



REPORT No.: SZ24110312W05

TEST REPORT

APPLICANT : BLU Products, Inc.

PRODUCT NAME : Smart Phone

MODEL NAME : X5+

BRAND NAME : BLU

FCC ID : YHLBLU5XW

STANDARD(S) : 47 CFR Part 2
47 CFR Part 22, Subpart H
47 CFR Part 24, Subpart E
47 CFR Part 27, Subpart L&M

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DIRECTORY

1. Technical Information	3
1.1. Applicant and Manufacturer Information	3
1.2. Equipment Under Test (EUT) Description	3
1.3. Maximum E.R.P./E.I.R.P. and Emission Designator	5
1.4. Test Standards and Results	6
1.5. Environmental Conditions	7
2. 47 CFR Part 2, Part 22H, Part 24E, Part 27L&M Requirements	8
2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.	8
2.2. Occupied Bandwidth	57
2.3. Frequency Stability	88
2.4. Peak to Average Ratio	92
2.5. Conducted Spurious Emissions	108
2.6. Band Edge	125
2.7. Radiated Spurious Emissions	144
Annex A Test Uncertainty	177
Annex B Testing Laboratory Information	178

Change History		
Version	Date	Reason for change
1.0	2025-02-11	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	BLU Products, Inc.
Applicant Address:	8600 NW 36th Street, Suite #300 Miami, FL 33166, USA
Manufacturer:	BLU Products, Inc.
Manufacturer Address:	8600 NW 36th Street, Suite #300 Miami, FL 33166, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	Smart Phone	
Sample No.:	7#, 9#	
Hardware Version:	A507-MB-V3.6F	
Software Version:	BLU_C0270_V14.0.G.05.00_GENERIC_25-12-2024 18:16	
Modulation Type:	QPSK, 16QAM	
Carrier Aggregation:	Not Support	
Operation Band:	Band 2 / 4 / 5 / 7 / 38	
Frequency Range:	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
	LTE Band 38	Tx: 2570MHz–2620MHz
		Rx: 2570MHz–2620MHz
Channel Bandwidth:	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
	LTE Band 38	5 MHz, 10MHz, 15MHz, 20MHz
Antenna Type:	PIFA Antenna	



Antenna Gain:	LTE Band 2	2.80dBi
	LTE Band 4	2.05dBi
	LTE Band 5	0.16dBi
	LTE Band 7	2.38dBi
	LTE Band 38	2.25dBi
Accessory Information:	Battery	
	Brand Name:	BLU
	Model No.:	C775448200L
	Serial No.:	N/A
	Capacity:	2000mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	PHENIX NEW ENERGY(HUIZHOU) CO.,LTD.
	AC Adapter	
	Brand Name:	BLU
	Model No.:	US-DC-0750
	Serial No.:	N/A
	Rated Output:	5.0V $\pm$ 750mA
	Rated Input:	100-240V $\sim$ 50/60Hz, 0.2A
	Manufacturer:	SHENZHEN EAST SUN 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

LTE Band 2	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.443	0.356	17M9G7D	18M0W7D
15	0.439	0.350	13M5G7D	13M5W7D
10	0.436	0.356	8M99G7D	8M95W7D
5	0.438	0.350	4M49G7D	4M48W7D
3	0.440	0.352	2M71G7D	2M72W7D
1.4	0.437	0.352	1M10G7D	1M10W7D
LTE Band 4	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.357	0.291	17M9G7D	18M0W7D
15	0.355	0.283	13M5G7D	13M5W7D
10	0.352	0.289	8M99G7D	8M96W7D
5	0.353	0.283	4M48G7D	4M48W7D
3	0.352	0.288	2M72G7D	2M72W7D
1.4	0.352	0.281	1M10G7D	1M10W7D
LTE Band 5	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
10	0.134	0.113	8M97G7D	8M96W7D
5	0.134	0.108	4M48G7D	4M49W7D
3	0.133	0.108	2M72G7D	2M72W7D
1.4	0.133	0.108	1M10G7D	1M10W7D
LTE Band 7	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.362	0.290	17M9G7D	18M0W7D
15	0.361	0.292	13M5G7D	13M5W7D
10	0.359	0.289	9M00G7D	8M95W7D
5	0.361	0.294	4M49G7D	4M49W7D
LTE Band 38	Maximum E.R.P./E.I.R.P. (W)		Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM	QPSK	16QAM
20	0.392	0.318	17M9G7D	17M9W7D
15	0.385	0.312	13M4G7D	13M5W7D
10	0.379	0.308	8M98G7D	8M95W7D
5	0.375	0.304	4M49G7D	4M48W7D



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.	Jan. 14, 2024	Yu Zhizheng Gan Jing	PASS	No deviation
2.1049	Occupied Bandwidth	Jan. 04, 2025	Gan Jing	PASS	No deviation
2.1055 22.355 24.235 27.54	Frequency Stability	Jan. 09, 2025	Gan Jing	PASS	No deviation
24.232(d), 27.50(d)(5)	Peak to Average Ratio	Jan. 04, 2025	Gan Jing	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Conducted Spurious Emissions	Jan. 04, 2025	Gan Jing	PASS	No deviation
2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Band Edge	Jan. 04, 2025	Gan Jing	PASS	No deviation
2.1053	Radiated	Jan. 02, 2025	Yang Lian	PASS	No deviation



22.917(a) 24.238(a) 27.53(h) 27.53(m)(4)	Spurious Emissions				
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: 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 3: 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 27L&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).

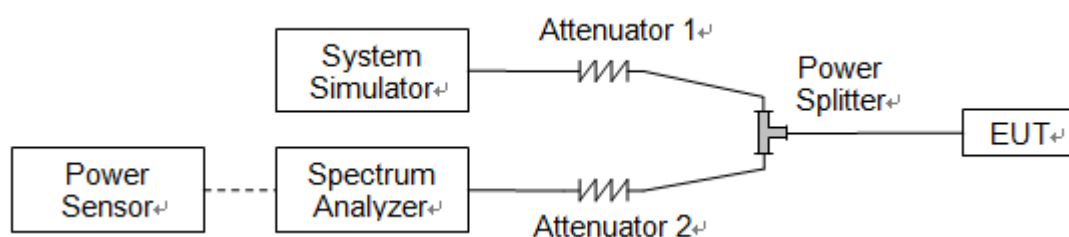
According to FCC section 24.232 (c) for LTE Band 2, Mobile and portable stations are limited to 2 watts E.I.R.P. and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

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 7/38, 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	23.62	23.66	23.57
20	QPSK	1	49	23.54	23.61	23.40
20	QPSK	1	99	23.49	23.50	23.34
20	QPSK	50	0	22.51	22.54	22.48
20	QPSK	50	24	22.45	22.50	22.41
20	QPSK	50	50	22.34	22.36	22.28
20	QPSK	100	0	22.39	22.42	22.35
20	16QAM	1	0	22.65	22.71	22.59
20	16QAM	1	49	22.54	22.55	22.49
20	16QAM	1	99	22.41	22.47	22.39
20	16QAM	50	0	21.62	21.70	21.57
20	16QAM	50	24	21.54	21.57	21.49
20	16QAM	50	50	21.45	21.48	21.42
20	16QAM	100	0	21.39	21.40	21.36



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	23.57	23.62	23.49
15	QPSK	1	37	23.51	23.54	23.44
15	QPSK	1	74	23.46	23.45	23.30
15	QPSK	36	0	22.55	22.49	22.51
15	QPSK	36	20	22.37	22.45	22.47
15	QPSK	36	39	22.44	22.34	22.32
15	QPSK	75	0	22.40	22.37	22.24
15	16QAM	1	0	22.64	22.59	22.52
15	16QAM	1	37	22.59	22.47	22.34
15	16QAM	1	74	22.44	22.43	22.27
15	16QAM	36	0	21.68	21.71	21.63
15	16QAM	36	20	21.53	21.60	21.47
15	16QAM	36	39	21.55	21.39	21.32
15	16QAM	75	0	21.38	21.40	21.39



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	23.55	23.59	23.54
10	QPSK	1	25	23.49	23.55	23.45
10	QPSK	1	49	23.41	23.52	23.37
10	QPSK	25	0	22.42	22.39	22.39
10	QPSK	25	12	22.48	22.43	22.51
10	QPSK	25	25	22.29	22.42	22.15
10	QPSK	50	0	22.34	22.39	22.22
10	16QAM	1	0	22.67	22.71	22.56
10	16QAM	1	25	22.57	22.60	22.43
10	16QAM	1	49	22.51	22.40	22.35
10	16QAM	25	0	21.70	21.59	21.65
10	16QAM	25	12	21.48	21.49	21.47
10	16QAM	25	25	21.49	21.37	21.43
10	16QAM	50	0	21.45	21.50	21.43



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	23.53	23.61	23.48
5	QPSK	1	12	23.45	23.50	23.43
5	QPSK	1	24	23.51	23.50	23.29
5	QPSK	12	0	22.55	22.40	22.49
5	QPSK	12	7	22.52	22.36	22.51
5	QPSK	12	13	22.32	22.25	22.33
5	QPSK	25	0	22.40	22.46	22.33
5	16QAM	1	0	22.55	22.64	22.45
5	16QAM	1	12	22.46	22.49	22.42
5	16QAM	1	24	22.36	22.33	22.27
5	16QAM	12	0	21.47	21.59	21.63
5	16QAM	12	7	21.44	21.46	21.43
5	16QAM	12	13	21.53	21.50	21.30
5	16QAM	25	0	21.36	21.32	21.43



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	23.49	23.63	23.52
3	QPSK	1	8	23.45	23.48	23.45
3	QPSK	1	14	23.39	23.42	23.42
3	QPSK	8	0	22.60	22.62	22.47
3	QPSK	8	4	22.51	22.49	22.36
3	QPSK	8	7	22.44	22.36	22.30
3	QPSK	15	0	22.31	22.27	22.24
3	16QAM	1	0	22.60	22.66	22.45
3	16QAM	1	8	22.44	22.54	22.37
3	16QAM	1	14	22.37	22.34	22.35
3	16QAM	8	0	21.60	21.65	21.43
3	16QAM	8	4	21.43	21.53	21.41
3	16QAM	8	7	21.40	21.57	21.30
3	16QAM	15	0	21.48	21.47	21.30



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	23.53	23.60	23.55
1.4	QPSK	1	3	23.48	23.58	23.30
1.4	QPSK	1	5	23.38	23.44	23.42
1.4	QPSK	3	0	22.42	22.63	22.44
1.4	QPSK	3	1	22.50	22.43	22.49
1.4	QPSK	3	3	22.44	22.45	22.41
1.4	QPSK	6	0	22.45	22.44	22.23
1.4	16QAM	1	0	22.67	22.67	22.55
1.4	16QAM	1	3	22.59	22.46	22.46
1.4	16QAM	1	5	22.36	22.45	22.41
1.4	16QAM	3	0	21.52	21.64	21.48
1.4	16QAM	3	1	21.51	21.53	21.42
1.4	16QAM	3	3	21.51	21.48	21.51
1.4	16QAM	6	0	21.45	21.32	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				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	23.43	23.48	23.44
20	QPSK	1	49	23.41	23.34	23.30
20	QPSK	1	99	23.36	23.43	23.38
20	QPSK	50	0	22.40	22.43	22.39
20	QPSK	50	24	22.26	22.28	22.20
20	QPSK	50	50	22.18	22.27	22.29
20	QPSK	100	0	22.24	22.38	22.26
20	16QAM	1	0	22.48	22.59	22.50
20	16QAM	1	49	22.29	22.40	22.30
20	16QAM	1	99	22.25	22.42	22.31
20	16QAM	50	0	21.35	21.49	21.27
20	16QAM	50	24	21.42	21.45	21.29
20	16QAM	50	50	21.34	21.20	21.23
20	16QAM	100	0	21.21	21.24	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	23.34	23.45	23.42
15	QPSK	1	37	23.26	23.33	23.30
15	QPSK	1	74	23.21	23.36	23.32
15	QPSK	36	0	22.35	22.41	22.37
15	QPSK	36	20	22.17	22.29	22.18
15	QPSK	36	39	22.22	22.25	22.22
15	QPSK	75	0	22.26	22.30	22.21
15	16QAM	1	0	22.47	22.42	22.39
15	16QAM	1	37	22.27	22.41	22.32
15	16QAM	1	74	22.32	22.34	22.23
15	16QAM	36	0	21.29	21.44	21.33
15	16QAM	36	20	21.37	21.47	21.24
15	16QAM	36	39	21.37	21.16	21.22
15	16QAM	75	0	21.07	21.08	21.18



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	23.37	23.42	23.39
10	QPSK	1	25	23.30	23.33	23.30
10	QPSK	1	49	23.33	23.32	23.26
10	QPSK	25	0	22.22	22.22	22.19
10	QPSK	25	12	22.31	22.32	22.32
10	QPSK	25	25	22.26	22.16	22.11
10	QPSK	50	0	22.15	22.26	22.08
10	16QAM	1	0	22.34	22.56	22.42
10	16QAM	1	25	22.29	22.25	22.37
10	16QAM	1	49	22.24	22.24	22.28
10	16QAM	25	0	21.40	21.52	21.45
10	16QAM	25	12	21.27	21.40	21.23
10	16QAM	25	25	21.27	21.26	21.21
10	16QAM	50	0	21.28	21.25	21.17



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	23.38	23.43	23.40
5	QPSK	1	12	23.23	23.40	23.31
5	QPSK	1	24	23.18	23.23	23.22
5	QPSK	12	0	22.26	22.36	22.34
5	QPSK	12	7	22.16	22.33	22.12
5	QPSK	12	13	22.19	22.26	22.19
5	QPSK	25	0	22.11	22.31	22.11
5	16QAM	1	0	22.35	22.47	22.47
5	16QAM	1	12	22.39	22.45	22.22
5	16QAM	1	24	22.15	22.34	22.11
5	16QAM	12	0	21.32	21.59	21.39
5	16QAM	12	7	21.26	21.27	21.28
5	16QAM	12	13	21.31	21.39	21.31
5	16QAM	25	0	21.14	21.12	21.17



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	23.34	23.41	23.27
3	QPSK	1	8	23.22	23.38	23.24
3	QPSK	1	14	23.28	23.29	23.21
3	QPSK	8	0	22.21	22.27	22.15
3	QPSK	8	4	22.34	22.27	22.10
3	QPSK	8	7	22.19	22.09	22.12
3	QPSK	15	0	22.22	22.23	22.16
3	16QAM	1	0	22.41	22.54	22.33
3	16QAM	1	8	22.37	22.37	22.19
3	16QAM	1	14	22.14	22.34	22.25
3	16QAM	8	0	21.53	21.49	21.47
3	16QAM	8	4	21.41	21.40	21.28
3	16QAM	8	7	21.13	21.39	21.27
3	16QAM	15	0	21.19	21.27	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				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.38	23.42	23.38
1.4	QPSK	1	3	23.37	23.37	23.23
1.4	QPSK	1	5	23.24	23.27	23.26
1.4	QPSK	3	0	22.35	22.21	22.21
1.4	QPSK	3	1	22.12	22.36	22.22
1.4	QPSK	3	3	22.03	22.15	22.04
1.4	QPSK	6	0	22.14	22.17	22.22
1.4	16QAM	1	0	22.33	22.44	22.33
1.4	16QAM	1	3	22.35	22.41	22.28
1.4	16QAM	1	5	22.08	22.30	22.26
1.4	16QAM	3	0	21.46	21.48	21.40
1.4	16QAM	3	1	21.46	21.39	21.19
1.4	16QAM	3	3	21.19	21.28	21.21
1.4	16QAM	6	0	21.28	21.25	21.24



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	23.22	23.27	23.20
10	QPSK	1	25	23.19	23.21	23.06
10	QPSK	1	49	23.08	23.15	23.03
10	QPSK	25	0	22.14	22.25	22.06
10	QPSK	25	12	22.11	22.00	22.10
10	QPSK	25	25	22.08	22.07	22.00
10	QPSK	50	0	22.00	22.09	22.05
10	16QAM	1	0	22.40	22.52	22.21
10	16QAM	1	25	22.24	22.16	22.15
10	16QAM	1	49	22.17	22.20	22.02
10	16QAM	25	0	21.39	21.29	21.35
10	16QAM	25	12	21.18	21.21	21.25
10	16QAM	25	25	21.15	21.07	21.03
10	16QAM	50	0	21.09	21.00	21.15



