



REPORT No.: SZ24050224W04

TEST REPORT

APPLICANT : Horizon Powered USA Inc.

PRODUCT NAME : 5G Wi-Fi6 AX5400 CPE

MODEL NAME : HZ51

BRAND NAME : Horizon

FCC ID : 2BE94HZ51

STANDARD(S) : 47 CFR Part 27, Subpart O&Q

RECEIPT DATE : 2024-06-28

TEST DATE : 2024-07-17 to 2024-10-25

ISSUE DATE : 2024-11-01



Edited by:

Zeng Xiaoying
Zeng Xiaoying (Rapporteur)

Approved by:

Shen Junsheng
Shen Junsheng (Supervisor)

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

MORLAB

Shenzhen Morlab Communications Technology Co., Ltd.
FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen, Guangdong Province, P. R. China

Tel: 86-755-36698555

Http://www.morlab.cn

Fax: 86-755-36698525

E-mail: service@morlab.cn





DIRECTORY

1. Technical Information	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 27 O&Q Requirements	8
2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.	8
2.2. Occupied Bandwidth	25
2.3. Frequency Stability	46
2.4. Peak to Average Ratio	48
2.5. Conducted Spurious Emissions	69
2.6. Band Edge	78
2.7. Radiated Spurious Emissions	86
Annex A Test Uncertainty	95
Annex B Testing Laboratory Information	96

Change History		
Version	Date	Reason for change
1.0	2024-11-01	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Horizon Powered USA Inc.
Applicant Address:	8350 NW 52nd Terrace, Suite 301 Miami, Florida 33166 United States
Manufacturer:	Horizon Powered USA Inc.
Manufacturer Address:	8350 NW 52nd Terrace, Suite 301 Miami, Florida 33166 United States

1.2. Equipment Under Test (EUT) Description

Product Name:	5G Wi-Fi6 AX5400 CPE	
Sample No.:	3#	
Hardware Version:	V10C	
Software Version:	V1.0.1	
Modulation Type:	QPSK, 16QAM, 64QAM, 256QAM	
Operation Band:	Band 42 / 43	
Carrier Aggregation:	Not Support	
Frequency Range:	LTE Band 42	Tx: 3450MHz–3550MHz
		Rx: 3450MHz–3550MHz
	LTE Band 43	Tx: 3700MHz –3800MHz
		Rx: 3700MHz –3800MHz
Channel Bandwidth:	LTE Band 42	5 MHz, 10MHz, 15MHz, 20MHz
	LTE Band 43	5 MHz, 10MHz, 15MHz, 20MHz
Antenna Type:	Fixed Internal Antenna	
Antenna Gain:	LTE Band 42	3.41dBi
	LTE Band 43	3.74dBi
Accessory Information:	AC Adapter	
	Brand Name:	N/A
	Model No.:	KA36B-1203000US
	Serial No.:	N/A
	Rated Output:	12V=3A



REPORT No.: SZ24050224W04

	Rated Input:	100-240V~50/60Hz, 1A
	Manufacturer:	Shenzhen Keyu Power Supply Technology 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 42	Maximum E.R.P./E.I.R.P. (W)				Emission Designator (99%OBW)			
BW (MHz)	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20	0.182	0.152	0.119	0.060	17M9G7D	17M9W7D	17M9W7D	17M9W7D
15	0.187	0.149	0.118	0.060	13M5G7D	13M4W7D	13M4W7D	13M5W7D
10	0.191	0.153	0.126	0.061	8M94G7D	8M97W7D	8M97W7D	8M99W7D
5	0.185	0.160	0.126	0.062	4M48G7D	4M49W7D	4M48W7D	4M49W7D
LTE Band 43	Maximum E.R.P./E.I.R.P. (W)				Emission Designator (99%OBW)			
BW (MHz)	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20	0.194	0.150	0.124	0.059	17M9G7D	17M9W7D	17M9W7D	17M9W7D
15	0.193	0.150	0.121	0.060	13M4G7D	13M4W7D	13M5W7D	13M4W7D
10	0.191	0.159	0.125	0.062	8M95G7D	8M99W7D	8M96W7D	8M95W7D
5	0.190	0.155	0.123	0.061	4M48G7D	4M49W7D	4M48W7D	4M48W7D



1.4. Test Standards and Results

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

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
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 27.50(k)(3) 27.50(j)(3)	Transmitter Conducted Output Power and E.R.P./E.I.R.P.	Oct. 28, 2024	Gan Jing	PASS	No deviation
2.1049	Occupied Bandwidth	Oct. 18, 2024	Gan Jing	PASS	No deviation
2.1055 27.54	Frequency Stability	Oct. 26, 2024	Gan Jing	PASS	No deviation
27.50(j)(4) 27.50(k)(4)	Peak to Average Radio	Oct. 18, 2024	Gan Jing	PASS	No deviation
2.1051 27.53(n)(2) 27.50(l)(2)	Conducted Spurious Emissions	Oct. 15, 2024	Gan Jing	PASS	No deviation
2.1051 27.53(n)(2) 27.50(l)(2)	Band Edge	Oct. 16, 2024	Gan Jing	PASS	No deviation
2.1053 27.53(n)(2) 27.50(l)(2)	Radiated Spurious Emissions	Jul. 17, 2024 Oct. 02, 2024	Gao Jianrou	PASS	No deviation

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

Note 2: 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 27 O&Q Requirements

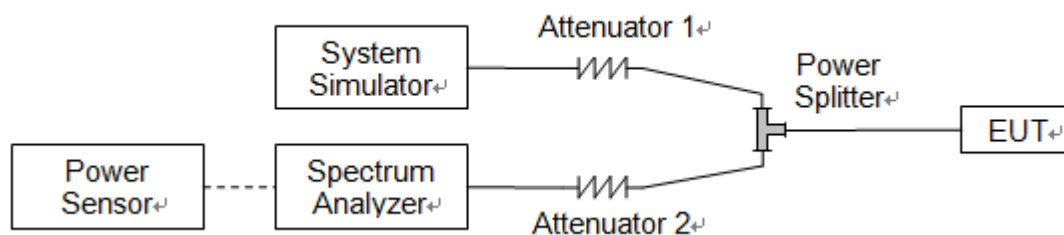
2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.

2.1.1. Requirement

According to FCC section 27.50(k)(3) for Band 42, Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

According to FCC section 27.50(j)(3) for LTE Band 43, Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

2.1.2. Test Description



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

2.1.3. Test Procedure

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

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

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



2.1.4. Result

Conducted Output Power

LTE Band 42						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				42190	42590	42990
Frequency (MHz)				3460	3500	3540
20	QPSK	1	0	19.18	18.83	18.71
20	QPSK	1	49	18.92	19.10	18.90
20	QPSK	1	99	18.94	18.51	19.12
20	QPSK	50	0	18.15	17.98	17.86
20	QPSK	50	24	18.10	17.08	17.91
20	QPSK	50	50	18.03	17.07	18.03
20	QPSK	100	0	18.00	18.01	17.88
20	16QAM	1	0	18.41	17.67	18.17
20	16QAM	1	49	18.22	18.05	18.14
20	16QAM	1	99	18.17	17.88	18.36
20	16QAM	50	0	17.26	16.99	16.87
20	16QAM	50	24	17.05	17.00	16.97
20	16QAM	50	50	17.06	16.96	16.96
20	16QAM	100	0	16.87	17.04	16.88
20	64QAM	1	0	17.34	17.20	17.24
20	64QAM	1	49	17.36	17.08	16.97
20	64QAM	1	99	17.35	16.17	17.26
20	64QAM	50	0	16.14	15.11	15.88
20	64QAM	50	24	16.14	15.09	16.00
20	64QAM	50	50	16.07	15.10	16.02
20	64QAM	100	0	16.06	16.03	15.91
20	256QAM	1	0	13.21	13.18	13.79
20	256QAM	1	49	14.36	13.19	14.15
20	256QAM	1	99	14.21	13.10	14.33
20	256QAM	50	0	14.15	13.08	13.95
20	256QAM	50	24	14.07	13.14	13.94
20	256QAM	50	50	14.17	13.21	14.02
20	256QAM	100	0	14.11	13.86	13.95



LTE Band 42						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				42165	42590	43015
Frequency (MHz)				3457.5	3500	3542.5
15	QPSK	1	0	18.96	18.76	19.30
15	QPSK	1	37	18.97	19.09	18.75
15	QPSK	1	74	18.80	18.81	18.53
15	QPSK	36	0	18.17	17.91	17.76
15	QPSK	36	20	18.10	17.97	17.89
15	QPSK	36	39	18.04	17.79	17.89
15	QPSK	75	0	18.13	17.97	17.90
15	16QAM	1	0	18.20	18.31	18.05
15	16QAM	1	37	18.25	17.89	18.11
15	16QAM	1	74	18.21	18.04	18.14
15	16QAM	36	0	17.07	16.98	16.91
15	16QAM	36	20	17.09	16.95	16.93
15	16QAM	36	39	17.12	16.99	16.77
15	16QAM	75	0	16.99	16.99	16.80
20	64QAM	1	0	17.30	17.09	17.26
20	64QAM	1	37	17.24	17.10	17.13
20	64QAM	1	74	16.85	17.12	17.20
20	64QAM	36	0	16.17	15.99	15.88
20	64QAM	36	20	16.17	15.98	15.86
20	64QAM	36	39	16.05	15.95	16.02
20	64QAM	75	0	16.19	15.99	15.77
20	256QAM	1	0	14.03	14.06	13.90
20	256QAM	1	37	14.21	13.79	14.06
20	256QAM	1	74	14.37	14.16	14.15
20	256QAM	36	0	14.21	13.94	13.89
20	256QAM	36	20	14.15	13.93	13.89
20	256QAM	36	39	14.15	13.99	14.07
20	256QAM	75	0	14.18	14.01	13.91



LTE Band 42						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				42140	42590	43040
Frequency (MHz)				3455	3500	3545
10	QPSK	1	0	19.31	19.08	19.01
10	QPSK	1	25	19.41	19.06	18.75
10	QPSK	1	49	19.39	19.06	19.08
10	QPSK	25	0	18.25	18.09	17.96
10	QPSK	25	12	18.28	18.06	17.95
10	QPSK	25	25	18.23	18.03	18.21
10	QPSK	50	0	18.25	18.08	18.08
10	16QAM	1	0	18.37	18.21	18.14
10	16QAM	1	25	18.44	18.21	18.26
10	16QAM	1	49	18.40	18.29	18.33
10	16QAM	25	0	17.31	17.08	17.00
10	16QAM	25	12	17.28	17.09	17.04
10	16QAM	25	25	17.08	17.03	17.06
10	16QAM	50	0	17.25	17.06	17.05
10	64QAM	1	0	17.58	17.35	17.07
10	64QAM	1	25	17.51	17.37	17.45
10	64QAM	1	49	17.44	17.38	17.11
10	64QAM	25	0	16.30	16.13	16.04
10	64QAM	25	12	16.25	16.18	16.15
10	64QAM	25	25	16.20	16.12	16.13
10	64QAM	50	0	16.26	16.09	16.11
10	256QAM	1	0	14.36	14.25	14.10
10	256QAM	1	25	14.27	14.40	14.26
10	256QAM	1	49	14.46	14.01	14.17
10	256QAM	25	0	14.31	14.08	13.97
10	256QAM	25	12	14.31	14.11	14.12
10	256QAM	25	25	14.18	14.09	14.17
10	256QAM	50	0	14.22	14.11	14.14



LTE Band 42						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				42115	42590	43065
Frequency (MHz)				3452.5	3500	3547.5
5	QPSK	1	0	19.21	18.94	19.16
5	QPSK	1	12	19.25	19.12	18.94
5	QPSK	1	24	19.26	18.86	19.15
5	QPSK	12	0	18.33	18.10	17.94
5	QPSK	12	7	18.26	17.94	18.12
5	QPSK	12	13	18.16	18.02	17.95
5	QPSK	25	0	18.16	18.12	17.99
5	16QAM	1	0	18.36	18.30	18.14
5	16QAM	1	12	18.46	18.15	18.14
5	16QAM	1	24	18.62	18.28	18.06
5	16QAM	12	0	17.28	17.06	17.06
5	16QAM	12	7	17.35	17.07	17.22
5	16QAM	12	13	17.12	17.04	17.11
5	16QAM	25	0	17.16	17.10	16.89
5	64QAM	1	0	17.60	17.29	17.32
5	64QAM	1	12	17.58	17.13	17.40
5	64QAM	1	24	17.39	17.45	17.34
5	64QAM	12	0	16.32	16.02	15.93
5	64QAM	12	7	16.31	16.11	16.21
5	64QAM	12	13	16.19	16.13	16.07
5	64QAM	25	0	16.22	16.09	16.01
5	256QAM	1	0	14.34	14.29	14.23
5	256QAM	1	12	14.52	14.25	14.01
5	256QAM	1	24	14.30	14.22	14.36
5	256QAM	12	0	14.31	14.08	14.08
5	256QAM	12	7	14.33	14.22	14.07
5	256QAM	12	13	14.21	14.12	14.11
5	256QAM	25	0	14.19	14.07	14.03



LTE Band 43						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				44690	45090	45490
Frequency (MHz)				3710	3750	3790
20	QPSK	1	0	18.81	18.43	18.64
20	QPSK	1	49	18.48	18.17	18.38
20	QPSK	1	99	18.60	19.13	18.63
20	QPSK	50	0	17.65	17.50	17.70
20	QPSK	50	24	17.77	17.52	17.63
20	QPSK	50	50	17.87	17.71	17.77
20	QPSK	100	0	17.67	17.64	17.63
20	16QAM	1	0	17.99	17.64	17.84
20	16QAM	1	49	17.88	18.01	17.86
20	16QAM	1	99	17.79	17.82	17.93
20	16QAM	50	0	16.67	16.50	16.74
20	16QAM	50	24	16.87	16.59	16.66
20	16QAM	50	50	16.79	16.76	16.85
20	16QAM	100	0	16.80	16.70	16.69
20	64QAM	1	0	16.79	16.78	16.89
20	64QAM	1	49	16.88	16.93	16.92
20	64QAM	1	99	17.18	17.01	16.75
20	64QAM	50	0	15.72	15.57	15.57
20	64QAM	50	24	15.81	15.62	15.69
20	64QAM	50	50	15.76	15.75	15.83
20	64QAM	100	0	15.78	15.49	15.76
20	256QAM	1	0	13.90	13.87	13.84
20	256QAM	1	49	13.80	13.86	13.94
20	256QAM	1	99	13.89	13.83	13.76
20	256QAM	50	0	13.72	13.63	13.68
20	256QAM	50	24	13.83	13.64	13.66
20	256QAM	50	50	13.79	13.79	13.83
20	256QAM	100	0	13.83	13.58	13.78



LTE Band 43						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				44665	45090	45515
Frequency (MHz)				3707.5	3750	3792.5
15	QPSK	1	0	18.66	18.42	19.11
15	QPSK	1	37	19.09	18.50	18.53
15	QPSK	1	74	18.50	18.58	18.34
15	QPSK	36	0	17.64	17.63	17.64
15	QPSK	36	20	17.76	17.54	17.63
15	QPSK	36	39	17.85	17.71	17.75
15	QPSK	75	0	17.65	17.52	17.63
15	16QAM	1	0	17.89	17.75	17.74
15	16QAM	1	37	18.02	17.75	17.94
15	16QAM	1	74	17.99	17.91	17.80
15	16QAM	36	0	16.53	16.58	16.49
15	16QAM	36	20	16.67	16.52	16.68
15	16QAM	36	39	16.68	16.72	16.79
15	16QAM	75	0	16.65	16.66	16.64
15	64QAM	1	0	17.03	16.61	16.86
15	64QAM	1	37	17.09	16.91	17.02
15	64QAM	1	74	16.96	16.81	16.90
15	64QAM	36	0	15.82	15.54	15.60
15	64QAM	36	20	15.79	15.57	15.70
15	64QAM	36	39	15.81	15.70	15.72
15	64QAM	75	0	15.64	15.54	15.65
15	256QAM	1	0	13.75	13.54	13.51
15	256QAM	1	37	13.74	13.66	13.90
15	256QAM	1	74	13.92	13.79	14.01
15	256QAM	36	0	13.68	13.61	13.71
15	256QAM	36	20	13.76	13.64	13.68
15	256QAM	36	39	13.74	13.66	13.71
15	256QAM	75	0	13.71	13.61	13.63



LTE Band 43						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				44640	45090	45540
Frequency (MHz)				3705	3750	3795
10	QPSK	1	0	18.89	18.88	18.83
10	QPSK	1	25	19.00	18.80	18.81
10	QPSK	1	49	19.07	18.97	18.78
10	QPSK	25	0	17.90	17.65	17.74
10	QPSK	25	12	17.90	17.75	17.84
10	QPSK	25	25	17.98	17.79	17.82
10	QPSK	50	0	17.81	17.67	17.75
10	16QAM	1	0	18.13	17.99	18.08
10	16QAM	1	25	18.27	17.95	18.03
10	16QAM	1	49	18.23	18.01	18.04
10	16QAM	25	0	16.84	16.81	16.73
10	16QAM	25	12	16.97	16.76	16.82
10	16QAM	25	25	16.98	16.80	16.85
10	16QAM	50	0	16.93	16.73	16.72
10	64QAM	1	0	17.24	16.97	16.83
10	64QAM	1	25	17.24	17.05	17.18
10	64QAM	1	49	17.06	16.95	16.98
10	64QAM	25	0	15.86	15.66	15.80
10	64QAM	25	12	15.91	15.70	15.85
10	64QAM	25	25	15.97	15.86	15.88
10	64QAM	50	0	15.85	15.67	15.79
10	256QAM	1	0	13.98	13.54	13.90
10	256QAM	1	25	14.02	13.86	14.20
10	256QAM	1	49	14.08	13.85	13.94
10	256QAM	25	0	13.80	13.72	13.72
10	256QAM	25	12	13.88	13.72	13.77
10	256QAM	25	25	13.96	13.76	13.86
10	256QAM	50	0	13.89	13.66	13.82



LTE Band 43						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				44615	45090	45565
Frequency (MHz)				3702.5	3750	3797.5
5	QPSK	1	0	18.87	18.70	18.84
5	QPSK	1	12	19.05	18.96	19.01
5	QPSK	1	24	19.05	18.83	18.93
5	QPSK	12	0	17.78	17.73	17.75
5	QPSK	12	7	17.84	17.64	17.80
5	QPSK	12	13	17.89	17.79	17.77
5	QPSK	25	0	17.77	17.73	17.73
5	16QAM	1	0	18.07	17.87	17.98
5	16QAM	1	12	18.08	18.01	18.00
5	16QAM	1	24	18.09	17.81	18.15
5	16QAM	12	0	16.62	16.73	16.72
5	16QAM	12	7	17.02	16.81	16.75
5	16QAM	12	13	16.96	16.81	16.75
5	16QAM	25	0	16.92	16.65	16.77
5	64QAM	1	0	17.12	17.12	17.06
5	64QAM	1	12	17.15	17.03	17.04
5	64QAM	1	24	17.10	16.82	16.92
5	64QAM	12	0	15.78	15.74	15.78
5	64QAM	12	7	15.98	15.76	15.79
5	64QAM	12	13	15.97	15.79	15.93
5	64QAM	25	0	15.73	15.77	15.84
5	256QAM	1	0	13.81	13.78	13.65
5	256QAM	1	12	14.10	13.87	13.85
5	256QAM	1	24	14.09	14.01	13.90
5	256QAM	12	0	13.85	13.70	13.78
5	256QAM	12	7	13.97	13.70	13.82
5	256QAM	12	13	13.96	13.88	13.93
5	256QAM	25	0	13.81	13.67	13.78

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

LTE Band 42				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				42190		42590		42990	
Frequency (MHz)				3460		3500		3540	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	22.59	0.182	22.24	0.167	22.12	0.163
20	QPSK	1	49	22.33	0.171	22.51	0.178	22.31	0.170
20	QPSK	1	99	22.35	0.172	21.92	0.156	22.53	0.179
20	QPSK	50	0	21.56	0.143	21.39	0.138	21.27	0.134
20	QPSK	50	24	21.51	0.142	20.49	0.112	21.32	0.136
20	QPSK	50	50	21.44	0.139	20.48	0.112	21.44	0.139
20	QPSK	100	0	21.41	0.138	21.42	0.139	21.29	0.135
20	16QAM	1	0	21.82	0.152	21.08	0.128	21.58	0.144
20	16QAM	1	49	21.63	0.146	21.46	0.140	21.55	0.143
20	16QAM	1	99	21.58	0.144	21.29	0.135	21.77	0.150
20	16QAM	50	0	20.67	0.117	20.40	0.110	20.28	0.107
20	16QAM	50	24	20.46	0.111	20.41	0.110	20.38	0.109
20	16QAM	50	50	20.47	0.111	20.37	0.109	20.37	0.109
20	16QAM	100	0	20.28	0.107	20.45	0.111	20.29	0.107
20	64QAM	1	0	20.75	0.119	20.61	0.115	20.65	0.116
20	64QAM	1	49	20.77	0.119	20.49	0.112	20.38	0.109
20	64QAM	1	99	20.76	0.119	19.58	0.091	20.67	0.117
20	64QAM	50	0	19.55	0.090	18.52	0.071	19.29	0.085
20	64QAM	50	24	19.55	0.090	18.50	0.071	19.41	0.087
20	64QAM	50	50	19.48	0.089	18.51	0.071	19.43	0.088
20	64QAM	100	0	19.47	0.089	19.44	0.088	19.32	0.086
20	256QAM	1	0	16.62	0.046	16.59	0.046	17.20	0.052
20	256QAM	1	49	17.77	0.060	16.60	0.046	17.56	0.057
20	256QAM	1	99	17.62	0.058	16.51	0.045	17.74	0.059
20	256QAM	50	0	17.56	0.057	16.49	0.045	17.36	0.054
20	256QAM	50	24	17.48	0.056	16.55	0.045	17.35	0.054
20	256QAM	50	50	17.58	0.057	16.62	0.046	17.43	0.055
20	256QAM	100	0	17.52	0.056	17.27	0.053	17.36	0.054



