REPORT No.: XM19100052W02

TEST REPORT

APPLICANT	:	Great Talent Technology Limited
PRODUCT NAME	:	SC3218
MODEL NAME	:	SC3218
BRAND NAME	:	SCHOK
FCC ID	:	2ALZM-SC3218
STANDARD(S)	:	47 CFR Part 2 47 CFR Part 90, Subpart S
RECEIPT DATE	:	2019-10-08
TEST DATE	:	2019-10-08 to 2019-11-08
ISSUE DATE	:	2019-11-08

Edited by: Lai Huihuang

Lai Huihuang (Test Engineer)

Approved by:

Anne Liu (Supervisor)

Kehu-Morlab Test Laboratory

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DIRECTORY

Change History		
Version	Date	Reason for change
1.0	2019-11-08	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Great Talent Technology Limited
Applicant Address:	RM602,T3 Software Park,Nanshan,Shenzhen,China
Manufacturer:	Great Talent Technology Limited
ManufacturerAddress:	RM602,T3 Software Park,Nanshan,Shenzhen,China

1.2. Equipment Under Test (EUT) Description

Product Name:	SC3218	
Hardware Version:	SC3218-V1.1	
Software Version:	SC3218_V1.0.4	
Modulation Type:	QPSK, 16QAM	
Operation Band:	Band 26	
Frequency Range:	LTE Band 26	Tx: 814MHz – 824MHz
		Rx: 859MHz – 869MHz
Antenna Type:	PIFA Antenna	
Antenna Gain:	LTE Band 26	-2.03 dBi
Accessory Information:	Battery	
	Brand Name:	SCHOK
	Model No.:	SB165
	Capacity:	1650mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	AC Adapter 1	
	Brand Name:	SCHOK
	Model No.:	KFL-C050100
	Rated Input:	100-240V ~ 50/60Hz 0.2A
	Rated Output:	5V⎓1.0A
	Charging base	
	Brand Name:	SCHOK
	Model No.:	SC3218

	Rated Input:	5V⎓1.0A
	Rated Output:	5V⎓1.0A

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.3. Emission Designator

LTE Band 26	Emission Designator (99%OBW)	
BW(MHz)	QPSK	16QAM
1.4	1M08G7D	1M08W7D
3	2M68G7D	2M68W7D
5	4M49G7D	4M47W7D
10	8M91G7D	8M94W7D

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
4	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
2.1046, 90.635(b)	Transmitter Conducted Output Power and ERP/EIRP	Oct 10-13, 2019	Lai Huihuang Hui Li	PASS
90.209	Occupied Bandwidth	Oct 10-13, 2019	Lai Huihuang	PASS
2.1055, 90.213	Frequency Stability	Oct 10-13, 2019	Lai Huihuang	PASS
27.50(d)(5)	Peak to Average Radio	Oct 10-13, 2019	Lai Huihuang	N/A
2.1051,90.691	Conducted Spurious Emissions	Oct 10-13, 2019	Lai Huihuang	PASS
2.1051,90.691	Band Edge	Nov 08, 2019	Lai Huihuang	PASS
2.1051, 90.691	Radiated Spurious Emissions	Oct 10-13, 2019	Hui Li	PASS
Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03 (Oct 27, 2017)and ANSI/TIA-603-E-2016. **Note 2:** The path loss during the RF test is calibrated to correct the results by the offset setting in the test equipments. The ref offset 26.5dB contains two parts that cable loss 16.5dB and Attenuator 10dB.				

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

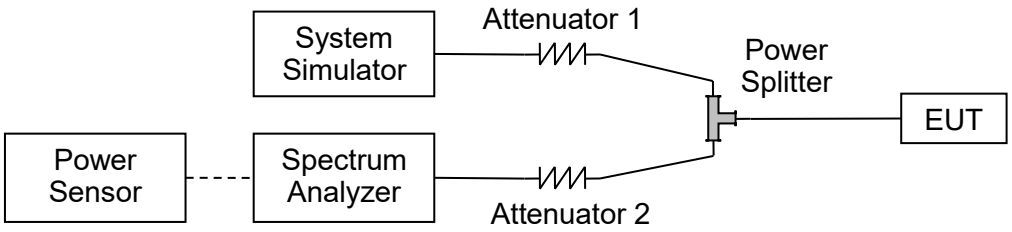
2. 47 CFR Part 2, Part 90S Requirements

2.1. Transmitter Conducted Output Power And ERP/EIRP

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).

2.1.2. Test Description



The EUTis 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 (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)
ERP (dBm) = EIPR (dBm) - 2.15

2.1.4. Result

Conducted Output Power:

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	/	23.09	/
10	QPSK	1	25	/	22.92	/
10	QPSK	1	49	/	22.88	/
10	QPSK	25	0	/	22.29	/
10	QPSK	25	12	/	22.18	/
10	QPSK	25	25	/	22.15	/
10	QPSK	50	0	/	22.23	/
10	16QAM	1	0	/	22.27	/
10	16QAM	1	25	/	22.12	/
10	16QAM	1	49	/	22.08	/
10	16QAM	25	0	/	21.59	/
10	16QAM	25	12	/	21.66	/
10	16QAM	25	25	/	21.64	/
10	16QAM	50	0	/	21.54	/

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	23.05	22.81	23.28
5	QPSK	1	12	22.79	23.15	22.90
5	QPSK	1	24	22.85	22.88	22.86
5	QPSK	12	0	22.19	22.17	22.22
5	QPSK	12	7	22.12	22.36	22.09
5	QPSK	12	13	22.04	22.21	22.01

5	QPSK	25	0	22.17	22.20	21.99
5	16QAM	1	0	21.86	21.69	21.58
5	16QAM	1	12	21.69	21.96	21.57
5	16QAM	1	24	21.67	21.85	21.58
5	16QAM	12	0	21.51	21.66	21.75
5	16QAM	12	7	21.62	21.54	21.56
5	16QAM	12	13	21.66	21.75	21.66
5	16QAM	25	0	21.72	21.66	21.80

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	23.05	22.94	23.25
3	QPSK	1	8	22.89	23.18	22.75
3	QPSK	1	14	22.92	23.13	22.83
3	QPSK	8	0	22.25	22.33	22.22
3	QPSK	8	4	22.12	22.35	22.17
3	QPSK	8	7	22.06	22.31	22.11
3	QPSK	15	0	22.19	22.36	22.15
3	16QAM	1	0	22.19	22.42	22.37
3	16QAM	1	8	22.18	22.63	22.19
3	16QAM	1	14	22.21	22.23	22.15
3	16QAM	8	0	21.58	21.58	21.8
3	16QAM	8	4	21.58	21.62	21.66
3	16QAM	8	7	21.66	21.56	21.76
3	16QAM	15	0	21.56	21.72	21.88

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	23.07	23.17	23.09
1.4	QPSK	1	3	23.04	23.01	23.06
1.4	QPSK	1	5	23.19	22.89	22.96
1.4	QPSK	3	0	23.16	23.21	23.39
1.4	QPSK	3	1	23.15	23.36	23.15
1.4	QPSK	3	3	23.21	23.32	22.99
1.4	QPSK	6	0	22.22	22.26	22.13
1.4	16QAM	1	0	21.91	22.25	22.23
1.4	16QAM	1	3	21.87	22.25	21.97
1.4	16QAM	1	5	21.89	22.09	21.84
1.4	16QAM	3	0	21.99	21.99	22.17
1.4	16QAM	3	1	22.15	22.37	22.32
1.4	16QAM	3	3	22.12	22.45	22.13
1.4	16QAM	6	0	21.54	21.55	21.52

Effective Radiated Power and Effective Isotropic Radiated Power:

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		/
				/	dbm	W	/
10	QPSK	1	0	/	18.91	0.078	/
10	QPSK	1	25	/	18.74	0.075	/
10	QPSK	1	49	/	18.70	0.074	/
10	QPSK	25	0	/	18.11	0.065	/
10	QPSK	25	12	/	18.00	0.063	/
10	QPSK	25	25	/	17.97	0.063	/
10	QPSK	50	0	/	18.05	0.064	/
10	16QAM	1	0	/	18.09	0.064	/
10	16QAM	1	25	/	17.94	0.062	/
10	16QAM	1	49	/	17.90	0.062	/
10	16QAM	25	0	/	17.41	0.055	/
10	16QAM	25	12	/	17.48	0.056	/
10	16QAM	25	25	/	17.46	0.056	/
10	16QAM	50	0	/	17.36	0.054	/

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	
				dbm	W	dbm	W	dbm	W
5	QPSK	1	0	18.87	0.077	18.63	0.073	19.10	0.081
5	QPSK	1	12	18.61	0.073	18.97	0.079	18.72	0.074
5	QPSK	1	24	18.67	0.074	18.70	0.074	18.68	0.074
5	QPSK	12	0	18.01	0.063	17.99	0.063	18.04	0.064

