FCC TEST REPORT

Product	:	Mobile Phone
Trade mark	:	MI
Model/Type reference	:	2016117
Report Number	:	1608310293RFM-3
Date of Issue	:	Oct.19, 2016
FCC ID	:	2AFZZ-RM6117
Test Standards	:	47 CFR Part 27(2015) 47 CFR Part 2 Subpart J (2015)
Test result	:	PASS

Prepared for:

Xiaomi Communications Co., Ltd.
The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd.
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Tested by: Tiny You — RF Engineer

Reviewed by: Jim Long — RF Senior Supervisor

Approved by: Billy Li — Technical Director

Date: Oct.19, 2016

Version

Version No.	Date	Description
V1.0	Oct.19, 2016	Original

Content

1 General Information

1.1 Client Information

Applicant:	Xiaomi Communications Co., Ltd.
Address of Applicant:	The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China
Manufacturer:	Xiaomi Communications Co., Ltd.
Address of Manufacturer:	The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

1.2 General Description of EUT

Product Name:	Mobile Phone	
Model No.(EUT):	2016117	
Add. Mode No.:	N/A	
Trade Mark:	MI	
EUT Supports Radios application:	GSM850/900/1800/1900 WCDMA Band I/Band II/Band V/Band VIII LTE FDD Band 1/Band 3/ Band 4/ Band 5/Band 7/Band 8/Band 20 LTE TDD Band 40/Band 41 Wlan 2.4GHz 802.11b/g/n(HT20) Bluetooth V3.0+EDR&Bluetooth V4.0 BLE GPS, Glonass	
Power Supply:	AC adapter	Model:MDY-08-EF Input:100-240V~50/60Hz, 0.35A; Output: 5V ⎓ 2A
	Battery1	Model: BN30 Brand: Sunwoda Rated voltage: 3.84Vdc Battery capacity: 3030mAh(Li-on Rechargeable)
	Battery2	Model: BN30 Brand: SCUD Rated voltage: 3.84Vdc Battery capacity: 3030mAh(Li-on Rechargeable)
USB Micro-B Plug cable:	117cm(Shielded)	
Sample Received Date:	Sep. 09, 2016	
Sample tested Date:	Sep. 11, 2016 to Oct. 14, 2016	

1.3 Product Specification subjective to this standard

Support Networks:	LTE Band 4/ Band 7/ Band 41	
Type of Modulation:	LTE:	QPSK, 16QAM
Frequency Range	LTE Band 4(Channel Bandwidth: 1.4 MHz):	1710.7-1754.3 MHz
	LTE Band 4 (Channel Bandwidth: 3 MHz):	1711.5-1753.5 MHz
	LTE Band 4 (Channel Bandwidth: 5 MHz):	1712.5-1752.5 MHz
	LTE Band 4 (Channel Bandwidth: 10 MHz):	1715-1750 MHz
	LTE Band 4 (Channel Bandwidth: 15 MHz):	1717.5-1747.5 MHz
	LTE Band 4 (Channel Bandwidth: 20 MHz):	1720-1745 MHz
	LTE Band 7 (Channel Bandwidth: 5 MHz):	2502.5-2567.5 MHz
	LTE Band 7 (Channel Bandwidth: 10 MHz):	2505-2565 MHz
	LTE Band 7 (Channel Bandwidth: 15 MHz):	2507.5-2562.5 MHz
	LTE Band 7 (Channel Bandwidth: 20 MHz):	2510-2560 MHz

	LTE Band 41 (Channel Bandwidth: 5 MHz):	2557.5-2562.5 MHz
	LTE Band 41 (Channel Bandwidth: 10 MHz):	2560-2650 MHz
	LTE Band 41 (Channel Bandwidth: 15 MHz):	2562.5-2647.5 MHz
	LTE Band 41 (Channel Bandwidth: 20 MHz):	2565-2645 MHz
Max RF Output Power:	LTE Band 4 (Channel Bandwidth: 1.4 MHz):	22.39dBm
	LTE Band 4 (Channel Bandwidth: 3 MHz):	22.40dBm
	LTE Band 4 (Channel Bandwidth: 5 MHz):	22.43dBm
	LTE Band 4 (Channel Bandwidth: 10 MHz):	22.47dBm
	LTE Band 4 (Channel Bandwidth: 15 MHz):	22.53dBm
	LTE Band 4 (Channel Bandwidth: 20 MHz):	22.56dBm
	LTE Band 7 (Channel Bandwidth: 5 MHz):	22.76dBm
	LTE Band 7 (Channel Bandwidth: 10 MHz):	22.80dBm
	LTE Band 7 (Channel Bandwidth: 15 MHz):	22.86dBm
	LTE Band 7 (Channel Bandwidth: 20 MHz):	22.89dBm
	LTE Band 41 (Channel Bandwidth: 5 MHz):	22.88dBm
	LTE Band 41 (Channel Bandwidth: 10 MHz):	22.91dBm
	LTE Band 41 (Channel Bandwidth: 15 MHz):	22.95dBm
	LTE Band 41 (Channel Bandwidth: 20 MHz):	23.01dBm
Type of Emission:	LTE Band 4 (Channel Bandwidth: 1.4 MHz):	1M1G7D, 1M1W7D
	LTE Band 4 (Channel Bandwidth: 3 MHz):	2M7G7D, 2M7W7D
	LTE Band 4 (Channel Bandwidth: 5 MHz):	4M5G7D, 4M5W7D
	LTE Band 4 (Channel Bandwidth: 10 MHz):	9M0G7D, 9M0W7D
	LTE Band 4 (Channel Bandwidth: 15 MHz):	13M5G7D, 13M5W7D
	LTE Band 4 (Channel Bandwidth: 20 MHz):	18M4G7D, 18M4W7D
	LTE Band 7 (Channel Bandwidth: 5 MHz):	4M5G7D, 4M5W7D
	LTE Band 7 (Channel Bandwidth: 10 MHz):	9M1G7D, 9M0W7D
	LTE Band 7 (Channel Bandwidth: 15 MHz):	13M5G7D, 13M5W7D
	LTE Band 7 (Channel Bandwidth: 20 MHz):	18M4G7D, 18M4W7D
	LTE Band 41 (Channel Bandwidth: 5 MHz):	4M5G7D, 4M5W7D
	LTE Band 41 (Channel Bandwidth: 10 MHz):	9M1G7D, 9M0W7D
	LTE Band 41 (Channel Bandwidth: 15 MHz):	13M5G7D, 13M5W7D
	LTE Band 41 (Channel Bandwidth: 20 MHz):	18M5G7D, 18M4W7D
IEMI:	SIM1: 862115030005584	
	SIM2: 862115030005592	
Type of Antenna:	LDS Antenna	
Antenna Gain:	Band 4: -1dBi Band 7: 0.6dBi Band 41: 0.6dBi	
GPRS/EDGE Class:	Class 33	
Sample Type:	Portable production	
Normal Test voltage:	3.84Vdc	
Extreme Test voltage:	3.6~4.35Vdc (declared by the manufacturer)	
Operating Temperature:	0℃ to +40℃ (declared by the manufacturer)	

Software Version:	MIUI8
Hardware Version:	P3

1.4 Description of Support Units

The EUT has been tested independently

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
N/A	N/A	N/A	N/A	N/A

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
1	N/A	N/A	N/A	N/A

1.5 Test Location

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109

Telephone: +86 (0) 755 2823 0888 Fax:+86 (0) 755 2823 0886

Tested by: Tiny You

Tests were sub-contracted.(EIRP and Field strength of spurious radiation)

CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.

