



REPORT No.: SZ24100188W03

TEST REPORT

APPLICANT : Rhino Mobility LLC

PRODUCT NAME : Module

MODEL NAME : M3501

BRAND NAME : RHINO

FCC ID : 2AUOUM3501

STANDARD(S) : 47 CFR Part 2
47 CFR Part 90, Subpart S&R

RECEIPT DATE : 2024-10-28

TEST DATE : 2024-11-06 to 2024-12-20

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Change History		
Version	Date	Reason for change
1.0	2025-01-08	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Rhino Mobility LLC
Applicant Address:	8 The Green, Suite A, Dover, Delaware, 19901, USA
Manufacturer:	Rhino Mobility LLC
Manufacturer Address:	8 The Green, Suite A, Dover, Delaware, 19901, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	Module	
Sample No.:	2#, 7#	
Hardware Version:	SM3501_V1.0	
Software Version:	M3501(001)_20250109	
Modulation Type:	QPSK, 16QAM, 64QAM, 256QAM	
Operation Band:	Band 14 / 26	
Carrier Aggregation(UL):	Not Support	
Frequency Range:	LTE Band 14	Tx: 788MHz–798MHz
		Rx: 758MHz–768MHz
	LTE Band 26	Tx: 814MHz–824MHz
		Rx: 859MHz–869MHz
Channel Bandwidth	LTE Band 14	5MHz, 10MHz
	LTE Band 26	1.4MHz, 3MHz, 5MHz, 10MHz
Antenna Type:	PIFA Antenna	
Antenna Gain:	LTE Band 14	1.65dBi
	LTE Band 26	1.71dBi

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 14		Maximum E.R.P./E.I.R.P. (W)				Emission Designator (99%OBW)			
BW(MHz)		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10		0.183	0.147	0.147	0.054	8M95G7D	8M96W7D	8M95W7D	8M97W7D
5		0.182	0.146	0.148	0.054	4M49G7D	4M48W7D	4M48W7D	4M48W7D
LTE Band 26		Maximum E.R.P./E.I.R.P. (W)				Emission Designator (99%OBW)			
BW(MHz)		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10		0.158	0.140	0.105	0.055	8M98G7D	8M96W7D	8M96W7D	8M94W7D
5		0.167	0.140	0.105	0.054	4M49G7D	4M49W7D	4M48W7D	4M49W7D
3		0.159	0.136	0.109	0.054	2M71G7D	2M72W7D	2M72W7D	2M71W7D
1.4		0.161	0.133	0.105	0.055	1M11G7D	1M11W7D	1M11W7D	1M11W7D



1.4. Test Standards and Results

The objective of the report is to perform testing according to Part 2 and Part 90 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 90	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, 90.635(b)	Transmitter Conducted Output Power and ERP/EIRP	Dec. 31, 2024 Jan. 02, 2025	Shen Biaohong Gan Jing	PASS	No deviation
2.1049	Occupied Bandwidth	Nov. 29, 2024 Dec. 09, 2024	Gan Jing	PASS	No deviation
2.1055, 90.213	Frequency Stability	Dec. 31, 2024	Gan Jing	PASS	No deviation
2.1051, 90.691	Conducted Spurious Emissions	Nov. 06, 2024 Dec. 31, 2024	Gan Jing	PASS	No deviation
2.1051, 90.691	Band Edge	Dec. 09, 2024	Gan Jing	PASS	No deviation
2.1053, 90.691	Radiated Spurious Emissions	Dec. 12, 2024	Li Hanbin	PASS	No deviation

Note 1: The tests were performed according to the method of measurements prescribed in KDB 971168 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 90R&S Requirements

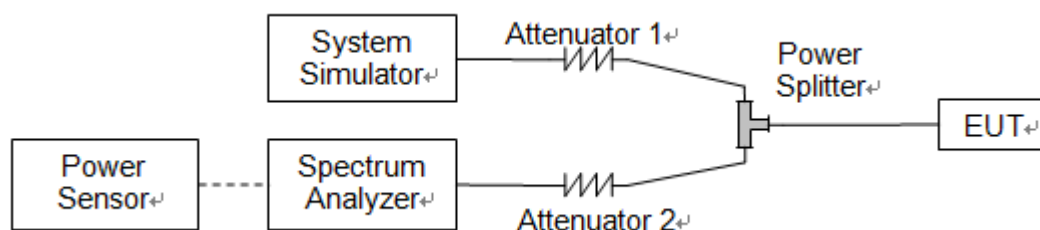
2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.

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 90.635(b) for LTE Band 26, the maximum output power of the transmitter for mobile stations is 100 watts.

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.

$EIRP \text{ (dBm)} = \text{Conducted Output Power (dBm)} + \text{Antenna Gain (dBi)}$

$ERP \text{ (dBm)} = EIPR \text{ (dBm)} - 2.15$

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

LTE Band 14						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	23330	/
Frequency (MHz)				/	793	/
10	QPSK	1	0	/	23.13	/
10	QPSK	1	25	/	23.10	/
10	QPSK	1	49	/	23.08	/
10	QPSK	25	0	/	22.04	/
10	QPSK	25	12	/	22.00	/
10	QPSK	25	25	/	22.01	/
10	QPSK	50	0	/	22.03	/
10	16QAM	1	0	/	22.17	/
10	16QAM	1	25	/	22.14	/
10	16QAM	1	49	/	22.06	/
10	16QAM	25	0	/	21.11	/
10	16QAM	25	12	/	21.10	/
10	16QAM	25	25	/	21.03	/
10	16QAM	50	0	/	21.07	/
10	64QAM	1	0	/	22.09	/
10	64QAM	1	25	/	22.18	/
10	64QAM	1	49	/	22.12	/
10	64QAM	25	0	/	21.09	/
10	64QAM	25	12	/	21.06	/
10	64QAM	25	25	/	21.10	/
10	64QAM	50	0	/	21.01	/
10	256QAM	1	0	/	17.79	/
10	256QAM	1	25	/	17.65	/
10	256QAM	1	49	/	17.55	/
10	256QAM	25	0	/	17.52	/
10	256QAM	25	12	/	17.49	/
10	256QAM	25	25	/	17.46	/
10	256QAM	50	0	/	17.68	/



LTE Band 14						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23305	23330	23355
Frequency (MHz)				790.5	793	795.5
5	QPSK	1	0	23.06	23.10	23.09
5	QPSK	1	12	23.05	22.97	23.00
5	QPSK	1	24	22.92	23.07	22.89
5	QPSK	12	0	22.09	22.21	21.93
5	QPSK	12	7	21.93	21.88	22.01
5	QPSK	12	13	21.88	21.88	21.81
5	QPSK	25	0	21.91	21.87	21.91
5	16QAM	1	0	22.03	22.15	21.84
5	16QAM	1	12	21.96	22.03	21.99
5	16QAM	1	24	22.00	21.96	22.02
5	16QAM	12	0	20.83	20.90	21.11
5	16QAM	12	7	20.93	20.94	20.90
5	16QAM	12	13	20.92	20.91	20.86
5	16QAM	25	0	21.03	21.08	20.96
5	64QAM	1	0	22.07	22.03	21.79
5	64QAM	1	12	22.17	22.11	22.00
5	64QAM	1	24	22.18	22.21	21.97
5	64QAM	12	0	20.95	21.06	20.87
5	64QAM	12	7	21.05	21.03	21.03
5	64QAM	12	13	20.77	20.83	20.82
5	64QAM	25	0	20.81	21.01	20.98
5	256QAM	1	0	17.72	17.65	17.65
5	256QAM	1	12	17.71	17.65	17.70
5	256QAM	1	24	17.80	17.72	17.53
5	256QAM	12	0	17.64	17.47	17.64
5	256QAM	12	7	17.46	17.53	17.53
5	256QAM	12	13	17.72	17.64	17.67
5	256QAM	25	0	17.52	17.44	17.55



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				/	26740	/
Frequency (MHz)				/	819.0	/
10	QPSK	1	0	/	22.17	/
10	QPSK	1	25	/	22.43	/
10	QPSK	1	49	/	22.28	/
10	QPSK	25	0	/	21.53	/
10	QPSK	25	12	/	21.60	/
10	QPSK	25	25	/	21.75	/
10	QPSK	50	0	/	21.33	/
10	16QAM	1	0	/	21.91	/
10	16QAM	1	25	/	21.67	/
10	16QAM	1	49	/	21.41	/
10	16QAM	25	0	/	20.49	/
10	16QAM	25	12	/	20.71	/
10	16QAM	25	25	/	20.41	/
10	16QAM	50	0	/	20.65	/
10	64QAM	1	0	/	20.56	/
10	64QAM	1	25	/	20.66	/
10	64QAM	1	49	/	20.42	/
10	64QAM	25	0	/	19.66	/
10	64QAM	25	12	/	19.40	/
10	64QAM	25	25	/	19.34	/
10	64QAM	50	0	/	19.30	/
10	256QAM	1	0	/	17.87	/
10	256QAM	1	25	/	17.67	/
10	256QAM	1	49	/	17.57	/
10	256QAM	25	0	/	17.44	/
10	256QAM	25	12	/	17.32	/
10	256QAM	25	25	/	17.50	/
10	256QAM	50	0	/	17.54	/



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26715	26740	26765
Frequency (MHz)				816.5	819.0	821.5
5	QPSK	1	0	22.68	22.45	22.24
5	QPSK	1	12	22.56	22.54	22.39
5	QPSK	1	24	22.27	22.48	21.97
5	QPSK	12	0	21.62	21.41	21.32
5	QPSK	12	7	21.30	21.43	21.53
5	QPSK	12	13	21.44	21.46	21.43
5	QPSK	25	0	21.56	21.20	21.68
5	16QAM	1	0	21.89	21.75	21.59
5	16QAM	1	12	21.82	21.70	21.37
5	16QAM	1	24	21.34	21.12	21.80
5	16QAM	12	0	20.37	20.33	20.43
5	16QAM	12	7	20.18	20.49	20.35
5	16QAM	12	13	20.41	20.22	20.55
5	16QAM	25	0	20.45	20.38	20.59
5	64QAM	1	0	20.59	20.55	20.48
5	64QAM	1	12	20.33	20.51	20.56
5	64QAM	1	24	20.67	20.44	20.32
5	64QAM	12	0	19.33	19.22	19.54
5	64QAM	12	7	19.44	19.38	19.29
5	64QAM	12	13	19.33	19.50	19.53
5	64QAM	25	0	19.16	19.23	19.23
5	256QAM	1	0	17.41	17.35	17.80
5	256QAM	1	12	17.56	17.32	17.71
5	256QAM	1	24	17.69	17.44	17.60
5	256QAM	12	0	17.57	17.60	17.45
5	256QAM	12	7	17.55	17.54	17.57
5	256QAM	12	13	17.36	17.59	17.57
5	256QAM	25	0	17.52	17.35	17.39



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26705	26740	26775
Frequency (MHz)				815.5	819.0	822.5
3	QPSK	1	0	22.41	22.45	22.16
3	QPSK	1	8	22.30	22.44	22.38
3	QPSK	1	14	22.18	22.09	22.29
3	QPSK	8	0	21.75	21.36	21.40
3	QPSK	8	4	21.59	21.28	21.79
3	QPSK	8	7	21.51	21.55	21.58
3	QPSK	15	0	21.48	21.43	21.68
3	16QAM	1	0	21.31	21.66	21.77
3	16QAM	1	8	21.67	21.57	21.53
3	16QAM	1	14	21.44	21.10	21.49
3	16QAM	8	0	20.57	20.48	20.39
3	16QAM	8	4	20.53	20.27	20.63
3	16QAM	8	7	20.57	20.57	20.39
3	16QAM	15	0	20.60	20.34	20.50
3	64QAM	1	0	20.31	20.46	20.61
3	64QAM	1	8	20.48	20.80	20.37
3	64QAM	1	14	20.26	20.33	20.50
3	64QAM	8	0	19.55	19.64	19.28
3	64QAM	8	4	19.41	19.33	19.60
3	64QAM	8	7	19.31	19.22	19.45
3	64QAM	15	0	19.57	19.48	19.22
3	256QAM	1	0	17.49	17.21	17.08
3	256QAM	1	8	17.67	17.68	17.51
3	256QAM	1	14	17.52	17.62	17.18
3	256QAM	8	0	17.36	17.56	17.26
3	256QAM	8	4	17.74	17.58	17.52
3	256QAM	8	7	17.59	17.42	17.75
3	256QAM	15	0	17.66	17.63	17.48



LTE Band 26						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				26697	26740	26783
Frequency (MHz)				814.7	819.0	823.3
1.4	QPSK	1	0	22.33	22.43	22.52
1.4	QPSK	1	3	22.42	22.34	22.40
1.4	QPSK	1	5	22.27	22.35	22.38
1.4	QPSK	3	0	22.36	22.24	22.37
1.4	QPSK	3	1	22.36	22.39	22.49
1.4	QPSK	3	3	22.28	22.47	22.20
1.4	QPSK	6	0	21.55	21.58	21.55
1.4	16QAM	1	0	21.66	21.63	21.51
1.4	16QAM	1	3	21.68	21.64	21.68
1.4	16QAM	1	5	21.56	21.37	21.61
1.4	16QAM	3	0	21.54	21.55	21.52
1.4	16QAM	3	1	21.56	21.50	21.59
1.4	16QAM	3	3	21.59	21.47	21.42
1.4	16QAM	6	0	20.58	20.57	20.60
1.4	64QAM	1	0	20.50	20.41	20.46
1.4	64QAM	1	3	20.63	20.60	20.64
1.4	64QAM	1	5	20.50	20.58	20.49
1.4	64QAM	3	0	20.55	20.64	20.54
1.4	64QAM	3	1	20.62	20.57	20.58
1.4	64QAM	3	3	20.52	20.52	20.49
1.4	64QAM	6	0	19.62	19.54	19.30
1.4	256QAM	1	0	17.83	17.51	17.71
1.4	256QAM	1	3	17.55	17.53	17.43
1.4	256QAM	1	5	17.59	17.56	17.68
1.4	256QAM	3	0	17.71	17.53	17.55
1.4	256QAM	3	1	17.61	17.79	17.29
1.4	256QAM	3	3	17.57	17.63	17.49
1.4	256QAM	6	0	17.72	17.58	17.28

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

LTE Band 14				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				/		23330		/	
Frequency (MHz)				/		793		/	
				/	/	dBm	W	/	/
10	QPSK	1	0	/	/	22.63	0.183	/	/
10	QPSK	1	25	/	/	22.60	0.182	/	/
10	QPSK	1	49	/	/	22.58	0.181	/	/
10	QPSK	25	0	/	/	21.54	0.143	/	/
10	QPSK	25	12	/	/	21.50	0.141	/	/
10	QPSK	25	25	/	/	21.51	0.142	/	/
10	QPSK	50	0	/	/	21.53	0.142	/	/
10	16QAM	1	0	/	/	21.67	0.147	/	/
10	16QAM	1	25	/	/	21.64	0.146	/	/
10	16QAM	1	49	/	/	21.56	0.143	/	/
10	16QAM	25	0	/	/	20.61	0.115	/	/
10	16QAM	25	12	/	/	20.60	0.115	/	/
10	16QAM	25	25	/	/	20.53	0.113	/	/
10	16QAM	50	0	/	/	20.57	0.114	/	/
10	64QAM	1	0	/	/	21.59	0.144	/	/
10	64QAM	1	25	/	/	21.68	0.147	/	/
10	64QAM	1	49	/	/	21.62	0.145	/	/
10	64QAM	25	0	/	/	20.59	0.115	/	/
10	64QAM	25	12	/	/	20.56	0.114	/	/
10	64QAM	25	25	/	/	20.60	0.115	/	/
10	64QAM	50	0	/	/	20.51	0.112	/	/
10	256QAM	1	0	/	/	17.29	0.054	/	/
10	256QAM	1	25	/	/	17.15	0.052	/	/
10	256QAM	1	49	/	/	17.05	0.051	/	/
10	256QAM	25	0	/	/	17.02	0.050	/	/
10	256QAM	25	12	/	/	16.99	0.050	/	/
10	256QAM	25	25	/	/	16.96	0.050	/	/
10	256QAM	50	0	/	/	17.18	0.052	/	/



