	PASS
	High	QPSK	4.71	<=13	PASS
	High	16QAM	5.53	<=13	PASS
	High	64QAM	5.44	<=13	PASS
3	Low	QPSK	5.26	<=13	PASS
	Low	16QAM	6.04	<=13	PASS
	Low	64QAM	5.91	<=13	PASS
	Mid	QPSK	5.54	<=13	PASS
	Mid	16QAM	7.29	<=13	PASS
	Mid	64QAM	7.37	<=13	PASS
	High	QPSK	4.76	<=13	PASS
	High	16QAM	5.52	<=13	PASS
	High	64QAM	5.48	<=13	PASS
5	Low	QPSK	5.31	<=13	PASS
	Low	16QAM	5.84	<=13	PASS
	Low	64QAM	5.83	<=13	PASS
	Mid	QPSK	5.54	<=13	PASS
	Mid	16QAM	6.11	<=13	PASS
	Mid	64QAM	6.11	<=13	PASS
	High	QPSK	4.99	<=13	PASS
	High	16QAM	5.53	<=13	PASS
	High	64QAM	5.63	<=13	PASS
10	Low	QPSK	5.28	<=13	PASS
	Low	16QAM	6.00	<=13	PASS
	Low	64QAM	5.90	<=13	PASS
	Mid	QPSK	5.62	<=13	PASS
	Mid	16QAM	6.22	<=13	PASS
	Mid	64QAM	6.26	<=13	PASS
	High	QPSK	5.28	<=13	PASS
	High	16QAM	5.96	<=13	PASS
	High	64QAM	5.47	<=13	PASS





15	Low	QPSK	5.09	<=13	PASS
	Low	16QAM	5.81	<=13	PASS
	Low	64QAM	5.79	<=13	PASS
	Mid	QPSK	5.44	<=13	PASS
	Mid	16QAM	6.14	<=13	PASS
	Mid	64QAM	6.05	<=13	PASS
	High	QPSK	5.25	<=13	PASS
	High	16QAM	5.92	<=13	PASS
	High	64QAM	5.87	<=13	PASS
20	Low	QPSK	5.13	<=13	PASS
	Low	16QAM	5.79	<=13	PASS
	Low	64QAM	5.93	<=13	PASS
	Mid	QPSK	5.47	<=13	PASS
	Mid	16QAM	6.19	<=13	PASS
	Mid	64QAM	6.17	<=13	PASS
	High	QPSK	5.43	<=13	PASS
	High	16QAM	6.16	<=13	PASS
	High	64QAM	6.14	<=13	PASS



