



REPORT No.: SZ25120053W06

TEST REPORT

APPLICANT : DINO INNOVATION LIMITED

PRODUCT NAME : DN-ENG41

MODEL NAME : DN-ENG41

BRAND NAME : GigglePal

FCC ID : 2BUUJ-DN-ENG41

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

RECEIPT DATE : 2025-12-03

TEST DATE : 2025-12-10 to 2026-03-18

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Change History		
Version	Date	Reason for change
1.0	2026-04-14	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	DINO INNOVATION LIMITED
Applicant Address:	37 CROYDON ROAD BECKENHAM UNITED KINGDOM BR3 4AB
Manufacturer:	DINO INNOVATION LIMITED
Manufacturer Address:	37 CROYDON ROAD BECKENHAM UNITED KINGDOM BR3 4AB

1.2. Equipment Under Test (EUT) Description

Product Name:	DN-ENG41	
Sample No.:	2#, 6#	
Hardware Version:	T3501-MB_V1.0	
Software Version:	GigglePal_DN_ENG41_1.1.8	
Modulation Type:	QPSK, 16QAM, 64QAM	
Operation Band:	Band 14, 18, 26	
Frequency Range:	LTE Band 14	Tx: 788MHz–798MHz
		Rx: 758MHz–768MHz
	LTE Band 18	Tx: 815MHz–824MHz
		Rx: 860MHz–869MHz
	LTE Band 26	Tx: 814MHz–824MHz
		Rx: 859MHz–869MHz
Channel Bandwidth	LTE Band 14	5MHz, 10MHz
	LTE Band 18	5MHz
	LTE Band 26	1.4MHz, 3MHz, 5MHz, 10MHz
Antenna Type:	PIFA Antenna	
Antenna Gain:	LTE Band 14	-0.69dBi
	LTE Band 18	-0.61dBi
	LTE Band 26	-0.03dBi
Accessory Information:	Battery	
	Brand Name:	N/A
	Model No.:	BTE-2301



	Serial No.:	N/A
	Capacity:	2320mAh
	Rated Voltage:	3.87V
	Charge Limit:	4.45V
	Manufacturer:	Phenix New Energy (Huizhou) Co., Ltd.

Note 1: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. 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	QPSK	16QAM	64QAM
10	0.113	0.094	0.074	8M95G7D	8M91W7D	8M93W7D
5	0.113	0.091	0.074	4M49G7D	4M49W7D	4M49W7D
LTE Band 18	Maximum E.R.P./E.I.R.P. (W)			Emission Designator (99%OBW)		
BW(MHz)	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
5	0.088	0.072	0.077	4M49G7D	4M49W7D	4M50W7D
LTE Band 26	Maximum E.R.P./E.I.R.P. (W)			Emission Designator (99%OBW)		
BW(MHz)	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
10	0.102	0.089	0.067	8M95G7D	8M92W7D	8M94W7D
5	0.100	0.086	0.068	4M49G7D	4M49W7D	4M49W7D
3	0.101	0.087	0.067	2M70G7D	2M71W7D	2M71W7D
1.4	0.102	0.085	0.066	1M10G7D	1M10W7D	1M10W7D



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	Remark
2.1046, 90.635(b)	Transmitter Conducted Output Power and ERP/EIRP	Mar. 18, 2026	Liu Huiyan	PASS	/
90.209	Occupied Bandwidth	Dec. 11, 2025	Liu Huiyan	PASS	/
2.1055, 90.213	Frequency Stability	Mar. 17, 2026	Liu Huiyan	PASS	/
2.1051, 90.691	Conducted Spurious Emissions	Dec. 11, 2025	Liu Huiyan	PASS	/
2.1051, 90.691	Band Edge	Dec. 11, 2025	Liu Huiyan	PASS	/
2.1053, 90.691	Radiated Spurious Emissions	Dec. 26, 2025	Zhong Xiangyun	PASS	/

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: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".

Note 3: The antenna gain presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information.



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 90S Requirements

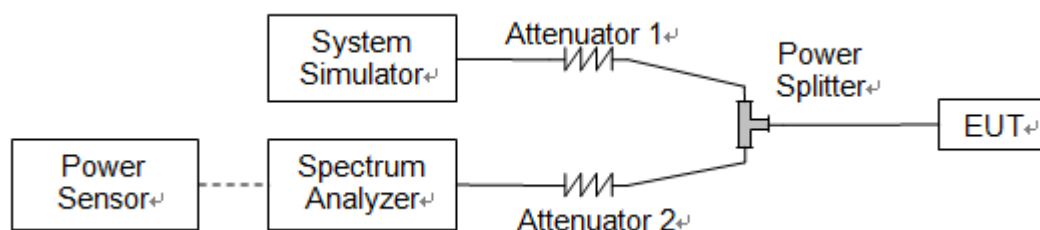
2.1. Transmitter Conducted Output Power and E.R.P./E.I.R.P.

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	/	23.38	/
10	QPSK	1	25	/	23.26	/
10	QPSK	1	49	/	23.26	/
10	QPSK	25	0	/	22.39	/
10	QPSK	25	12	/	22.35	/
10	QPSK	25	25	/	22.34	/
10	QPSK	50	0	/	22.36	/
10	16QAM	1	0	/	22.55	/
10	16QAM	1	25	/	22.52	/
10	16QAM	1	49	/	22.59	/
10	16QAM	25	0	/	21.36	/
10	16QAM	25	12	/	21.31	/
10	16QAM	25	25	/	21.32	/
10	16QAM	50	0	/	21.29	/
10	64QAM	1	0	/	21.56	/
10	64QAM	1	25	/	21.30	/
10	64QAM	1	49	/	21.46	/
10	64QAM	25	0	/	21.40	/
10	64QAM	25	12	/	21.35	/
10	64QAM	25	25	/	21.30	/
10	64QAM	50	0	/	21.32	/



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	23.27	23.37	23.26
5	QPSK	1	12	23.18	23.18	23.21
5	QPSK	1	24	23.22	23.16	23.23
5	QPSK	12	0	22.13	22.22	22.14
5	QPSK	12	7	22.19	22.12	22.14
5	QPSK	12	13	22.17	22.13	22.16
5	QPSK	25	0	22.05	22.12	22.15
5	16QAM	1	0	22.38	22.32	22.38
5	16QAM	1	12	22.33	22.29	22.33
5	16QAM	1	24	22.36	22.37	22.42
5	16QAM	12	0	21.28	21.27	21.35
5	16QAM	12	7	21.24	21.24	21.28
5	16QAM	12	13	21.23	21.31	21.21
5	16QAM	25	0	21.21	21.23	21.22
5	64QAM	1	0	21.50	21.52	21.46
5	64QAM	1	12	21.24	21.19	21.28
5	64QAM	1	24	21.45	21.40	21.41
5	64QAM	12	0	21.38	21.31	21.30
5	64QAM	12	7	21.34	21.32	21.34
5	64QAM	12	13	21.27	21.25	21.18
5	64QAM	25	0	21.28	21.20	21.22



LTE Band 18						
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.	Average Power Middle Ch. / Freq.	Average Power High Ch. / Freq.
Channel				23875	23895	23915
Frequency (MHz)				817.5	819.5	821.5
5	QPSK	1	0	22.04	21.57	22.20
5	QPSK	1	12	22.09	22.02	22.22
5	QPSK	1	24	22.14	22.02	21.79
5	QPSK	12	0	21.14	21.26	21.24
5	QPSK	12	7	21.11	20.83	20.92
5	QPSK	12	13	21.33	20.73	21.05
5	QPSK	25	0	21.27	20.93	20.83
5	16QAM	1	0	21.18	21.09	21.29
5	16QAM	1	12	21.15	21.18	20.95
5	16QAM	1	24	21.35	21.06	21.09
5	16QAM	12	0	20.17	19.90	20.10
5	16QAM	12	7	19.90	20.10	19.98
5	16QAM	12	13	20.19	20.04	20.24
5	16QAM	25	0	20.02	20.11	19.95
5	64QAM	1	0	21.65	21.25	21.14
5	64QAM	1	12	21.07	21.21	21.28
5	64QAM	1	24	21.07	21.11	21.16
5	64QAM	12	0	20.27	19.98	19.99
5	64QAM	12	7	20.09	19.93	20.00
5	64QAM	12	13	19.98	19.93	20.11
5	64QAM	25	0	19.97	20.08	20.00



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	/	22.23	/
10	QPSK	1	25	/	22.17	/
10	QPSK	1	49	/	22.27	/
10	QPSK	25	0	/	21.30	/
10	QPSK	25	12	/	21.26	/
10	QPSK	25	25	/	21.17	/
10	QPSK	50	0	/	21.21	/
10	16QAM	1	0	/	21.67	/
10	16QAM	1	25	/	21.57	/
10	16QAM	1	49	/	21.57	/
10	16QAM	25	0	/	20.29	/
10	16QAM	25	12	/	20.20	/
10	16QAM	25	25	/	20.14	/
10	16QAM	50	0	/	20.18	/
10	64QAM	1	0	/	20.32	/
10	64QAM	1	25	/	20.27	/
10	64QAM	1	49	/	20.41	/
10	64QAM	25	0	/	19.38	/
10	64QAM	25	12	/	19.27	/
10	64QAM	25	25	/	19.29	/
10	64QAM	50	0	/	19.33	/



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	22.17	22.15	22.12
5	QPSK	1	12	22.14	22.01	22.16
5	QPSK	1	24	22.19	22.07	22.10
5	QPSK	12	0	21.22	21.13	21.21
5	QPSK	12	7	21.23	21.19	21.24
5	QPSK	12	13	21.18	21.17	21.17
5	QPSK	25	0	21.24	21.22	21.19
5	16QAM	1	0	21.47	21.36	21.27
5	16QAM	1	12	21.52	21.42	21.52
5	16QAM	1	24	21.55	21.14	21.46
5	16QAM	12	0	20.32	20.17	20.28
5	16QAM	12	7	20.31	20.21	20.20
5	16QAM	12	13	20.21	20.19	20.13
5	16QAM	25	0	20.32	20.28	20.12
5	64QAM	1	0	20.48	20.52	20.42
5	64QAM	1	12	20.34	20.44	20.42
5	64QAM	1	24	20.29	20.28	20.43
5	64QAM	12	0	19.30	19.17	19.34
5	64QAM	12	7	19.27	19.31	19.37
5	64QAM	12	13	19.33	19.23	19.22
5	64QAM	25	0	19.30	19.34	19.30



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	22.13	22.10	22.11
3	QPSK	1	8	22.21	22.23	22.04
3	QPSK	1	14	22.21	22.17	22.16
3	QPSK	8	0	21.23	21.13	21.23
3	QPSK	8	4	21.21	21.21	21.13
3	QPSK	8	7	21.12	21.14	21.15
3	QPSK	15	0	21.17	21.14	21.25
3	16QAM	1	0	21.44	21.50	21.24
3	16QAM	1	8	21.58	21.39	21.40
3	16QAM	1	14	21.30	21.46	21.31
3	16QAM	8	0	20.34	20.30	20.22
3	16QAM	8	4	20.29	20.26	20.18
3	16QAM	8	7	20.31	20.24	20.33
3	16QAM	15	0	20.30	20.25	20.18
3	64QAM	1	0	20.41	20.20	20.26
3	64QAM	1	8	20.36	20.31	20.36
3	64QAM	1	14	20.23	20.34	20.32
3	64QAM	8	0	19.30	19.30	19.19
3	64QAM	8	4	19.37	19.30	19.14
3	64QAM	8	7	19.25	19.21	19.28
3	64QAM	15	0	19.33	19.29	19.30



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	22.13	22.16	22.16
1.4	QPSK	1	3	22.24	22.16	22.26
1.4	QPSK	1	5	22.21	22.12	22.14
1.4	QPSK	3	0	22.17	22.09	22.23
1.4	QPSK	3	1	22.25	22.09	22.23
1.4	QPSK	3	3	22.28	22.06	22.13
1.4	QPSK	6	0	21.21	21.15	21.15
1.4	16QAM	1	0	21.28	21.36	21.23
1.4	16QAM	1	3	21.44	21.33	21.38
1.4	16QAM	1	5	21.48	21.32	21.28
1.4	16QAM	3	0	21.25	21.24	21.26
1.4	16QAM	3	1	21.30	21.24	21.29
1.4	16QAM	3	3	21.29	21.13	21.30
1.4	16QAM	6	0	20.13	20.10	20.23
1.4	64QAM	1	0	20.29	20.36	20.31
1.4	64QAM	1	3	20.27	20.34	20.29
1.4	64QAM	1	5	20.28	20.13	20.32
1.4	64QAM	3	0	20.25	20.26	20.27
1.4	64QAM	3	1	20.32	20.28	20.30
1.4	64QAM	3	3	20.27	20.26	20.17
1.4	64QAM	6	0	19.12	19.21	19.21

**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	/	/	20.54	0.113	/	/
10	QPSK	1	25	/	/	20.42	0.110	/	/
10	QPSK	1	49	/	/	20.42	0.110	/	/
10	QPSK	25	0	/	/	19.55	0.090	/	/
10	QPSK	25	12	/	/	19.51	0.089	/	/
10	QPSK	25	25	/	/	19.50	0.089	/	/
10	QPSK	50	0	/	/	19.52	0.090	/	/
10	16QAM	1	0	/	/	19.71	0.094	/	/
10	16QAM	1	25	/	/	19.68	0.093	/	/
10	16QAM	1	49	/	/	19.75	0.094	/	/
10	16QAM	25	0	/	/	18.52	0.071	/	/
10	16QAM	25	12	/	/	18.47	0.070	/	/
10	16QAM	25	25	/	/	18.48	0.070	/	/
10	16QAM	50	0	/	/	18.45	0.070	/	/
10	64QAM	1	0	/	/	18.72	0.074	/	/
10	64QAM	1	25	/	/	18.46	0.070	/	/
10	64QAM	1	49	/	/	18.62	0.073	/	/
10	64QAM	25	0	/	/	18.56	0.072	/	/
10	64QAM	25	12	/	/	18.51	0.071	/	/
10	64QAM	25	25	/	/	18.46	0.070	/	/
10	64QAM	50	0	/	/	18.48	0.070	/	/



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	20.43	0.110	20.53	0.113	20.42	0.110
5	QPSK	1	12	20.34	0.108	20.34	0.108	20.37	0.109
5	QPSK	1	24	20.38	0.109	20.32	0.108	20.39	0.109
5	QPSK	12	0	19.29	0.085	19.38	0.087	19.30	0.085
5	QPSK	12	7	19.35	0.086	19.28	0.085	19.30	0.085
5	QPSK	12	13	19.33	0.086	19.29	0.085	19.32	0.086
5	QPSK	25	0	19.21	0.083	19.28	0.085	19.31	0.085
5	16QAM	1	0	19.54	0.090	19.48	0.089	19.54	0.090
5	16QAM	1	12	19.49	0.089	19.45	0.088	19.49	0.089
5	16QAM	1	24	19.52	0.090	19.53	0.090	19.58	0.091
5	16QAM	12	0	18.44	0.070	18.43	0.070	18.51	0.071
5	16QAM	12	7	18.40	0.069	18.40	0.069	18.44	0.070
5	16QAM	12	13	18.39	0.069	18.47	0.070	18.37	0.069
5	16QAM	25	0	18.37	0.069	18.39	0.069	18.38	0.069
5	64QAM	1	0	18.66	0.073	18.68	0.074	18.62	0.073
5	64QAM	1	12	18.40	0.069	18.35	0.068	18.44	0.070
5	64QAM	1	24	18.61	0.073	18.56	0.072	18.57	0.072
5	64QAM	12	0	18.54	0.071	18.47	0.070	18.46	0.070
5	64QAM	12	7	18.50	0.071	18.48	0.070	18.50	0.071
5	64QAM	12	13	18.43	0.070	18.41	0.069	18.34	0.068
5	64QAM	25	0	18.44	0.070	18.36	0.069	18.38	0.069



