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RADIO TEST REPORT

Report No:STS1811001W12

Issued for

Shenzhen LEAGOO Intelligence Co., Limited

2nd Floor of Building B, HongLianYing Technology Park,
No.286 of SiLi Road, DaBuXiang Community, Longhua New
District, Shenzhen, China

Product Name:	Smartphone
Brand Name:	LEAGOO
Model Name:	S10
Series Model:	N/A
FCC ID:	2AQMh-LEAGOO-S10
Test Standard:	47 CFR Part 2, 22(H), 24(E), 27



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**TEST RESULT CERTIFICATION**

Applicant's name : Shenzhen LEAGOO Intelligence Co., Limited
Address..... : 2nd Floor of Building B, HongLianYing Technology Park, No.286 of SiLi Road, DaBuXiang Community, Longhua New District, Shenzhen, China
Manufacture's Name..... : Shenzhen LEAGOO Intelligence Co., Limited
Address..... : 2nd Floor of Building B, HongLianYing Technology Park, No.286 of SiLi Road, DaBuXiang Community, Longhua New District, Shenzhen, China

Product description

Product Name..... : Smartphone
Brand Name : LEAGOO
Model Name : S10
Series Model..... : N/A

Test Standards : 47 CFR Part 2, 22(H), 24(E), 27

Test procedure : KDB 971168 D01 v03r01 , ANSI C63.26 2015

This device described above has been tested by STS and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test :

Date of performance of tests..... : 01 Nov. 2018 ~10 Jan. 2019

Date of Issue : 10 Jan. 2019

Test Result : **Pass**

Testing Engineer :

(Chris chen)

Technical Manager :

(Sunday Hu)

Authorized Signatory :

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	10 Jan. 2019	STS1811001W12	ALL	Initial Issue





1. TEST FACTORY & MEASUREMENT UNCERTAINTY

1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

FCC Registration No.: 625569

IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power,conducted	$\pm 0.71\text{dB}$
2	Unwanted Emissions,conducted	$\pm 0.63\text{dB}$
3	All emissions,radiated 30-200MHz	$\pm 3.43\text{dB}$
4	All emissions,radiated 200MHz-1GHz	$\pm 3.57\text{dB}$
5	All emissions,radiated>1G	$\pm 4.13\text{dB}$
6	Conducted Emission(9KHz-150KHz)	$\pm 3.18\text{dB}$
7	Conducted Emission(150KHz-30MHz)	$\pm 2.70\text{dB}$



2. GENERAL INFORMATION

2.1 TECHNICAL SPECIFICATIONS AND REGULATIONS

2.1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Name:	Smartphone
Trade Name	LEAGOO
Model Name	S10
Series Model	N/A
Model Difference	N/A
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2 ☒ LTE FDD Band 4 ☒ LTE FDD Band 5 ☒ LTE FDD Band 7 ☒ LTE FDD Band 12 ☐ LTE FDD Band 13 ☒ LTE FDD Band 17 ☐ LTE TDD Band 25 ☐ LTE FDD Band 26 ☒ LTE TDD Band 41
SIM CARD:	SIM 1 and SIM 2 is a chipset unit and tested as single chipset,SIM 1 is used to tested
Antenna:	PIFA Antenna
Antenna gain:	LTE Band 2: 0.5dBi LTE Band 4: 0.5dBi LTE Band 5: 0.5dBi LTE Band 7: 0.5dBi LTE Band 12: 0.5dBi LTE Band 17:0.5dBi LTE Band 41: 0.5dBi
Power Supply:	DC 3.85V by battery
Battery parameter:	Capacity: 4050mAh, Rated Voltage: 3.85V
Adapter:	Input: AC 100-240V, 0.5A, 50/60Hz Output: 5V/7V/9V ---2A,12V ---1.5A
Extreme Vol. Limits:	DC 3.5 V to 4.4 V (Nominal DC3.85V)
Extreme Temp. Tolerance:	-30℃ to +50℃
Hardware version number:	E906_MAIN_PCB_V1.2
Software version number:	LEAGOO_S10_OS5.0



2.1.2 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Product Specification Subjective To This Standard	
Tx Frequency	LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5:824~849MHz LTE Band 7:2500~2570MHz LTE Band 12:699~716MHz LTE Band 17:704~716MHz LTE Band 41:2555~2655MHz
Rx Frequency	LTE Band 2:1930~1990MHz LTE Band 4:2110~2155MHz LTE Band 5:869~894MHz LTE Band 7:2620~2690MHz LTE Band 12:729~746MHz LTE Band 17:734~746MHz LTE Band 41:2555~2655MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17: 5MHz / 10MHz LTE Band 41 : 5MHz / 10MHz / 15MHz /20MHz
Maximum Output Power Limit	LTE Band 2 : 23.03 dBm LTE Band 4 : 23.05 dBm LTE Band 5 : 23.01 dBm LTE Band 7 : 22.82 dBm LTE Band 12 : 23.41 dBm LTE Band 17 : 23.35 dBm LTE Band 41 : 22.57 dBm
Type of Modulation	QPSK / 16QAM



2.1.3 EMISSION DESIGNATOR

LTE Band 2 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
1.4	1M10G7D	1M10W7D
3	2M68G7D	2M67W7D
5	4M53G7D	4M53W7D
10	8M96G7D	8M95W7D
15	13M5G7D	13M5W7D
20	17M9G7D	17M9W7D

LTE Band 4 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
1.4	1M12G7D	1M11W7D
3	2M69G7D	2M68W7D
5	4M54G7D	4M54W7D
10	8M97G7D	8M97W7D
15	13M5G7D	13M5W7D
20	18M0G7D	18M0W7D

LTE Band 5 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
1.4	1M11G7D	1M10W7D
3	2M68G7D	2M67W7D
5	4M53G7D	4M54W7D
10	8M97G7D	8M96W7D

LTE Band 7 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
5	4M53G7D	4M54W7D
10	8M96G7D	9M96W7D
15	13M5G7D	13M5W7D
20	17M9G7D	18M0W7D

LTE Band 12 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
1.4	1M10G7D	1M10W7D
3	2M68G7D	2M67W7D
5	4M52G7D	4M53W7D
10	8M96G7D	8M97W7D



LTE Band 17 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
5	4M53G7D	4M53W7D
10	8M97G7D	8M95W7D

LTE Band 41 BW(MHz)	Emission Designator (99%)QPSK	Emission Designator (99%)16QAM
5	4M53G7D	4M51W7D
10	8M95G7D	8M97W7D
15	13M5G7D	13M5W7D
20	17M9G7D	17M9W7D





2.1.4 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 v03r01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power. Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Remark:

1. The mark "v" means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated

ITEMS	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v			v	v	v	v	v	v	v	v
	7			v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v			v	v	v	v	v	v	v	v
	17			v	v			v	v	v	v	v	v	v	v
	41			v	v	v	v	v	v	v	v	v	v	v	v
Peak&Avera Ratio	2						v	v	v	v		v	v	v	v
	4						v	v	v	v		v	v	v	v
	5				v			v	v	v		v	v	v	v
	7						v	v	v	v		v	v	v	v
	12				v			v	v	v		v	v	v	v
	17				v			v	v	v		v	v	v	v
	41						v	v	v	v		v	v	v	v
26dB&99% Bandwidth	2	v	v	v	v	v	v	v	v			v	v	v	v
	4	v	v	v	v	v	v	v	v			v	v	v	v
	5	v	v	v	v			v	v			v	v	v	v
	7			v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v			v	v			v	v	v	v
	17			v	v			v	v			v	v	v	v
	41			v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v		v	v	v	v
	4	v	v	v	v	v	v	v	v	v		v	v	v	v
	5	v	v	v	v			v	v	v		v	v	v	v
	7			v	v	v	v	v	v	v		v	v	v	v
	12	v	v	v	v			v	v	v		v	v	v	v
	17			v	v			v	v	v		v	v	v	v
	41			v	v	v	v	v	v	v		v	v	v	v



Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v			v	v	v			v	v	v
	7			v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v			v	v	v			v	v	v
	17			v	v			v	v	v			v	v	v
	41			v	v	v	v	v	v	v			v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	5				v			v				v		v	
	7				v			v				v		v	
	12				v			v				v		v	
	17				v			v				v		v	
	41				v			v				v		v	
E.R.P.& E.I.R.P.	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v			v	v	v			v	v	v
	7			v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v			v	v	v			v	v	v
	17			v	v			v	v	v			v	v	v
	41			v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v			v	v	v
	4	v	v	v	v	v	v	v		v			v	v	v
	5	v	v	v	v			v		v			v	v	v
	7			v	v	v	v	v		v			v	v	v
	12	v	v	v	v			v		v			v	v	v
	17			v	v			v		v			v	v	v
	41			v	v	v	v	v		v			v	v	v



2.1.5 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for filing to comply with the 47 CFR Part 2, 24(E), 27

2.1.6 SPECIAL ACCESSORIES

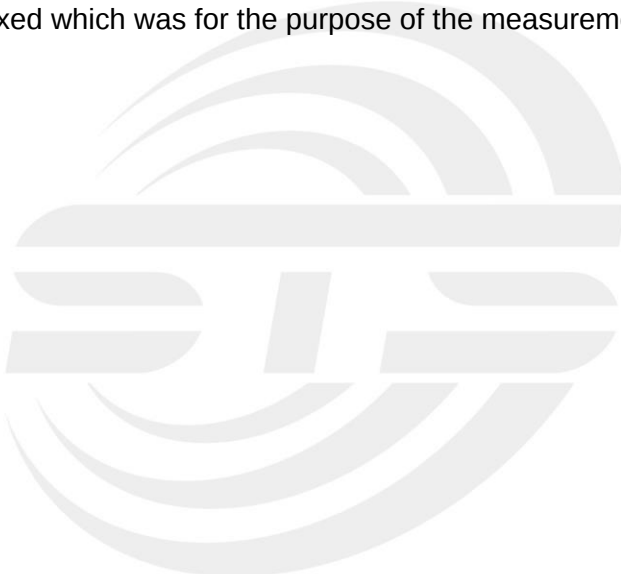
The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with eut intended for fcc grant together.

2.1.7 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.1.8 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.





2.1.9 CONFIGURATION OF EUT SYSTEM

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

E-1
EUT

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	Serial No.	Note
N/A	N/A	N/A	N/A	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.1.10 MEASUREMENT INSTRUMENTS

The radiated emission testing was performed according to the procedures of ANSI C63.26 2015 and FCC CFR 47 rules of 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057.

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2018.10.13	2019.10.12
Signal Analyzer	Agilent	N9020A	MY51110105	2018.03.08	2019.03.07
Wireless Communications Test Set	R&S	CMW 500	133884	2018.03.11	2019.03.10
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.1
Horn Antenna	Schwarzbeck	BBHA 9120D(1201)	9120D-1343	2017.10.27	2020.10.26
SHF-EHF Horn Antenna (15G-40GHz)	A-INFO	LB-180400-KF	J211020657	2018.03.11	2019.03.10
Pre-mpifier (0.1M-3GHz)	EM	EM330	060665	2018.03.09	2019.03.08
PreAmplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2018.10.13	2019.10.12
turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Temperature & Humidity	HH660	Mieo	N/A	2018.10.11	2019.10.10

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Universal Radio communication tester	R&S	CMU200	11764	2018.10.13	2019.10.12
Wireless Communications Test Set	R&S	CMW 500	133884	2018.03.11	2019.03.10
Signal Analyzer	Agilent	N9020A	MY49100060	2018.10.13	2019.10.12
Temperature & Humidity	HH660	Mieo	N/A	2018.10.11	2019.10.10



2. 1.11 MEASUREMENT RESULTS EXPLANATION EXAMPLE

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF Cable Loss + Attenuator Factor.



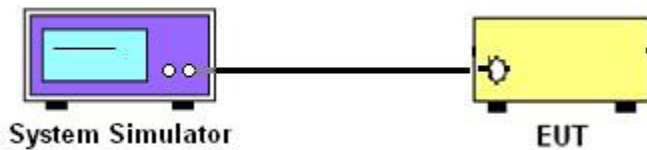
3. CONDUCTED OUTPUT POWER

3.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

3.1.1 MEASUREMENT METHOD

A System Simulator Was Used To Establish Communication With The EUT. Its Parameters Were Set To Force The EUT Transmitting At Maximum Output Power. The Measured Power In The Radio Frequency On The Transmitter Output Terminals Shall Be Reported.
configuration follows KDB 971168 D01 v03r01.

3.1.2 TEST SETUP



3.1.3 TEST PROCEDURES

1. The Transmitter Output Port Was Connected To The System Simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.



3.1.4 TEST RESULTS

LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.61	22.47	22.93
1.4	1	2		22.38	22.23	22.72
1.4	1	5		22.16	22.02	22.42
1.4	3	0		21.94	21.75	22.13
1.4	3	1		21.71	21.49	21.88
1.4	3	2		21.46	21.21	21.66
1.4	6	0		21.23	20.98	21.44
1.4	1	0	16-QAM	22.36	22.27	22.66
1.4	1	2		22.07	22.03	22.38
1.4	1	5		21.82	21.82	22.17
1.4	3	0		21.57	21.54	21.87
1.4	3	1		21.32	21.29	21.63
1.4	3	2		21.12	21.01	21.41
1.4	6	0		20.83	20.78	21.11
3	1	0	QPSK	22.63	22.49	22.94
3	1	7		22.36	22.21	22.7
3	1	14		22.15	21.97	22.42
3	8	0		21.92	21.73	22.13
3	8	4		21.62	21.44	21.93
3	8	7		21.33	21.23	21.71
3	15	0		21.08	21.02	21.49
3	1	0	16-QAM	22.34	22.28	22.7
3	1	7		22.1	22.05	22.43
3	1	14		21.87	21.78	22.16
3	8	0		21.58	21.5	21.87
3	8	4		21.31	21.23	21.66
3	8	7		21.09	20.95	21.4
3	15	0		20.82	20.67	21.11



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.66	22.51	22.97
5	1	12		22.41	22.31	22.67
5	1	24		22.14	22.01	22.41
5	12	0		21.9	21.75	22.12
5	12	6		21.68	21.45	21.83
5	12	11		21.44	21.25	21.53
5	25	0		21.18	21.02	21.24
5	1	0	16-QAM	22.4	22.25	22.71
5	1	12		22.14	21.95	22.49
5	1	24		21.94	21.71	22.25
5	12	0		21.65	21.45	21.95
5	12	6		21.44	21.18	21.75
5	12	11		21.2	20.89	21.54
5	25	0		20.97	20.69	21.24
10	1	0	QPSK	22.7	22.53	22.99
10	1	24		22.47	22.3	22.76
10	1	49		22.24	22.09	22.54
10	25	0		22.02	21.88	22.27
10	25	12		21.8	21.59	22.06
10	25	24		21.51	21.3	21.79
10	50	0		21.23	21.02	21.53
10	1	0	16-QAM	22.48	22.32	22.73
10	1	24		22.18	22.07	22.51
10	1	49		21.91	21.78	22.26
10	25	0		21.66	21.52	22
10	25	12		21.39	21.27	21.76
10	25	24		21.17	21.07	21.52
10	50	0		20.87	20.8	21.29



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.71	22.55	23.01
15	1	37		22.46	22.31	22.76
15	1	74		22.25	22.07	22.52
15	36	0		22.02	21.79	22.22
15	36	18		21.76	21.58	21.97
15	36	39		21.47	21.32	21.73
15	75	0		21.21	21.1	21.47
15	1	0	16-QAM	22.41	22.33	22.79
15	1	38		22.17	22.08	22.57
15	1	75		21.92	21.82	22.28
15	36	0		21.69	21.53	22.01
15	36	18		21.41	21.25	21.73
15	36	39		21.15	21.01	21.45
15	75	0		20.94	20.73	21.19
20	1	0	QPSK	22.73	22.58	23.03
20	1	49		22.46	22.29	22.8
20	1	99		22.21	22.06	22.52
20	50	0		21.93	21.84	22.27
20	50	24		21.69	21.57	22.04
20	50	49		21.41	21.34	21.83
20	100	0		21.12	21.1	21.62
20	1	0	16-QAM	22.49	22.35	22.74
20	1	49		22.2	22.14	22.53
20	1	99		21.94	21.86	22.32
20	50	0		21.71	21.64	22.05
20	50	24		21.49	21.4	21.81
20	50	49		21.25	21.11	21.53
20	100	0		20.97	20.85	21.31