Band2 / 1.4MHz / Low CH / QPSK



Band2 / 1.4MHz / Low CH / 16QAM



Band2 / 1.4MHz / Low CH / 64QAM



Band2 / 1.4MHz / Mid CH / QPSK



Band2 / 1.4MHz / Mid CH / 16QAM

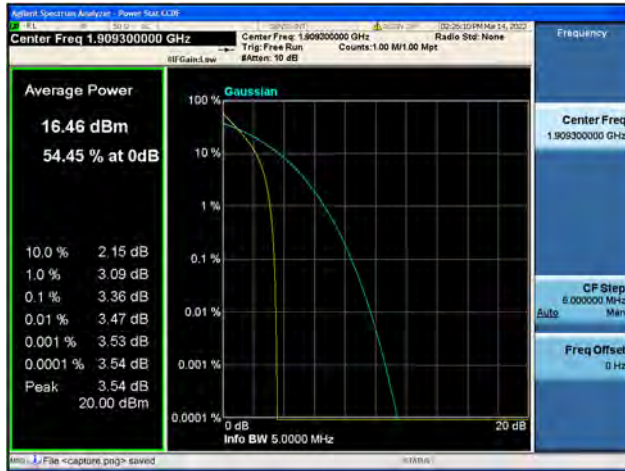


Band2 / 1.4MHz / Mid CH / 64QAM





Band2 / 1.4MHz / High CH / QPSK



Band2 / 1.4MHz / High CH / 16QAM



Band2 / 1.4MHz / High CH / 64QAM



Band2 / 3MHz / Low CH / QPSK



Band2 / 3MHz / Low CH / 16QAM



Band2 / 3MHz / Low CH / 64QAM







Band2 / 3MHz / Mid CH / QPSK



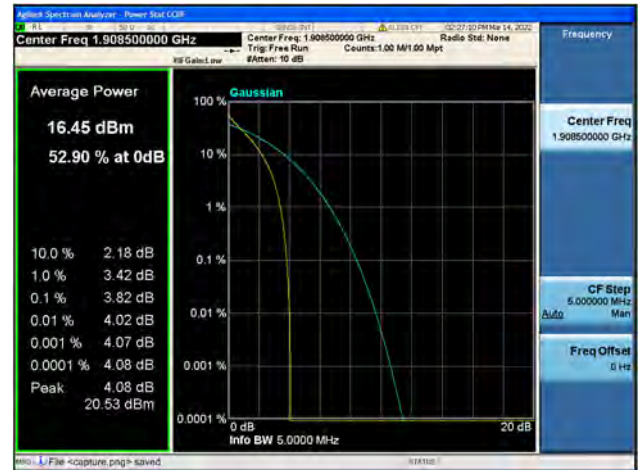
Band2 / 3MHz / Mid CH / 16QAM



Band2 / 3MHz / Mid CH / 64QAM



Band2 / 3MHz / High CH / QPSK



Band2 / 3MHz / High CH / 16QAM



Band2 / 3MHz / High CH / 64QAM





Band2 / 5MHz / Low CH / QPSK



Band2 / 5MHz / Low CH / 16QAM



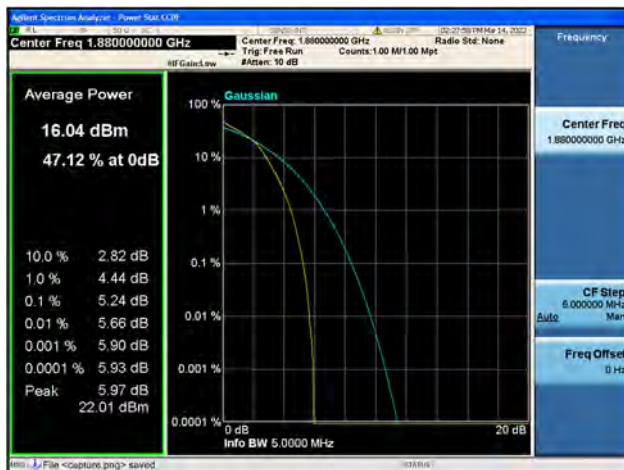
Band2 / 5MHz / Low CH / 64QAM



Band2 / 5MHz / Mid CH / QPSK



Band2 / 5MHz / Mid CH / 16QAM



Band2 / 5MHz / Mid CH / 64QAM







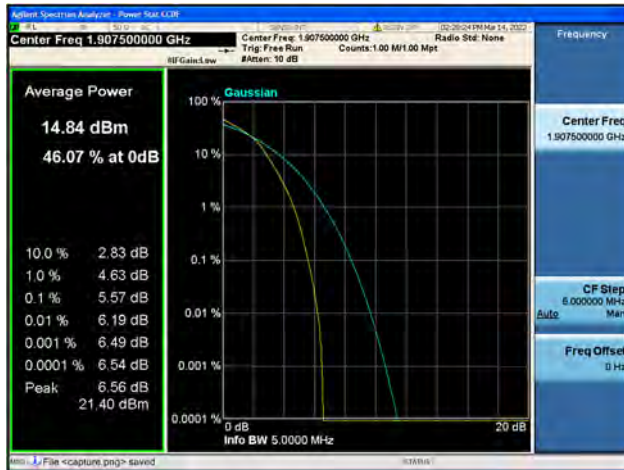
Band2 / 5MHz / High CH / QPSK



Band2 / 5MHz / High CH / 16QAM



Band2 / 5MHz / High CH / 64QAM



Band2 / 10MHz / Low CH / QPSK



Band2 / 10MHz / Low CH / 16QAM



Band2 / 10MHz / Low CH / 64QAM





Band2 / 10MHz / Mid CH / QPSK