LTE Band 18				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				23875		23895		23915	
Frequency (MHz)				817.5		819.5		821.5	
				dBm	W	dBm	W	dBm	W
5	QPSK	1	0	19.28	0.085	18.81	0.076	19.44	0.088
5	QPSK	1	12	19.33	0.086	19.26	0.084	19.46	0.088
5	QPSK	1	24	19.38	0.087	19.26	0.084	19.03	0.080
5	QPSK	12	0	18.38	0.069	18.50	0.071	18.48	0.070
5	QPSK	12	7	18.35	0.068	18.07	0.064	18.16	0.065
5	QPSK	12	13	18.57	0.072	17.97	0.063	18.29	0.067
5	QPSK	25	0	18.51	0.071	18.17	0.066	18.07	0.064
5	16QAM	1	0	18.42	0.070	18.33	0.068	18.53	0.071
5	16QAM	1	12	18.39	0.069	18.42	0.070	18.19	0.066
5	16QAM	1	24	18.59	0.072	18.30	0.068	18.33	0.068
5	16QAM	12	0	17.41	0.055	17.14	0.052	17.34	0.054
5	16QAM	12	7	17.14	0.052	17.34	0.054	17.22	0.053
5	16QAM	12	13	17.43	0.055	17.28	0.053	17.48	0.056
5	16QAM	25	0	17.26	0.053	17.35	0.054	17.19	0.052
5	64QAM	1	0	18.89	0.077	18.49	0.071	18.38	0.069
5	64QAM	1	12	18.31	0.068	18.45	0.070	18.52	0.071
5	64QAM	1	24	18.31	0.068	18.35	0.068	18.40	0.069
5	64QAM	12	0	17.51	0.056	17.22	0.053	17.23	0.053
5	64QAM	12	7	17.33	0.054	17.17	0.052	17.24	0.053
5	64QAM	12	13	17.22	0.053	17.17	0.052	17.35	0.054
5	64QAM	25	0	17.21	0.053	17.32	0.054	17.24	0.053



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	/	20.05	0.101	/
10	QPSK	1	25	/	19.99	0.100	/
10	QPSK	1	49	/	20.09	0.102	/
10	QPSK	25	0	/	19.12	0.082	/
10	QPSK	25	12	/	19.08	0.081	/
10	QPSK	25	25	/	18.99	0.079	/
10	QPSK	50	0	/	19.03	0.080	/
10	16QAM	1	0	/	19.49	0.089	/
10	16QAM	1	25	/	19.39	0.087	/
10	16QAM	1	49	/	19.39	0.087	/
10	16QAM	25	0	/	18.11	0.065	/
10	16QAM	25	12	/	18.02	0.063	/
10	16QAM	25	25	/	17.96	0.063	/
10	16QAM	50	0	/	18.00	0.063	/
10	64QAM	1	0	/	18.14	0.065	/
10	64QAM	1	25	/	18.09	0.064	/
10	64QAM	1	49	/	18.23	0.067	/
10	64QAM	25	0	/	17.20	0.052	/
10	64QAM	25	12	/	17.09	0.051	/
10	64QAM	25	25	/	17.11	0.051	/
10	64QAM	50	0	/	17.15	0.052	/



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	19.99	0.100	19.97	0.099	19.94	0.099
5	QPSK	1	12	19.96	0.099	19.83	0.096	19.98	0.100
5	QPSK	1	24	20.01	0.100	19.89	0.097	19.92	0.098
5	QPSK	12	0	19.04	0.080	18.95	0.079	19.03	0.080
5	QPSK	12	7	19.05	0.080	19.01	0.080	19.06	0.081
5	QPSK	12	13	19.00	0.079	18.99	0.079	18.99	0.079
5	QPSK	25	0	19.06	0.081	19.04	0.080	19.01	0.080
5	16QAM	1	0	19.29	0.085	19.18	0.083	19.09	0.081
5	16QAM	1	12	19.34	0.086	19.24	0.084	19.34	0.086
5	16QAM	1	24	19.37	0.086	18.96	0.079	19.28	0.085
5	16QAM	12	0	18.14	0.065	17.99	0.063	18.10	0.065
5	16QAM	12	7	18.13	0.065	18.03	0.064	18.02	0.063
5	16QAM	12	13	18.03	0.064	18.01	0.063	17.95	0.062
5	16QAM	25	0	18.14	0.065	18.10	0.065	17.94	0.062
5	64QAM	1	0	18.30	0.068	18.34	0.068	18.24	0.067
5	64QAM	1	12	18.16	0.065	18.26	0.067	18.24	0.067
5	64QAM	1	24	18.11	0.065	18.10	0.065	18.25	0.067
5	64QAM	12	0	17.12	0.052	16.99	0.050	17.16	0.052
5	64QAM	12	7	17.09	0.051	17.13	0.052	17.19	0.052
5	64QAM	12	13	17.15	0.052	17.05	0.051	17.04	0.051
5	64QAM	25	0	17.12	0.052	17.16	0.052	17.12	0.052



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	19.95	0.099	19.92	0.098	19.93	0.098
3	QPSK	1	8	20.03	0.101	20.05	0.101	19.86	0.097
3	QPSK	1	14	20.03	0.101	19.99	0.100	19.98	0.100
3	QPSK	8	0	19.05	0.080	18.95	0.079	19.05	0.080
3	QPSK	8	4	19.03	0.080	19.03	0.080	18.95	0.079
3	QPSK	8	7	18.94	0.078	18.96	0.079	18.97	0.079
3	QPSK	15	0	18.99	0.079	18.96	0.079	19.07	0.081
3	16QAM	1	0	19.26	0.084	19.32	0.086	19.06	0.081
3	16QAM	1	8	19.40	0.087	19.21	0.083	19.22	0.084
3	16QAM	1	14	19.12	0.082	19.28	0.085	19.13	0.082
3	16QAM	8	0	18.16	0.065	18.12	0.065	18.04	0.064
3	16QAM	8	4	18.11	0.065	18.08	0.064	18.00	0.063
3	16QAM	8	7	18.13	0.065	18.06	0.064	18.15	0.065
3	16QAM	15	0	18.12	0.065	18.07	0.064	18.00	0.063
3	64QAM	1	0	18.23	0.067	18.02	0.063	18.08	0.064
3	64QAM	1	8	18.18	0.066	18.13	0.065	18.18	0.066
3	64QAM	1	14	18.05	0.064	18.16	0.065	18.14	0.065
3	64QAM	8	0	17.12	0.052	17.12	0.052	17.01	0.050
3	64QAM	8	4	17.19	0.052	17.12	0.052	16.96	0.050
3	64QAM	8	7	17.07	0.051	17.03	0.050	17.10	0.051
3	64QAM	15	0	17.15	0.052	17.11	0.051	17.12	0.052



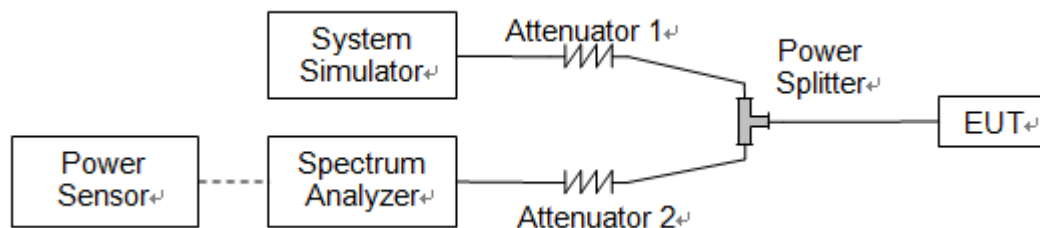
LTE Band 26				Measured E.R.P.					
BW [MHz]	Modulation	RB Size	RB Offset	Low Ch. / Freq.		Middle Ch. / Freq.		High Ch. / Freq.	
Channel				26697		26740		26783	
Frequency (MHz)				814.7		819.0		823.3	
				dBm	W	dBm	W	dBm	W
1.4	QPSK	1	0	19.95	0.099	19.98	0.100	19.98	0.100
1.4	QPSK	1	3	20.06	0.101	19.98	0.100	20.08	0.102
1.4	QPSK	1	5	20.03	0.101	19.94	0.099	19.96	0.099
1.4	QPSK	3	0	19.99	0.100	19.91	0.098	20.05	0.101
1.4	QPSK	3	1	20.07	0.102	19.91	0.098	20.05	0.101
1.4	QPSK	3	3	20.10	0.102	19.88	0.097	19.95	0.099
1.4	QPSK	6	0	19.03	0.080	18.97	0.079	18.97	0.079
1.4	16QAM	1	0	19.10	0.081	19.18	0.083	19.05	0.080
1.4	16QAM	1	3	19.26	0.084	19.15	0.082	19.20	0.083
1.4	16QAM	1	5	19.30	0.085	19.14	0.082	19.10	0.081
1.4	16QAM	3	0	19.07	0.081	19.06	0.081	19.08	0.081
1.4	16QAM	3	1	19.12	0.082	19.06	0.081	19.11	0.081
1.4	16QAM	3	3	19.11	0.081	18.95	0.079	19.12	0.082
1.4	16QAM	6	0	17.95	0.062	17.92	0.062	18.05	0.064
1.4	64QAM	1	0	18.11	0.065	18.18	0.066	18.13	0.065
1.4	64QAM	1	3	18.09	0.064	18.16	0.065	18.11	0.065
1.4	64QAM	1	5	18.10	0.065	17.95	0.062	18.14	0.065
1.4	64QAM	3	0	18.07	0.064	18.08	0.064	18.09	0.064
1.4	64QAM	3	1	18.14	0.065	18.10	0.065	18.12	0.065
1.4	64QAM	3	3	18.09	0.064	18.08	0.064	17.99	0.063
1.4	64QAM	6	0	16.94	0.049	17.03	0.050	17.03	0.050

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	4.4815	4.9135	PASS
B14	5	Low	23305	790.5	16QAM	4.4806	4.9603	PASS
B14	5	Low	23305	790.5	64QAM	4.4816	4.9483	PASS
B14	5	Mid	23330	793	QPSK	4.4816	4.9624	PASS
B14	5	Mid	23330	793	16QAM	4.4747	4.9314	PASS
B14	5	Mid	23330	793	64QAM	4.4939	4.9384	PASS
B14	5	High	23355	795.5	QPSK	4.4853	4.9631	PASS
B14	5	High	23355	795.5	16QAM	4.4896	4.9704	PASS
B14	5	High	23355	795.5	64QAM	4.4946	4.9413	PASS
B14	10	Mid	23330	793	QPSK	8.9498	9.6770	PASS
B14	10	Mid	23330	793	16QAM	8.9058	9.6449	PASS
B14	10	Mid	23330	793	64QAM	8.9322	9.7759	PASS



LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B18 part90	5	Low	23875	817.5	QPSK	4.4857	4.9607	PASS
B18 part90	5	Low	23875	817.5	16QAM	4.4868	4.9834	PASS
B18 part90	5	Low	23875	817.5	64QAM	4.4946	4.9636	PASS
B18 part90	5	Mid	23895	819.5	QPSK	4.4822	4.9646	PASS
B18 part90	5	Mid	23895	819.5	16QAM	4.4897	4.9588	PASS
B18 part90	5	Mid	23895	819.5	64QAM	4.4957	4.9485	PASS
B18 part90	5	High	23915	821.5	QPSK	4.4928	4.9862	PASS
B18 part90	5	High	23915	821.5	16QAM	4.4918	4.9706	PASS
B18 part90	5	High	23915	821.5	64QAM	4.4957	4.9163	PASS



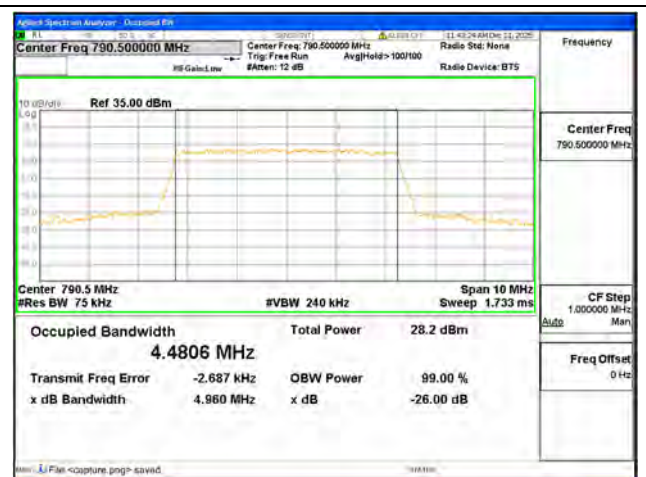
LTE Band	BW(MHz)	Channel Level	Channel	Frequency (MHz)	Modulation	99% BW (MHz)	26dB BW (MHz)	Verdict
B26 Part90	1.4	Low	26697	814.7	QPSK	1.0967	1.2876	PASS
B26 Part90	1.4	Low	26697	814.7	16QAM	1.0965	1.2966	PASS
B26 Part90	1.4	Low	26697	814.7	64QAM	1.1008	1.2882	PASS
B26 Part90	1.4	Mid	26740	819	QPSK	1.1002	1.2813	PASS
B26 Part90	1.4	Mid	26740	819	16QAM	1.1003	1.2967	PASS
B26 Part90	1.4	Mid	26740	819	64QAM	1.1027	1.2956	PASS
B26 Part90	1.4	High	26783	823.3	QPSK	1.0968	1.2810	PASS
B26 Part90	1.4	High	26783	823.3	16QAM	1.0971	1.2858	PASS
B26 Part90	1.4	High	26783	823.3	64QAM	1.0985	1.2778	PASS
B26 Part90	3	Low	26705	815.5	QPSK	2.6993	2.9681	PASS
B26 Part90	3	Low	26705	815.5	16QAM	2.7053	2.9963	PASS
B26 Part90	3	Low	26705	815.5	64QAM	2.7085	2.9844	PASS
B26 Part90	3	Mid	26740	819	QPSK	2.7039	2.9756	PASS
B26 Part90	3	Mid	26740	819	16QAM	2.7022	2.9872	PASS
B26 Part90	3	Mid	26740	819	64QAM	2.6984	2.9642	PASS
B26 Part90	3	High	26775	822.5	QPSK	2.7005	2.9795	PASS
B26 Part90	3	High	26775	822.5	16QAM	2.7046	2.9791	PASS
B26	3	High	26775	822.5	64QAM	2.7051	2.9743	PASS



Part90								
B26 Part90	5	Low	26715	816.5	QPSK	4.4870	4.9478	PASS
B26 Part90	5	Low	26715	816.5	16QAM	4.4946	4.9450	PASS
B26 Part90	5	Low	26715	816.5	64QAM	4.4933	4.9590	PASS
B26 Part90	5	Mid	26740	819	QPSK	4.4835	4.9763	PASS
B26 Part90	5	Mid	26740	819	16QAM	4.4835	4.9382	PASS
B26 Part90	5	Mid	26740	819	64QAM	4.4894	4.9224	PASS
B26 Part90	5	High	26765	821.5	QPSK	4.4910	4.9532	PASS
B26 Part90	5	High	26765	821.5	16QAM	4.4929	4.9426	PASS
B26 Part90	5	High	26765	821.5	64QAM	4.4911	4.9193	PASS
B26 Part90	10	Low	26740	819	QPSK	8.9525	9.7733	PASS
B26 Part90	10	Low	26740	819	16QAM	8.9177	9.6858	PASS
B26 Part90	10	Low	26740	819	64QAM	8.9273	9.7308	PASS
B26 Part90	10	Mid	26740	819	QPSK	8.9440	9.7034	PASS
B26 Part90	10	Mid	26740	819	16QAM	8.9193	9.7061	PASS
B26 Part90	10	Mid	26740	819	64QAM	8.9343	9.7478	PASS
B26 Part90	10	High	26740	819	QPSK	8.9518	9.7025	PASS
B26 Part90	10	High	26740	819	16QAM	8.9191	9.7324	PASS
B26 Part90	10	High	26740	819	64QAM	8.9437	9.7818	PASS