LTE Band 5						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				20425	20525	20625
Frequency (MHz)				826.5	836.5	846.5
5	QPSK	1	0	23.14	23.26	23.19
5	QPSK	1	12	23.07	23.14	23.06
5	QPSK	1	24	23.11	23.20	23.01
5	QPSK	12	0	22.12	22.27	22.13
5	QPSK	12	7	22.18	22.03	22.06
5	QPSK	12	13	22.07	22.07	22.08
5	QPSK	25	0	22.01	22.10	22.02
5	16QAM	1	0	22.17	22.32	22.33
5	16QAM	1	12	22.23	22.11	22.16
5	16QAM	1	24	21.97	22.14	22.05
5	16QAM	12	0	21.37	21.34	21.13
5	16QAM	12	7	21.16	21.28	21.20
5	16QAM	12	13	21.20	21.12	21.10
5	16QAM	25	0	20.92	21.13	20.89



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	23.19	23.20	23.22
3	QPSK	1	8	23.24	23.18	23.08
3	QPSK	1	14	23.19	23.10	23.05
3	QPSK	8	0	22.12	22.21	22.08
3	QPSK	8	4	22.05	22.02	22.03
3	QPSK	8	7	21.97	22.09	22.07
3	QPSK	15	0	22.03	22.11	22.07
3	16QAM	1	0	22.22	22.33	22.18
3	16QAM	1	8	22.12	22.20	22.21
3	16QAM	1	14	22.11	22.16	22.03
3	16QAM	8	0	21.24	21.20	21.20
3	16QAM	8	4	21.22	21.22	21.22
3	16QAM	8	7	21.17	21.17	20.95
3	16QAM	15	0	20.91	20.98	20.97



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	23.19	23.22	23.20
1.4	QPSK	1	3	23.11	23.20	23.12
1.4	QPSK	1	5	23.03	23.10	22.98
1.4	QPSK	3	0	22.19	22.22	22.16
1.4	QPSK	3	1	22.06	22.21	22.06
1.4	QPSK	3	3	22.09	22.07	22.03
1.4	QPSK	6	0	22.11	22.08	21.92
1.4	16QAM	1	0	22.20	22.34	22.22
1.4	16QAM	1	3	22.27	22.21	22.08
1.4	16QAM	1	5	22.15	22.01	21.99
1.4	16QAM	3	0	21.31	21.34	21.26
1.4	16QAM	3	1	21.10	21.14	21.04
1.4	16QAM	3	3	21.09	21.11	20.99
1.4	16QAM	6	0	20.90	20.98	20.92



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	23.15	23.21	23.18
20	QPSK	1	49	23.09	23.19	23.04
20	QPSK	1	99	22.96	23.05	22.93
20	QPSK	50	0	22.07	22.10	21.97
20	QPSK	50	24	22.04	21.97	21.95
20	QPSK	50	50	21.90	22.02	21.87
20	QPSK	100	0	21.98	22.00	21.89
20	16QAM	1	0	22.21	22.24	22.03
20	16QAM	1	49	22.13	22.05	21.92
20	16QAM	1	99	22.01	22.09	21.96
20	16QAM	50	0	21.12	21.13	21.02
20	16QAM	50	24	21.03	21.05	20.98
20	16QAM	50	50	20.95	21.09	20.89
20	16QAM	100	0	20.91	20.89	20.77



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	23.12	23.19	23.10
15	QPSK	1	37	23.01	23.15	22.86
15	QPSK	1	74	22.91	23.01	22.92
15	QPSK	36	0	22.12	21.98	21.94
15	QPSK	36	20	22.09	21.91	21.88
15	QPSK	36	39	21.90	21.90	21.93
15	QPSK	75	0	21.98	21.98	22.00
15	16QAM	1	0	22.05	22.28	22.21
15	16QAM	1	37	22.06	22.10	22.03
15	16QAM	1	74	21.89	21.99	21.89
15	16QAM	36	0	21.04	21.20	21.15
15	16QAM	36	20	21.12	21.06	20.94
15	16QAM	36	39	20.99	21.10	21.01
15	16QAM	75	0	20.91	21.01	20.88



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	23.15	23.17	23.12
10	QPSK	1	25	22.95	23.11	23.05
10	QPSK	1	49	22.96	23.10	22.98
10	QPSK	25	0	22.09	22.00	21.95
10	QPSK	25	12	22.10	22.05	21.91
10	QPSK	25	25	21.96	21.98	21.77
10	QPSK	50	0	21.81	21.84	21.88
10	16QAM	1	0	22.23	22.16	22.10
10	16QAM	1	25	22.15	22.13	22.09
10	16QAM	1	49	21.85	22.10	21.96
10	16QAM	25	0	21.20	21.32	21.02
10	16QAM	25	12	21.07	20.99	21.02
10	16QAM	25	25	20.98	21.05	20.97
10	16QAM	50	0	20.92	20.96	20.89



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	23.06	23.20	23.09
5	QPSK	1	12	23.02	23.12	22.86
5	QPSK	1	24	22.98	23.13	22.89
5	QPSK	12	0	22.08	21.95	22.10
5	QPSK	12	7	21.91	22.08	21.97
5	QPSK	12	13	21.87	22.01	21.89
5	QPSK	25	0	21.93	22.02	21.97
5	16QAM	1	0	22.12	22.31	22.17
5	16QAM	1	12	22.10	22.07	22.01
5	16QAM	1	24	21.93	21.99	21.95
5	16QAM	12	0	21.18	21.21	21.00
5	16QAM	12	7	21.18	21.13	20.91
5	16QAM	12	13	20.95	21.04	20.83
5	16QAM	25	0	20.83	20.85	20.99



LTE Band 38						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				37850	38000	38150
Frequency (MHz)				2580	2595	2610
20	QPSK	1	0	23.64	23.68	23.66
20	QPSK	1	49	23.51	23.64	23.48
20	QPSK	1	99	23.63	23.60	23.42
20	QPSK	50	0	22.63	22.70	22.65
20	QPSK	50	24	22.66	22.67	22.53
20	QPSK	50	50	22.63	22.56	22.49
20	QPSK	100	0	22.66	22.69	22.56
20	16QAM	1	0	22.76	22.77	22.65
20	16QAM	1	49	22.66	22.69	22.73
20	16QAM	1	99	22.58	22.62	22.59
20	16QAM	50	0	21.63	21.70	21.51
20	16QAM	50	24	21.71	21.66	21.68
20	16QAM	50	50	21.53	21.58	21.51
20	16QAM	100	0	21.62	21.63	21.57



LTE Band 38						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				37825	38000	38175
Frequency (MHz)				2577.5	2595	2612.5
15	QPSK	1	0	23.56	23.60	23.58
15	QPSK	1	37	23.43	23.56	23.40
15	QPSK	1	74	23.55	23.52	23.34
15	QPSK	36	0	22.55	22.62	22.57
15	QPSK	36	20	22.58	22.59	22.45
15	QPSK	36	39	22.55	22.48	22.41
15	QPSK	75	0	22.58	22.61	22.48
15	16QAM	1	0	22.68	22.69	22.57
15	16QAM	1	37	22.58	22.61	22.65
15	16QAM	1	74	22.50	22.54	22.51
15	16QAM	36	0	21.55	21.62	21.43
15	16QAM	36	20	21.63	21.58	21.60
15	16QAM	36	39	21.45	21.50	21.43
15	16QAM	75	0	21.54	21.55	21.49



LTE Band 38						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				37800	38000	38200
Frequency (MHz)				2575	2595	2615
10	QPSK	1	0	23.50	23.54	23.52
10	QPSK	1	25	23.37	23.50	23.34
10	QPSK	1	49	23.49	23.46	23.28
10	QPSK	25	0	22.49	22.56	22.51
10	QPSK	25	12	22.52	22.53	22.39
10	QPSK	25	25	22.49	22.42	22.35
10	QPSK	50	0	22.52	22.55	22.42
10	16QAM	1	0	22.62	22.63	22.51
10	16QAM	1	25	22.52	22.55	22.59
10	16QAM	1	49	22.44	22.48	22.45
10	16QAM	25	0	21.49	21.56	21.37
10	16QAM	25	12	21.57	21.52	21.54
10	16QAM	25	25	21.39	21.44	21.37
10	16QAM	50	0	21.48	21.49	21.43



LTE Band 38						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				37775	38000	38225
Frequency (MHz)				2572.5	2595	2617.5
5	QPSK	1	0	23.45	23.49	23.47
5	QPSK	1	12	23.32	23.45	23.29
5	QPSK	1	24	23.44	23.41	23.23
5	QPSK	12	0	22.44	22.51	22.46
5	QPSK	12	7	22.47	22.48	22.34
5	QPSK	12	13	22.44	22.37	22.30
5	QPSK	25	0	22.47	22.50	22.37
5	16QAM	1	0	22.57	22.58	22.46
5	16QAM	1	12	22.47	22.50	22.54
5	16QAM	1	24	22.39	22.43	22.40
5	16QAM	12	0	21.44	21.51	21.32
5	16QAM	12	7	21.52	21.47	21.49
5	16QAM	12	13	21.34	21.39	21.32
5	16QAM	25	0	21.43	21.44	21.38

**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	26.42	0.439	26.46	0.443	26.37	0.434
20	QPSK	1	49	26.34	0.431	26.41	0.438	26.20	0.417
20	QPSK	1	99	26.29	0.426	26.30	0.427	26.14	0.411
20	QPSK	50	0	25.31	0.340	25.34	0.342	25.28	0.337
20	QPSK	50	24	25.25	0.335	25.30	0.339	25.21	0.332
20	QPSK	50	50	25.14	0.327	25.16	0.328	25.08	0.322
20	QPSK	100	0	25.19	0.330	25.22	0.333	25.15	0.327
20	16QAM	1	0	25.45	0.351	25.51	0.356	25.39	0.346
20	16QAM	1	49	25.34	0.342	25.35	0.343	25.29	0.338
20	16QAM	1	99	25.21	0.332	25.27	0.337	25.19	0.330
20	16QAM	50	0	24.42	0.277	24.50	0.282	24.37	0.274
20	16QAM	50	24	24.34	0.272	24.37	0.274	24.29	0.269
20	16QAM	50	50	24.25	0.266	24.28	0.268	24.22	0.264
20	16QAM	100	0	24.19	0.262	24.20	0.263	24.16	0.261



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	26.37	0.434	26.42	0.439	26.29	0.426
15	QPSK	1	37	26.31	0.428	26.34	0.431	26.24	0.421
15	QPSK	1	74	26.26	0.423	26.25	0.422	26.10	0.407
15	QPSK	36	0	25.35	0.343	25.29	0.338	25.31	0.340
15	QPSK	36	20	25.17	0.329	25.25	0.335	25.27	0.337
15	QPSK	36	39	25.24	0.334	25.14	0.327	25.12	0.325
15	QPSK	75	0	25.20	0.331	25.17	0.329	25.04	0.319
15	16QAM	1	0	25.44	0.350	25.39	0.346	25.32	0.340
15	16QAM	1	37	25.39	0.346	25.27	0.337	25.14	0.327
15	16QAM	1	74	25.24	0.334	25.23	0.333	25.07	0.321
15	16QAM	36	0	24.48	0.281	24.51	0.282	24.43	0.277
15	16QAM	36	20	24.33	0.271	24.40	0.275	24.27	0.267
15	16QAM	36	39	24.35	0.272	24.19	0.262	24.12	0.258
15	16QAM	75	0	24.18	0.262	24.20	0.263	24.19	0.262



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	26.35	0.432	26.39	0.436	26.34	0.431
10	QPSK	1	25	26.29	0.426	26.35	0.432	26.25	0.422
10	QPSK	1	49	26.21	0.418	26.32	0.429	26.17	0.414
10	QPSK	25	0	25.22	0.333	25.19	0.330	25.19	0.330
10	QPSK	25	12	25.28	0.337	25.23	0.333	25.31	0.340
10	QPSK	25	25	25.09	0.323	25.22	0.333	24.95	0.313
10	QPSK	50	0	25.14	0.327	25.19	0.330	25.02	0.318
10	16QAM	1	0	25.47	0.352	25.51	0.356	25.36	0.344
10	16QAM	1	25	25.37	0.344	25.40	0.347	25.23	0.333
10	16QAM	1	49	25.31	0.340	25.20	0.331	25.15	0.327
10	16QAM	25	0	24.50	0.282	24.39	0.275	24.45	0.279
10	16QAM	25	12	24.28	0.268	24.29	0.269	24.27	0.267
10	16QAM	25	25	24.29	0.269	24.17	0.261	24.23	0.265
10	16QAM	50	0	24.25	0.266	24.30	0.269	24.23	0.265



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	26.33	0.430	26.41	0.438	26.28	0.425
5	QPSK	1	12	26.25	0.422	26.30	0.427	26.23	0.420
5	QPSK	1	24	26.31	0.428	26.30	0.427	26.09	0.406
5	QPSK	12	0	25.35	0.343	25.20	0.331	25.29	0.338
5	QPSK	12	7	25.32	0.340	25.16	0.328	25.31	0.340
5	QPSK	12	13	25.12	0.325	25.05	0.320	25.13	0.326
5	QPSK	25	0	25.20	0.331	25.26	0.336	25.13	0.326
5	16QAM	1	0	25.35	0.343	25.44	0.350	25.25	0.335
5	16QAM	1	12	25.26	0.336	25.29	0.338	25.22	0.333
5	16QAM	1	24	25.16	0.328	25.13	0.326	25.07	0.321
5	16QAM	12	0	24.27	0.267	24.39	0.275	24.43	0.277
5	16QAM	12	7	24.24	0.265	24.26	0.267	24.23	0.265
5	16QAM	12	13	24.33	0.271	24.30	0.269	24.10	0.257
5	16QAM	25	0	24.16	0.261	24.12	0.258	24.23	0.265



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	26.29	0.426	26.43	0.440	26.32	0.429
3	QPSK	1	8	26.25	0.422	26.28	0.425	26.25	0.422
3	QPSK	1	14	26.19	0.416	26.22	0.419	26.22	0.419
3	QPSK	8	0	25.40	0.347	25.42	0.348	25.27	0.337
3	QPSK	8	4	25.31	0.340	25.29	0.338	25.16	0.328
3	QPSK	8	7	25.24	0.334	25.16	0.328	25.10	0.324
3	QPSK	15	0	25.11	0.324	25.07	0.321	25.04	0.319
3	16QAM	1	0	25.40	0.347	25.46	0.352	25.25	0.335
3	16QAM	1	8	25.24	0.334	25.34	0.342	25.17	0.329
3	16QAM	1	14	25.17	0.329	25.14	0.327	25.15	0.327
3	16QAM	8	0	24.40	0.275	24.45	0.279	24.23	0.265
3	16QAM	8	4	24.23	0.265	24.33	0.271	24.21	0.264
3	16QAM	8	7	24.20	0.263	24.37	0.274	24.10	0.257
3	16QAM	15	0	24.28	0.268	24.27	0.267	24.10	0.257



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	26.33	0.430	26.40	0.437	26.35	0.432
1.4	QPSK	1	3	26.28	0.425	26.38	0.435	26.10	0.407
1.4	QPSK	1	5	26.18	0.415	26.24	0.421	26.22	0.419
1.4	QPSK	3	0	25.22	0.333	25.43	0.349	25.24	0.334
1.4	QPSK	3	1	25.30	0.339	25.23	0.333	25.29	0.338
1.4	QPSK	3	3	25.24	0.334	25.25	0.335	25.21	0.332
1.4	QPSK	6	0	25.25	0.335	25.24	0.334	25.03	0.318
1.4	16QAM	1	0	25.47	0.352	25.47	0.352	25.35	0.343
1.4	16QAM	1	3	25.39	0.346	25.26	0.336	25.26	0.336
1.4	16QAM	1	5	25.16	0.328	25.25	0.335	25.21	0.332
1.4	16QAM	3	0	24.32	0.270	24.44	0.278	24.28	0.268
1.4	16QAM	3	1	24.31	0.270	24.33	0.271	24.22	0.264
1.4	16QAM	3	3	24.31	0.270	24.28	0.268	24.31	0.270
1.4	16QAM	6	0	24.25	0.266	24.12	0.258	24.05	0.254