LTE Band 42				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				42165		42590		43015	
Frequency (MHz)				3457.5		3500		3542.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	22.37	0.173	22.17	0.165	22.71	0.187
15	QPSK	1	37	22.38	0.173	22.50	0.178	22.16	0.164
15	QPSK	1	74	22.21	0.166	22.22	0.167	21.94	0.156
15	QPSK	36	0	21.58	0.144	21.32	0.136	21.17	0.131
15	QPSK	36	20	21.51	0.142	21.38	0.137	21.30	0.135
15	QPSK	36	39	21.45	0.140	21.20	0.132	21.30	0.135
15	QPSK	75	0	21.54	0.143	21.38	0.137	21.31	0.135
15	16QAM	1	0	21.61	0.145	21.72	0.149	21.46	0.140
15	16QAM	1	37	21.66	0.147	21.30	0.135	21.52	0.142
15	16QAM	1	74	21.62	0.145	21.45	0.140	21.55	0.143
15	16QAM	36	0	20.48	0.112	20.39	0.109	20.32	0.108
15	16QAM	36	20	20.50	0.112	20.36	0.109	20.34	0.108
15	16QAM	36	39	20.53	0.113	20.40	0.110	20.18	0.104
15	16QAM	75	0	20.40	0.110	20.40	0.110	20.21	0.105
15	64QAM	1	0	20.71	0.118	20.50	0.112	20.67	0.117
15	64QAM	1	37	20.65	0.116	20.51	0.112	20.54	0.113
15	64QAM	1	74	20.26	0.106	20.53	0.113	20.61	0.115
15	64QAM	36	0	19.58	0.091	19.40	0.087	19.29	0.085
15	64QAM	36	20	19.58	0.091	19.39	0.087	19.27	0.085
15	64QAM	36	39	19.46	0.088	19.36	0.086	19.43	0.088
15	64QAM	75	0	19.60	0.091	19.40	0.087	19.18	0.083
15	256QAM	1	0	17.44	0.055	17.47	0.056	17.31	0.054
15	256QAM	1	37	17.62	0.058	17.20	0.052	17.47	0.056
15	256QAM	1	74	17.78	0.060	17.57	0.057	17.56	0.057
15	256QAM	36	0	17.62	0.058	17.35	0.054	17.30	0.054
15	256QAM	36	20	17.56	0.057	17.34	0.054	17.30	0.054
15	256QAM	36	39	17.56	0.057	17.40	0.055	17.48	0.056
15	256QAM	75	0	17.59	0.057	17.42	0.055	17.32	0.054



LTE Band 42				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				42140		42590		43040	
Frequency (MHz)				3455		3500		3545	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	22.72	0.187	22.49	0.177	22.42	0.175
10	QPSK	1	25	22.82	0.191	22.47	0.177	22.16	0.164
10	QPSK	1	49	22.80	0.191	22.47	0.177	22.49	0.177
10	QPSK	25	0	21.66	0.147	21.50	0.141	21.37	0.137
10	QPSK	25	12	21.69	0.148	21.47	0.140	21.36	0.137
10	QPSK	25	25	21.64	0.146	21.44	0.139	21.62	0.145
10	QPSK	50	0	21.66	0.147	21.49	0.141	21.49	0.141
10	16QAM	1	0	21.78	0.151	21.62	0.145	21.55	0.143
10	16QAM	1	25	21.85	0.153	21.62	0.145	21.67	0.147
10	16QAM	1	49	21.81	0.152	21.70	0.148	21.74	0.149
10	16QAM	25	0	20.72	0.118	20.49	0.112	20.41	0.110
10	16QAM	25	12	20.69	0.117	20.50	0.112	20.45	0.111
10	16QAM	25	25	20.49	0.112	20.44	0.111	20.47	0.111
10	16QAM	50	0	20.66	0.116	20.47	0.111	20.46	0.111
10	64QAM	1	0	20.99	0.126	20.76	0.119	20.48	0.112
10	64QAM	1	25	20.92	0.124	20.78	0.120	20.86	0.122
10	64QAM	1	49	20.85	0.122	20.79	0.120	20.52	0.113
10	64QAM	25	0	19.71	0.094	19.54	0.090	19.45	0.088
10	64QAM	25	12	19.66	0.092	19.59	0.091	19.56	0.090
10	64QAM	25	25	19.61	0.091	19.53	0.090	19.54	0.090
10	64QAM	50	0	19.67	0.093	19.50	0.089	19.52	0.090
10	256QAM	1	0	17.77	0.060	17.66	0.058	17.51	0.056
10	256QAM	1	25	17.68	0.059	17.81	0.060	17.67	0.058
10	256QAM	1	49	17.87	0.061	17.42	0.055	17.58	0.057
10	256QAM	25	0	17.72	0.059	17.49	0.056	17.38	0.055
10	256QAM	25	12	17.72	0.059	17.52	0.056	17.53	0.057
10	256QAM	25	25	17.59	0.057	17.50	0.056	17.58	0.057
10	256QAM	50	0	17.63	0.058	17.52	0.056	17.55	0.057



LTE Band 42				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				42115		42590		43065	
Frequency (MHz)				3452.5		3500		3547.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	22.62	0.183	22.35	0.172	22.57	0.181
5	QPSK	1	12	22.66	0.185	22.53	0.179	22.35	0.172
5	QPSK	1	24	22.67	0.185	22.27	0.169	22.56	0.180
5	QPSK	12	0	21.74	0.149	21.51	0.142	21.35	0.136
5	QPSK	12	7	21.67	0.147	21.35	0.136	21.53	0.142
5	QPSK	12	13	21.57	0.144	21.43	0.139	21.36	0.137
5	QPSK	25	0	21.57	0.144	21.53	0.142	21.40	0.138
5	16QAM	1	0	21.77	0.150	21.71	0.148	21.55	0.143
5	16QAM	1	12	21.87	0.154	21.56	0.143	21.55	0.143
5	16QAM	1	24	22.03	0.160	21.69	0.148	21.47	0.140
5	16QAM	12	0	20.69	0.117	20.47	0.111	20.47	0.111
5	16QAM	12	7	20.76	0.119	20.48	0.112	20.63	0.116
5	16QAM	12	13	20.53	0.113	20.45	0.111	20.52	0.113
5	16QAM	25	0	20.57	0.114	20.51	0.112	20.30	0.107
5	64QAM	1	0	21.01	0.126	20.70	0.117	20.73	0.118
5	64QAM	1	12	20.99	0.126	20.54	0.113	20.81	0.121
5	64QAM	1	24	20.80	0.120	20.86	0.122	20.75	0.119
5	64QAM	12	0	19.73	0.094	19.43	0.088	19.34	0.086
5	64QAM	12	7	19.72	0.094	19.52	0.090	19.62	0.092
5	64QAM	12	13	19.60	0.091	19.54	0.090	19.48	0.089
5	64QAM	25	0	19.63	0.092	19.50	0.089	19.42	0.087
5	256QAM	1	0	17.75	0.060	17.70	0.059	17.64	0.058
5	256QAM	1	12	17.93	0.062	17.66	0.058	17.42	0.055
5	256QAM	1	24	17.71	0.059	17.63	0.058	17.77	0.060
5	256QAM	12	0	17.72	0.059	17.49	0.056	17.49	0.056
5	256QAM	12	7	17.74	0.059	17.63	0.058	17.48	0.056
5	256QAM	12	13	17.62	0.058	17.53	0.057	17.52	0.056
5	256QAM	25	0	17.60	0.058	17.48	0.056	17.44	0.055



LTE Band 43				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				44690		45090		45490	
Frequency (MHz)				3710		3750		3790	
				dBm	W	dBm	W	dBm	W
20	QPSK	1	0	22.55	0.180	22.17	0.165	22.38	0.173
20	QPSK	1	49	22.22	0.167	21.91	0.155	22.12	0.163
20	QPSK	1	99	22.34	0.171	22.87	0.194	22.37	0.173
20	QPSK	50	0	21.39	0.138	21.24	0.133	21.44	0.139
20	QPSK	50	24	21.51	0.142	21.26	0.134	21.37	0.137
20	QPSK	50	50	21.61	0.145	21.45	0.140	21.51	0.142
20	QPSK	100	0	21.41	0.138	21.38	0.137	21.37	0.137
20	16QAM	1	0	21.73	0.149	21.38	0.137	21.58	0.144
20	16QAM	1	49	21.62	0.145	21.75	0.150	21.60	0.145
20	16QAM	1	99	21.53	0.142	21.56	0.143	21.67	0.147
20	16QAM	50	0	20.41	0.110	20.24	0.106	20.48	0.112
20	16QAM	50	24	20.61	0.115	20.33	0.108	20.40	0.110
20	16QAM	50	50	20.53	0.113	20.50	0.112	20.59	0.115
20	16QAM	100	0	20.54	0.113	20.44	0.111	20.43	0.110
20	64QAM	1	0	20.53	0.113	20.52	0.113	20.63	0.116
20	64QAM	1	49	20.62	0.115	20.67	0.117	20.66	0.116
20	64QAM	1	99	20.92	0.124	20.75	0.119	20.49	0.112
20	64QAM	50	0	19.46	0.088	19.31	0.085	19.31	0.085
20	64QAM	50	24	19.55	0.090	19.36	0.086	19.43	0.088
20	64QAM	50	50	19.50	0.089	19.49	0.089	19.57	0.091
20	64QAM	100	0	19.52	0.090	19.23	0.084	19.50	0.089
20	256QAM	1	0	17.64	0.058	17.61	0.058	17.58	0.057
20	256QAM	1	49	17.54	0.057	17.60	0.058	17.68	0.059
20	256QAM	1	99	17.63	0.058	17.57	0.057	17.50	0.056
20	256QAM	50	0	17.46	0.056	17.37	0.055	17.42	0.055
20	256QAM	50	24	17.57	0.057	17.38	0.055	17.40	0.055
20	256QAM	50	50	17.53	0.057	17.53	0.057	17.57	0.057
20	256QAM	100	0	17.57	0.057	17.32	0.054	17.52	0.056



LTE Band 43				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				44665		45090		45515	
Frequency (MHz)				3707.5		3750		3792.5	
				dBm	W	dBm	W	dBm	W
15	QPSK	1	0	22.40	0.174	22.16	0.164	22.85	0.193
15	QPSK	1	37	22.83	0.192	22.24	0.167	22.27	0.169
15	QPSK	1	74	22.24	0.167	22.32	0.171	22.08	0.161
15	QPSK	36	0	21.38	0.137	21.37	0.137	21.38	0.137
15	QPSK	36	20	21.50	0.141	21.28	0.134	21.37	0.137
15	QPSK	36	39	21.59	0.144	21.45	0.140	21.49	0.141
15	QPSK	75	0	21.39	0.138	21.26	0.134	21.37	0.137
15	16QAM	1	0	21.63	0.146	21.49	0.141	21.48	0.141
15	16QAM	1	37	21.76	0.150	21.49	0.141	21.68	0.147
15	16QAM	1	74	21.73	0.149	21.65	0.146	21.54	0.143
15	16QAM	36	0	20.27	0.106	20.32	0.108	20.23	0.105
15	16QAM	36	20	20.41	0.110	20.26	0.106	20.42	0.110
15	16QAM	36	39	20.42	0.110	20.46	0.111	20.53	0.113
15	16QAM	75	0	20.39	0.109	20.40	0.110	20.38	0.109
15	64QAM	1	0	20.77	0.119	20.35	0.108	20.60	0.115
15	64QAM	1	37	20.83	0.121	20.65	0.116	20.76	0.119
15	64QAM	1	74	20.70	0.117	20.55	0.114	20.64	0.116
15	64QAM	36	0	19.56	0.090	19.28	0.085	19.34	0.086
15	64QAM	36	20	19.53	0.090	19.31	0.085	19.44	0.088
15	64QAM	36	39	19.55	0.090	19.44	0.088	19.46	0.088
15	64QAM	75	0	19.38	0.087	19.28	0.085	19.39	0.087
15	256QAM	1	0	17.49	0.056	17.28	0.053	17.25	0.053
15	256QAM	1	37	17.48	0.056	17.40	0.055	17.64	0.058
15	256QAM	1	74	17.66	0.058	17.53	0.057	17.75	0.060
15	256QAM	36	0	17.42	0.055	17.35	0.054	17.45	0.056
15	256QAM	36	20	17.50	0.056	17.38	0.055	17.42	0.055
15	256QAM	36	39	17.48	0.056	17.40	0.055	17.45	0.056
15	256QAM	75	0	17.45	0.056	17.35	0.054	17.37	0.055



LTE Band 43				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				44640		45090		45540	
Frequency (MHz)				3705		3750		3795	
				dBm	W	dBm	W	dBm	W
10	QPSK	1	0	22.63	0.183	22.62	0.183	22.57	0.181
10	QPSK	1	25	22.74	0.188	22.54	0.179	22.55	0.180
10	QPSK	1	49	22.81	0.191	22.71	0.187	22.52	0.179
10	QPSK	25	0	21.64	0.146	21.39	0.138	21.48	0.141
10	QPSK	25	12	21.64	0.146	21.49	0.141	21.58	0.144
10	QPSK	25	25	21.72	0.149	21.53	0.142	21.56	0.143
10	QPSK	50	0	21.55	0.143	21.41	0.138	21.49	0.141
10	16QAM	1	0	21.87	0.154	21.73	0.149	21.82	0.152
10	16QAM	1	25	22.01	0.159	21.69	0.148	21.77	0.150
10	16QAM	1	49	21.97	0.157	21.75	0.150	21.78	0.151
10	16QAM	25	0	20.58	0.114	20.55	0.114	20.47	0.111
10	16QAM	25	12	20.71	0.118	20.50	0.112	20.56	0.114
10	16QAM	25	25	20.72	0.118	20.54	0.113	20.59	0.115
10	16QAM	50	0	20.67	0.117	20.47	0.111	20.46	0.111
10	64QAM	1	0	20.98	0.125	20.71	0.118	20.57	0.114
10	64QAM	1	25	20.98	0.125	20.79	0.120	20.92	0.124
10	64QAM	1	49	20.80	0.120	20.69	0.117	20.72	0.118
10	64QAM	25	0	19.60	0.091	19.40	0.087	19.54	0.090
10	64QAM	25	12	19.65	0.092	19.44	0.088	19.59	0.091
10	64QAM	25	25	19.71	0.094	19.60	0.091	19.62	0.092
10	64QAM	50	0	19.59	0.091	19.41	0.087	19.53	0.090
10	256QAM	1	0	17.72	0.059	17.28	0.053	17.64	0.058
10	256QAM	1	25	17.76	0.060	17.60	0.058	17.94	0.062
10	256QAM	1	49	17.82	0.061	17.59	0.057	17.68	0.059
10	256QAM	25	0	17.54	0.057	17.46	0.056	17.46	0.056
10	256QAM	25	12	17.62	0.058	17.46	0.056	17.51	0.056
10	256QAM	25	25	17.70	0.059	17.50	0.056	17.60	0.058
10	256QAM	50	0	17.63	0.058	17.40	0.055	17.56	0.057



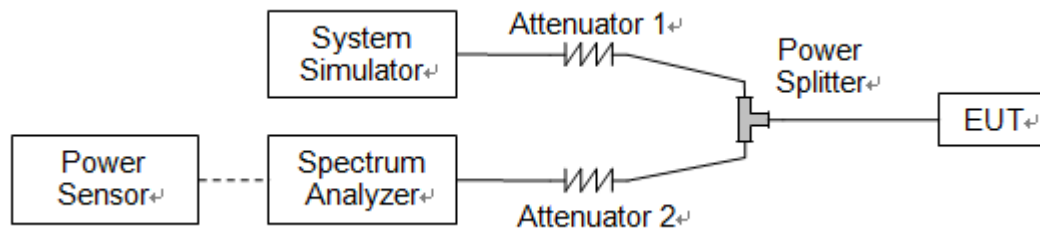
LTE Band 43				Measured E.I.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				44615		45090		45565	
Frequency (MHz)				3702.5		3750		3797.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	22.61	0.182	22.44	0.175	22.58	0.181
5	QPSK	1	12	22.79	0.190	22.70	0.186	22.75	0.188
5	QPSK	1	24	22.79	0.190	22.57	0.181	22.67	0.185
5	QPSK	12	0	21.52	0.142	21.47	0.140	21.49	0.141
5	QPSK	12	7	21.58	0.144	21.38	0.137	21.54	0.143
5	QPSK	12	13	21.63	0.146	21.53	0.142	21.51	0.142
5	QPSK	25	0	21.51	0.142	21.47	0.140	21.47	0.140
5	16QAM	1	0	21.81	0.152	21.61	0.145	21.72	0.149
5	16QAM	1	12	21.82	0.152	21.75	0.150	21.74	0.149
5	16QAM	1	24	21.83	0.152	21.55	0.143	21.89	0.155
5	16QAM	12	0	20.36	0.109	20.47	0.111	20.46	0.111
5	16QAM	12	7	20.76	0.119	20.55	0.114	20.49	0.112
5	16QAM	12	13	20.70	0.117	20.55	0.114	20.49	0.112
5	16QAM	25	0	20.66	0.116	20.39	0.109	20.51	0.112
5	64QAM	1	0	20.86	0.122	20.86	0.122	20.80	0.120
5	64QAM	1	12	20.89	0.123	20.77	0.119	20.78	0.120
5	64QAM	1	24	20.84	0.121	20.56	0.114	20.66	0.116
5	64QAM	12	0	19.52	0.090	19.48	0.089	19.52	0.090
5	64QAM	12	7	19.72	0.094	19.50	0.089	19.53	0.090
5	64QAM	12	13	19.71	0.094	19.53	0.090	19.67	0.093
5	64QAM	25	0	19.47	0.089	19.51	0.089	19.58	0.091
5	256QAM	1	0	17.55	0.057	17.52	0.056	17.39	0.055
5	256QAM	1	12	17.84	0.061	17.61	0.058	17.59	0.057
5	256QAM	1	24	17.83	0.061	17.75	0.060	17.64	0.058
5	256QAM	12	0	17.59	0.057	17.44	0.055	17.52	0.056
5	256QAM	12	7	17.71	0.059	17.44	0.055	17.56	0.057
5	256QAM	12	13	17.70	0.059	17.62	0.058	17.67	0.058
5	256QAM	25	0	17.55	0.057	17.41	0.055	17.52	0.056

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
B42	5	Low	42115	3452.5	QPSK	4.4725	5.0363	PASS
B42	5	Low	42115	3452.5	16QAM	4.4876	4.9232	PASS
B42	5	Low	42115	3452.5	64QAM	4.4797	4.9702	PASS
B42	5	Low	42115	3452.5	256QAM	4.4802	4.9321	PASS
B42	5	Mid	42590	3500	QPSK	4.4808	4.9728	PASS
B42	5	Mid	42590	3500	16QAM	4.4769	5.0032	PASS
B42	5	Mid	42590	3500	64QAM	4.4793	4.9026	PASS
B42	5	Mid	42590	3500	256QAM	4.4906	4.9699	PASS
B42	5	High	43065	3547.5	QPSK	4.4837	4.9766	PASS
B42	5	High	43065	3547.5	16QAM	4.4859	4.9939	PASS
B42	5	High	43065	3547.5	64QAM	4.4788	5.0320	PASS
B42	5	High	43065	3547.5	256QAM	4.4787	4.9409	PASS
B42	10	Low	42140	3455	QPSK	8.9417	9.8261	PASS
B42	10	Low	42140	3455	16QAM	8.9719	9.7638	PASS
B42	10	Low	42140	3455	64QAM	8.9734	9.8527	PASS
B42	10	Low	42140	3455	256QAM	8.9541	9.8090	PASS
B42	10	Mid	42590	3500	QPSK	8.9357	9.8563	PASS
B42	10	Mid	42590	3500	16QAM	8.9500	9.8310	PASS
B42	10	Mid	42590	3500	64QAM	8.9368	9.7920	PASS
B42	10	Mid	42590	3500	256QAM	8.9669	9.7111	PASS
B42	10	High	43040	3545	QPSK	8.9384	9.7260	PASS
B42	10	High	43040	3545	16QAM	8.9523	9.7341	PASS
B42	10	High	43040	3545	64QAM	8.9380	9.7249	PASS
B42	10	High	43040	3545	256QAM	8.9858	9.8208	PASS
B42	15	Low	42165	3457.5	QPSK	13.426	14.435	PASS
B42	15	Low	42165	3457.5	16QAM	13.446	14.450	PASS
B42	15	Low	42165	3457.5	64QAM	13.406	14.591	PASS
B42	15	Low	42165	3457.5	256QAM	13.433	14.481	PASS
B42	15	Mid	42590	3500	QPSK	13.445	14.638	PASS
B42	15	Mid	42590	3500	16QAM	13.413	14.743	PASS
B42	15	Mid	42590	3500	64QAM	13.430	14.626	PASS
B42	15	Mid	42590	3500	256QAM	13.288	13.908	PASS
B42	15	High	43015	3542.5	QPSK	13.451	14.503	PASS