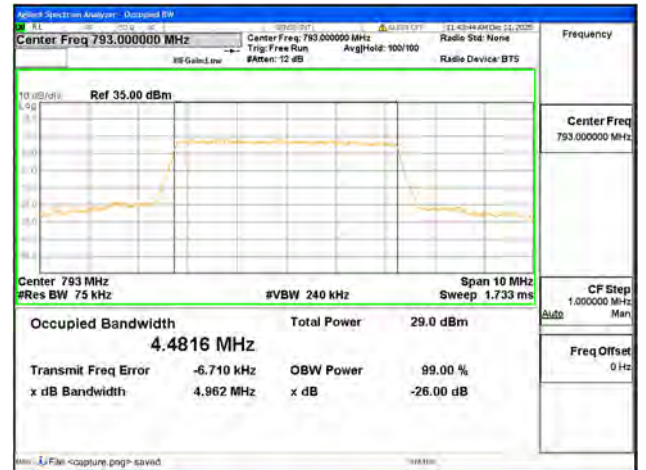
B14 / 5MHz / QPSK/ Low CH



B14 / 5MHz / 16QAM/ Low CH



B14 / 5MHz / 64QAM/ Low CH



B14 / 5MHz / QPSK/ Mid CH



B14 / 5MHz / 16QAM/ Mid CH



B14 / 5MHz / 64QAM/ Mid CH



B14 / 5MHz / QPSK/ High CH



B14 / 5MHz / 16QAM/ High CH



B14 / 5MHz / 64QAM/ High CH



B14 / 10MHz / QPSK/ Mid CH



B14 / 10MHz / 16QAM/ Mid CH



B14 / 10MHz / 64QAM/ Mid CH



B18 part90 / 5MHz / QPSK/ Low CH



B18 part90 / 5MHz / 16QAM/ Low CH



B18 part90 / 5MHz / 64QAM/ Low CH



B18 part90 / 5MHz / QPSK/ Mid CH



B18 part90 / 5MHz / 16QAM/ Mid CH



B18 part90 / 5MHz / 64QAM/ Mid CH



B18 part90 / 5MHz / QPSK/ High CH



B18 part90 / 5MHz / 16QAM/ High CH



B18 part90 / 5MHz / 64QAM/ High CH



B26 Part90 / 1.4MHz / QPSK/ Low CH



B26 Part90 / 1.4MHz / 16QAM/ Low CH



B26 Part90 / 1.4MHz / 64QAM/ Low CH



B26 Part90 / 1.4MHz / QPSK/ Mid CH



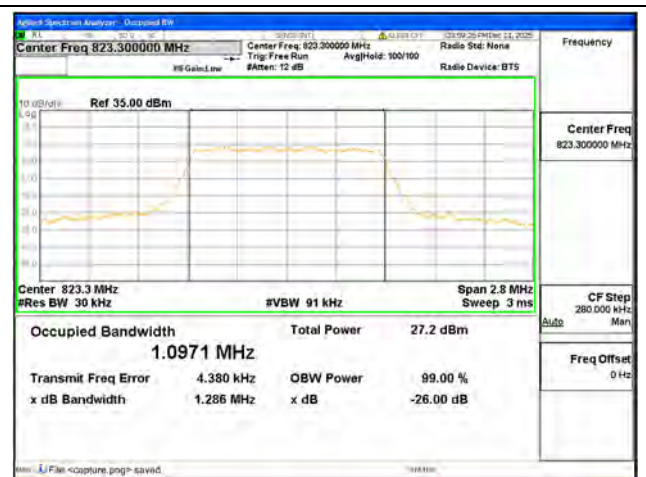
B26 Part90 / 1.4MHz / 16QAM/ Mid CH



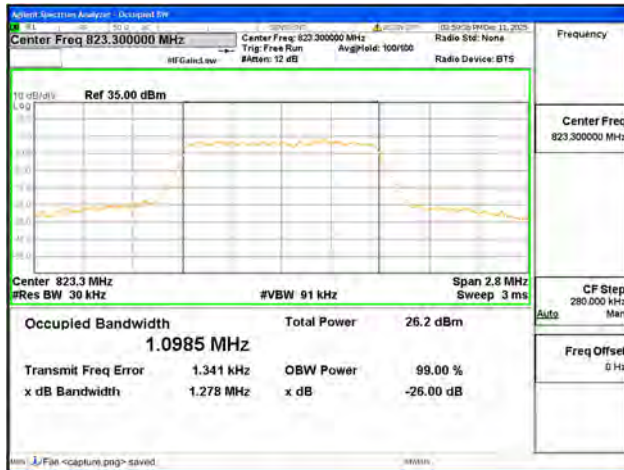
B26 Part90 / 1.4MHz / 64QAM/ Mid CH



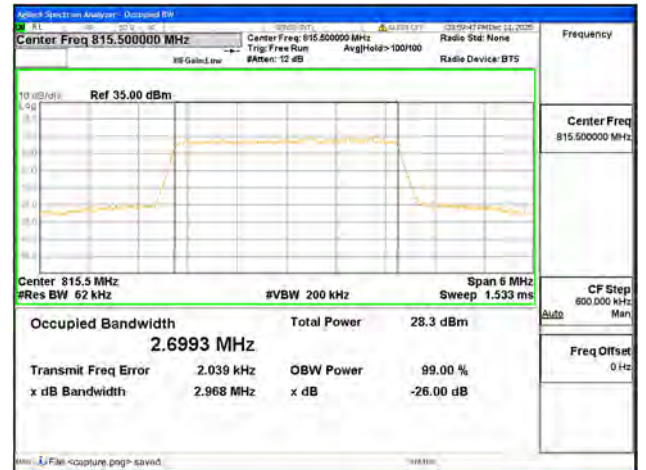
B26 Part90 / 1.4MHz / QPSK/ High CH



B26 Part90 / 1.4MHz / 16QAM/ High CH



B26 Part90 / 1.4MHz / 64QAM/ High CH



B26 Part90 / 3MHz / QPSK/ Low CH



B26 Part90 / 3MHz / 16QAM/ Low CH



B26 Part90 / 3MHz / 64QAM/ Low CH



B26 Part90 / 3MHz / QPSK/ Mid CH



B26 Part90 / 3MHz / 16QAM/ Mid CH



B26 Part90 / 3MHz / 64QAM/ Mid CH



B26 Part90 / 3MHz / QPSK/ High CH



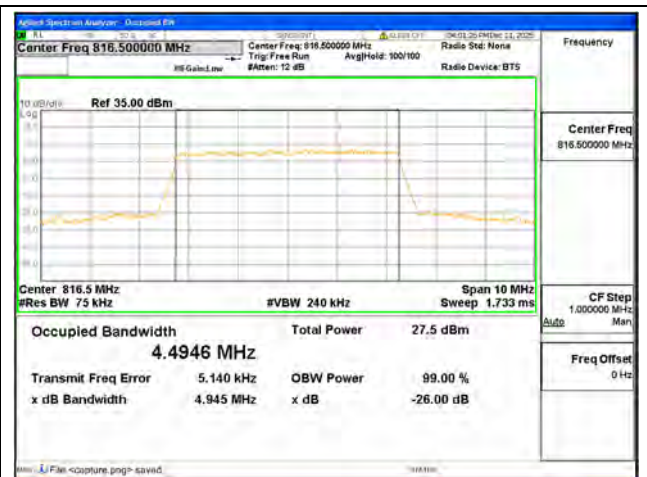
B26 Part90 / 3MHz / 16QAM/ High CH



B26 Part90 / 3MHz / 64QAM/ High CH



B26 Part90 / 5MHz / QPSK/ Low CH



B26 Part90 / 5MHz / 16QAM/ Low CH



B26 Part90 / 5MHz / 64QAM/ Low CH



B26 Part90 / 5MHz / QPSK/ Mid CH



B26 Part90 / 5MHz / 16QAM/ Mid CH



B26 Part90 / 5MHz / 64QAM/ Mid CH



B26 Part90 / 5MHz / QPSK/ High CH



B26 Part90 / 5MHz / 16QAM/ High CH



B26 Part90 / 5MHz / 64QAM/ High CH



B26 Part90 / 10MHz / QPSK/ Low CH



B26 Part90 / 10MHz / 16QAM/ Low CH



B26 Part90 / 10MHz / 64QAM/ Low CH



B26 Part90 / 10MHz / QPSK/ Mid CH



B26 Part90 / 10MHz / 16QAM/ Mid CH



B26 Part90 / 10MHz / 64QAM/ Mid CH



B26 Part90 / 10MHz / QPSK/ High CH



B26 Part90 / 10MHz / 16QAM/ High CH



B26 Part90 / 10MHz / 64QAM/ High CH

2.3. Frequency Stability

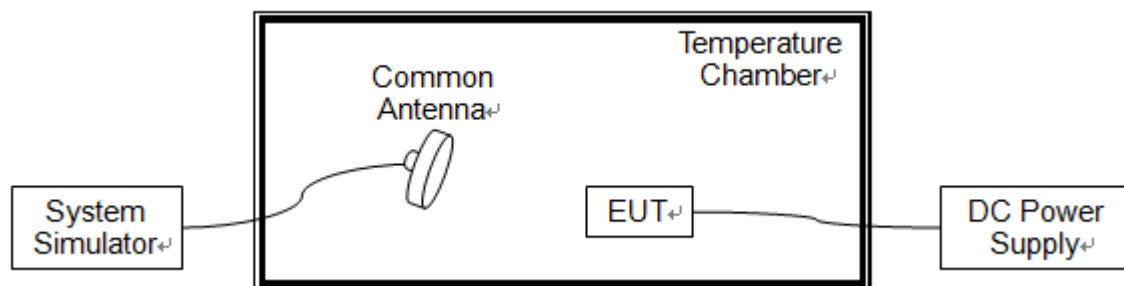
2.3.1. Requirement

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 $+50^{\circ}\text{C}$ 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 0°C to 40°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 3.87V, 4.45V and 3.00V, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 14, 64QAM, Channel 23330, Frequency 793.0MHz Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.87	+20(Ref)	23	0.029	PASS
Normal		-20	-12	-0.015	
Normal		-10	19	0.024	
Normal		0	-4	-0.005	
Normal		+10	16	0.020	
Normal		+20	10	0.013	
Normal		+30	13	0.016	
Normal		+40	22	0.028	
High	4.45	+20	-20	-0.025	
BATT.ENDPOINT	3.00	+20	-20	-0.025	

LTE Band 18, 64QAM, Channel 23895, Frequency 819.5MHz Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.87	+20(Ref)	-14	-0.017	PASS
Normal		-20	-3	-0.004	
Normal		-10	19	0.023	
Normal		0	-17	-0.021	
Normal		+10	-15	-0.018	
Normal		+20	10	0.012	
Normal		+30	17	0.021	
Normal		+40	20	0.024	
High	4.45	+20	-2	-0.002	
BATT.ENDPOINT	3.00	+20	16	0.020	



LTE Band 26, 64QAM, Channel 26740, Frequency 819MHz Limit =±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
Normal	3.87	+20(Ref)	16	0.020	PASS
Normal		-20	15	0.018	
Normal		-10	11	0.013	
Normal		0	20	0.024	
Normal		+10	16	0.020	
Normal		+20	12	0.015	
Normal		+30	19	0.023	
Normal		+40	17	0.021	
High	4.45	+20	13	0.016	
BATT.ENDPOINT	3.00	+20	15	0.018	