LTE Band 14				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23305		23330		23355	
Frequency (MHz)				790.5		793		795.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	22.56	0.180	22.60	0.182	22.59	0.182
5	QPSK	1	12	22.55	0.180	22.47	0.177	22.50	0.178
5	QPSK	1	24	22.42	0.175	22.57	0.181	22.39	0.173
5	QPSK	12	0	21.59	0.144	21.71	0.148	21.43	0.139
5	QPSK	12	7	21.43	0.139	21.38	0.137	21.51	0.142
5	QPSK	12	13	21.38	0.137	21.38	0.137	21.31	0.135
5	QPSK	25	0	21.41	0.138	21.37	0.137	21.41	0.138
5	16QAM	1	0	21.53	0.142	21.65	0.146	21.34	0.136
5	16QAM	1	12	21.46	0.140	21.53	0.142	21.49	0.141
5	16QAM	1	24	21.50	0.141	21.46	0.140	21.52	0.142
5	16QAM	12	0	20.33	0.108	20.40	0.110	20.61	0.115
5	16QAM	12	7	20.43	0.110	20.44	0.111	20.40	0.110
5	16QAM	12	13	20.42	0.110	20.41	0.110	20.36	0.109
5	16QAM	25	0	20.53	0.113	20.58	0.114	20.46	0.111
5	64QAM	1	0	21.57	0.144	21.53	0.142	21.29	0.135
5	64QAM	1	12	21.67	0.147	21.61	0.145	21.50	0.141
5	64QAM	1	24	21.68	0.147	21.71	0.148	21.47	0.140
5	64QAM	12	0	20.45	0.111	20.56	0.114	20.37	0.109
5	64QAM	12	7	20.55	0.114	20.53	0.113	20.53	0.113
5	64QAM	12	13	20.27	0.106	20.33	0.108	20.32	0.108
5	64QAM	25	0	20.31	0.107	20.51	0.112	20.48	0.112
5	256QAM	1	0	17.22	0.053	17.15	0.052	17.15	0.052
5	256QAM	1	12	17.21	0.053	17.15	0.052	17.20	0.052
5	256QAM	1	24	17.30	0.054	17.22	0.053	17.03	0.050
5	256QAM	12	0	17.14	0.052	16.97	0.050	17.14	0.052
5	256QAM	12	7	16.96	0.050	17.03	0.050	17.03	0.050
5	256QAM	12	13	17.22	0.053	17.14	0.052	17.17	0.052
5	256QAM	25	0	17.02	0.050	16.94	0.049	17.05	0.051



LTE Band 26				Measured E.R.P.			
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.	Middle Ch. / Freq.		High Ch. / Freq.
Channel				/	26740		/
Frequency (MHz)				/	819		/
				/	dBm	W	/
10	QPSK	1	0	/	21.73	0.149	/
10	QPSK	1	25	/	21.99	0.158	/
10	QPSK	1	49	/	21.84	0.153	/
10	QPSK	25	0	/	21.09	0.129	/
10	QPSK	25	12	/	21.16	0.131	/
10	QPSK	25	25	/	21.31	0.135	/
10	QPSK	50	0	/	20.89	0.123	/
10	16QAM	1	0	/	21.47	0.140	/
10	16QAM	1	25	/	21.23	0.133	/
10	16QAM	1	49	/	20.97	0.125	/
10	16QAM	25	0	/	20.05	0.101	/
10	16QAM	25	12	/	20.27	0.106	/
10	16QAM	25	25	/	19.97	0.099	/
10	16QAM	50	0	/	20.21	0.105	/
10	64QAM	1	0	/	20.12	0.103	/
10	64QAM	1	25	/	20.22	0.105	/
10	64QAM	1	49	/	19.98	0.100	/
10	64QAM	25	0	/	19.22	0.084	/
10	64QAM	25	12	/	18.96	0.079	/
10	64QAM	25	25	/	18.90	0.078	/
10	64QAM	50	0	/	18.86	0.077	/
10	256QAM	1	0	/	17.43	0.055	/
10	256QAM	1	25	/	17.23	0.053	/
10	256QAM	1	49	/	17.13	0.052	/
10	256QAM	25	0	/	17.00	0.050	/
10	256QAM	25	12	/	16.88	0.049	/
10	256QAM	25	25	/	17.06	0.051	/
10	256QAM	50	0	/	17.10	0.051	/



LTE Band 26				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				26715		26740		26765	
Frequency (MHz)				816.5		819.0		821.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	22.24	0.167	22.01	0.159	21.80	0.151
5	QPSK	1	12	22.12	0.163	22.10	0.162	21.95	0.157
5	QPSK	1	24	21.83	0.152	22.04	0.160	21.53	0.142
5	QPSK	12	0	21.18	0.131	20.97	0.125	20.88	0.122
5	QPSK	12	7	20.86	0.122	20.99	0.126	21.09	0.129
5	QPSK	12	13	21.00	0.126	21.02	0.126	20.99	0.126
5	QPSK	25	0	21.12	0.129	20.76	0.119	21.24	0.133
5	16QAM	1	0	21.45	0.140	21.31	0.135	21.15	0.130
5	16QAM	1	12	21.38	0.137	21.26	0.134	20.93	0.124
5	16QAM	1	24	20.90	0.123	20.68	0.117	21.36	0.137
5	16QAM	12	0	19.93	0.098	19.89	0.097	19.99	0.100
5	16QAM	12	7	19.74	0.094	20.05	0.101	19.91	0.098
5	16QAM	12	13	19.97	0.099	19.78	0.095	20.11	0.103
5	16QAM	25	0	20.01	0.100	19.94	0.099	20.15	0.104
5	64QAM	1	0	20.15	0.104	20.11	0.103	20.04	0.101
5	64QAM	1	12	19.89	0.097	20.07	0.102	20.12	0.103
5	64QAM	1	24	20.23	0.105	20.00	0.100	19.88	0.097
5	64QAM	12	0	18.89	0.077	18.78	0.076	19.10	0.081
5	64QAM	12	7	19.00	0.079	18.94	0.078	18.85	0.077
5	64QAM	12	13	18.89	0.077	19.06	0.081	19.09	0.081
5	64QAM	25	0	18.72	0.074	18.79	0.076	18.79	0.076
5	256QAM	1	0	16.97	0.050	16.91	0.049	17.36	0.054
5	256QAM	1	12	17.12	0.052	16.88	0.049	17.27	0.053
5	256QAM	1	24	17.25	0.053	17.00	0.050	17.16	0.052
5	256QAM	12	0	17.13	0.052	17.16	0.052	17.01	0.050
5	256QAM	12	7	17.11	0.051	17.10	0.051	17.13	0.052
5	256QAM	12	13	16.92	0.049	17.15	0.052	17.13	0.052
5	256QAM	25	0	17.08	0.051	16.91	0.049	16.95	0.050



LTE Band 26				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				26705		26740		26775	
Frequency (MHz)				815.5		819.0		822.5	
				dBm	W	dBm	W	dBm	W
3	QPSK	1	0	21.97	0.157	22.01	0.159	21.72	0.149
3	QPSK	1	8	21.86	0.153	22.00	0.158	21.94	0.156
3	QPSK	1	14	21.74	0.149	21.65	0.146	21.85	0.153
3	QPSK	8	0	21.31	0.135	20.92	0.124	20.96	0.125
3	QPSK	8	4	21.15	0.130	20.84	0.121	21.35	0.136
3	QPSK	8	7	21.07	0.128	21.11	0.129	21.14	0.130
3	QPSK	15	0	21.04	0.127	20.99	0.126	21.24	0.133
3	16QAM	1	0	20.87	0.122	21.22	0.132	21.33	0.136
3	16QAM	1	8	21.23	0.133	21.13	0.130	21.09	0.129
3	16QAM	1	14	21.00	0.126	20.66	0.116	21.05	0.127
3	16QAM	8	0	20.13	0.103	20.04	0.101	19.95	0.099
3	16QAM	8	4	20.09	0.102	19.83	0.096	20.19	0.104
3	16QAM	8	7	20.13	0.103	20.13	0.103	19.95	0.099
3	16QAM	15	0	20.16	0.104	19.90	0.098	20.06	0.101
3	64QAM	1	0	19.87	0.097	20.02	0.100	20.17	0.104
3	64QAM	1	8	20.04	0.101	20.36	0.109	19.93	0.098
3	64QAM	1	14	19.82	0.096	19.89	0.097	20.06	0.101
3	64QAM	8	0	19.11	0.081	19.20	0.083	18.84	0.077
3	64QAM	8	4	18.97	0.079	18.89	0.077	19.16	0.082
3	64QAM	8	7	18.87	0.077	18.78	0.076	19.01	0.080
3	64QAM	15	0	19.13	0.082	19.04	0.080	18.78	0.076
3	256QAM	1	0	17.05	0.051	16.77	0.048	16.64	0.046
3	256QAM	1	8	17.23	0.053	17.24	0.053	17.07	0.051
3	256QAM	1	14	17.08	0.051	17.18	0.052	16.74	0.047
3	256QAM	8	0	16.92	0.049	17.12	0.052	16.82	0.048
3	256QAM	8	4	17.30	0.054	17.14	0.052	17.08	0.051
3	256QAM	8	7	17.15	0.052	16.98	0.050	17.31	0.054
3	256QAM	15	0	17.22	0.053	17.19	0.052	17.04	0.051



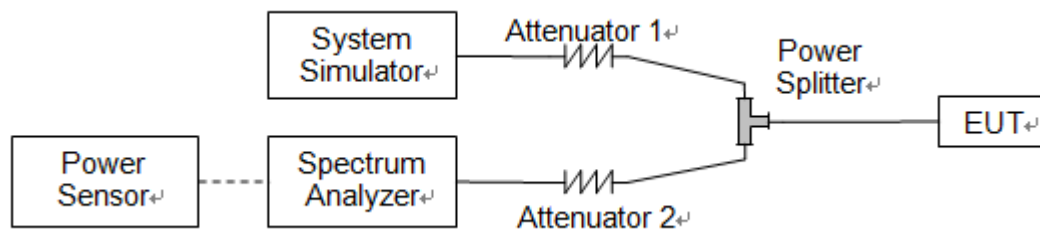
LTE Band 26				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				26697		26740		26783	
Frequency (MHz)				814.7		819.0		823.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	21.89	0.155	21.99	0.158	22.08	0.161
1.4	QPSK	1	3	21.98	0.158	21.90	0.155	21.96	0.157
1.4	QPSK	1	5	21.83	0.152	21.91	0.155	21.94	0.156
1.4	QPSK	3	0	21.92	0.156	21.80	0.151	21.93	0.156
1.4	QPSK	3	1	21.92	0.156	21.95	0.157	22.05	0.160
1.4	QPSK	3	3	21.84	0.153	22.03	0.160	21.76	0.150
1.4	QPSK	6	0	21.11	0.129	21.14	0.130	21.11	0.129
1.4	16QAM	1	0	21.22	0.132	21.19	0.132	21.07	0.128
1.4	16QAM	1	3	21.24	0.133	21.20	0.132	21.24	0.133
1.4	16QAM	1	5	21.12	0.129	20.93	0.124	21.17	0.131
1.4	16QAM	3	0	21.10	0.129	21.11	0.129	21.08	0.128
1.4	16QAM	3	1	21.12	0.129	21.06	0.128	21.15	0.130
1.4	16QAM	3	3	21.15	0.130	21.03	0.127	20.98	0.125
1.4	16QAM	6	0	20.14	0.103	20.13	0.103	20.16	0.104
1.4	64QAM	1	0	20.06	0.101	19.97	0.099	20.02	0.100
1.4	64QAM	1	3	20.19	0.104	20.16	0.104	20.20	0.105
1.4	64QAM	1	5	20.06	0.101	20.14	0.103	20.05	0.101
1.4	64QAM	3	0	20.11	0.103	20.20	0.105	20.10	0.102
1.4	64QAM	3	1	20.18	0.104	20.13	0.103	20.14	0.103
1.4	64QAM	3	3	20.08	0.102	20.08	0.102	20.05	0.101
1.4	64QAM	6	0	19.18	0.083	19.10	0.081	18.86	0.077
1.4	256QAM	1	0	17.39	0.055	17.07	0.051	17.27	0.053
1.4	256QAM	1	3	17.11	0.051	17.09	0.051	16.99	0.050
1.4	256QAM	1	5	17.15	0.052	17.12	0.052	17.24	0.053
1.4	256QAM	3	0	17.27	0.053	17.09	0.051	17.11	0.051
1.4	256QAM	3	1	17.17	0.052	17.35	0.054	16.85	0.048
1.4	256QAM	3	3	17.13	0.052	17.19	0.052	17.05	0.051
1.4	256QAM	6	0	17.28	0.053	17.14	0.052	16.84	0.048

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
B14	5	Low	23305	790.5	QPSK	4.4882	5.0257	PASS
B14	5	Low	23305	790.5	16QAM	4.4812	5.0254	PASS
B14	5	Low	23305	790.5	64QAM	4.4826	5.0152	PASS
B14	5	Low	23305	790.5	256QAM	4.4801	5.0048	PASS
B14	5	Mid	23330	793	QPSK	4.4924	5.0309	PASS
B14	5	Mid	23330	793	16QAM	4.4768	5.0894	PASS
B14	5	Mid	23330	793	64QAM	4.4798	4.9528	PASS
B14	5	Mid	23330	793	256QAM	4.4771	5.0078	PASS
B14	5	High	23355	795.5	QPSK	4.4759	4.9500	PASS
B14	5	High	23355	795.5	16QAM	4.4779	4.9423	PASS
B14	5	High	23355	795.5	64QAM	4.4760	5.0159	PASS
B14	5	High	23355	795.5	256QAM	4.4748	4.9807	PASS
B14	10	Mid	23330	793	QPSK	8.9529	9.8285	PASS
B14	10	Mid	23330	793	16QAM	8.9570	9.8184	PASS
B14	10	Mid	23330	793	64QAM	8.9516	9.7413	PASS
B14	10	Mid	23330	793	256QAM	8.9661	9.8094	PASS



LTE Band	BW (MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B26	1.4	Low	26697	814.7	QPSK	1.1063	1.3835	PASS
B26	1.4	Low	26697	814.7	16QAM	1.1111	1.3719	PASS
B26	1.4	Low	26697	814.7	64QAM	1.1042	1.3596	PASS
B26	1.4	Low	26697	814.7	256QAM	1.1002	1.3341	PASS
B26	1.4	Mid	26740	819	QPSK	1.1062	1.3744	PASS
B26	1.4	Mid	26740	819	16QAM	1.1120	1.3658	PASS
B26	1.4	Mid	26740	819	64QAM	1.1027	1.3681	PASS
B26	1.4	Mid	26740	819	256QAM	1.1073	1.3565	PASS
B26	1.4	High	26783	823.3	QPSK	1.1078	1.3550	PASS
B26	1.4	High	26783	823.3	16QAM	1.1094	1.3674	PASS
B26	1.4	High	26783	823.3	64QAM	1.1085	1.3765	PASS
B26	1.4	High	26783	823.3	256QAM	1.1023	1.3282	PASS
B26	3	Low	26705	815.5	QPSK	2.7104	3.0731	PASS
B26	3	Low	26705	815.5	16QAM	2.7179	3.0904	PASS
B26	3	Low	26705	815.5	64QAM	2.7161	3.0772	PASS
B26	3	Low	26705	815.5	256QAM	2.7113	3.0480	PASS
B26	3	Mid	26740	819	QPSK	2.7070	3.0812	PASS
B26	3	Mid	26740	819	16QAM	2.7021	3.0637	PASS
B26	3	Mid	26740	819	64QAM	2.7137	3.0637	PASS
B26	3	Mid	26740	819	256QAM	2.7029	3.0341	PASS
B26	3	High	26775	822.5	QPSK	2.7087	3.0902	PASS
B26	3	High	26775	822.5	16QAM	2.7130	3.0402	PASS
B26	3	High	26775	822.5	64QAM	2.7061	3.0534	PASS
B26	3	High	26775	822.5	256QAM	2.7087	3.0692	PASS
B26	5	Low	26715	816.5	QPSK	4.4882	5.0591	PASS
B26	5	Low	26715	816.5	16QAM	4.4905	5.0780	PASS
B26	5	Low	26715	816.5	64QAM	4.4815	5.0292	PASS
B26	5	Low	26715	816.5	256QAM	4.4866	5.0498	PASS
B26	5	Mid	26740	819	QPSK	4.4849	4.9953	PASS
B26	5	Mid	26740	819	16QAM	4.4744	5.0154	PASS
B26	5	Mid	26740	819	64QAM	4.4785	4.9902	PASS
B26	5	Mid	26740	819	256QAM	4.4804	5.0230	PASS
B26	5	High	26765	821.5	QPSK	4.4738	5.0059	PASS
B26	5	High	26765	821.5	16QAM	4.4773	4.9981	PASS
B26	5	High	26765	821.5	64QAM	4.4766	4.9456	PASS