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	25.48	0.353	25.53	0.357	25.49	0.354
20	QPSK	1	49	25.46	0.352	25.39	0.346	25.35	0.343
20	QPSK	1	99	25.41	0.348	25.48	0.353	25.43	0.349
20	QPSK	50	0	24.45	0.279	24.48	0.281	24.44	0.278
20	QPSK	50	24	24.31	0.270	24.33	0.271	24.25	0.266
20	QPSK	50	50	24.23	0.265	24.32	0.270	24.34	0.272
20	QPSK	100	0	24.29	0.269	24.43	0.277	24.31	0.270
20	16QAM	1	0	24.53	0.284	24.64	0.291	24.55	0.285
20	16QAM	1	49	24.34	0.272	24.45	0.279	24.35	0.272
20	16QAM	1	99	24.30	0.269	24.47	0.280	24.36	0.273
20	16QAM	50	0	23.40	0.219	23.54	0.226	23.32	0.215
20	16QAM	50	24	23.47	0.222	23.50	0.224	23.34	0.216
20	16QAM	50	50	23.39	0.218	23.25	0.211	23.28	0.213
20	16QAM	100	0	23.26	0.212	23.29	0.213	23.17	0.207



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	25.39	0.346	25.50	0.355	25.47	0.352
15	QPSK	1	37	25.31	0.340	25.38	0.345	25.35	0.343
15	QPSK	1	74	25.26	0.336	25.41	0.348	25.37	0.344
15	QPSK	36	0	24.40	0.275	24.46	0.279	24.42	0.277
15	QPSK	36	20	24.22	0.264	24.34	0.272	24.23	0.265
15	QPSK	36	39	24.27	0.267	24.30	0.269	24.27	0.267
15	QPSK	75	0	24.31	0.270	24.35	0.272	24.26	0.267
15	16QAM	1	0	24.52	0.283	24.47	0.280	24.44	0.278
15	16QAM	1	37	24.32	0.270	24.46	0.279	24.37	0.274
15	16QAM	1	74	24.37	0.274	24.39	0.275	24.28	0.268
15	16QAM	36	0	23.34	0.216	23.49	0.223	23.38	0.218
15	16QAM	36	20	23.42	0.220	23.52	0.225	23.29	0.213
15	16QAM	36	39	23.42	0.220	23.21	0.209	23.27	0.212
15	16QAM	75	0	23.12	0.205	23.13	0.206	23.23	0.210



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	25.42	0.348	25.47	0.352	25.44	0.350
10	QPSK	1	25	25.35	0.343	25.38	0.345	25.35	0.343
10	QPSK	1	49	25.38	0.345	25.37	0.344	25.31	0.340
10	QPSK	25	0	24.27	0.267	24.27	0.267	24.24	0.265
10	QPSK	25	12	24.36	0.273	24.37	0.274	24.37	0.274
10	QPSK	25	25	24.31	0.270	24.21	0.264	24.16	0.261
10	QPSK	50	0	24.20	0.263	24.31	0.270	24.13	0.259
10	16QAM	1	0	24.39	0.275	24.61	0.289	24.47	0.280
10	16QAM	1	25	24.34	0.272	24.30	0.269	24.42	0.277
10	16QAM	1	49	24.29	0.269	24.29	0.269	24.33	0.271
10	16QAM	25	0	23.45	0.221	23.57	0.228	23.50	0.224
10	16QAM	25	12	23.32	0.215	23.45	0.221	23.28	0.213
10	16QAM	25	25	23.32	0.215	23.31	0.214	23.26	0.212
10	16QAM	50	0	23.33	0.215	23.30	0.214	23.22	0.210



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	25.43	0.349	25.48	0.353	25.45	0.351
5	QPSK	1	12	25.28	0.337	25.45	0.351	25.36	0.344
5	QPSK	1	24	25.23	0.333	25.28	0.337	25.27	0.337
5	QPSK	12	0	24.31	0.270	24.41	0.276	24.39	0.275
5	QPSK	12	7	24.21	0.264	24.38	0.274	24.17	0.261
5	QPSK	12	13	24.24	0.265	24.31	0.270	24.24	0.265
5	QPSK	25	0	24.16	0.261	24.36	0.273	24.16	0.261
5	16QAM	1	0	24.40	0.275	24.52	0.283	24.52	0.283
5	16QAM	1	12	24.44	0.278	24.50	0.282	24.27	0.267
5	16QAM	1	24	24.20	0.263	24.39	0.275	24.16	0.261
5	16QAM	12	0	23.37	0.217	23.64	0.231	23.44	0.221
5	16QAM	12	7	23.31	0.214	23.32	0.215	23.33	0.215
5	16QAM	12	13	23.36	0.217	23.44	0.221	23.36	0.217
5	16QAM	25	0	23.19	0.208	23.17	0.207	23.22	0.210



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	25.39	0.346	25.46	0.352	25.32	0.340
3	QPSK	1	8	25.27	0.337	25.43	0.349	25.29	0.338
3	QPSK	1	14	25.33	0.341	25.34	0.342	25.26	0.336
3	QPSK	8	0	24.26	0.267	24.32	0.270	24.20	0.263
3	QPSK	8	4	24.39	0.275	24.32	0.270	24.15	0.260
3	QPSK	8	7	24.24	0.265	24.14	0.259	24.17	0.261
3	QPSK	15	0	24.27	0.267	24.28	0.268	24.21	0.264
3	16QAM	1	0	24.46	0.279	24.59	0.288	24.38	0.274
3	16QAM	1	8	24.42	0.277	24.42	0.277	24.24	0.265
3	16QAM	1	14	24.19	0.262	24.39	0.275	24.30	0.269
3	16QAM	8	0	23.58	0.228	23.54	0.226	23.52	0.225
3	16QAM	8	4	23.46	0.222	23.45	0.221	23.33	0.215
3	16QAM	8	7	23.18	0.208	23.44	0.221	23.32	0.215
3	16QAM	15	0	23.24	0.211	23.32	0.215	23.16	0.207



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	25.43	0.349	25.47	0.352	25.43	0.349
1.4	QPSK	1	3	25.42	0.348	25.42	0.348	25.28	0.337
1.4	QPSK	1	5	25.29	0.338	25.32	0.340	25.31	0.340
1.4	QPSK	3	0	24.40	0.275	24.26	0.267	24.26	0.267
1.4	QPSK	3	1	24.17	0.261	24.41	0.276	24.27	0.267
1.4	QPSK	3	3	24.08	0.256	24.20	0.263	24.09	0.256
1.4	QPSK	6	0	24.19	0.262	24.22	0.264	24.27	0.267
1.4	16QAM	1	0	24.38	0.274	24.49	0.281	24.38	0.274
1.4	16QAM	1	3	24.40	0.275	24.46	0.279	24.33	0.271
1.4	16QAM	1	5	24.13	0.259	24.35	0.272	24.31	0.270
1.4	16QAM	3	0	23.51	0.224	23.53	0.225	23.45	0.221
1.4	16QAM	3	1	23.51	0.224	23.44	0.221	23.24	0.211
1.4	16QAM	3	3	23.24	0.211	23.33	0.215	23.26	0.212
1.4	16QAM	6	0	23.33	0.215	23.30	0.214	23.29	0.213



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20450		20525		20600	
Frequency (MHz)				829		836.5		844	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	21.23	0.133	21.28	0.134	21.21	0.132
10	QPSK	1	25	21.20	0.132	21.22	0.132	21.07	0.128
10	QPSK	1	49	21.09	0.129	21.16	0.131	21.04	0.127
10	QPSK	25	0	20.15	0.104	20.26	0.106	20.07	0.102
10	QPSK	25	12	20.12	0.103	20.01	0.100	20.11	0.103
10	QPSK	25	25	20.09	0.102	20.08	0.102	20.01	0.100
10	QPSK	50	0	20.01	0.100	20.10	0.102	20.06	0.101
10	16QAM	1	0	20.41	0.110	20.53	0.113	20.22	0.105
10	16QAM	1	25	20.25	0.106	20.17	0.104	20.16	0.104
10	16QAM	1	49	20.18	0.104	20.21	0.105	20.03	0.101
10	16QAM	25	0	19.40	0.087	19.30	0.085	19.36	0.086
10	16QAM	25	12	19.19	0.083	19.22	0.084	19.26	0.084
10	16QAM	25	25	19.16	0.082	19.08	0.081	19.04	0.080
10	16QAM	50	0	19.10	0.081	19.01	0.080	19.16	0.082



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20425		20525		20625	
Frequency (MHz)				826.5		836.5		846.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	21.15	0.130	21.27	0.134	21.20	0.132
5	QPSK	1	12	21.08	0.128	21.15	0.130	21.07	0.128
5	QPSK	1	24	21.12	0.129	21.21	0.132	21.02	0.126
5	QPSK	12	0	20.13	0.103	20.28	0.107	20.14	0.103
5	QPSK	12	7	20.19	0.104	20.04	0.101	20.07	0.102
5	QPSK	12	13	20.08	0.102	20.08	0.102	20.09	0.102
5	QPSK	25	0	20.02	0.100	20.11	0.103	20.03	0.101
5	16QAM	1	0	20.18	0.104	20.33	0.108	20.34	0.108
5	16QAM	1	12	20.24	0.106	20.12	0.103	20.17	0.104
5	16QAM	1	24	19.98	0.100	20.15	0.104	20.06	0.101
5	16QAM	12	0	19.38	0.087	19.35	0.086	19.14	0.082
5	16QAM	12	7	19.17	0.083	19.29	0.085	19.21	0.083
5	16QAM	12	13	19.21	0.083	19.13	0.082	19.11	0.081
5	16QAM	25	0	18.93	0.078	19.14	0.082	18.90	0.078



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20415		20525		20635	
Frequency (MHz)				825.5		836.5		847.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	21.20	0.132	21.21	0.132	21.23	0.133
3	QPSK	1	8	21.25	0.133	21.19	0.132	21.09	0.129
3	QPSK	1	14	21.20	0.132	21.11	0.129	21.06	0.128
3	QPSK	8	0	20.13	0.103	20.22	0.105	20.09	0.102
3	QPSK	8	4	20.06	0.101	20.03	0.101	20.04	0.101
3	QPSK	8	7	19.98	0.100	20.10	0.102	20.08	0.102
3	QPSK	15	0	20.04	0.101	20.12	0.103	20.08	0.102
3	16QAM	1	0	20.23	0.105	20.34	0.108	20.19	0.104
3	16QAM	1	8	20.13	0.103	20.21	0.105	20.22	0.105
3	16QAM	1	14	20.12	0.103	20.17	0.104	20.04	0.101
3	16QAM	8	0	19.25	0.084	19.21	0.083	19.21	0.083
3	16QAM	8	4	19.23	0.084	19.23	0.084	19.23	0.084
3	16QAM	8	7	19.18	0.083	19.18	0.083	18.96	0.079
3	16QAM	15	0	18.92	0.078	18.99	0.079	18.98	0.079



LTE Band 5				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				20407		20525		20643	
Frequency (MHz)				824.7		836.5		848.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	21.20	0.132	21.23	0.133	21.21	0.132
1.4	QPSK	1	3	21.12	0.129	21.21	0.132	21.13	0.130
1.4	QPSK	1	5	21.04	0.127	21.11	0.129	20.99	0.126
1.4	QPSK	3	0	20.20	0.105	20.23	0.105	20.17	0.104
1.4	QPSK	3	1	20.07	0.102	20.22	0.105	20.07	0.102
1.4	QPSK	3	3	20.10	0.102	20.08	0.102	20.04	0.101
1.4	QPSK	6	0	20.12	0.103	20.09	0.102	19.93	0.098
1.4	16QAM	1	0	20.21	0.105	20.35	0.108	20.23	0.105
1.4	16QAM	1	3	20.28	0.107	20.22	0.105	20.09	0.102
1.4	16QAM	1	5	20.16	0.104	20.02	0.100	20.00	0.100
1.4	16QAM	3	0	19.32	0.086	19.35	0.086	19.27	0.085
1.4	16QAM	3	1	19.11	0.081	19.15	0.082	19.05	0.080
1.4	16QAM	3	3	19.10	0.081	19.12	0.082	19.00	0.079
1.4	16QAM	6	0	18.91	0.078	18.99	0.079	18.93	0.078



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	25.53	0.357	25.59	0.362	25.56	0.360
20	QPSK	1	49	25.47	0.352	25.57	0.361	25.42	0.348
20	QPSK	1	99	25.34	0.342	25.43	0.349	25.31	0.340
20	QPSK	50	0	24.45	0.279	24.48	0.281	24.35	0.272
20	QPSK	50	24	24.42	0.277	24.35	0.272	24.33	0.271
20	QPSK	50	50	24.28	0.268	24.40	0.275	24.25	0.266
20	QPSK	100	0	24.36	0.273	24.38	0.274	24.27	0.267
20	16QAM	1	0	24.59	0.288	24.62	0.290	24.41	0.276
20	16QAM	1	49	24.51	0.282	24.43	0.277	24.30	0.269
20	16QAM	1	99	24.39	0.275	24.47	0.280	24.34	0.272
20	16QAM	50	0	23.50	0.224	23.51	0.224	23.40	0.219
20	16QAM	50	24	23.41	0.219	23.43	0.220	23.36	0.217
20	16QAM	50	50	23.33	0.215	23.47	0.222	23.27	0.212
20	16QAM	100	0	23.29	0.213	23.27	0.212	23.15	0.207



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	25.50	0.355	25.57	0.361	25.48	0.353
15	QPSK	1	37	25.39	0.346	25.53	0.357	25.24	0.334
15	QPSK	1	74	25.29	0.338	25.39	0.346	25.30	0.339
15	QPSK	36	0	24.50	0.282	24.36	0.273	24.32	0.270
15	QPSK	36	20	24.47	0.280	24.29	0.269	24.26	0.267
15	QPSK	36	39	24.28	0.268	24.28	0.268	24.31	0.270
15	QPSK	75	0	24.36	0.273	24.36	0.273	24.38	0.274
15	16QAM	1	0	24.43	0.277	24.66	0.292	24.59	0.288
15	16QAM	1	37	24.44	0.278	24.48	0.281	24.41	0.276
15	16QAM	1	74	24.27	0.267	24.37	0.274	24.27	0.267
15	16QAM	36	0	23.42	0.220	23.58	0.228	23.53	0.225
15	16QAM	36	20	23.50	0.224	23.44	0.221	23.32	0.215
15	16QAM	36	39	23.37	0.217	23.48	0.223	23.39	0.218
15	16QAM	75	0	23.29	0.213	23.39	0.218	23.26	0.212



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	25.53	0.357	25.55	0.359	25.50	0.355
10	QPSK	1	25	25.33	0.341	25.49	0.354	25.43	0.349
10	QPSK	1	49	25.34	0.342	25.48	0.353	25.36	0.344
10	QPSK	25	0	24.47	0.280	24.38	0.274	24.33	0.271
10	QPSK	25	12	24.48	0.281	24.43	0.277	24.29	0.269
10	QPSK	25	25	24.34	0.272	24.36	0.273	24.15	0.260
10	QPSK	50	0	24.19	0.262	24.22	0.264	24.26	0.267
10	16QAM	1	0	24.61	0.289	24.54	0.284	24.48	0.281
10	16QAM	1	25	24.53	0.284	24.51	0.282	24.47	0.280
10	16QAM	1	49	24.23	0.265	24.48	0.281	24.34	0.272
10	16QAM	25	0	23.58	0.228	23.70	0.234	23.40	0.219
10	16QAM	25	12	23.45	0.221	23.37	0.217	23.40	0.219
10	16QAM	25	25	23.36	0.217	23.43	0.220	23.35	0.216
10	16QAM	50	0	23.30	0.214	23.34	0.216	23.27	0.212