5	QPSK	12	7	17.94	0.062	18.18	0.066	17.91	0.062
5	QPSK	12	13	17.86	0.061	18.03	0.064	17.83	0.061
5	QPSK	25	0	17.99	0.063	18.02	0.063	17.81	0.060
5	16QAM	1	0	17.68	0.059	17.51	0.056	17.40	0.055
5	16QAM	1	12	17.51	0.056	17.78	0.060	17.39	0.055
5	16QAM	1	24	17.49	0.056	17.67	0.058	17.40	0.055
5	16QAM	12	0	17.33	0.054	17.48	0.056	17.57	0.057
5	16QAM	12	7	17.44	0.055	17.36	0.054	17.38	0.055
5	16QAM	12	13	17.48	0.056	17.57	0.057	17.48	0.056
5	16QAM	25	0	17.54	0.057	17.48	0.056	17.62	0.058

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	
				dbm	W	dbm	W	dbm	W
3	QPSK	1	0	18.87	0.077	18.76	0.075	19.07	0.081
3	QPSK	1	8	18.71	0.074	19.00	0.079	18.57	0.072
3	QPSK	1	14	18.74	0.075	18.95	0.079	18.65	0.073
3	QPSK	8	0	18.07	0.064	18.15	0.065	18.04	0.064
3	QPSK	8	4	17.94	0.062	18.17	0.066	17.99	0.063
3	QPSK	8	7	17.88	0.061	18.13	0.065	17.93	0.062
3	QPSK	15	0	18.01	0.063	18.18	0.066	17.97	0.063
3	16QAM	1	0	18.01	0.063	18.24	0.067	18.19	0.066
3	16QAM	1	8	18.00	0.063	18.45	0.070	18.01	0.063
3	16QAM	1	14	18.03	0.064	18.05	0.064	17.97	0.063
3	16QAM	8	0	17.40	0.055	17.40	0.055	17.62	0.058
3	16QAM	8	4	17.40	0.055	17.44	0.055	17.48	0.056
3	16QAM	8	7	17.48	0.056	17.38	0.055	17.58	0.057
3	16QAM	15	0	17.38	0.055	17.54	0.057	17.70	0.059

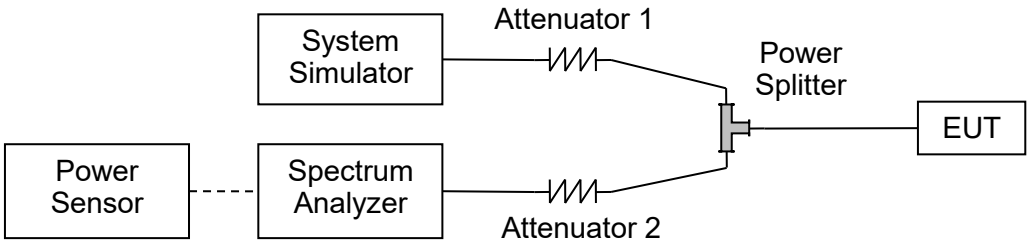
LTE Band 26									
BW [MHz]	Modulation	RB Size	RB Offset	Average Power Low Ch. / Freq.		Average Power Middle Ch. / Freq.		Average Power High Ch. / Freq.	
Channel				26697		26740		26783	
Frequency (MHz)				814.7		819.0		823.3	
				dbm	W	dbm	W	dbm	W
1.4	QPSK	1	0	18.89	0.077	18.99	0.079	18.91	0.078
1.4	QPSK	1	3	18.86	0.077	18.83	0.076	18.88	0.077
1.4	QPSK	1	5	19.01	0.080	18.71	0.074	18.78	0.076
1.4	QPSK	3	0	18.98	0.079	19.03	0.080	19.21	0.083
1.4	QPSK	3	1	18.97	0.079	19.18	0.083	18.97	0.079
1.4	QPSK	3	3	19.03	0.080	19.14	0.082	18.81	0.076
1.4	QPSK	6	0	18.04	0.064	18.08	0.064	17.95	0.062
1.4	16QAM	1	0	17.73	0.059	18.07	0.064	18.05	0.064
1.4	16QAM	1	3	17.69	0.059	18.07	0.064	17.79	0.060
1.4	16QAM	1	5	17.71	0.059	17.91	0.062	17.66	0.058
1.4	16QAM	3	0	17.81	0.060	17.81	0.060	17.99	0.063
1.4	16QAM	3	1	17.97	0.063	18.19	0.066	18.14	0.065
1.4	16QAM	3	3	17.94	0.062	18.27	0.067	17.95	0.062
1.4	16QAM	6	0	17.36	0.054	17.37	0.055	17.34	0.054

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



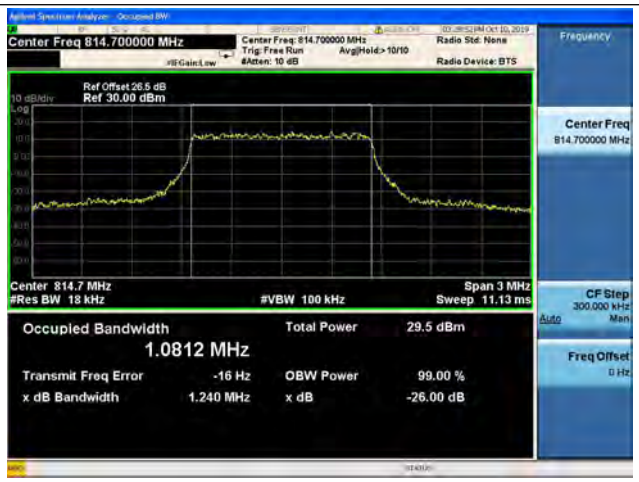
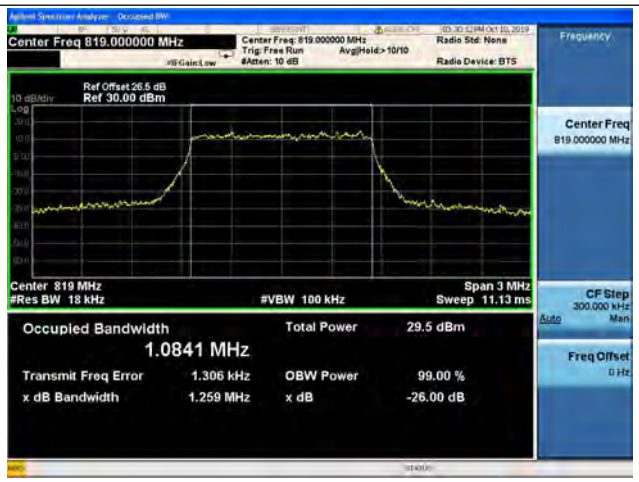
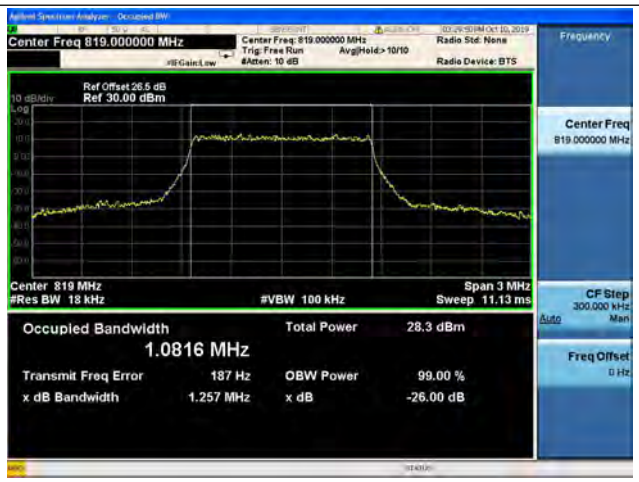
The EUTis coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

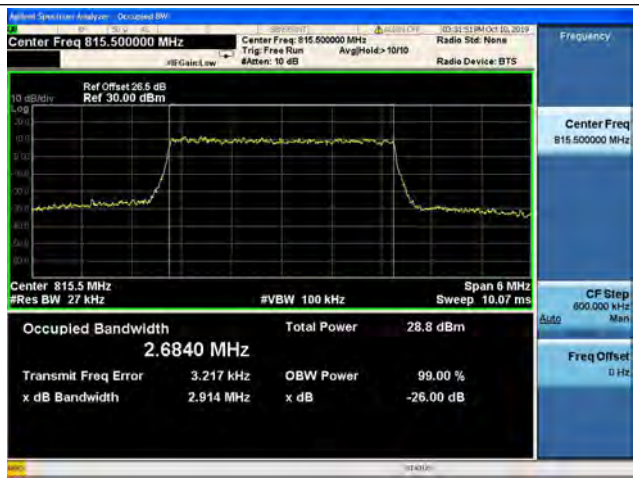
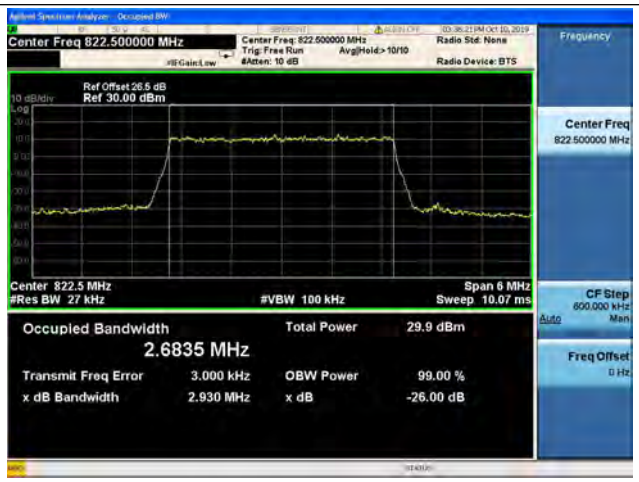
2.2.3. Test procedure