Address: Building 28/29, Shigu East, Xili Street, Xili Industrial District, Nanshan District, Shenzhen, Guangdong, China

Telephone: +86 (0) 755 26627338 Fax:+86 (0) 755 26627238

Tested by: Fly

1.6 Test Facility

1) Shenzhen UnionTrust Quality and Technology Co., Ltd.

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

2) CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.

CNAS-Lab Code: L1659

CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659. A 12.8*6.8*6.4 (m) fully anechoic chamber was used for the radiated spurious emissions test.

1.7 Deviation from Standards

None.

1.8 Abnormalities from Standard Conditions

None.

1.9 Other Information Requested by the Customer

None.

1.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	±6.3 x 10^{-8}
2	RF power, conducted	±0.52 dB
3	Radiated Spurious emissions	±5.9 dB
4	Conducted spurious emission 9KHz-40GHz	±1.60 dB
5	Temperature	±0.64 °C
6	Humidity	±2.8 %
7	Supply voltages	±0.49 %

1 Test Summary

Applied Standard: FCC Part 27 & Part 2 (LTE 4)			
Test Item	**Test Requirement**	**Test method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	Part 2.1046(a) & Part 27.50(d)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Conducted Output Power	Part 2.1046(a) & Part 27.50(d)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Peak-to-average ratio	Part 27.50(d)(5)	KDB 971168 D01v02r02	PASS
99%&26dB Occupied Bandwidth	Part 2.1049(h)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 27.53(h)(1)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051 & Part 27.53(h)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053 & Part 27.53(h)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055 & Part 27.54	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Applied Standard: FCC Part 27 & Part 2 (LTE 7)			
Test Item	**Test Requirement**	**Test method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	Part 2.1046(a) & Part 27.50(h)(2)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Conducted Output Power	Part 2.1046(a) & Part 27.50(h)(2)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Peak-to-average ratio	N/A	KDB 971168 D01v02r02	PASS
99%&26dB Occupied Bandwidth	Part 2.1049(h)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 27.53(m)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051 & Part 27.53(m)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053 & Part 27.53(m)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055 & Part 27.54	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Applied Standard: FCC Part 27 & Part 2 (LTE 41)			
Test Item	**Test Requirement**	**Test method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	Part 2.1046(a) & Part 27.50(h)(2)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Conducted Output Power	Part 2.1046(a) & Part 27.50(h)(2)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Peak-to-average ratio	N/A	KDB 971168 D01v02r02	PASS

99%&26dB Occupied Bandwidth	Part 2.1049(h)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Band Edge at antenna terminals	Part 27.53(m)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Spurious emissions at antenna terminals	Part 2.1051 & Part 27.53(m)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053 & Part 27.53(m)(4)	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS
Frequency stability	Part 2.1055 & Part 27.54	ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02	PASS

Remark:
Tx: In this whole report Tx (or tx) means Transmitter.
Rx: In this whole report Rx (or rx) means Receiver.
RF: In this whole report RF means Radiated Frequency.
CH: In this whole report CH means channel.
N/A: In this whole report not application.

2 Equipment List

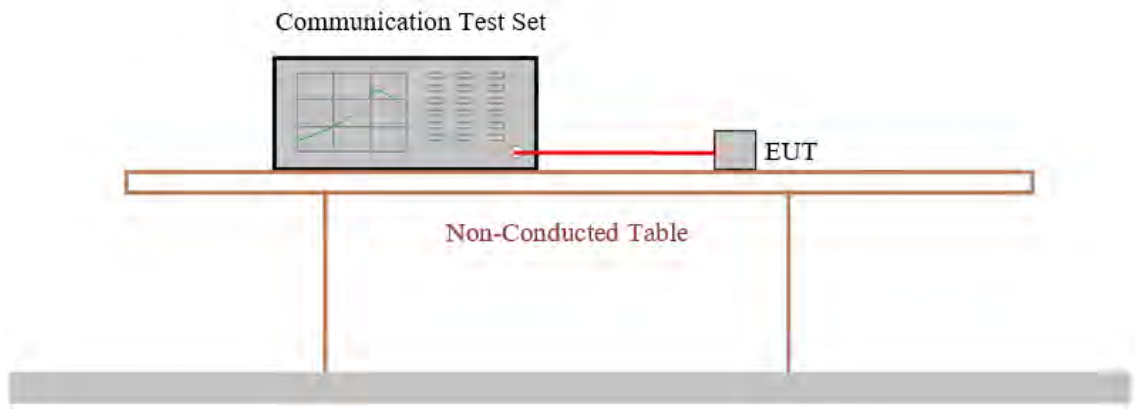
3 3m (Semi-Anechoic Chamber)					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal date**	**Cal. Due date**
Ultra-Broadband Antenna	SCHWARZBECK	VULB9163	538	11/8/2015	11/7/2017
Double-Ridged-Waveguide Horn Antenna	SCHWARZBECK	9120D	1011	11/8/2015	11/7/2017
Emi Test Receiver	R&S	ESCI	101247	11/1/2015	10/31/2016
Spectrum Analyzer	R&S	FSP40	100597	11/1/2015	10/31/2016
Pre-amplifer	SCHWARZBECK	BBV 9743	9743-0022	11/1/2015	10/31/2016
Broadband Preamplifer	SCHWARZBECK	BBV 9718	9718-248	11/1/2015	10/31/2016
Turntable	Maturo Germany	TT2.0-1T	N/A	N/A	N/A
Antenna Mast	Maturo Germany	CAM-4.0-P-12	N/A	N/A	N/A
Test Software	R&S	ES-K1	N/A	N/A	N/A
Communication test set	R&S	CMW500	130805	10/8/2016	9/8/2017

Communication RF test					
Equipment	**Manufacturer**	**Mode No.**	**Serial Number**	**Cal date**	**Cal. Due date**
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	27/1/2016	26/1/2017
Receiver/ Spectrum Analyzer	R&S	ESR7	1316.3003K07-101181-K3	23/22016	22/22017
Communication test set	R&S	CMU200	114713	7/12/2015	6/12/2016
Communication test set	R&S	CMW500	130805	10/8/2016	9/8/2017