REPORT No.: SZ24050224W04

B42	15	High	43015	3542.5	16QAM	13.395	14.446	PASS
B42	15	High	43015	3542.5	64QAM	13.428	14.580	PASS
B42	15	High	43015	3542.5	256QAM	13.465	14.344	PASS
B42	20	Low	42190	3460	QPSK	17.882	19.394	PASS
B42	20	Low	42190	3460	16QAM	17.869	19.194	PASS
B42	20	Low	42190	3460	64QAM	17.889	19.204	PASS
B42	20	Low	42190	3460	256QAM	17.854	19.284	PASS
B42	20	Mid	42590	3500	QPSK	17.890	19.584	PASS
B42	20	Mid	42590	3500	16QAM	17.884	19.420	PASS
B42	20	Mid	42590	3500	64QAM	17.908	19.477	PASS
B42	20	Mid	42590	3500	256QAM	17.904	19.163	PASS
B42	20	High	42990	3540	QPSK	17.868	19.018	PASS
B42	20	High	42990	3540	16QAM	17.873	19.198	PASS
B42	20	High	42990	3540	64QAM	17.858	19.446	PASS
B42	20	High	42990	3540	256QAM	17.858	19.128	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B43	5	Low	44615	3702.5	QPSK	4.4816	4.9888	PASS
B43	5	Low	44615	3702.5	16QAM	4.4893	5.0116	PASS
B43	5	Low	44615	3702.5	64QAM	4.4568	4.7578	PASS
B43	5	Low	44615	3702.5	256QAM	4.4776	4.8776	PASS
B43	5	Mid	45090	3750	QPSK	4.4776	4.9579	PASS
B43	5	Mid	45090	3750	16QAM	4.4711	4.8679	PASS
B43	5	Mid	45090	3750	64QAM	4.4774	4.8385	PASS
B43	5	Mid	45090	3750	256QAM	4.4736	5.0258	PASS
B43	5	High	45565	3797.5	QPSK	4.4708	4.9829	PASS
B43	5	High	45565	3797.5	16QAM	4.4792	4.9125	PASS
B43	5	High	45565	3797.5	64QAM	4.4738	4.9596	PASS
B43	5	High	45565	3797.5	256QAM	4.4680	4.8935	PASS
B43	10	Low	44640	3705	QPSK	8.9506	9.6650	PASS
B43	10	Low	44640	3705	16QAM	8.9366	9.7271	PASS
B43	10	Low	44640	3705	64QAM	8.9618	9.5593	PASS
B43	10	Low	44640	3705	256QAM	8.9354	9.7381	PASS
B43	10	Mid	45090	3750	QPSK	8.9354	9.5486	PASS
B43	10	Mid	45090	3750	16QAM	8.9853	9.7835	PASS
B43	10	Mid	45090	3750	64QAM	8.9449	9.7200	PASS
B43	10	Mid	45090	3750	256QAM	8.9473	9.7267	PASS
B43	10	High	45540	3795	QPSK	8.9213	9.5684	PASS
B43	10	High	45540	3795	16QAM	8.9583	9.6676	PASS
B43	10	High	45540	3795	64QAM	8.9484	9.5663	PASS
B43	10	High	45540	3795	256QAM	8.9424	9.5415	PASS
B43	15	Low	44665	3707.5	QPSK	13.426	14.250	PASS
B43	15	Low	44665	3707.5	16QAM	13.403	14.363	PASS
B43	15	Low	44665	3707.5	64QAM	13.454	14.553	PASS
B43	15	Low	44665	3707.5	256QAM	13.401	14.421	PASS
B43	15	Mid	45090	3750	QPSK	13.404	14.386	PASS
B43	15	Mid	45090	3750	16QAM	13.408	14.373	PASS
B43	15	Mid	45090	3750	64QAM	13.440	14.049	PASS
B43	15	Mid	45090	3750	256QAM	13.392	14.419	PASS
B43	15	High	45515	3792.5	QPSK	13.405	14.259	PASS
B43	15	High	45515	3792.5	16QAM	13.412	14.267	PASS
B43	15	High	45515	3792.5	64QAM	13.386	14.425	PASS



REPORT No.: SZ24050224W04

B43	15	High	45515	3792.5	256QAM	13.436	14.395	PASS
B43	20	Low	44690	3710	QPSK	17.824	19.102	PASS
B43	20	Low	44690	3710	16QAM	17.824	18.846	PASS
B43	20	Low	44690	3710	64QAM	17.863	19.032	PASS
B43	20	Low	44690	3710	256QAM	17.901	18.948	PASS
B43	20	Mid	45090	3750	QPSK	17.891	19.184	PASS
B43	20	Mid	45090	3750	16QAM	17.882	19.003	PASS
B43	20	Mid	45090	3750	64QAM	17.819	19.194	PASS
B43	20	Mid	45090	3750	256QAM	17.865	19.101	PASS
B43	20	High	45490	3790	QPSK	17.834	19.140	PASS
B43	20	High	45490	3790	16QAM	17.816	18.756	PASS
B43	20	High	45490	3790	64QAM	17.847	18.807	PASS
B43	20	High	45490	3790	256QAM	17.875	19.233	PASS



B42 / 5MHz / QPSK/ Low CH



B42 / 5MHz / 16QAM/ Low CH



B42 / 5MHz / 64QAM/ Low CH



B42 / 5MHz / 256QAM/ Low CH



B42 / 5MHz / QPSK/ Mid CH



B42 / 5MHz / 16QAM/ Mid CH



B42 / 5MHz / 64QAM/ Mid CH



B42 / 5MHz / 256QAM/ Mid CH



B42 / 5MHz / QPSK/ High CH



B42 / 5MHz / 16QAM/ High CH



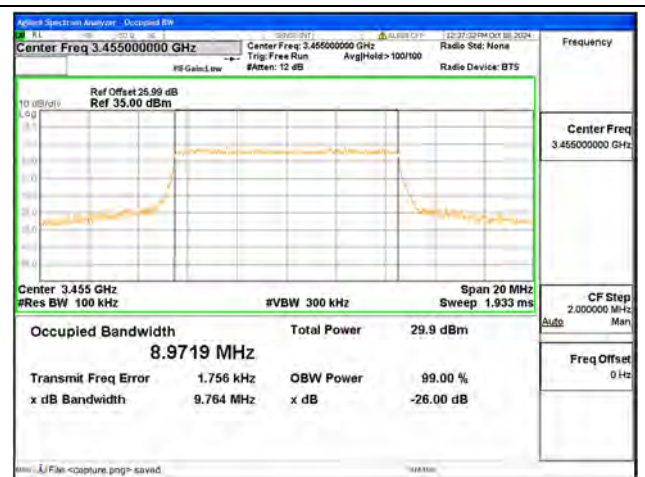
B42 / 5MHz / 64QAM/ High CH



B42 / 5MHz / 256QAM/ High CH



B42 / 10MHz / QPSK/ Low CH



B42 / 10MHz / 16QAM/ Low CH



B42 / 10MHz / 64QAM/ Low CH



B42 / 10MHz / 256QAM/ Low CH



B42 / 10MHz / QPSK/ Mid CH



B42 / 10MHz / 16QAM/ Mid CH



B42 / 10MHz / 64QAM/ Mid CH



B42 / 10MHz / 256QAM/ Mid CH



B42 / 10MHz / QPSK/ High CH



B42 / 10MHz / 16QAM/ High CH



B42 / 10MHz / 64QAM/ High CH



B42 / 10MHz / 256QAM/ High CH



B42 / 15MHz / QPSK/ Low CH



B42 / 15MHz / 16QAM/ Low CH



B42 / 15MHz / 64QAM/ Low CH



B42 / 15MHz / 256QAM/ Low CH



B42 / 15MHz / QPSK/ Mid CH



B42 / 15MHz / 16QAM/ Mid CH



B42 / 15MHz / 64QAM/ Mid CH



B42 / 15MHz / 256QAM/ Mid CH



B42 / 15MHz / QPSK/ High CH



B42 / 15MHz / 16QAM/ High CH



B42 / 15MHz / 64QAM/ High CH



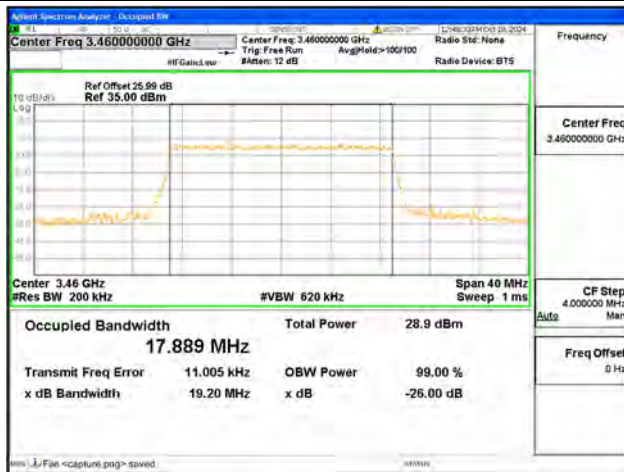
B42 / 15MHz / 256QAM/ High CH



B42 / 20MHz / QPSK/ Low CH



B42 / 20MHz / 16QAM/ Low CH



B42 / 20MHz / 64QAM/ Low CH



B42 / 20MHz / 256QAM/ Low CH



B42 / 20MHz / QPSK/ Mid CH



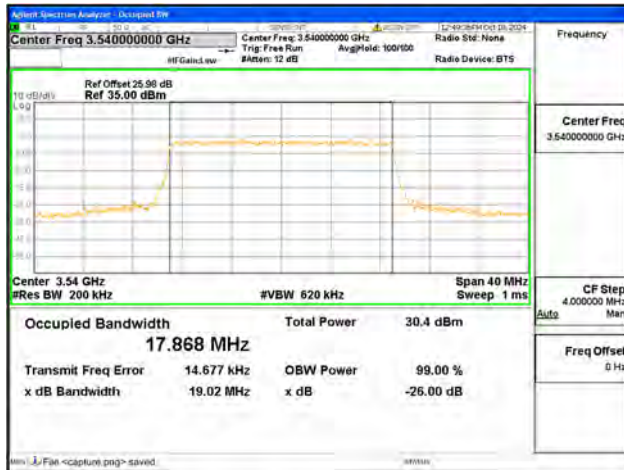
B42 / 20MHz / 16QAM/ Mid CH



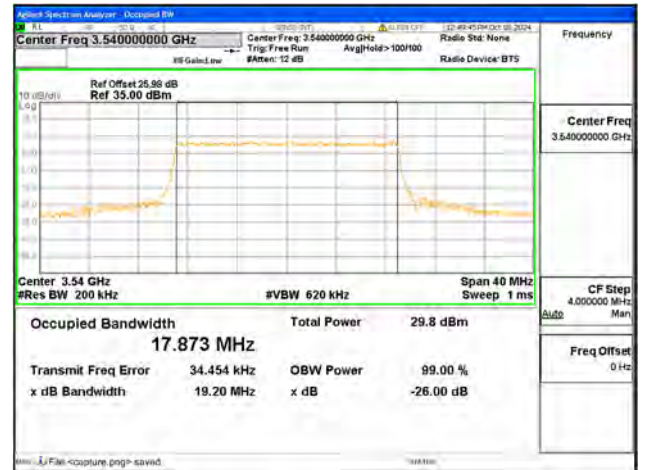
B42 / 20MHz / 64QAM/ Mid CH



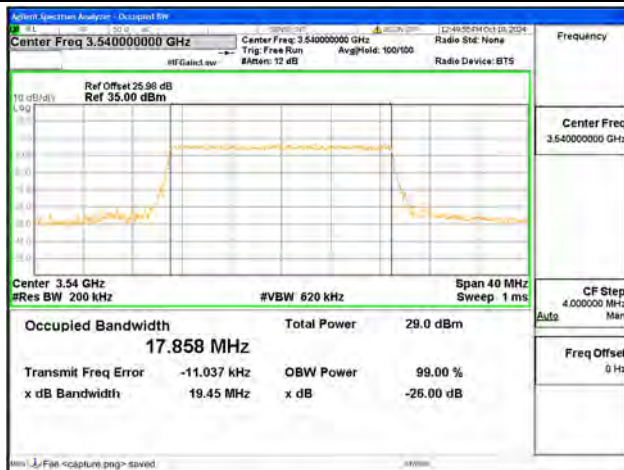
B42 / 20MHz / 256QAM/ Mid CH



B42 / 20MHz / QPSK/ High CH



B42 / 20MHz / 16QAM/ High CH



B42 / 20MHz / 64QAM/ High CH



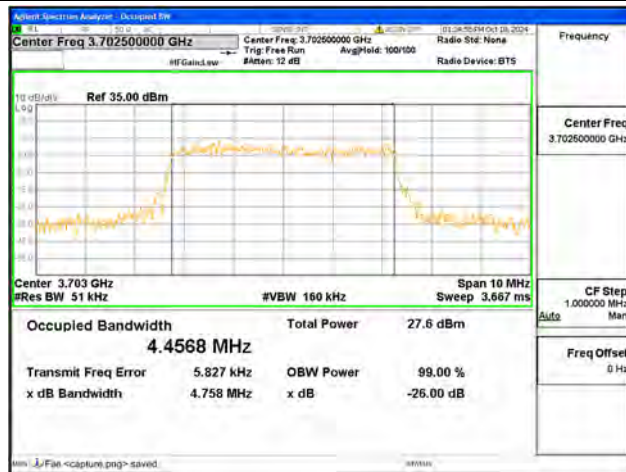
B42 / 20MHz / 256QAM/ High CH



B43 / 5MHz / QPSK/ Low CH



B43 / 5MHz / 16QAM/ Low CH



B43 / 5MHz / 64QAM/ Low CH



B43 / 5MHz / 256QAM/ Low CH



B43 / 5MHz / QPSK/ Mid CH



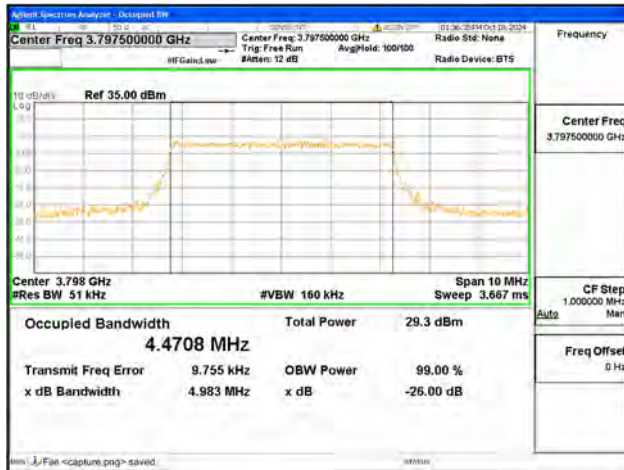
B43 / 5MHz / 16QAM/ Mid CH



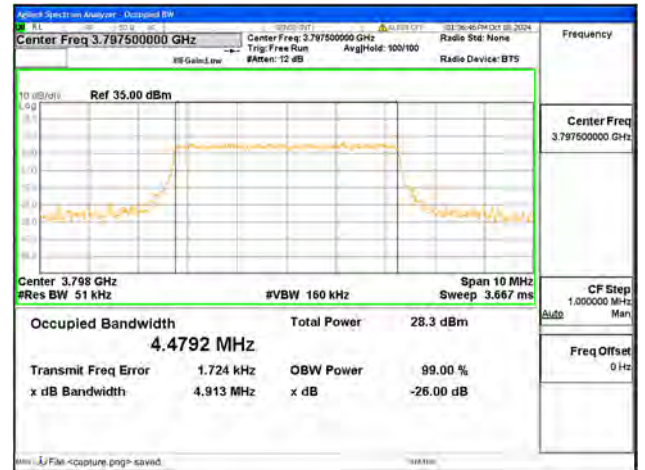
B43 / 5MHz / 64QAM/ Mid CH



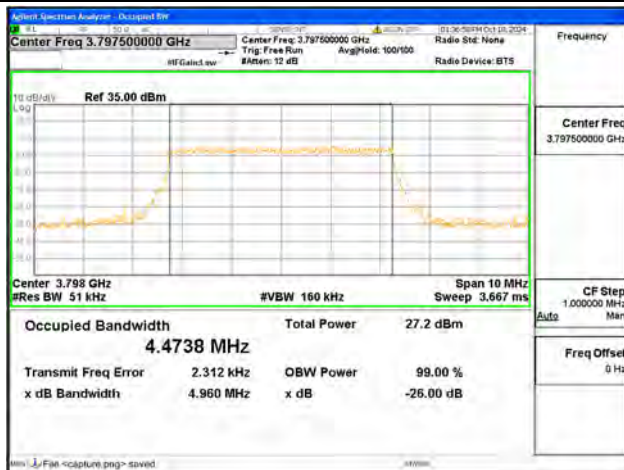
B43 / 5MHz / 256QAM/ Mid CH



B43 / 5MHz / QPSK/ High CH



B43 / 5MHz / 16QAM/ High CH



B43 / 5MHz / 64QAM/ High CH



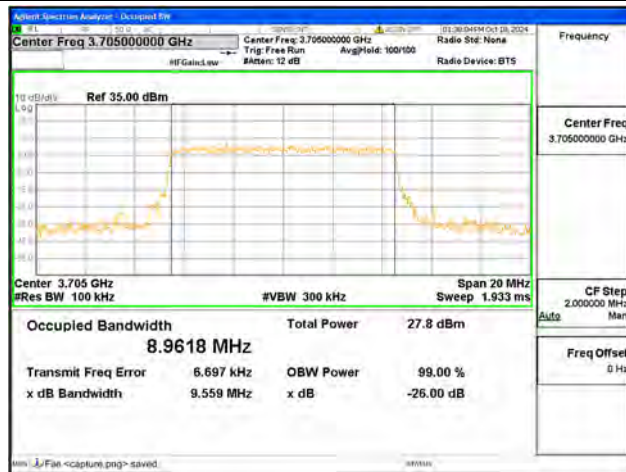
B43 / 5MHz / 256QAM/ High CH



B43 / 10MHz / QPSK/ Low CH



B43 / 10MHz / 16QAM/ Low CH



B43 / 10MHz / 64QAM/ Low CH



B43 / 10MHz / 256QAM/ Low CH



B43 / 10MHz / QPSK/ Mid CH



B43 / 10MHz / 16QAM/ Mid CH



B43 / 10MHz / 64QAM/ Mid CH



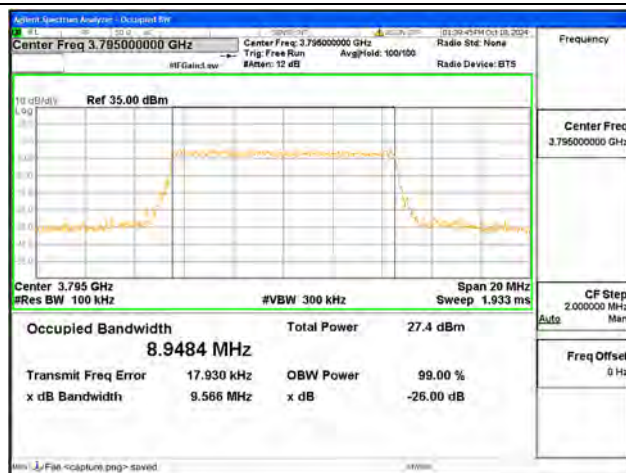
B43 / 10MHz / 256QAM/ Mid CH



B43 / 10MHz / QPSK/ High CH



B43 / 10MHz / 16QAM/ High CH



B43 / 10MHz / 64QAM/ High CH



B43 / 10MHz / 256QAM/ High CH



B43 / 15MHz / QPSK/ Low CH



B43 / 15MHz / 16QAM/ Low CH



B43 / 15MHz / 64QAM/ Low CH



B43 / 15MHz / 256QAM/ Low CH



B43 / 15MHz / QPSK/ Mid CH



B43 / 15MHz / 16QAM/ Mid CH



B43 / 15MHz / 64QAM/ Mid CH



B43 / 15MHz / 256QAM/ Mid CH



B43 / 15MHz / QPSK/ High CH



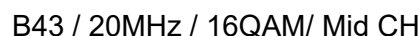
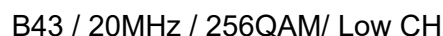
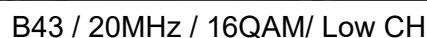
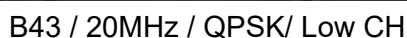
B43 / 15MHz / 16QAM/ High CH



B43 / 15MHz / 64QAM/ High CH



B43 / 15MHz / 256QAM/ High CH

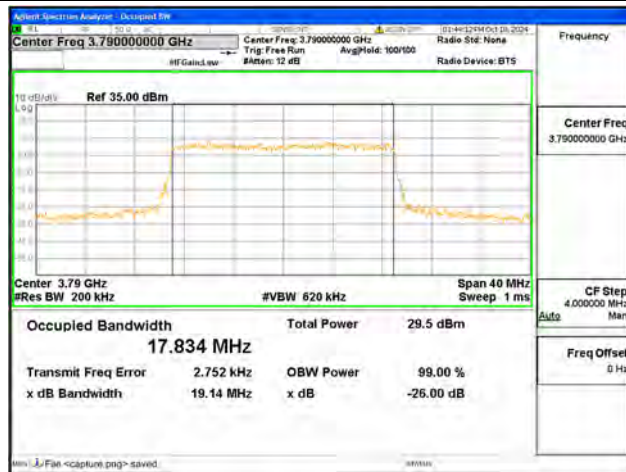




B43 / 20MHz / 64QAM/ Mid CH



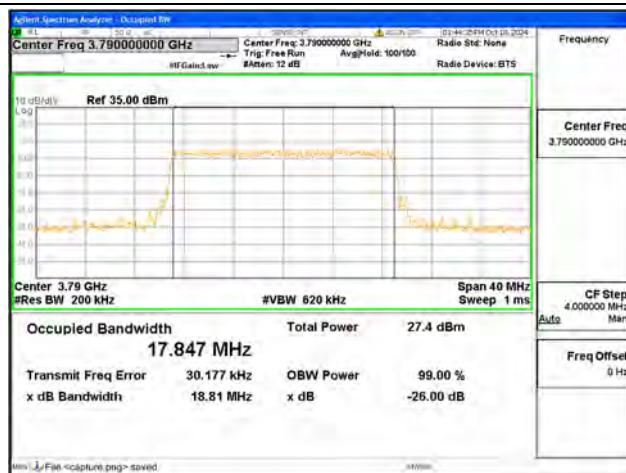
B43 / 20MHz / 256QAM/ Mid CH



B43 / 20MHz / QPSK/ High CH



B43 / 20MHz / 16QAM/ High CH



B43 / 20MHz / 64QAM/ High CH



B43 / 20MHz / 256QAM/ High CH

2.3. Frequency Stability

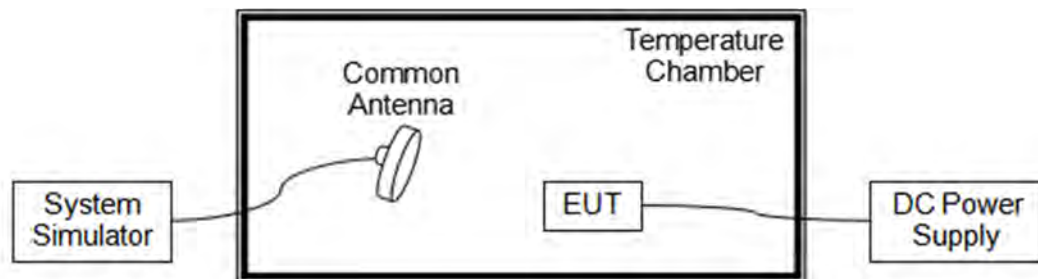
2.3.1. Requirement

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 45°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 12.0V, 13.2V and 10.8V, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 42, 256QAM, Channel 43340, Frequency 3575.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	12.0	+20(Ref)	15	0.004	PASS
Normal		-10	14	0.004	
Normal		0	4	0.001	
Normal		+10	16	0.004	
Normal		+20	-3	-0.001	
Normal		+30	13	0.004	
Normal		+40	14	0.004	
Normal		+45	3	0.001	
High	13.2	+20	15	0.004	
BATT.ENDPOINT	10.8	+20	2	0.001	