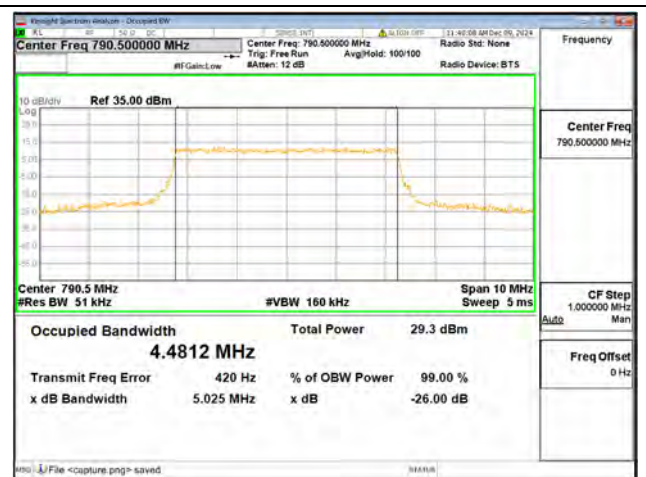


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B26	5	High	26765	821.5	256QAM	4.4668	4.9832	PASS
B26	10	Low	26740	819	QPSK	8.9523	9.9329	PASS
B26	10	Low	26740	819	16QAM	8.9585	9.7552	PASS
B26	10	Low	26740	819	64QAM	8.9469	9.8481	PASS
B26	10	Low	26740	819	256QAM	8.9350	9.8235	PASS
B26	10	Mid	26740	819	QPSK	8.9771	9.7442	PASS
B26	10	Mid	26740	819	16QAM	8.9482	9.9450	PASS
B26	10	Mid	26740	819	64QAM	8.9557	9.7376	PASS
B26	10	Mid	26740	819	256QAM	8.9299	9.7160	PASS
B26	10	High	26740	819	QPSK	8.9460	9.9573	PASS
B26	10	High	26740	819	16QAM	8.9519	9.8673	PASS
B26	10	High	26740	819	64QAM	8.9585	9.7093	PASS
B26	10	High	26740	819	256QAM	8.9388	9.8048	PASS