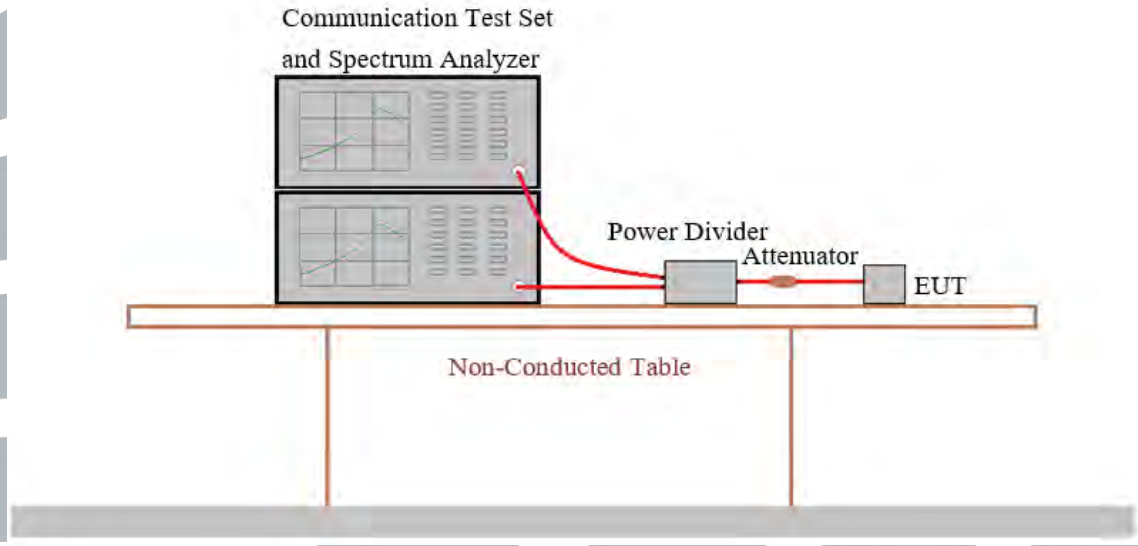
4 Test Requirement

4.1 Test setup

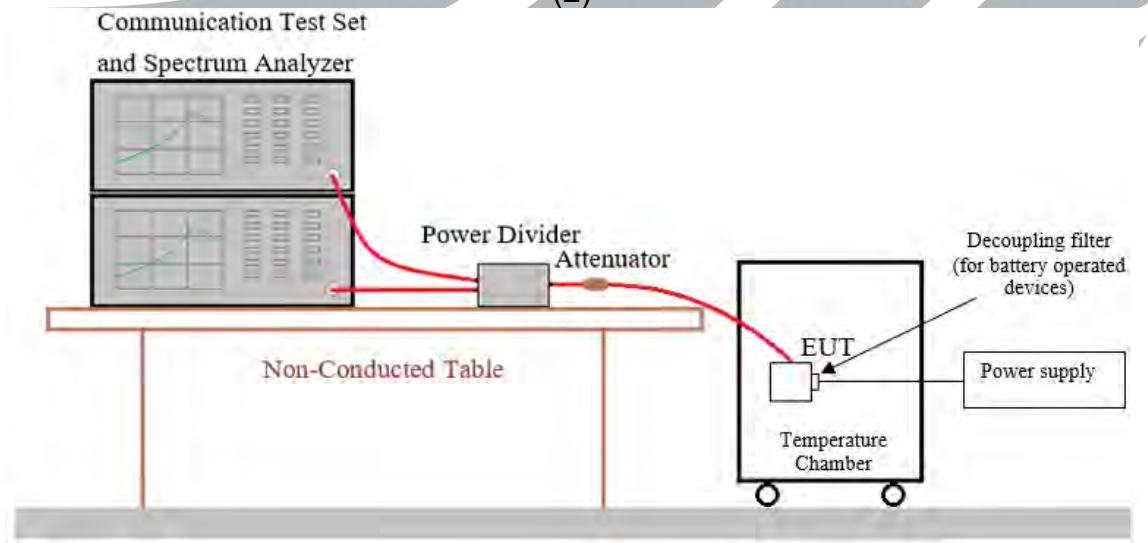
4.1.1 For Conducted test setup



(1)



(2)



(3)

4.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

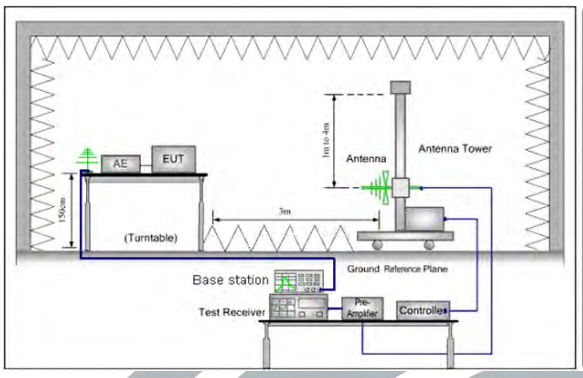


Figure 1.30MHz to 1GHz

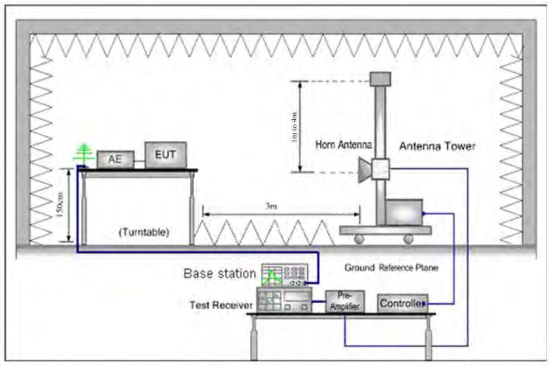


Figure 2. Above 1GHz

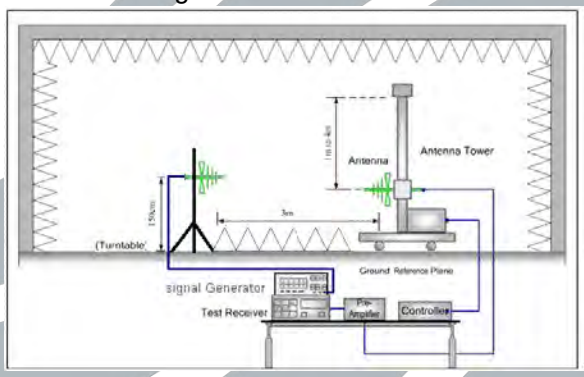


Figure 1. 30MHz to 1GHz

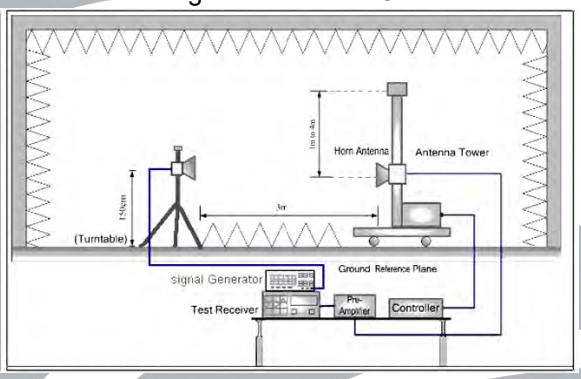


Figure 2. Above 1GHz

4.2 Test Environment

Operating Environment:	
Temperature:	25.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	99.87kpa

4.3 System Test Configuration

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. It was powered by a 3.85Vdc rechargeable Li-on battery. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.

The worst case was found when positioned as the table below.