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.85	22.47	22.93
1.4	1	2		22.57	22.19	22.67
1.4	1	5		22.29	21.97	22.42
1.4	3	0		22.04	21.77	22.16
1.4	3	1		21.82	21.56	21.96
1.4	3	2		21.55	21.36	21.73
1.4	6	0		21.34	21.07	21.47
1.4	1	0	16-QAM	22.6	22.17	22.65
1.4	1	2		22.35	21.91	22.37
1.4	1	5		22.1	21.67	22.09
1.4	3	0		21.9	21.41	21.84
1.4	3	1		21.69	21.15	21.61
1.4	3	2		21.48	20.9	21.35
1.4	6	0		21.23	20.65	21.08
3	1	0	QPSK	22.86	22.49	22.94
3	1	7		22.65	22.22	22.66
3	1	14		22.43	21.96	22.44
3	8	0		22.18	21.7	22.19
3	8	4		21.98	21.49	21.94
3	8	7		21.73	21.21	21.73
3	15	0		21.51	20.92	21.52
3	1	0	16-QAM	22.64	22.2	22.73
3	1	7		22.38	21.99	22.45
3	1	14		22.13	21.71	22.19
3	8	0		21.83	21.42	21.98
3	8	4		21.58	21.15	21.75
3	8	7		21.29	20.94	21.51
3	15	0		21.02	20.71	21.28



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.88	22.51	22.97
5	1	12		22.65	22.31	22.67
5	1	24		22.36	22.02	22.47
5	12	0		22.06	21.79	22.25
5	12	6		21.83	21.52	22
5	12	11		21.63	21.27	21.73
5	25	0		21.36	21.02	21.47
5	1	0	16-QAM	22.62	22.27	22.68
5	1	12		22.33	22.05	22.38
5	1	24		22.1	21.85	22.17
5	12	0		21.87	21.62	21.89
5	12	6		21.59	21.36	21.6
5	12	11		21.3	21.08	21.32
5	25	0		21.08	20.87	21.1
10	1	0	QPSK	22.91	22.55	22.99
10	1	24		22.65	22.34	22.78
10	1	49		22.41	22.12	22.55
10	25	0		22.16	21.92	22.29
10	25	12		21.96	21.66	22.04
10	25	24		21.76	21.41	21.81
10	50	0		21.52	21.19	21.55
10	1	0	16-QAM	22.64	22.32	22.77
10	1	24		22.36	22.03	22.5
10	1	49		22.15	21.82	22.2
10	25	0		21.9	21.58	21.99
10	25	12		21.69	21.37	21.71
10	25	24		21.48	21.17	21.47
10	50	0		21.26	20.95	21.2



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.93	22.58	23.02
15	1	37		22.72	22.35	22.72
15	1	74		22.46	22.11	22.51
15	36	0		22.19	21.83	22.3
15	36	18		21.94	21.55	22.05
15	36	39		21.69	21.31	21.85
15	75	0		21.46	21.02	21.59
15	1	0	16-QAM	22.65	22.31	22.73
15	1	38		22.41	22.05	22.49
15	1	75		22.21	21.81	22.28
15	36	0		21.97	21.55	22.04
15	36	18		21.69	21.27	21.75
15	36	39		21.42	21.06	21.48
15	75	0		21.19	20.85	21.21
20	1	0	QPSK	22.95	22.6	23.05
20	1	49		22.68	22.31	22.84
20	1	99		22.44	22.05	22.64
20	50	0		22.16	21.82	22.36
20	50	24		21.94	21.61	22.07
20	50	49		21.7	21.39	21.86
20	100	0		21.45	21.19	21.61
20	1	0	16-QAM	22.71	22.3	22.78
20	1	49		22.48	22.1	22.55
20	1	99		22.27	21.9	22.3
20	50	0		22.04	21.67	22.08
20	50	24		21.77	21.37	21.82
20	50	49		21.52	21.11	21.55
20	100	0		21.23	20.88	21.25



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.94	22.58	22.72
1.4	1	2		22.72	22.32	22.46
1.4	1	5		22.46	22.05	22.18
1.4	3	0		22.17	21.84	21.98
1.4	3	1		21.9	21.63	21.77
1.4	3	2		21.64	21.41	21.57
1.4	6	0		21.42	21.12	21.27
1.4	1	0	16-QAM	22.64	22.33	22.49
1.4	1	2		22.39	22.12	22.22
1.4	1	5		22.15	21.91	21.96
1.4	3	0		21.94	21.66	21.71
1.4	3	1		21.74	21.41	21.42
1.4	3	2		21.46	21.2	21.18
1.4	6	0		21.23	20.94	20.93
3	1	0	QPSK	22.95	22.59	22.74
3	1	7		22.71	22.39	22.45
3	1	14		22.44	22.1	22.24
3	8	0		22.24	21.81	21.94
3	8	4		21.97	21.56	21.74
3	8	7		21.75	21.3	21.49
3	15	0		21.51	21.01	21.23
3	1	0	16-QAM	22.68	22.31	22.52
3	1	7		22.38	22.04	22.31
3	1	14		22.13	21.74	22.07
3	8	0		21.86	21.51	21.85
3	8	4		21.57	21.27	21.64
3	8	7		21.3	21	21.37
3	15	0		21.04	20.73	21.16



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.98	22.61	22.76
5	1	12		22.73	22.35	22.56
5	1	24		22.51	22.08	22.28
5	12	0		22.26	21.82	22.08
5	12	6		22	21.61	21.8
5	12	11		21.79	21.37	21.51
5	25	0		21.53	21.09	21.24
5	1	0	16-QAM	22.73	22.35	22.47
5	1	12		22.45	22.11	22.18
5	1	24		22.21	21.91	21.94
5	12	0		21.92	21.65	21.66
5	12	6		21.63	21.37	21.43
5	12	11		21.35	21.13	21.18
5	25	0		21.09	20.84	20.95
10	1	0	QPSK	23.01	22.64	22.78
10	1	24		22.74	22.36	22.56
10	1	49		22.47	22.16	22.36
10	25	0		22.24	21.86	22.09
10	25	12		21.98	21.62	21.88
10	25	24		21.69	21.42	21.63
10	50	0		21.4	21.17	21.42
10	1	0	16-QAM	22.8	22.4	22.52
10	1	24		22.59	22.12	22.3
10	1	49		22.31	21.9	22.06
10	25	0		22.08	21.61	21.86
10	25	12		21.87	21.4	21.57
10	25	24		21.66	21.13	21.33
10	50	0		21.45	20.85	21.13



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.73	22.03	22.71
5	1	12		21.51	21.75	22.49
5	1	24		21.29	21.46	22.2
5	12	0		20.99	21.2	21.93
5	12	6		20.72	20.92	21.69
5	12	11		20.47	20.64	21.4
5	25	0		20.24	20.34	21.18
5	1	0	16-QAM	21.44	21.75	22.47
5	1	12		21.14	21.49	22.22
5	1	24		20.93	21.21	22.01
5	12	0		20.65	20.94	21.78
5	12	6		20.43	20.73	21.55
5	12	11		20.14	20.51	21.29
5	25	0		19.91	20.26	21.01
10	1	0	QPSK	21.76	22.05	22.72
10	1	24		21.53	21.77	22.52
10	1	49		21.28	21.48	22.22
10	25	0		21.05	21.19	21.95
10	25	12		20.76	20.97	21.74
10	25	24		20.52	20.75	21.52
10	50	0		20.26	20.5	21.28
10	1	0	16-QAM	21.5	21.76	22.45
10	1	24		21.25	21.5	22.2
10	1	49		21.01	21.21	21.92
10	25	0		20.79	20.95	21.72
10	25	12		20.57	20.65	21.42
10	25	24		20.28	20.41	21.17
10	50	0		20.03	20.18	20.95