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	25.44	0.350	25.58	0.361	25.47	0.352
5	QPSK	1	12	25.40	0.347	25.50	0.355	25.24	0.334
5	QPSK	1	24	25.36	0.344	25.51	0.356	25.27	0.337
5	QPSK	12	0	24.46	0.279	24.33	0.271	24.48	0.281
5	QPSK	12	7	24.29	0.269	24.46	0.279	24.35	0.272
5	QPSK	12	13	24.25	0.266	24.39	0.275	24.27	0.267
5	QPSK	25	0	24.31	0.270	24.40	0.275	24.35	0.272
5	16QAM	1	0	24.50	0.282	24.69	0.294	24.55	0.285
5	16QAM	1	12	24.48	0.281	24.45	0.279	24.39	0.275
5	16QAM	1	24	24.31	0.270	24.37	0.274	24.33	0.271
5	16QAM	12	0	23.56	0.227	23.59	0.229	23.38	0.218
5	16QAM	12	7	23.56	0.227	23.51	0.224	23.29	0.213
5	16QAM	12	13	23.33	0.215	23.42	0.220	23.21	0.209
5	16QAM	25	0	23.21	0.209	23.23	0.210	23.37	0.217



LTE Band 38				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				37850		38000		38150	
Frequency (MHz)				2580		2595		2610	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	25.89	0.388	25.93	0.392	25.91	0.390
20	QPSK	1	49	25.76	0.377	25.89	0.388	25.73	0.374
20	QPSK	1	99	25.88	0.387	25.85	0.385	25.67	0.369
20	QPSK	50	0	24.88	0.308	24.95	0.313	24.90	0.309
20	QPSK	50	24	24.91	0.310	24.92	0.310	24.78	0.301
20	QPSK	50	50	24.88	0.308	24.81	0.303	24.74	0.298
20	QPSK	100	0	24.91	0.310	24.94	0.312	24.81	0.303
20	16QAM	1	0	25.01	0.317	25.02	0.318	24.90	0.309
20	16QAM	1	49	24.91	0.310	24.94	0.312	24.98	0.315
20	16QAM	1	99	24.83	0.304	24.87	0.307	24.84	0.305
20	16QAM	50	0	23.88	0.244	23.95	0.248	23.76	0.238
20	16QAM	50	24	23.96	0.249	23.91	0.246	23.93	0.247
20	16QAM	50	50	23.78	0.239	23.83	0.242	23.76	0.238
20	16QAM	100	0	23.87	0.244	23.88	0.244	23.82	0.241



LTE Band 38				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				37825		38000		38175	
Frequency (MHz)				2577.5		2595		2612.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	25.81	0.381	25.85	0.385	25.83	0.383
15	QPSK	1	37	25.68	0.370	25.81	0.381	25.65	0.367
15	QPSK	1	74	25.80	0.380	25.77	0.378	25.59	0.362
15	QPSK	36	0	24.80	0.302	24.87	0.307	24.82	0.303
15	QPSK	36	20	24.83	0.304	24.84	0.305	24.70	0.295
15	QPSK	36	39	24.80	0.302	24.73	0.297	24.66	0.292
15	QPSK	75	0	24.83	0.304	24.86	0.306	24.73	0.297
15	16QAM	1	0	24.93	0.311	24.94	0.312	24.82	0.303
15	16QAM	1	37	24.83	0.304	24.86	0.306	24.90	0.309
15	16QAM	1	74	24.75	0.299	24.79	0.301	24.76	0.299
15	16QAM	36	0	23.80	0.240	23.87	0.244	23.68	0.233
15	16QAM	36	20	23.88	0.244	23.83	0.242	23.85	0.243
15	16QAM	36	39	23.70	0.234	23.75	0.237	23.68	0.233
15	16QAM	75	0	23.79	0.239	23.80	0.240	23.74	0.237



LTE Band 38				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				37800		38000		38200	
Frequency (MHz)				2575		2595		2615	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	25.75	0.376	25.79	0.379	25.77	0.378
10	QPSK	1	25	25.62	0.365	25.75	0.376	25.59	0.362
10	QPSK	1	49	25.74	0.375	25.71	0.372	25.53	0.357
10	QPSK	25	0	24.74	0.298	24.81	0.303	24.76	0.299
10	QPSK	25	12	24.77	0.300	24.78	0.301	24.64	0.291
10	QPSK	25	25	24.74	0.298	24.67	0.293	24.60	0.288
10	QPSK	50	0	24.77	0.300	24.80	0.302	24.67	0.293
10	16QAM	1	0	24.87	0.307	24.88	0.308	24.76	0.299
10	16QAM	1	25	24.77	0.300	24.80	0.302	24.84	0.305
10	16QAM	1	49	24.69	0.294	24.73	0.297	24.70	0.295
10	16QAM	25	0	23.74	0.237	23.81	0.240	23.62	0.230
10	16QAM	25	12	23.82	0.241	23.77	0.238	23.79	0.239
10	16QAM	25	25	23.64	0.231	23.69	0.234	23.62	0.230
10	16QAM	50	0	23.73	0.236	23.74	0.237	23.68	0.233



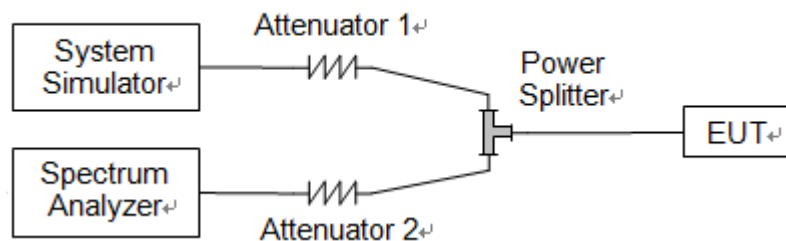
LTE Band 38				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				37775		38000		38225	
Frequency (MHz)				2572.5		2595		2617.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	25.70	0.372	25.74	0.375	25.72	0.373
5	QPSK	1	12	25.57	0.361	25.70	0.372	25.54	0.358
5	QPSK	1	24	25.69	0.371	25.66	0.368	25.48	0.353
5	QPSK	12	0	24.69	0.294	24.76	0.299	24.71	0.296
5	QPSK	12	7	24.72	0.296	24.73	0.297	24.59	0.288
5	QPSK	12	13	24.69	0.294	24.62	0.290	24.55	0.285
5	QPSK	25	0	24.72	0.296	24.75	0.299	24.62	0.290
5	16QAM	1	0	24.82	0.303	24.83	0.304	24.71	0.296
5	16QAM	1	12	24.72	0.296	24.75	0.299	24.79	0.301
5	16QAM	1	24	24.64	0.291	24.68	0.294	24.65	0.292
5	16QAM	12	0	23.69	0.234	23.76	0.238	23.57	0.228
5	16QAM	12	7	23.77	0.238	23.72	0.236	23.74	0.237
5	16QAM	12	13	23.59	0.229	23.64	0.231	23.57	0.228
5	16QAM	25	0	23.68	0.233	23.69	0.234	23.63	0.231

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	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B2	1.4	Low	18607	1850.7	QPSK	1.0968	1.2366	PASS
B2	1.4	Low	18607	1850.7	16QAM	1.0983	1.2472	PASS
B2	1.4	Mid	18900	1880	QPSK	1.0966	1.2416	PASS
B2	1.4	Mid	18900	1880	16QAM	1.0962	1.2477	PASS
B2	1.4	High	19193	1909.3	QPSK	1.0993	1.2438	PASS
B2	1.4	High	19193	1909.3	16QAM	1.0975	1.2472	PASS
B2	3	Low	18615	1851.5	QPSK	2.7128	3.0426	PASS
B2	3	Low	18615	1851.5	16QAM	2.7203	3.0621	PASS
B2	3	Mid	18900	1880	QPSK	2.7141	3.0315	PASS
B2	3	Mid	18900	1880	16QAM	2.7046	3.0592	PASS
B2	3	High	19185	1908.5	QPSK	2.7146	3.0570	PASS
B2	3	High	19185	1908.5	16QAM	2.7164	3.0232	PASS
B2	5	Low	18625	1852.5	QPSK	4.4843	4.9378	PASS
B2	5	Low	18625	1852.5	16QAM	4.4759	4.9368	PASS
B2	5	Mid	18900	1880	QPSK	4.4883	4.9166	PASS
B2	5	Mid	18900	1880	16QAM	4.4743	4.9322	PASS
B2	5	High	19175	1907.5	QPSK	4.4786	4.9309	PASS
B2	5	High	19175	1907.5	16QAM	4.4843	4.9447	PASS
B2	10	Low	18650	1855	QPSK	8.9868	9.8170	PASS
B2	10	Low	18650	1855	16QAM	8.9424	9.7729	PASS
B2	10	Mid	18900	1880	QPSK	8.9923	9.8744	PASS
B2	10	Mid	18900	1880	16QAM	8.9394	9.7331	PASS
B2	10	High	19150	1905	QPSK	8.9724	9.8445	PASS
B2	10	High	19150	1905	16QAM	8.9503	9.7867	PASS
B2	15	Low	18675	1857.5	QPSK	13.444	14.739	PASS
B2	15	Low	18675	1857.5	16QAM	13.439	14.805	PASS
B2	15	Mid	18900	1880	QPSK	13.468	14.854	PASS
B2	15	Mid	18900	1880	16QAM	13.451	14.838	PASS
B2	15	High	19125	1902.5	QPSK	13.436	14.690	PASS
B2	15	High	19125	1902.5	16QAM	13.439	14.711	PASS
B2	20	Low	18700	1860	QPSK	17.892	19.422	PASS
B2	20	Low	18700	1860	16QAM	17.887	19.648	PASS
B2	20	Mid	18900	1880	QPSK	17.938	19.572	PASS



REPORT No.: SZ24110312W05

B2	20	Mid	18900	1880	16QAM	17.950	19.729	PASS
B2	20	High	19100	1900	QPSK	17.881	19.611	PASS
B2	20	High	19100	1900	16QAM	17.925	19.609	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B4	1.4	Low	19957	1710.7	QPSK	1.0955	1.2497	PASS
B4	1.4	Low	19957	1710.7	16QAM	1.0971	1.2529	PASS
B4	1.4	Mid	20175	1732.5	QPSK	1.0954	1.2468	PASS
B4	1.4	Mid	20175	1732.5	16QAM	1.0976	1.2441	PASS
B4	1.4	High	20393	1754.3	QPSK	1.0967	1.2415	PASS
B4	1.4	High	20393	1754.3	16QAM	1.0964	1.2563	PASS
B4	3	Low	19965	1711.5	QPSK	2.7197	3.0429	PASS
B4	3	Low	19965	1711.5	16QAM	2.7142	3.0604	PASS
B4	3	Mid	20175	1732.5	QPSK	2.7184	3.0363	PASS
B4	3	Mid	20175	1732.5	16QAM	2.7139	3.0507	PASS
B4	3	High	20385	1753.5	QPSK	2.7156	3.0647	PASS
B4	3	High	20385	1753.5	16QAM	2.7187	3.0513	PASS
B4	5	Low	19975	1712.5	QPSK	4.4836	4.9268	PASS
B4	5	Low	19975	1712.5	16QAM	4.4840	4.9445	PASS
B4	5	Mid	20175	1732.5	QPSK	4.4830	4.9471	PASS
B4	5	Mid	20175	1732.5	16QAM	4.4846	4.9609	PASS
B4	5	High	20375	1752.5	QPSK	4.4796	4.9027	PASS
B4	5	High	20375	1752.5	16QAM	4.4846	4.9587	PASS
B4	10	Low	20000	1715	QPSK	8.9938	9.8373	PASS
B4	10	Low	20000	1715	16QAM	8.9577	9.8083	PASS
B4	10	Mid	20175	1732.5	QPSK	8.9722	9.7518	PASS
B4	10	Mid	20175	1732.5	16QAM	8.9502	9.8023	PASS
B4	10	High	20350	1750	QPSK	8.9702	9.7997	PASS
B4	10	High	20350	1750	16QAM	8.9401	9.7726	PASS
B4	15	Low	20025	1717.5	QPSK	13.477	14.773	PASS
B4	15	Low	20025	1717.5	16QAM	13.442	14.869	PASS
B4	15	Mid	20175	1732.5	QPSK	13.463	15.150	PASS
B4	15	Mid	20175	1732.5	16QAM	13.456	14.916	PASS
B4	15	High	20325	1747.5	QPSK	13.432	14.647	PASS
B4	15	High	20325	1747.5	16QAM	13.396	14.740	PASS
B4	20	Low	20050	1720	QPSK	17.937	19.631	PASS
B4	20	Low	20050	1720	16QAM	17.953	19.560	PASS
B4	20	Mid	20175	1732.5	QPSK	17.916	19.514	PASS
B4	20	Mid	20175	1732.5	16QAM	17.903	19.577	PASS
B4	20	High	20300	1745	QPSK	17.868	19.557	PASS



B4	20	High	20300	1745	16QAM	17.916	19.579	PASS
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LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B5	1.4	Low	20407	824.7	QPSK	1.0951	1.2445	PASS
B5	1.4	Low	20407	824.7	16QAM	1.0941	1.2525	PASS
B5	1.4	Mid	20525	836.5	QPSK	1.0967	1.2438	PASS
B5	1.4	Mid	20525	836.5	16QAM	1.0996	1.2550	PASS
B5	1.4	High	20643	848.3	QPSK	1.0966	1.2375	PASS
B5	1.4	High	20643	848.3	16QAM	1.0986	1.2496	PASS
B5	3	Low	20415	825.5	QPSK	2.7126	3.0534	PASS
B5	3	Low	20415	825.5	16QAM	2.7170	3.0466	PASS
B5	3	Mid	20525	836.5	QPSK	2.7148	3.0529	PASS
B5	3	Mid	20525	836.5	16QAM	2.7021	3.0673	PASS
B5	3	High	20635	847.5	QPSK	2.7201	3.0522	PASS
B5	3	High	20635	847.5	16QAM	2.7120	3.0171	PASS
B5	5	Low	20425	826.5	QPSK	4.4762	4.9262	PASS
B5	5	Low	20425	826.5	16QAM	4.4832	4.9468	PASS
B5	5	Mid	20525	836.5	QPSK	4.4816	4.9431	PASS
B5	5	Mid	20525	836.5	16QAM	4.4854	4.9096	PASS
B5	5	High	20625	846.5	QPSK	4.4812	4.9472	PASS
B5	5	High	20625	846.5	16QAM	4.4769	4.9360	PASS
B5	10	Low	20450	829	QPSK	8.9655	9.8544	PASS
B5	10	Low	20450	829	16QAM	8.9569	9.7740	PASS
B5	10	Mid	20525	836.5	QPSK	8.9677	9.7549	PASS
B5	10	Mid	20525	836.5	16QAM	8.9426	9.7486	PASS
B5	10	High	20600	844	QPSK	8.9742	9.7004	PASS
B5	10	High	20600	844	16QAM	8.9485	9.7884	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B7	5	Low	20775	2502.5	QPSK	4.4762	4.9162	PASS
B7	5	Low	20775	2502.5	16QAM	4.4868	4.9289	PASS
B7	5	Mid	21100	2535	QPSK	4.4868	4.9257	PASS
B7	5	Mid	21100	2535	16QAM	4.4849	4.9306	PASS
B7	5	High	21425	2567.5	QPSK	4.4893	4.9232	PASS
B7	5	High	21425	2567.5	16QAM	4.4844	4.9342	PASS
B7	10	Low	20800	2505	QPSK	9.0012	9.8496	PASS
B7	10	Low	20800	2505	16QAM	8.9513	9.7791	PASS
B7	10	Mid	21100	2535	QPSK	8.9899	9.8655	PASS
B7	10	Mid	21100	2535	16QAM	8.9517	9.8075	PASS
B7	10	High	21400	2565	QPSK	8.9881	9.8722	PASS
B7	10	High	21400	2565	16QAM	8.9470	9.8099	PASS
B7	15	Low	20825	2507.5	QPSK	13.482	14.872	PASS
B7	15	Low	20825	2507.5	16QAM	13.448	14.840	PASS
B7	15	Mid	21100	2535	QPSK	13.450	14.824	PASS
B7	15	Mid	21100	2535	16QAM	13.447	14.869	PASS
B7	15	High	21375	2562.5	QPSK	13.448	14.763	PASS
B7	15	High	21375	2562.5	16QAM	13.455	14.849	PASS
B7	20	Low	20850	2510	QPSK	17.898	19.493	PASS
B7	20	Low	20850	2510	16QAM	17.983	19.602	PASS
B7	20	Mid	21100	2535	QPSK	17.906	19.626	PASS
B7	20	Mid	21100	2535	16QAM	17.927	19.540	PASS
B7	20	High	21350	2560	QPSK	17.926	19.670	PASS
B7	20	High	21350	2560	16QAM	17.938	19.624	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B38	5	Low	37775	2572.5	QPSK	4.4902	4.9489	PASS
B38	5	Low	37775	2572.5	16QAM	4.4826	4.9663	PASS
B38	5	Mid	38000	2595	QPSK	4.4833	4.9105	PASS
B38	5	Mid	38000	2595	16QAM	4.4843	4.9591	PASS
B38	5	High	38225	2617.5	QPSK	4.4840	4.9099	PASS
B38	5	High	38225	2617.5	16QAM	4.4826	4.9379	PASS
B38	10	Low	37800	2575	QPSK	8.9803	9.7700	PASS
B38	10	Low	37800	2575	16QAM	8.9501	9.9089	PASS
B38	10	Mid	38000	2595	QPSK	8.9553	9.7332	PASS
B38	10	Mid	38000	2595	16QAM	8.9377	9.7532	PASS
B38	10	High	38200	2615	QPSK	8.9499	9.8124	PASS
B38	10	High	38200	2615	16QAM	8.9507	10.1023	PASS
B38	15	Low	37825	2577.5	QPSK	13.421	14.643	PASS
B38	15	Low	37825	2577.5	16QAM	13.452	14.776	PASS
B38	15	Mid	38000	2595	QPSK	13.411	14.824	PASS
B38	15	Mid	38000	2595	16QAM	13.453	14.636	PASS
B38	15	High	38175	2612.5	QPSK	13.425	14.627	PASS
B38	15	High	38175	2612.5	16QAM	13.470	14.651	PASS
B38	20	Low	37850	2580	QPSK	17.924	19.392	PASS
B38	20	Low	37850	2580	16QAM	17.937	19.493	PASS
B38	20	Mid	38000	2595	QPSK	17.882	19.419	PASS
B38	20	Mid	38000	2595	16QAM	17.879	19.256	PASS
B38	20	High	38150	2610	QPSK	17.893	19.445	PASS
B38	20	High	38150	2610	16QAM	17.884	19.845	PASS