Band	**Worst-case Orientation**	
	EIRP	**Radiated Emission**
LTE Band 2	Y axis	Y axis

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1

MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4.4 Test Condition

4.4.1 Test channel

Test Mode	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink (MHz)	Number [DL]	Frequency of Downlink (MHz)
LTE band 4 TX:1710-1755MHz RX:2110–255MHz	Low Range	1.4	19957	1710.7	1957	2110.7
		3	19965	1711.5	1965	2111.5
		5	19975	1712.5	1975	2112.5
		10	20000	1715	2000	2115
		15	20025	1717.5	2025	2117.5
		20	20050	1720	2050	2120
	Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
	High Range	1.4	20393	1754.3	2393	2154.3
		3	20385	1753.5	2385	2153.5
		5	20375	1752.5	2375	2152.5
		10	20350	1750	2350	2150
		15	20325	1747.5	2325	2147.5
		20	20300	1745	2300	2145
LTE band 7 TX:2500-2570MHz RX:2620-2690MHz	Low Range	5	20775	2502.5	2775	2622.5
		10	20800	2505	2800	2625
		15	20825	2507.5	2825	2627.5
		20	20850	2510	2850	2630
	Mid Range	5/10/15/20	21100	2535	3100	2655
	High Range	5	21425	2567.5	3425	2652.5
		10	21400	2565	3400	2685
		15	21375	2562.5	3375	2647.5
		20	21350	2560	3350	2645
LTE band 41 TX:2555-2655MHz RX: 2555-2655MHz	Low Range	5	40265	2557.5	40265	2557.5
		10	40290	2560	40290	2560
		15	40315	2562.5	40315	2562.5
		20	40340	2565	40340	2565
	Mid Range	5/10/15/20	40740	2605	40740	2605
	High Range	5	41215	2652.5	41215	2652.5
		10	41190	2685	41190	2685
		15	41165	2647.5	41165	2647.5
		20	41140	2645	41140	2645

4.4.2 Test mode

Pre-scan under all rate at lowest middle and highest channel, find the transmitter power as below:

SIM 1 Card Conducted transmitter power measurement result.

LTE Band 4									
Channel	RB Configuration		Average Power [dBm]		Channel	RB Configuration		Average Power [dBm]	
	Size	Offset	QPSK	16QAM		Size	Offset	QPSK	16QAM
Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
LCH	1	0	22.25	20.89	LCH	1	0	22.26	20.90
	1	2	22.30	21.09		1	7	22.31	21.10
	1	5	22.13	20.72		1	14	22.14	20.73
	3	0	22.23	20.88		8	0	21.24	20.11
	3	1	22.28	21.08		8	4	21.10	20.21
	3	3	22.11	20.71		8	7	21.29	20.19
	6	0	21.20	20.32		15	0	21.21	20.33
MCH	1	0	22.27	20.94	MCH	1	0	22.28	20.95
	1	2	22.31	21.05		1	7	22.32	21.06
	1	5	22.10	20.82		1	14	22.11	20.83
	3	0	22.25	20.93		8	0	21.18	20.27
	3	1	22.29	21.04		8	4	21.19	20.30
	3	3	22.08	20.81		8	7	21.30	20.28
	6	0	21.21	20.13		15	0	21.22	20.14
HCH	1	0	22.13	20.97	HCH	1	0	22.14	20.98
	1	2	**22.39**	**21.11**		1	7	**22.40**	**21.12**
	1	5	22.22	20.95		1	14	22.23	20.96
	3	0	22.11	20.96		8	0	21.39	20.39
	3	1	22.37	21.10		8	4	21.38	20.48
	3	3	22.20	20.94		8	7	21.45	20.44
	6	0	21.34	20.34		15	0	21.35	20.35
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
LCH	1	0	22.29	20.93	LCH	1	0	22.33	20.97
	1	12	22.34	21.13		1	24	22.38	21.17
	1	24	22.17	20.76		1	49	22.21	20.80
	12	0	21.27	20.14		25	0	21.31	20.18
	12	6	21.13	20.24		25	12	21.17	20.28
	12	13	21.32	20.22		25	25	21.36	20.26
	25	0	21.24	20.36		50	0	21.28	20.40
MCH	1	0	22.31	20.98	MCH	1	0	22.35	21.02
	1	12	22.35	21.09		1	24	22.39	21.13
	1	24	22.14	20.86		1	49	22.18	20.90
	12	0	21.21	20.30		25	0	21.25	20.34
	12	6	21.22	20.33		25	12	21.26	20.37
	12	13	21.33	20.31		25	25	21.37	20.35
	25	0	21.25	20.17		50	0	21.29	20.21
HCH	1	0	22.17	21.01	HCH	1	0	22.21	21.05
	1	12	**22.43**	**21.15**		1	24	**22.47**	**21.19**
	1	24	22.26	20.99		1	49	22.30	21.03
	12	0	21.42	20.42		25	0	21.46	20.46

	12	6	21.41	20.51		25	12	21.45	20.55
	12	13	21.48	20.47		25	25	21.52	20.51
	25	0	21.38	20.38		50	0	21.42	20.42
Channel Bandwidth: 15 MHz					**Channel Bandwidth: 20 MHz**				
LCH	1	0	22.39	21.03	LCH	1	0	22.42	21.06
	1	37	22.44	21.23		1	50	22.47	21.26
	1	74	22.27	20.86		1	99	22.30	20.89
	37	0	21.37	20.24		50	0	21.40	20.27
	37	18	21.23	20.34		50	25	21.26	20.37
	37	38	21.42	20.32		50	50	21.45	20.35
	75	0	21.34	20.46		100	0	21.37	20.49
MCH	1	0	22.41	21.08	MCH	1	0	22.44	21.11
	1	37	22.45	21.19		1	50	22.48	21.22
	1	74	22.24	20.96		1	99	22.27	20.99
	37	0	21.31	20.40		50	0	21.34	20.43
	37	18	21.32	20.43		50	25	21.35	20.46
	37	38	21.43	20.41		50	50	21.46	20.44
	75	0	21.35	20.27		100	0	21.38	20.30
HCH	1	0	22.27	21.11	HCH	1	0	22.30	21.14
	1	37	**22.53**	**21.25**		1	50	**22.56**	**21.28**
	1	74	22.36	21.09		1	99	22.39	21.12
	37	0	21.52	20.52		50	0	21.55	20.55
	37	18	21.51	20.61		50	25	21.54	20.64
	37	38	21.58	20.57		50	50	21.61	20.60
	75	0	21.48	20.48		100	0	21.51	20.51

LTE Band 7									
Channel	**RB Configuration**		**Average Power [dBm]**		Channel	**RB Configuration**		**Average Power [dBm]**	
	Size	**Offset**	**QPSK**	**16QAM**		**Size**	**Offset**	**QPSK**	**16QAM**
Channel Bandwidth: 5 MHz					**Channel Bandwidth: 10 MHz**				
LCH	1	0	**22.76**	21.38	LCH	1	0	**22.80**	21.42
	1	12	22.75	21.27		1	24	22.79	21.31
	1	24	22.67	21.40		1	49	22.71	21.44
	12	0	21.68	20.69		25	0	21.72	20.73
	12	6	21.76	20.76		25	12	21.80	20.80
	12	13	21.74	20.75		25	25	21.78	20.79
	25	0	21.67	20.75		50	0	21.71	20.79
MCH	1	0	22.55	21.33	MCH	1	0	22.59	21.37
	1	12	22.54	**21.47**		1	24	22.58	**21.51**
	1	24	22.38	21.05		1	49	22.42	21.09
	12	0	21.73	20.73		25	0	21.77	20.77
	12	6	21.78	20.77		25	12	21.82	20.81
	12	13	21.61	20.57		25	25	21.65	20.61
	25	0	21.74	20.76		50	0	21.78	20.80
HCH	1	0	22.49	20.99	HCH	1	0	22.53	21.03
	1	12	22.40	21.28		1	24	22.44	21.32
	1	24	22.32	21.18		1	49	22.36	21.22