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)
26	1.4	Low	26697	814.7	QPSK	1.08	1.24
26	1.4	Low	26697	814.7	16QAM	1.08	1.26
26	1.4	Mid	26740	819	QPSK	1.08	1.26
26	1.4	Mid	26740	819	16QAM	1.08	1.26
26	1.4	High	26783	823.3	QPSK	1.08	1.24
26	1.4	High	26783	823.3	16QAM	1.08	1.25
26	3	Low	26705	815.5	QPSK	2.68	2.95
26	3	Low	26705	815.5	16QAM	2.68	2.91
26	3	Mid	26740	819	QPSK	2.68	2.93
26	3	Mid	26740	819	16QAM	2.68	2.92
26	3	High	26775	822.5	QPSK	2.68	2.93
26	3	High	26775	822.5	16QAM	2.68	2.91
26	5	Low	26715	816.5	QPSK	c	4.85
26	5	Low	26715	816.5	16QAM	4.46	4.88
26	5	Mid	26740	819	QPSK	4.48	4.90
26	5	Mid	26740	819	16QAM	4.47	4.88
26	5	High	26765	821.5	QPSK	4.48	4.89
26	5	High	26765	821.5	16QAM	4.46	4.86
26	10	Mid	26740	819	QPSK	8.91	9.75
26	10	Mid	26740	819	16QAM	8.94	9.78

Band 26/ 1.4MHz / Low CH/ QPSK	Band 26/ 1.4MHz / Low CH/ 16QAM
	
Band 26/ 1.4MHz / Mid CH/ QPSK	**Band 26/ 1.4MHz / Mid CH/ 16QAM**
	
Band 26/ 1.4MHz / High CH/ QPSK	**Band 26/ 1.4MHz / High CH/ 16QAM**
	

Band 26/ 3MHz / Low CH/ QPSK	Band 26/ 3MHz / Low CH/ 16QAM
	
Band 26/ 3MHz / Mid CH/ QPSK	**Band 26/ 3MHz / Mid CH/ 16QAM**
	
Band 26/ 3MHz / High CH/ QPSK	**Band 26/ 3MHz / MidHigh CH/ 16QAM**
	

Band 26/ 5MHz / Low CH/ QPSK	Band 26/ 5MHz / Low CH/ 16QAM
	
Band 26/ 5MHz / Mid CH/ QPSK	**Band 26/ 5MHz / Mid CH/ 16QAM**
	
Band 26/ 5MHz / High CH/ QPSK	**Band 26/ 5MHz / High CH/ 16QAM**
	

Band 26/ 10MHz / Mid CH/ QPSK	Band 26/ 10MHz / Mid CH/ 16QAM
	

2.3. Frequency Stability

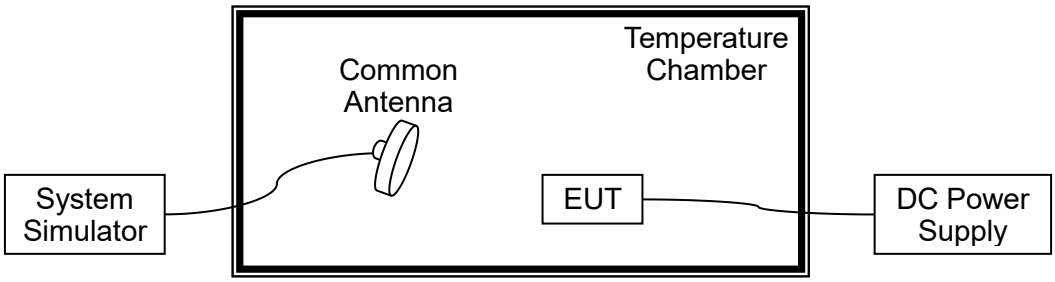
2.3.1. Requirement

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 -10°C to +45°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.

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 3.8VDC, 4.35VDC and 3.5VDC, which are specified by the applicant; the normal temperature here used is 20°C.

LTE Band 26, QPSK, Channel 26740, Frequency 819.0MHz Limit =Within Authorized Band					
Voltage(%)	**Power(VDC)**	**Temp(°C)**	**Fre. Dev.(Hz)**	**Deviation (ppm)**	**Result**
100	3.82	+20(Ref)	21	0.025	PASS
100		-20	74	0.089	
100		-10	-32	-0.038	
100		0	-15	-0.018	
100		+10	-36	-0.043	
100		+20	-28	-0.034	
100		+30	-36	-0.043	
100		+40	65	0.078	
100		+45	13	0.016	
115	4.4	+20	53	0.064	
85	3.3	+20	21	0.025	

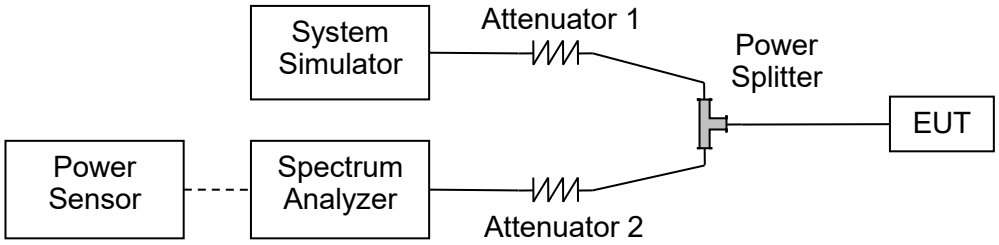
2.4. Peak to Average Radio

2.4.1. Requirement

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

2.4.2. Test Description

A. Test Set:



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

2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.

Note: PART 90 sectionsare none of the result

2.5. Conducted Spurious Emissions

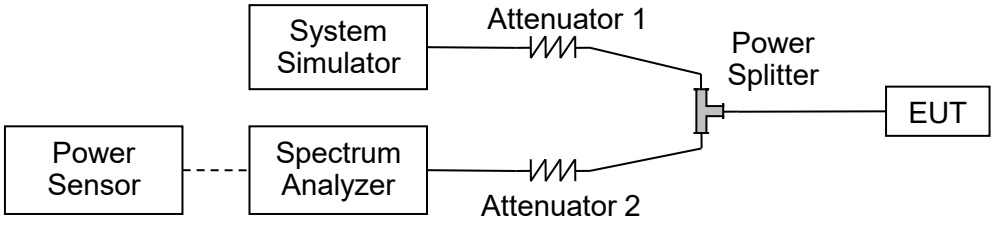
2.5.1. Requirement

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

Additional requirement for LTE Band 7/38/41:
The power of any emission outside of the authorized operating frequency ranges must beattenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. This calculated to be -25dBm.

Additional requirement for LTE Band 30/40:
The power of any emission outside of the authorized operating frequency ranges must be attenuatedbelow the transmitter power (P) by a factor of at least 70 + 10 log (P) dB.This calculated to be -40dBm.