B2 / 1.4MHz / QPSK/ Low CH



B2 / 1.4MHz / 16QAM/ Low CH



B2 / 1.4MHz / QPSK/ Mid CH



B2 / 1.4MHz / 16QAM/ Mid CH



B2 / 1.4MHz / QPSK/ High CH



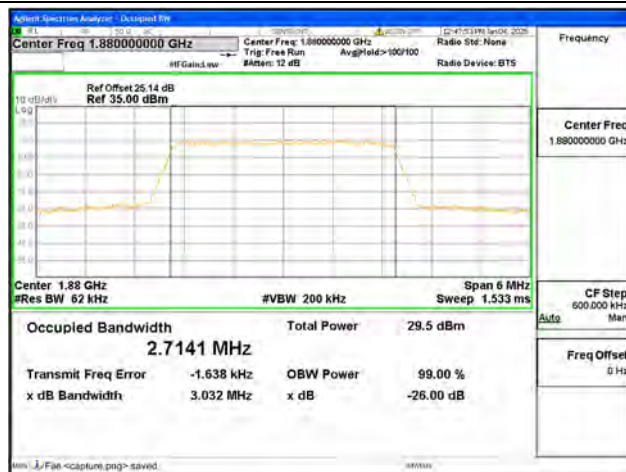
B2 / 1.4MHz / 16QAM/ High CH



B2 / 3MHz / QPSK/ Low CH



B2 / 3MHz / 16QAM/ Low CH



B2 / 3MHz / QPSK/ Mid CH



B2 / 3MHz / 16QAM/ Mid CH



B2 / 3MHz / QPSK/ High CH



B2 / 3MHz / 16QAM/ High CH



B2 / 5MHz / QPSK/ Low CH



B2 / 5MHz / 16QAM/ Low CH



B2 / 5MHz / QPSK/ Mid CH



B2 / 5MHz / 16QAM/ Mid CH



B2 / 5MHz / QPSK/ High CH



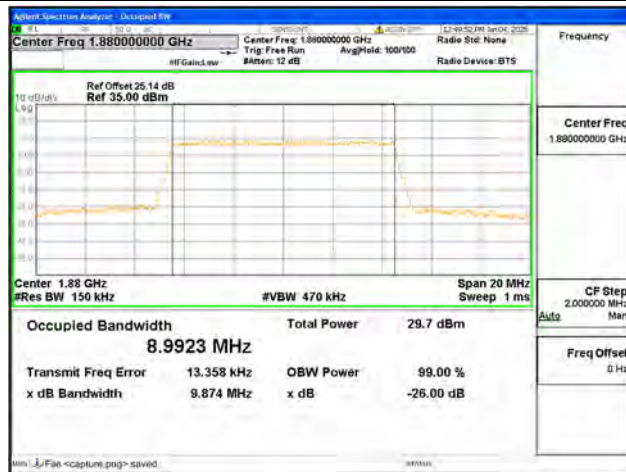
B2 / 5MHz / 16QAM/ High CH



B2 / 10MHz / QPSK/ Low CH



B2 / 10MHz / 16QAM/ Low CH



B2 / 10MHz / QPSK/ Mid CH



B2 / 10MHz / 16QAM/ Mid CH



B2 / 10MHz / QPSK/ High CH



B2 / 10MHz / 16QAM/ High CH



B2 / 15MHz / QPSK/ Low CH



B2 / 15MHz / 16QAM/ Low CH



B2 / 15MHz / QPSK/ Mid CH



B2 / 15MHz / 16QAM/ Mid CH



B2 / 15MHz / QPSK/ High CH



B2 / 15MHz / 16QAM/ High CH



B2 / 20MHz / QPSK/ Low CH



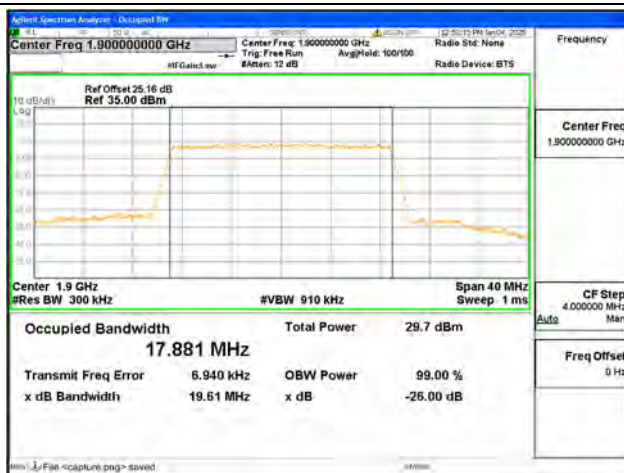
B2 / 20MHz / 16QAM/ Low CH



B2 / 20MHz / QPSK/ Mid CH



B2 / 20MHz / 16QAM/ Mid CH



B2 / 20MHz / QPSK/ High CH



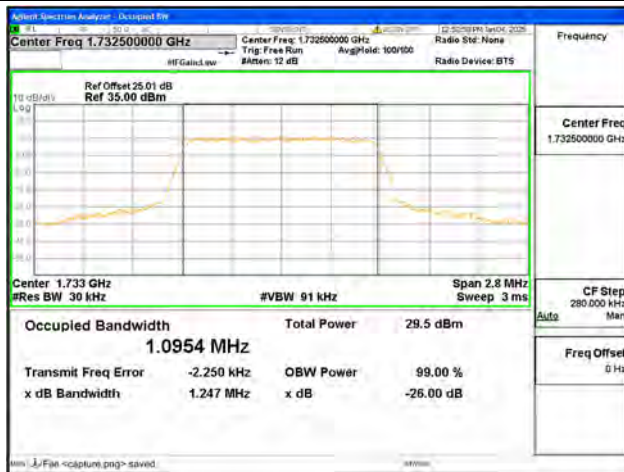
B2 / 20MHz / 16QAM/ High CH



B4 / 1.4MHz / QPSK/ Low CH



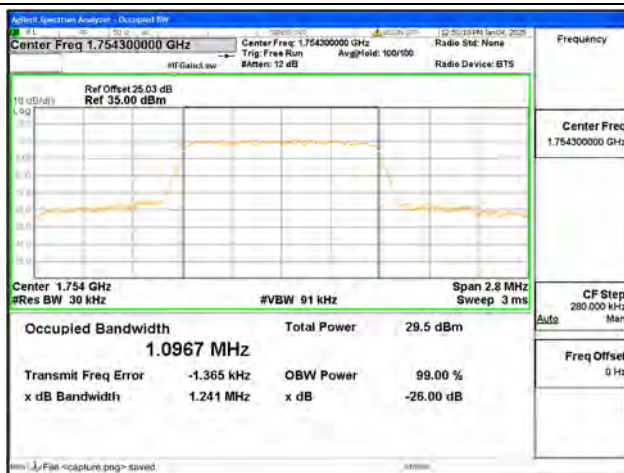
B4 / 1.4MHz / 16QAM/ Low CH



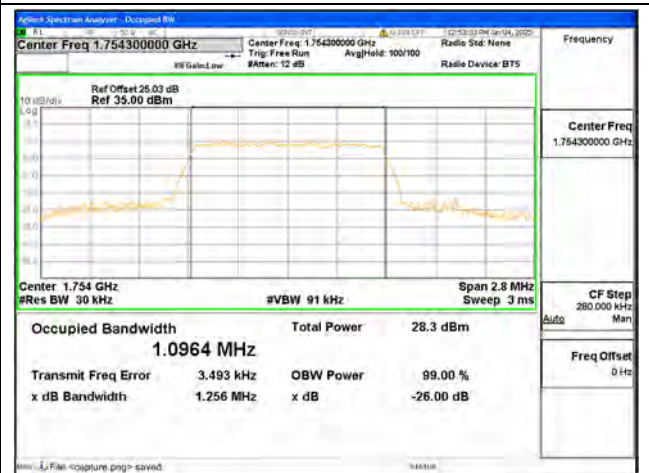
B4 / 1.4MHz / QPSK/ Mid CH



B4 / 1.4MHz / 16QAM/ Mid CH



B4 / 1.4MHz / QPSK/ High CH



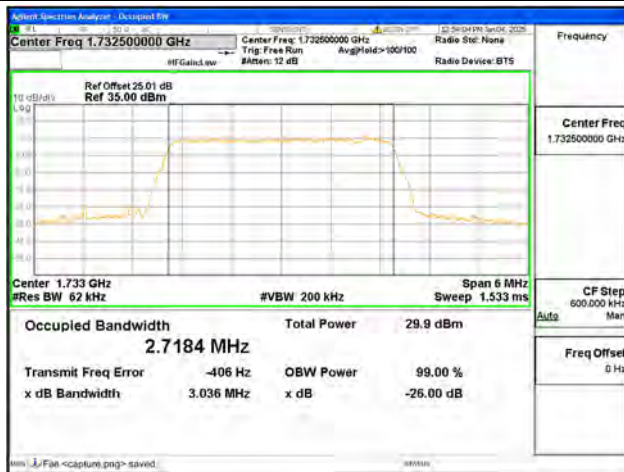
B4 / 1.4MHz / 16QAM/ High CH



B4 / 3MHz / QPSK/ Low CH



B4 / 3MHz / 16QAM/ Low CH



B4 / 3MHz / QPSK/ Mid CH



B4 / 3MHz / 16QAM/ Mid CH



B4 / 3MHz / QPSK/ High CH



B4 / 3MHz / 16QAM/ High CH



B4 / 5MHz / QPSK/ Low CH



B4 / 5MHz / 16QAM/ Low CH



B4 / 5MHz / QPSK/ Mid CH



B4 / 5MHz / 16QAM/ Mid CH



B4 / 5MHz / QPSK/ High CH



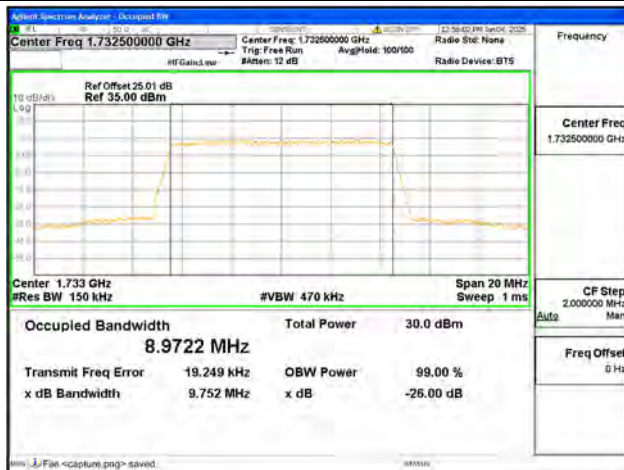
B4 / 5MHz / 16QAM/ High CH



B4 / 10MHz / QPSK/ Low CH



B4 / 10MHz / 16QAM/ Low CH



B4 / 10MHz / QPSK/ Mid CH



B4 / 10MHz / 16QAM/ Mid CH



B4 / 10MHz / QPSK/ High CH



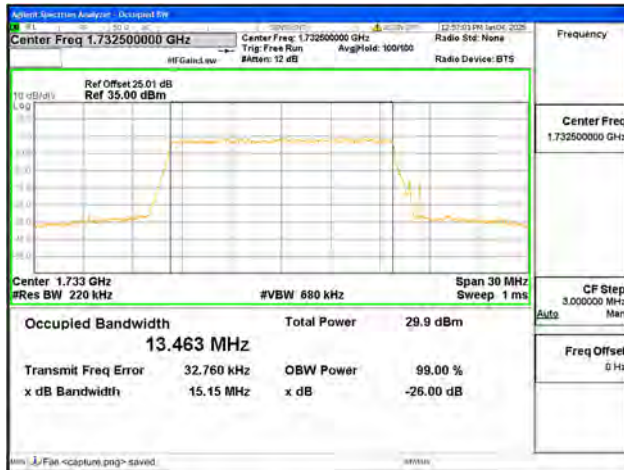
B4 / 10MHz / 16QAM/ High CH



B4 / 15MHz / QPSK/ Low CH



B4 / 15MHz / 16QAM/ Low CH



B4 / 15MHz / QPSK/ Mid CH



B4 / 15MHz / 16QAM/ Mid CH



B4 / 15MHz / QPSK/ High CH



B4 / 15MHz / 16QAM/ High CH



B4 / 20MHz / QPSK/ Low CH



B4 / 20MHz / 16QAM/ Low CH



B4 / 20MHz / QPSK/ Mid CH



B4 / 20MHz / 16QAM/ Mid CH



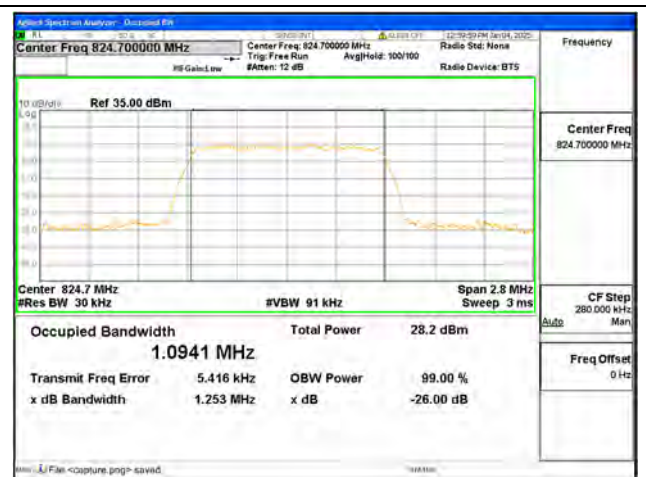
B4 / 20MHz / QPSK/ High CH



B4 / 20MHz / 16QAM/ High CH



B5 / 1.4MHz / QPSK/ Low CH



B5 / 1.4MHz / 16QAM/ Low CH



B5 / 1.4MHz / QPSK/ Mid CH



B5 / 1.4MHz / 16QAM/ Mid CH



B5 / 1.4MHz / QPSK/ High CH



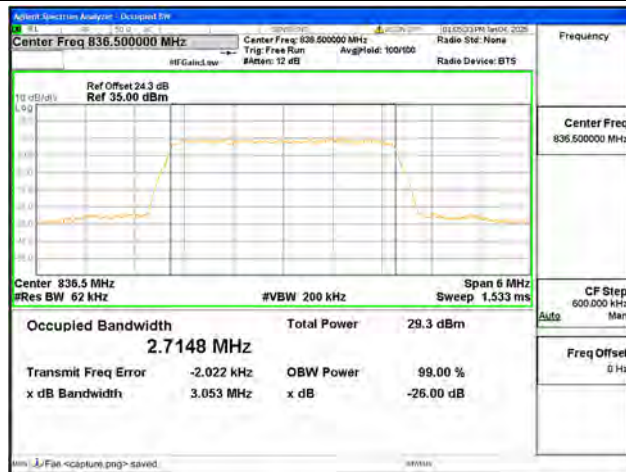
B5 / 1.4MHz / 16QAM/ High CH



B5 / 3MHz / QPSK/ Low CH



B5 / 3MHz / 16QAM/ Low CH



B5 / 3MHz / QPSK/ Mid CH



B5 / 3MHz / 16QAM/ Mid CH



B5 / 3MHz / QPSK/ High CH



B5 / 3MHz / 16QAM/ High CH



B5 / 5MHz / QPSK/ Low CH



B5 / 5MHz / 16QAM/ Low CH



B5 / 5MHz / QPSK/ Mid CH



B5 / 5MHz / 16QAM/ Mid CH



B5 / 5MHz / QPSK/ High CH



B5 / 5MHz / 16QAM/ High CH



B5 / 10MHz / QPSK/ Low CH



B5 / 10MHz / 16QAM/ Low CH



B5 / 10MHz / QPSK/ Mid CH



B5 / 10MHz / 16QAM/ Mid CH



B5 / 10MHz / QPSK/ High CH



B5 / 10MHz / 16QAM/ High CH



B7 / 5MHz / QPSK/ Low CH



B7 / 5MHz / 16QAM/ Low CH



B7 / 5MHz / QPSK/ Mid CH



B7 / 5MHz / 16QAM/ Mid CH



B7 / 5MHz / QPSK/ High CH



B7 / 5MHz / 16QAM/ High CH



B7 / 10MHz / QPSK/ Low CH



B7 / 10MHz / 16QAM/ Low CH



B7 / 10MHz / QPSK/ Mid CH



B7 / 10MHz / 16QAM/ Mid CH



B7 / 10MHz / QPSK/ High CH



B7 / 10MHz / 16QAM/ High CH



B7 / 15MHz / QPSK/ Low CH



B7 / 15MHz / 16QAM/ Low CH



B7 / 15MHz / QPSK/ Mid CH



B7 / 15MHz / 16QAM/ Mid CH



B7 / 15MHz / QPSK/ High CH



B7 / 15MHz / 16QAM/ High CH



B7 / 20MHz / QPSK/ Low CH



B7 / 20MHz / 16QAM/ Low CH



B7 / 20MHz / QPSK/ Mid CH



B7 / 20MHz / 16QAM/ Mid CH



B7 / 20MHz / QPSK/ High CH



B7 / 20MHz / 16QAM/ High CH



B38 / 5MHz / QPSK/ Low CH



B38 / 5MHz / 16QAM/ Low CH



B38 / 5MHz / QPSK/ Mid CH



B38 / 5MHz / 16QAM/ Mid CH



B38 / 5MHz / QPSK/ High CH



B38 / 5MHz / 16QAM/ High CH



B38 / 10MHz / QPSK/ Low CH



B38 / 10MHz / 16QAM/ Low CH



B38 / 10MHz / QPSK/ Mid CH



B38 / 10MHz / 16QAM/ Mid CH



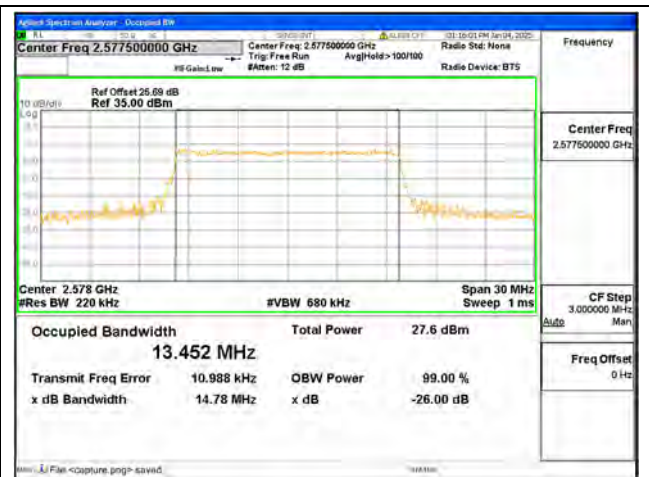
B38 / 10MHz / QPSK/ High CH



B38 / 10MHz / 16QAM/ High CH



B38 / 15MHz / QPSK/ Low CH



B38 / 15MHz / 16QAM/ Low CH



B38 / 15MHz / QPSK/ Mid CH



B38 / 15MHz / 16QAM/ Mid CH



B38 / 15MHz / QPSK/ High CH



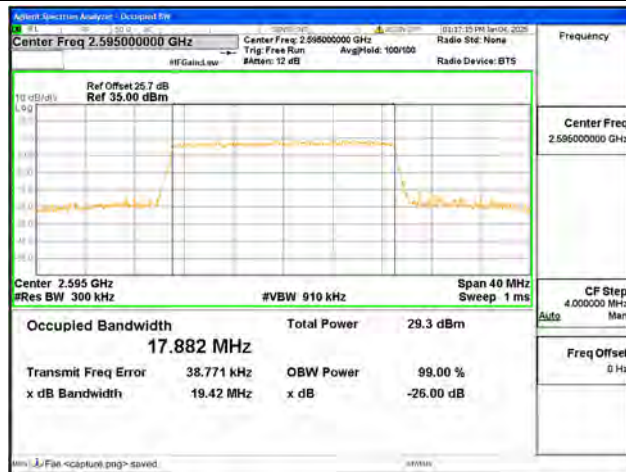
B38 / 15MHz / 16QAM/ High CH



B38 / 20MHz / QPSK/ Low CH



B38 / 20MHz / 16QAM/ Low CH



B38 / 20MHz / QPSK/ Mid CH



B38 / 20MHz / 16QAM/ Mid CH



B38 / 20MHz / QPSK/ High CH



B38 / 20MHz / 16QAM/ High CH

2.3. Frequency Stability

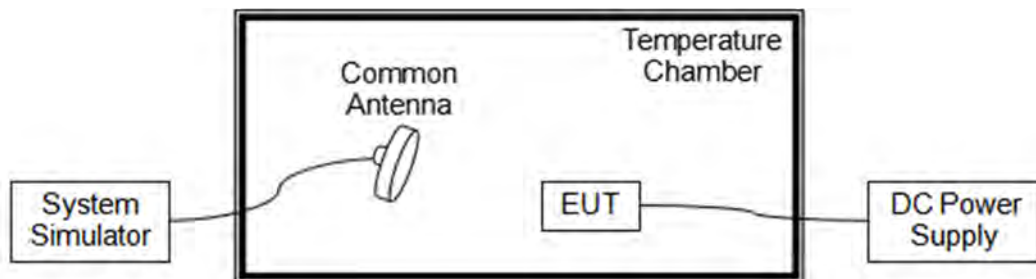
2.3.1. Requirement