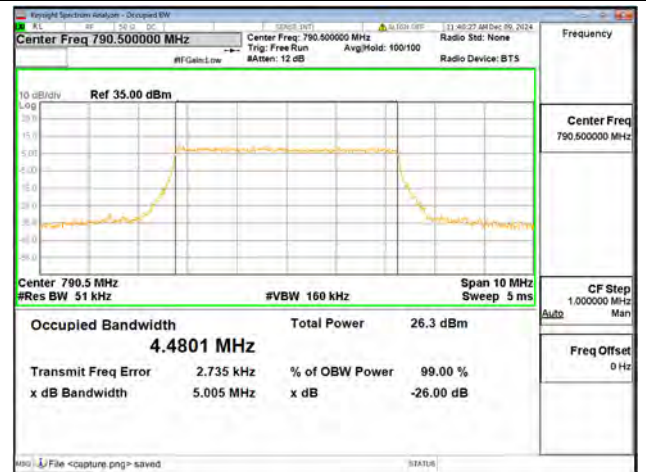
B14 / 5MHz / QPSK/ Low CH



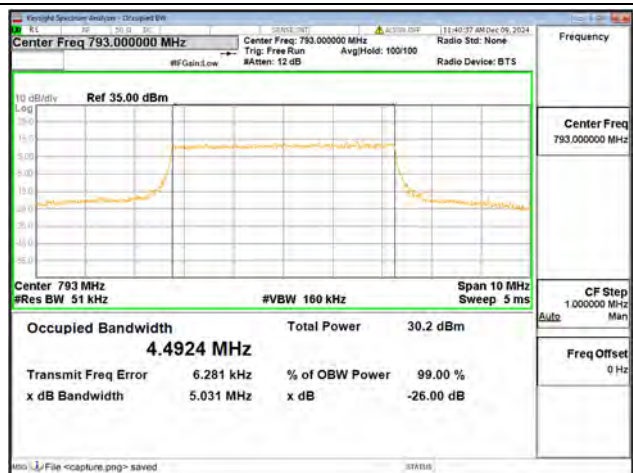
B14 / 5MHz / 16QAM/ Low CH



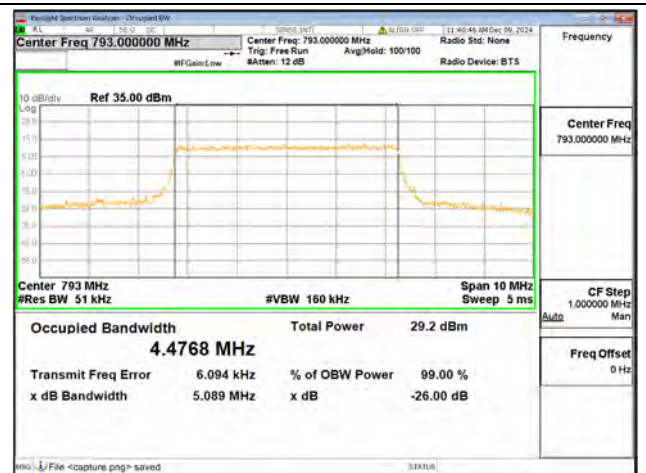
B14 / 5MHz / 64QAM/ Low CH



B14 / 5MHz / 256QAM/ Low CH



B14 / 5MHz / QPSK/ Mid CH



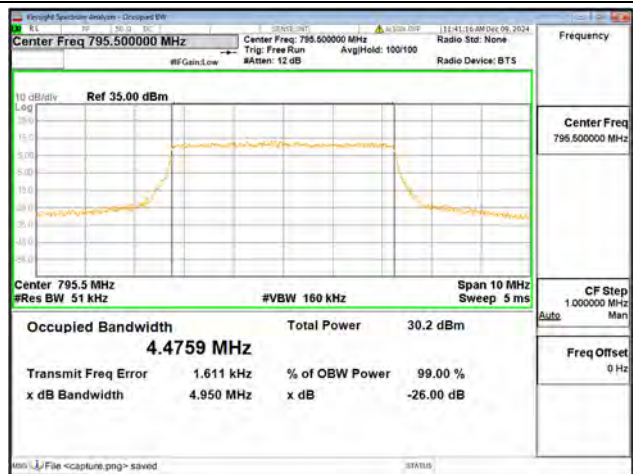
B14 / 5MHz / 16QAM/ Mid CH



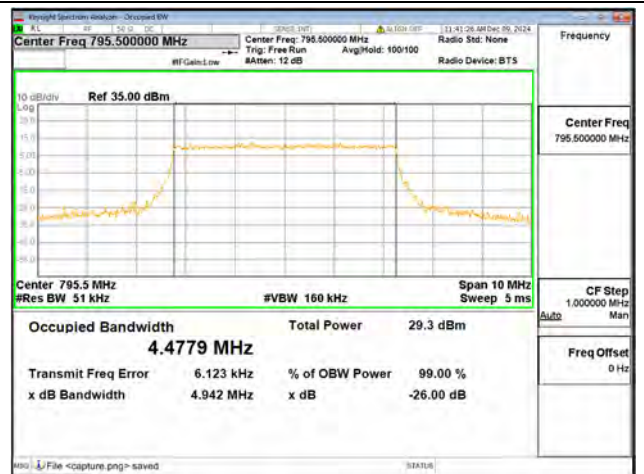
B14 / 5MHz / 64QAM/ Mid CH



B14 / 5MHz / 256QAM/ Mid CH



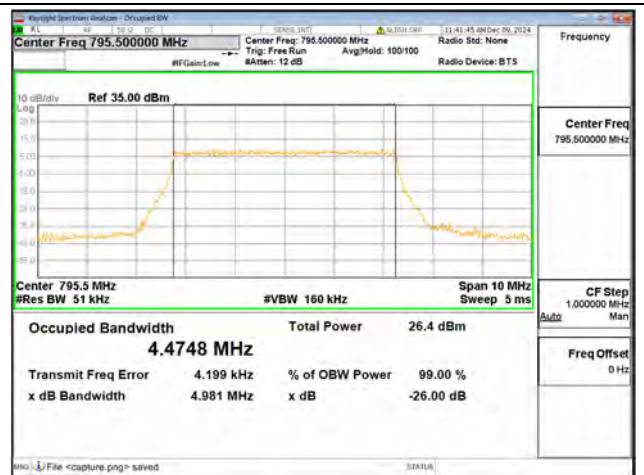
B14 / 5MHz / QPSK/ High CH



B14 / 5MHz / 16QAM/ High CH



B14 / 5MHz / 64QAM/ High CH



B14 / 5MHz / 256QAM/ High CH



B14 / 10MHz / QPSK / Mid CH



B14 / 10MHz / 16QAM / Mid CH



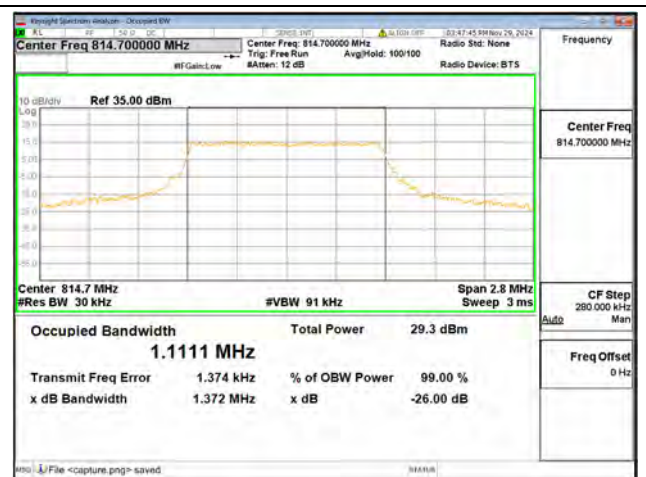
B14 / 10MHz / 64QAM / Mid CH



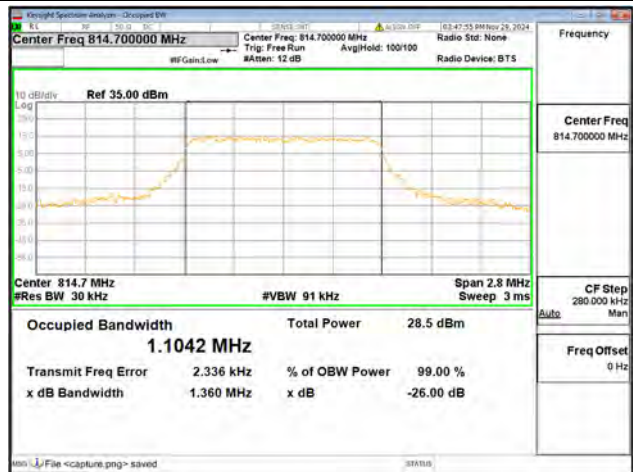
B14 / 10MHz / 256QAM / Mid CH



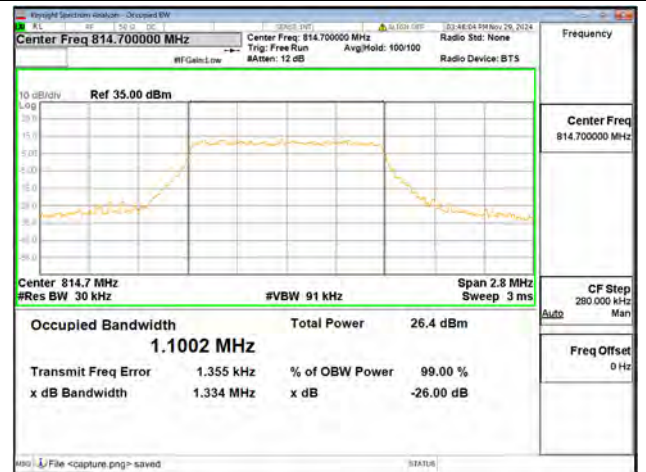
B26 / 1.4MHz / QPSK/ Low CH



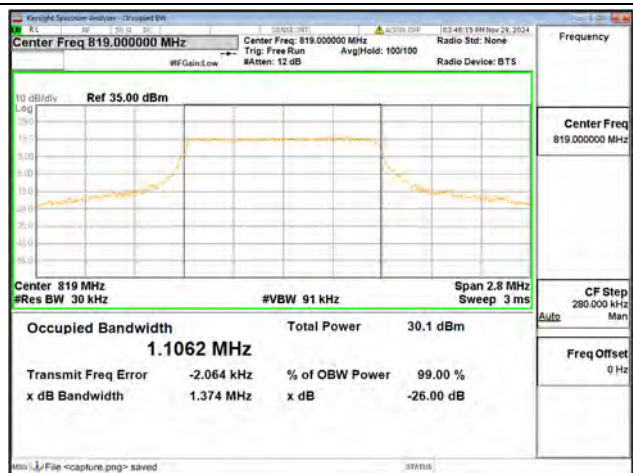
B26 / 1.4MHz / 16QAM/ Low CH



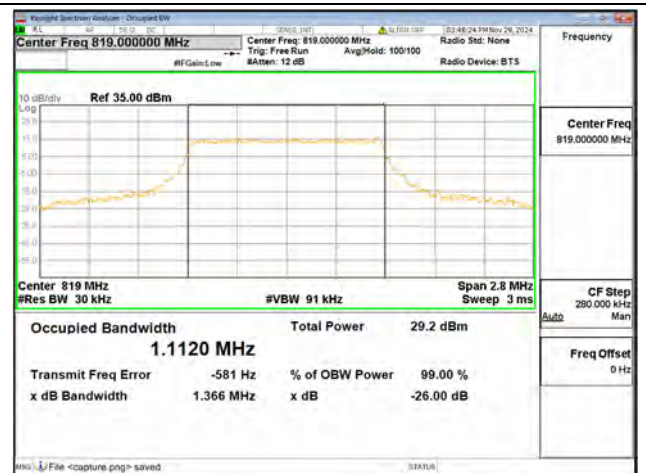
B26 / 1.4MHz / 64QAM/ Low CH



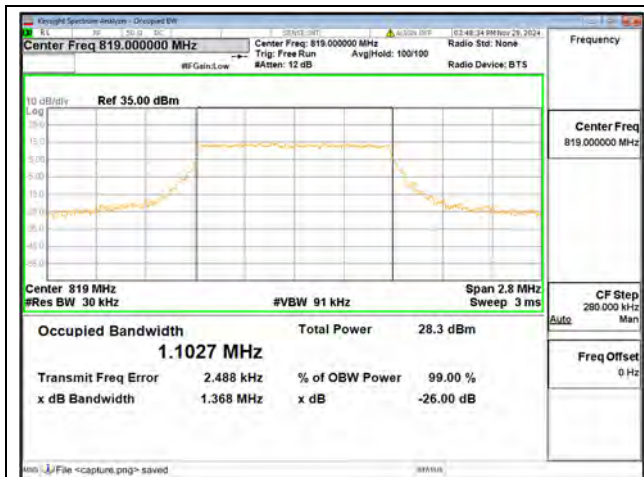
B26 / 1.4MHz / 256QAM/ Low CH



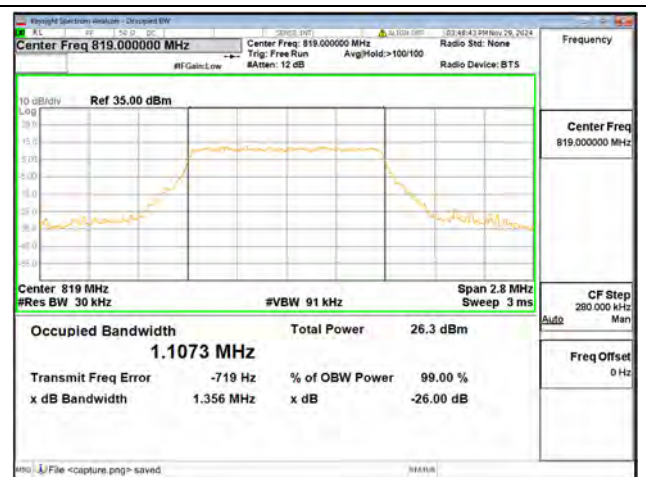
B26 / 1.4MHz / QPSK/ Mid CH



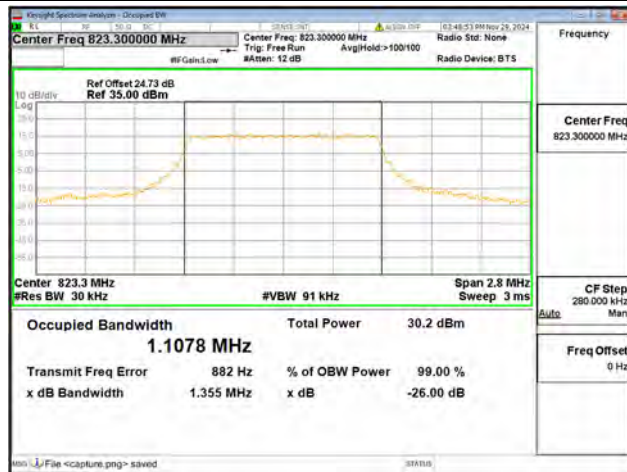
B26 / 1.4MHz / 16QAM/ Mid CH



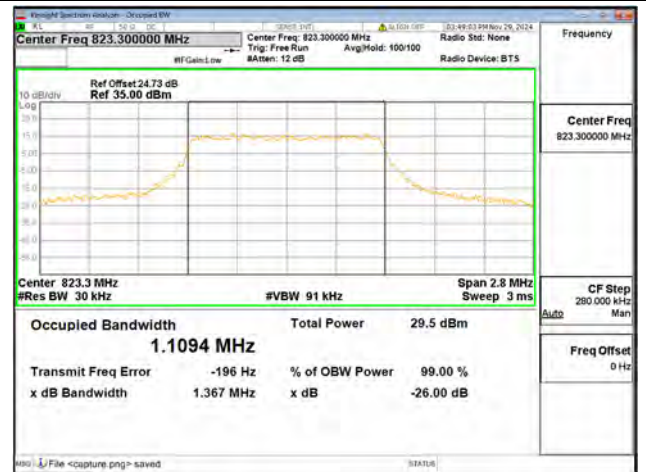
B26 / 1.4MHz / 64QAM/ Mid CH



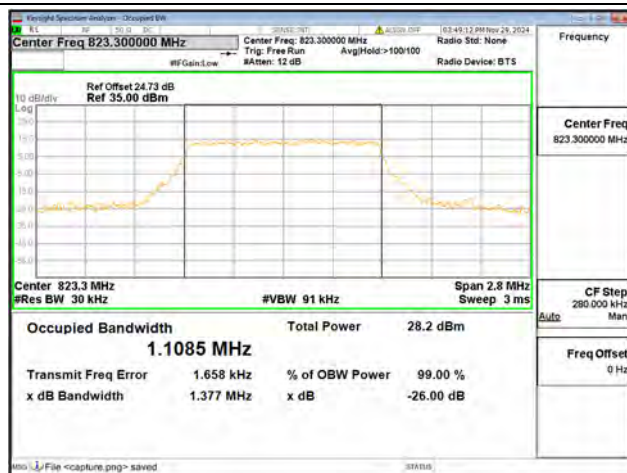
B26 / 1.4MHz / 256QAM/ Mid CH



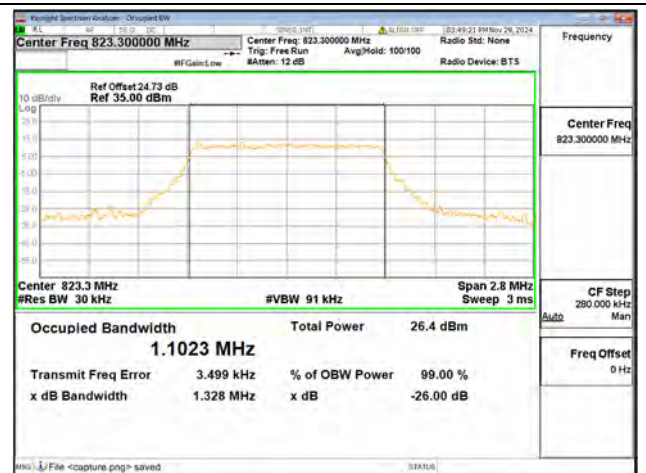
B26 / 1.4MHz / QPSK/ High CH



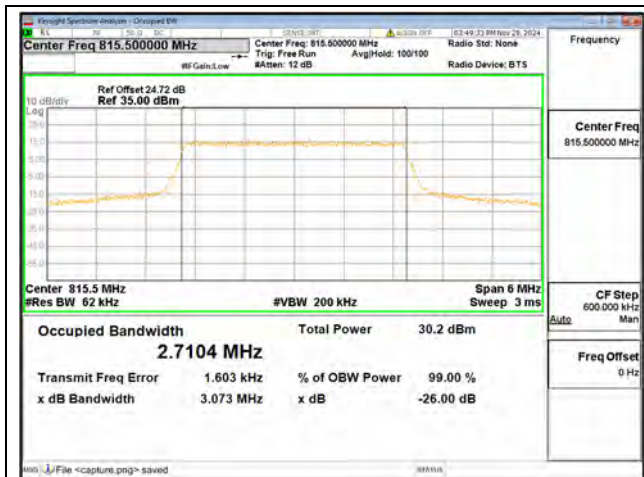
B26 / 1.4MHz / 16QAM/ High CH



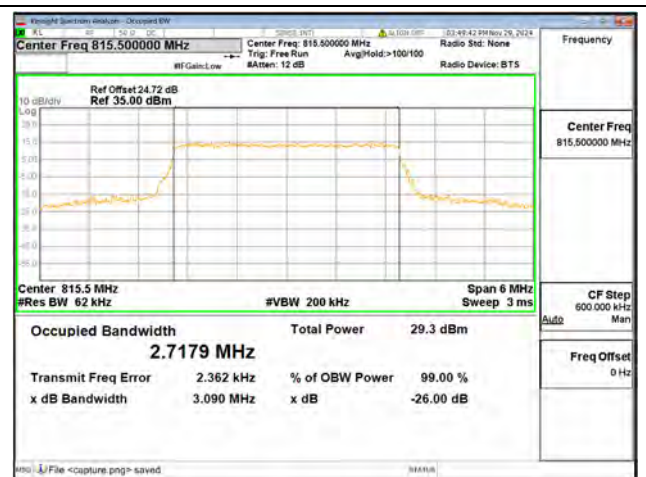
B26 / 1.4MHz / 64QAM/ High CH



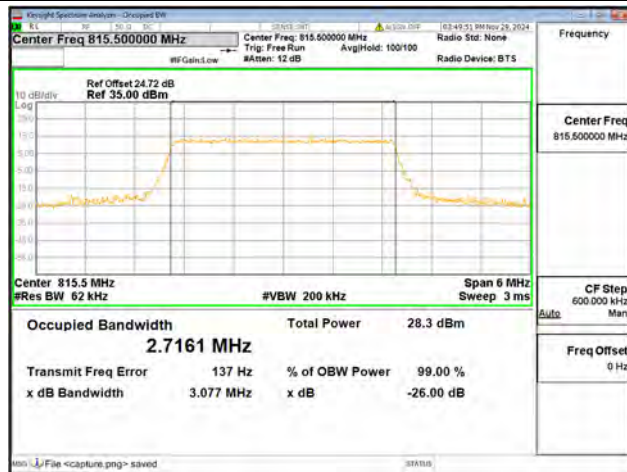
B26 / 1.4MHz / 256QAM/ High CH



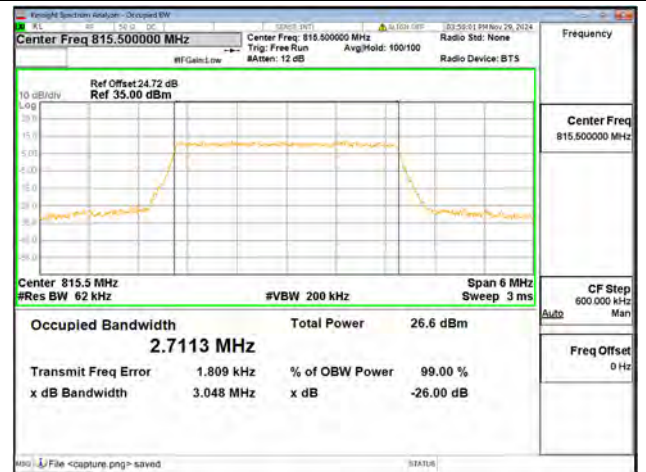
B26 / 3MHz / QPSK / Low CH



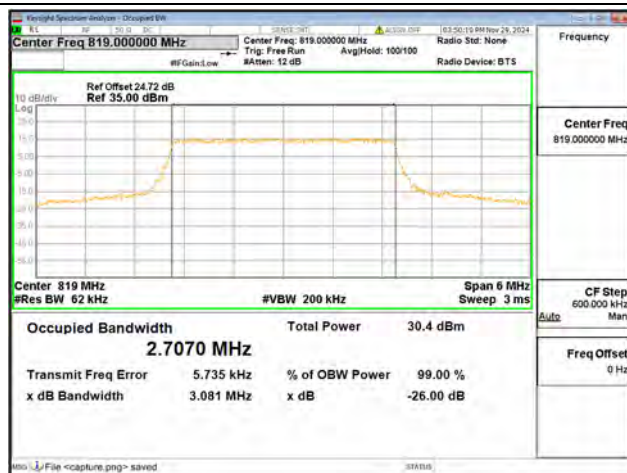
B26 / 3MHz / 16QAM / Low CH



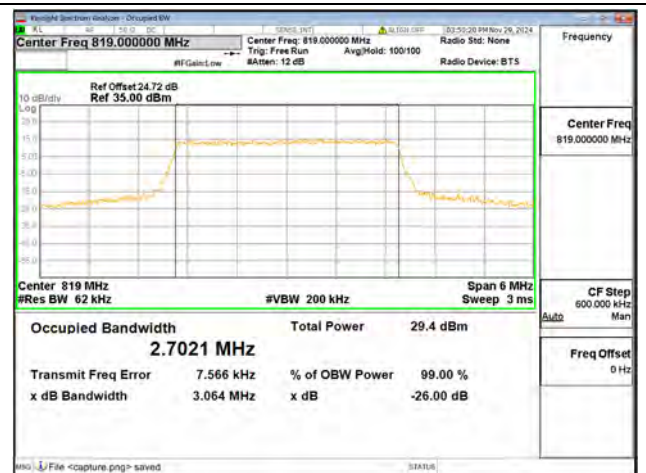
B26 / 3MHz / 64QAM / Low CH



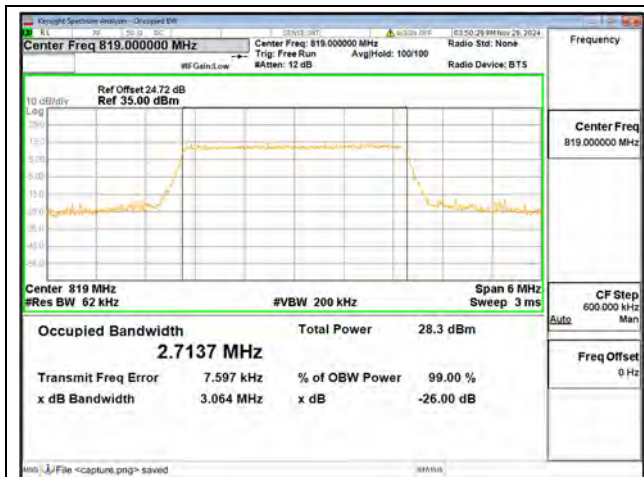
B26 / 3MHz / 256QAM / Low CH



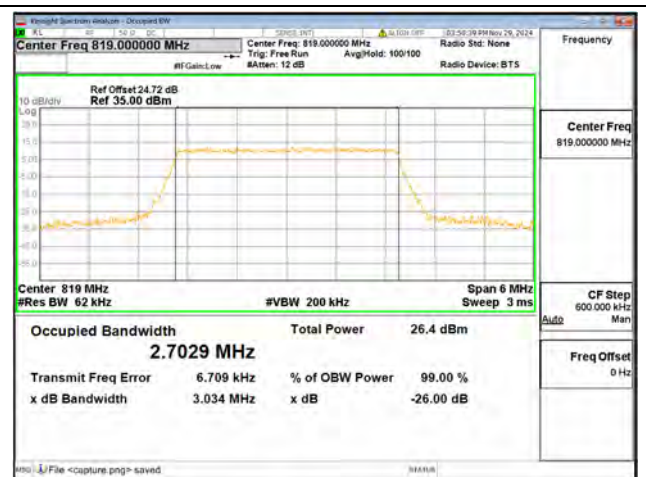
B26 / 3MHz / QPSK / Mid CH



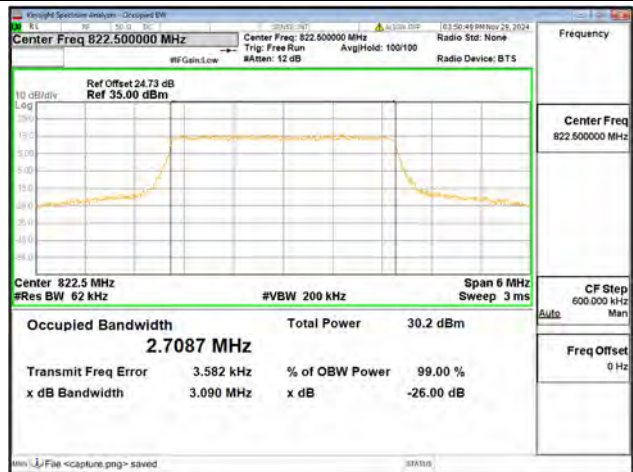
B26 / 3MHz / 16QAM / Mid CH



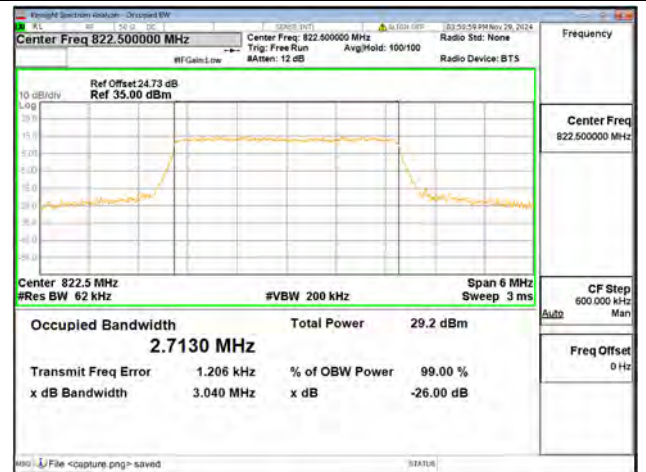
B26 / 3MHz / 64QAM/ Mid CH



B26 / 3MHz / 256QAM/ Mid CH



B26 / 3MHz / QPSK/ High CH



B26 / 3MHz / 16QAM/ High CH



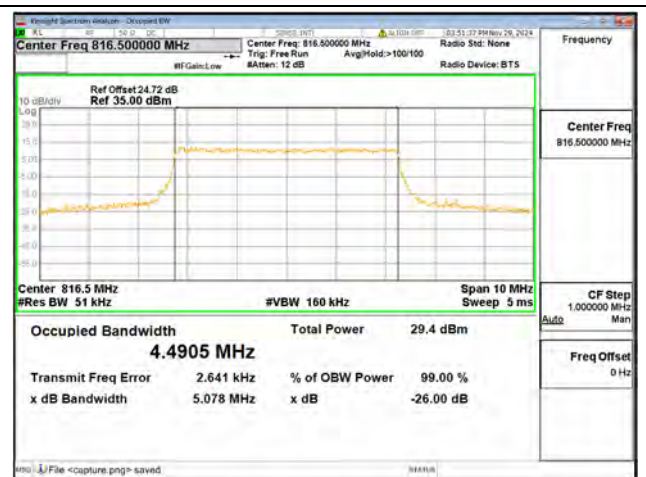
B26 / 3MHz / 64QAM/ High CH



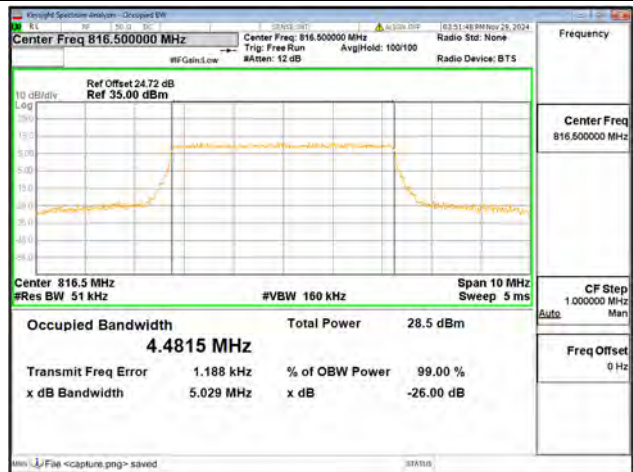
B26 / 3MHz / 256QAM/ High CH



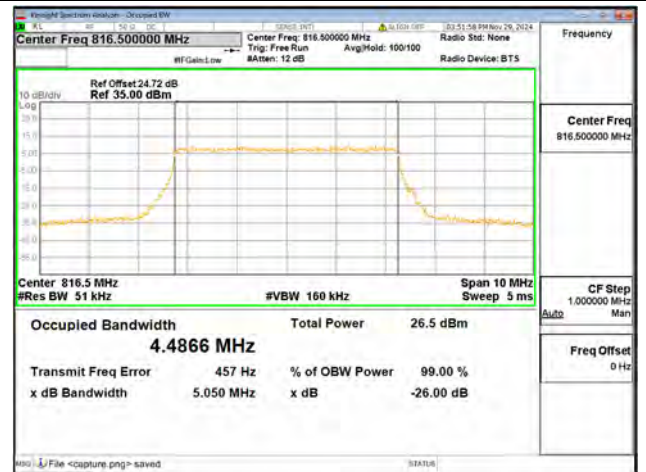