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.8	22.07	22.74
15	1	37		21.52	21.78	22.49
15	1	74		21.27	21.52	22.28
15	36	0		21.05	21.24	22.06
15	36	18		20.75	21.01	21.82
15	36	39		20.48	20.76	21.62
15	75	0		20.18	20.49	21.39
15	1	0	16-QAM	21.56	21.82	22.48
15	1	38		21.34	21.53	22.2
15	1	75		21.11	21.25	21.97
15	36	0		20.83	21.02	21.76
15	36	18		20.58	20.77	21.47
15	36	39		20.34	20.54	21.22
15	75	0		20.14	20.25	20.94
20	1	0	QPSK	22.82	22.09	22.77
20	1	49		22.56	21.82	22.57
20	1	99		22.3	21.53	22.33
20	50	0		22.03	21.28	22.1
20	50	24		21.76	21	21.83
20	50	49		21.5	20.73	21.54
20	100	0		21.24	20.44	21.32
20	1	0	16-QAM	22.59	21.83	22.53
20	1	49		22.39	21.56	22.25
20	1	99		22.1	21.34	22.04
20	50	0		21.82	21.08	21.8
20	50	24		21.62	20.8	21.59
20	50	49		21.36	20.51	21.38
20	100	0		21.15	20.23	21.17



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.36	23.2	23.36
1.4	1	2		22.16	22.97	23.14
1.4	1	5		21.95	22.68	22.94
1.4	3	0		21.72	22.41	22.72
1.4	3	1		21.43	22.15	22.45
1.4	3	2		21.15	21.87	22.21
1.4	6	0		20.89	21.58	21.99
1.4	1	0	16-QAM	22.14	22.99	23.15
1.4	1	2		21.93	22.77	22.88
1.4	1	5		21.7	22.5	22.61
1.4	3	0		21.45	22.26	22.35
1.4	3	1		21.19	21.97	22.06
1.4	3	2		20.92	21.69	21.8
1.4	6	0		20.68	21.46	21.58
3	1	0	QPSK	22.39	23.25	23.37
3	1	7		22.18	23.02	23.08
3	1	14		21.91	22.8	22.82
3	8	0		21.67	22.52	22.56
3	8	4		21.38	22.3	22.27
3	8	7		21.13	22.01	22.03
3	15	0		20.89	21.77	21.83
3	1	0	16-QAM	22.1	23.01	23.09
3	1	7		21.89	22.79	22.85
3	1	14		21.61	22.52	22.65
3	8	0		21.31	22.28	22.37
3	8	4		21.08	22.02	22.08
3	8	7		20.83	21.79	21.8
3	15	0		20.59	21.56	21.51



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.41	23.28	23.39
5	1	12		22.14	23.07	23.17
5	1	24		21.89	22.79	22.89
5	12	0		21.64	22.53	22.67
5	12	6		21.41	22.3	22.46
5	12	11		21.2	22.04	22.21
5	25	0		20.97	21.76	21.98
5	1	0	16-QAM	22.16	23.01	23.12
5	1	12		21.89	22.78	22.87
5	1	24		21.61	22.48	22.59
5	12	0		21.34	22.24	22.35
5	12	6		21.09	22.01	22.1
5	12	11		20.86	21.77	21.86
5	25	0		20.64	21.51	21.6
10	1	0	QPSK	22.43	23.29	23.41
10	1	24		22.13	23	23.12
10	1	49		21.85	22.76	22.87
10	25	0		21.6	22.49	22.65
10	25	12		21.38	22.27	22.36
10	25	24		21.12	21.99	22.06
10	50	0		20.84	21.74	21.77
10	1	0	16-QAM	22.19	23.06	23.14
10	1	24		21.92	22.85	22.9
10	1	49		21.67	22.56	22.65
10	25	0		21.38	22.3	22.35
10	25	12		21.14	22.03	22.09
10	25	24		20.86	21.79	21.83
10	50	0		20.62	21.5	21.55



LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.1	23.27	23.33
5	1	12		22.87	22.97	23.06
5	1	24		22.66	22.69	22.81
5	12	0		22.38	22.44	22.53
5	12	6		22.08	22.19	22.24
5	12	11		21.87	21.92	22.01
5	25	0		21.61	21.62	21.78
5	1	0	16-QAM	22.84	22.98	23.11
5	1	12		22.59	22.74	22.89
5	1	24		22.32	22.53	22.63
5	12	0		22.09	22.24	22.4
5	12	6		21.81	21.97	22.11
5	12	11		21.58	21.67	21.89
5	25	0		21.3	21.44	21.6
10	1	0	QPSK	23.13	23.3	23.35
10	1	24		22.89	23.09	23.12
10	1	49		22.68	22.87	22.82
10	25	0		22.43	22.64	22.57
10	25	12		22.21	22.37	22.33
10	25	24		21.96	22.12	22.05
10	50	0		21.7	21.85	21.84
10	1	0	16-QAM	22.85	23.01	23.14
10	1	24		22.62	22.79	22.9
10	1	49		22.38	22.57	22.64
10	25	0		22.11	22.34	22.44
10	25	12		21.87	22.1	22.16
10	25	24		21.57	21.83	21.88
10	50	0		21.33	21.58	21.67



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.55	22.55	21.44
5	1	12		21.3	22.3	21.19
5	1	24		21.1	22.01	20.98
5	12	0		20.85	21.79	20.74
5	12	6		20.59	21.51	20.52
5	12	11		20.33	21.26	20.28
5	25	0		20.13	21.03	20.04
5	1	0	16-QAM	21.27	22.26	21.18
5	1	12		21.05	22	20.97
5	1	24		20.8	21.8	20.67
5	12	0		20.56	21.5	20.42
5	12	6		20.28	21.25	20.21
5	12	11		20.04	21.03	20
5	25	0		19.84	20.82	19.79
10	1	0	QPSK	21.58	22.57	21.46
10	1	24		21.33	22.28	21.19
10	1	49		21.06	22.07	20.95
10	25	0		20.76	21.77	20.72
10	25	12		20.53	21.54	20.48
10	25	24		20.26	21.25	20.25
10	50	0		20.02	20.99	19.97
10	1	0	16-QAM	21.3	22.35	21.2
10	1	24		21.02	22.06	20.92
10	1	49		20.73	21.81	20.7
10	25	0		20.49	21.53	20.48
10	25	12		20.25	21.29	20.22
10	25	24		20.03	21	19.93
10	50	0		19.79	20.75	19.71



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.6	21.58	21.48
15	1	37		21.37	21.31	21.2
15	1	74		21.14	21.05	20.98
15	36	0		20.92	20.82	20.73
15	36	18		20.71	20.53	20.44
15	36	39		20.44	20.3	20.22
15	75	0		20.21	20.08	19.93
15	1	0	16-QAM	21.34	21.34	21.25
15	1	38		21.04	21.05	20.99
15	1	75		20.74	20.84	20.77
15	36	0		20.51	20.56	20.57
15	36	18		20.22	20.3	20.3
15	36	39		19.95	20.03	20.03
15	75	0		19.67	19.78	19.78
20	1	0	QPSK	21.62	21.61	21.49
20	1	49		21.34	21.34	21.29
20	1	99		21.07	21.06	21.08
20	50	0		20.83	20.82	20.81
20	50	24		20.57	20.58	20.59
20	50	49		20.3	20.28	20.35
20	100	0		20.08	20	20.09
20	1	0	16-QAM	21.36	21.36	21.25
20	1	49		21.08	21.12	21.03
20	1	99		20.86	20.86	20.82
20	50	0		20.65	20.6	20.59
20	50	24		20.37	20.32	20.35
20	50	49		20.07	20.05	20.14
20	100	0		19.85	19.83	19.87

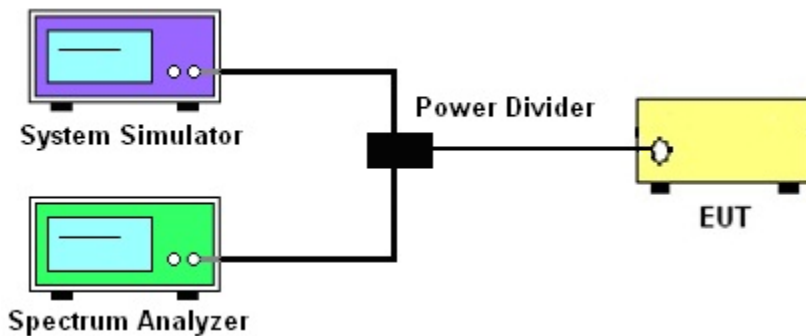
4. PEAK-TO-AVERAGE RATIO

4.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

4.1.1 MEASUREMENT METHOD

Use one of the procedures presented in 4.1 to measure the total peak power and record as PPK. Use one of the applicable procedures presented 4.2 to measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:
 $PAPR (dB) = PPK (dBm) - PAvg (dBm)$.