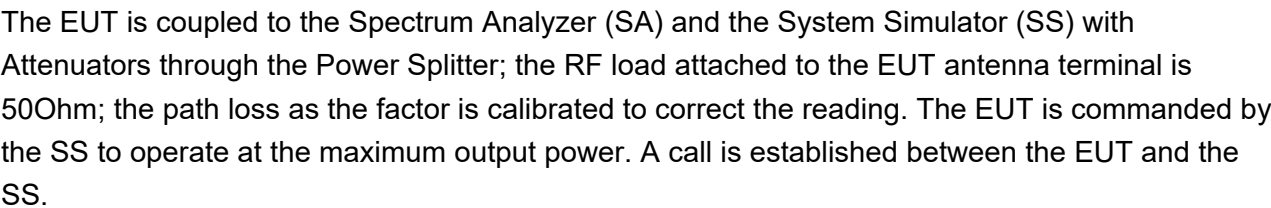


2.4. Conducted Spurious Emissions

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

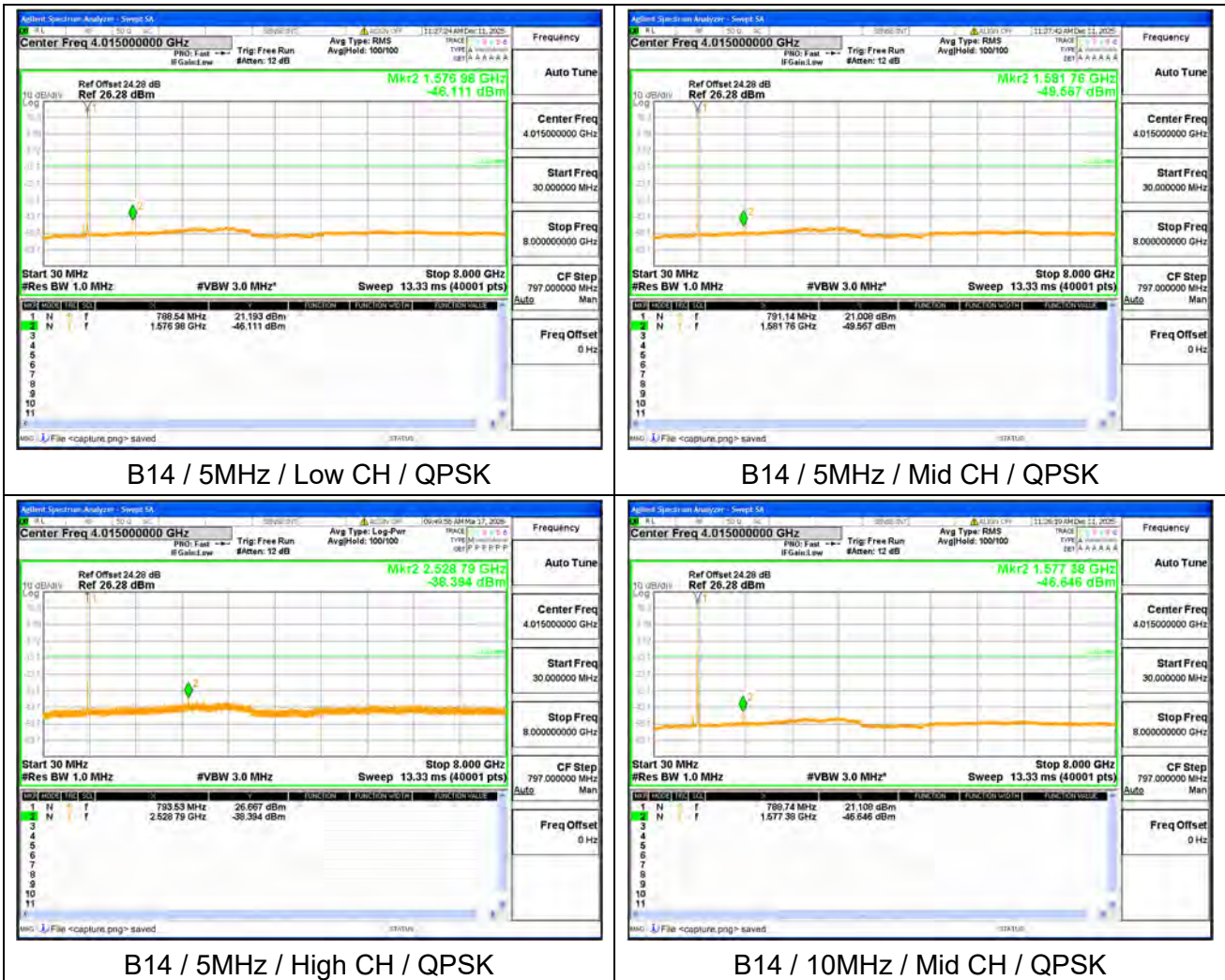


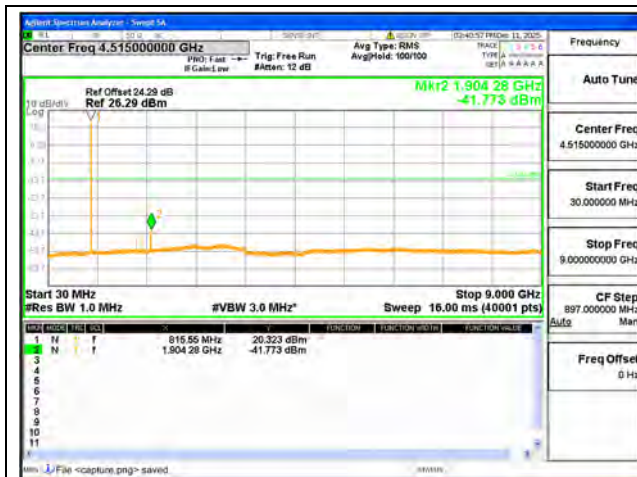
2.4.3. Test procedure

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



2.4.4. Test Result

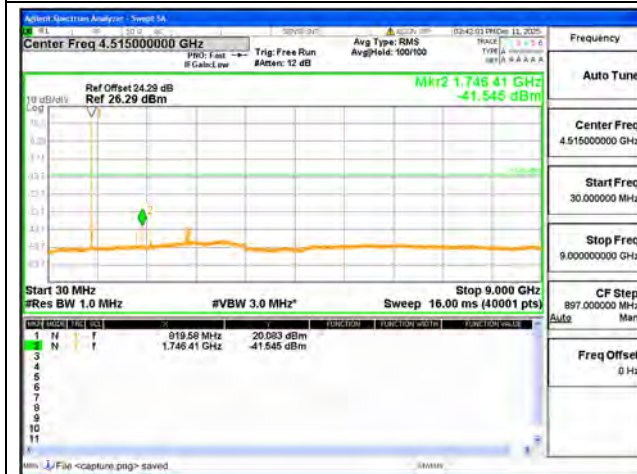




B18 part90 / 5MHz / Low CH / QPSK



B18 part90 / 5MHz / Mid CH / QPSK



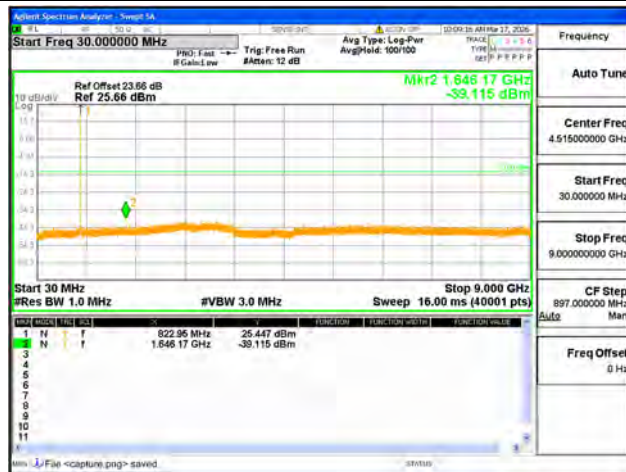
B18 part90 / 5MHz / High CH / QPSK



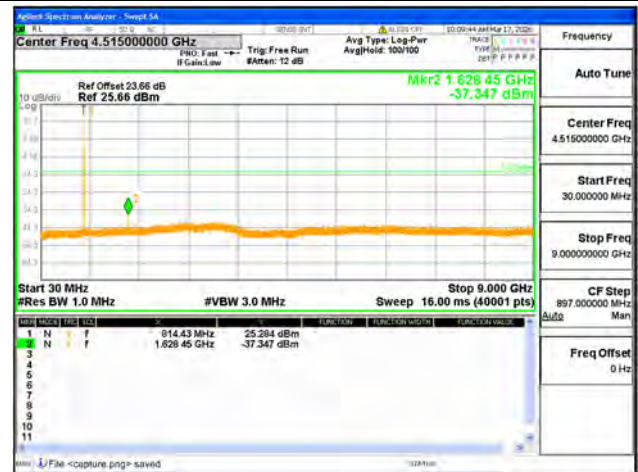
B26 Part90 / 1.4MHz / Low CH / QPSK



B26 Part90 / 1.4MHz / Mid CH / QPSK



B26 Part90 / 1.4MHz / High CH / QPSK



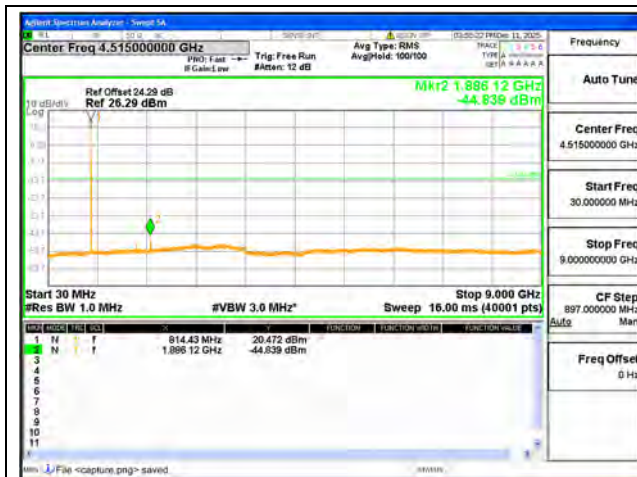
B26 Part90 / 3MHz / Low CH / QPSK



B26 Part90 / 3MHz / Mid CH / QPSK



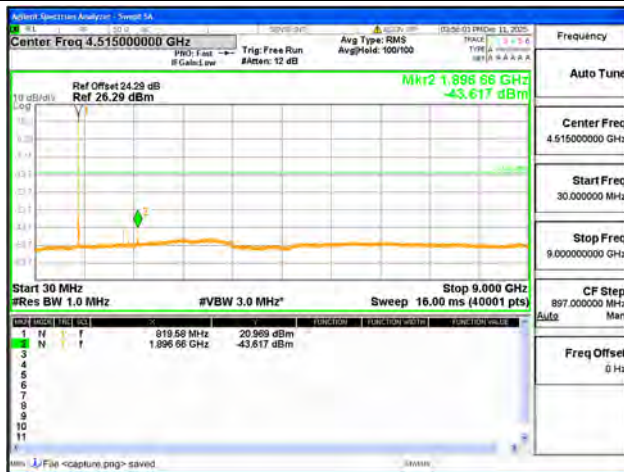
B26 Part90 / 3MHz / High CH / QPSK



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

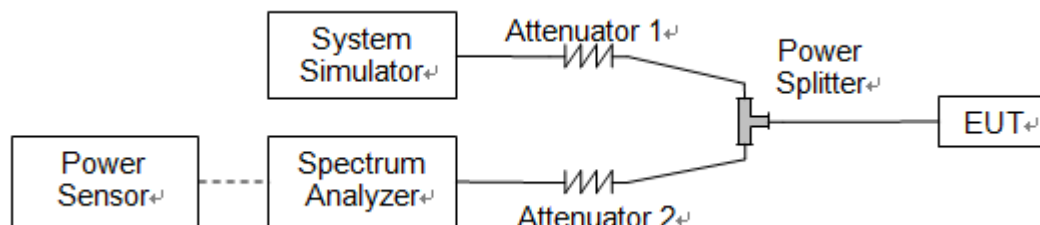
According to FCC section 90.543(e), for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance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

Band26

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.

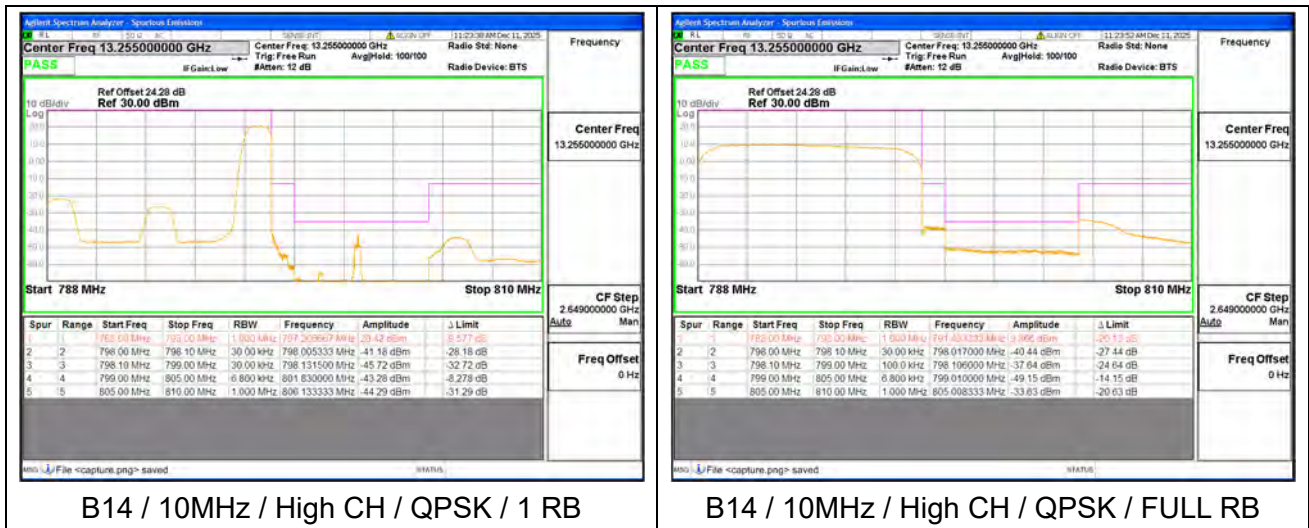
2.5.3. Test procedure

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



2.5.4. Test Result



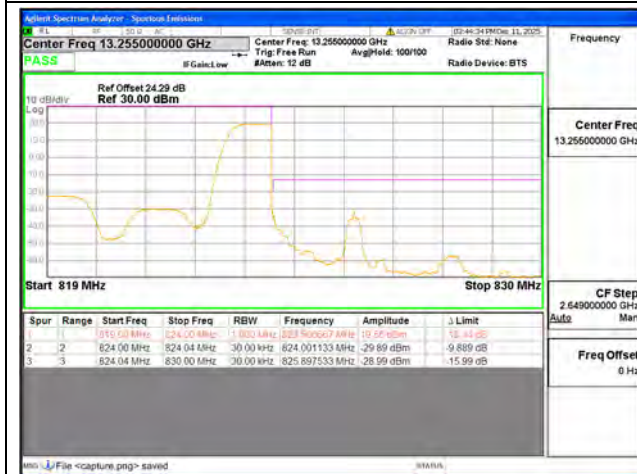




B18 / 5MHz / Low CH / QPSK / 1 RB



B18 / 5MHz / Low CH / QPSK / FULL RB



B18 / 5MHz / High CH / QPSK / 1 RB



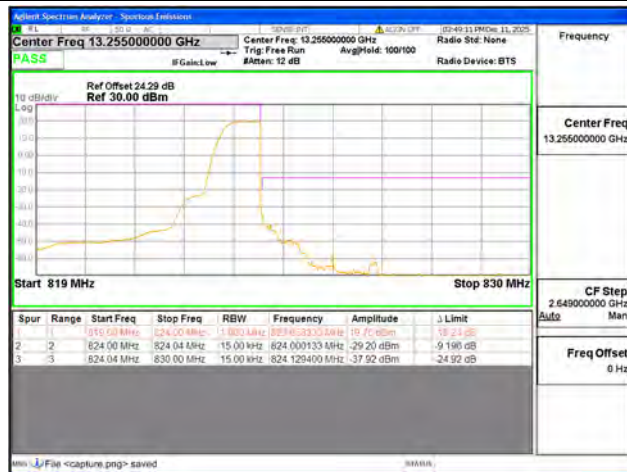
B18 / 5MHz / High CH / QPSK / FULL RB



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



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



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



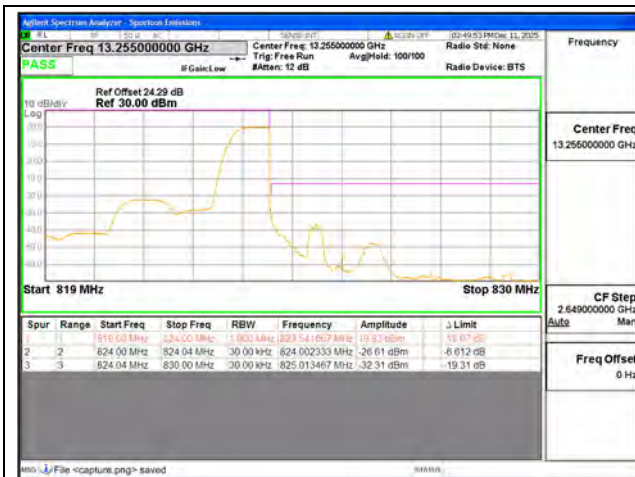
B26 / 1.4MHz / High CH / QPSK / FULL RB



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



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



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



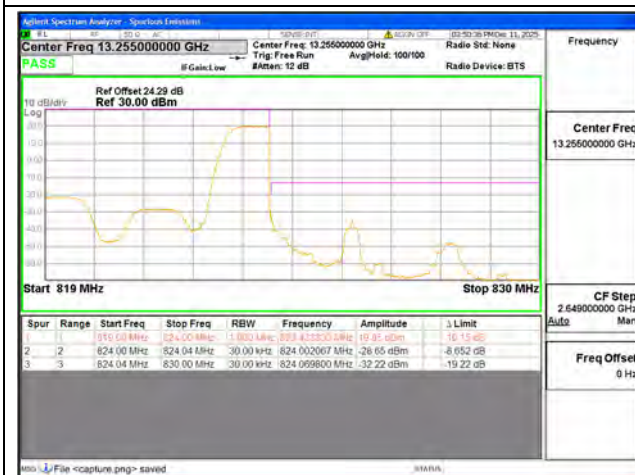
B26 / 3MHz / High CH / QPSK / FULL RB



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



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



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



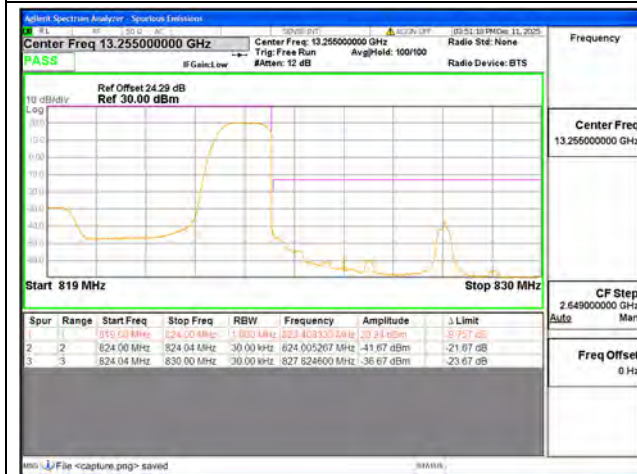
B26 / 5MHz / High CH / QPSK / FULL RB



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



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



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



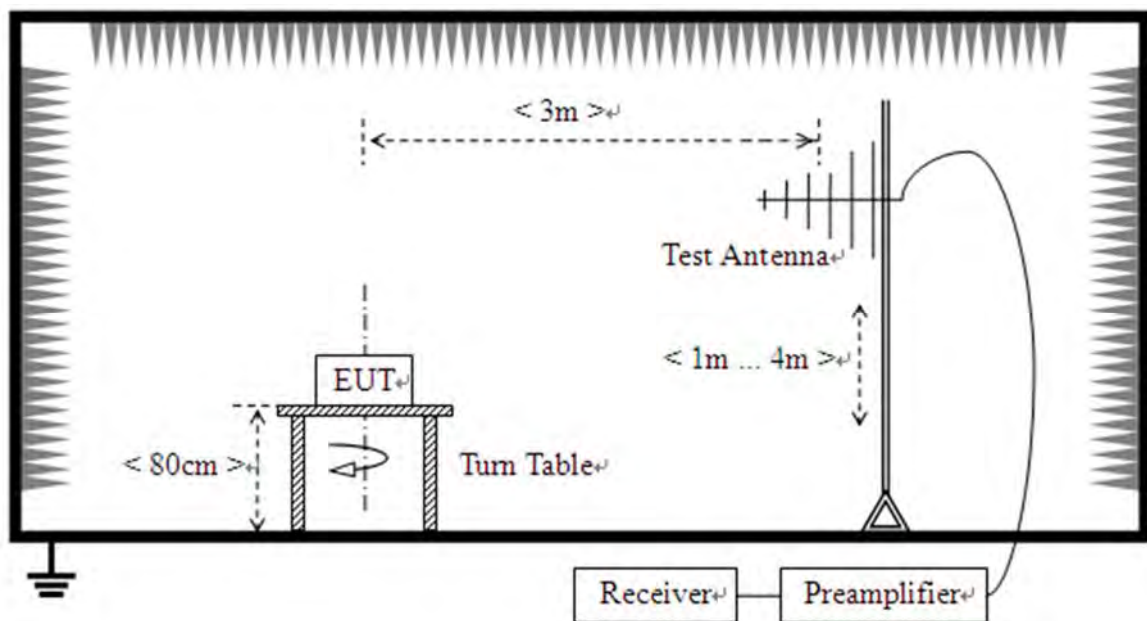
B26 / 10MHz / High CH / QPSK / FULL RB

2.6. Radiated Spurious Emissions

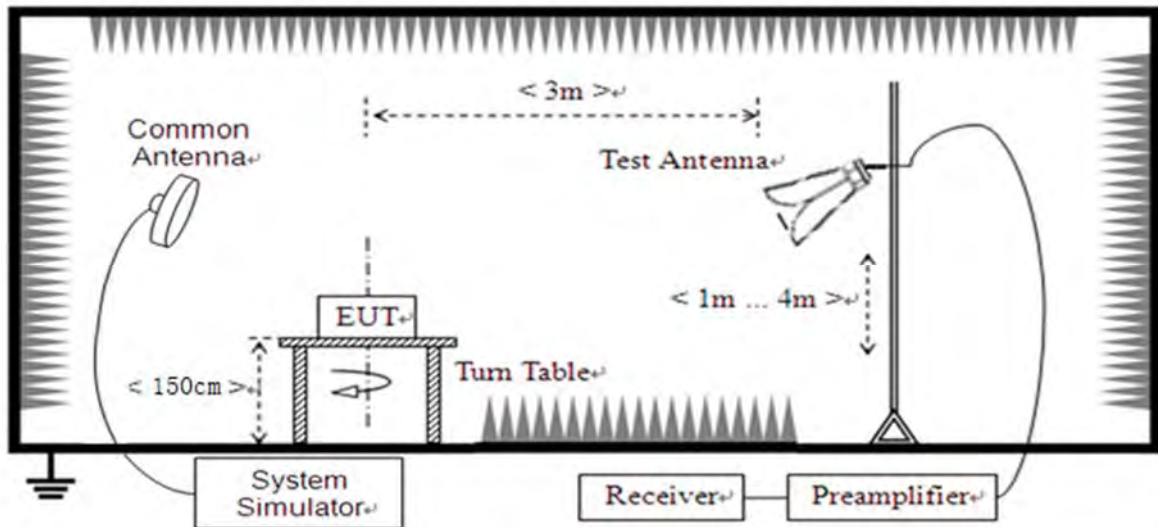
2.6.1. Requirement

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 1 GHz the resolution bandwidth is set to 100 kHz 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.