2.5.2. Test Description



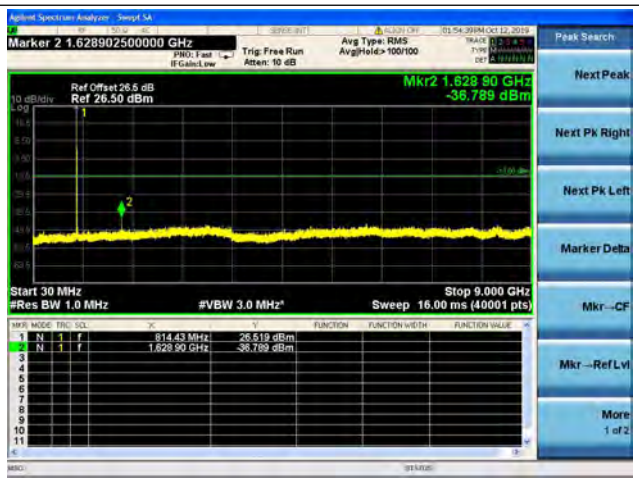
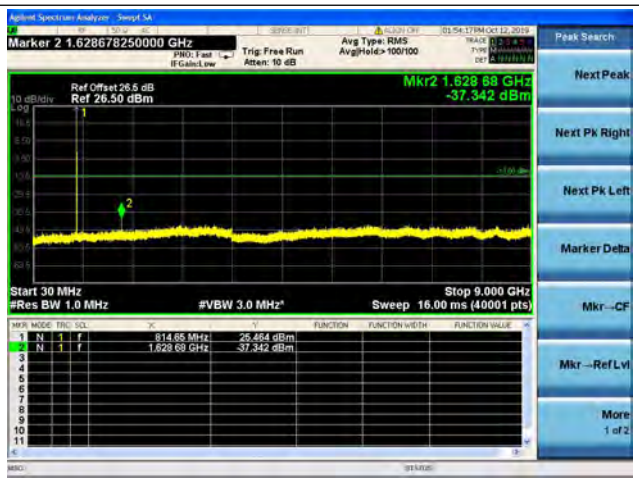
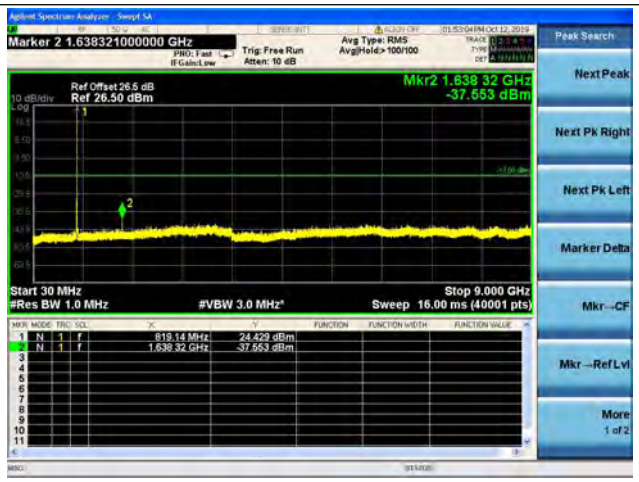
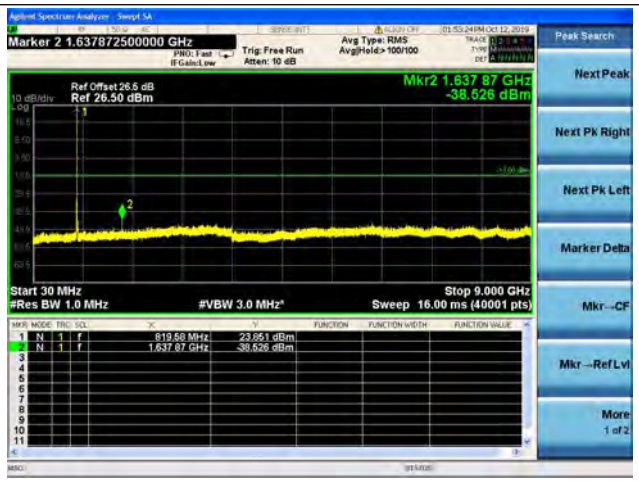
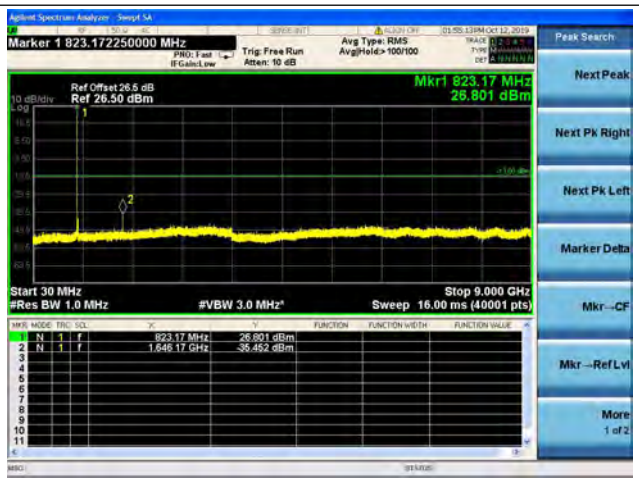
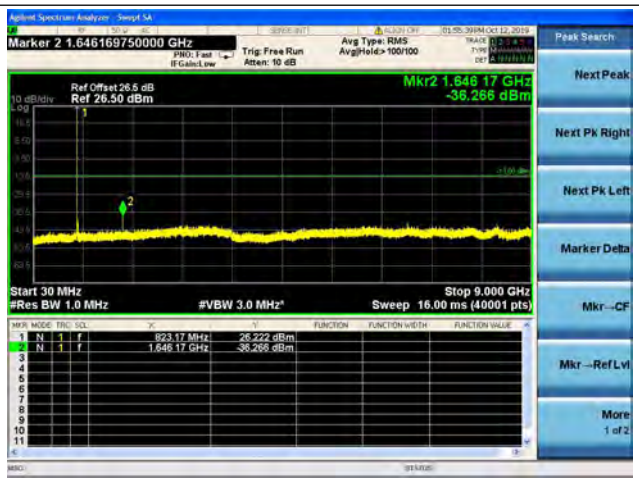
The EUTis coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

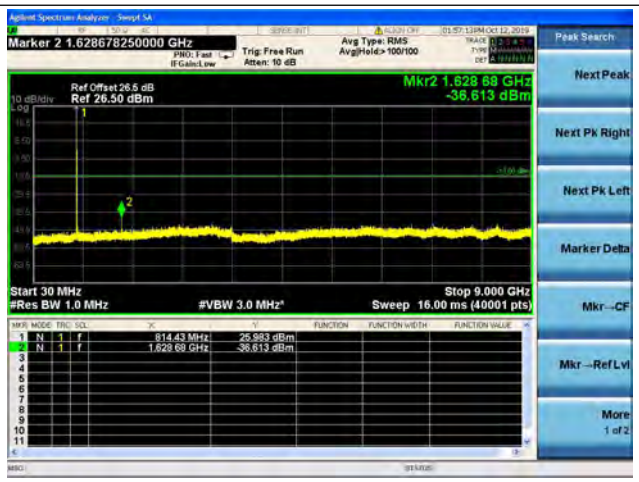
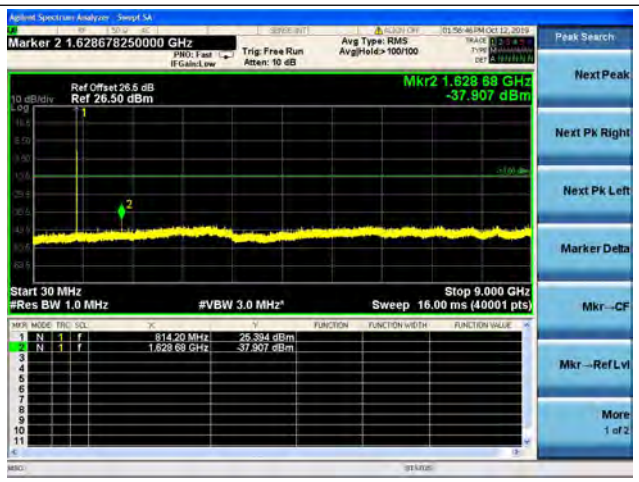
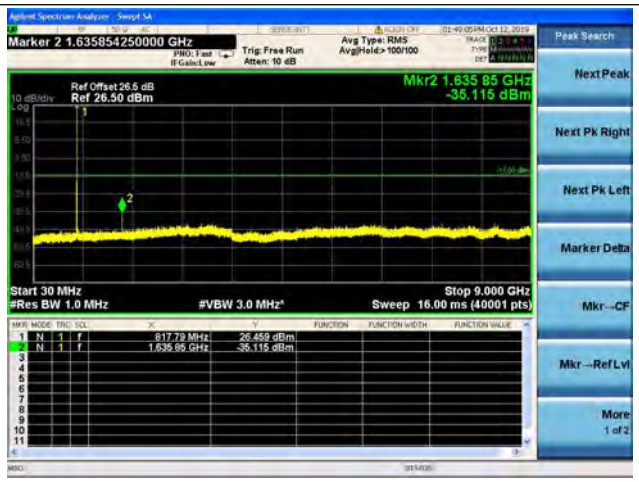
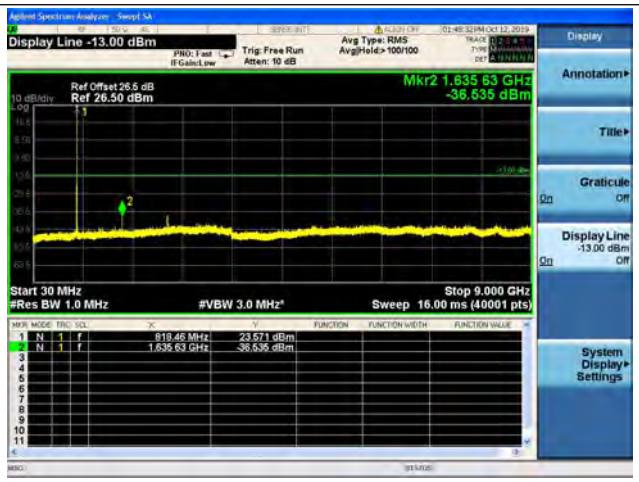
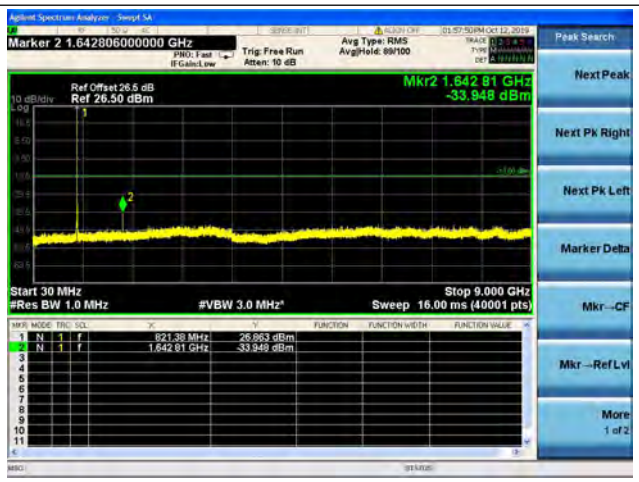
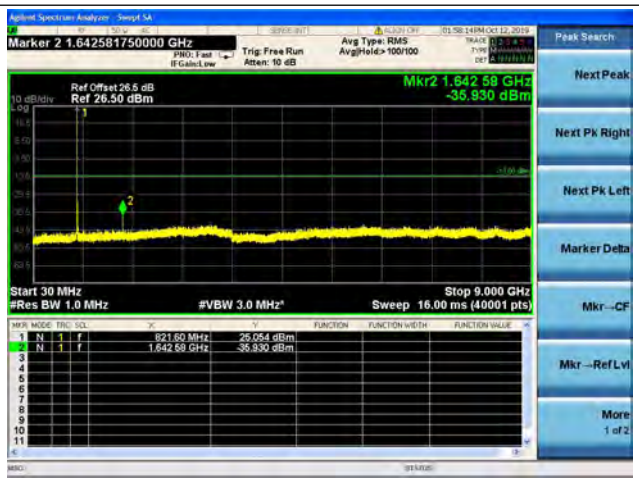
2.5.3. Test procedure