	12	0	21.34	20.31		25	0	21.38	20.35
	12	6	21.56	20.55		25	12	21.60	20.59
	12	13	21.55	20.57		25	25	21.59	20.61
	25	0	21.37	20.41		50	0	21.41	20.45
Channel Bandwidth: 15 MHz					**Channel Bandwidth: 20 MHz**				
LCH	1	0	**22.86**	21.48	LCH	1	0	**22.89**	21.51
	1	37	22.85	21.37		1	49	22.88	21.40
	1	74	22.77	21.50		1	99	22.80	21.53
	37	0	21.78	20.79		50	0	21.81	20.82
	37	18	21.86	20.86		50	25	21.89	20.89
	37	38	21.84	20.85		50	50	21.87	20.88
	75	0	21.77	20.85		100	0	21.80	20.88
MCH	1	0	22.65	21.43	MCH	1	0	22.68	21.46
	1	37	22.64	**21.57**		1	49	22.67	**21.60**
	1	74	22.48	21.15		1	99	22.51	21.18
	37	0	21.83	20.83		50	0	21.86	20.86
	37	18	21.88	20.87		50	25	21.91	20.90
	37	38	21.71	20.67		50	50	21.74	20.70
	75	0	21.84	20.86		100	0	21.87	20.89
HCH	1	0	22.59	21.09	HCH	1	0	22.62	21.12
	1	37	22.50	21.38		1	49	22.53	21.41
	1	74	22.42	21.28		1	99	22.45	21.31
	37	0	21.44	20.41		50	0	21.47	20.44
	37	18	21.66	20.65		50	25	21.69	20.68
	37	38	21.65	20.67		50	50	21.68	20.70
	75	0	21.47	20.51		100	0	21.50	20.54

LTE Band 41									
Channel	**RB Configuration**		**Average Power [dBm]**		Channel	**RB Configuration**		**Average Power [dBm]**	
	Size	**Offset**	**QPSK**	**16QAM**		**Size**	**Offset**	**QPSK**	**16QAM**
Channel Bandwidth: 5 MHz					**Channel Bandwidth: 10 MHz**				
LCH	1	0	22.28	20.99	LCH	1	0	22.31	21.02
	1	12	22.77	21.13		1	24	22.80	21.16
	1	24	22.34	20.94		1	49	22.37	20.97
	12	0	21.56	20.36		25	0	21.59	20.39
	12	6	21.49	20.47		25	12	21.52	20.50
	12	13	21.48	20.45		25	25	21.51	20.48
	25	0	21.41	20.49		50	0	21.44	20.52
MCH	1	0	22.43	20.70	MCH	1	0	22.46	21.02
	1	12	22.71	21.18		1	24	22.74	21.16
	1	24	22.54	21.05		1	49	22.57	20.97
	12	0	21.55	20.30		25	0	21.58	20.39
	12	6	21.47	20.35		25	12	21.50	20.50
	12	13	21.54	20.41		25	25	21.57	20.48
	25	0	21.57	20.40		50	0	21.60	20.52
HCH	1	0	22.47	21.17	HCH	1	0	22.50	21.20
	1	12	**22.88**	21.27		1	24	**22.91**	21.30

	1	24	22.78	**21.28**		1	49	22.81	**21.31**
	12	0	21.64	20.53		25	0	21.67	20.56
	12	6	21.58	20.38		25	12	21.61	20.41
	12	13	21.62	20.51		25	25	21.65	20.54
	25	0	21.62	20.55		50	0	21.65	20.58
Channel Bandwidth: 15 MHz					**Channel Bandwidth: 20 MHz**				
LCH	1	0	22.35	21.06	LCH	1	0	22.41	21.12
	1	37	22.84	21.20		1	50	22.90	21.26
	1	74	22.41	21.01		1	99	22.47	21.07
	37	0	21.63	20.43		50	0	21.69	20.49
	37	18	21.56	20.54		50	25	21.62	20.60
	37	38	21.55	20.52		50	50	21.61	20.58
	75	0	21.48	20.56		100	0	21.54	20.62
MCH	1	0	22.50	20.77	MCH	1	0	22.56	20.83
	1	37	22.78	21.25		1	50	22.84	21.31
	1	74	22.61	21.12		1	99	22.67	21.18
	37	0	21.62	20.37		50	0	21.68	20.43
	37	18	21.54	20.42		50	25	21.60	20.48
	37	38	21.61	20.48		50	50	21.67	20.54
	75	0	21.64	20.47		100	0	21.70	20.53
HCH	1	0	22.54	21.24	HCH	1	0	22.60	21.30
	1	37	**22.95**	21.34		1	50	**23.01**	21.40
	1	74	22.85	**21.35**		1	99	22.91	**21.41**
	37	0	21.71	20.60		50	0	21.77	20.66
	37	18	21.65	20.45		50	25	21.71	20.51
	37	38	21.69	20.58		50	50	21.75	20.64
	75	0	21.69	20.62		100	0	21.75	20.68

Pre-scan all mode and data rates and positions, find worse case mode are chosen to the report, the worse mode applicability and tested channel detail as below:

Item	band	Bandwidth(MHz)						modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
EIRP	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
Conducted output power	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
99%&26dB Occupied Bandwidth	4	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
peak-to-average ratio	4	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐	☒	☒	☒	☒
	7	-	-	☐	☐	☐	☒	☒	☒	☒	☐	☒	☒	☒	☒
	41	-	-	☐	☐	☐	☒	☒	☒	☒	☐	☒	☒	☒	☒
Band Edge at antenna terminals	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
Spurious emissions at antenna terminals	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒

Field strength of spurious radiation	4	☐	☐	☒	☒	☒	☒	☒	☐	☒	☐	☐	☐	☒	☐
	7	-	-	☒	☒	☒	☒	☒	☐	☒	☐	☐	☐	☒	☐
	41	-	-	☒	☒	☒	☒	☒	☐	☒	☐	☐	☐	☒	☐
Frequency stability	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☒	☐	☒	☐
	7	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☒	☐	☒	☐
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☒	☐	☒	☐
Remark: The mark "☒" means is chosen for testing The mark "☐" means is not chosen for testing The mark "-" means is not supported bandwidth															

5 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	47 CFR Part 27	Subpart C—Technical Standards
		Subpart M—Broadband Radio Service and Educational Broadband Service
2	47 CFR Part 2 Subpart J	Frequency allocations and radio treaty matters; general rules and regulations
3	ANSI/TIA/EIA-603-D 2010	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
4	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v02r02

5.1 Equivalent Isotropic Radiated Power

Test Requirement: Part 2.1046(a) & Part 27.50(d)(4)/(h)(2)

Test Method: KDB 971168 D01v02r02 & ANSI/TIA/EIA-603-D 2010

Limit: **Part 27.50(d)(4):** Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

Part 27.50(h)(2): Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure: Test procedure as below:

1) The EUT was powered ON and placed on a 1.5m high table at a 3 meter fully Anechoic Chamber. The antenna of the transmitter was extended to its maximum length. Modulation mode and the measuring receiver shall be tuned to the frequency of the transmitter under test.
2) The EUT was set 3 meters(above 18GHz the distance is 1 meter) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
4) Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
5) The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter.
6) A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions.
7) The output power into the substitution antenna was then measured.
8) Steps 6) and 7) were repeated with both antennas polarized.
9) Calculate power in dBm by the following formula:

   ERP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBd)
   EIRP(dBm) = Pg(dBm) – cable loss (dB) + antenna gain (dBi)
   EIRP=ERP+2.15dB

   where:
   Pg is the generator output power into the substitution antenna.
10) Test the EUT in the lowest channel, the middle channel the Highest channel
11) The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode, and found the Ypositioning which it is worse case.