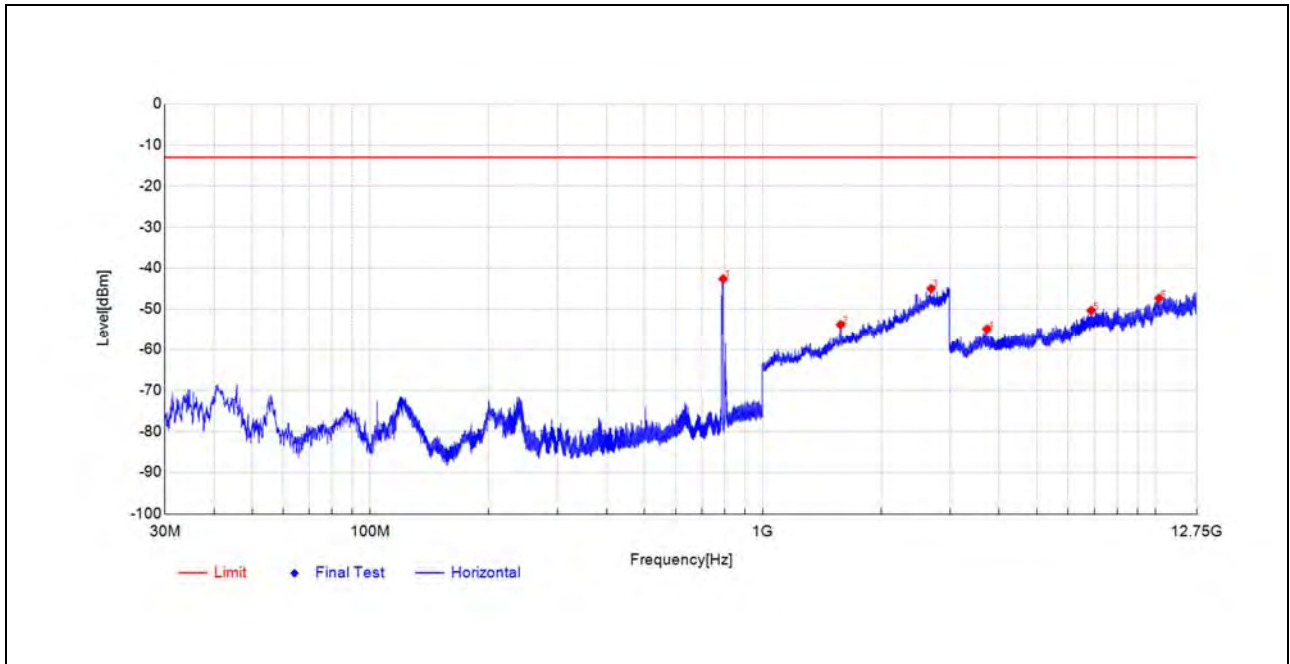
Note 4: N/A means the frequency is the basic frequency or the base station frequency, they are no need to verdict.

Note 5: The amplitude of emissions(18GHz to 10th harmonics) which are attenuated more than 20 dB below the limit are not be reported.

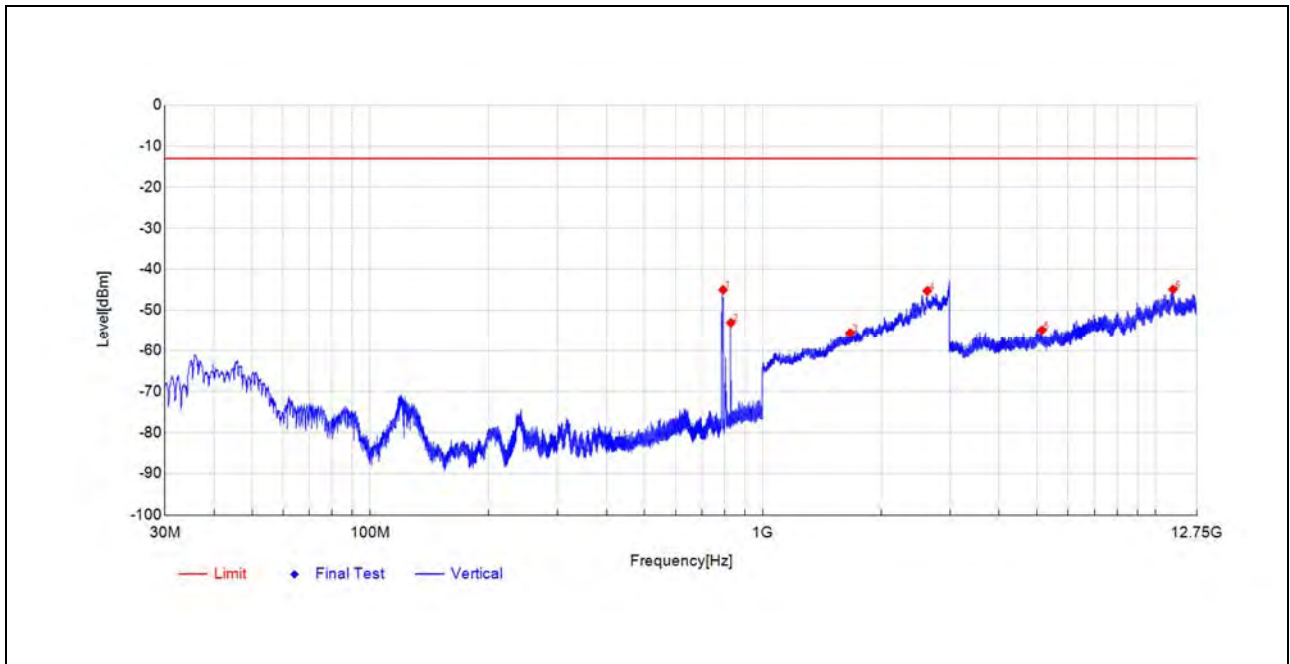


LTE Band 14

Plot for Low Channel

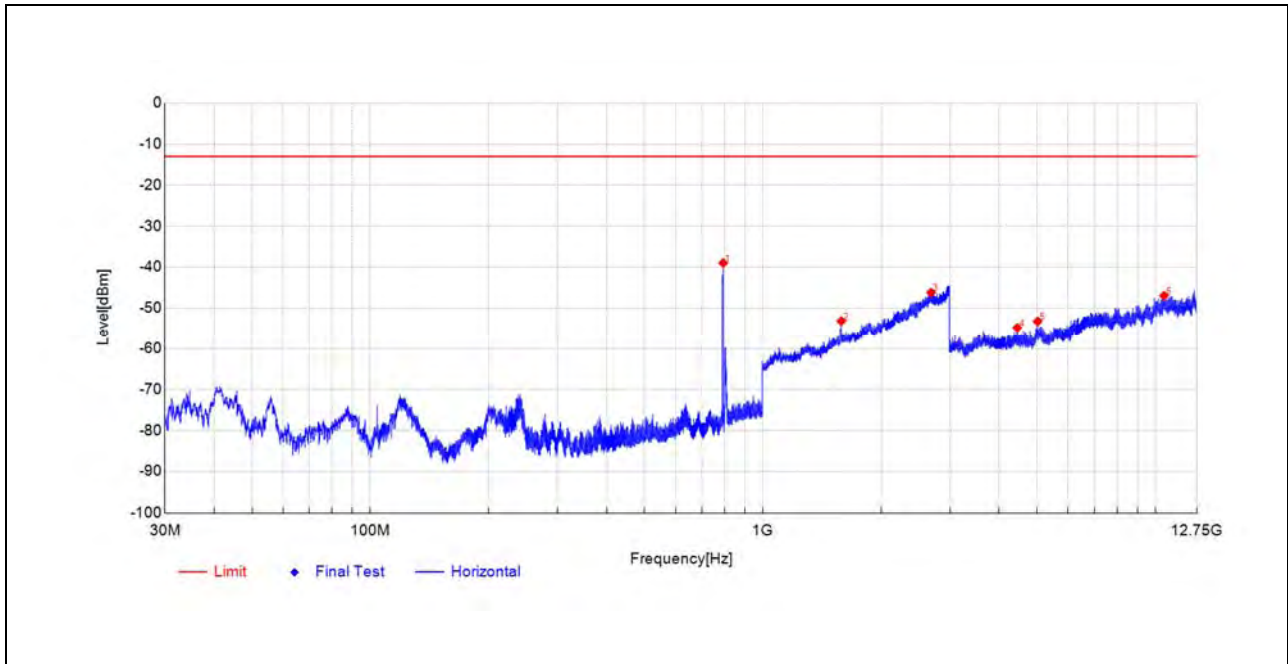


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
792.6521	-35.48	-42.61	-7.1	-	-	Horizontal	PK	101	NA
1578.9158	-56.31	-53.78	2.5	-13.0	40.8	Horizontal	PK	190	PASS
2684.7369	-57.87	-44.99	12.9	-13.0	32.0	Horizontal	PK	190	PASS
3725.4363	-56.41	-54.89	1.5	-13.0	41.9	Horizontal	PK	79	PASS
6868.5059	-61.79	-50.33	11.5	-13.0	37.3	Horizontal	PK	332	PASS
10212.923	-66.75	-47.38	19.4	-13.0	34.4	Horizontal	PK	36	PASS

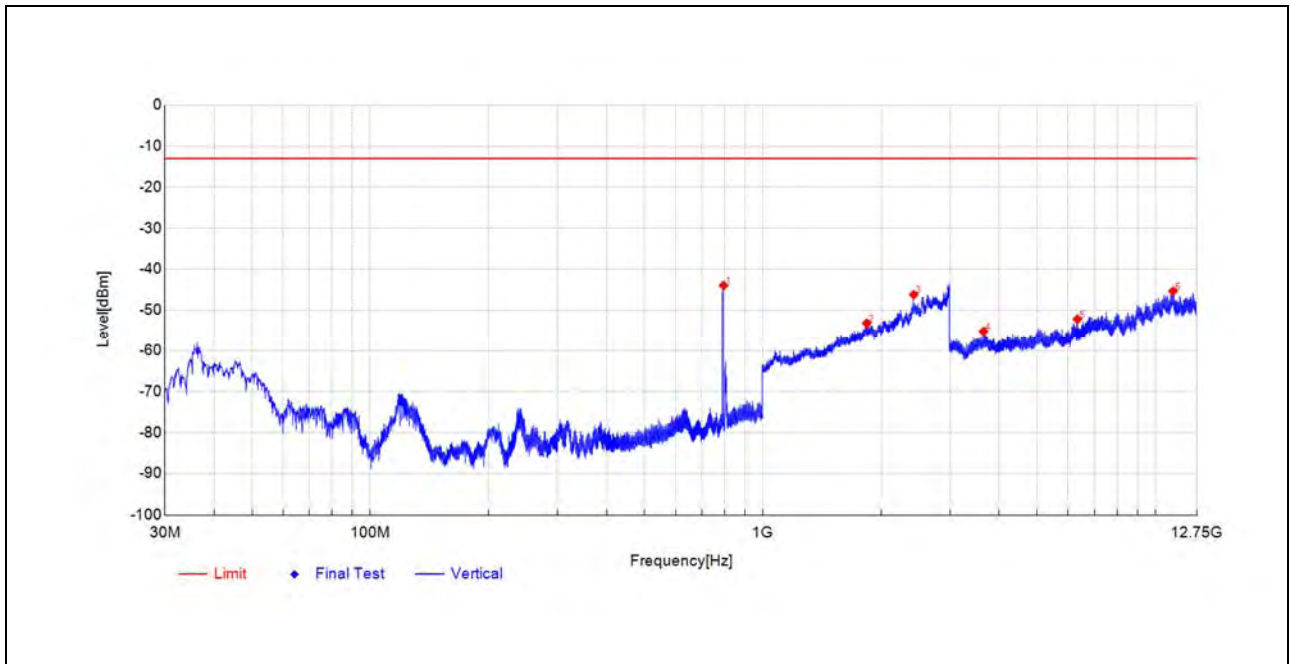


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
792.1186	-38.17	-44.99	-6.8	-	-	Vertical	PK	10	NA
828.9319	-46.29	-53.05	-6.8	-	-	Vertical	PK	180	NA
1669.7339	-58.60	-55.56	3.0	-13.0	42.6	Vertical	PK	26	PASS
2623.9248	-57.46	-45.26	12.2	-13.0	32.3	Vertical	PK	238	PASS
5141.6946	-60.10	-54.88	5.2	-13.0	41.9	Vertical	PK	0	PASS
11094.367	-67.28	-44.90	22.4	-13.0	31.9	Vertical	PK	354	PASS

Plot for Mid Channel

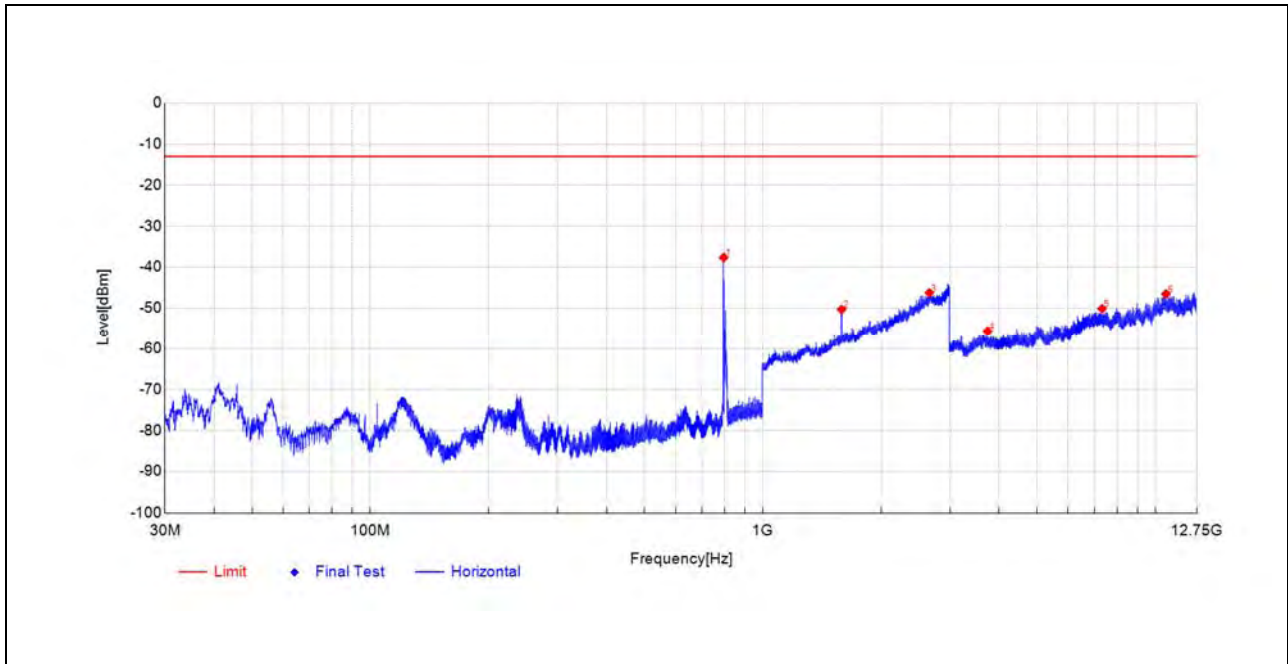


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
793.0402	-31.82	-38.95	-7.1	-	-	Horizontal	PK	102	NA
1584.917	-55.66	-53.13	2.5	-13.0	40.1	Horizontal	PK	190	PASS
2684.7369	-59.05	-46.17	12.9	-13.0	33.2	Horizontal	PK	271	PASS
4450.8725	-57.86	-54.78	3.1	-13.0	41.8	Horizontal	PK	60	PASS
5013.9632	-59.30	-53.20	6.1	-13.0	40.2	Horizontal	PK	145	PASS
10531.764	-66.69	-46.92	19.8	-13.0	33.9	Horizontal	PK	0	PASS