4.1.2 TEST SETUP



4.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.2 and ANSI C63.26 2015 Section 5.2.3.4
2. The EUT was connected to spectrum and system simulator via a power divider
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the peak and average power of the spectrum analyzer
5. Record the deviation as Peak to Average Ratio.

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	30kHz	100kHz	100kHz	300kHz	300kHz
VBW	100kHz	100kHz	300kHz	300kHz	1000kHz	1000kHz
Detector	PK/AVG	PK/AVG	PK/AVG	PK/AVG	PK/AVG	PK/AVG
Trace	Max	Max	Max	Max	Max	Max
Sweep Count	Auto	Auto	Auto	Auto	Auto	Auto



4.1.4 TEST RESULTS

LTE BAND 2

LTE Band 2 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	4.7	4.67	4.64
20	100		7.15	5.49	5.31
20	1	16-QAM	5.65	5.72	5.28
20	100		7.59	6.14	6.24
Limit			≤13dBm		

LTE BAND 4

LTE Band 4 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	2.23	2.39	3.2
20	100		4.53	4.77	4.69
20	1	16-QAM	3.26	3.4	4
20	100		5.1	5.52	5.44
Limit			≤13dBm		

LTE BAND 5

LTE Band 5 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
10	1	QPSK	3.74	4.35	5.01
10	50		4.73	5.6	5.53
10	1	16-QAM	4.49	5.32	6.17
10	50		5.46	6.37	6.22
Limit			≤13dBm		

**LTE BAND 7**

LTE Band 7 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	4.28	4.24	3.6
20	100		5.2	5.11	4.91
20	1	16-QAM	5.18	4.43	4.53
20	100		5.79	5.74	5.64
Limit			≤13dBm		

LTE BAND 12

LTE Band 12 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
10	1	QPSK	4.42	3.74	4.45
10	50		5.02	5.13	5.01
10	1	16-QAM	5.31	4.88	5.06
10	50		5.72	5.88	5.94
Limit			≤13dBm		

LTE BAND 17

LTE Band 17 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
10	1	QPSK	3.63	3.71	3.87
10	50		4.72	4.7	4.66
10	1	16-QAM	4.62	4.57	4.7
10	50		5.52	5.55	5.53
Limit			≤13dBm		

LTE BAND 41

LTE Band 41 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	3.91	4.26	5.61
20	100		5.96	6.15	8.51
20	1	16-QAM	3.84	4.08	7.41
20	100		7.51	6.59	7.57
Limit			≤13dBm		

NOTE:Test chart See Appendix D

5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER

5.1 DESCRIPTION OF THE ERP/EIRP MEASUREMENT

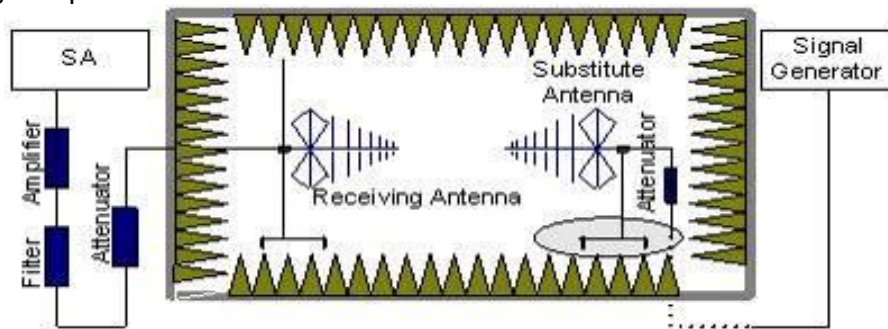
5.1.1 MEASUREMENT METHOD

Effective radiated power output measurements by substitution method according to ANSI C63.26 2015, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems. Mobile and portable (hand-held) stations operating are limited to average ERP, Equivalent isotropic radiated power output measurements by substitution method according to ANSI C63.26 2015, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas, Mobile and portable (hand-held) stations operating are limited to average EIRP.

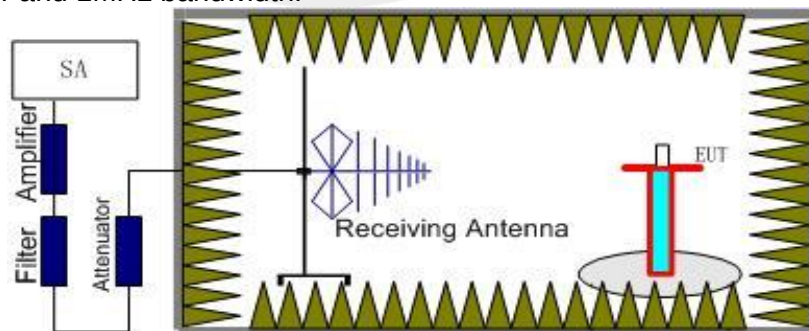
5.1.2 TEST SETUP

The procedure of radiated spurious emissions is as follows:

a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as, $RSE = R_x(\text{dBuV}) + CL(\text{dB}) + SA(\text{dB}) + \text{Gain}(\text{dBi}) - 107(\text{dBuV to dBm})$ The SA is calibrated using following setup.



b) EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.



Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below: $\text{Power} = \text{PMea} + \text{ARpl}$



5.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01v03r01 Section 5.6. and ANSI C63.26 2015 Section 5.2.
2. The EUT was placed on a non-conductive rotating platform 1.5 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with Peak detector.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to ANSI C63.26 2015. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP/ERP = LVL + \text{Correction factor}$
5. RB Set greater than bandwidth, Vb Set spectrum analyzer Maximum support.





5.1.4 TEST RESULTS

Note: Test is divided into three directions, X/Y/Z. X pattern for the worst.