LTE Band 43, 256QAM, Channel 44590, Frequency 3650MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	12.0	+20(Ref)	19	0.005	PASS
Normal		-10	14	0.004	
Normal		0	18	0.005	
Normal		+10	-16	-0.004	
Normal		+20	12	0.003	
Normal		+30	16	0.004	
Normal		+40	18	0.005	
Normal		+45	15	0.004	
High	13.2	+20	19	0.005	
BATT.ENDPOINT	10.8	+20	19	0.005	

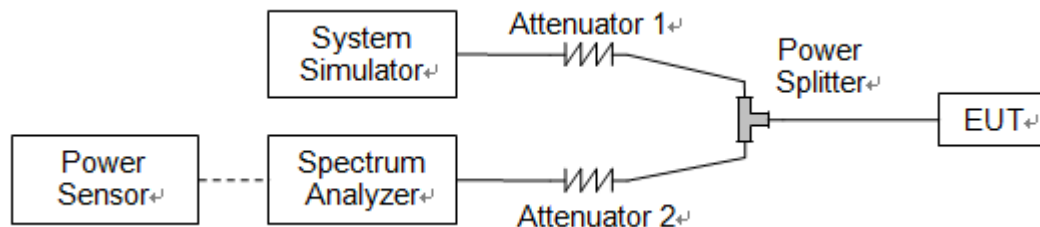
2.4. Peak to Average Ratio

2.4.1. Requirement

According to FCC section 24.232(d), 27.50(d) and 27.50(j)(4), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

According to FCC section 27.50(k)(4) for Band 42, in measuring transmissions in this band using an average power technique, 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
B42	5	Low	42115	3452.5	QPSK	5.51	PASS
B42	5	Low	42115	3452.5	16QAM	6.29	PASS
B42	5	Low	42115	3452.5	64QAM	6.74	PASS
B42	5	Low	42115	3452.5	256QAM	6.98	PASS
B42	5	Mid	42590	3500	QPSK	5.46	PASS
B42	5	Mid	42590	3500	16QAM	6.24	PASS
B42	5	Mid	42590	3500	64QAM	6.69	PASS
B42	5	Mid	42590	3500	256QAM	6.88	PASS
B42	5	High	43065	3547.5	QPSK	5.44	PASS
B42	5	High	43065	3547.5	16QAM	6.27	PASS
B42	5	High	43065	3547.5	64QAM	6.67	PASS
B42	5	High	43065	3547.5	256QAM	6.92	PASS
B42	10	Low	42140	3455	QPSK	5.45	PASS
B42	10	Low	42140	3455	16QAM	6.24	PASS
B42	10	Low	42140	3455	64QAM	6.63	PASS
B42	10	Low	42140	3455	256QAM	6.81	PASS
B42	10	Mid	42590	3500	QPSK	5.45	PASS
B42	10	Mid	42590	3500	16QAM	6.19	PASS
B42	10	Mid	42590	3500	64QAM	6.60	PASS
B42	10	Mid	42590	3500	256QAM	6.86	PASS
B42	10	High	43040	3545	QPSK	5.44	PASS
B42	10	High	43040	3545	16QAM	6.25	PASS
B42	10	High	43040	3545	64QAM	6.68	PASS
B42	10	High	43040	3545	256QAM	6.82	PASS
B42	15	Low	42165	3457.5	QPSK	5.28	PASS
B42	15	Low	42165	3457.5	16QAM	6.09	PASS
B42	15	Low	42165	3457.5	64QAM	6.59	PASS
B42	15	Low	42165	3457.5	256QAM	6.86	PASS
B42	15	Mid	42590	3500	QPSK	5.24	PASS
B42	15	Mid	42590	3500	16QAM	6.09	PASS
B42	15	Mid	42590	3500	64QAM	6.62	PASS
B42	15	Mid	42590	3500	256QAM	6.85	PASS



REPORT No.: SZ24050224W04

B42	15	High	43015	3542.5	QPSK	5.28	PASS
B42	15	High	43015	3542.5	16QAM	6.15	PASS
B42	15	High	43015	3542.5	64QAM	6.58	PASS
B42	15	High	43015	3542.5	256QAM	6.84	PASS
B42	20	Low	42190	3460	QPSK	5.39	PASS
B42	20	Low	42190	3460	16QAM	6.17	PASS
B42	20	Low	42190	3460	64QAM	6.59	PASS
B42	20	Low	42190	3460	256QAM	6.83	PASS
B42	20	Mid	42590	3500	QPSK	5.35	PASS
B42	20	Mid	42590	3500	16QAM	6.21	PASS
B42	20	Mid	42590	3500	64QAM	6.59	PASS
B42	20	Mid	42590	3500	256QAM	6.79	PASS
B42	20	High	42990	3540	QPSK	5.35	PASS
B42	20	High	42990	3540	16QAM	6.23	PASS
B42	20	High	42990	3540	64QAM	6.66	PASS
B42	20	High	42990	3540	256QAM	6.82	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	Peak to Average Radio(dB)	Verdict
B43	5	Low	44615	3702.5	QPSK	5.51	PASS
B43	5	Low	44615	3702.5	16QAM	6.31	PASS
B43	5	Low	44615	3702.5	64QAM	6.77	PASS
B43	5	Low	44615	3702.5	256QAM	6.95	PASS
B43	5	Mid	45090	3750	QPSK	5.52	PASS
B43	5	Mid	45090	3750	16QAM	6.34	PASS
B43	5	Mid	45090	3750	64QAM	6.77	PASS
B43	5	Mid	45090	3750	256QAM	6.94	PASS
B43	5	High	45565	3797.5	QPSK	5.49	PASS
B43	5	High	45565	3797.5	16QAM	6.28	PASS
B43	5	High	45565	3797.5	64QAM	6.75	PASS
B43	5	High	45565	3797.5	256QAM	6.93	PASS
B43	10	Low	44640	3705	QPSK	5.54	PASS
B43	10	Low	44640	3705	16QAM	6.37	PASS
B43	10	Low	44640	3705	64QAM	6.76	PASS
B43	10	Low	44640	3705	256QAM	6.90	PASS
B43	10	Mid	45090	3750	QPSK	5.59	PASS
B43	10	Mid	45090	3750	16QAM	6.34	PASS
B43	10	Mid	45090	3750	64QAM	6.73	PASS
B43	10	Mid	45090	3750	256QAM	6.91	PASS
B43	10	High	45540	3795	QPSK	5.51	PASS
B43	10	High	45540	3795	16QAM	6.28	PASS
B43	10	High	45540	3795	64QAM	6.70	PASS
B43	10	High	45540	3795	256QAM	6.82	PASS
B43	15	Low	44665	3707.5	QPSK	5.45	PASS
B43	15	Low	44665	3707.5	16QAM	6.21	PASS
B43	15	Low	44665	3707.5	64QAM	6.67	PASS
B43	15	Low	44665	3707.5	256QAM	6.85	PASS
B43	15	Mid	45090	3750	QPSK	5.44	PASS
B43	15	Mid	45090	3750	16QAM	6.27	PASS
B43	15	Mid	45090	3750	64QAM	6.75	PASS
B43	15	Mid	45090	3750	256QAM	6.91	PASS
B43	15	High	45515	3792.5	QPSK	5.39	PASS
B43	15	High	45515	3792.5	16QAM	6.20	PASS
B43	15	High	45515	3792.5	64QAM	6.69	PASS



REPORT No.: SZ24050224W04

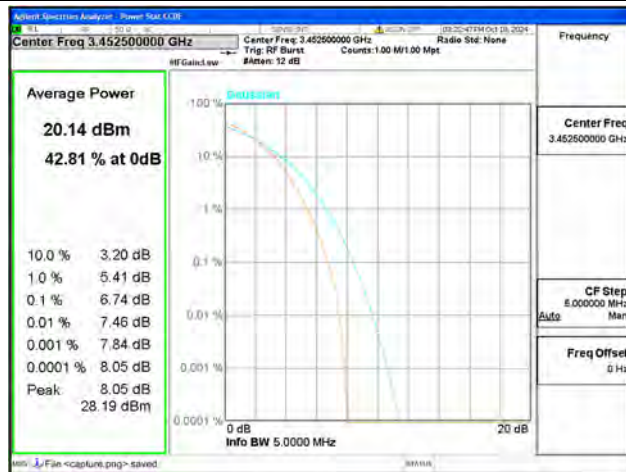
B43	15	High	45515	3792.5	256QAM	6.85	PASS
B43	20	Low	44690	3710	QPSK	5.47	PASS
B43	20	Low	44690	3710	16QAM	6.31	PASS
B43	20	Low	44690	3710	64QAM	6.73	PASS
B43	20	Low	44690	3710	256QAM	6.90	PASS
B43	20	Mid	45090	3750	QPSK	5.45	PASS
B43	20	Mid	45090	3750	16QAM	6.31	PASS
B43	20	Mid	45090	3750	64QAM	6.70	PASS
B43	20	Mid	45090	3750	256QAM	6.86	PASS
B43	20	High	45490	3790	QPSK	5.36	PASS
B43	20	High	45490	3790	16QAM	6.21	PASS
B43	20	High	45490	3790	64QAM	6.63	PASS
B43	20	High	45490	3790	256QAM	6.86	PASS