Receiver Setup:

12) Repeat above procedures until all frequencies measured was complete.

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Peak	100kHz	300kHz	Peak
Above 1GHz	Peak	1MHz	3MHz	Peak

Test Setup: Refer to section 4.1.2 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data:

Channel	Frequency (MHz)	EIRP (dBm)		Limit (dBm)	Result	Antenna Polaxis.
		QPSK; RB:1	16QAM; RB:1			
LTE Band 4; Bandwidth 1.4MHz						
19957	1710.7	20.74	19.59	30.00	Pass	H
		19.71	18.04	30.00	Pass	V
20175	1732.5	21.16	19.30	30.00	Pass	H
		19.24	18.15	30.00	Pass	V
20393	1754.3	20.60	20.00	30.00	Pass	H
		19.39	18.62	30.00	Pass	V
LTE Band 4; Bandwidth 3MHz						
19965	1711.5	20.54	19.93	30.00	Pass	H
		19.89	18.15	30.00	Pass	V
20175	1732.5	20.44	19.05	30.00	Pass	H
		19.90	18.56	30.00	Pass	V
20385	1753.5	20.40	20.01	30.00	Pass	H
		19.57	18.10	30.00	Pass	V
LTE Band 4; Bandwidth 5MHz						
19975	1712.5	20.52	19.14	30.00	Pass	H
		19.97	18.96	30.00	Pass	V
20175	1732.5	21.15	19.12	30.00	Pass	H
		19.42	18.55	30.00	Pass	V
20375	1752.5	21.23	19.75	30.00	Pass	H
		19.87	18.67	30.00	Pass	V
LTE Band 4; Bandwidth 10MHz						
20000	1715	20.69	19.76	30.00	Pass	H
		19.31	18.23	30.00	Pass	V
20175	1732.5	20.54	19.78	30.00	Pass	H
		19.94	18.38	30.00	Pass	V
20350	1750	20.89	19.42	30.00	Pass	H
		20.24	18.37	30.00	Pass	V

LTE Band 4; Bandwidth 15MHz						
20025	1717.5	21.08	19.86	30.00	Pass	H
		19.84	18.91	30.00	Pass	V
20175	1732.5	20.69	19.79	30.00	Pass	H
		20.29	18.59	30.00	Pass	V
20325	1747.5	20.83	19.85	30.00	Pass	H
		19.72	18.91	30.00	Pass	V
LTE Band 4; Bandwidth 20MHz						
20050	1720	20.45	19.25	30.00	Pass	H
		20.19	18.58	30.00	Pass	V
20175	1732.5	21.29	19.49	30.00	Pass	H
		19.99	18.28	30.00	Pass	V
20300	1745	20.74	19.28	30.00	Pass	H
		20.39	18.68	30.00	Pass	V
LTE Band 7; Bandwidth 5MHz						
20775	2502.5	20.70	20.00	33.01	Pass	H
		19.87	18.72	33.01	Pass	V
21100	2535	20.52	19.83	33.01	Pass	H
		19.64	18.67	33.01	Pass	V
21425	2567.5	21.02	19.95	33.01	Pass	H
		19.54	18.62	33.01	Pass	V
LTE Band 7; Bandwidth 10MHz						
20800	2505	20.76	19.81	33.01	Pass	H
		19.78	18.86	33.01	Pass	V
21100	2535	20.95	19.55	33.01	Pass	H
		19.96	18.72	33.01	Pass	V
21400	2565	21.21	19.29	33.01	Pass	H
		20.41	18.41	33.01	Pass	V
LTE Band 7; Bandwidth 15MHz						
20825	2507.5	21.36	20.07	33.01	Pass	H
		19.80	19.10	33.01	Pass	V
21100	2535	20.63	20.32	33.01	Pass	H
		19.55	18.68	33.01	Pass	V
21375	2562.5	21.14	20.17	33.01	Pass	H
		19.68	19.03	33.01	Pass	V
LTE Band 7; Bandwidth 20MHz						
20850	2510	21.11	19.70	33.01	Pass	H
		20.41	19.11	33.01	Pass	V
21100	2535	21.33	19.74	33.01	Pass	H
		20.44	19.46	33.01	Pass	V
21350	2560	20.82	20.24	33.01	Pass	H
		20.45	19.19	33.01	Pass	V

LTE Band 41; Bandwidth 5MHz						
40265	2557.5	20.85	19.97	33.01	Pass	H
		20.15	18.96	33.01	Pass	V
40740	2605	20.70	19.32	33.01	Pass	H
		20.59	18.34	33.01	Pass	V
41215	2652.5	21.43	19.27	33.01	Pass	H
		20.76	18.27	33.01	Pass	V
LTE Band 41; Bandwidth 10MHz						
40290	2560	21.44	19.71	33.01	Pass	H
		19.82	18.78	33.01	Pass	V
40740	2605	21.57	19.16	33.01	Pass	H
		20.40	18.11	33.01	Pass	V
41190	2685	20.93	19.87	33.01	Pass	H
		20.70	18.26	33.01	Pass	V
LTE Band 41; Bandwidth 15MHz						
40315	2562.5	21.18	19.25	33.01	Pass	H
		20.30	18.86	33.01	Pass	V
40740	2605	21.33	19.21	33.01	Pass	H
		20.43	18.49	33.01	Pass	V
41165	2647.5	21.44	19.51	33.01	Pass	H
		20.50	18.29	33.01	Pass	V
LTE Band 41; Bandwidth 20MHz						
40340	2565	20.83	19.81	33.01	Pass	H
		19.95	18.67	33.01	Pass	V
40740	2605	21.08	20.07	33.01	Pass	H
		19.91	18.61	33.01	Pass	V
41140	2645	21.08	20.01	33.01	Pass	H
		20.03	19.10	33.01	Pass	V

5.2 Conducted Output Power

Test Requirement: Part 2.1046(a) & Part 27.50(d)(4)/(h)(2)

Test Method: KDB 971168 D01v02r02 & ANSI/TIA/EIA-603-D 2010

Limit: **Part 27.50(d)(4):** Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

Part 27.50(h)(2): Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test Procedure: The EUT was set up for the maximum power with WCDMA, CDMA, and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.1.1(1) for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data: The full result can be also refer to section 4.4.2 for details.