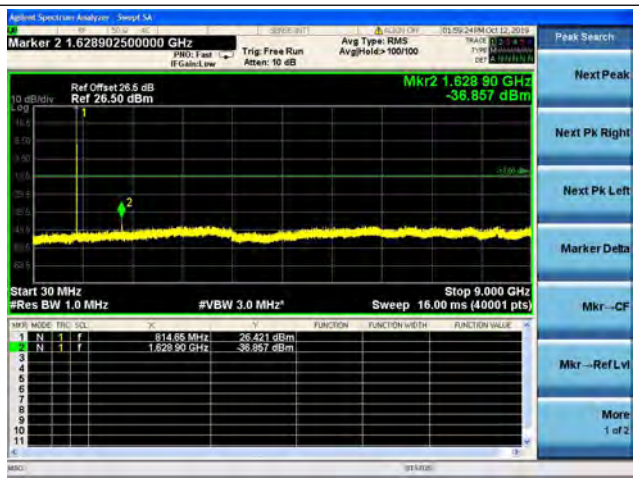
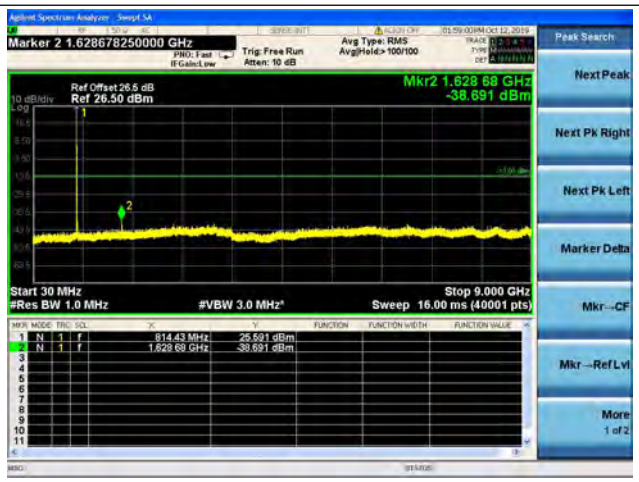
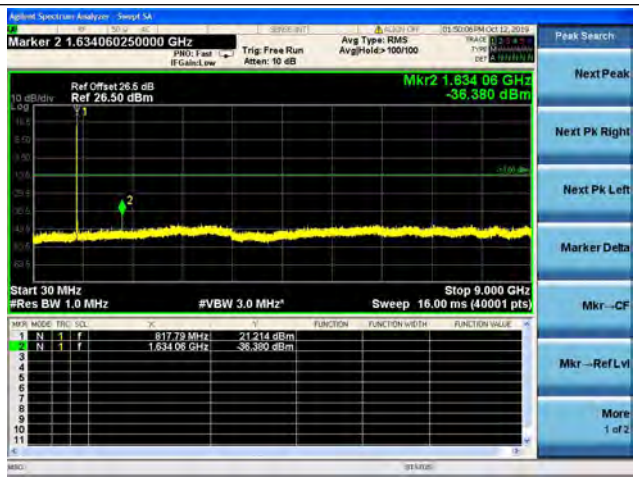
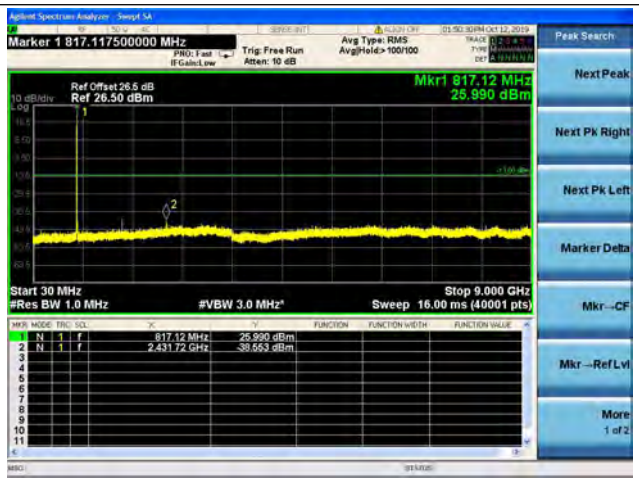
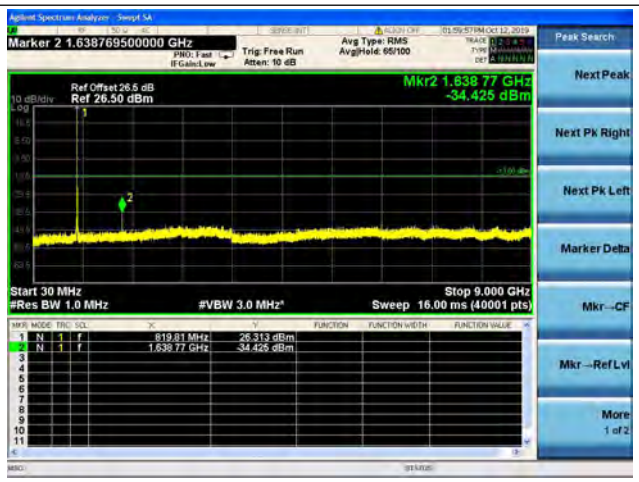
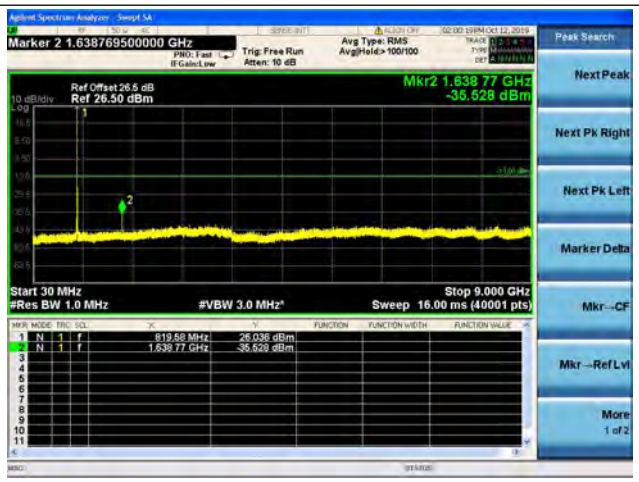
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

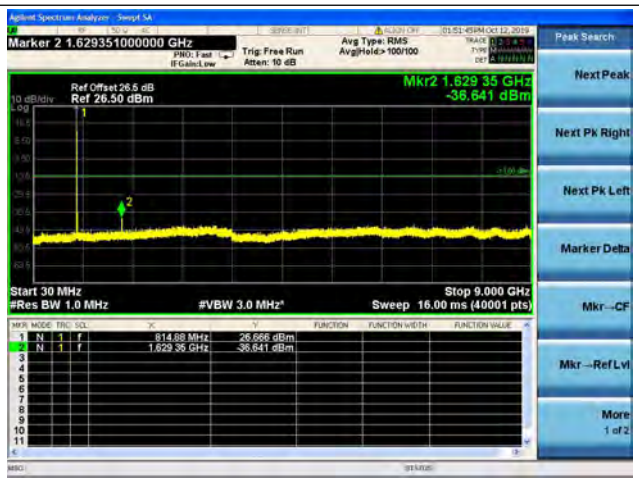
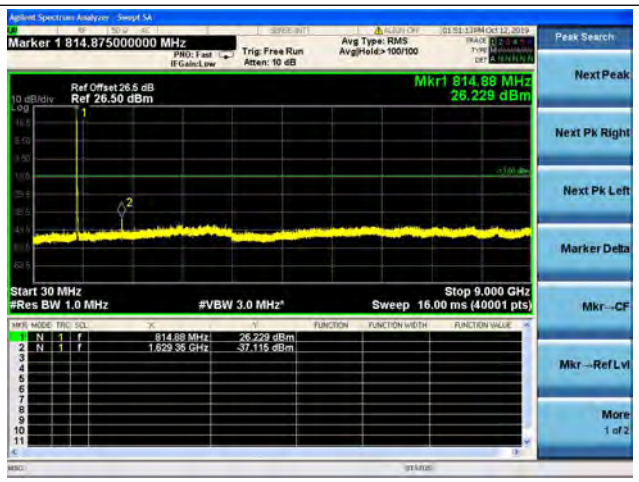
2.5.4. Test Result