LTE Band 2

Radiated Power (EIRP) for LTE Band 2 / 1.4M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	11.95	2.37	10.40	19.98	Horizontal	Pass
	1	0	Middle	11.65	2.39	10.42	19.68	Horizontal	Pass
	1	0	Highest	12.24	2.40	10.44	20.28	Horizontal	Pass
	1	0	Lowest	13.31	2.37	10.40	21.34	Vertical	Pass
	1	0	Middle	13.1	2.39	10.42	21.13	Vertical	Pass
	1	0	Highest	13.62	2.40	10.44	21.66	Vertical	Pass
16QAM	1	0	Lowest	11.58	2.37	10.40	19.61	Horizontal	Pass
	1	0	Middle	11.59	2.39	10.42	19.62	Horizontal	Pass
	1	0	Highest	12.03	2.40	10.44	20.07	Horizontal	Pass
	1	0	Lowest	12.96	2.37	10.40	20.99	Vertical	Pass
	1	0	Middle	13.02	2.39	10.42	21.05	Vertical	Pass
	1	0	Highest	13.38	2.40	10.44	21.42	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 2 / 3M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	11.89	2.37	10.40	19.92	Horizontal	Pass
	1	0	Middle	11.68	2.39	10.42	19.71	Horizontal	Pass
	1	0	Highest	12.19	2.40	10.44	20.23	Horizontal	Pass
	1	0	Lowest	13.31	2.37	10.40	21.34	Vertical	Pass
	1	0	Middle	13.11	2.39	10.42	21.14	Vertical	Pass
	1	0	Highest	13.52	2.40	10.44	21.56	Vertical	Pass
16QAM	1	0	Lowest	11.6	2.37	10.40	19.63	Horizontal	Pass
	1	0	Middle	11.51	2.39	10.42	19.54	Horizontal	Pass
	1	0	Highest	11.87	2.40	10.44	19.91	Horizontal	Pass
	1	0	Lowest	13.02	2.37	10.40	21.05	Vertical	Pass
	1	0	Middle	12.94	2.39	10.42	20.97	Vertical	Pass
	1	0	Highest	13.32	2.40	10.44	21.36	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 2 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.08	2.37	10.40	20.11	Horizontal	Pass
	1	0	Middle	11.74	2.39	10.42	19.77	Horizontal	Pass
	1	0	Highest	12.18	2.40	10.44	20.22	Horizontal	Pass
	1	0	Lowest	13.42	2.37	10.40	21.45	Vertical	Pass
	1	0	Middle	13.19	2.39	10.42	21.22	Vertical	Pass
	1	0	Highest	13.56	2.40	10.44	21.60	Vertical	Pass
16QAM	1	0	Lowest	11.69	2.37	10.40	19.72	Horizontal	Pass
	1	0	Middle	11.64	2.39	10.42	19.67	Horizontal	Pass
	1	0	Highest	12.04	2.40	10.44	20.08	Horizontal	Pass
	1	0	Lowest	13.04	2.37	10.40	21.07	Vertical	Pass
	1	0	Middle	12.96	2.39	10.42	20.99	Vertical	Pass
	1	0	Highest	13.43	2.40	10.44	21.47	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 2 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	
QPSK	1	0	Lowest	11.99	2.37	10.40	20.02	Horizontal	Pass
	1	0	Middle	11.76	2.39	10.42	19.79	Horizontal	Pass
	1	0	Highest	12.42	2.40	10.44	20.46	Horizontal	Pass
	1	0	Lowest	13.36	2.37	10.40	21.39	Vertical	Pass
	1	0	Middle	13.19	2.39	10.42	21.22	Vertical	Pass
	1	0	Highest	13.72	2.40	10.44	21.76	Vertical	Pass
16QAM	1	0	Lowest	11.72	2.37	10.40	19.75	Horizontal	Pass
	1	0	Middle	11.59	2.39	10.42	19.62	Horizontal	Pass
	1	0	Highest	11.98	2.40	10.44	20.02	Horizontal	Pass
	1	0	Lowest	13.07	2.37	10.40	21.10	Vertical	Pass
	1	0	Middle	13.02	2.39	10.42	21.05	Vertical	Pass
	1	0	Highest	13.34	2.40	10.44	21.38	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 2 / 15M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12	2.37	10.40	20.03	Horizontal	Pass
	1	0	Middle	11.77	2.39	10.42	19.80	Horizontal	Pass
	1	0	Highest	12.28	2.40	10.44	20.32	Horizontal	Pass
	1	0	Lowest	13.36	2.37	10.40	21.39	Vertical	Pass
	1	0	Middle	13.15	2.39	10.42	21.18	Vertical	Pass
	1	0	Highest	13.59	2.40	10.44	21.63	Vertical	Pass
16QAM	1	0	Lowest	11.71	2.37	10.40	19.74	Horizontal	Pass
	1	0	Middle	11.52	2.39	10.42	19.55	Horizontal	Pass
	1	0	Highest	12	2.40	10.44	20.04	Horizontal	Pass
	1	0	Lowest	13.1	2.37	10.40	21.13	Vertical	Pass
	1	0	Middle	12.93	2.39	10.42	20.96	Vertical	Pass
	1	0	Highest	13.43	2.40	10.44	21.47	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 2 / 20M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	11.96	2.37	10.40	19.99	Horizontal	Pass
	1	0	Middle	11.83	2.39	10.42	19.86	Horizontal	Pass
	1	0	Highest	12.44	2.40	10.44	20.48	Horizontal	Pass
	1	0	Lowest	13.36	2.37	10.40	21.39	Vertical	Pass
	1	0	Middle	13.3	2.39	10.42	21.33	Vertical	Pass
	1	0	Highest	13.79	2.40	10.44	21.83	Vertical	Pass
16QAM	1	0	Lowest	11.7	2.37	10.40	19.73	Horizontal	Pass
	1	0	Middle	11.71	2.39	10.42	19.74	Horizontal	Pass
	1	0	Highest	12.04	2.40	10.44	20.08	Horizontal	Pass
	1	0	Lowest	13.15	2.37	10.40	21.18	Vertical	Pass
	1	0	Middle	13.11	2.39	10.42	21.14	Vertical	Pass
	1	0	Highest	13.34	2.40	10.44	21.38	Vertical	Pass
Limit	EIRP<2W=33dBm								



LTE Band 4

Radiated Power (EIRP) for LTE Band 4 / 1.4M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.49	2.35	10.13	20.27	Horizontal	Pass
	1	0	Middle	12.02	2.36	10.16	19.82	Horizontal	Pass
	1	0	Highest	12.37	2.37	10.22	20.22	Horizontal	Pass
	1	0	Lowest	13.83	2.35	10.13	21.61	Vertical	Pass
	1	0	Middle	13.45	2.36	10.16	21.25	Vertical	Pass
	1	0	Highest	13.72	2.37	10.22	21.57	Vertical	Pass
16QAM	1	0	Lowest	12.1	2.35	10.13	19.88	Horizontal	Pass
	1	0	Middle	11.64	2.36	10.16	19.44	Horizontal	Pass
	1	0	Highest	12.27	2.37	10.22	20.12	Horizontal	Pass
	1	0	Lowest	13.59	2.35	10.13	21.37	Vertical	Pass
	1	0	Middle	13.06	2.36	10.16	20.86	Vertical	Pass
	1	0	Highest	13.57	2.37	10.22	21.42	Vertical	Pass
Limit	EIRP<1W=30dBm								

Radiated Power (EIRP) for LTE Band 4 / 3M									
Modulation	RB		Channel	Result					Conclusion
				S	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
	G.Level (dBm)	Of Max. ERP							
QPSK	1	0	Lowest	12.31	2.35	10.13	20.09	Horizontal	Pass
	1	0	Middle	12.02	2.36	10.16	19.82	Horizontal	Pass
	1	0	Highest	12.27	2.37	10.22	20.12	Horizontal	Pass
	1	0	Lowest	13.78	2.35	10.13	21.56	Vertical	Pass
	1	0	Middle	13.43	2.36	10.16	21.23	Vertical	Pass
	1	0	Highest	13.71	2.37	10.22	21.56	Vertical	Pass
16QAM	1	0	Lowest	12.11	2.35	10.13	19.89	Horizontal	Pass
	1	0	Middle	11.74	2.36	10.16	19.54	Horizontal	Pass
	1	0	Highest	12.33	2.37	10.22	20.18	Horizontal	Pass
	1	0	Lowest	13.57	2.35	10.13	21.35	Vertical	Pass
	1	0	Middle	13.1	2.36	10.16	20.90	Vertical	Pass
	1	0	Highest	13.65	2.37	10.22	21.50	Vertical	Pass
Limit	EIRP<1W=30dBm								



Radiated Power (EIRP) for LTE Band 4 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.48	2.35	10.13	20.26	Horizontal	Pass
	1	0	Middle	12.13	2.36	10.16	19.93	Horizontal	Pass
	1	0	Highest	12.4	2.37	10.22	20.25	Horizontal	Pass
	1	0	Lowest	13.89	2.35	10.13	21.67	Vertical	Pass
	1	0	Middle	13.49	2.36	10.16	21.29	Vertical	Pass
	1	0	Highest	13.73	2.37	10.22	21.58	Vertical	Pass
16QAM	1	0	Lowest	12.22	2.35	10.13	20.00	Horizontal	Pass
	1	0	Middle	11.76	2.36	10.16	19.56	Horizontal	Pass
	1	0	Highest	12.18	2.37	10.22	20.03	Horizontal	Pass
	1	0	Lowest	13.63	2.35	10.13	21.41	Vertical	Pass
	1	0	Middle	13.16	2.36	10.16	20.96	Vertical	Pass
	1	0	Highest	13.55	2.37	10.22	21.40	Vertical	Pass
Limit	EIRP<1W=30dBm								

Radiated Power (EIRP) for LTE Band 4 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.4	2.35	10.13	20.18	Horizontal	Pass
	1	0	Middle	12.07	2.36	10.16	19.87	Horizontal	Pass
	1	0	Highest	12.5	2.37	10.22	20.35	Horizontal	Pass
	1	0	Lowest	13.73	2.35	10.13	21.51	Vertical	Pass
	1	0	Middle	13.53	2.36	10.16	21.33	Vertical	Pass
	1	0	Highest	13.91	2.37	10.22	21.76	Vertical	Pass
16QAM	1	0	Lowest	12.24	2.35	10.13	20.02	Horizontal	Pass
	1	0	Middle	11.83	2.36	10.16	19.63	Horizontal	Pass
	1	0	Highest	12.29	2.37	10.22	20.14	Horizontal	Pass
	1	0	Lowest	13.57	2.35	10.13	21.35	Vertical	Pass
	1	0	Middle	13.15	2.36	10.16	20.95	Vertical	Pass
	1	0	Highest	13.65	2.37	10.22	21.50	Vertical	Pass
Limit	EIRP<1W=30dBm								