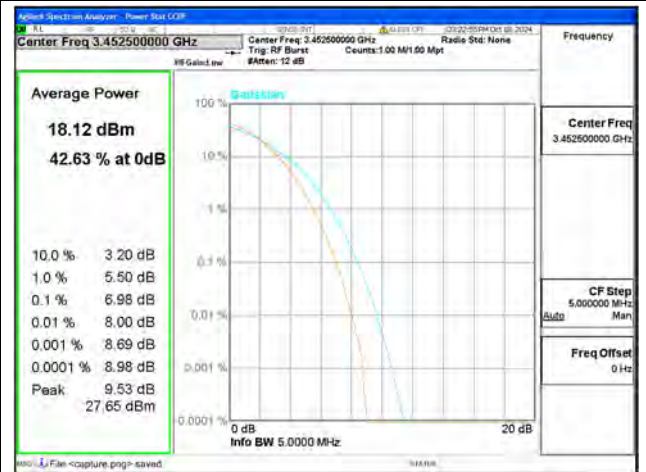
B42 / 5MHz / Low CH / QPSK



B42 / 5MHz / Low CH / 16QAM



B42 / 5MHz / Low CH / 64QAM



B42 / 5MHz / Low CH / 256QAM



B42 / 5MHz / Mid CH / QPSK



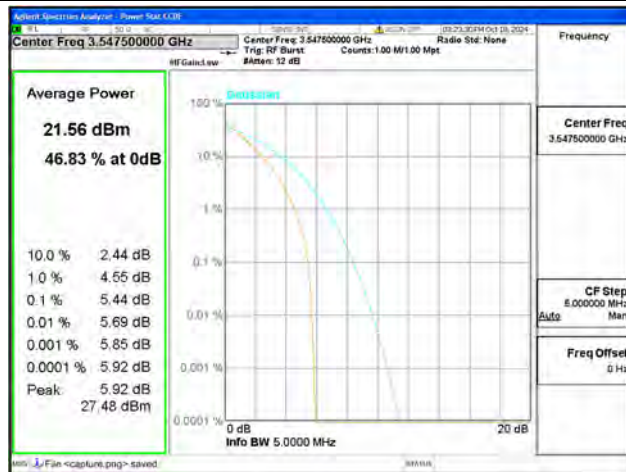
B42 / 5MHz / Mid CH / 16QAM



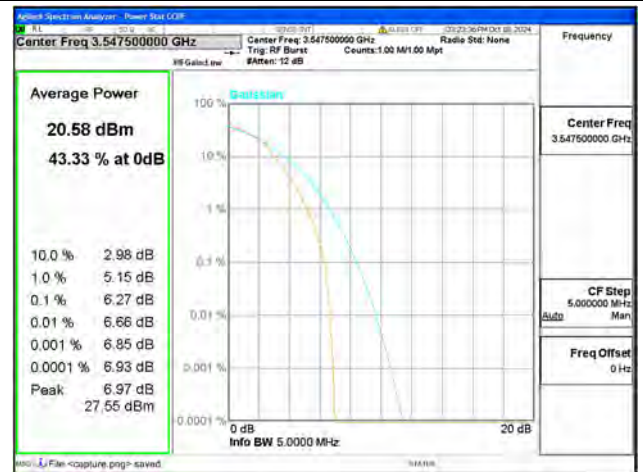
B42 / 5MHz / Mid CH / 64QAM



B42 / 5MHz / Mid CH / 256QAM



B42 / 5MHz / High CH / QPSK



B42 / 5MHz / High CH / 16QAM



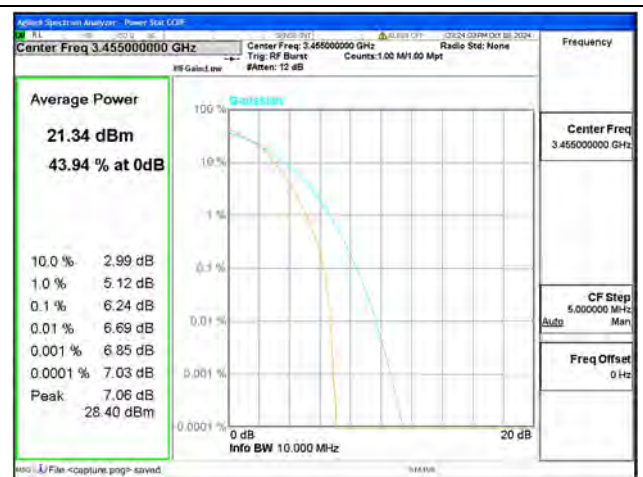
B42 / 5MHz / High CH / 64QAM



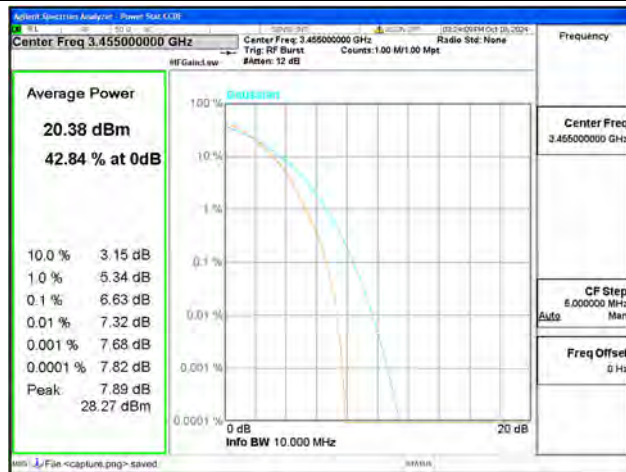
B42 / 5MHz / High CH / 256QAM



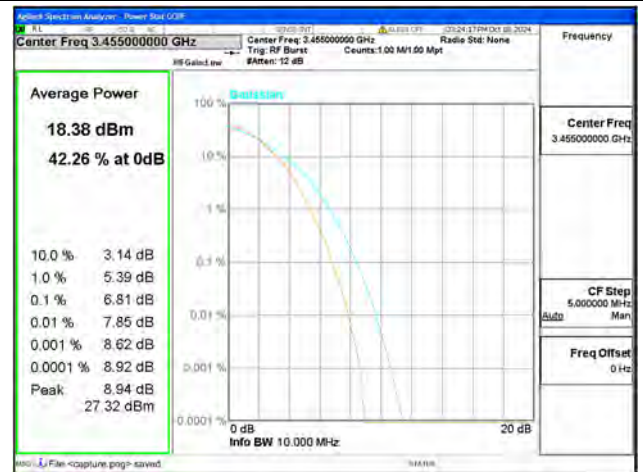
B42 / 10MHz / Low CH / QPSK



B42 / 10MHz / Low CH / 16QAM



B42 / 10MHz / Low CH / 64QAM



B42 / 10MHz / Low CH / 256QAM



B42 / 10MHz / Mid CH / QPSK



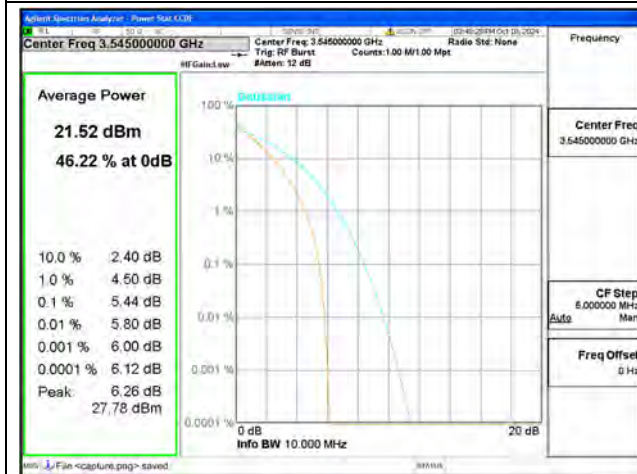
B42 / 10MHz / Mid CH / 16QAM



B42 / 10MHz / Mid CH / 64QAM



B42 / 10MHz / Mid CH / 256QAM



B42 / 10MHz / High CH / QPSK



B42 / 10MHz / High CH / 16QAM



B42 / 10MHz / High CH / 64QAM



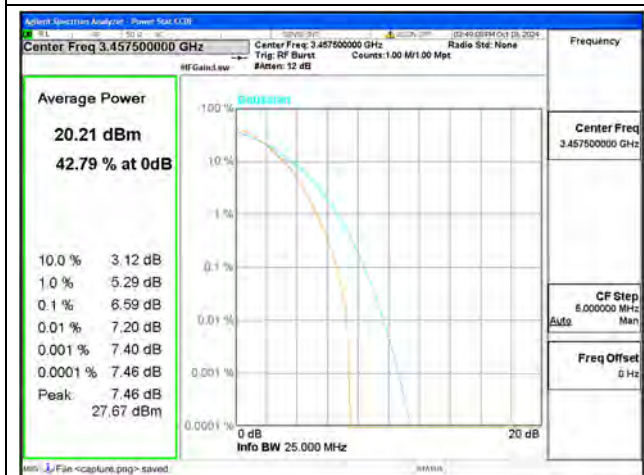
B42 / 10MHz / High CH / 256QAM



B42 / 15MHz / Low CH / QPSK



B42 / 15MHz / Low CH / 16QAM



B42 / 15MHz / Low CH / 64QAM



B42 / 15MHz / Low CH / 256QAM



B42 / 15MHz / Mid CH / QPSK



B42 / 15MHz / Mid CH / 16QAM



B42 / 15MHz / Mid CH / 64QAM



B42 / 15MHz / Mid CH / 256QAM



B42 / 15MHz / High CH / QPSK



B42 / 15MHz / High CH / 16QAM



B42 / 15MHz / High CH / 64QAM



B42 / 15MHz / High CH / 256QAM



B42 / 20MHz / Low CH / QPSK



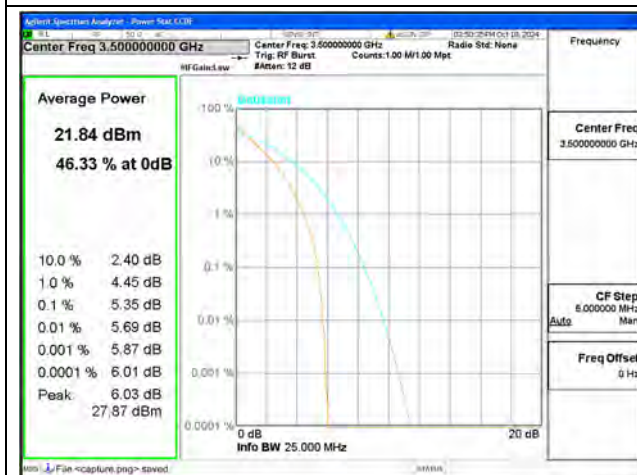
B42 / 20MHz / Low CH / 16QAM



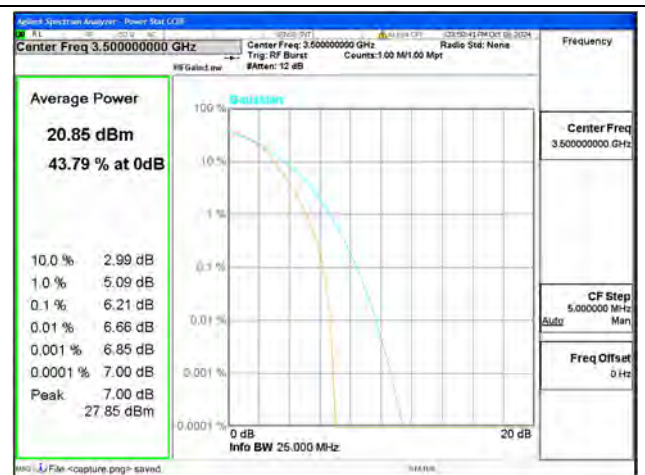
B42 / 20MHz / Low CH / 64QAM



B42 / 20MHz / Low CH / 256QAM



B42 / 20MHz / Mid CH / QPSK



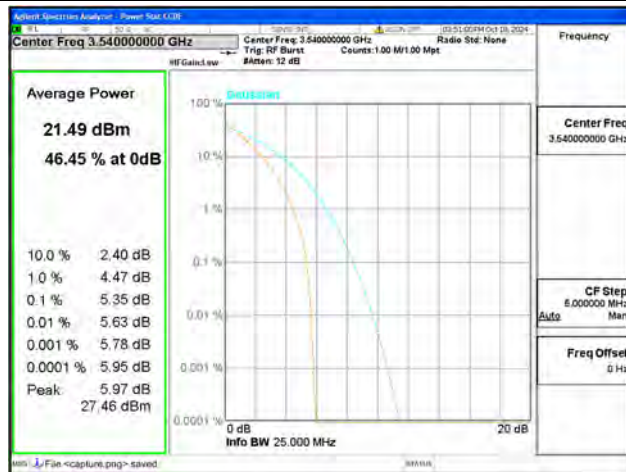
B42 / 20MHz / Mid CH / 16QAM



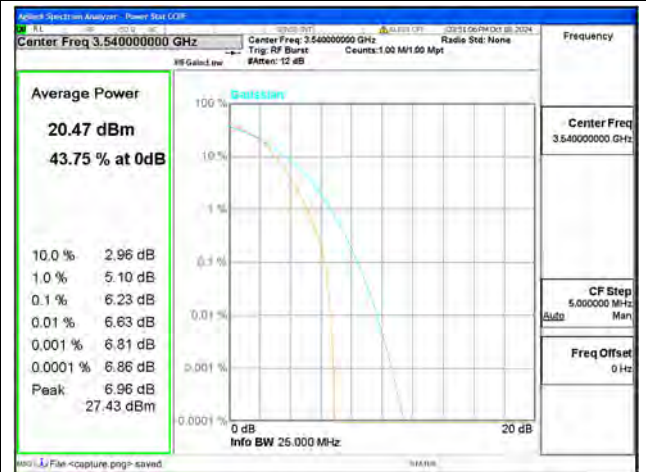
B42 / 20MHz / Mid CH / 64QAM



B42 / 20MHz / Mid CH / 256QAM



B42 / 20MHz / High CH / QPSK



B42 / 20MHz / High CH / 16QAM



B42 / 20MHz / High CH / 64QAM



B42 / 20MHz / High CH / 256QAM



B43 / 5MHz / Low CH / QPSK



B43 / 5MHz / Low CH / 16QAM



B43 / 5MHz / Low CH / 64QAM



B43 / 5MHz / Low CH / 256QAM



B43 / 5MHz / Mid CH / QPSK



B43 / 5MHz / Mid CH / 16QAM



B43 / 5MHz / Mid CH / 64QAM



B43 / 5MHz / Mid CH / 256QAM



B43 / 5MHz / High CH / QPSK



B43 / 5MHz / High CH / 16QAM



B43 / 5MHz / High CH / 64QAM



B43 / 5MHz / High CH / 256QAM



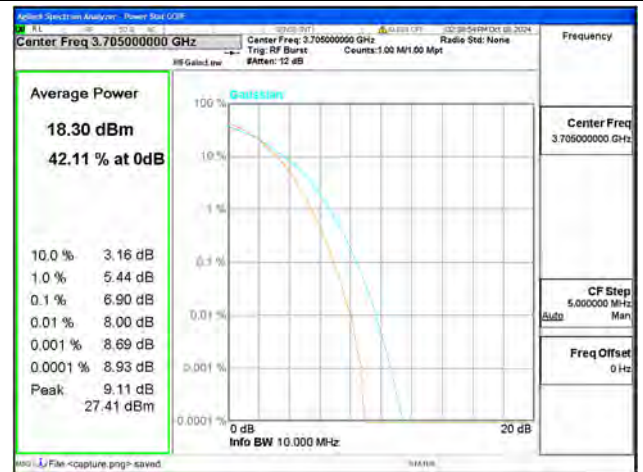
B43 / 10MHz / Low CH / QPSK



B43 / 10MHz / Low CH / 16QAM



B43 / 10MHz / Low CH / 64QAM



B43 / 10MHz / Low CH / 256QAM



B43 / 10MHz / Mid CH / QPSK



B43 / 10MHz / Mid CH / 16QAM



B43 / 10MHz / Mid CH / 64QAM



B43 / 10MHz / Mid CH / 256QAM



B43 / 10MHz / High CH / QPSK



B43 / 10MHz / High CH / 16QAM



B43 / 10MHz / High CH / 64QAM



B43 / 10MHz / High CH / 256QAM



B43 / 15MHz / Low CH / QPSK



B43 / 15MHz / Low CH / 16QAM



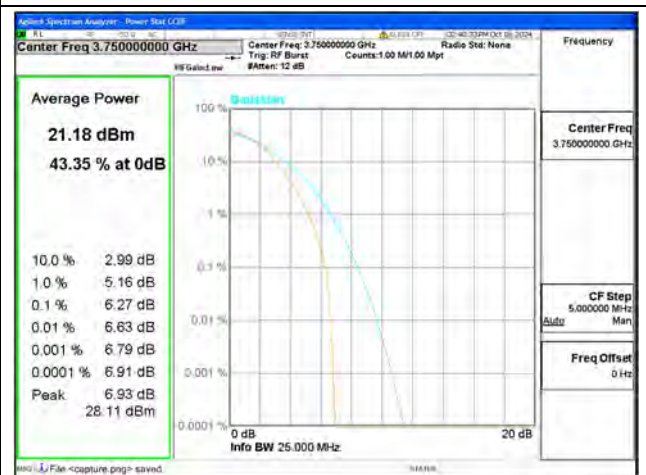
B43 / 15MHz / Low CH / 64QAM



B43 / 15MHz / Low CH / 256QAM



B43 / 15MHz / Mid CH / QPSK



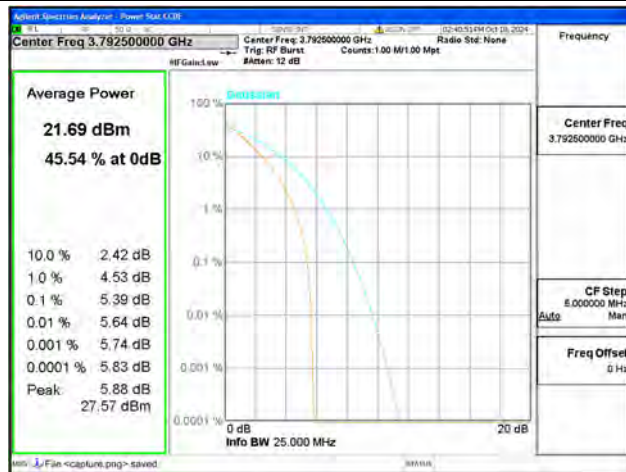
B43 / 15MHz / Mid CH / 16QAM



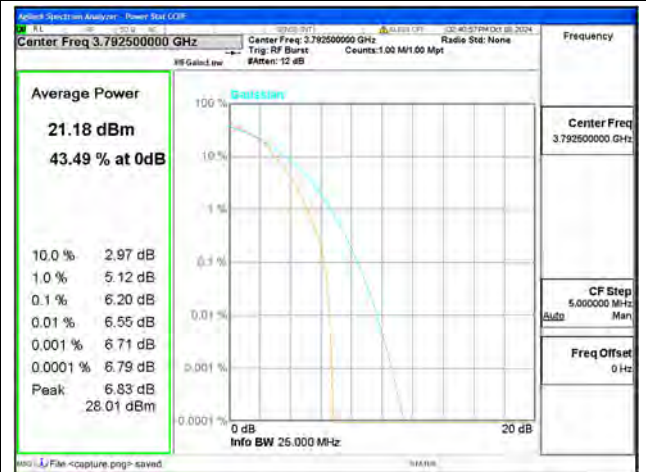
B43 / 15MHz / Mid CH / 64QAM



B43 / 15MHz / Mid CH / 256QAM



B43 / 15MHz / High CH / QPSK



B43 / 15MHz / High CH / 16QAM



B43 / 15MHz / High CH / 64QAM



B43 / 15MHz / High CH / 256QAM



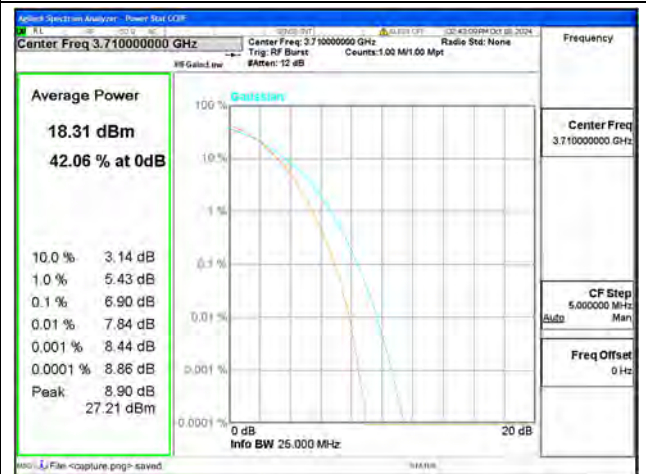
B43 / 20MHz / Low CH / QPSK



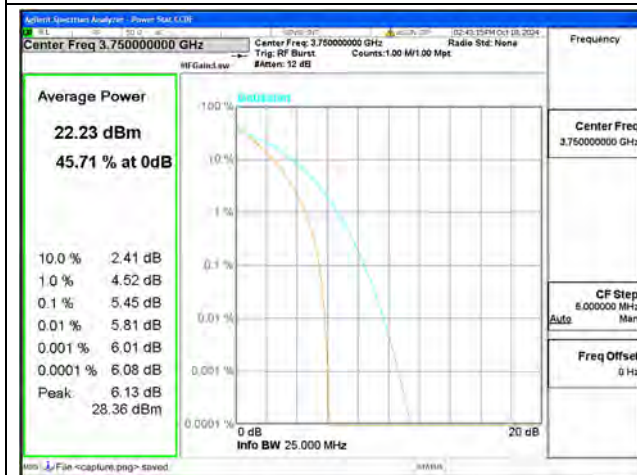
B43 / 20MHz / Low CH / 16QAM



B43 / 20MHz / Low CH / 64QAM



B43 / 20MHz / Low CH / 256QAM



B43 / 20MHz / Mid CH / QPSK



B43 / 20MHz / Mid CH / 16QAM



B43 / 20MHz / Mid CH / 64QAM



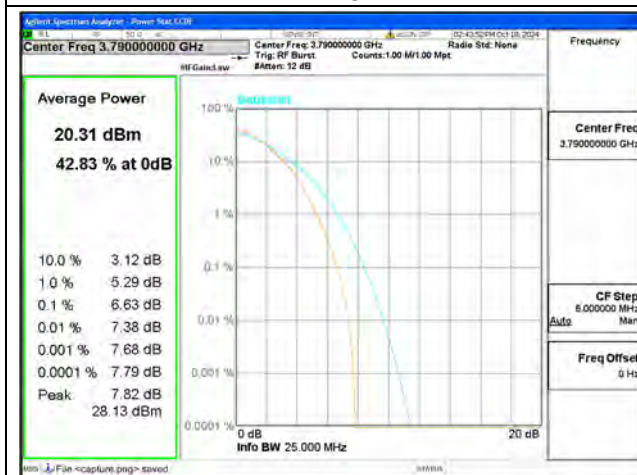
B43 / 20MHz / Mid CH / 256QAM



B43 / 20MHz / High CH / QPSK



B43 / 20MHz / High CH / 16QAM



B43 / 20MHz / High CH / 64QAM



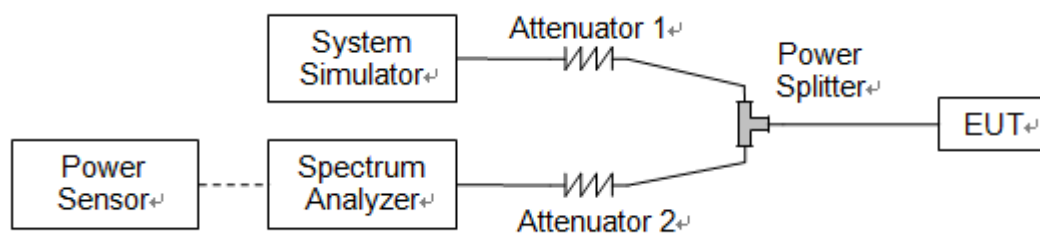
B43 / 20MHz / High CH / 256QAM

2.5. Conducted Spurious Emissions

2.5.1. Requirement

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

2.5.2. Test Description



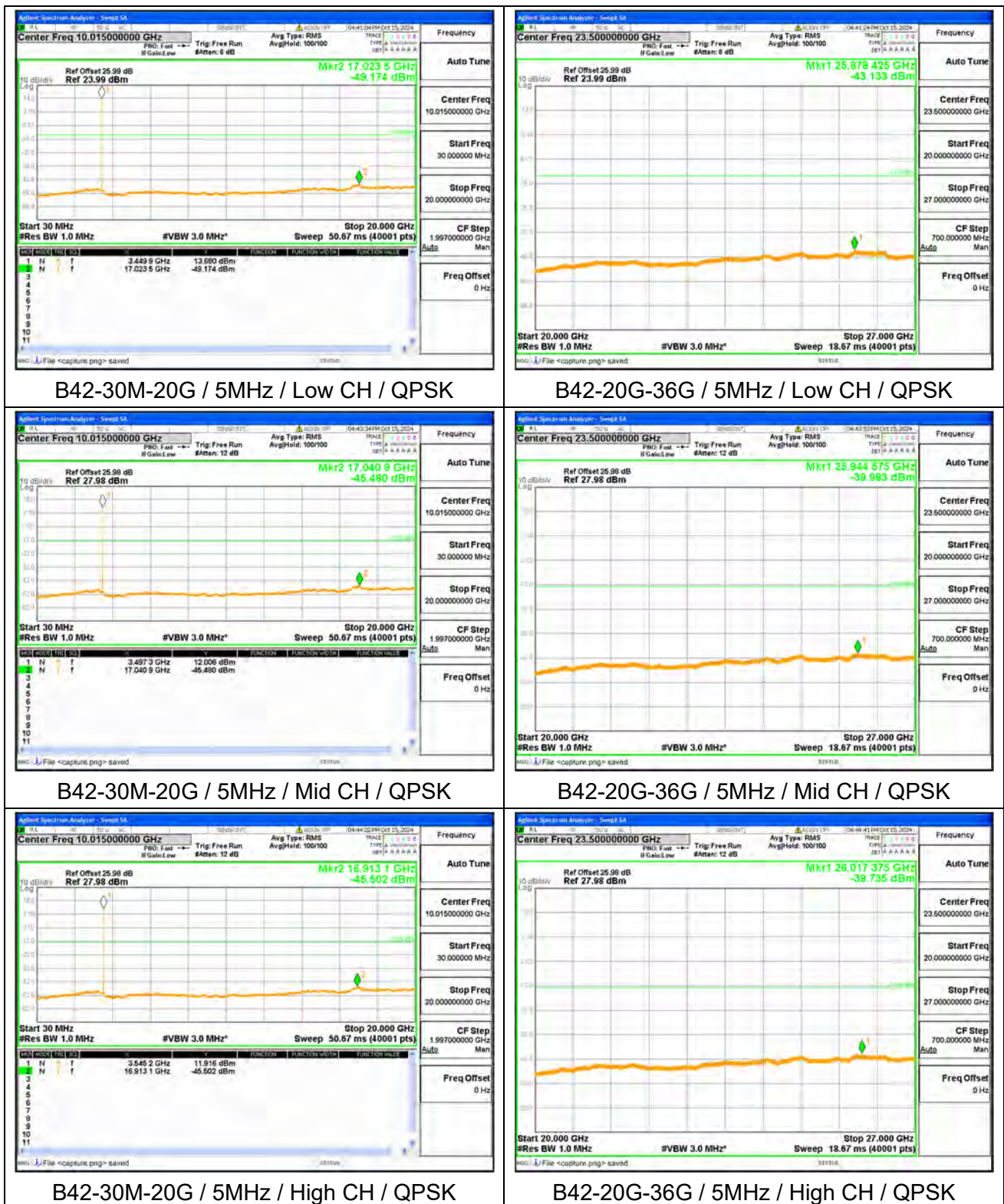
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