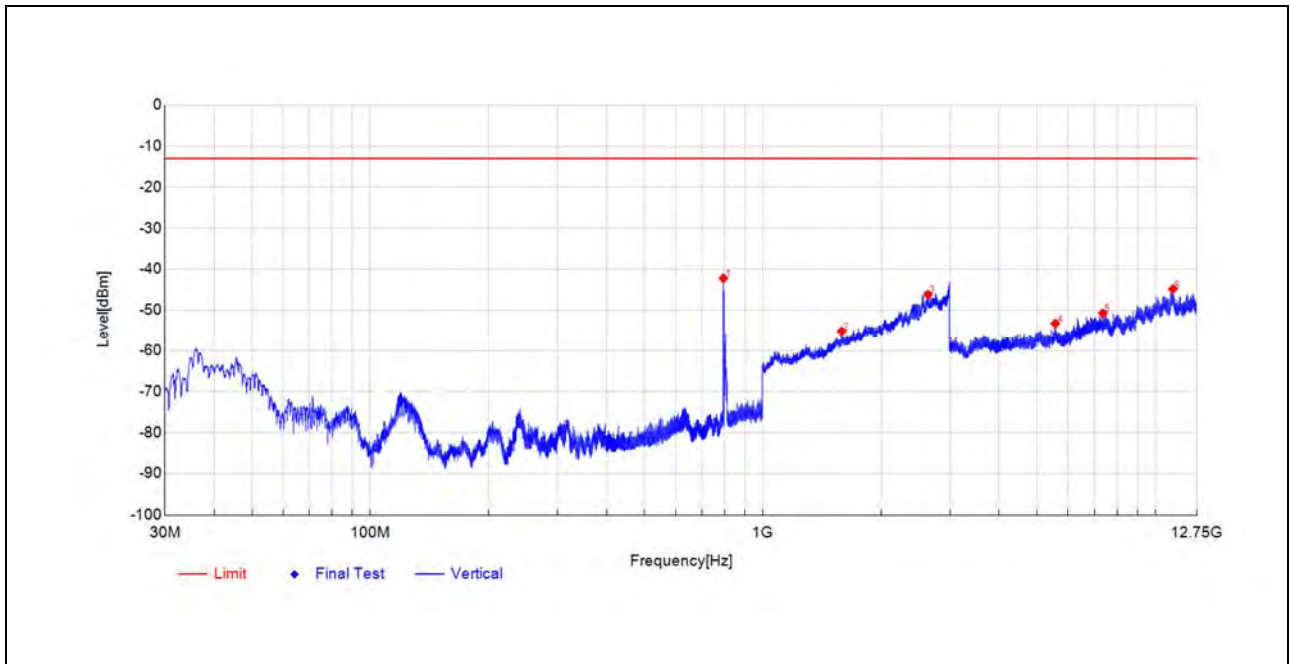


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
794.7862	-37.18	-43.94	-6.8	-	-	Vertical	PK	14	NA
1839.768	-58.44	-53.15	5.3	-13.0	40.2	Vertical	PK	157	PASS
2423.8848	-57.15	-46.17	11.0	-13.0	33.2	Vertical	PK	48	PASS
3650.845	-56.81	-55.17	1.6	-13.0	42.2	Vertical	PK	161	PASS
6334.1792	-60.93	-52.18	8.8	-13.0	39.2	Vertical	PK	205	PASS
11097.292	-67.74	-45.34	22.4	-13.0	32.3	Vertical	PK	312	PASS

Plot for High Channel



Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
794.9802	-30.49	-37.61	-7.1	-	-	Horizontal	PK	99	NA
1587.3175	-52.82	-50.30	2.5	-13.0	37.3	Horizontal	PK	189	PASS
2657.1314	-59.12	-46.23	12.9	-13.0	33.2	Horizontal	PK	333	PASS
3740.062	-57.01	-55.63	1.4	-13.0	42.6	Horizontal	PK	311	PASS
7318.4909	-62.82	-50.12	12.7	-13.0	37.1	Horizontal	PK	120	PASS
10642.919	-65.77	-46.52	19.3	-13.0	33.5	Horizontal	PK	247	PASS

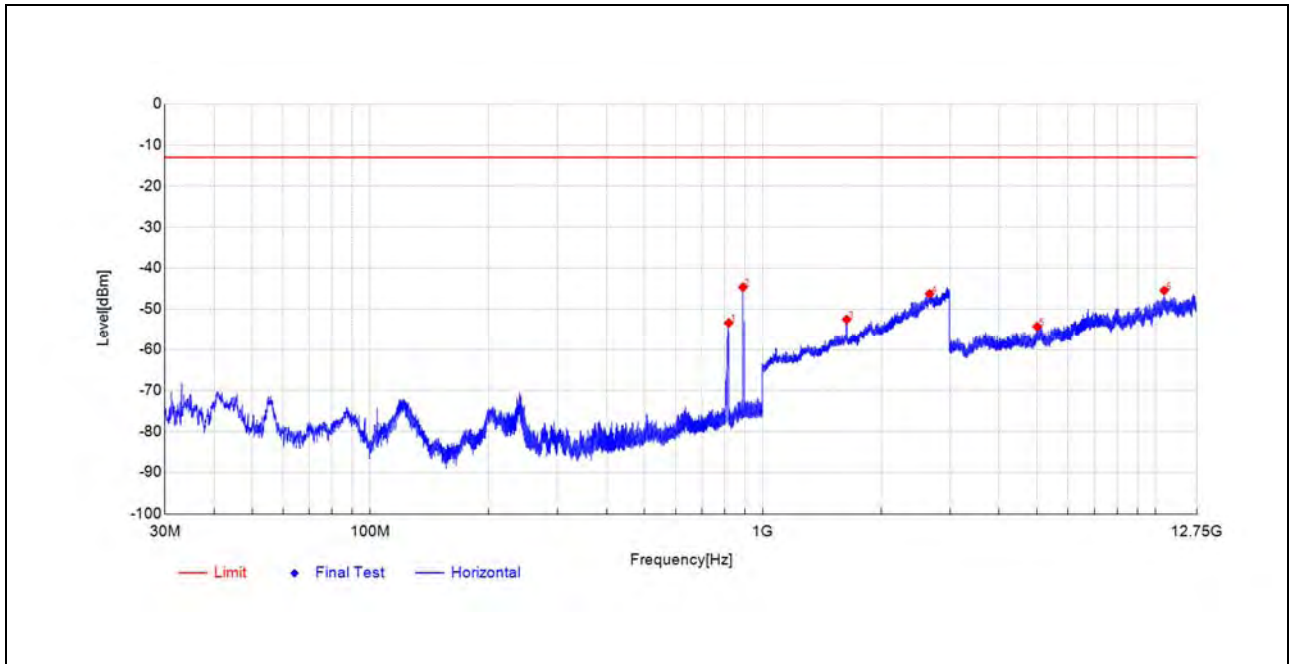


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
793.8162	-35.40	-42.18	-6.8	-	-	Vertical	PK	16	NA
1589.3179	-57.59	-55.14	2.5	-13.0	42.1	Vertical	PK	250	PASS
2633.9268	-58.69	-46.14	12.6	-13.0	33.1	Vertical	PK	67	PASS
5561.9406	-59.67	-53.23	6.4	-13.0	40.2	Vertical	PK	0	PASS
7351.1551	-62.62	-50.71	11.9	-13.0	37.7	Vertical	PK	269	PASS
11082.666	-67.17	-44.83	22.3	-13.0	31.8	Vertical	PK	58	PASS

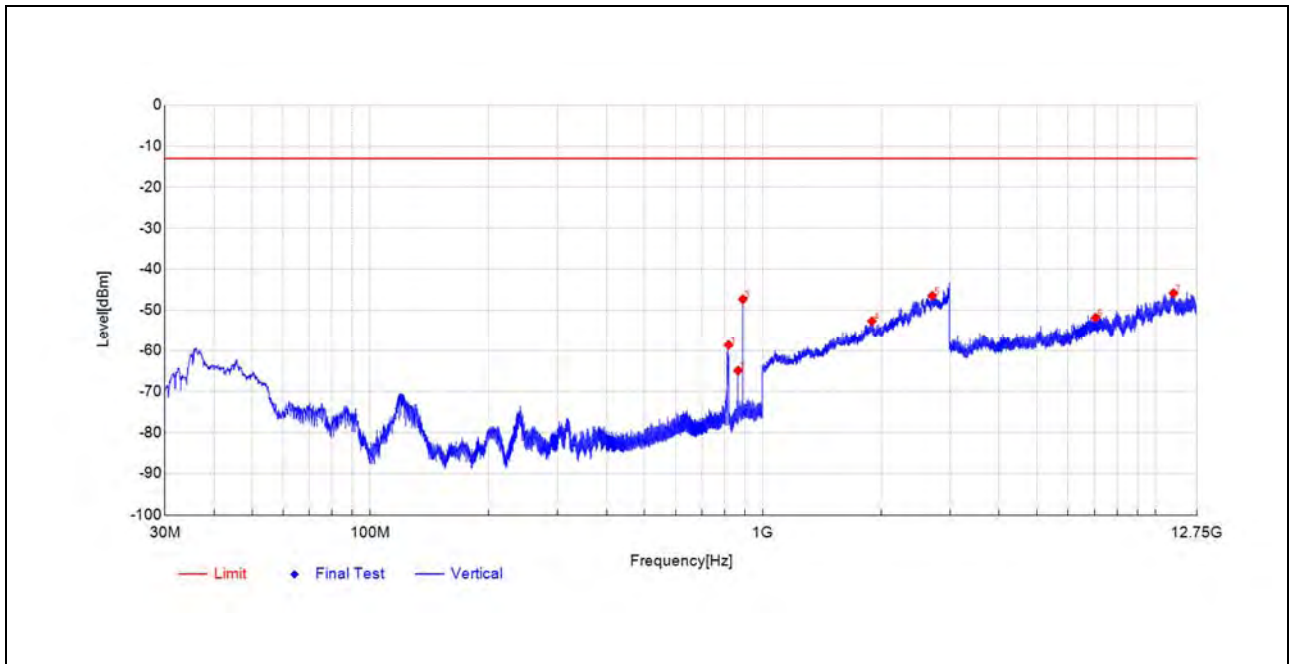


LTE Band 18

Plot for Low Channel

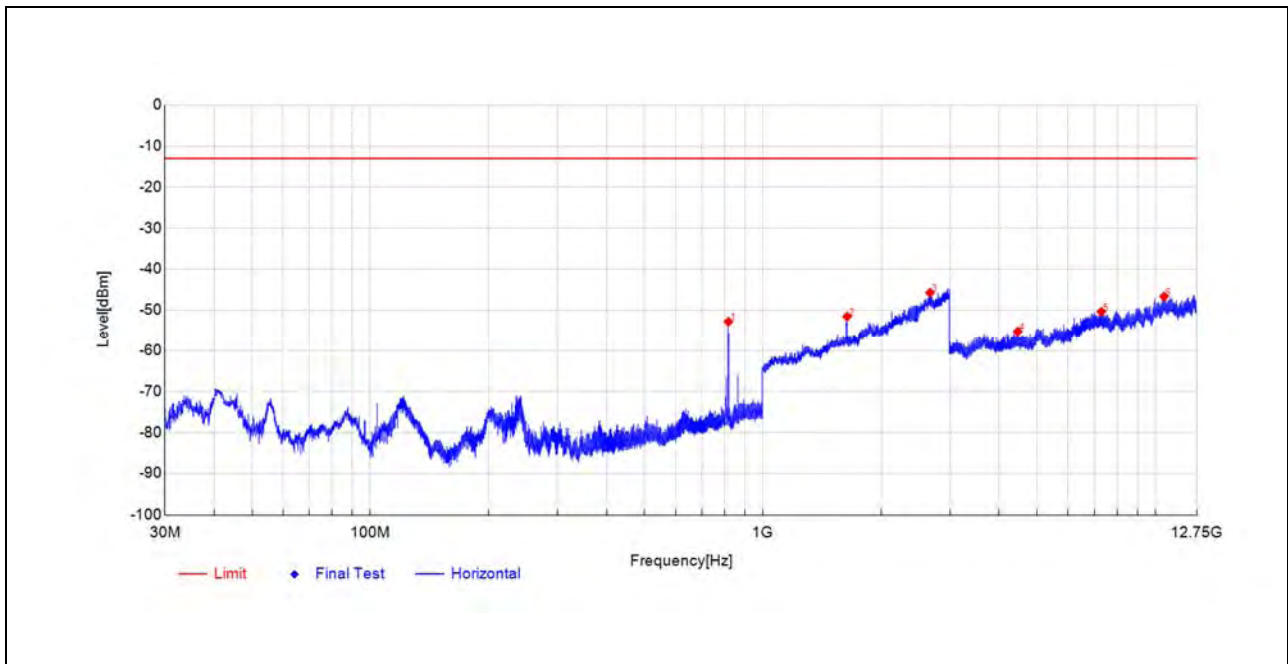


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
818.8434	-47.47	-53.36	-5.9	-	-	Horizontal	PK	35	NA
889.6085	-39.93	-44.63	-4.7	-	-	Horizontal	PK	355	NA
1635.3271	-55.41	-52.52	2.9	-13.0	39.5	Horizontal	PK	334	PASS
2660.7321	-59.05	-46.23	12.8	-13.0	33.2	Horizontal	PK	5	PASS
4998.8499	-60.35	-54.27	6.1	-13.0	41.3	Horizontal	PK	0	PASS
10533.226	-65.19	-45.43	19.8	-13.0	32.4	Horizontal	PK	355	PASS