Channel	RB Configuration		Average Power [dBm]		Channel	RB Configuration		Average Power [dBm]	
	Size	Offset	QPSK	16QAM		Size	Offset	QPSK	16QAM
LTE Band 4									
Channel Bandwidth: 1.4 MHz					**Channel Bandwidth: 3 MHz**				
LCH	1	2	22.30	21.09	LCH	1	7	22.31	21.10
MCH	1	2	22.31	21.05	MCH	1	7	22.32	21.06
HCH	1	2	22.39	21.11	HCH	1	7	22.40	21.12
Channel Bandwidth: 5 MHz					**Channel Bandwidth: 10 MHz**				
LCH	1	12	22.34	21.13	LCH	1	24	22.38	21.17
MCH	1	12	22.35	21.09	MCH	1	24	22.39	21.13
HCH	1	12	22.43	21.15	HCH	1	24	22.47	21.19
Channel Bandwidth: 15 MHz					**Channel Bandwidth: 20 MHz**				
LCH	1	37	22.44	21.23	LCH	1	50	22.47	21.26
MCH	1	37	22.45	21.19	MCH	1	50	22.48	21.22
HCH	1	37	22.53	21.25	HCH	1	50	22.56	21.28
LTE Band 7									
Channel Bandwidth: 5 MHz					**Channel Bandwidth: 10 MHz**				
LCH	1	0/24	22.76	21.40	LCH	1	0/49	22.80	21.44
MCH	1	0/12	22.55	21.47	MCH	1	0/24	22.59	21.51
HCH	1	0/12	22.49	21.28	HCH	1	0/24	22.53	21.32
Channel Bandwidth: 15 MHz					**Channel Bandwidth: 20 MHz**				
LCH	1	0/74	22.86	21.50	LCH	1	0/99	22.89	21.53
MCH	1	0/37	22.65	21.57	MCH	1	0/49	22.68	21.60
HCH	1	0/37	22.59	21.38	HCH	1	0/49	22.62	21.41

LTE Band 41									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
LCH	1	12	22.77	21.13	LCH	1	24	22.80	21.16
MCH	1	12	22.71	21.18	MCH	1	24	22.74	21.16
HCH	1	12/24	22.88	21.28	HCH	1	24/49	22.91	21.31
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
LCH	1	37	22.84	21.20	LCH	1	50	22.90	21.26
MCH	1	37	22.78	21.25	MCH	1	50	22.84	21.31
HCH	1	37/74	22.95	21.35	HCH	1	50/99	23.01	21.41

5.3 Peak-to-average ratio

Test Requirement: Part 27.50(d)(5)

Test Method: KDB 971168 D01v02r02

Limit: In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

Test Procedure: The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

a) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth
b) Set the number of counts to a value that stabilizes the measured CCDF curve
c) Record the maximum PAPR level associated with a probability of 0.1 %

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.1.1(1) for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data: The full result can be also refer to section 4.4.2 for details.

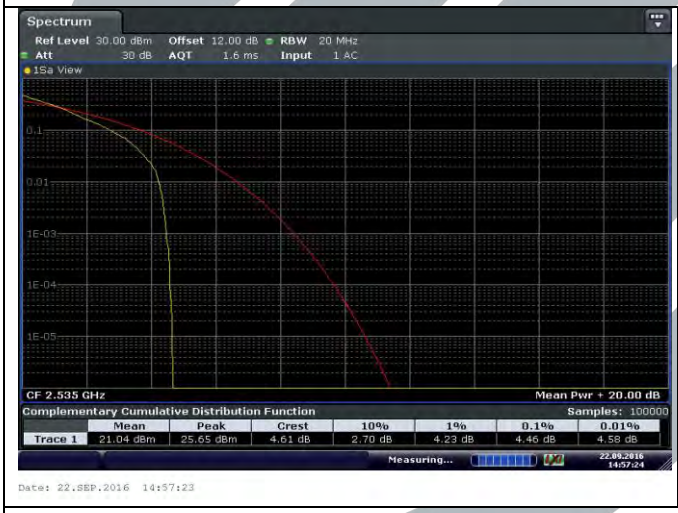
Peak-to-average ratio (dB)

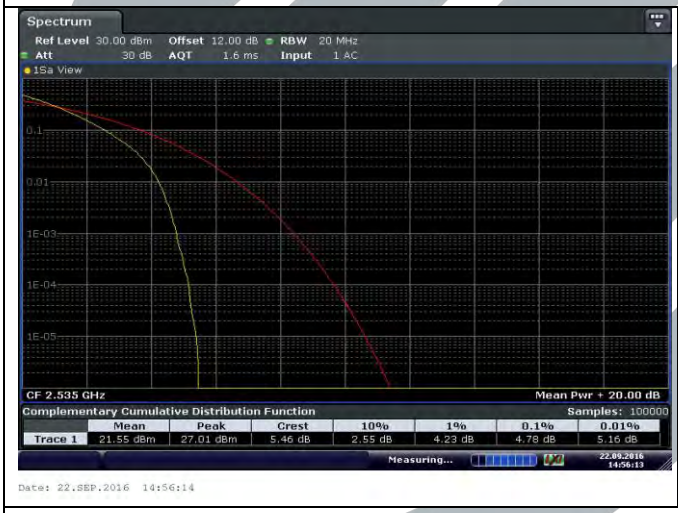
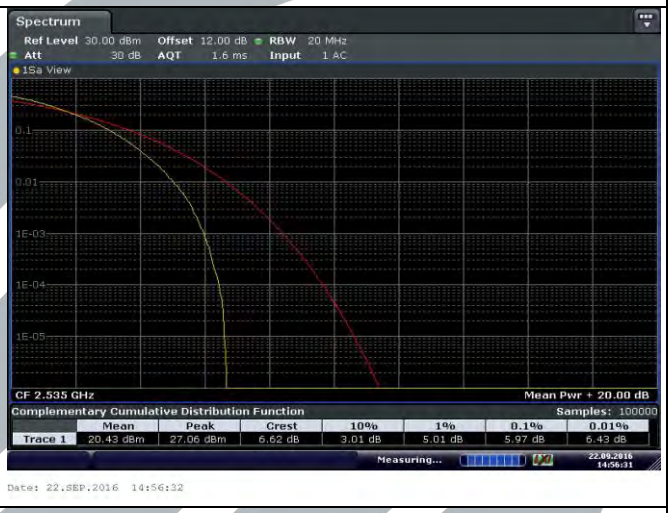
Channel	RB Configuration		Modulation	
	Size	Offset	QPSK	16QAM
LTE Band 4_ Channel Bandwidth: 20 MHz				
LCH	1	0	4.20	5.04
	100	0	4.72	5.86
MCH	1	0	4.84	5.91
	100	0	4.90	5.91
HCH	1	0	4.58	5.10
	100	0	4.70	5.65
LTE Band 7_ Channel Bandwidth: 20 MHz				
LCH	1	0	3.94	4.84
	100	0	5.01	6.03
MCH	1	0	4.46	5.10
	100	0	4.78	5.97
HCH	1	0	4.61	5.01
	100	0	4.87	5.97
LTE Band 41_ Channel Bandwidth: 20 MHz				
LCH	1	0	4.29	5.28
	100	0	4.70	5.54
MCH	1	0	4.72	5.22
	100	0	4.61	5.57
HCH	1	0	5.13	5.62
	100	0	4.55	5.48