B26 / 5MHz / QPSK / Low CH



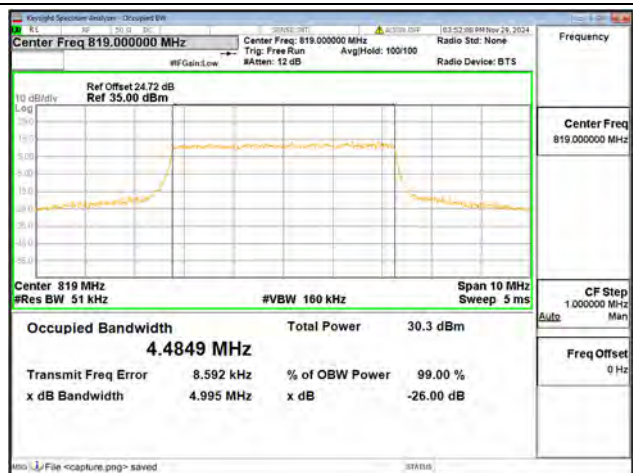
B26 / 5MHz / 16QAM / Low CH



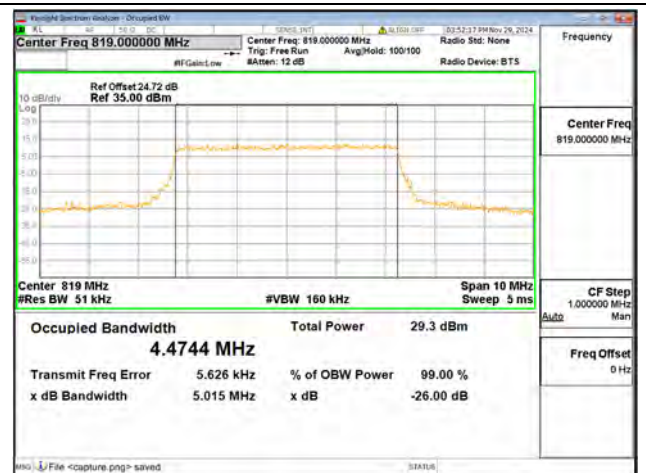
B26 / 5MHz / 64QAM / Low CH



B26 / 5MHz / 256QAM / Low CH



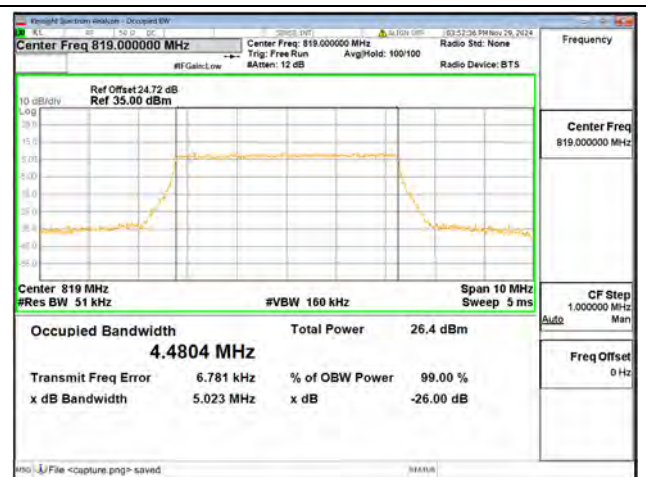
B26 / 5MHz / QPSK / Mid CH



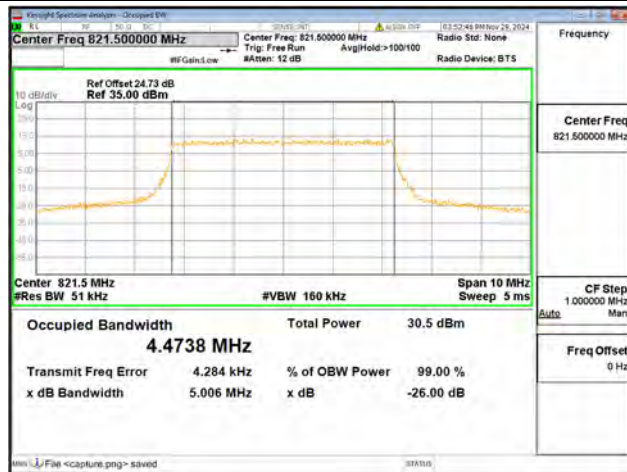
B26 / 5MHz / 16QAM / Mid CH



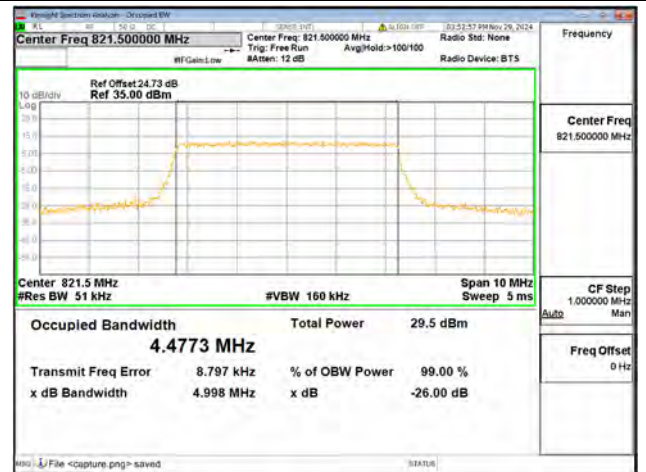
B26 / 5MHz / 64QAM/ Mid CH



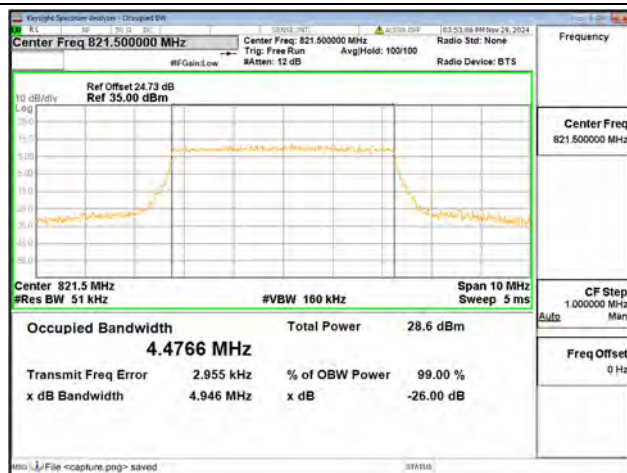
B26 / 5MHz / 256QAM/ Mid CH



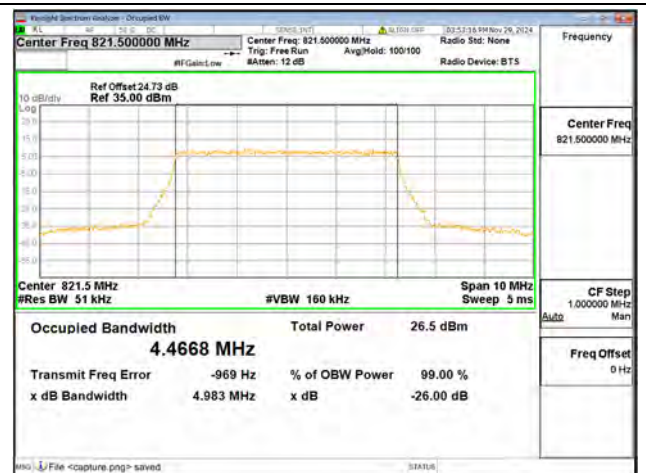
B26 / 5MHz / QPSK/ High CH



B26 / 5MHz / 16QAM/ High CH



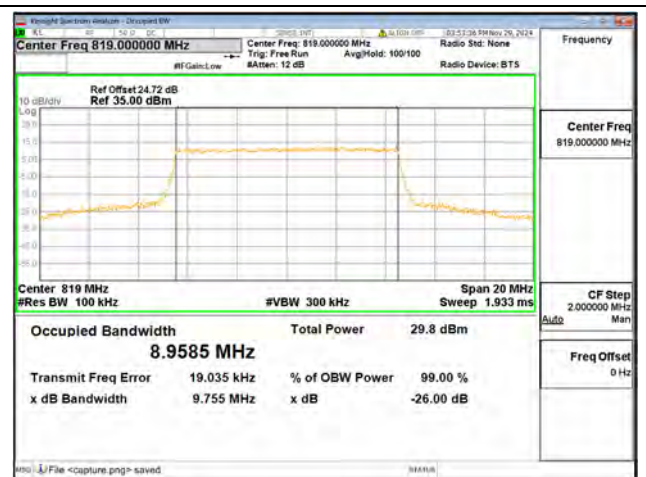
B26 / 5MHz / 64QAM/ High CH



B26 / 5MHz / 256QAM/ High CH



B26 / 10MHz / QPSK/ Low CH



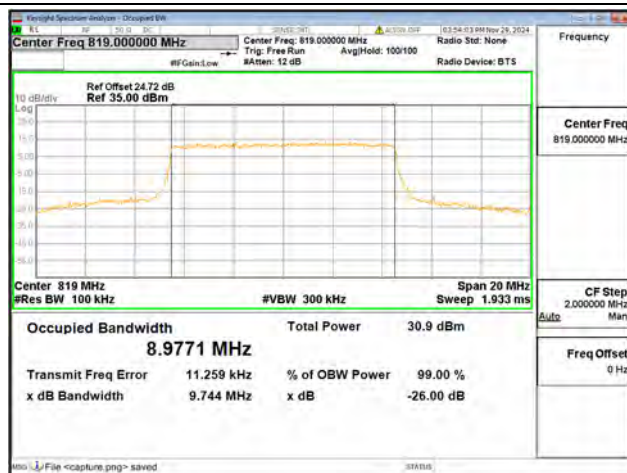
B26 / 10MHz / 16QAM/ Low CH



B26 / 10MHz / 64QAM/ Low CH



B26 / 10MHz / 256QAM/ Low CH



B26 / 10MHz / QPSK/ Mid CH



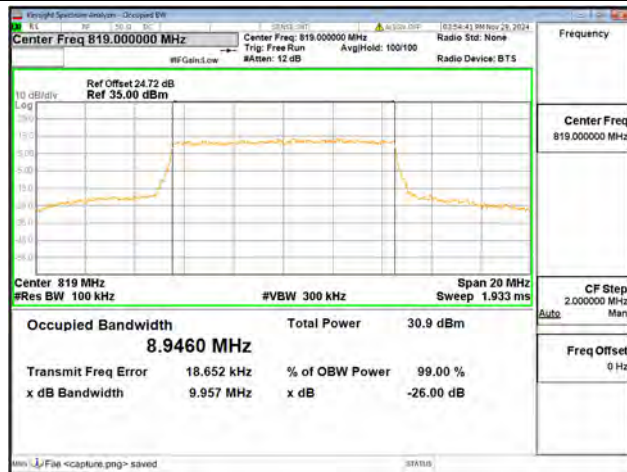
B26 / 10MHz / 16QAM/ Mid CH



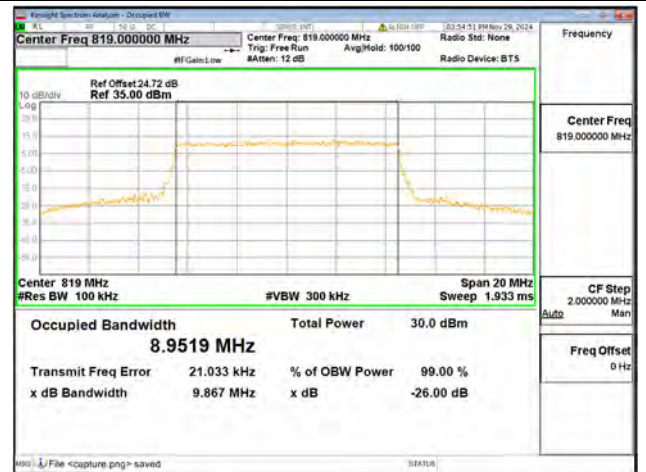
B26 / 10MHz / 64QAM/ Mid CH



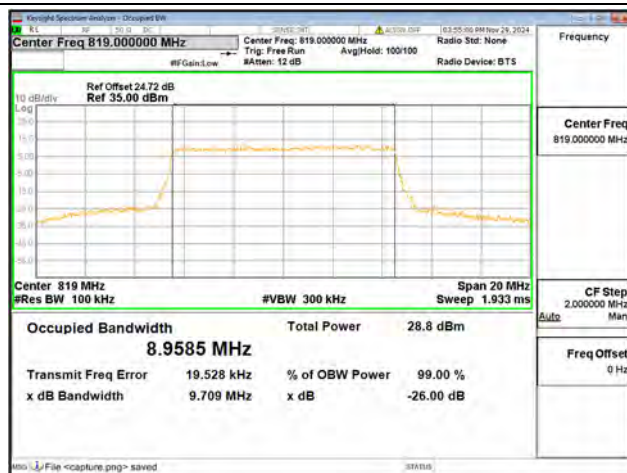
B26 / 10MHz / 256QAM/ Mid CH



B26 / 10MHz / QPSK/ High CH



B26 / 10MHz / 16QAM/ High CH



B26 / 10MHz / 64QAM/ High CH



B26 / 10MHz / 256QAM/ High CH

2.3. Frequency Stability

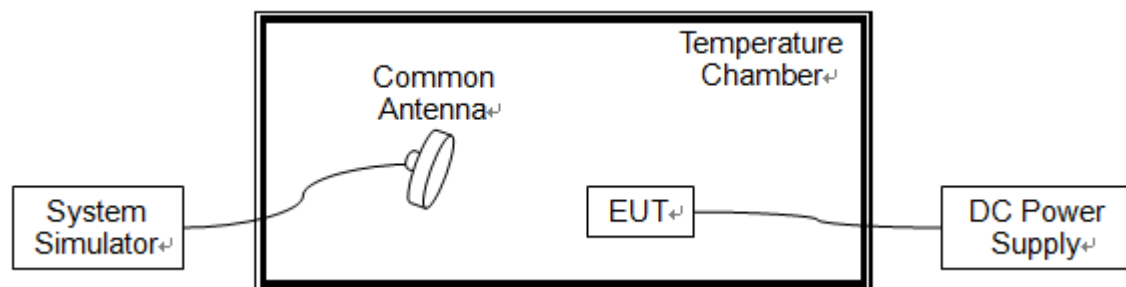
2.3.1. Requirement

According to FCC section 2.1055 & 90.213, 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°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 3.85V, 4.30V and 3.50V, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 14, 256QAM, Channel 23330, Frequency 793.0MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.85	+20(Ref)	-8	-0.010	PASS
Normal		-10	17	0.021	
Normal		0	0	0.000	
Normal		+10	13	0.016	
Normal		+20	14	0.018	
Normal		+30	20	0.025	
Normal		+40	15	0.019	
Normal		+50	13	0.016	
Normal		+55	17	0.021	
High	4.30	+20	15	0.019	
BATT.ENDPOINT	3.50	+20	19	0.024	

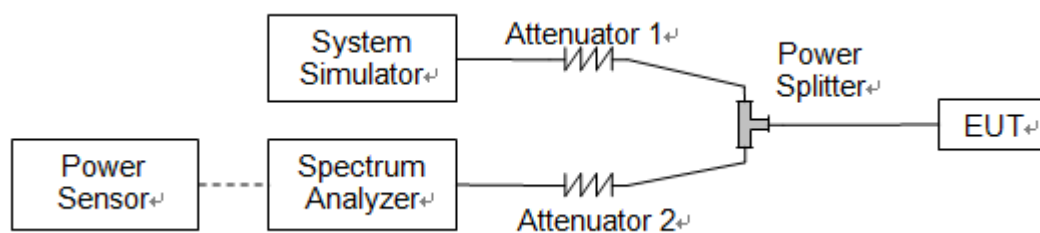
LTE Band 26, 256QAM, Channel 26740, Frequency 819MHz					
Limit =±2.5ppm					
Voltage (%)	Power (VDC)	Temp(°C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
Normal	3.85	+20(Ref)	-17	-0.021	PASS
Normal		-10	5	0.006	
Normal		0	20	0.024	
Normal		+10	13	0.016	
Normal		+20	13	0.016	
Normal		+30	15	0.018	
Normal		+40	9	0.011	
Normal		+50	14	0.017	
Normal		+55	18	0.022	
High	4.30	+20	9	0.011	
BATT.ENDPOINT	3.50	+20	17	0.021	

2.4. Conducted Spurious Emissions

2.4.1. 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.