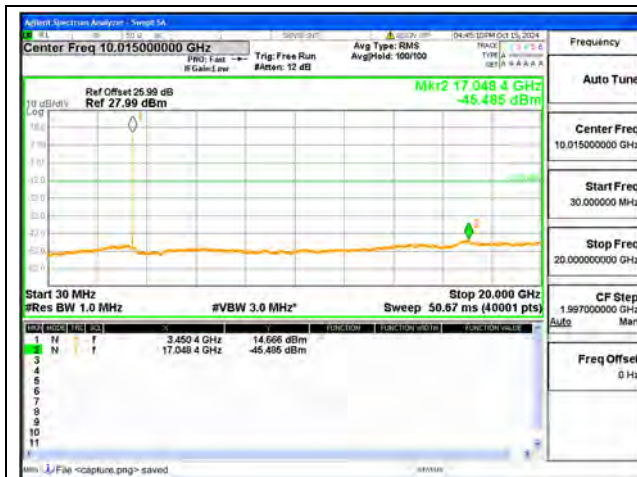
2.5.3. Test Procedure

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

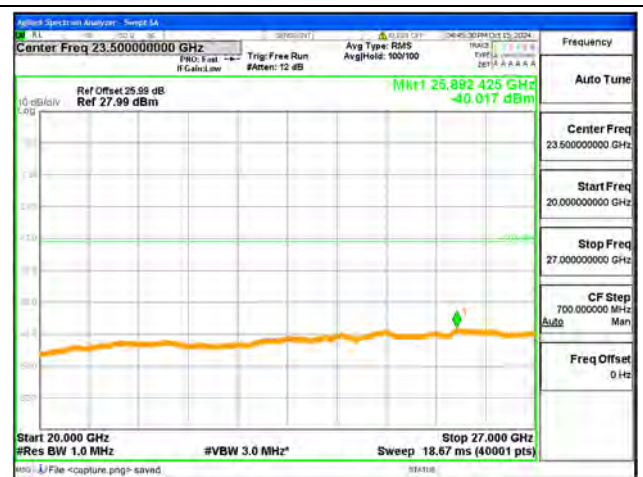


2.5.4. Test Result

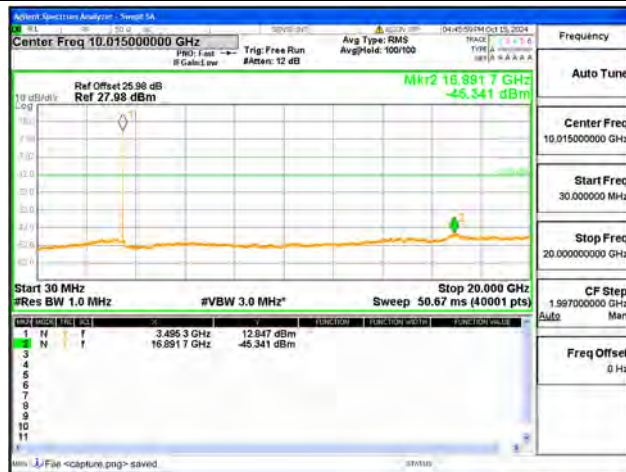




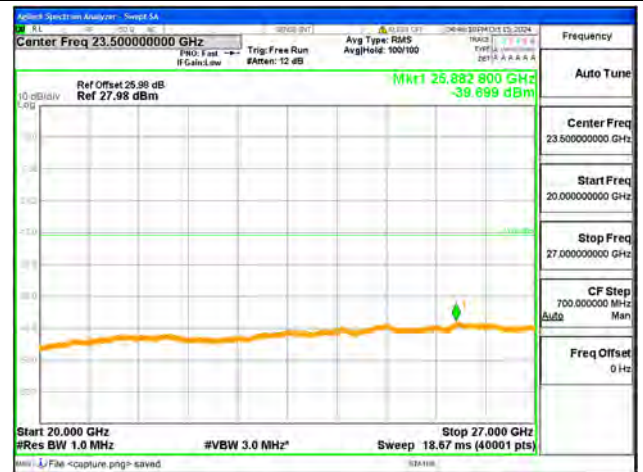
B42-30M-20G / 10MHz / Low CH / QPSK



B42-20G-36G / 10MHz / Low CH / QPSK



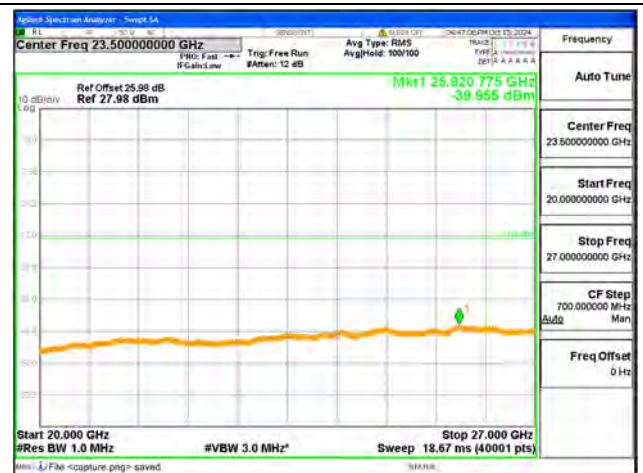
B42-30M-20G / 10MHz / Mid CH / QPSK



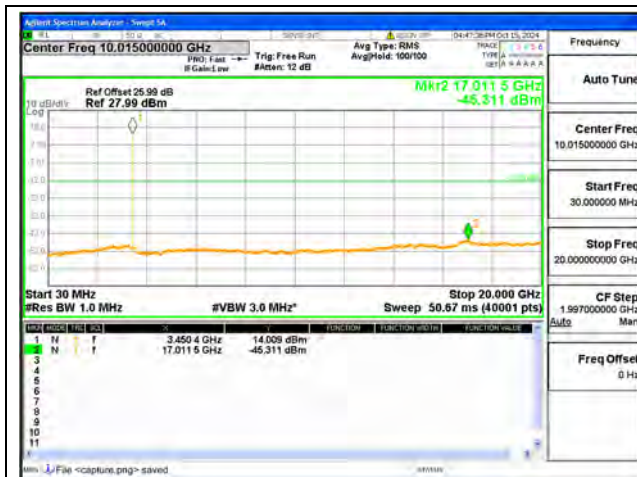
B42-20G-36G / 10MHz / Mid CH / QPSK



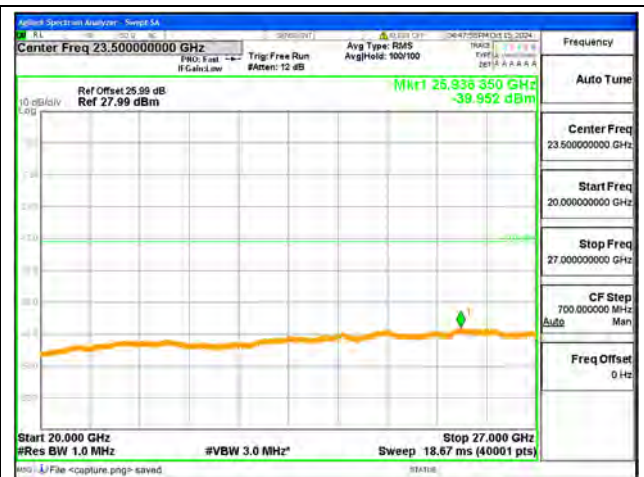
B42-30M-20G / 10MHz / High CH / QPSK



B42-20G-36G / 10MHz / High CH / QPSK



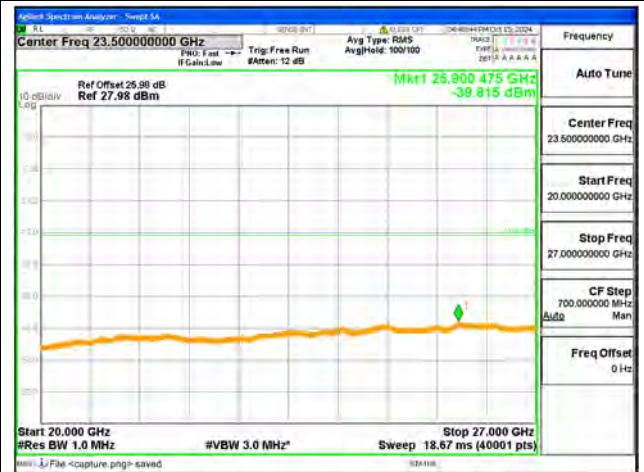
B42-30M-20G / 15MHz / Low CH / QPSK



B42-20G-36G / 15MHz / Low CH / QPSK



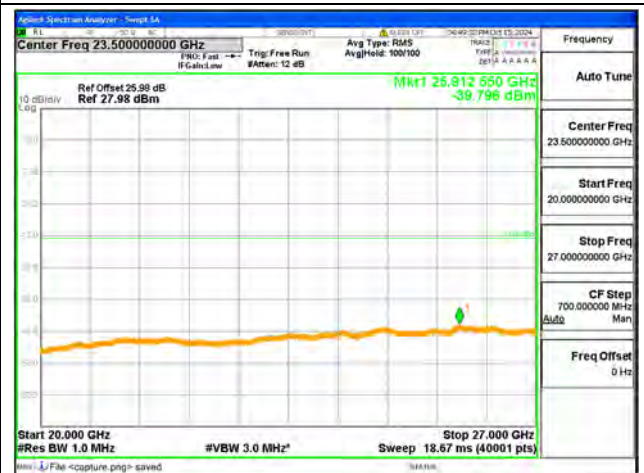
B42-30M-20G / 15MHz / Mid CH / QPSK



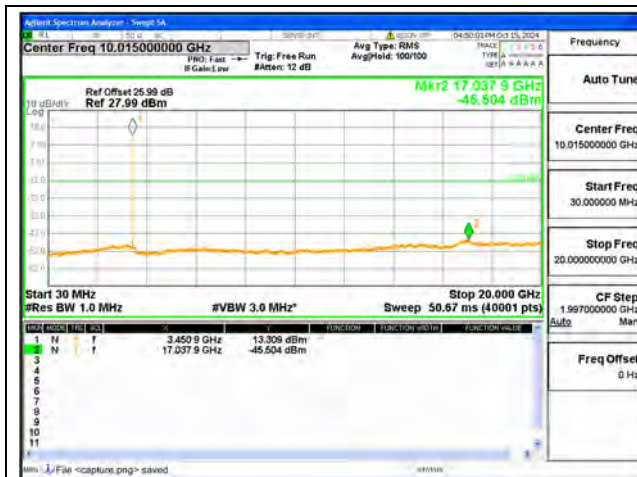
B42-20G-36G / 15MHz / Mid CH / QPSK



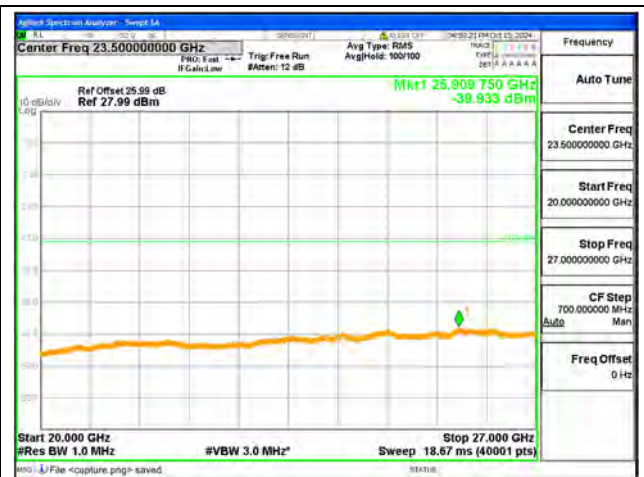
B42-30M-20G / 15MHz / High CH / QPSK



B42-20G-36G / 15MHz / High CH / QPSK



B42-30M-20G / 20MHz / Low CH / QPSK



B42-20G-36G / 20MHz / Low CH / QPSK



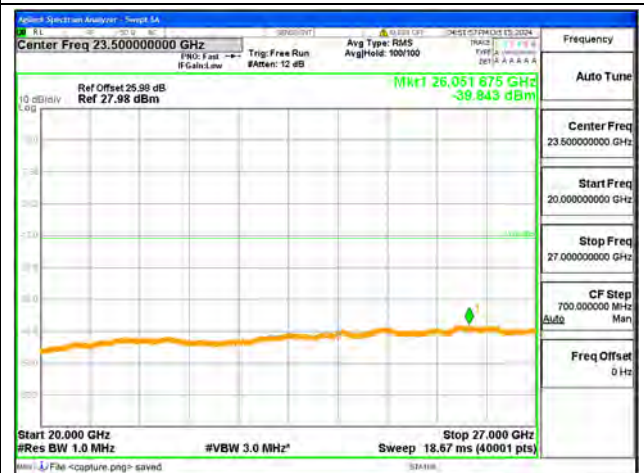
B42-30M-20G / 20MHz / Mid CH / QPSK



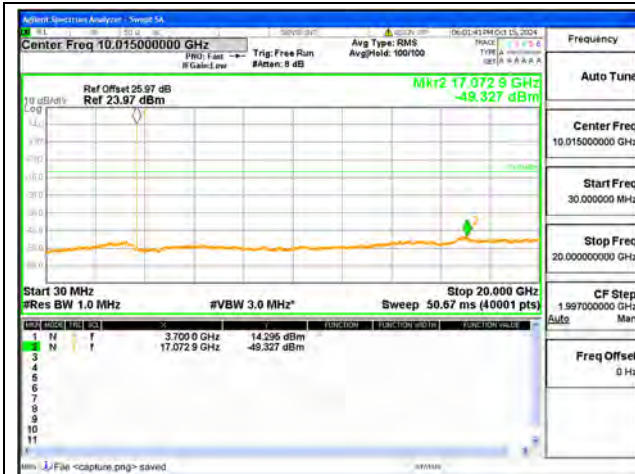
B42-20G-36G / 20MHz / Mid CH / QPSK



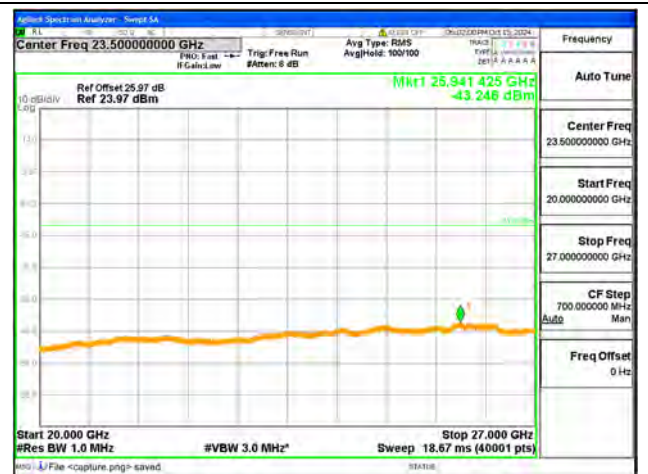
B42-30M-20G / 20MHz / High CH / QPSK



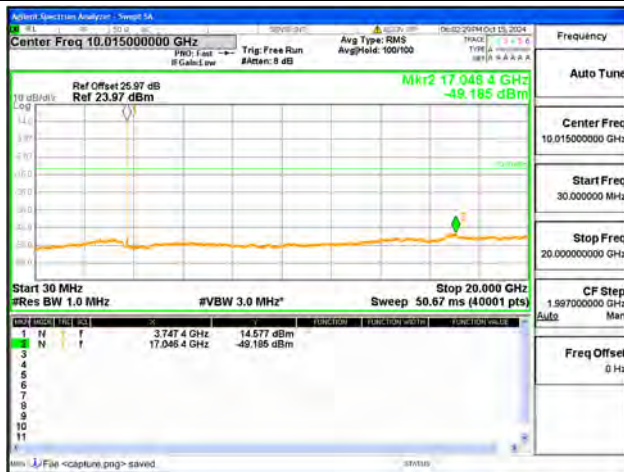
B42-20G-36G / 20MHz / High CH / QPSK



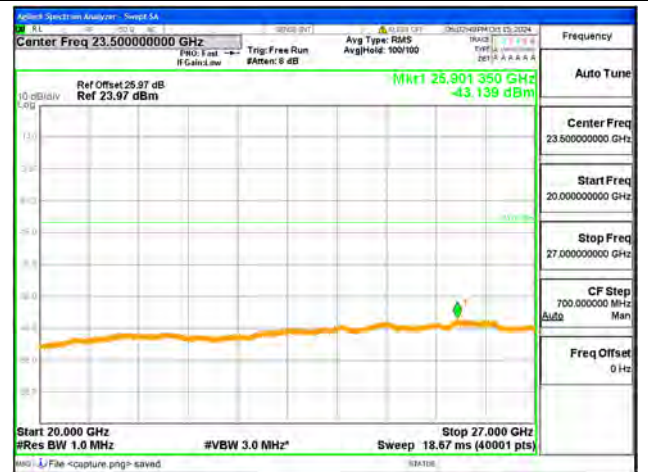
B43-30M-20G / 5MHz / Low CH / QPSK



B43-20G-38G / 5MHz / Low CH / QPSK



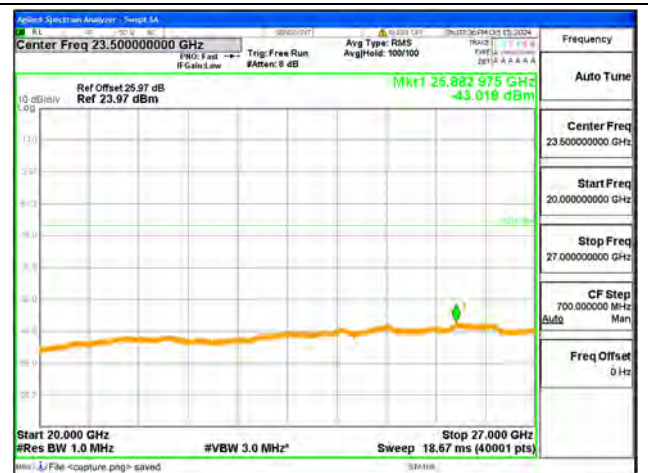
B43-30M-20G / 5MHz / Mid CH / QPSK



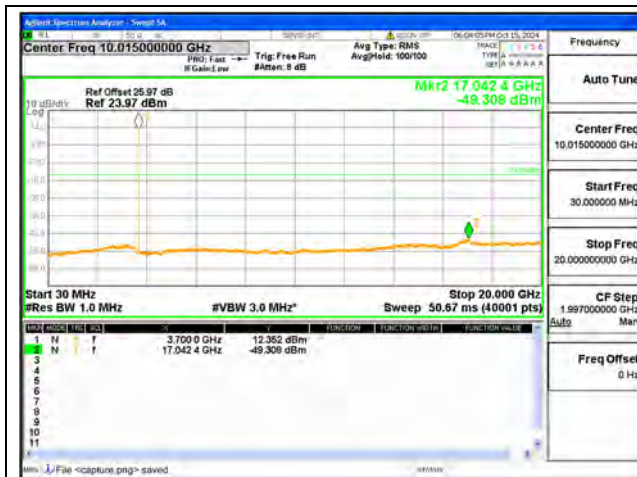
B43-20G-38G / 5MHz / Mid CH / QPSK



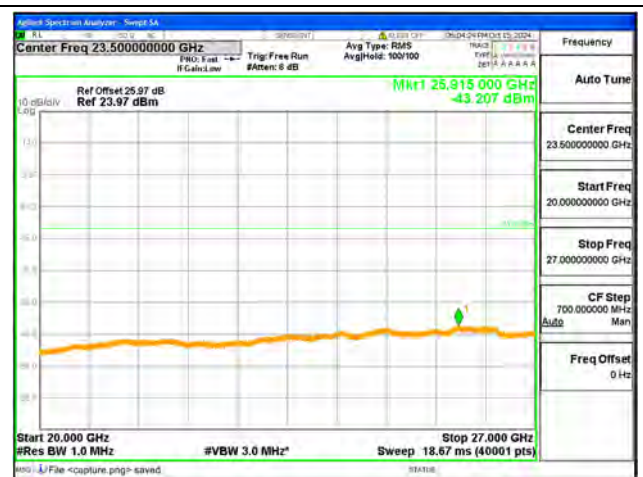
B43-30M-20G / 5MHz / High CH / QPSK



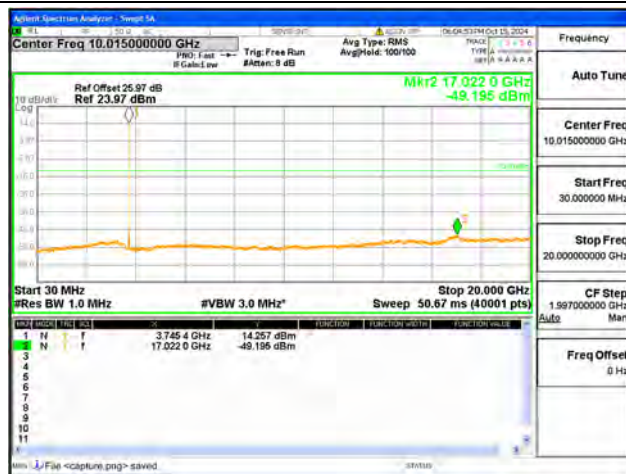
B43-20G-38G / 5MHz / High CH / QPSK



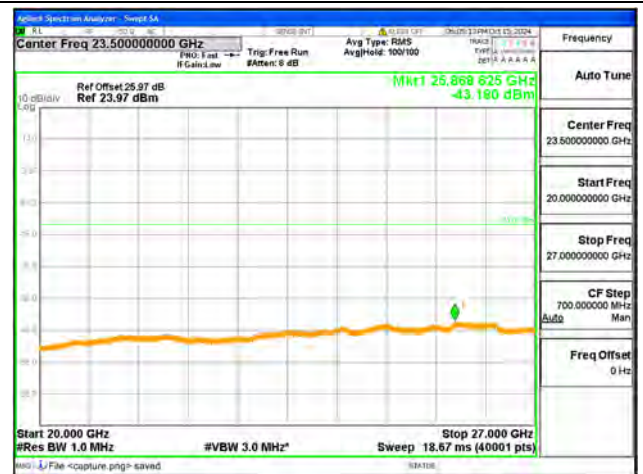
B43-30M-20G / 10MHz / Low CH / QPSK



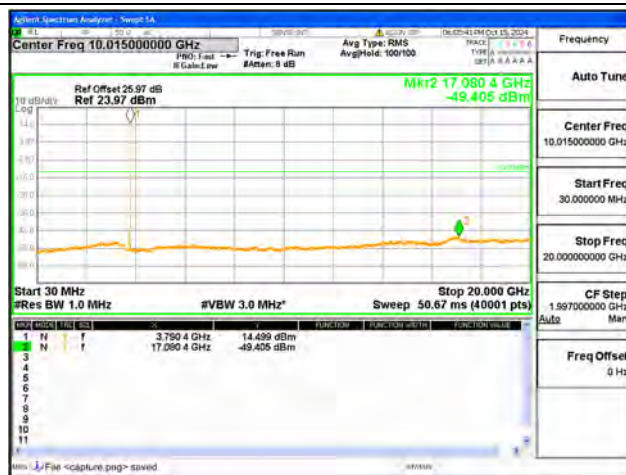
B43-20G-38G / 10MHz / Low CH / QPSK



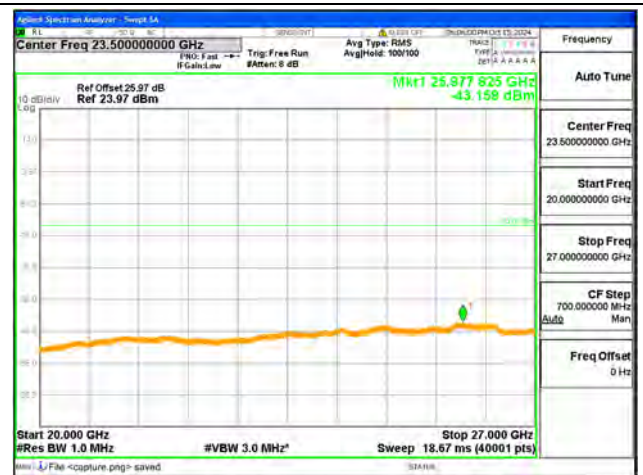
B43-30M-20G / 10MHz / Mid CH / QPSK



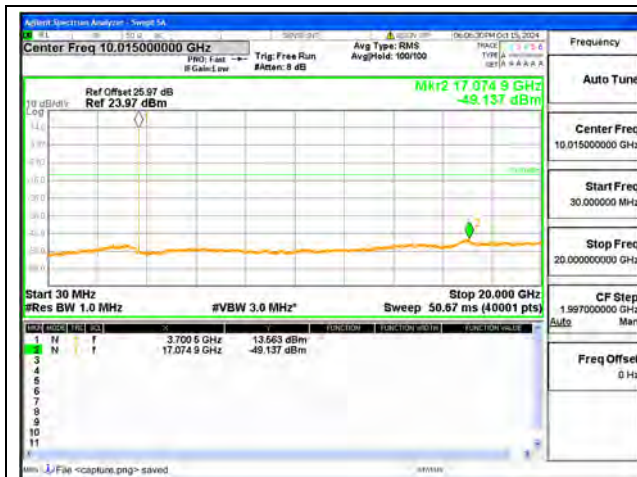
B43-20G-38G / 10MHz / Mid CH / QPSK



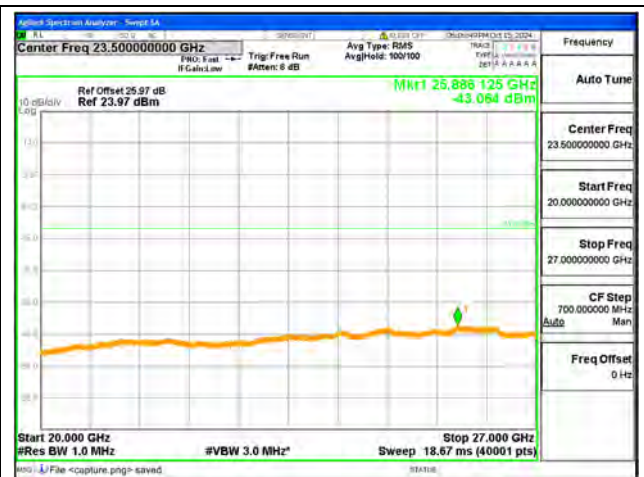
B43-30M-20G / 10MHz / High CH / QPSK



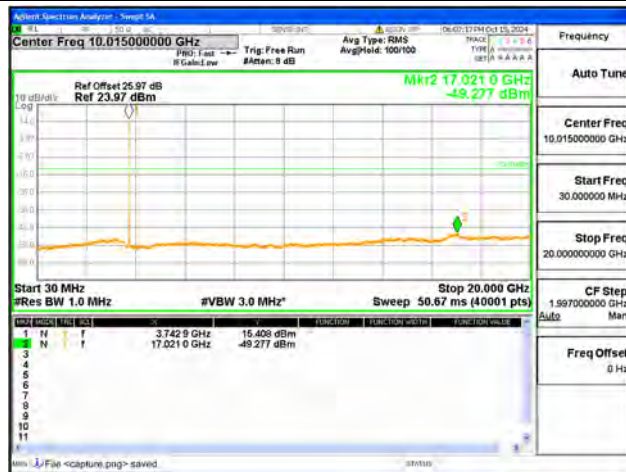
B43-20G-38G / 10MHz / High CH / QPSK



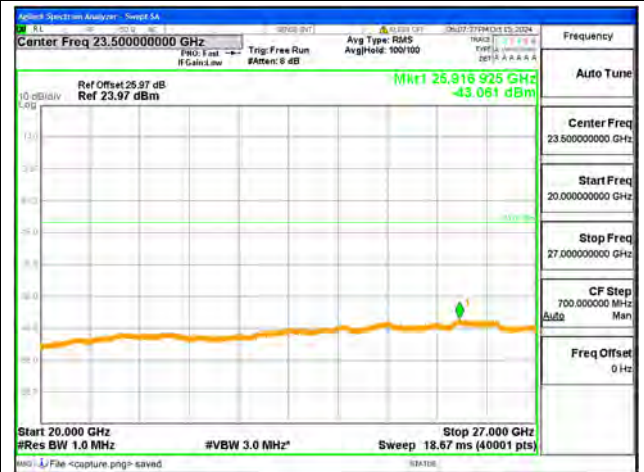
B43-30M-20G / 15MHz / Low CH / QPSK



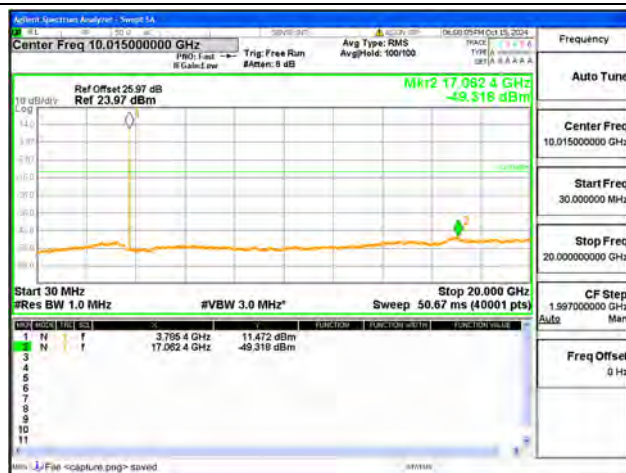
B43-20G-38G / 15MHz / Low CH / QPSK



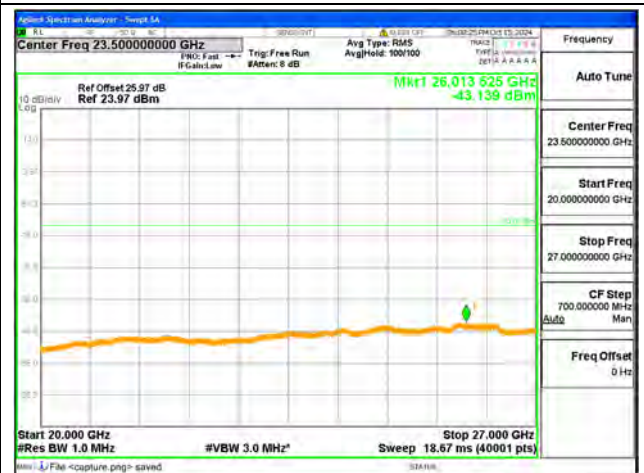
B43-30M-20G / 15MHz / Mid CH / QPSK



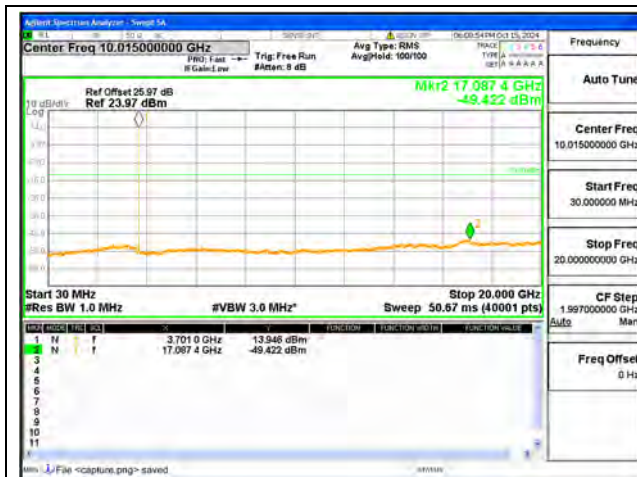