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°C to $+50^{\circ}\text{C}$ at intervals of not more than 10°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°C to 55°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 3.50V, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 2, 16QAM, Channel 18900, Frequency 1880.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	-14	-0.007	PASS
Normal		-10	14	0.007	
Normal		0	21	0.011	
Normal		+10	10	0.005	
Normal		+20	14	0.007	
Normal		+30	19	0.010	
Normal		+40	11	0.006	
Normal		+50	16	0.009	
Normal		+55	20	0.011	
High	4.35	+20	-14	-0.007	
BATT.ENDPOINT	3.50	+20	-16	-0.009	

LTE Band 4, 16QAM, Channel 20175, Frequency 1732.5MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	17	0.010	PASS
Normal		-10	5	0.003	
Normal		0	14	0.008	
Normal		+10	19	0.011	
Normal		+20	-20	-0.012	
Normal		+30	-13	-0.008	
Normal		+40	-23	-0.013	
Normal		+50	-14	-0.008	
Normal		+55	2	0.001	
High	4.35	+20	15	0.009	
BATT.ENDPOINT	3.50	+20	-3	-0.002	



LTE Band 5, 16QAM, Channel 20525, Frequency 836.5MHz Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	-15	-0.018	PASS
Normal		-10	12	0.014	
Normal		0	13	0.016	
Normal		+10	1	0.001	
Normal		+20	18	0.022	
Normal		+30	16	0.019	
Normal		+40	8	0.010	
Normal		+50	20	0.024	
Normal		+55	-1	-0.001	
High	4.35	+20	13	0.016	
BATT.ENDPOINT	3.50	+20	-20	-0.024	

LTE Band 7, 16QAM, Channel 21100, Frequency 2535MHz Limit= Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	17	0.007	PASS
Normal		-10	-10	-0.004	
Normal		0	15	0.006	
Normal		+10	13	0.005	
Normal		+20	20	0.008	
Normal		+30	-5	-0.002	
Normal		+40	16	0.006	
Normal		+50	15	0.006	
Normal		+55	9	0.004	
High	4.35	+20	13	0.005	
BATT.ENDPOINT	3.50	+20	7	0.003	



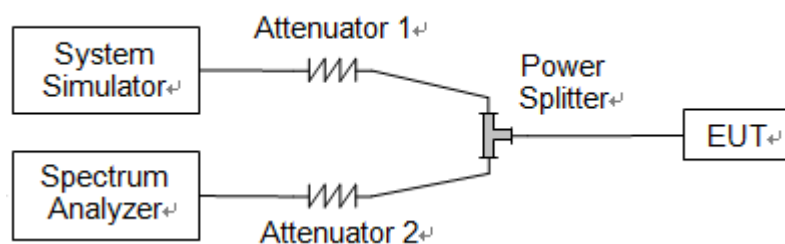
LTE Band 38, 16QAM, Channel 38000, Frequency 2595MHz Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.80	+20(Ref)	19	0.007	PASS
Normal		-10	19	0.007	
Normal		0	-23	-0.009	
Normal		+10	-20	-0.008	
Normal		+20	20	0.008	
Normal		+30	-15	-0.006	
Normal		+40	-22	-0.008	
Normal		+50	-3	-0.001	
Normal		+55	18	0.007	
High	4.35	+20	16	0.006	
BATT.ENDPOINT	3.50	+20	20	0.008	

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	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	Peak to Average Radio(dB)	Verdict
B2	1.4	Low	18607	1850.7	QPSK	5.35	PASS
B2	1.4	Low	18607	1850.7	16QAM	6.27	PASS
B2	1.4	Mid	18900	1880	QPSK	5.42	PASS
B2	1.4	Mid	18900	1880	16QAM	6.29	PASS
B2	1.4	High	19193	1909.3	QPSK	5.62	PASS
B2	1.4	High	19193	1909.3	16QAM	6.54	PASS
B2	3	Low	18615	1851.5	QPSK	5.56	PASS
B2	3	Low	18615	1851.5	16QAM	6.31	PASS
B2	3	Mid	18900	1880	QPSK	5.43	PASS
B2	3	Mid	18900	1880	16QAM	6.24	PASS
B2	3	High	19185	1908.5	QPSK	5.61	PASS
B2	3	High	19185	1908.5	16QAM	6.33	PASS
B2	5	Low	18625	1852.5	QPSK	5.64	PASS
B2	5	Low	18625	1852.5	16QAM	6.33	PASS
B2	5	Mid	18900	1880	QPSK	5.47	PASS
B2	5	Mid	18900	1880	16QAM	6.18	PASS
B2	5	High	19175	1907.5	QPSK	5.56	PASS
B2	5	High	19175	1907.5	16QAM	6.30	PASS
B2	10	Low	18650	1855	QPSK	5.84	PASS
B2	10	Low	18650	1855	16QAM	6.63	PASS
B2	10	Mid	18900	1880	QPSK	5.53	PASS
B2	10	Mid	18900	1880	16QAM	6.19	PASS
B2	10	High	19150	1905	QPSK	5.61	PASS
B2	10	High	19150	1905	16QAM	6.31	PASS
B2	15	Low	18675	1857.5	QPSK	5.72	PASS
B2	15	Low	18675	1857.5	16QAM	6.40	PASS
B2	15	Mid	18900	1880	QPSK	5.44	PASS
B2	15	Mid	18900	1880	16QAM	6.10	PASS
B2	15	High	19125	1902.5	QPSK	5.48	PASS
B2	15	High	19125	1902.5	16QAM	6.20	PASS
B2	20	Low	18700	1860	QPSK	5.60	PASS



REPORT No.: SZ24110312W05

B2	20	Low	18700	1860	16QAM	6.36	PASS
B2	20	Mid	18900	1880	QPSK	5.53	PASS
B2	20	Mid	18900	1880	16QAM	6.24	PASS
B2	20	High	19100	1900	QPSK	5.47	PASS
B2	20	High	19100	1900	16QAM	6.22	PASS
B4	1.4	Low	19957	1710.7	QPSK	5.70	PASS
B4	1.4	Low	19957	1710.7	16QAM	6.57	PASS
B4	1.4	Mid	20175	1732.5	QPSK	5.94	PASS
B4	1.4	Mid	20175	1732.5	16QAM	6.96	PASS
B4	1.4	High	20393	1754.3	QPSK	5.37	PASS
B4	1.4	High	20393	1754.3	16QAM	6.16	PASS
B4	3	Low	19965	1711.5	QPSK	5.66	PASS
B4	3	Low	19965	1711.5	16QAM	6.49	PASS
B4	3	Mid	20175	1732.5	QPSK	5.90	PASS
B4	3	Mid	20175	1732.5	16QAM	6.70	PASS
B4	3	High	20385	1753.5	QPSK	5.47	PASS
B4	3	High	20385	1753.5	16QAM	6.57	PASS
B4	5	Low	19975	1712.5	QPSK	5.72	PASS
B4	5	Low	19975	1712.5	16QAM	6.40	PASS
B4	5	Mid	20175	1732.5	QPSK	5.86	PASS
B4	5	Mid	20175	1732.5	16QAM	6.49	PASS
B4	5	High	20375	1752.5	QPSK	5.59	PASS
B4	5	High	20375	1752.5	16QAM	6.18	PASS
B4	10	Low	20000	1715	QPSK	5.78	PASS
B4	10	Low	20000	1715	16QAM	6.42	PASS
B4	10	Mid	20175	1732.5	QPSK	5.89	PASS
B4	10	Mid	20175	1732.5	16QAM	6.60	PASS
B4	10	High	20350	1750	QPSK	5.70	PASS
B4	10	High	20350	1750	16QAM	6.32	PASS
B4	15	Low	20025	1717.5	QPSK	5.71	PASS
B4	15	Low	20025	1717.5	16QAM	6.37	PASS
B4	15	Mid	20175	1732.5	QPSK	5.76	PASS
B4	15	Mid	20175	1732.5	16QAM	6.43	PASS
B4	15	High	20325	1747.5	QPSK	5.61	PASS
B4	15	High	20325	1747.5	16QAM	6.31	PASS
B4	20	Low	20050	1720	QPSK	5.72	PASS
B4	20	Low	20050	1720	16QAM	6.47	PASS
B4	20	Mid	20175	1732.5	QPSK	5.71	PASS