2.4.2. Test Description



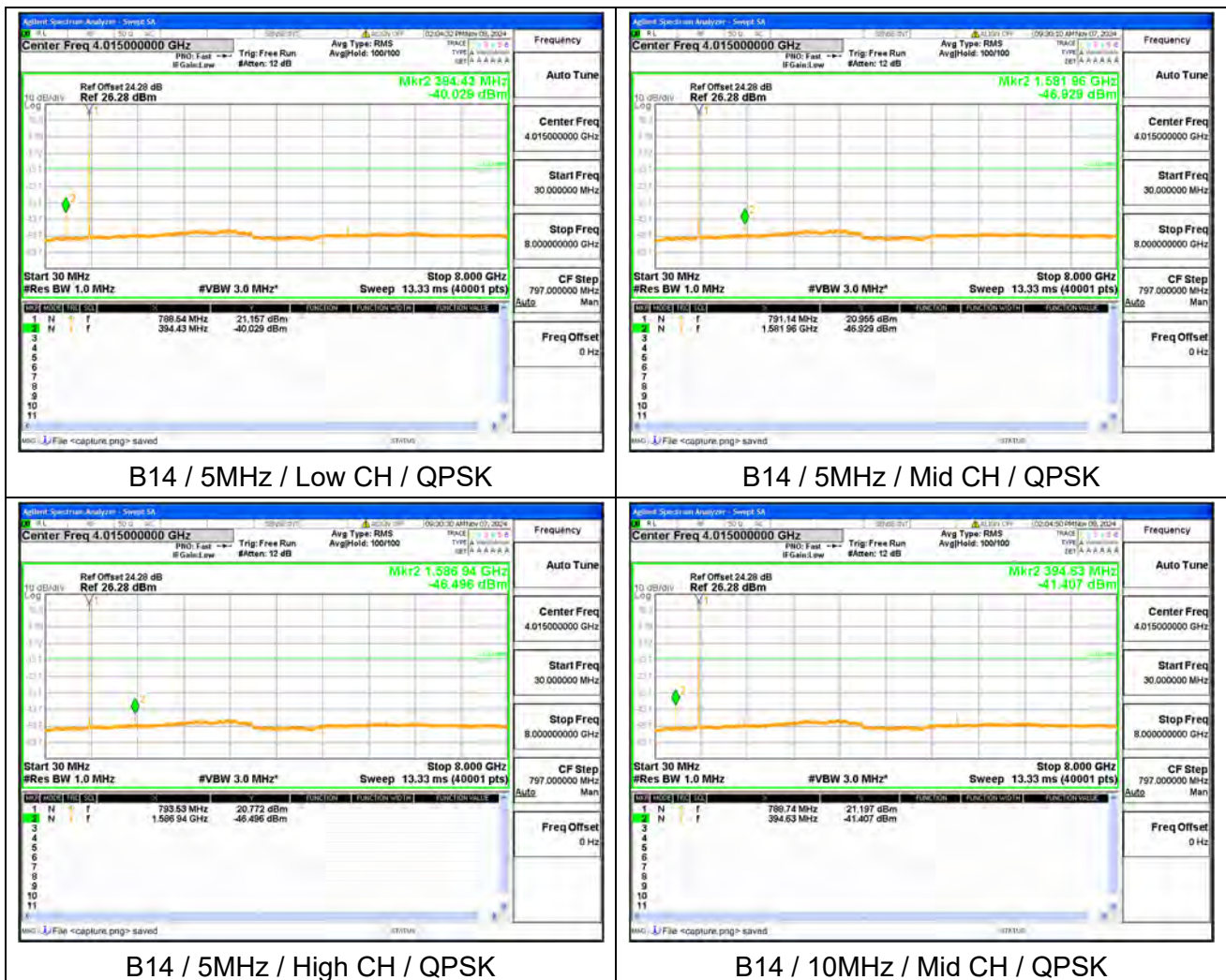
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

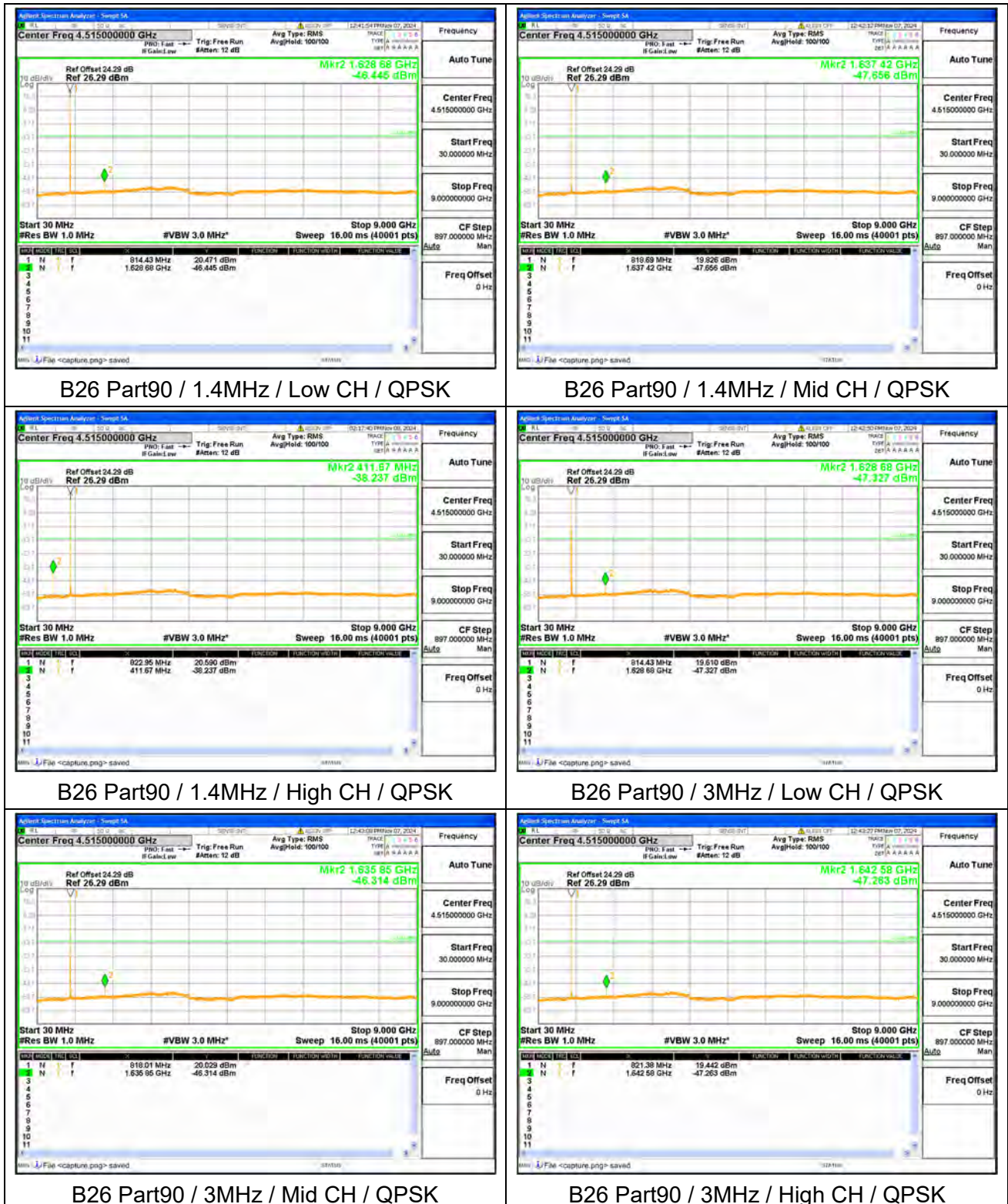
2.4.3. Test procedure

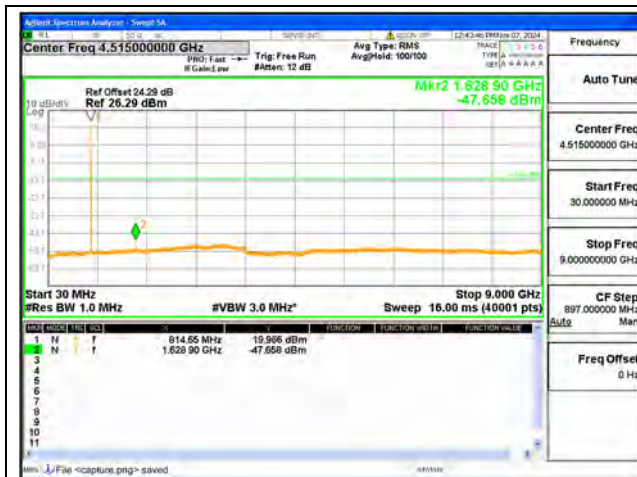
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.



2.4.4. Test Result



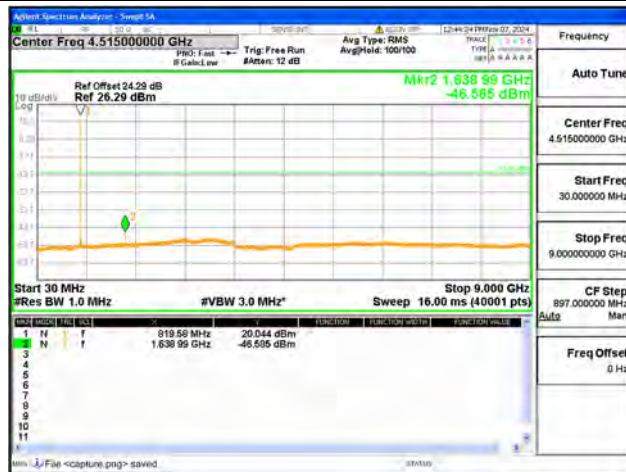




B26 Part90 / 5MHz / Low CH / QPSK



B26 Part90 / 5MHz / Mid CH / QPSK



B26 Part90 / 5MHz / High CH / QPSK



B26 Part90 / 10MHz / Low CH / QPSK



B26 Part90 / 10MHz / Mid CH / QPSK



B26 Part90 / 10MHz / High CH / QPSK

2.5. Band Edge

2.5.1. Requirement

Band 14

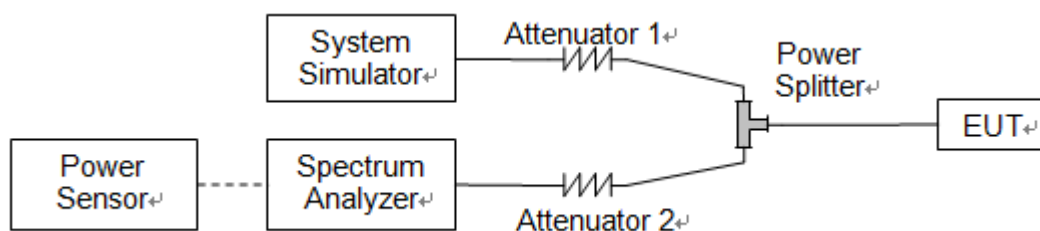
According to FCC section 90.543(e), for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (2) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log(P)$ dB.
- (3) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (4) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

Band 26

According to FCC section 90.961(a), 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.

2.5.2. Test Description



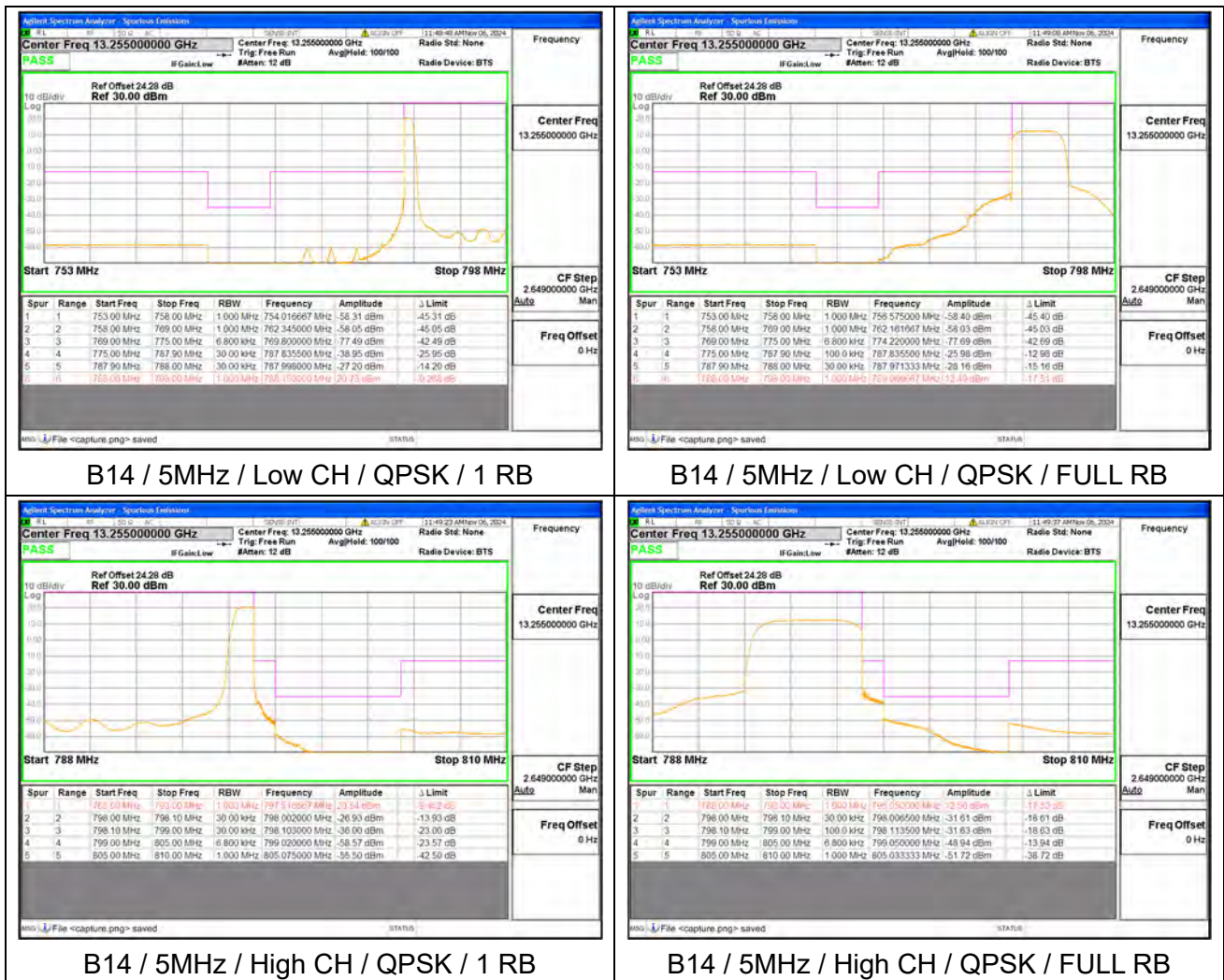
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