B43-20G-38G / 15MHz / Mid CH / QPSK



B43-30M-20G / 15MHz / High CH / QPSK



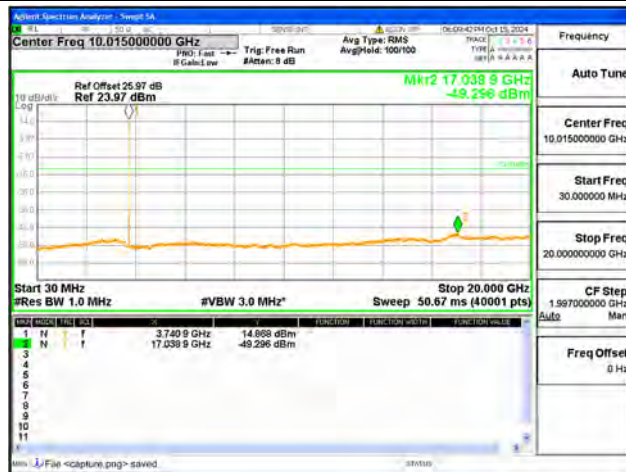
B43-20G-38G / 15MHz / High CH / QPSK



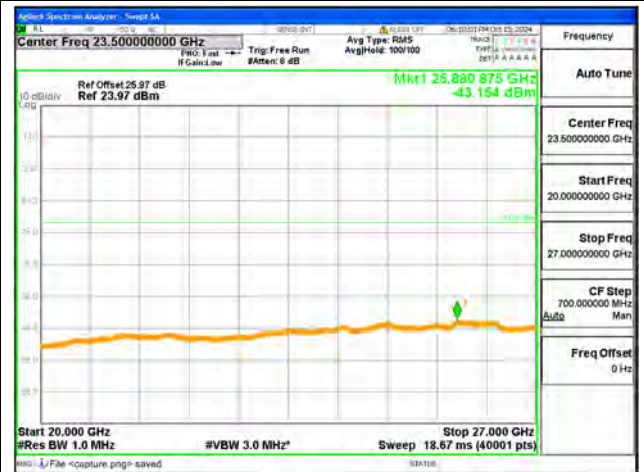
B43-30M-20G / 20MHz / Low CH / QPSK



B43-20G-38G / 20MHz / Low CH / QPSK



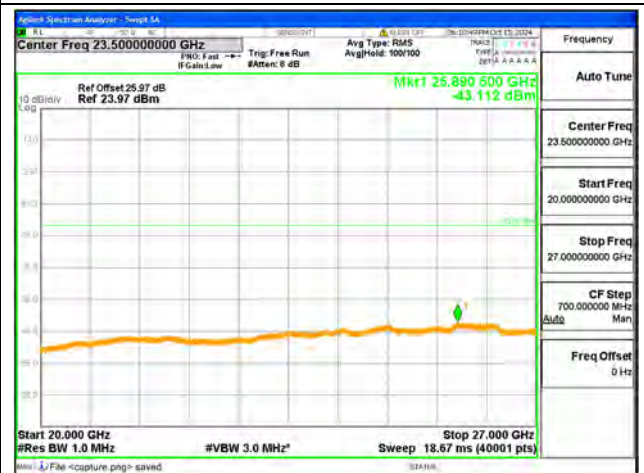
B43-30M-20G / 20MHz / Mid CH / QPSK



B43-20G-38G / 20MHz / Mid CH / QPSK



B43-30M-20G / 20MHz / High CH / QPSK



B43-20G-38G / 20MHz / High CH / QPSK



2.6. Band Edge

2.6.1. Requirement

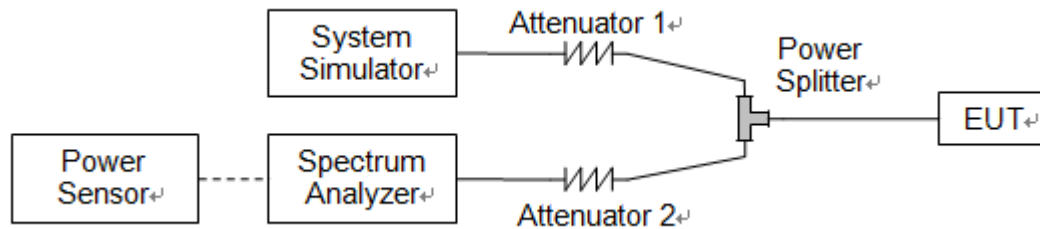
Band 42

According to FCC section 27.53(n) (2), For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Band 43

According to FCC section 27.53(l)(2), for mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz, based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

2.6.2. Test Description



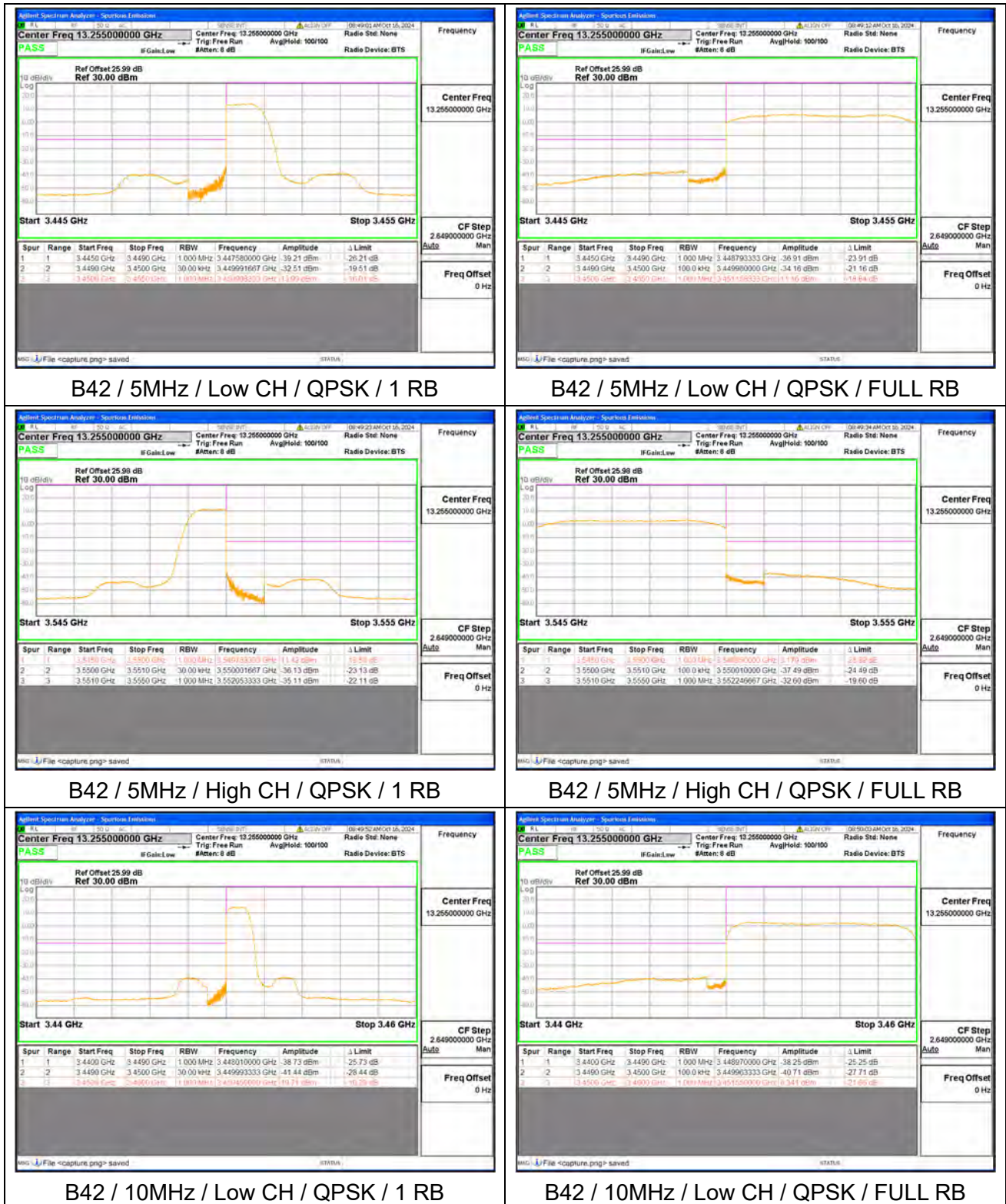
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

2.6.3. Test Procedure

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



2.6.4. Test Result

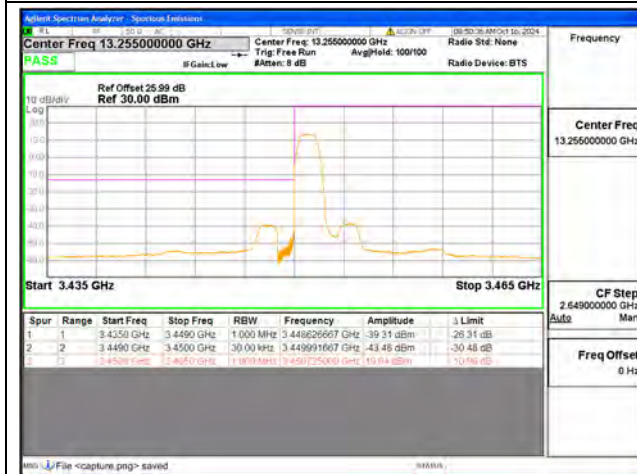




B42 / 10MHz / High CH / QPSK / 1 RB



B42 / 10MHz / High CH / QPSK / FULL RB



B42 / 15MHz / Low CH / QPSK / 1 RB



B42 / 15MHz / Low CH / QPSK / FULL RB



B42 / 15MHz / High CH / QPSK / 1 RB



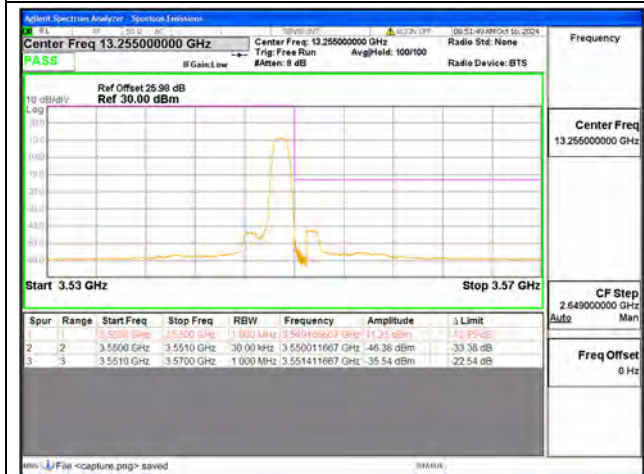
B42 / 15MHz / High CH / QPSK / FULL RB



B42 / 20MHz / Low CH / QPSK / 1 RB



B42 / 20MHz / Low CH / QPSK / FULL RB



B42 / 20MHz / High CH / QPSK / 1 RB



B42 / 20MHz / High CH / QPSK / FULL RB



B43 / 5MHz / Low CH / QPSK / 1 RB



B43 / 5MHz / Low CH / QPSK / FULL RB



B43 / 5MHz / High CH / QPSK / 1 RB



B43 / 5MHz / High CH / QPSK / FULL RB



B43 / 10MHz / Low CH / QPSK / 1 RB



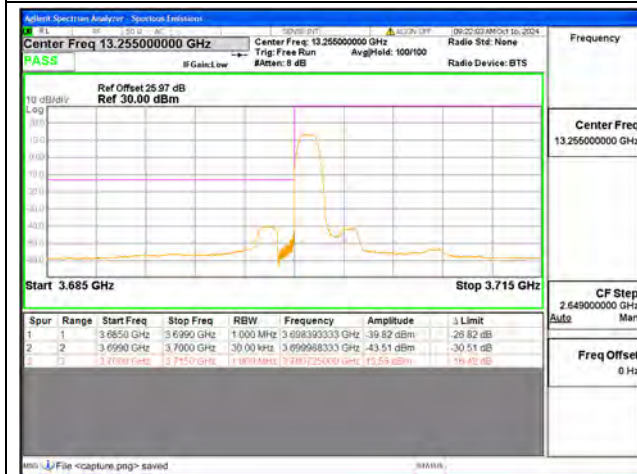
B43 / 10MHz / Low CH / QPSK / FULL RB



B43 / 10MHz / High CH / QPSK / 1 RB



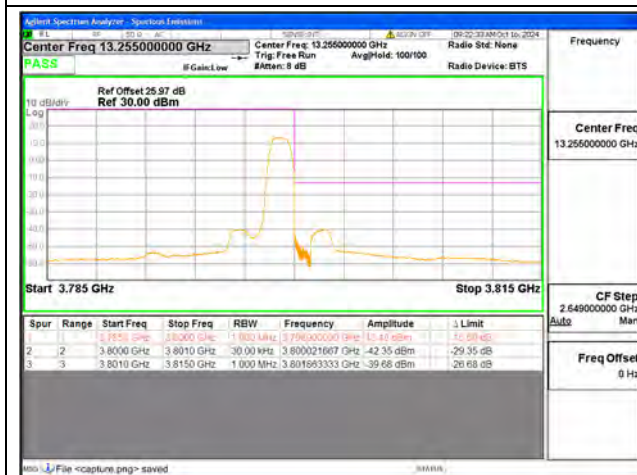
B43 / 10MHz / High CH / QPSK / FULL RB



B43 / 15MHz / Low CH / QPSK / 1 RB



B43 / 15MHz / Low CH / QPSK / FULL RB



B43 / 15MHz / High CH / QPSK / 1 RB



B43 / 15MHz / High CH / QPSK / FULL RB



B43 / 20MHz / Low CH / QPSK / 1 RB



B43 / 20MHz / Low CH / QPSK / FULL RB



B43 / 20MHz / High CH / QPSK / 1 RB



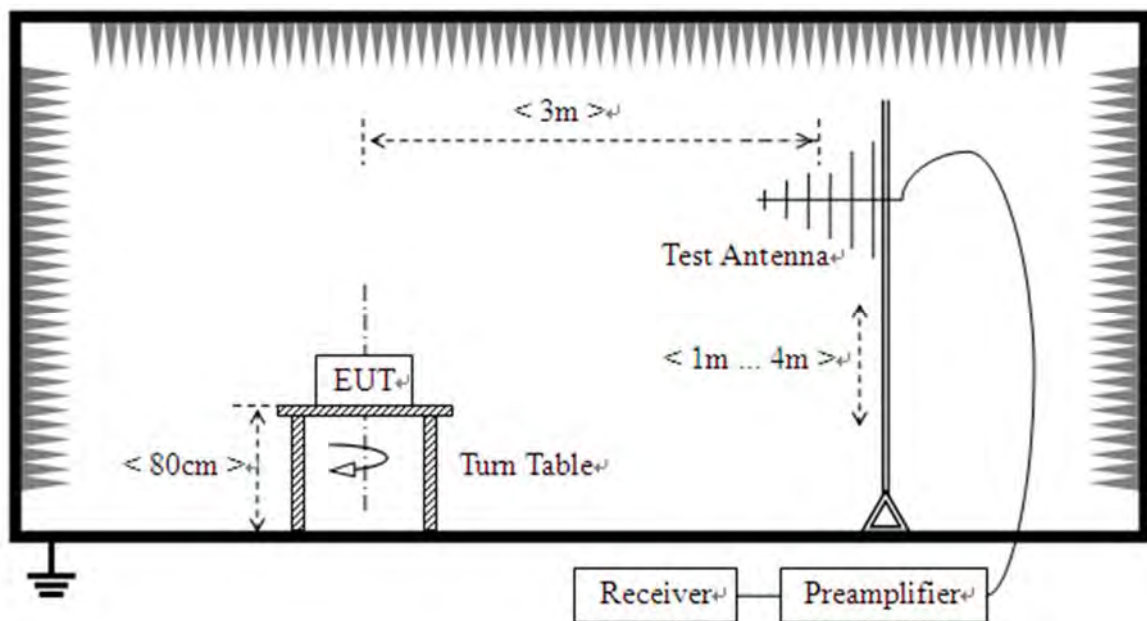
B43 / 20MHz / High CH / QPSK / FULL RB

2.7. Radiated Spurious Emissions

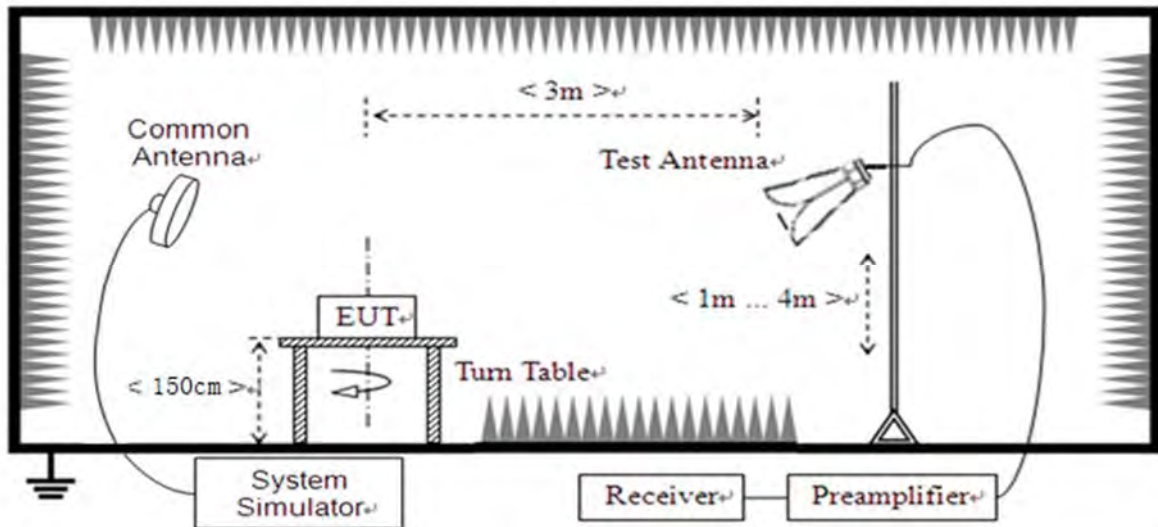
2.7.1. Requirement

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

2.7.2. Test Description



(For the test frequency from 30MHz to 1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.7.3. Test Procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements.