Band2 / 10MHz / Mid CH / 16QAM



Band2 / 10MHz / Mid CH / 64QAM



Band2 / 10MHz / High CH / QPSK



Band2 / 10MHz / High CH / 16QAM



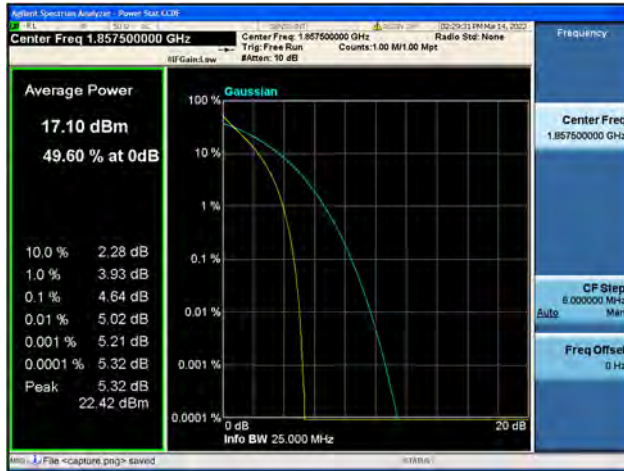
Band2 / 10MHz / High CH / 64QAM







Band2 / 15MHz / Low CH / QPSK



Band2 / 15MHz / Low CH / 16QAM



Band2 / 15MHz / Low CH / 64QAM



Band2 / 15MHz / Mid CH / QPSK



Band2 / 15MHz / Mid CH / 16QAM



Band2 / 15MHz / Mid CH / 64QAM





Band2 / 15MHz / High CH / QPSK



Band2 / 15MHz / High CH / 16QAM



Band2 / 15MHz / High CH / 64QAM



Band2 / 20MHz / Low CH / QPSK



Band2 / 20MHz / Low CH / 16QAM



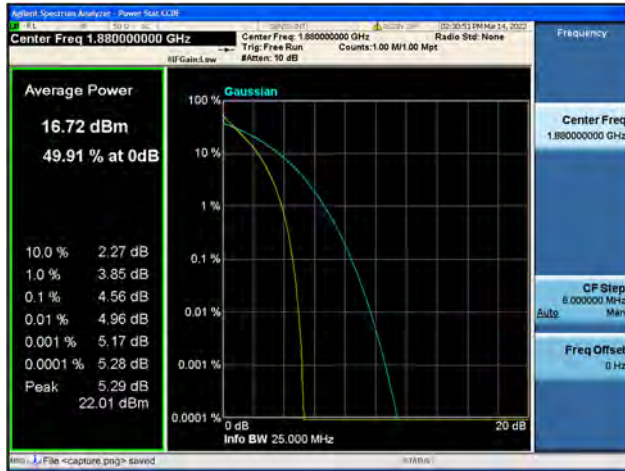
Band2 / 20MHz / Low CH / 64QAM







Band2 / 20MHz / Mid CH / QPSK



Band2 / 20MHz / Mid CH / 16QAM



Band2 / 20MHz / Mid CH / 64QAM



Band2 / 20MHz / High CH / QPSK



Band2 / 20MHz / High CH / 16QAM



Band2 / 20MHz / High CH / 64QAM







Band4 / 1.4MHz / Low CH / QPSK



Band4 / 1.4MHz / Low CH / 16QAM



Band4 / 1.4MHz / Low CH / 64QAM



Band4 / 1.4MHz / Mid CH / QPSK



Band4 / 1.4MHz / Mid CH / 16QAM



Band4 / 1.4MHz / Mid CH / 64QAM





Band4 / 1.4MHz / High CH / QPSK



Band4 / 1.4MHz / High CH / 16QAM



Band4 / 1.4MHz / High CH / 64QAM