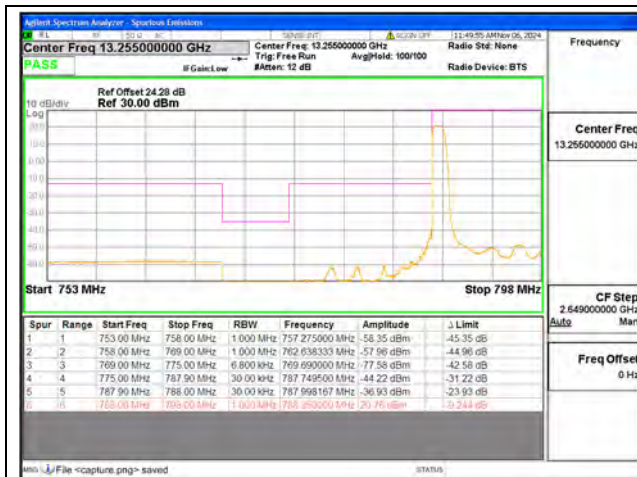


2.5.3. Test procedure

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

2.5.4. Test Result





B14 / 10MHz / Low CH / QPSK / 1 RB



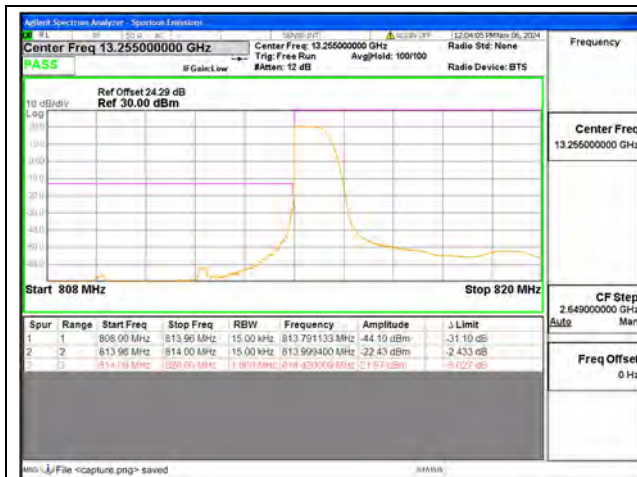
B14 / 10MHz / Low CH / QPSK / FULL RB



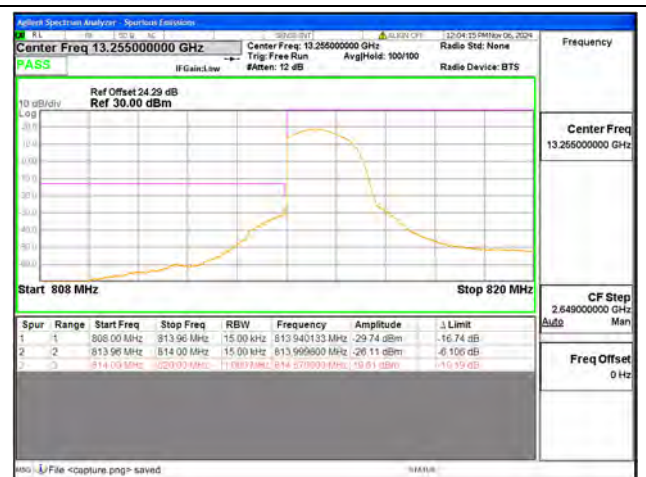
B14 / 10MHz / High CH / QPSK / 1 RB



B14 / 10MHz / High CH / QPSK / FULL RB



B26 / 1.4MHz / Low CH / QPSK / 1 RB



B26 / 1.4MHz / Low CH / QPSK / FULL RB



B26 / 1.4MHz / High CH / QPSK / 1 RB



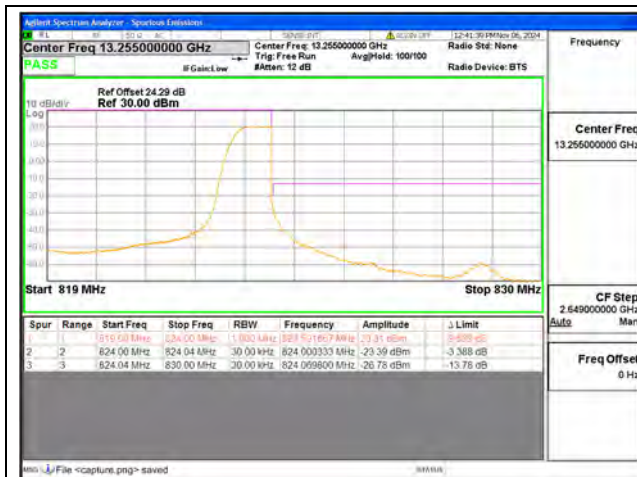
B26 / 1.4MHz / High CH / QPSK / FULL RB



B26 / 3MHz / Low CH / QPSK / 1 RB



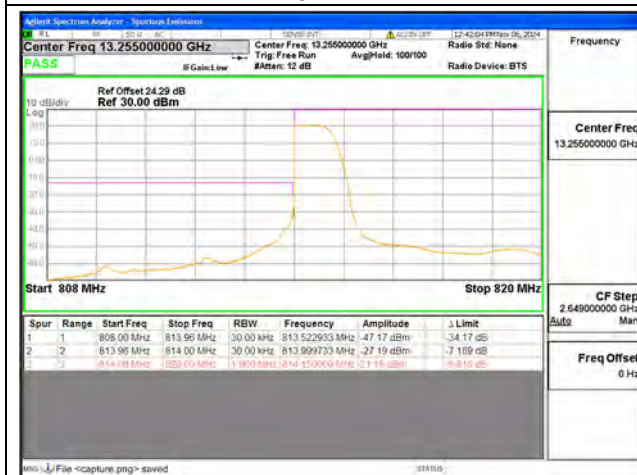
B26 / 3MHz / Low CH / QPSK / FULL RB



B26 / 3MHz / High CH / QPSK / 1 RB



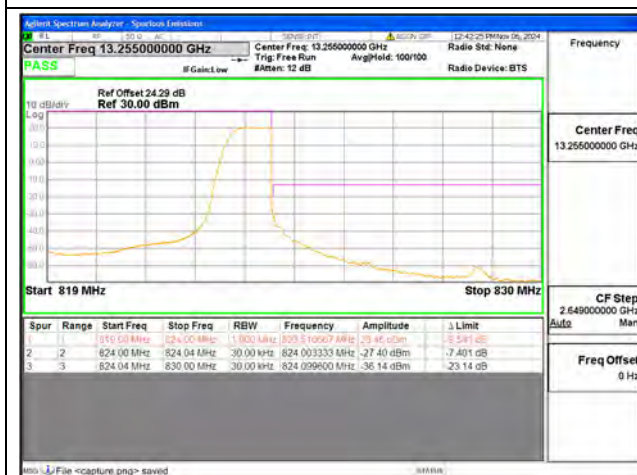
B26 / 3MHz / High CH / QPSK / FULL RB



B26 / 5MHz / Low CH / QPSK / 1 RB



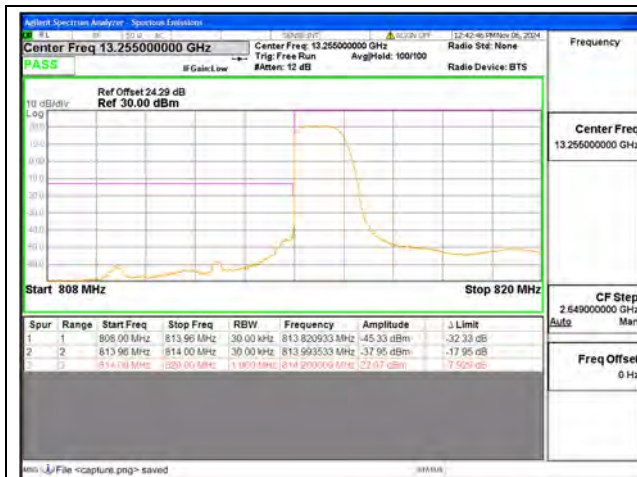
B26 / 5MHz / Low CH / QPSK / FULL RB



B26 / 5MHz / High CH / QPSK / 1 RB



B26 / 5MHz / High CH / QPSK / FULL RB



B26 / 10MHz / Low CH / QPSK / 1 RB



B26 / 10MHz / Low CH / QPSK / FULL RB



B26 / 10MHz / High CH / QPSK / 1 RB



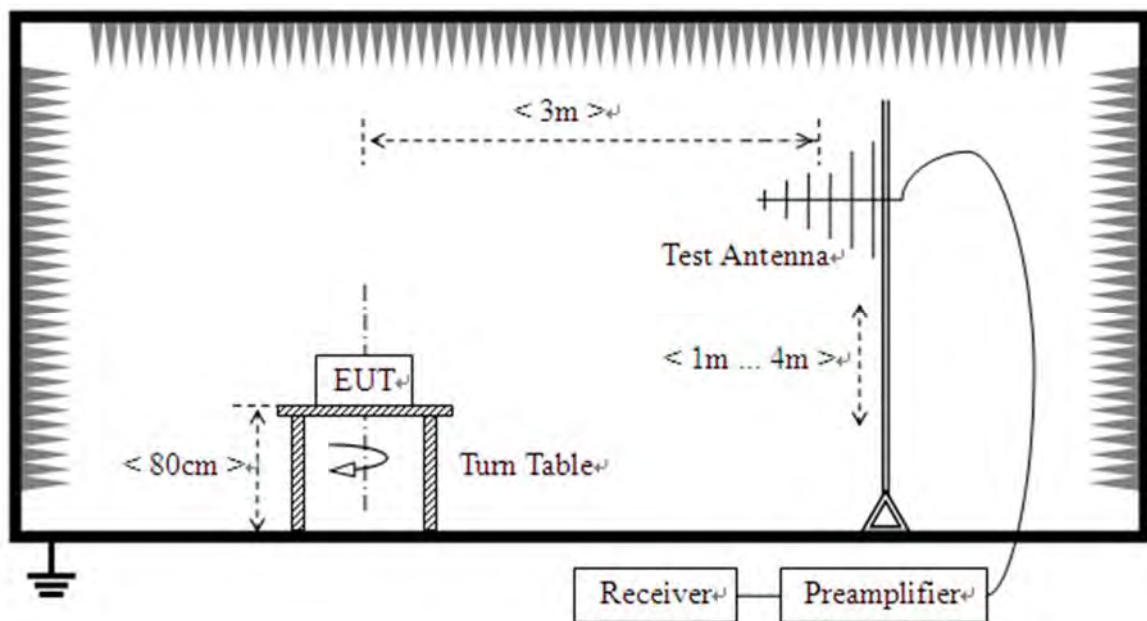
B26 / 10MHz / High CH / QPSK / FULL RB

2.6. Radiated Spurious Emissions

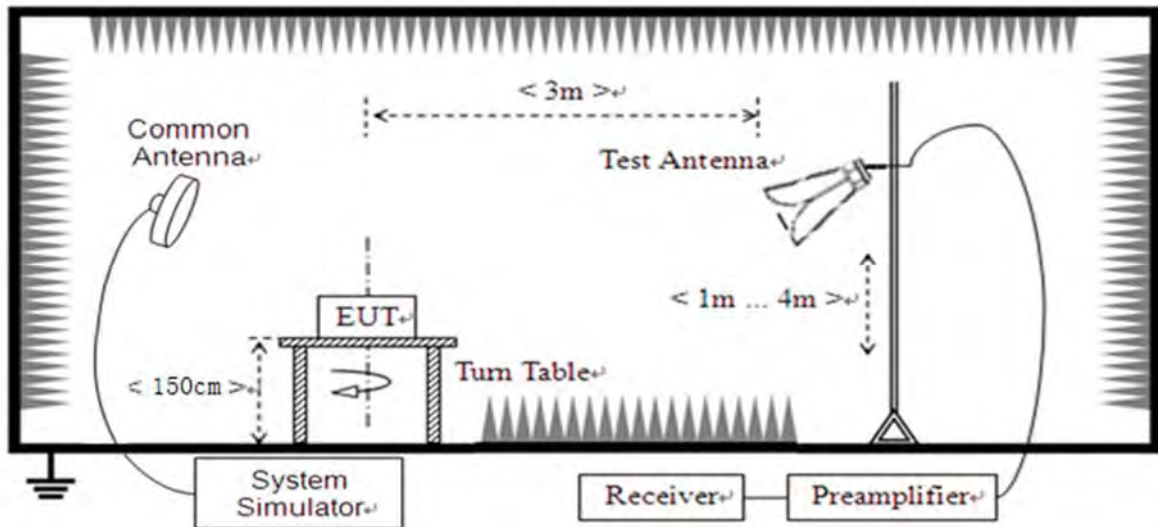
2.6.1. Requirement

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.

2.6.2. 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.

2.6.3. Test procedure

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

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

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements.



2.6.4. 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.

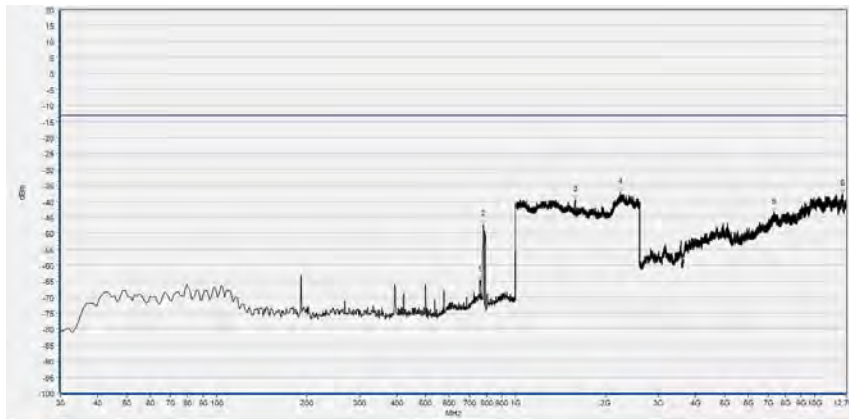
Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

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.

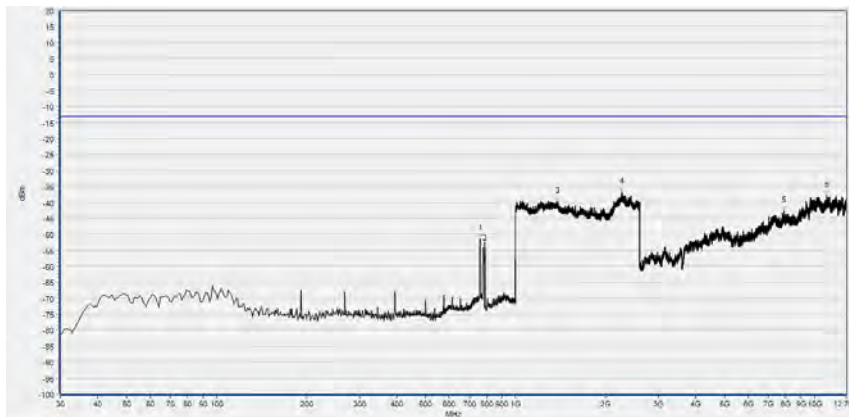
Note4: N/A means the frequency is the basic frequency or the base station frequency, they are no need to verdict.

Note5: The amplitude of emissions (18GHz to 10th harmonics) which are attenuated more than 20 dB below the limit are not be reported.

LTE Band 14, 5MHz BW, Low Channel, QPSK

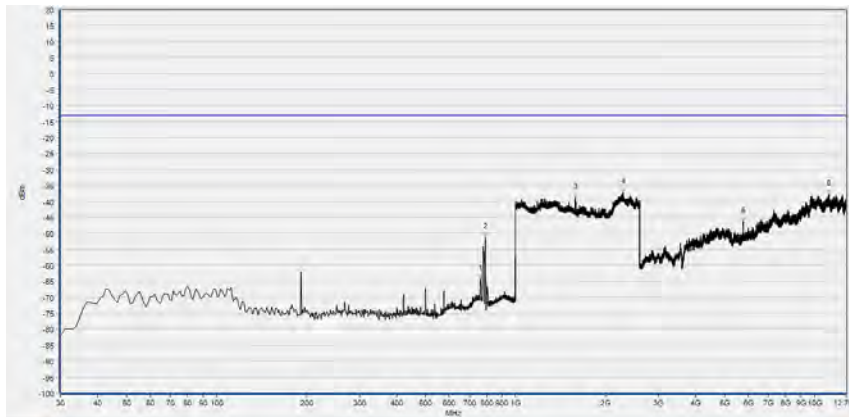


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	759.440	-64.78	-13.00	Horizontal	N/A
2	780.780	-47.22	-13.00	Horizontal	N/A
3	1581.993	-39.53	-13.00	Horizontal	PASS
4	2241.457	-37.18	-13.00	Horizontal	PASS
5	7303.073	-43.44	-13.00	Horizontal	PASS
6	12417.758	-37.57	-13.00	Horizontal	PASS

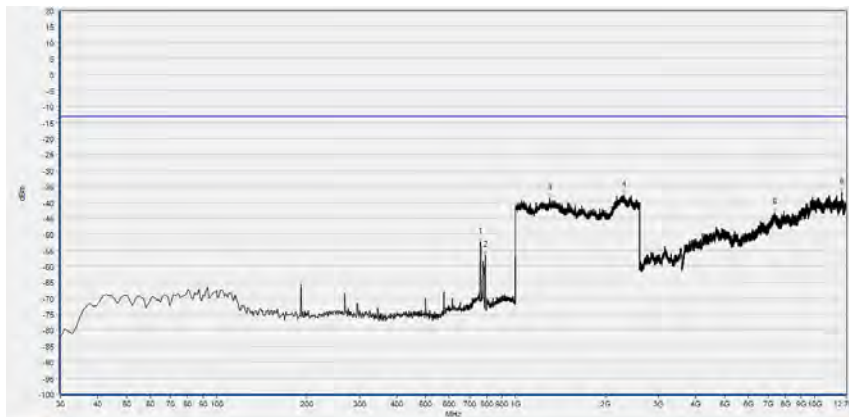


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	760.410	-51.37	-13.00	Vertical	N/A
2	789.510	-52.55	-13.00	Vertical	N/A
3	1383.513	-39.70	-13.00	Vertical	PASS
4	2260.664	-36.70	-13.00	Vertical	PASS
5	7906.647	-42.62	-13.00	Vertical	PASS
6	10976.196	-37.86	-13.00	Vertical	PASS