Band 26/ 1.4MHz / Low CH/ QPSK	Band 26/ 1.4MHz / Low CH/ 16QAM

Band 26/ 1.4MHz / Low CH/ QPSK	Band 26/ 1.4MHz / Low CH/ 16QAM
	
Band 26/ 1.4MHz / Mid CH/ QPSK	**Band 26/ 1.4MHz / Mid CH/ 16QAM**
	
Band 26/ 1.4MHz / High CH/ QPSK	**Band 26/ 1.4MHz / High CH/ 16QAM**
	

Band 26/ 3MHz / Low CH/ QPSK	Band 26/ 3MHz / Low CH/ 16QAM
	
Band 26/ 3MHz / Mid CH/ QPSK	**Band 26/ 3MHz / Mid CH/ 16QAM**
	
Band 26/ 3MHz / High CH/ QPSK	**Band 26/ 3MHz / High CH/ 16QAM**
	

Band 26/ 5MHz / Low CH/ QPSK	Band 26/ 5MHz / Low CH/ 16QAM
	
Band 26/ 5MHz / Mid CH/ QPSK	**Band 26/ 5MHz / Mid CH/ 16QAM**
	
Band 26/ 5MHz / High CH/ QPSK	**Band 26/ 5MHz / High CH/ 16QAM**
	

Band 26/ 10MHz / Mid CH/ QPSK	Band 26/ 10MHz / Mid CH/ 16QAM
	

2.6. Band Edge

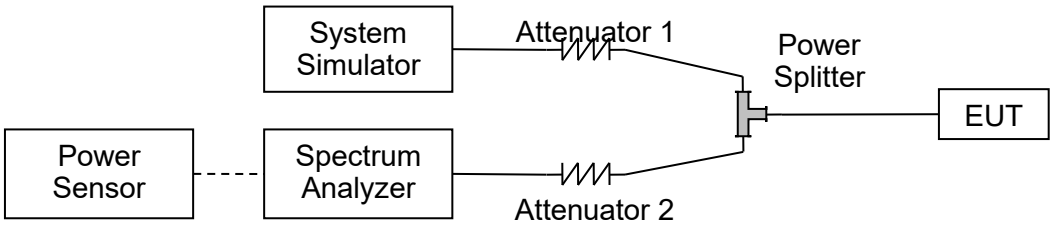
2.6.1. Requirement

According to FCC section 90.961, 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.

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

2.6.2. Test Description



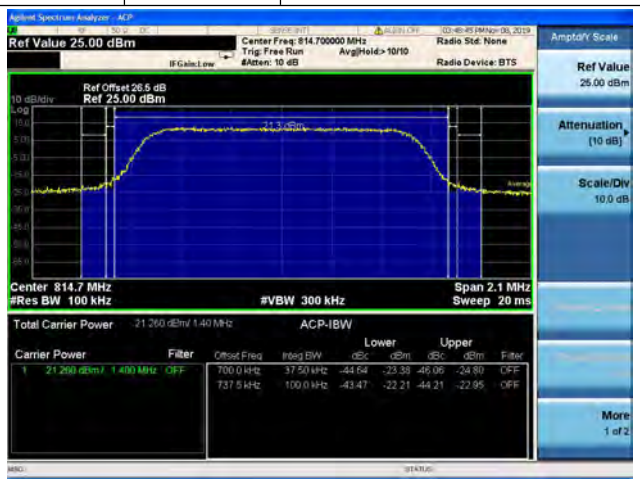
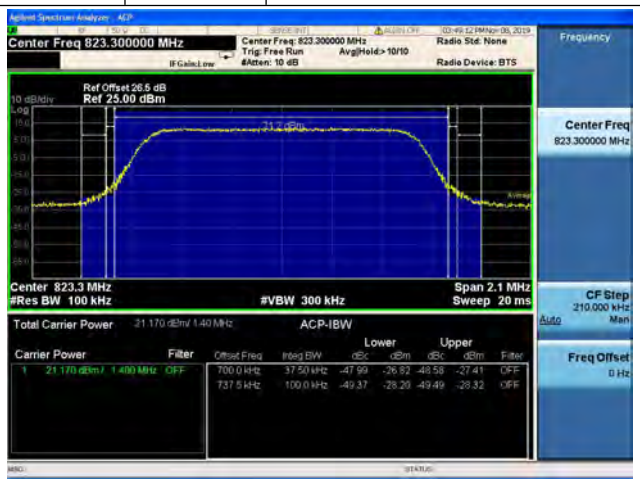
The EUTis coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

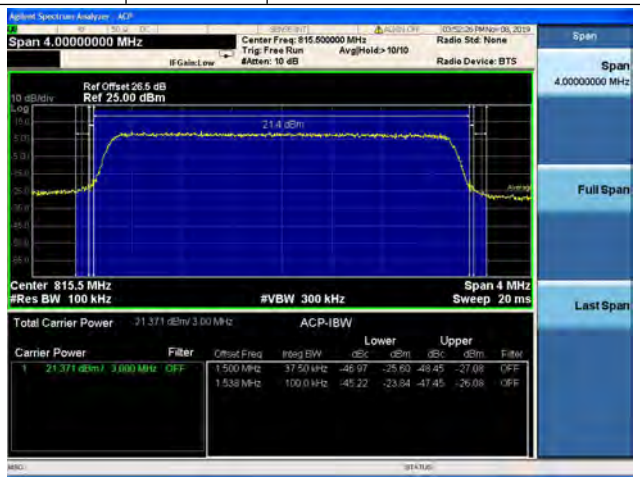
2.6.3. Test procedure

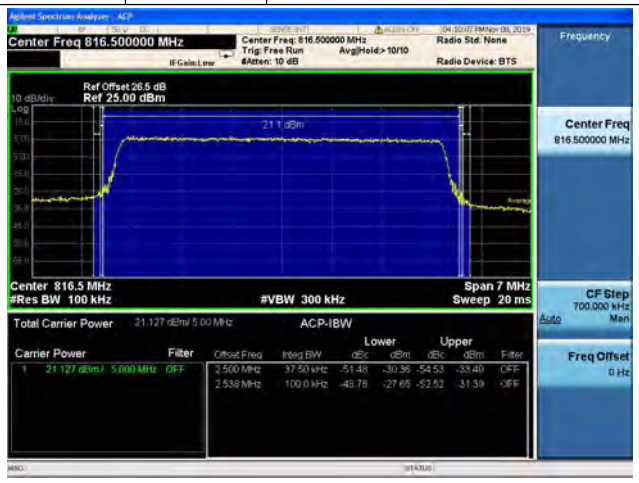
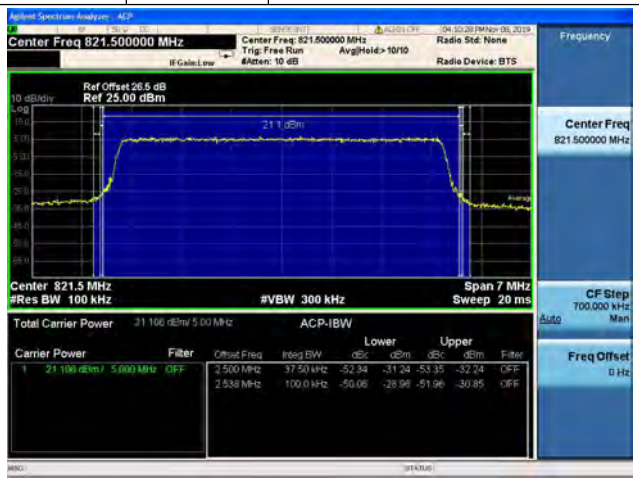
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

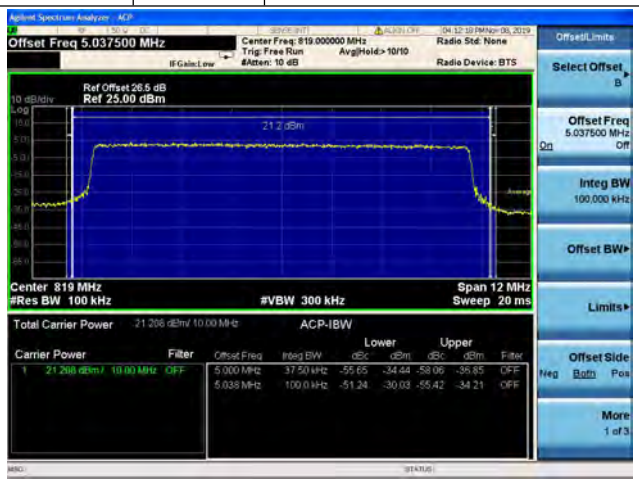
2.6.4. Test Result

The center frequency of spectrum is the band edge frequency and span is 2MHz, Record the max trace into the test report.