Radiated Power (EIRP) for LTE Band 4 / 15M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.44	2.35	10.13	20.22	Horizontal	Pass
	1	0	Middle	12.05	2.36	10.16	19.85	Horizontal	Pass
	1	0	Highest	12.41	2.37	10.22	20.26	Horizontal	Pass
	1	0	Lowest	13.89	2.35	10.13	21.67	Vertical	Pass
	1	0	Middle	13.54	2.36	10.16	21.34	Vertical	Pass
	1	0	Highest	13.79	2.37	10.22	21.64	Vertical	Pass
16QAM	1	0	Lowest	12.34	2.35	10.13	20.12	Horizontal	Pass
	1	0	Middle	11.78	2.36	10.16	19.58	Horizontal	Pass
	1	0	Highest	12.31	2.37	10.22	20.16	Horizontal	Pass
	1	0	Lowest	13.65	2.35	10.13	21.43	Vertical	Pass
	1	0	Middle	13.13	2.36	10.16	20.93	Vertical	Pass
	1	0	Highest	13.62	2.37	10.22	21.47	Vertical	Pass
Limit	EIRP<1W=30dBm								

Radiated Power (EIRP) for LTE Band 4 / 20M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	12.59	2.35	10.13	20.37	Horizontal	Pass
	1	0	Middle	12.14	2.36	10.16	19.94	Horizontal	Pass
	1	0	Highest	12.45	2.37	10.22	20.30	Horizontal	Pass
	1	0	Lowest	13.96	2.35	10.13	21.74	Vertical	Pass
	1	0	Middle	13.5	2.36	10.16	21.30	Vertical	Pass
	1	0	Highest	13.86	2.37	10.22	21.71	Vertical	Pass
16QAM	1	0	Lowest	12.22	2.35	10.13	20.00	Horizontal	Pass
	1	0	Middle	11.8	2.36	10.16	19.60	Horizontal	Pass
	1	0	Highest	12.29	2.37	10.22	20.14	Horizontal	Pass
	1	0	Lowest	13.72	2.35	10.13	21.50	Vertical	Pass
	1	0	Middle	13.18	2.36	10.16	20.98	Vertical	Pass
	1	0	Highest	13.64	2.37	10.22	21.49	Vertical	Pass
Limit	EIRP<1W=30dBm								



LTE Band 5

Radiated Power (EIRP) for LTE Band 5 / 1.4M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	14.96	1.27	6.70	20.39	Horizontal	Pass
	1	0	Middle	14.59	1.28	6.70	20.01	Horizontal	Pass
	1	0	Highest	14.59	1.29	6.70	20.00	Horizontal	Pass
	1	0	Lowest	16.27	1.27	6.70	21.70	Vertical	Pass
	1	0	Middle	15.89	1.28	6.70	21.31	Vertical	Pass
	1	0	Highest	15.97	1.29	6.70	21.38	Vertical	Pass
16QAM	1	0	Lowest	14.67	1.27	6.70	20.10	Horizontal	Pass
	1	0	Middle	14.1	1.28	6.70	19.52	Horizontal	Pass
	1	0	Highest	14.41	1.29	6.70	19.82	Horizontal	Pass
	1	0	Lowest	15.99	1.27	6.70	21.42	Vertical	Pass
	1	0	Middle	15.52	1.28	6.70	20.94	Vertical	Pass
	1	0	Highest	15.75	1.29	6.70	21.16	Vertical	Pass
Limit	ERP<7W=38.45dBm								

Radiated Power (EIRP) for LTE Band 5 / 3M									
Modulation	RB		Channel	Result					Conclusion
				S	Cable	Gain	PMeas	Polarization	
	Size	Offset		G.Level (dBm)	loss	(dBi)	E.R.P(dBm)	Of Max. EIRP	
QPSK	1	0	Lowest	14.77	1.27	6.70	20.20	Horizontal	Pass
	1	0	Middle	14.36	1.28	6.70	19.78	Horizontal	Pass
	1	0	Highest	14.77	1.29	6.70	20.18	Horizontal	Pass
	1	0	Lowest	16.22	1.27	6.70	21.65	Vertical	Pass
	1	0	Middle	15.8	1.28	6.70	21.22	Vertical	Pass
	1	0	Highest	16.12	1.29	6.70	21.53	Vertical	Pass
16QAM	1	0	Lowest	14.41	1.27	6.70	19.84	Horizontal	Pass
	1	0	Middle	14.13	1.28	6.70	19.55	Horizontal	Pass
	1	0	Highest	14.34	1.29	6.70	19.75	Horizontal	Pass
	1	0	Lowest	15.86	1.27	6.70	21.29	Vertical	Pass
	1	0	Middle	15.6	1.28	6.70	21.02	Vertical	Pass
	1	0	Highest	15.74	1.29	6.70	21.15	Vertical	Pass
Limit	ERP<7W=38.45dBm								



Radiated Power (EIRP) for LTE Band 5 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	14.77	1.27	6.70	20.20	Horizontal	Pass
	1	0	Middle	14.52	1.28	6.70	19.94	Horizontal	Pass
	1	0	Highest	14.58	1.29	6.70	19.99	Horizontal	Pass
	1	0	Lowest	16.25	1.27	6.70	21.68	Vertical	Pass
	1	0	Middle	15.96	1.28	6.70	21.38	Vertical	Pass
	1	0	Highest	16	1.29	6.70	21.41	Vertical	Pass
16QAM	1	0	Lowest	14.64	1.27	6.70	20.07	Horizontal	Pass
	1	0	Middle	14.23	1.28	6.70	19.65	Horizontal	Pass
	1	0	Highest	14.45	1.29	6.70	19.86	Horizontal	Pass
	1	0	Lowest	15.97	1.27	6.70	21.40	Vertical	Pass
	1	0	Middle	15.69	1.28	6.70	21.11	Vertical	Pass
	1	0	Highest	15.78	1.29	6.70	21.19	Vertical	Pass
Limit	ERP<7W=38.45dBm								

Radiated Power (EIRP) for LTE Band 5 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	14.86	1.27	6.70	20.29	Horizontal	Pass
	1	0	Middle	14.63	1.28	6.70	20.05	Horizontal	Pass
	1	0	Highest	14.81	1.29	6.70	20.22	Horizontal	Pass
	1	0	Lowest	16.26	1.27	6.70	21.69	Vertical	Pass
	1	0	Middle	16.01	1.28	6.70	21.43	Vertical	Pass
	1	0	Highest	16.14	1.29	6.70	21.55	Vertical	Pass
16QAM	1	0	Lowest	14.63	1.27	6.70	20.06	Horizontal	Pass
	1	0	Middle	14.21	1.28	6.70	19.63	Horizontal	Pass
	1	0	Highest	14.32	1.29	6.70	19.73	Horizontal	Pass
	1	0	Lowest	16.05	1.27	6.70	21.48	Vertical	Pass
	1	0	Middle	15.61	1.28	6.70	21.03	Vertical	Pass
	1	0	Highest	15.74	1.29	6.70	21.15	Vertical	Pass
Limit	ERP<7W=38.45dBm								