For measurements above 1GHz (exclude 1559-1610 MHz) the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements.



2.7.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST\_TX}} - P_{\text{SUBST\_RX}} - L_{\text{SUBST\_CABLES}} + G_{\text{SUBST\_TX\_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST\_TX}}$ is signal generator level,

$P_{\text{SUBST\_RX}}$ is receiver level,

$L_{\text{SUBST\_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST\_TX\_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the test spectrum analyze, so spectrum analyze reading is the final values which contain the data of A_{TOT} .

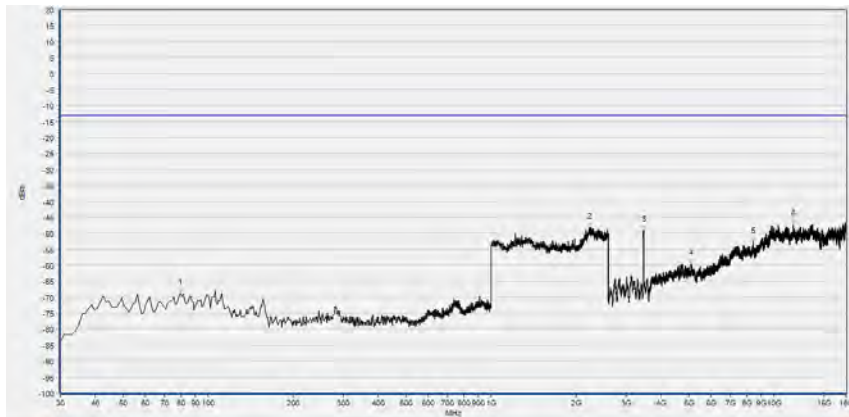
Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

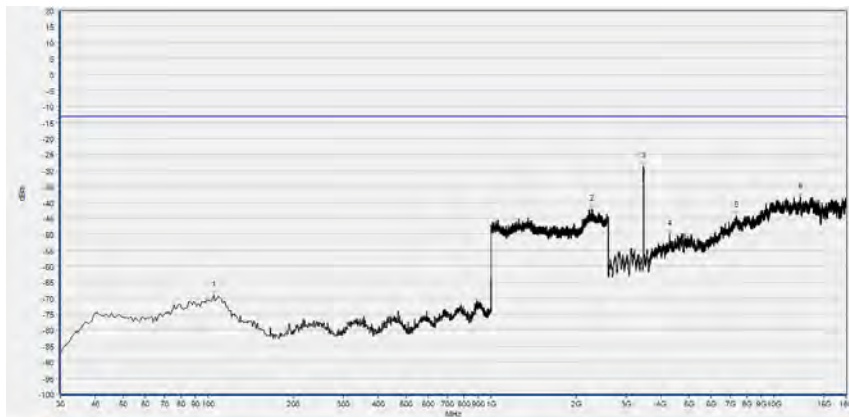
Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band, only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.

Note 4: N/A means the frequency is the basic frequency or the base station frequency, they are no need to verdict.

LTE Band 42, 20MHz BW, Low Channel, QPSK

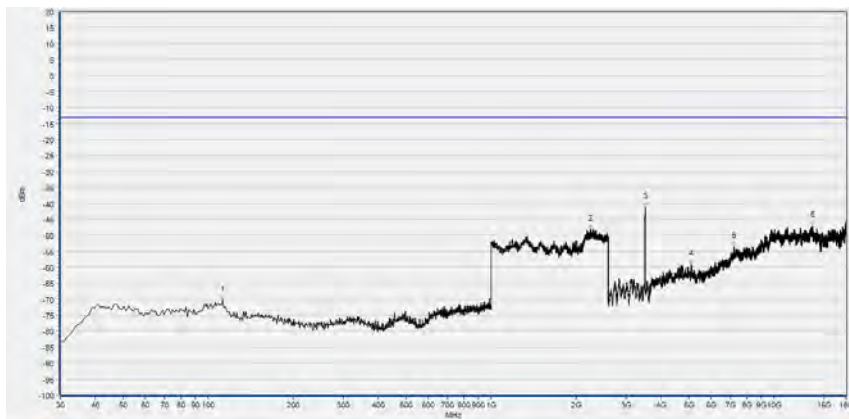


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	79.520	-68.81	-13.00	Horizontal	PASS
2	2226.827	-48.06	-13.00	Horizontal	PASS
3	3462.573	-49.07	-13.00	Horizontal	N/A
4	5104.541	-59.44	-13.00	Horizontal	PASS
5	8434.687	-52.68	-13.00	Horizontal	PASS
6	11718.624	-47.25	-13.00	Horizontal	PASS

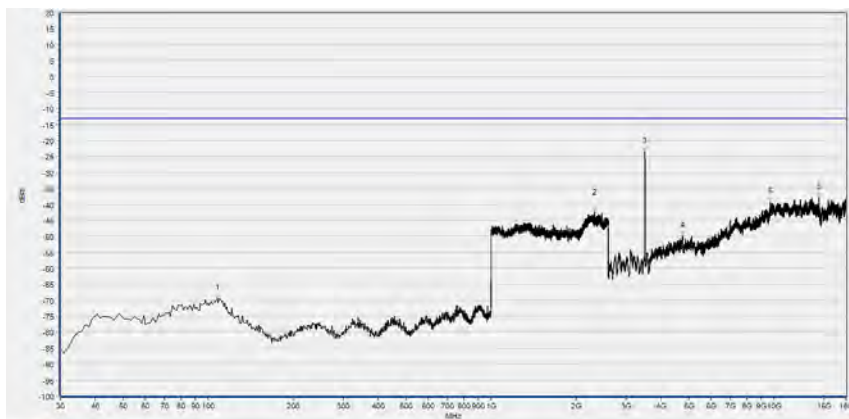


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	104.690	-68.99	-13.00	Vertical	PASS
2	2265.786	-42.21	-13.00	Vertical	PASS
3	3451.355	-28.80	-13.00	Vertical	N/A
4	4285.907	-49.96	-13.00	Vertical	PASS
5	7355.265	-44.21	-13.00	Vertical	PASS
6	12404.583	-38.29	-13.00	Vertical	PASS

LTE Band 42, 20MHz BW, Mid Channel, QPSK

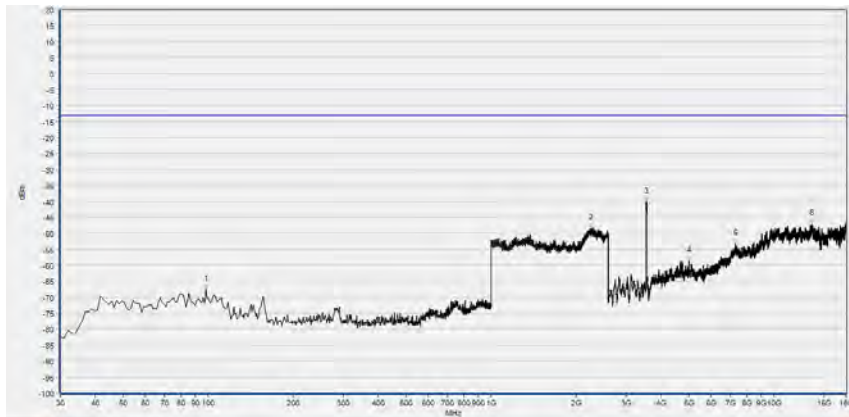


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	112.533	-70.29	-13.00	Horizontal	PASS
2	2250.851	-48.22	-13.00	Horizontal	PASS
3	3502.621	-41.26	-13.00	Horizontal	N/A
4	5110.702	-59.15	-13.00	Horizontal	PASS
5	7230.166	-53.50	-13.00	Horizontal	PASS
6	13733.347	-47.12	-13.00	Horizontal	PASS

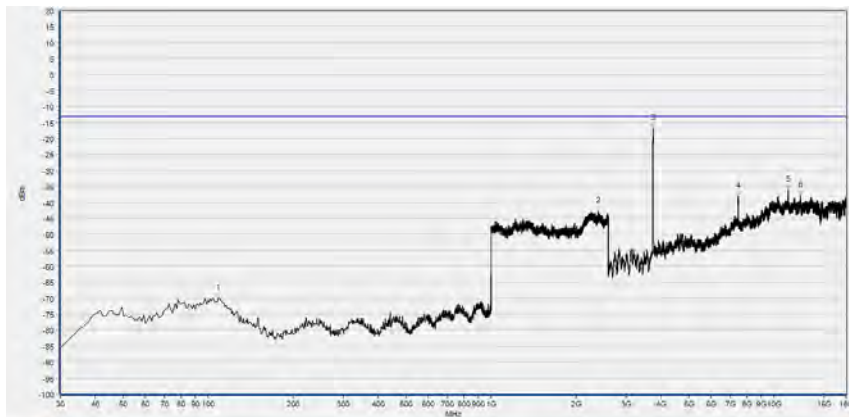


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	107.600	-69.49	-13.00	Vertical	PASS
2	2321.489	-42.44	-13.00	Vertical	PASS
3	3501.764	-23.53	-13.00	Vertical	N/A
4	4745.190	-49.90	-13.00	Vertical	PASS
5	9732.897	-39.29	-13.00	Vertical	PASS
6	14440.553	-37.77	-13.00	Vertical	PASS

LTE Band 42, 20MHz BW, High Channel, QPSK

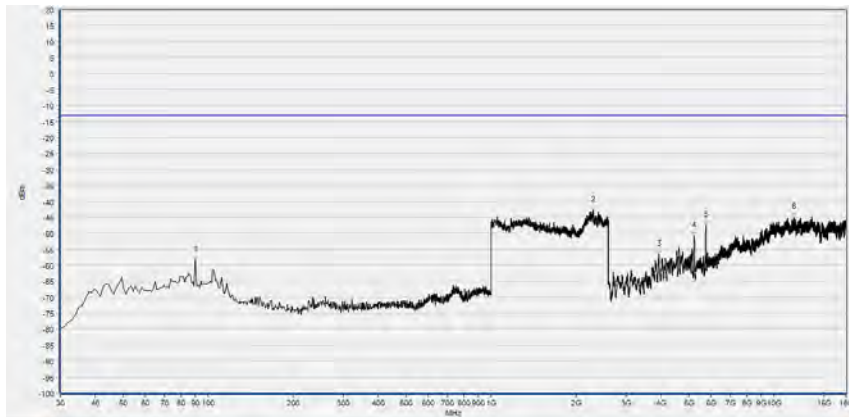


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	97.968	-67.51	-13.00	Horizontal	PASS
2	2258.859	-48.48	-13.00	Horizontal	PASS
3	3539.588	-40.15	-13.00	Horizontal	N/A
4	5015.203	-58.63	-13.00	Horizontal	PASS
5	7316.423	-53.23	-13.00	Horizontal	PASS
6	13607.041	-46.93	-13.00	Horizontal	PASS

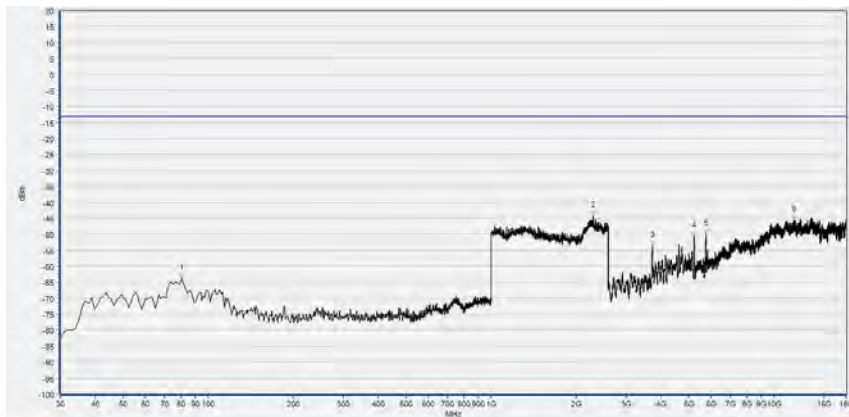


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	108.570	-70.12	-13.00	Vertical	PASS
2	2397.679	-42.73	-13.00	Vertical	PASS
3	3745.408	-16.98	-13.00	Vertical	N/A
4	7481.288	-38.03	-13.00	Vertical	PASS
5	11219.967	-36.13	-13.00	Vertical	PASS
6	12407.383	-37.98	-13.00	Vertical	PASS

LTE Band 43, 20MHz BW, Low Channel, QPSK

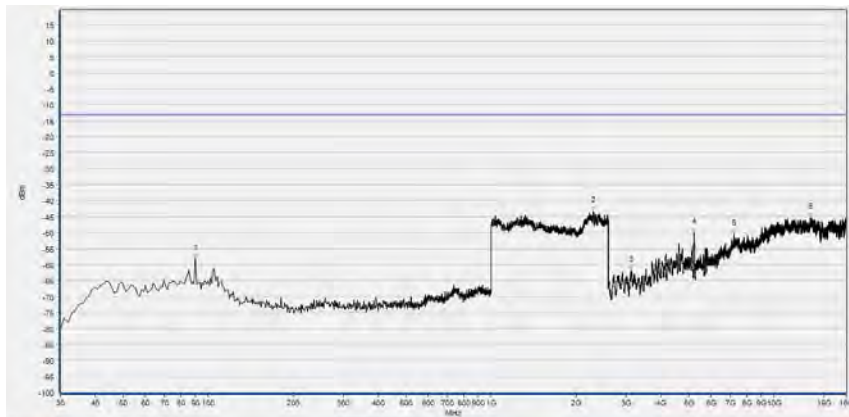


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	90.200	-58.34	-13.00	Horizontal	PASS
2	2297.297	-42.77	-13.00	Horizontal	PASS
3	3930.826	-56.64	-13.00	Horizontal	PASS
4	5227.766	-50.95	-13.00	Horizontal	PASS
5	5742.228	-47.49	-13.00	Horizontal	PASS
6	11789.478	-45.11	-13.00	Horizontal	PASS

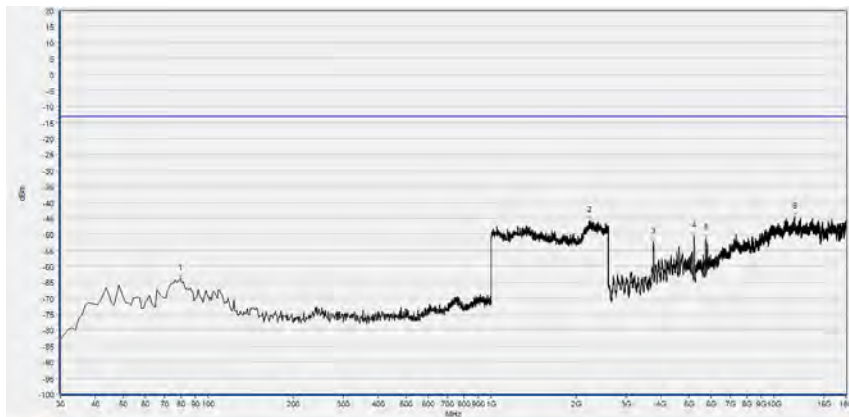


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	80.490	-63.87	-13.00	Vertical	PASS
2	2295.696	-44.20	-13.00	Vertical	PASS
3	3718.264	-53.62	-13.00	Vertical	N/A
4	5224.685	-50.66	-13.00	Vertical	PASS
5	5745.309	-49.86	-13.00	Vertical	PASS
6	11774.075	-45.47	-13.00	Vertical	PASS

LTE Band 43, 20MHz BW, Mid Channel, QPSK

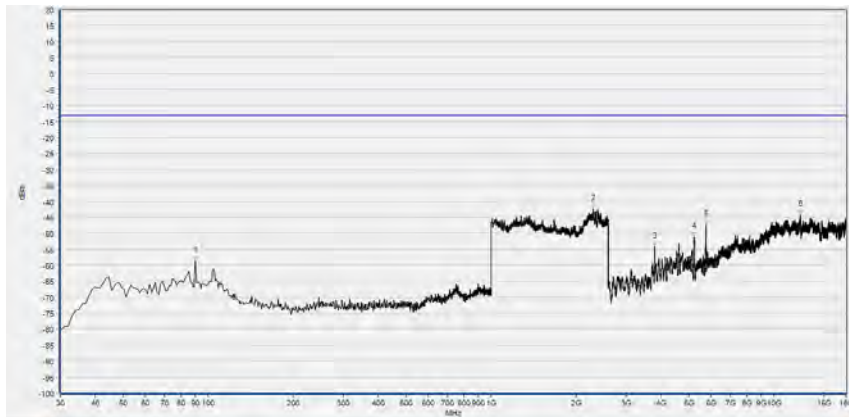


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	90.200	-58.19	-13.00	Horizontal	PASS
2	2302.102	-43.22	-13.00	Horizontal	PASS
3	3117.544	-61.88	-13.00	Horizontal	PASS
4	5227.766	-49.91	-13.00	Horizontal	PASS
5	7217.844	-50.49	-13.00	Horizontal	PASS
6	13449.930	-45.29	-13.00	Horizontal	PASS

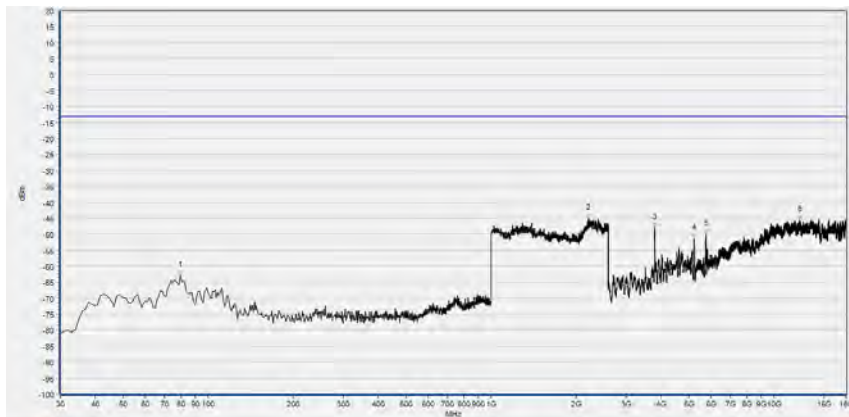


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	79.520	-63.71	-13.00	Vertical	PASS
2	2226.827	-45.69	-13.00	Vertical	PASS
3	3752.150	-52.37	-13.00	Vertical	N/A
4	5224.685	-50.71	-13.00	Vertical	PASS
5	5742.228	-51.33	-13.00	Vertical	PASS
6	11817.203	-44.60	-13.00	Vertical	PASS

LTE Band 43, 20MHz BW, High Channel, QPSK



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	90.200	-58.62	-13.00	Horizontal	PASS
2	2300.501	-42.26	-13.00	Horizontal	PASS
3	3795.279	-54.22	-13.00	Horizontal	N/A
4	5227.766	-51.12	-13.00	Horizontal	PASS
5	5742.228	-47.25	-13.00	Horizontal	PASS
6	12402.521	-44.08	-13.00	Horizontal	PASS



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	79.520	-63.00	-13.00	Vertical	PASS
2	2207.608	-44.98	-13.00	Vertical	PASS
3	3795.279	-47.90	-13.00	Vertical	PASS
4	5224.685	-51.23	-13.00	Vertical	PASS
5	5742.228	-49.97	-13.00	Vertical	PASS
6	12319.344	-45.52	-13.00	Vertical	PASS



Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test Items	Uncertainty
Output Power	± 2.22 dB
Bandwidth	$\pm 5\%$
Conducted Spurious Emission	± 2.77 dB
Band Edge	± 2.77 dB
Equivalent Isotropic Radiated Power	± 2.22 dB
Radiated Spurious Emissions	± 6 dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.



REPORT No.: SZ24050224W04

4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2024.06.19	2025.06.18
Communication Test Station	6200995016	MT8820C	Anritsu	2023.09.19	2024.09.18
				2024.09.11	2025.09.10
Temperature Chamber	S022177101 00089002	KMT-36LF 1A0	KOME G	2023.09.19	2024.09.18
				2024.09.11	2025.09.10

4.2 List of Software Used

Description	Manufacturer	Software Version
MOR-2023E Test System	MORLAB	V7.99
MORLAB EMCR	MORLAB	V1.2

**4.3 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
System Simulator	152038	CMW500	R&S	2023.10.17	2024.10.16
Receiver	MY56060145	N9020A	Agilent	2024.05.30	2025.05.29
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2024.06.22	2025.06.21
Test Antenna - Horn	9120D-963	BBHA 9120D	Schwarzbeck	2024.06.22	2025.06.21
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK- 0.5	Qualwave	2024.07.03	2025.07.02
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KK F-2	Qualwave	2024.07.03	2025.07.02
Preamplifier (10MHz-6GHz)	46732	S10M100L380 2	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (2GHz-18GHz)	61171/61172	S020180L320 3	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-4 0C-S	Decentest	2024.05.30	2025.05.29
Notch Filter	N/A	WRCGV -LTE B42	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV -LTE B43	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.05.10	2025.05.09

____ END OF REPORT ____