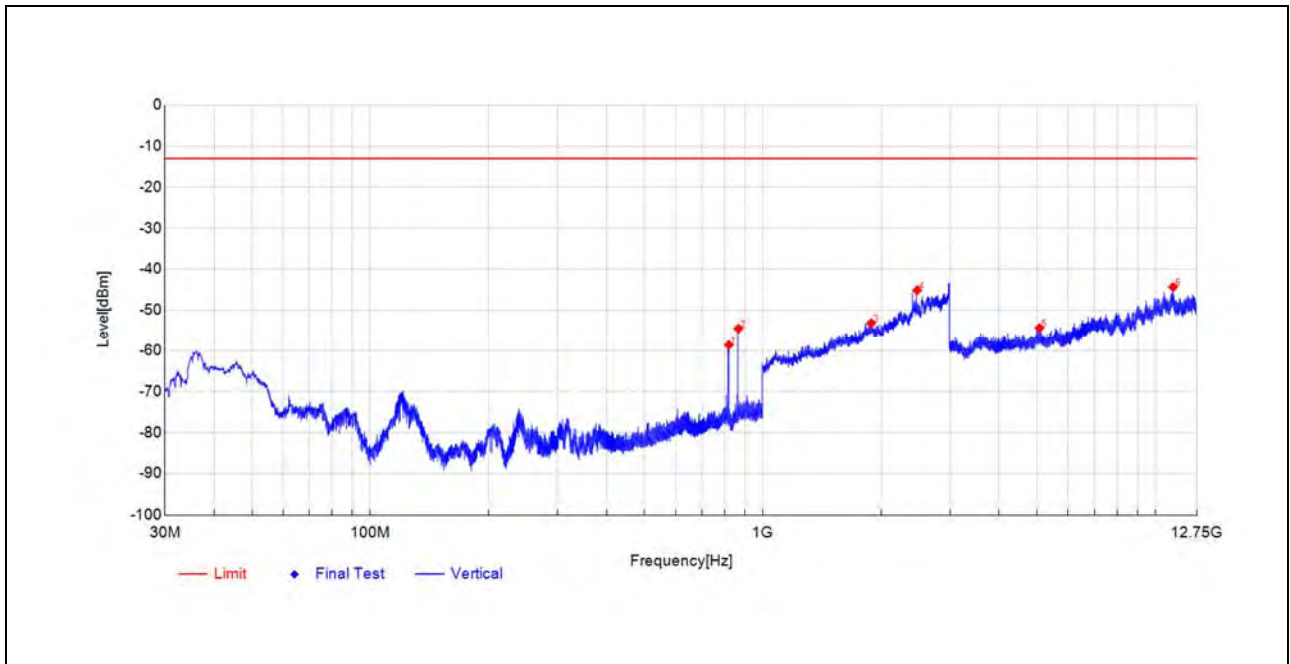


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
818.3099	-52.81	-58.62	-5.8	-	-	Vertical	PK	6	NA
864.6782	-59.89	-64.91	-5.0	-	-	Vertical	PK	114	NA
889.56	-42.85	-47.30	-4.5	-	-	Vertical	PK	355	NA
1896.9794	-58.53	-52.64	5.9	-13.0	39.6	Vertical	PK	66	PASS
2701.5403	-58.71	-46.43	12.3	-13.0	33.4	Vertical	PK	273	PASS
7043.0397	-62.92	-51.79	11.1	-13.0	38.8	Vertical	PK	290	PASS
11129.956	-67.81	-45.82	22.0	-13.0	32.8	Vertical	PK	137	PASS

Plot for Mid Channel

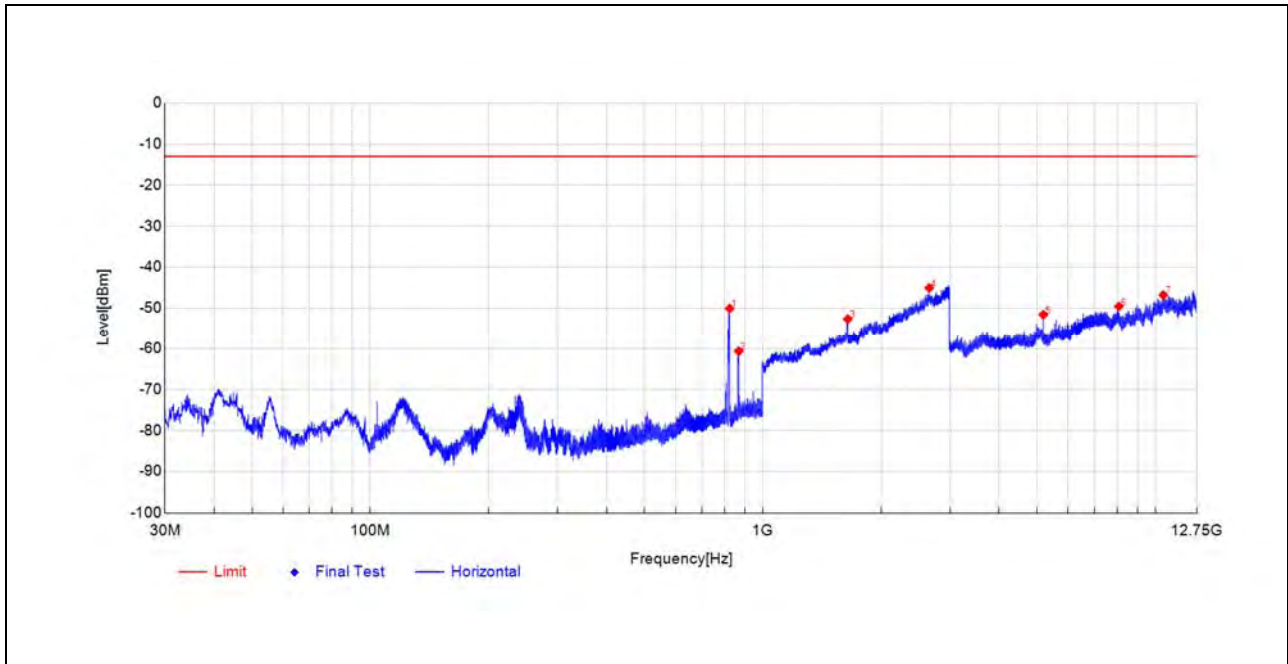


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
817.6794	-46.89	-52.80	-5.9	-	-	Horizontal	PK	35	NA
1639.3279	-54.36	-51.54	2.8	-13.0	38.5	Horizontal	PK	356	PASS
2666.7333	-58.51	-45.71	12.8	-13.0	32.7	Horizontal	PK	356	PASS
4462.5731	-58.30	-55.22	3.1	-13.0	42.2	Horizontal	PK	57	PASS
7285.8268	-62.99	-50.34	12.7	-13.0	37.3	Horizontal	PK	99	PASS
10524.451	-66.44	-46.64	19.8	-13.0	33.6	Horizontal	PK	248	PASS

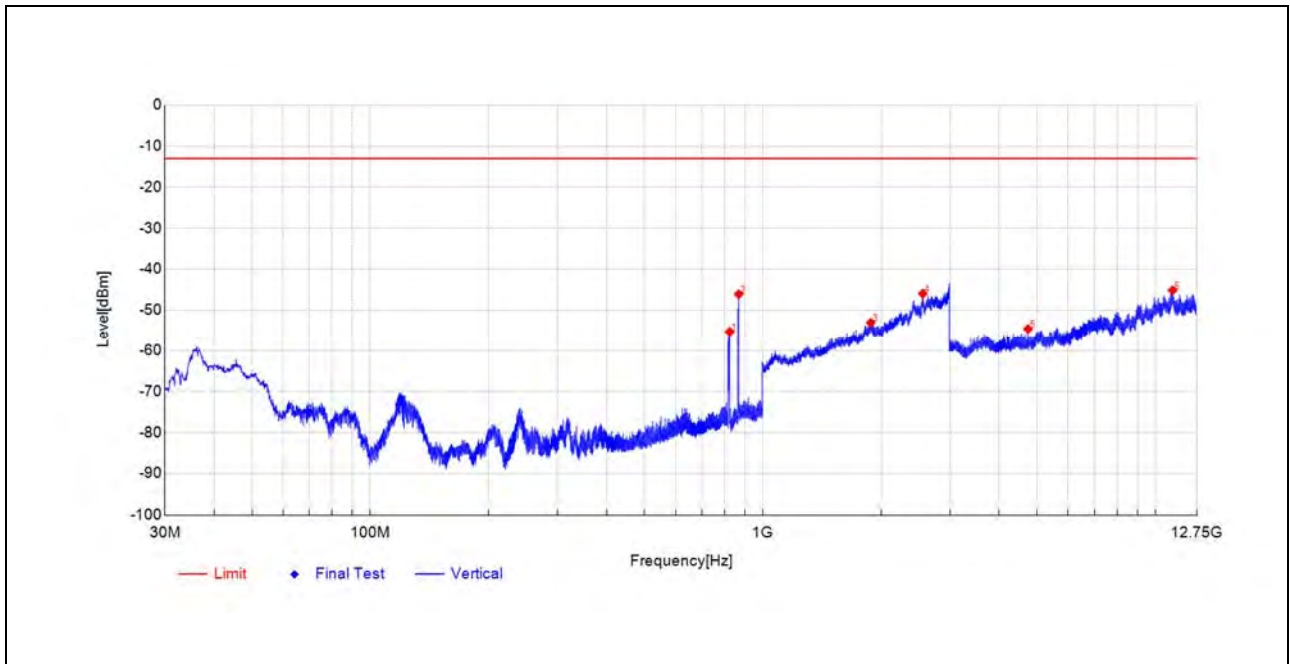


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
819.765	-52.78	-58.61	-5.8	-	-	Vertical	PK	19	NA
866.6183	-49.53	-54.49	-5.0	-	-	Vertical	PK	355	NA
1888.5777	-59.03	-53.14	5.9	-13.0	40.1	Vertical	PK	117	PASS
2471.8944	-55.52	-45.09	10.4	-13.0	32.1	Vertical	PK	5	PASS
5070.516	-59.81	-54.33	5.5	-13.0	41.3	Vertical	PK	61	PASS
11099.242	-66.74	-44.33	22.4	-13.0	31.3	Vertical	PK	165	PASS

Plot for High Channel



Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
823.2572	-44.25	-50.07	-5.8	-	-	Horizontal	PK	37	NA
868.2674	-55.81	-60.69	-4.9	-	-	Horizontal	PK	207	NA
1646.5293	-55.33	-52.66	2.7	-13.0	39.7	Horizontal	PK	351	PASS
2653.9308	-57.81	-45.03	12.8	-13.0	32.0	Horizontal	PK	186	PASS
5184.1092	-56.85	-51.58	5.3	-13.0	38.6	Horizontal	PK	144	PASS
8071.7161	-63.05	-49.55	13.5	-13.0	36.6	Horizontal	PK	59	PASS
10480.086	-66.54	-46.78	19.8	-13.0	33.8	Horizontal	PK	144	PASS

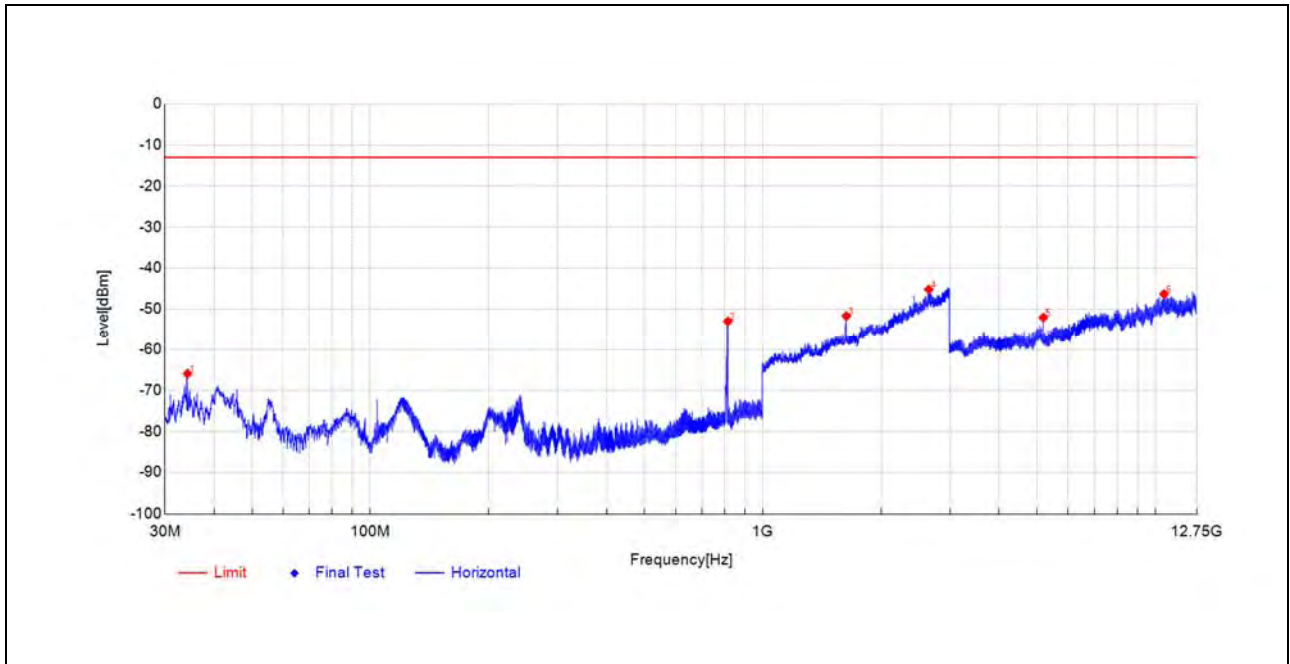


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
823.4997	-49.39	-55.27	-5.9	-	-	Vertical	PK	14	NA
868.3644	-41.18	-46.08	-4.9	-	-	Vertical	PK	184	NA
1884.1768	-58.92	-53.03	5.9	-13.0	40.0	Vertical	PK	306	PASS
2557.1114	-58.16	-45.93	12.2	-13.0	32.9	Vertical	PK	206	PASS
4739.9745	-58.41	-54.59	3.8	-13.0	41.6	Vertical	PK	269	PASS
11067.065	-67.40	-45.13	22.3	-13.0	32.1	Vertical	PK	355	PASS