Band4 / 3MHz / Low CH / QPSK



Band4 / 3MHz / Low CH / 16QAM



Band4 / 3MHz / Low CH / 64QAM







Band4 / 3MHz / Mid CH / QPSK



Band4 / 3MHz / Mid CH / 16QAM



Band4 / 3MHz / Mid CH / 64QAM



Band4 / 3MHz / High CH / QPSK



Band4 / 3MHz / High CH / 16QAM



Band4 / 3MHz / High CH / 64QAM

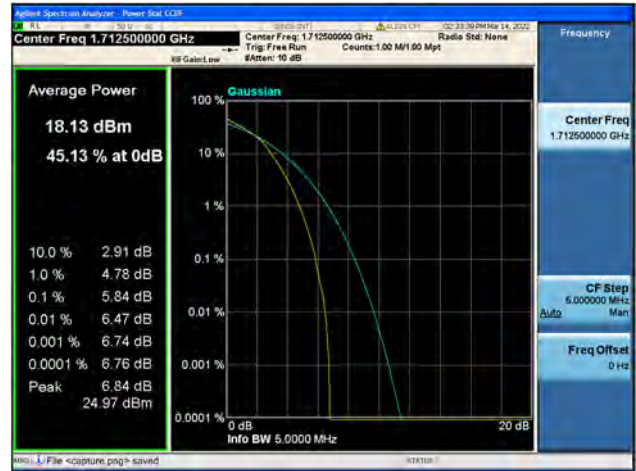




Band4 / 5MHz / Low CH / QPSK



Band4 / 5MHz / Low CH / 16QAM



Band4 / 5MHz / Low CH / 64QAM



Band4 / 5MHz / Mid CH / QPSK



Band4 / 5MHz / Mid CH / 16QAM



Band4 / 5MHz / Mid CH / 64QAM







Band4 / 5MHz / High CH / QPSK



Band4 / 5MHz / High CH / 16QAM



Band4 / 5MHz / High CH / 64QAM



Band4 / 10MHz / Low CH / QPSK



Band4 / 10MHz / Low CH / 16QAM



Band4 / 10MHz / Low CH / 64QAM





Band4 / 10MHz / Mid CH / QPSK



Band4 / 10MHz / Mid CH / 16QAM



Band4 / 10MHz / Mid CH / 64QAM



Band4 / 10MHz / High CH / QPSK



Band4 / 10MHz / High CH / 16QAM



Band4 / 10MHz / High CH / 64QAM







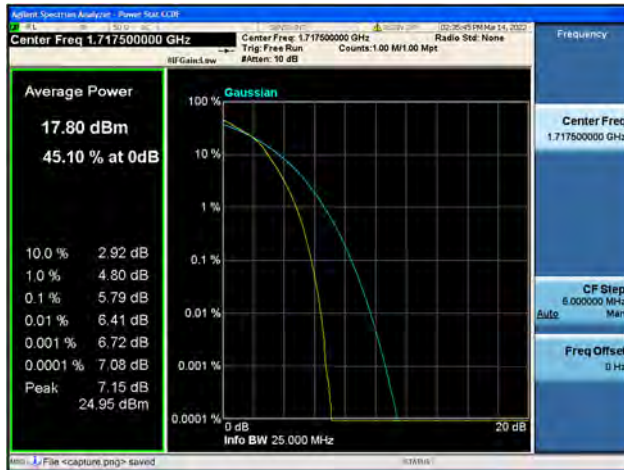
Band4 / 15MHz / Low CH / QPSK



Band4 / 15MHz / Low CH / 16QAM



Band4 / 15MHz / Low CH / 64QAM



Band4 / 15MHz / Mid CH / QPSK



Band4 / 15MHz / Mid CH / 16QAM



Band4 / 15MHz / Mid CH / 64QAM