REPORT No.: SZ24110312W05

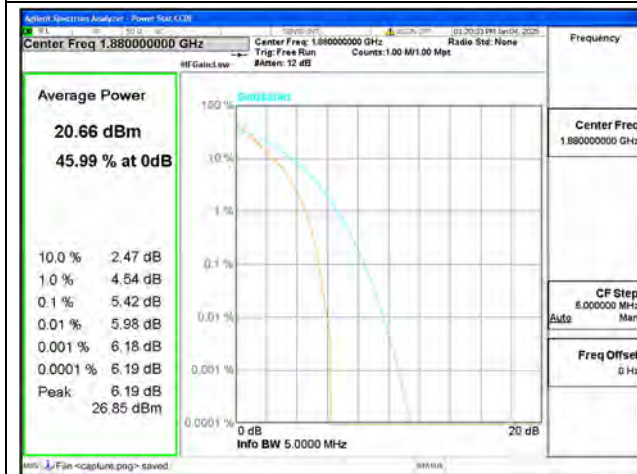
B4	20	Mid	20175	1732.5	16QAM	6.53	PASS
B4	20	High	20300	1745	QPSK	5.62	PASS
B4	20	High	20300	1745	16QAM	6.39	PASS



B2 / 1.4MHz / Low CH / QPSK



B2 / 1.4MHz / Low CH / 16QAM



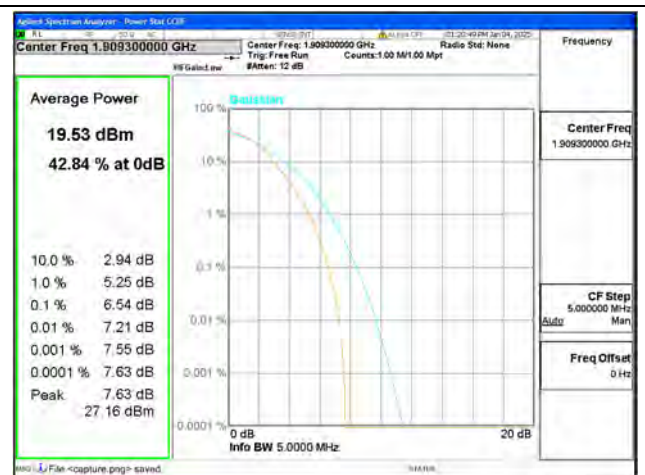
B2 / 1.4MHz / Mid CH / QPSK



B2 / 1.4MHz / Mid CH / 16QAM



B2 / 1.4MHz / High CH / QPSK



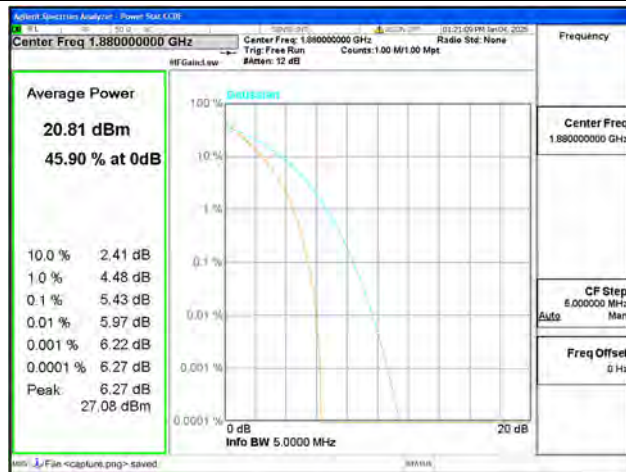
B2 / 1.4MHz / High CH / 16QAM



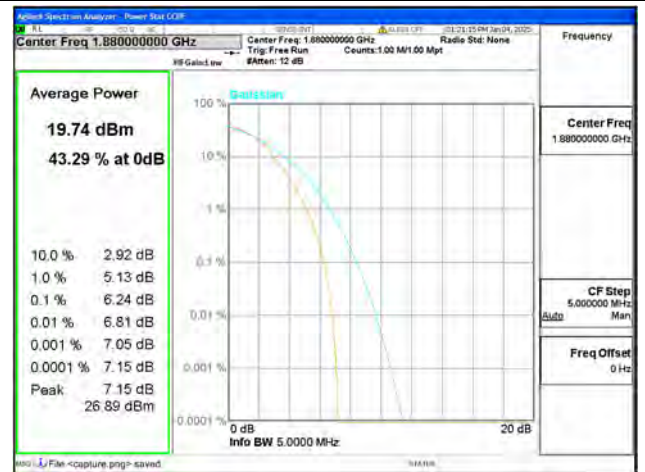
B2 / 3MHz / Low CH / QPSK



B2 / 3MHz / Low CH / 16QAM



B2 / 3MHz / Mid CH / QPSK



B2 / 3MHz / Mid CH / 16QAM



B2 / 3MHz / High CH / QPSK



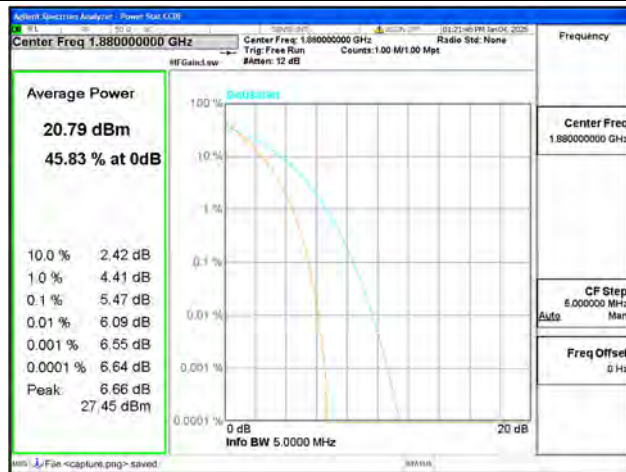
B2 / 3MHz / High CH / 16QAM



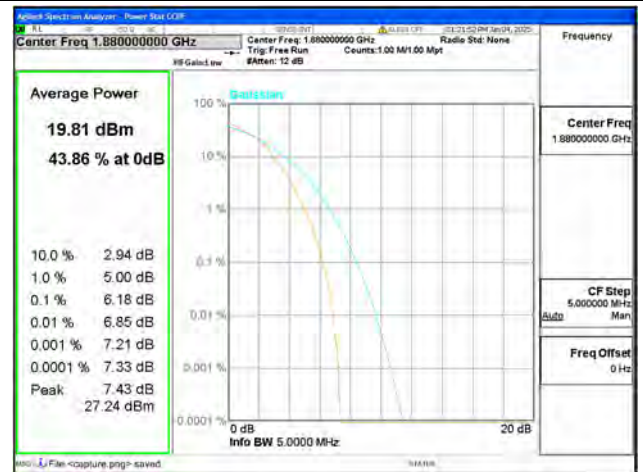
B2 / 5MHz / Low CH / QPSK



B2 / 5MHz / Low CH / 16QAM



B2 / 5MHz / Mid CH / QPSK



B2 / 5MHz / Mid CH / 16QAM



B2 / 5MHz / High CH / QPSK



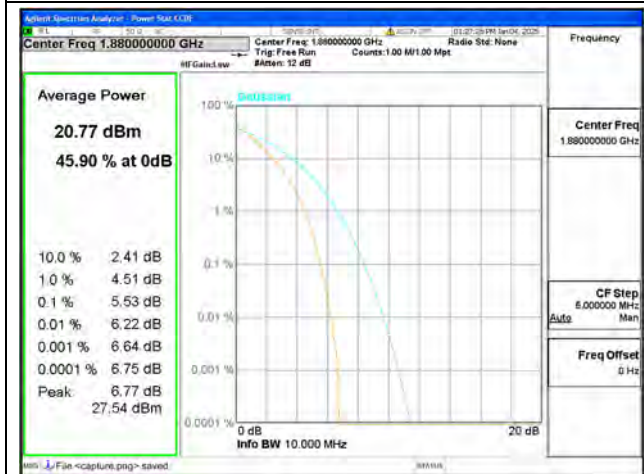
B2 / 5MHz / High CH / 16QAM



B2 / 10MHz / Low CH / QPSK



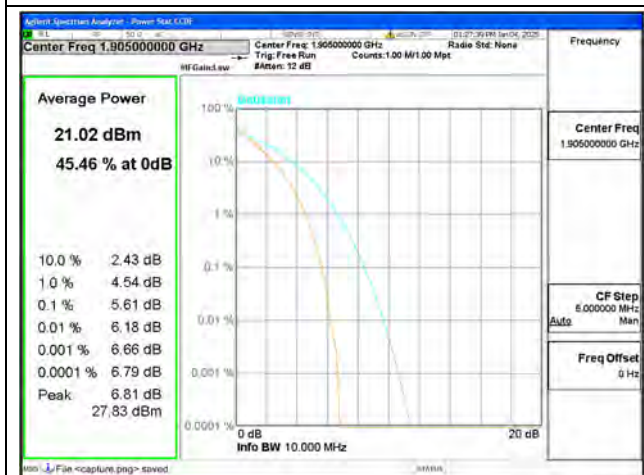
B2 / 10MHz / Low CH / 16QAM



B2 / 10MHz / Mid CH / QPSK



B2 / 10MHz / Mid CH / 16QAM



B2 / 10MHz / High CH / QPSK



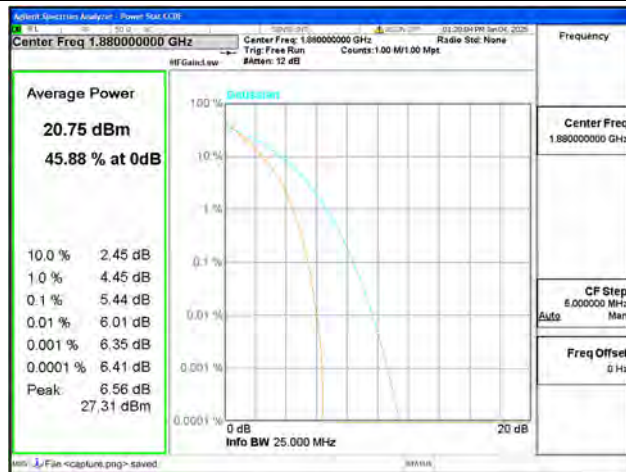
B2 / 10MHz / High CH / 16QAM



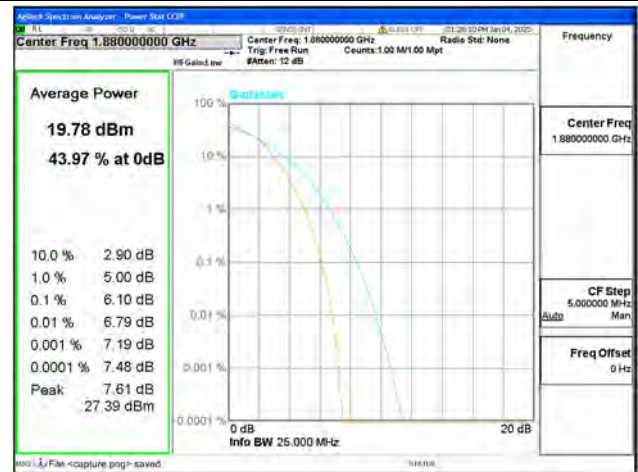
B2 / 15MHz / Low CH / QPSK



B2 / 15MHz / Low CH / 16QAM



B2 / 15MHz / Mid CH / QPSK



B2 / 15MHz / Mid CH / 16QAM



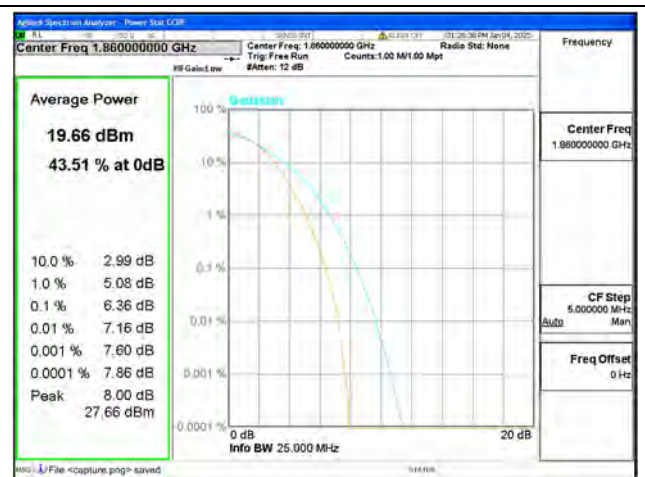
B2 / 15MHz / High CH / QPSK



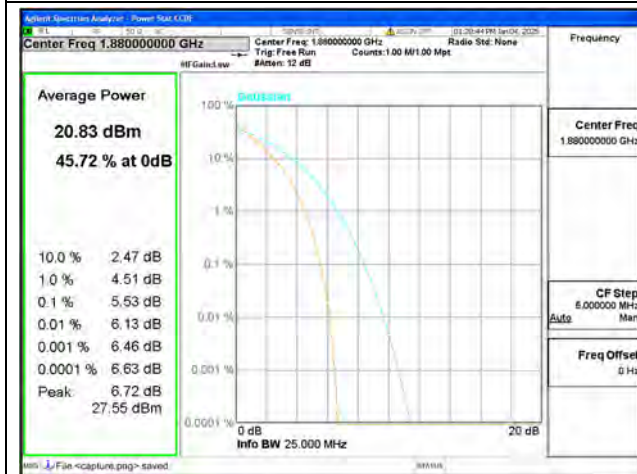
B2 / 15MHz / High CH / 16QAM



B2 / 20MHz / Low CH / QPSK



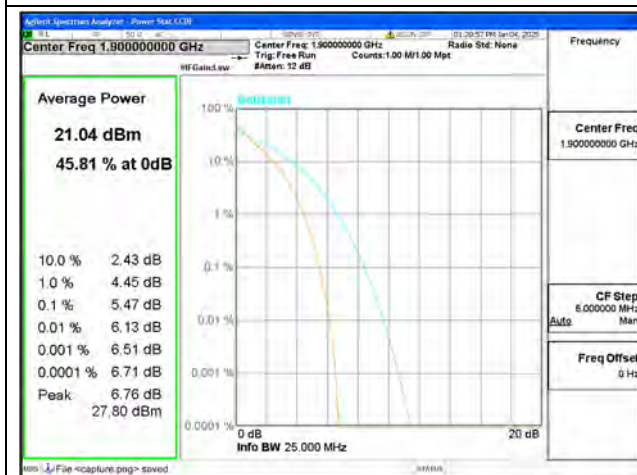
B2 / 20MHz / Low CH / 16QAM



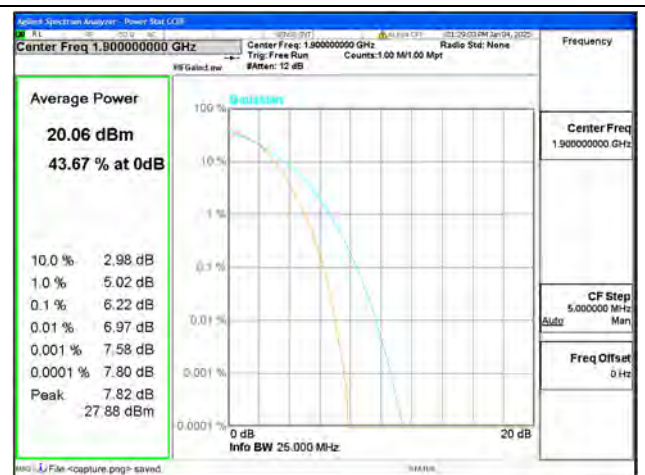
B2 / 20MHz / Mid CH / QPSK



B2 / 20MHz / Mid CH / 16QAM



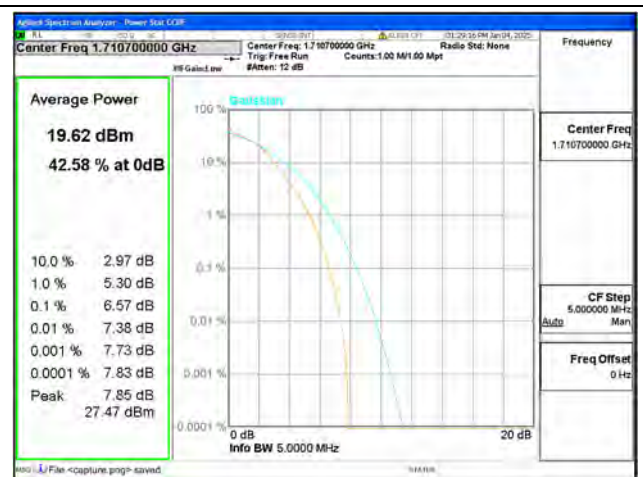
B2 / 20MHz / High CH / QPSK



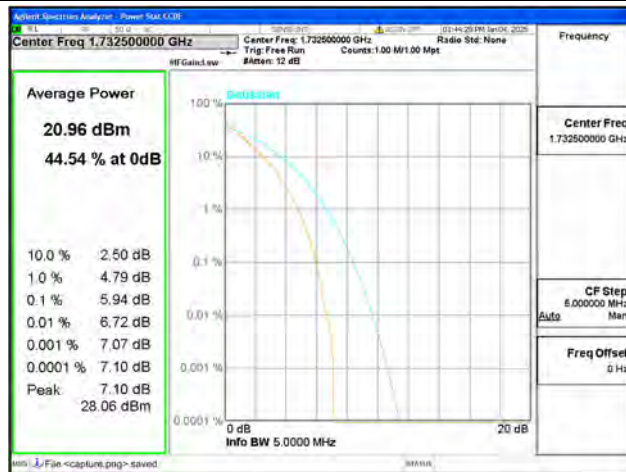
B2 / 20MHz / High CH / 16QAM



B4 / 1.4MHz / Low CH / QPSK



B4 / 1.4MHz / Low CH / 16QAM



B4 / 1.4MHz / Mid CH / QPSK



B4 / 1.4MHz / Mid CH / 16QAM



B4 / 1.4MHz / High CH / QPSK