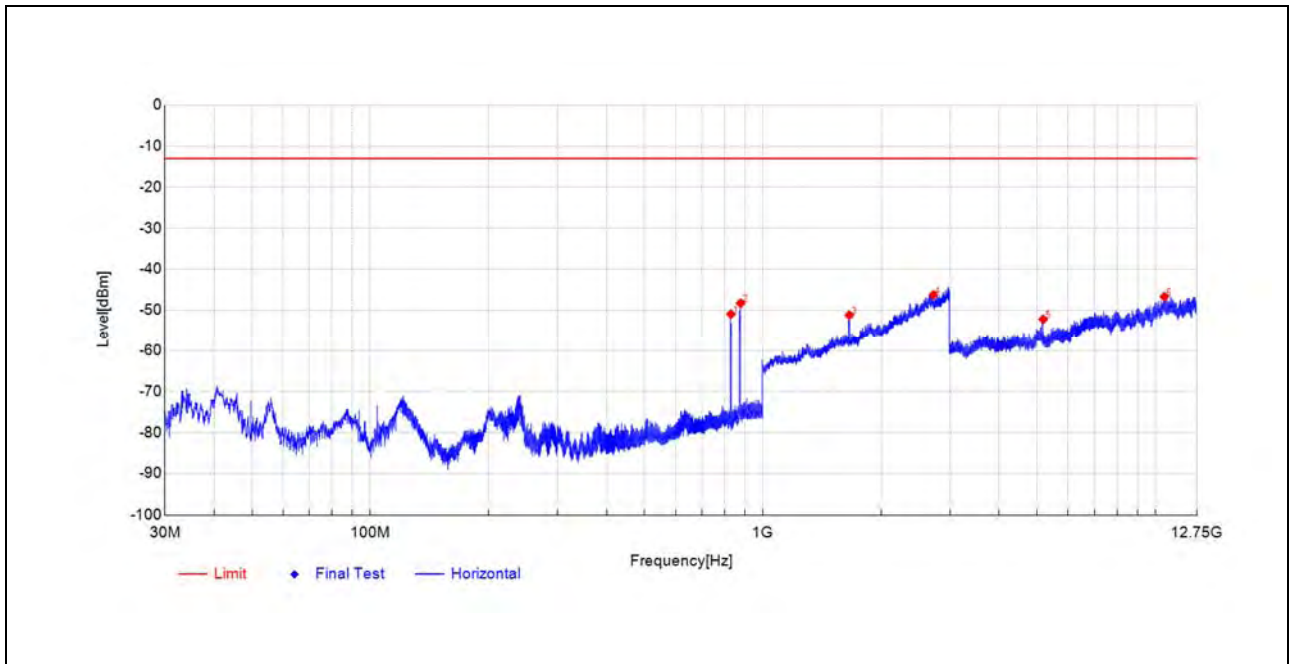


LTE Band 26

Plot for Low Channel

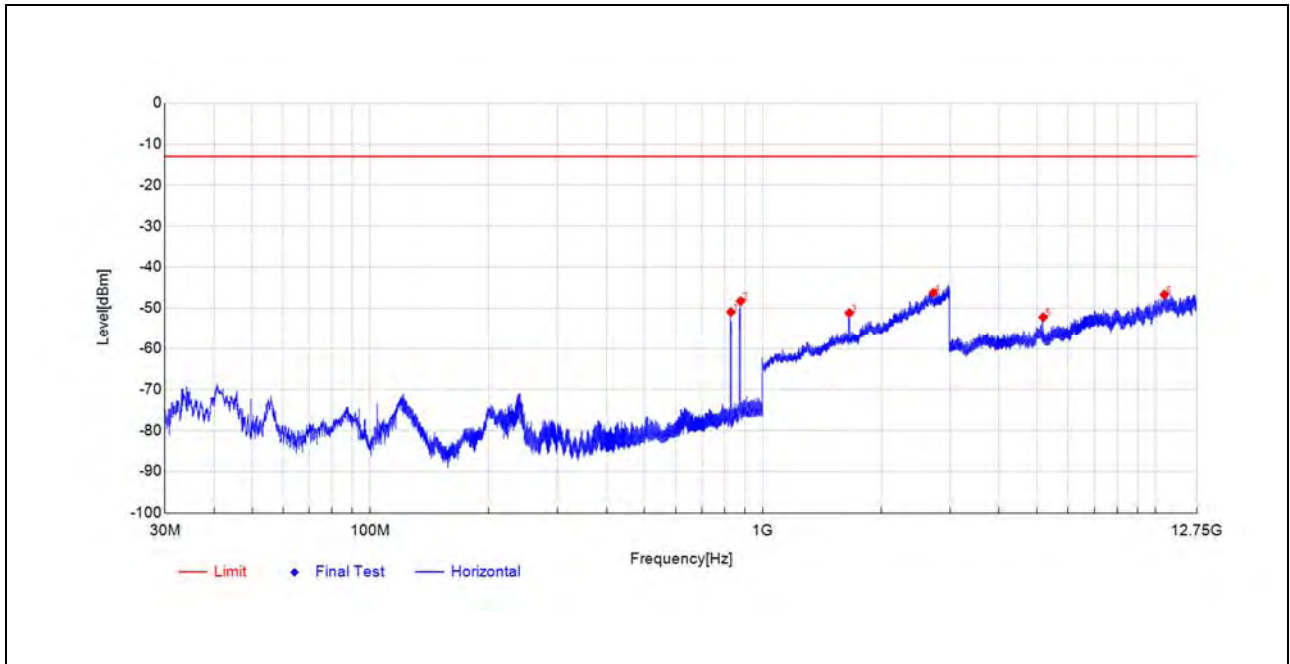


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
34.2197	-50.73	-65.93	-15.2	-13.0	52.9	Horizontal	PK	355	PASS
814.6237	-47.04	-52.99	-6.0	-	-	Horizontal	PK	34	NA
1632.9266	-54.63	-51.68	3.0	-13.0	38.7	Horizontal	PK	254	PASS
2648.7297	-57.69	-45.18	12.5	-13.0	32.2	Horizontal	PK	27	PASS
5183.6217	-57.29	-52.02	5.3	-13.0	39.0	Horizontal	PK	56	PASS
10526.401	-66.07	-46.28	19.8	-13.0	33.3	Horizontal	PK	248	PASS

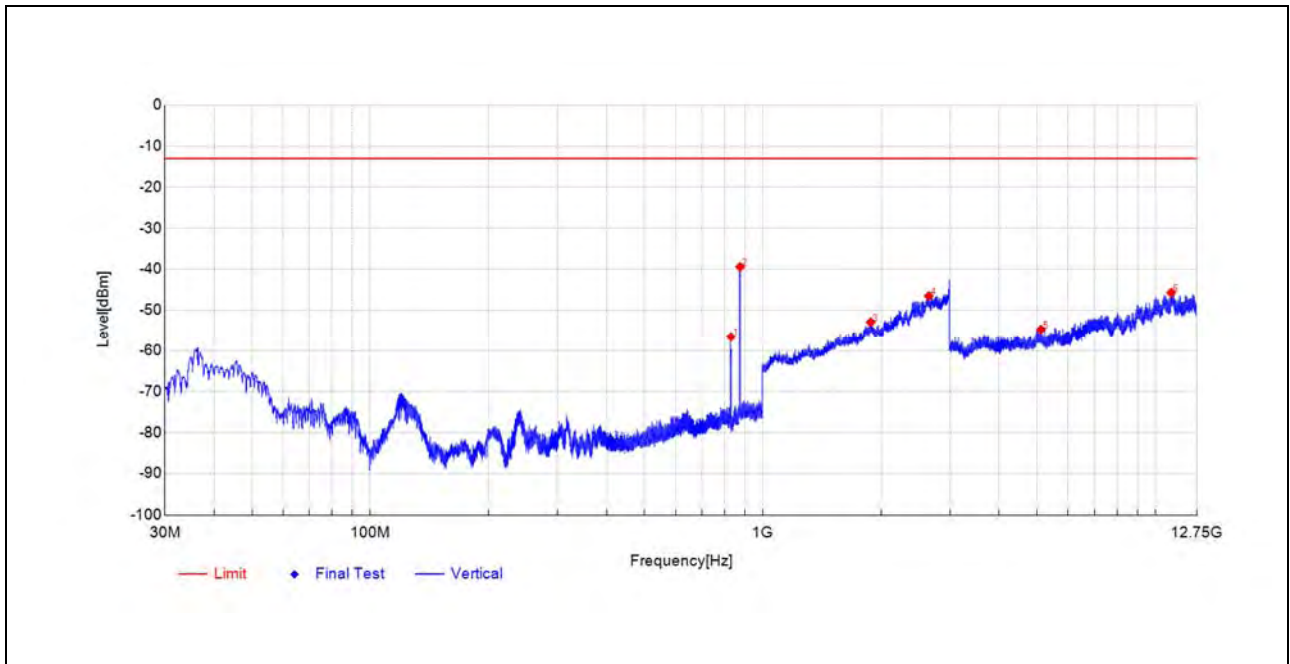


Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
138.7424	-38.41	-58.85	-20.4	-13.0	45.9	Vertical	PK	147	PASS
1700.9402	-24.77	-21.29	3.5	-	-	Vertical	PK	172	NA
2122.6245	-33.64	-27.79	5.9	-	-	Vertical	PK	47	NA
5157.3082	-50.61	-45.47	5.1	-13.0	32.5	Vertical	PK	169	PASS
6880.3552	-59.26	-48.45	10.8	-13.0	35.5	Vertical	PK	194	PASS
11102.124	-66.98	-45.04	21.9	-13.0	32.0	Vertical	PK	257	PASS

Plot for Mid Channel



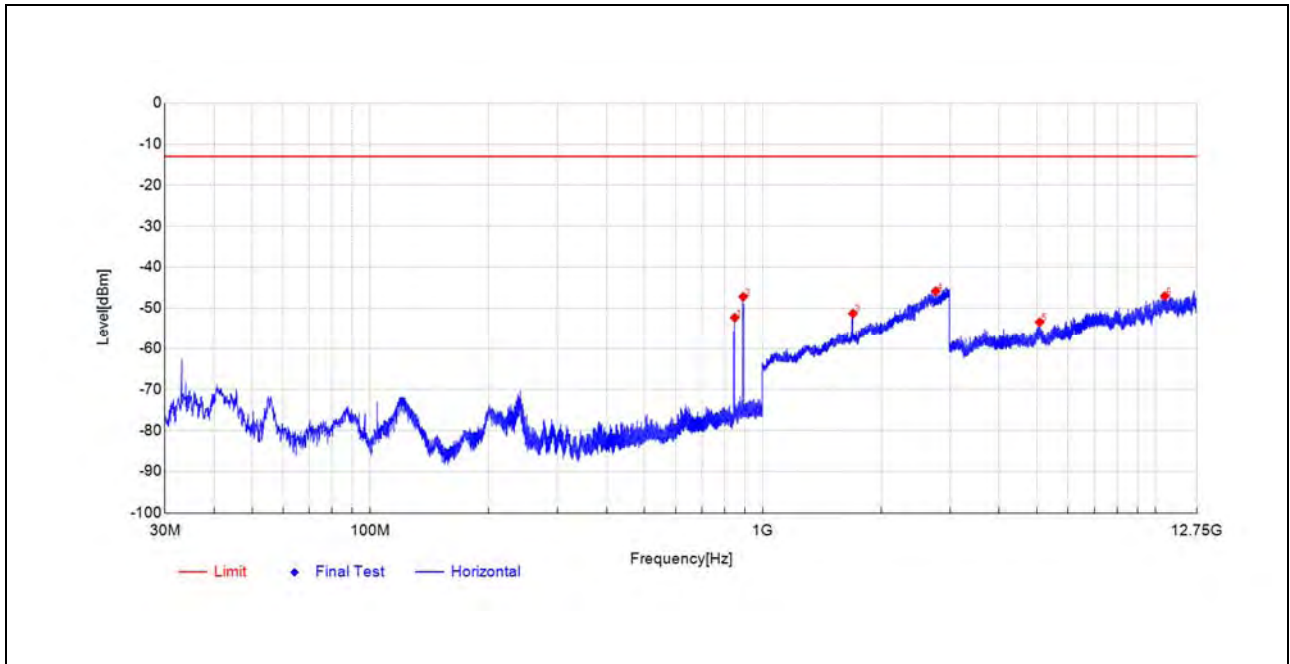
Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
829.805	-45.21	-50.92	-5.7	-	-	Horizontal	PK	230	NA
878.2589	-43.48	-48.25	-4.8	-	-	Horizontal	PK	189	NA
1660.9322	-53.69	-51.18	2.5	-13.0	38.2	Horizontal	PK	347	PASS
2720.3441	-58.57	-46.22	12.4	-13.0	33.2	Horizontal	PK	66	PASS
5178.7464	-57.50	-52.18	5.3	-13.0	39.2	Horizontal	PK	104	PASS
10538.589	-66.40	-46.66	19.7	-13.0	33.7	Horizontal	PK	147	PASS



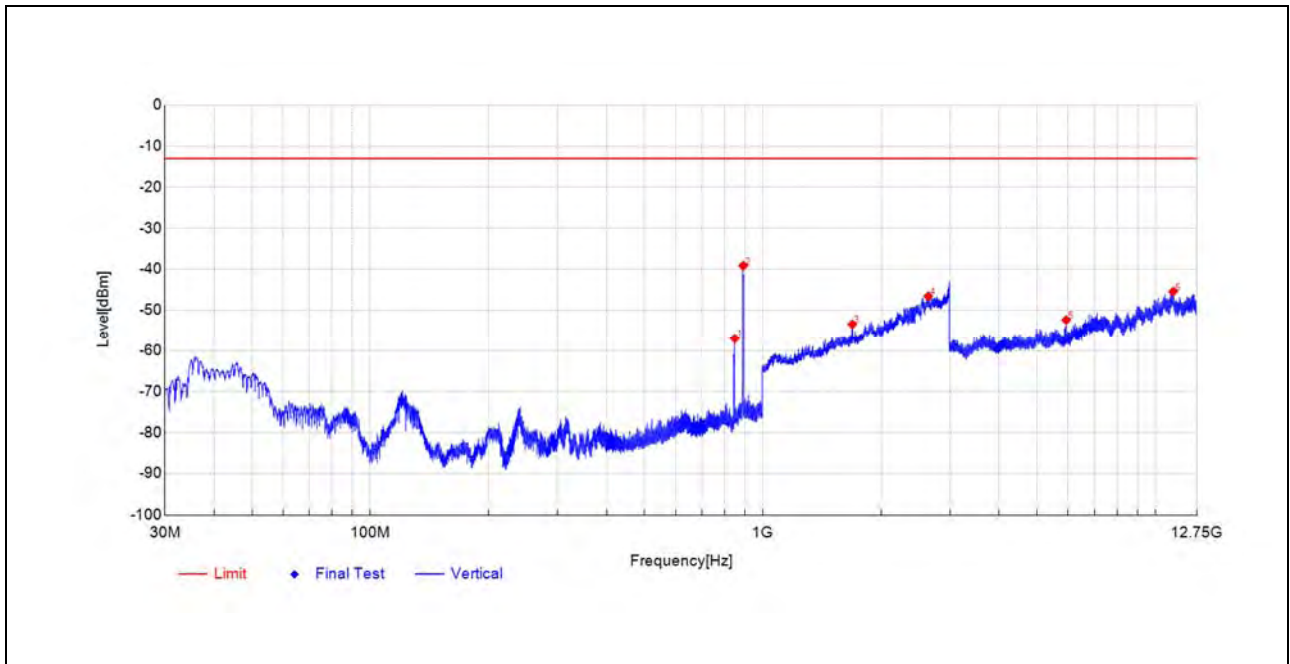
Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
829.8535	-50.60	-56.58	-6.0	-	-	Vertical	PK	28	NA
875.0578	-34.75	-39.40	-4.7	-	-	Vertical	PK	353	NA
1882.9766	-58.83	-52.93	5.9	-13.0	39.9	Vertical	PK	206	PASS
2648.3297	-58.80	-46.50	12.3	-13.0	33.5	Vertical	PK	126	PASS
5112.9306	-60.11	-54.73	5.4	-13.0	41.7	Vertical	PK	50	PASS
10971.511	-67.28	-45.67	21.6	-13.0	32.7	Vertical	PK	220	PASS



Plot for High Channel



Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
848.0904	-47.09	-52.30	-5.2	-	-	Horizontal	PK	38	NA
891.1606	-42.51	-47.20	-4.7	-	-	Horizontal	PK	209	NA
1696.5393	-54.20	-51.30	2.9	-13.0	38.3	Horizontal	PK	327	PASS
2757.9516	-57.92	-45.84	12.1	-13.0	32.8	Horizontal	PK	194	PASS
5074.4162	-59.45	-53.38	6.1	-13.0	40.4	Horizontal	PK	251	PASS
10575.153	-66.60	-47.03	19.6	-13.0	34.0	Horizontal	PK	355	PASS



Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Angle [°]	Verdict
848.5754	-51.45	-56.98	-5.5	-	-	Vertical	PK	11	NA
891.5486	-34.68	-39.12	-4.4	-	-	Vertical	PK	184	NA
1690.5381	-56.47	-53.45	3.0	-13.0	40.5	Vertical	PK	306	PASS
2639.5279	-59.04	-46.58	12.5	-13.0	33.6	Vertical	PK	360	PASS
5927.0964	-59.31	-52.38	6.9	-13.0	39.4	Vertical	PK	11	PASS
11103.142	-67.80	-45.44	22.4	-13.0	32.4	Vertical	PK	315	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.1-3, 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.1-3, 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.1-3, 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
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2025.05.15	2026.05.14
Communication Test Station	6200995016	MT8820C	Anritsu	2025.09.02	2026.09.01
Temperature Chamber	S022177101 00089002	KMT-36LF 1A0	KOMEG	2025.09.02	2026.09.01

4.2 List of Software Used

Description	Manufacturer	Software Version
MOR-2023E Test System	MORLAB	V7.99
JS36-RSE	Tonscend	5.0.0

**4.3 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
System Simulator	152038	CMW500	R&S	2025.09.03	2026.09.02
Signal Analyzer	MY56060145	N9020A	Agilent	2025.05.13	2026.05.12
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2025.06.22	2026.06.21
Test Antenna - Horn	9120D-963	BBHA 9120D	Schwarzbeck	2025.05.16	2026.05.15
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK- 0.5	Qualwave	2025.09.03	2026.09.02
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KK F-2	Qualwave	2025.09.03	2026.09.02
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN -5	Qualwave	2025.09.03	2026.09.02
Preamplifier (10MHz-6GHz)	46732	S10M100L380 2	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (2GHz-18GHz)	61171/61172	S020180L320 3	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-4 0C-S	Decentest	2025.05.13	2026.05.12
Notch Filter	N/A	WRCGV -LTE B14	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV -LTE B18	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV -LTE 26	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2025.06.21	2028.06.20
Anechoic Chamber	N/A	9m*6m*6m	CRT	2025.04.19	2028.04.18



Notes

1. The report shall have report stamp or our company stamp.
2. The report shall be invalid without all the signatures of the editor and approver.
3. The report shall not be changed.
4. Any objections must be raised to Morlab within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.
5. Conformity declaration:

- ☒ Morlab issues a statement of conformity based on the corresponding standards (default)
- ☐ Morlab issues a statement of conformity based on the applicant requirement

6. Use of uncertainty of measurement for decisions on conformity (decision rule):

No decision rule is specified by the testing standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule).

_____ END OF REPORT _____