LTE Band 26					
Channel Bandwidth: 1.4MHz					
Channel	26697	FULL RB	Channel	26783	FULL RB
					

LTE Band 26					
Channel Bandwidth: 3MHz					
Channel	26705	FULL RB	Channel	26775	FULL RB
					

LTE Band 26					
Channel Bandwidth: 5MHz					
Channel	26715	FULL RB	Channel	26765	FULL RB
					

LTE Band 26					
Channel Bandwidth: 10MHz					
Channel	26740	FULL RB			
					

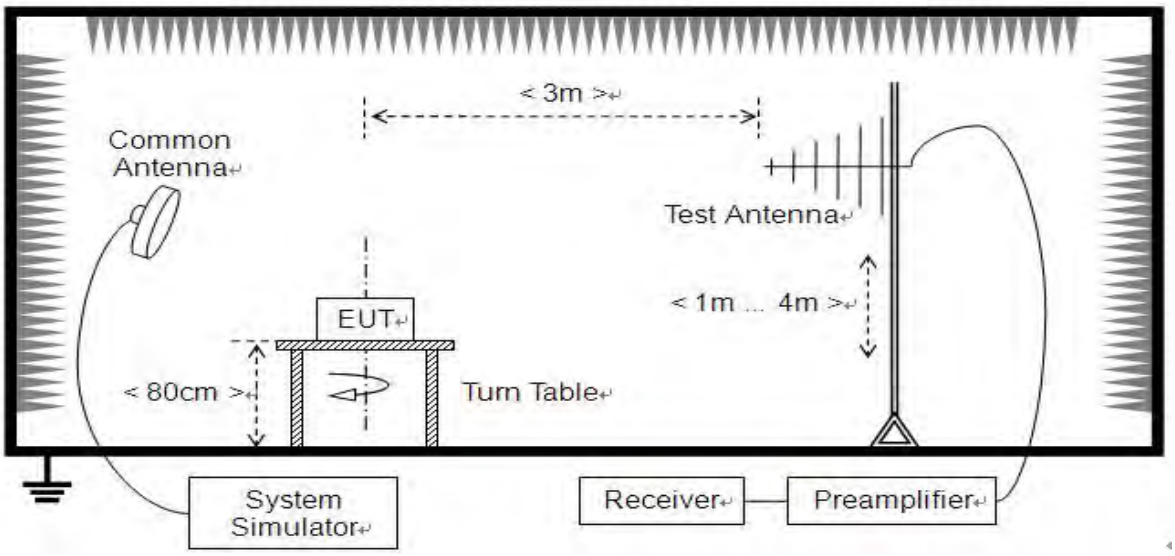
2.7. Radiated Spurious Emissions

2.7.1. Requirement

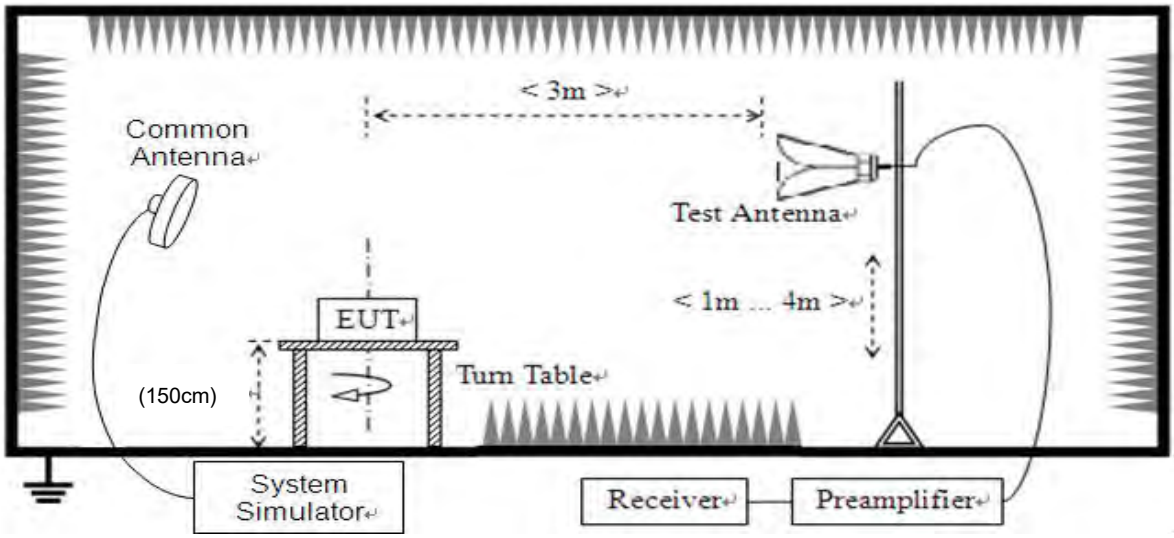
According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

Additional requirement for LTE Band 7 / 38 / 41:
The power of any emission outside of the authorized operating frequency ranges must beattenuated below the transmitting power (P) by a factor of at least 55 + 10 log(P) dB. This calculated to be -25dBm.
Additional requirement for LTE Band 30 / 40:
The power of any emission outside of the authorized operating frequency ranges must be attenuatedbelow the transmitter power (P) by a factor of at least 70 + 10 log (P) dB.This calculated to be -40dBm.

2.7.2. Test Description



(For the test frequency from 30MHz to1GHz)



(For the test frequency above 1GHz)

The EUTis located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.
A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.
In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360°to determine the maximum value of the radiated power.The emission levels at both horizontal and vertical polarizations should be tested.The Filters consists of Notch Filters and High Pass Filter.

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

2.7.3. Test procedure

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

2.7.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. Test Antenna height is varied from 1m to 4m above the ground, and the Turn Table is actuated to turn from 0° to 360°, both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The substitution corrections are obtained as described below:

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

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

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

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

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

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

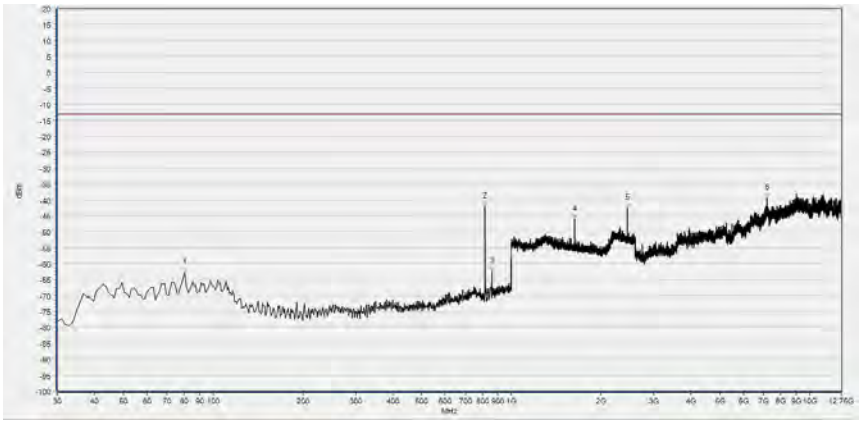
During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT}.

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

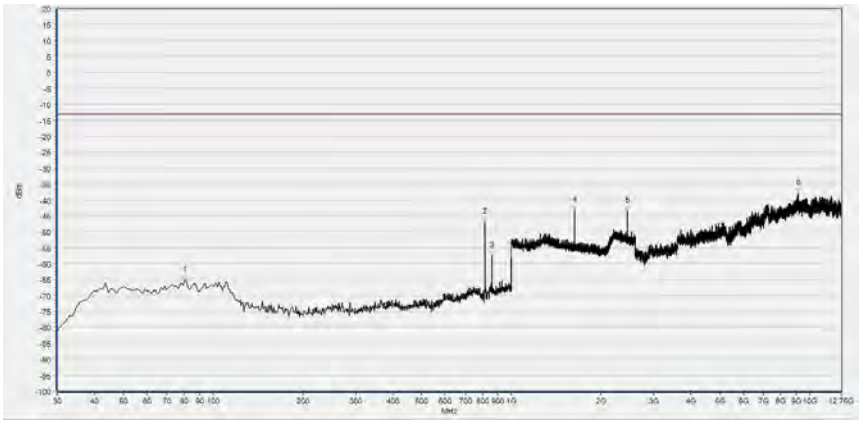
Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note3: All bandwidth and modulationwere 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.