LTE Band 14, 5MHz BW, Mid Channel, QPSK

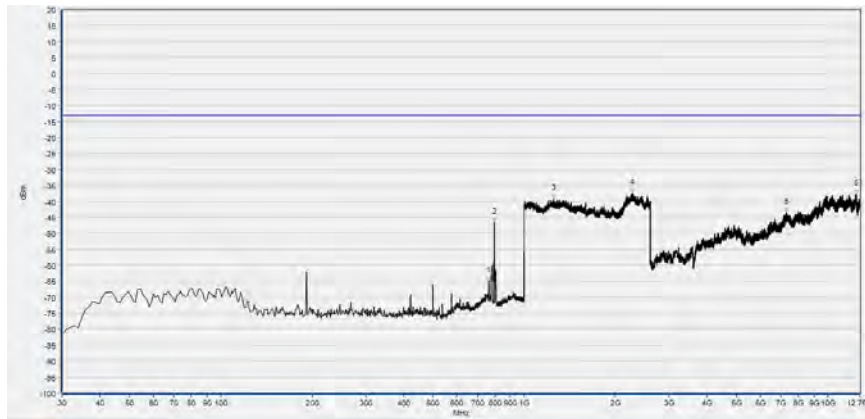


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	762.350	-64.26	-13.00	Horizontal	N/A
2	792.420	-51.25	-13.00	Horizontal	N/A
3	1583.273	-38.76	-13.00	Horizontal	PASS
4	2289.476	-37.19	-13.00	Horizontal	PASS
5	5776.605	-46.29	-13.00	Horizontal	PASS
6	11203.228	-37.63	-13.00	Horizontal	PASS

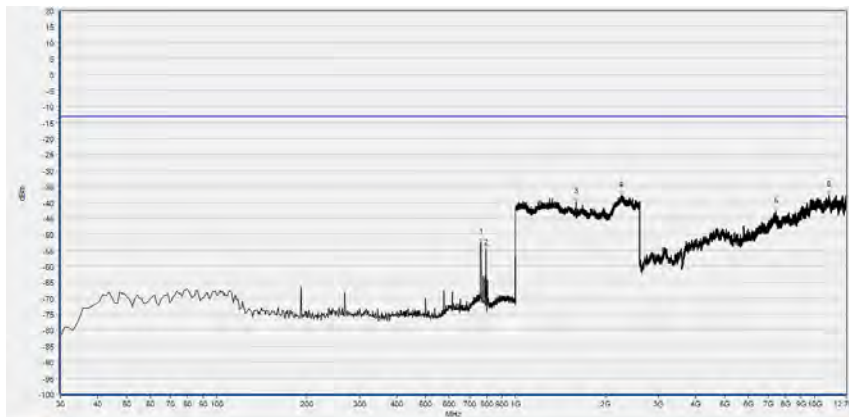


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	760.410	-52.33	-13.00	Vertical	N/A
2	792.420	-56.74	-13.00	Vertical	N/A
3	1299.640	-38.77	-13.00	Vertical	PASS
4	2298.439	-37.68	-13.00	Vertical	PASS
5	7343.681	-43.25	-13.00	Vertical	PASS
6	12349.464	-36.85	-13.00	Vertical	PASS

LTE Band 14, 5MHz BW, High Channel, QPSK

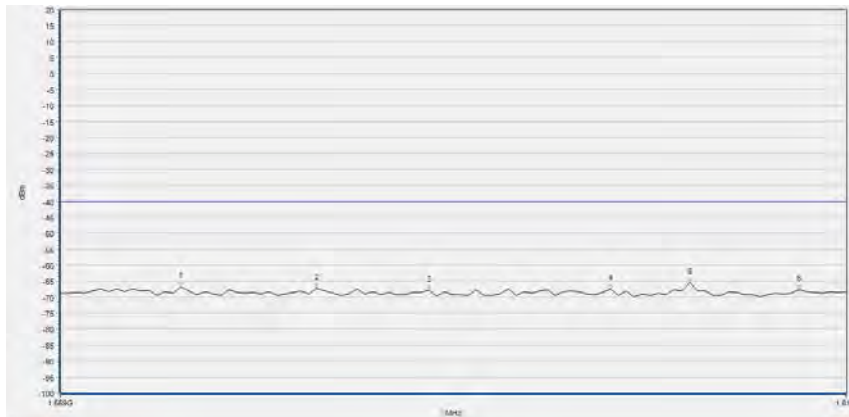


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	764.290	-64.82	-13.00	Horizontal	N/A
2	797.270	-46.62	-13.00	Horizontal	N/A
3	1247.779	-39.13	-13.00	Horizontal	PASS
4	2266.427	-37.32	-13.00	Horizontal	PASS
5	7308.611	-43.36	-13.00	Horizontal	PASS
6	12414.066	-37.56	-13.00	Horizontal	PASS

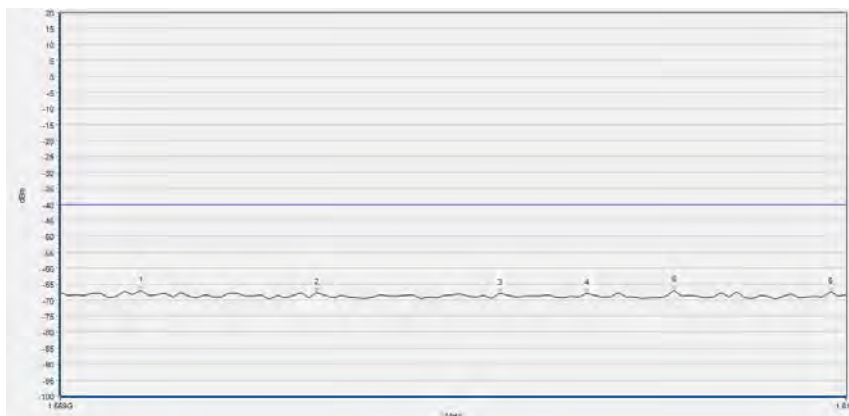


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	765.260	-52.56	-13.00	Vertical	N/A
2	797.270	-54.61	-13.00	Vertical	N/A
3	1590.956	-39.98	-13.00	Vertical	PASS
4	2256.182	-37.78	-13.00	Vertical	PASS
5	7441.508	-42.73	-13.00	Vertical	PASS
6	11146.008	-37.69	-13.00	Vertical	PASS

LTE Band 14,1559MHz-1610MHz, 5MHz BW, Mid Channel, QPSK

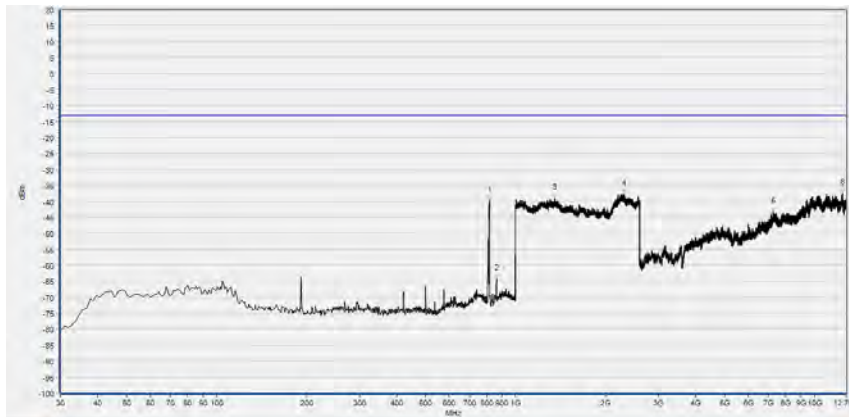


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	1566.727	-66.70	-40.00	Horizontal	PASS
2	1575.485	-67.25	-40.00	Horizontal	PASS
3	1582.697	-67.74	-40.00	Horizontal	PASS
4	1594.545	-67.48	-40.00	Horizontal	PASS
5	1599.697	-65.38	-40.00	Horizontal	PASS
6	1606.909	-67.65	-40.00	Horizontal	PASS

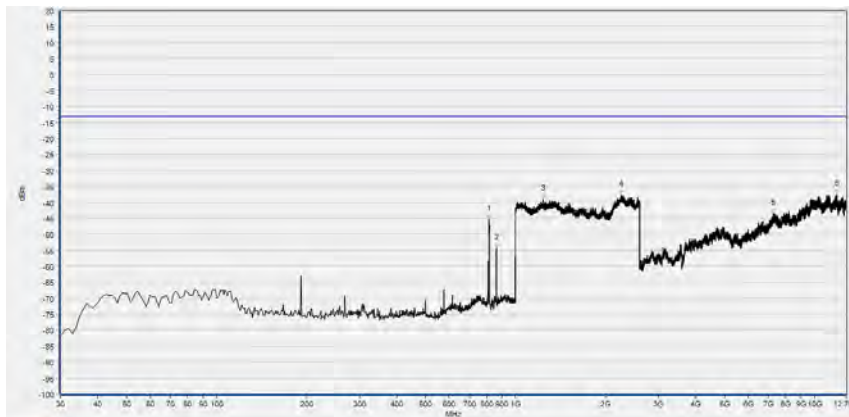


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	1564.152	-67.00	-40.00	Vertical	PASS
2	1575.485	-67.66	-40.00	Vertical	PASS
3	1587.333	-67.76	-40.00	Vertical	PASS
4	1593.000	-67.90	-40.00	Vertical	PASS
5	1598.667	-66.85	-40.00	Vertical	PASS
6	1608.970	-67.45	-40.00	Vertical	PASS

LTE Band 26, 5MHz BW, Low Channel, QPSK

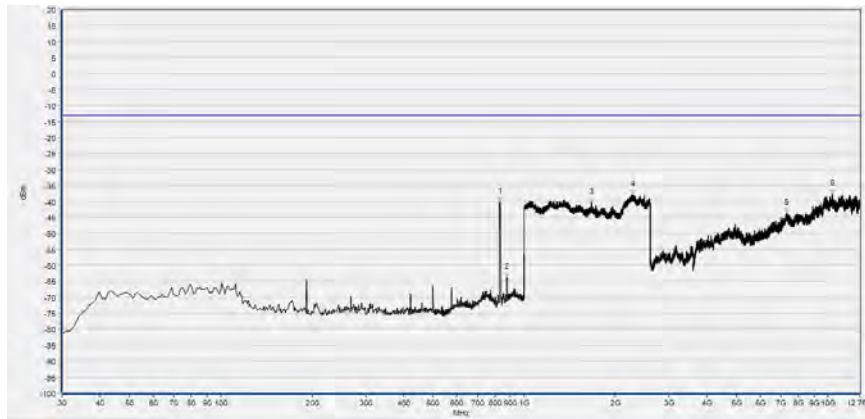


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	817.640	-39.69	-13.00	Horizontal	N/A
2	863.230	-64.27	-13.00	Horizontal	N/A
3	1352.781	-39.10	-13.00	Horizontal	PASS
4	2308.683	-37.76	-13.00	Horizontal	PASS
5	7269.849	-43.28	-13.00	Horizontal	PASS
6	12401.146	-37.44	-13.00	Horizontal	PASS

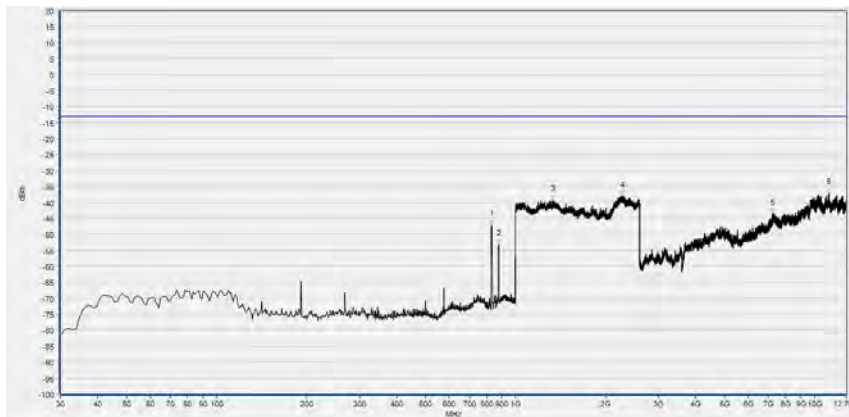


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	814.730	-45.34	-13.00	Vertical	N/A
2	863.230	-54.37	-13.00	Vertical	PASS
3	1234.334	-38.91	-13.00	Vertical	PASS
4	2258.743	-37.57	-13.00	Vertical	PASS
5	7293.844	-43.50	-13.00	Vertical	PASS
6	11899.091	-37.37	-13.00	Vertical	PASS

LTE Band 26, 5MHz BW, Mid Channel, QPSK

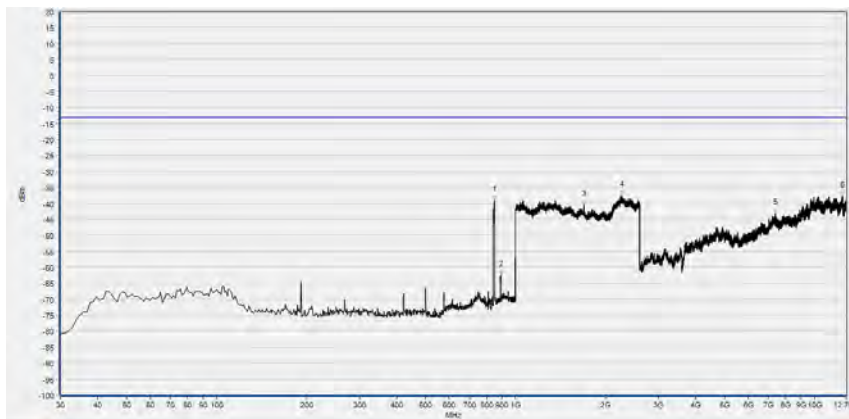


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	833.160	-40.22	-13.00	Horizontal	N/A
2	874.870	-63.81	-13.00	Horizontal	N/A
3	1665.226	-40.35	-13.00	Horizontal	PASS
4	2274.110	-37.95	-13.00	Horizontal	PASS
5	7299.382	-43.71	-13.00	Horizontal	PASS
6	10317.249	-37.74	-13.00	Horizontal	PASS

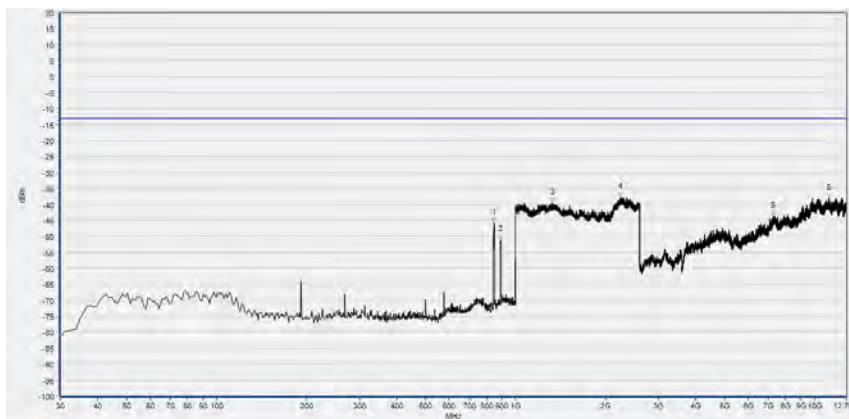


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	833.160	-46.95	-13.00	Vertical	N/A
2	878.750	-53.08	-13.00	Vertical	N/A
3	1335.494	-39.27	-13.00	Vertical	PASS
4	2277.951	-37.83	-13.00	Vertical	PASS
5	7234.779	-43.54	-13.00	Vertical	PASS
6	11153.392	-36.97	-13.00	Vertical	PASS

LTE Band 26, 5MHz BW, High Channel, QPSK



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	848.680	-38.91	-13.00	Horizontal	N/A
2	892.330	-62.39	-13.00	Horizontal	N/A
3	1692.117	-40.44	-13.00	Horizontal	PASS
4	2271.549	-37.52	-13.00	Horizontal	PASS
5	7400.900	-43.12	-13.00	Horizontal	PASS
6	12414.066	-37.64	-13.00	Horizontal	PASS



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	847.710	-45.80	-13.00	Vertical	N/A
2	890.390	-51.15	-13.00	Vertical	N/A
3	1332.293	-39.52	-13.00	Vertical	PASS
4	2242.737	-37.55	-13.00	Vertical	PASS
5	7277.232	-43.73	-13.00	Vertical	PASS
6	11157.083	-38.18	-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.



4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Signal Analyzer	MY51511149	N9020A	Agilent	2024.06.19	2025.06.18
Communication Test Station	6200995016	MT8820C	Anritsu	2024.09.11	2025.09.10
Temperature Chamber	S022177101 00089002	KMT-36LF 1A0	KOMEG	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	2024.09.11	2025.09.10
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 B14	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV -LTE B26	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.05.10	2025.05.09

_____ END OF REPORT _____