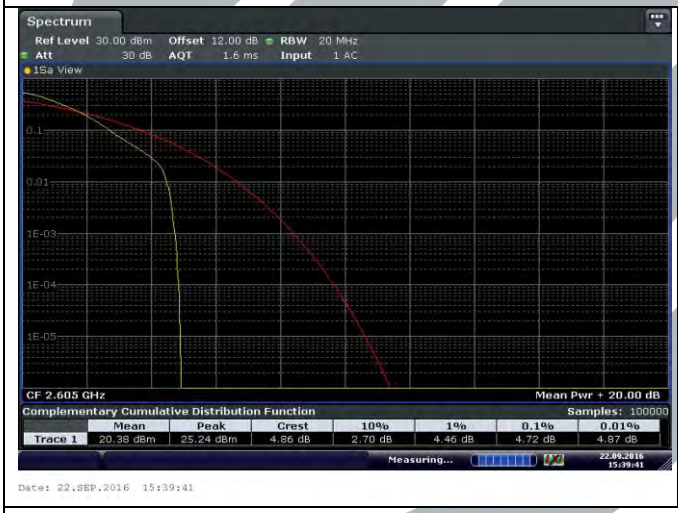
The worst test plot as follows:

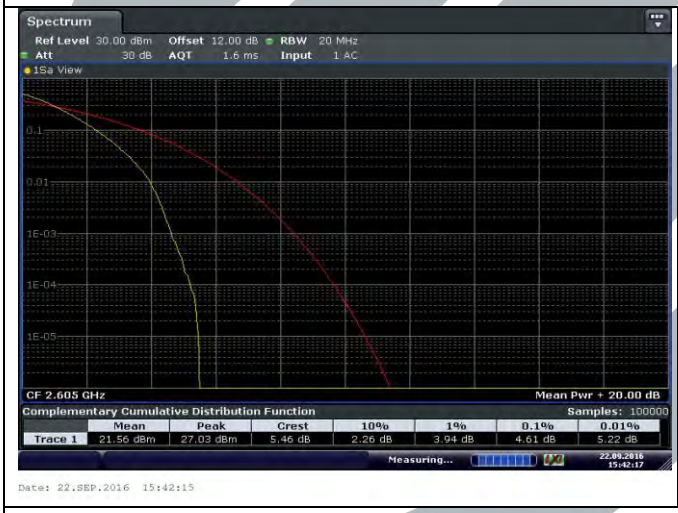
LTE Band 4_RB:1	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4_RB:100	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

LTE Band 7_RB:1	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

LTE Band 7_RB:100	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

LTE Band 41_RB:1	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

LTE Band 41_RB:100	
QPSK	**16QAM**
LCH	
	
MCH	
	
HCH	
	

5.4 99%&26dB Occupied Bandwidth

Test Requirement: Part 2.1049(h)

Test Method: ANSI/TIA/EIA-603-D 2010 & KDB 971168 D01v02r02

Test Procedure: The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.1.1(2) for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data:

For LTE Band 4						
Channel	RB Configuration		26 dB BW (MHz)		99% BW (MHz)	
	Size	Offset	QPSK	16QAM	QPSK	16QAM
Channel Bandwidth: 1.4 MHz						
LCH	6	0	1.2845	1.2926	1.0981	1.0981
MCH	6	0	1.2926	1.2926	1.0981	1.0981
HCH	6	0	1.2926	1.3129	1.0981	1.1022
Channel Bandwidth: 3 MHz						
LCH	15	0	3.0478	3.0651	2.7265	2.7178
MCH	15	0	3.0478	3.0564	2.7265	2.7265
HCH	15	0	3.0564	3.0651	2.7352	2.7265
Channel Bandwidth: 5 MHz						
LCH	25	0	5.036	5.065	4.5007	4.5007
MCH	25	0	5.051	5.051	4.5007	4.5007
HCH	25	0	5.094	5.036	4.5152	4.5152
Channel Bandwidth: 10 MHz						
LCH	50	0	9.957	9.986	9.0304	8.9725
MCH	50	0	10.043	9.957	9.0304	8.9725
HCH	50	0	10.101	9.986	9.0593	9.0014
Channel Bandwidth: 15 MHz						
LCH	75	0	14.718	14.544	13.4153	13.3719
MCH	75	0	14.718	14.848	13.4588	13.4153
HCH	75	0	14.718	14.674	13.4588	13.4588
Channel Bandwidth: 20 MHz						
LCH	100	0	20.260	20.260	18.2344	18.2344
MCH	100	0	20.260	20.434	18.2923	18.2923
HCH	100	0	20.260	20.608	18.3502	18.3502

For LTE Band 7						
Channel	RB Configuration		26 dB BW (MHz)		99% BW (MHz)	
	Size	Offset	QPSK	16QAM	QPSK	16QAM
Channel Bandwidth: 5 MHz						
LCH	25	0	5.051	5.051	4.5007	4.4863
MCH	25	0	5.065	5.065	4.5007	4.4863
HCH	25	0	5.051	5.065	4.4863	4.4863
Channel Bandwidth: 10 MHz						
LCH	50	0	9.986	9.928	9.0593	8.9436
MCH	50	0	9.986	9.957	9.0304	8.9725
HCH	50	0	9.986	9.986	9.0593	9.0014
Channel Bandwidth: 15 MHz						
LCH	75	0	14.674	14.805	13.4588	13.4153
MCH	75	0	14.718	14.805	13.4153	13.4153
HCH	75	0	14.805	14.805	13.4153	13.4588
Channel Bandwidth: 20 MHz						
LCH	100	0	20.434	20.376	18.4081	18.4081
MCH	100	0	20.434	20.434	18.1766	18.2344
HCH	100	0	20.550	20.434	18.3502	18.3502

For LTE Band 41						
Channel	RB Configuration		26 dB BW (MHz)		99% BW (MHz)	
	Size	Offset	QPSK	16QAM	QPSK	16QAM
Channel Bandwidth: 5 MHz						
LCH	25	0	5.528	5.485	4.5152	4.5152
MCH	25	0	5.514	5.543	4.5152	4.5007
HCH	25	0	5.528	5.427	4.5152	4.5007
Channel Bandwidth: 10 MHz						
LCH	50	0	10.159	9.986	9.0304	9.0014
MCH	50	0	9.870	10.014	9.0593	8.9725
HCH	50	0	9.928	9.928	9.0014	9.0304
Channel Bandwidth: 15 MHz						
LCH	75	0	14.761	15.195	13.5022	13.4588
MCH	75	0	14.588	15.022	13.5022	13.4588
HCH	75	0	15.152	15.152	13.4588	13.4588
Channel Bandwidth: 20 MHz						
LCH	100	0	22.576	20.260	18.2344	18.2923
MCH	100	0	20.376	22.229	18.4081	18.4081
HCH	100	0	22.576	20.318	18.4660	18.2923

The test plot as follows:

LTE Band 4 _Channel Bandwidth: 1.4 MHz_ QPSK _6RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _Channel Bandwidth: 1.4 MHz_ 16QAM _6RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _ Channel Bandwidth: 3 MHz_ QPSK _15RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _ Channel Bandwidth: 3 MHz_ 16QAM _15RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _ Channel Bandwidth: 5 MHz_QPSK_25RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _ Channel Bandwidth: 5 MHz_16QAM_25RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH	
	

LTE Band 4 _ Channel Bandwidth: 10 MHz_QPSK_50RB#0	
26 dB BW	**99% BW**
LCH	
	
MCH	
	
HCH