LTE Band 26 10MHz BW, Low Channel, QPSK

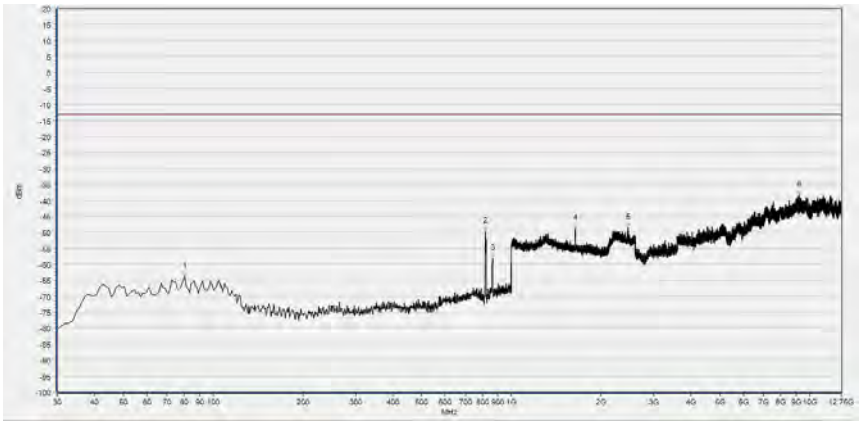


No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	80.440	-62.96	-13.00	Horizontal	PASS
2	814.730	-42.08	-13.00	Horizontal	N/A
3	859.350	-62.47	-13.00	Horizontal	N/A
4	1629.372	-46.18	-13.00	Horizontal	PASS
5	2443.778	-42.58	-13.00	Horizontal	PASS
6	7199.709	-39.52	-13.00	Horizontal	PASS

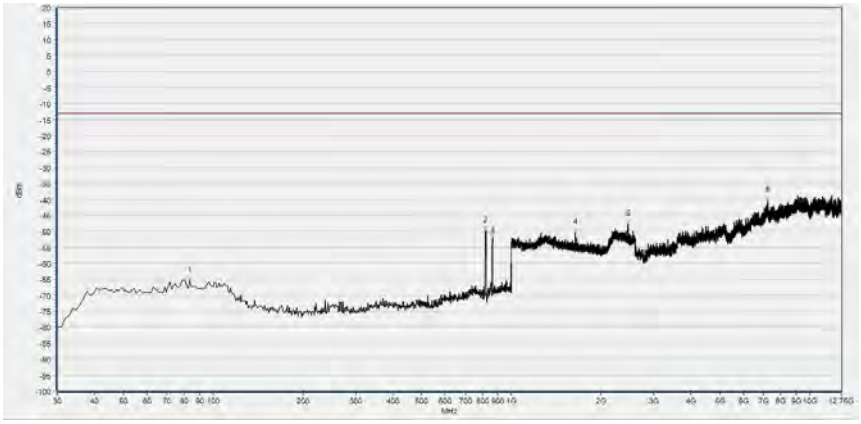


No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	80.440	-65.19	-13.00	Vertical	PASS
2	814.730	-47.15	-13.00	Vertical	N/A
3	859.350	-57.44	-13.00	Vertical	N/A
4	1629.372	-43.23	-13.00	Vertical	PASS
5	2443.778	-43.58	-13.00	Vertical	PASS
6	9143.326	-37.79	-13.00	Vertical	PASS

LTE Band 26 10MHz BW, Mid Channel, QPSK

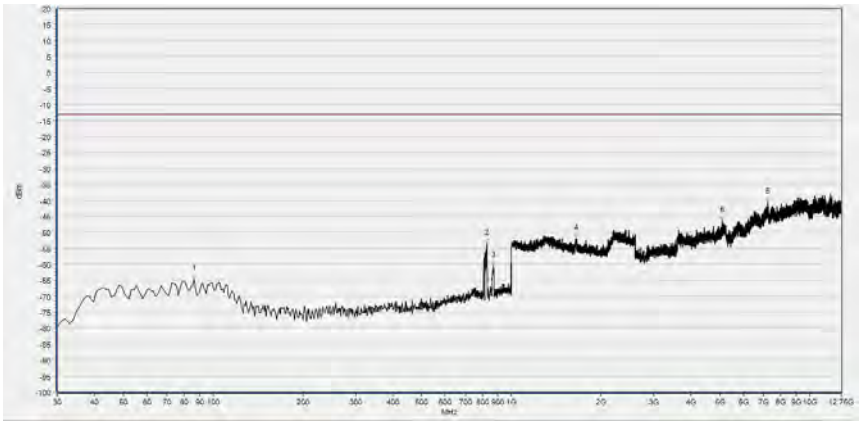


No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	80.440	-63.74	-13.00	Horizontal	PASS
2	817.640	-49.73	-13.00	Horizontal	N/A
3	864.200	-58.14	-13.00	Horizontal	N/A
4	1637.695	-48.81	-13.00	Horizontal	PASS
5	2461.064	-48.55	-13.00	Horizontal	PASS
6	9213.466	-38.34	-13.00	Horizontal	PASS

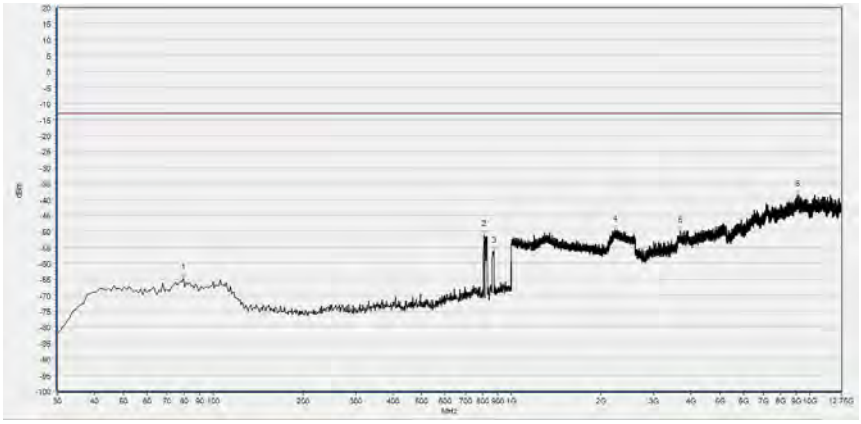


No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	83.350	-65.36	-13.00	Vertical	PASS
2	816.670	-50.01	-13.00	Vertical	N/A
3	866.140	-52.02	-13.00	Vertical	N/A
4	1637.695	-50.35	-13.00	Vertical	PASS
5	2457.223	-47.65	-13.00	Vertical	PASS
6	7232.933	-40.24	-13.00	Vertical	PASS

LTE Band 26 10MHz BW, High Channel, QPSK



No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	86.260	-64.66	-13.00	Horizontal	PASS
2	828.310	-53.58	-13.00	Horizontal	N/A
3	870.990	-60.43	-13.00	Horizontal	N/A
4	1644.738	-52.00	-13.00	Horizontal	PASS
5	5080.742	-46.31	-13.00	Horizontal	PASS
6	7231.087	-40.58	-13.00	Horizontal	PASS



No.	Fre. (MHz)	Peak	Limit(PK)	Antenna	Verdict
1	79.470	-64.80	-13.00	Vertical	PASS
2	808.910	-50.96	-13.00	Vertical	N/A
3	872.930	-56.18	-13.00	Vertical	N/A
4	2225.450	-49.43	-13.00	Vertical	PASS
5	3685.325	-49.84	-13.00	Vertical	PASS
6	9113.793	-38.56	-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	±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:	XIAMEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd. Kehu-Morlab Test Laboratory
Laboratory Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian) China
Telephone:	+86 592 5612050
Facsimile:	+86 592 5612095

2. Identification of the Responsible Testing Location

Name:	XIAMEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd. Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian) China

4. Test Equipments Utilized

4.1 Conducted Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
Power Splitter	1723	U2021XA	Agilent	2019.01.08	2020.01.07
Attenuator 1	(N/A.)	10dB	Resnet	2019.04.17	2020.04.16
Attenuator 2	(N/A.)	3dB	Resnet	2019.04.17	2020.04.16
PXA Signal Analzyer	MY57150136	N9030A	KEYSIGHT	2019.01.05	2020.01.04
USB Power Sensor	MY54210011	U2021XA	Agilent	2019.04.17	2020.04.16
System Simulator	100915	CMW500	R&S	2019.01.07	2020.01.06
SMA connector	RF03	N/A	Xingbo	N/A	N/A
Temperature Chamber	(N/A)	HTC-1	(N/A)	2019.01.11	2020.01.10
Software Version: 2.0.0.0					

4.2 Radiated Test Equipments

RSE Test System						
No.	**Equipment Name**	**Serial No.**	**Type**	**Manufacturer**	**Cal. Date**	**Cal.Due Date**
1	Anechoic Chamber	KH-B-0004	9m*6m*6m	ETS-Lindgren	2017.07.21	2020.07.20
2	Signal Analyzer	101294	FSV40	R&S	2019.01.04	2020.01.03
3	Wideband Radio Communication Tester	100915	CMW500	R&S	2019.01.08	2020.01.07
4	Linear Log Periodic Broad Band Antenna	949	VULB 9163	Schwarzbeck	2018.09.25	2021.09.24
5	Ultra-Wideband Horn Antenna	102615	HF907	R&S	2019.01.19	2022.01.18
6	RF Switch and Control Platform	N/A	RSC	CDSI	N/A	N/A

END OF REPORT