B4 / 1.4MHz / High CH / 16QAM



B4 / 3MHz / Low CH / QPSK



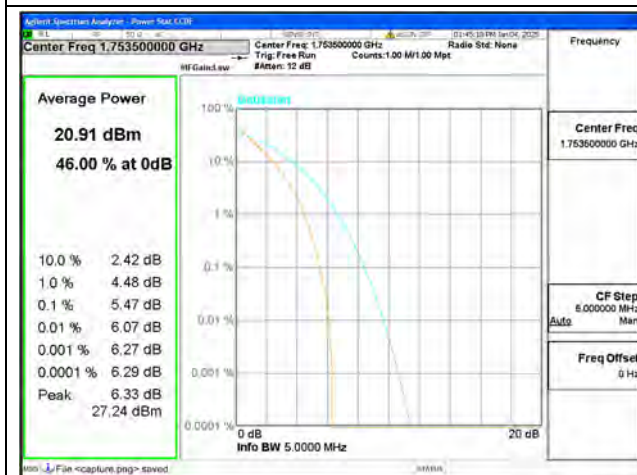
B4 / 3MHz / Low CH / 16QAM



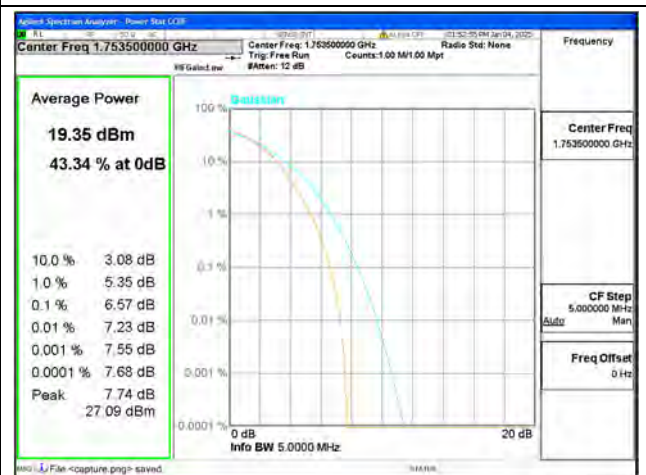
B4 / 3MHz / Mid CH / QPSK



B4 / 3MHz / Mid CH / 16QAM



B4 / 3MHz / High CH / QPSK



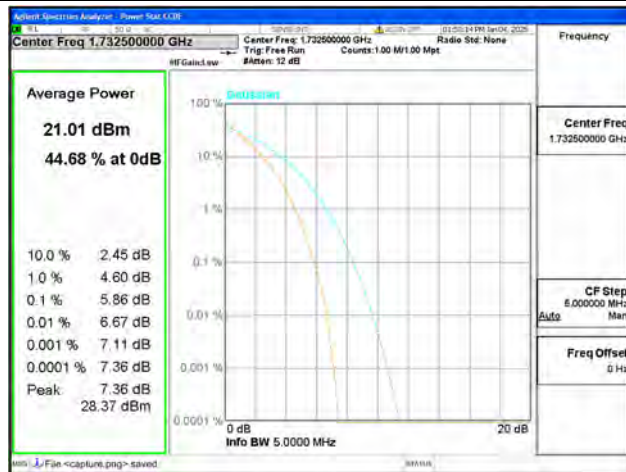
B4 / 3MHz / High CH / 16QAM



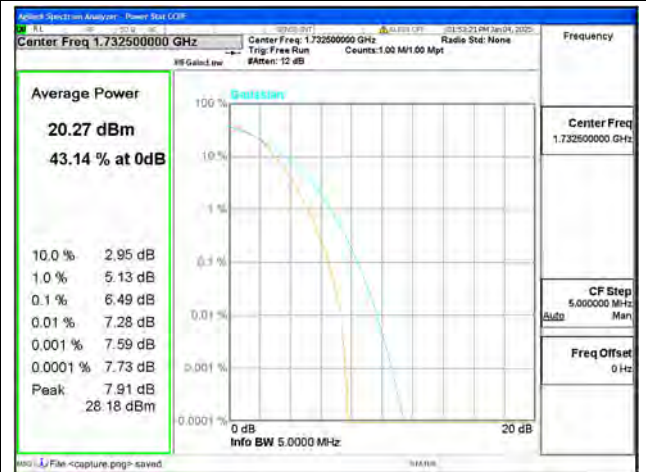
B4 / 5MHz / Low CH / QPSK



B4 / 5MHz / Low CH / 16QAM



B4 / 5MHz / Mid CH / QPSK



B4 / 5MHz / Mid CH / 16QAM



B4 / 5MHz / High CH / QPSK



B4 / 5MHz / High CH / 16QAM



B4 / 10MHz / Low CH / QPSK



B4 / 10MHz / Low CH / 16QAM



B4 / 10MHz / Mid CH / QPSK



B4 / 10MHz / Mid CH / 16QAM



B4 / 10MHz / High CH / QPSK



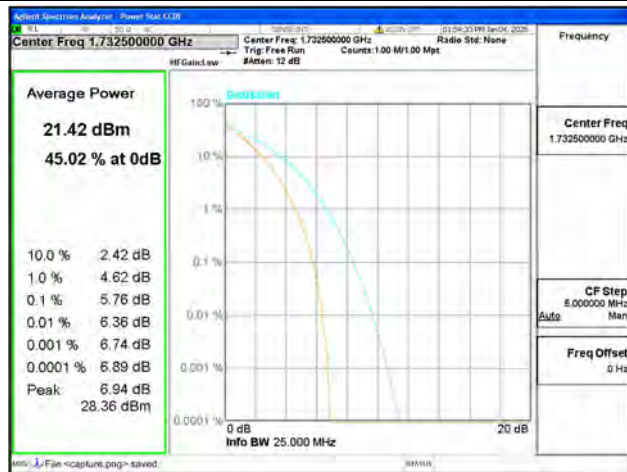
B4 / 10MHz / High CH / 16QAM



B4 / 15MHz / Low CH / QPSK



B4 / 15MHz / Low CH / 16QAM



B4 / 15MHz / Mid CH / QPSK



B4 / 15MHz / Mid CH / 16QAM



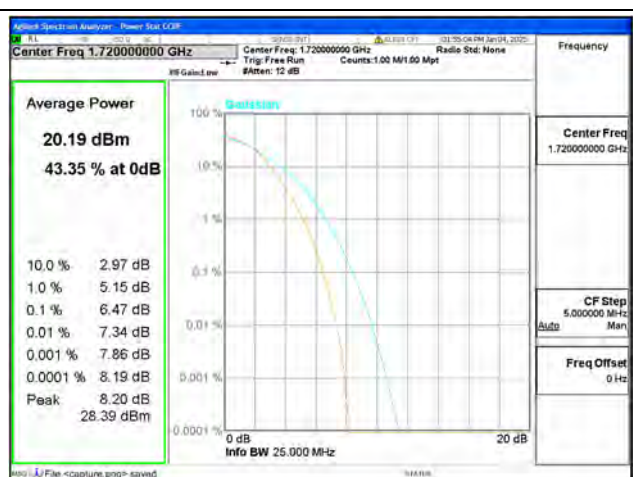
B4 / 15MHz / High CH / QPSK



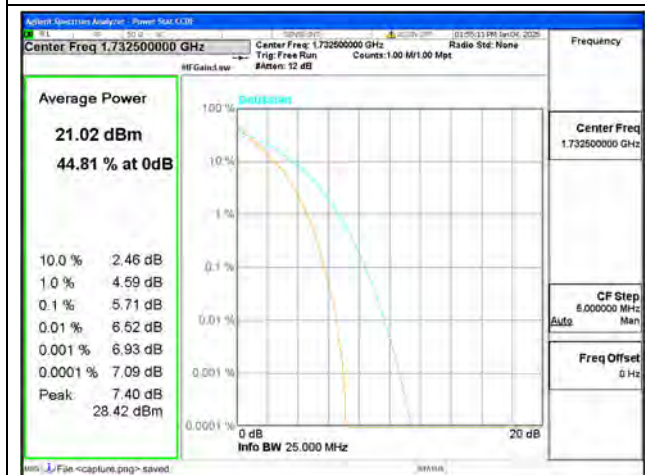
B4 / 15MHz / High CH / 16QAM



B4 / 20MHz / Low CH / QPSK



B4 / 20MHz / Low CH / 16QAM



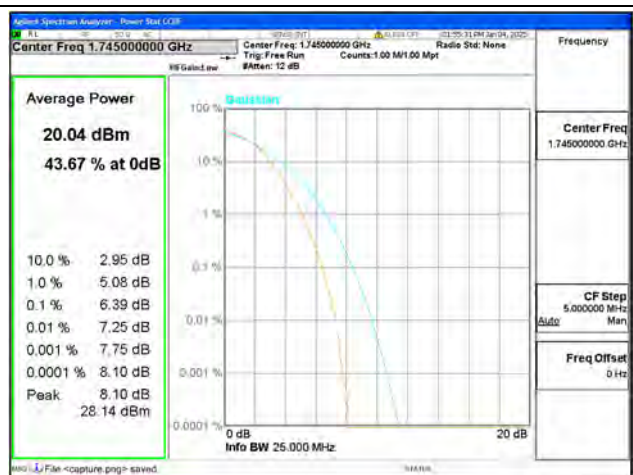
B4 / 20MHz / Mid CH / QPSK



B4 / 20MHz / Mid CH / 16QAM



B4 / 20MHz / High CH / QPSK



B4 / 20MHz / High CH / 16QAM

2.5. Conducted Spurious Emissions

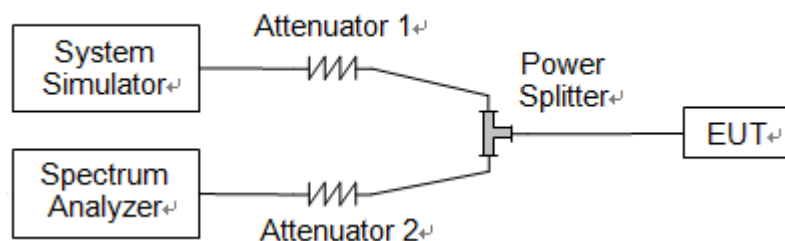
2.5.1. Requirement

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.

Additional requirement for LTE Band 7/38:

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 $55 + 10 \log(P)$ dB. This calculated to be -25dBm.

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.

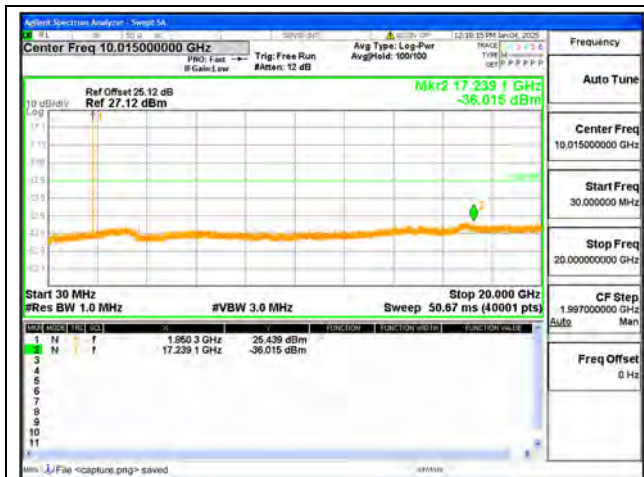
2.5.3. Test Procedure

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

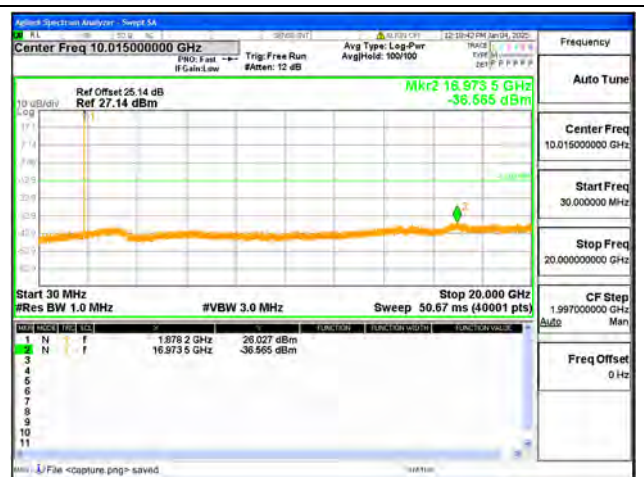


2.5.4. Test Result

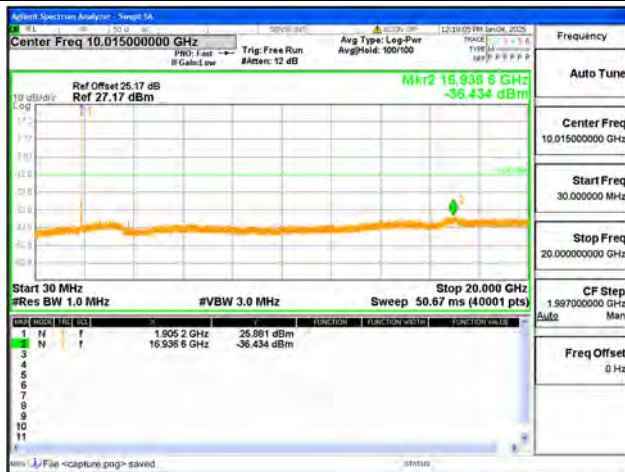




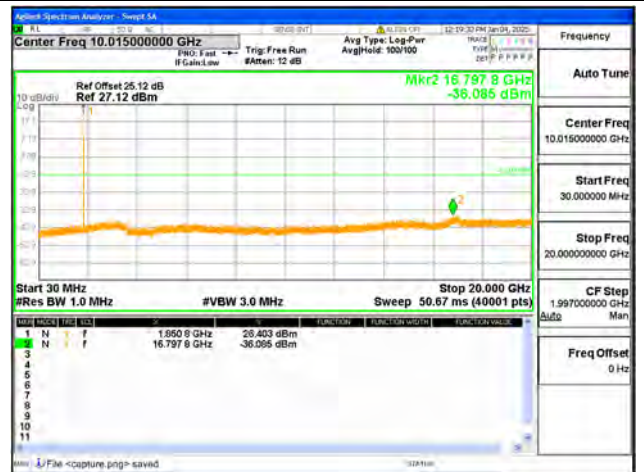
B2 / 5MHz / Low CH / QPSK



B2 / 5MHz / Mid CH / QPSK



B2 / 5MHz / High CH / QPSK



B2 / 10MHz / Low CH / QPSK



B2 / 10MHz / Mid CH / QPSK



B2 / 10MHz / High CH / QPSK