LTE Band 7

Radiated Power (EIRP) for LTE Band 7 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	11.17	2.56	10.60	19.21	Horizontal	Pass
	1	0	Middle	11.34	2.67	10.65	19.32	Horizontal	Pass
	1	0	Highest	12.04	2.72	10.70	20.02	Horizontal	Pass
	1	0	Lowest	12.47	2.56	10.60	20.51	Vertical	Pass
	1	0	Middle	12.65	2.67	10.65	20.63	Vertical	Pass
	1	0	Highest	13.38	2.72	10.70	21.36	Vertical	Pass
16QAM	1	0	Lowest	10.7	2.56	10.60	18.74	Horizontal	Pass
	1	0	Middle	11.12	2.67	10.65	19.10	Horizontal	Pass
	1	0	Highest	11.75	2.72	10.70	19.73	Horizontal	Pass
	1	0	Lowest	12.01	2.56	10.60	20.05	Vertical	Pass
	1	0	Middle	12.53	2.67	10.65	20.51	Vertical	Pass
	1	0	Highest	13.22	2.72	10.70	21.20	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 7 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	11.1	2.56	10.60	19.14	Horizontal	Pass
	1	0	Middle	11.33	2.67	10.65	19.31	Horizontal	Pass
	1	0	Highest	12.06	2.72	10.70	20.04	Horizontal	Pass
	1	0	Lowest	12.52	2.56	10.60	20.56	Vertical	Pass
	1	0	Middle	12.72	2.67	10.65	20.70	Vertical	Pass
	1	0	Highest	13.45	2.72	10.70	21.43	Vertical	Pass
16QAM	1	0	Lowest	10.73	2.56	10.60	18.77	Horizontal	Pass
	1	0	Middle	11.25	2.67	10.65	19.23	Horizontal	Pass
	1	0	Highest	11.79	2.72	10.70	19.77	Horizontal	Pass
	1	0	Lowest	12.19	2.56	10.60	20.23	Vertical	Pass
	1	0	Middle	12.56	2.67	10.65	20.54	Vertical	Pass
	1	0	Highest	13.24	2.72	10.70	21.22	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 7 / 15M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	11.1	2.56	10.60	19.14	Horizontal	Pass
	1	0	Middle	11.49	2.67	10.65	19.47	Horizontal	Pass
	1	0	Highest	12.02	2.72	10.70	20.00	Horizontal	Pass
	1	0	Lowest	12.51	2.56	10.60	20.55	Vertical	Pass
	1	0	Middle	12.85	2.67	10.65	20.83	Vertical	Pass
	1	0	Highest	13.43	2.72	10.70	21.41	Vertical	Pass
16QAM	1	0	Lowest	10.93	2.56	10.60	18.97	Horizontal	Pass
	1	0	Middle	11.16	2.67	10.65	19.14	Horizontal	Pass
	1	0	Highest	11.9	2.72	10.70	19.88	Horizontal	Pass
	1	0	Lowest	12.25	2.56	10.60	20.29	Vertical	Pass
	1	0	Middle	12.51	2.67	10.65	20.49	Vertical	Pass
	1	0	Highest	13.27	2.72	10.70	21.25	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 7 / 20M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	12.21	2.56	10.60	20.25	Horizontal	Pass
	1	0	Middle	11.57	2.67	10.65	19.55	Horizontal	Pass
	1	0	Highest	12.2	2.72	10.70	20.18	Horizontal	Pass
	1	0	Lowest	13.52	2.56	10.60	21.56	Vertical	Pass
	1	0	Middle	12.89	2.67	10.65	20.87	Vertical	Pass
	1	0	Highest	13.54	2.72	10.70	21.52	Vertical	Pass
16QAM	1	0	Lowest	11.9	2.56	10.60	19.94	Horizontal	Pass
	1	0	Middle	11.16	2.67	10.65	19.14	Horizontal	Pass
	1	0	Highest	11.82	2.72	10.70	19.80	Horizontal	Pass
	1	0	Lowest	13.26	2.56	10.60	21.30	Vertical	Pass
	1	0	Middle	12.55	2.67	10.65	20.53	Vertical	Pass
	1	0	Highest	13.2	2.72	10.70	21.18	Vertical	Pass
Limit	EIRP<2W=33dBm								



LTE Band 12

Radiated Power (EIRP) for LTE Band 12 / 1.4M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	14.4	1.21	6.40	19.59	Horizontal	Pass
	1	0	Middle	15.27	1.22	6.40	20.45	Horizontal	Pass
	1	0	Highest	15.49	1.23	6.40	20.66	Horizontal	Pass
	1	0	Lowest	15.84	1.21	6.40	21.03	Vertical	Pass
	1	0	Middle	16.76	1.22	6.40	21.94	Vertical	Pass
	1	0	Highest	16.96	1.23	6.40	22.13	Vertical	Pass
16QAM	1	0	Lowest	14.16	1.21	6.40	19.35	Horizontal	Pass
	1	0	Middle	15.21	1.22	6.40	20.39	Horizontal	Pass
	1	0	Highest	15.29	1.23	6.40	20.46	Horizontal	Pass
	1	0	Lowest	15.65	1.21	6.40	20.84	Vertical	Pass
	1	0	Middle	16.52	1.22	6.40	21.70	Vertical	Pass
	1	0	Highest	16.67	1.23	6.40	21.84	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 12 / 3M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
				G.Level (dBm)				Of Max. ERP	
QPSK	1	0	Lowest	14.51	1.21	6.40	19.70	Horizontal	Pass
	1	0	Middle	15.4	1.22	6.40	20.58	Horizontal	Pass
	1	0	Highest	15.5	1.23	6.40	20.67	Horizontal	Pass
	1	0	Lowest	15.84	1.21	6.40	21.03	Vertical	Pass
	1	0	Middle	16.74	1.22	6.40	21.92	Vertical	Pass
	1	0	Highest	16.96	1.23	6.40	22.13	Vertical	Pass
16QAM	1	0	Lowest	14.1	1.21	6.40	19.29	Horizontal	Pass
	1	0	Middle	15.03	1.22	6.40	20.21	Horizontal	Pass
	1	0	Highest	15.32	1.23	6.40	20.49	Horizontal	Pass
	1	0	Lowest	15.55	1.21	6.40	20.74	Vertical	Pass
	1	0	Middle	16.44	1.22	6.40	21.62	Vertical	Pass
	1	0	Highest	16.71	1.23	6.40	21.88	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 12 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	14.6	1.21	6.40	19.79	Horizontal	Pass
	1	0	Middle	15.28	1.22	6.40	20.46	Horizontal	Pass
	1	0	Highest	15.4	1.23	6.40	20.57	Horizontal	Pass
	1	0	Lowest	15.95	1.21	6.40	21.14	Vertical	Pass
	1	0	Middle	16.75	1.22	6.40	21.93	Vertical	Pass
	1	0	Highest	16.85	1.23	6.40	22.02	Vertical	Pass
16QAM	1	0	Lowest	14.39	1.21	6.40	19.58	Horizontal	Pass
	1	0	Middle	14.98	1.22	6.40	20.16	Horizontal	Pass
	1	0	Highest	15.22	1.23	6.40	20.39	Horizontal	Pass
	1	0	Lowest	15.77	1.21	6.40	20.96	Vertical	Pass
	1	0	Middle	16.48	1.22	6.40	21.66	Vertical	Pass
	1	0	Highest	16.63	1.23	6.40	21.80	Vertical	Pass
Limit	ERP<3W=34.77dBm								

Radiated Power (EIRP) for LTE Band 12 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	14.52	1.21	6.40	19.71	Horizontal	Pass
	1	0	Middle	15.49	1.22	6.40	20.67	Horizontal	Pass
	1	0	Highest	15.61	1.23	6.40	20.78	Horizontal	Pass
	1	0	Lowest	15.99	1.21	6.40	21.18	Vertical	Pass
	1	0	Middle	16.86	1.22	6.40	22.04	Vertical	Pass
	1	0	Highest	17.02	1.23	6.40	22.19	Vertical	Pass
16QAM	1	0	Lowest	14.39	1.21	6.40	19.58	Horizontal	Pass
	1	0	Middle	15.24	1.22	6.40	20.42	Horizontal	Pass
	1	0	Highest	15.41	1.23	6.40	20.58	Horizontal	Pass
	1	0	Lowest	15.76	1.21	6.40	20.95	Vertical	Pass
	1	0	Middle	16.59	1.22	6.40	21.77	Vertical	Pass
	1	0	Highest	16.77	1.23	6.40	21.94	Vertical	Pass
Limit	ERP<3W=34.77dBm								



LTE Band 17

Radiated Power (EIRP) for LTE Band 17 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	15.24	1.21	6.40	20.43	Horizontal	Pass
	1	0	Middle	15.4	1.22	6.40	20.58	Horizontal	Pass
	1	0	Highest	15.45	1.23	6.40	20.62	Horizontal	Pass
	1	0	Lowest	16.54	1.21	6.40	21.73	Vertical	Pass
	1	0	Middle	16.77	1.22	6.40	21.95	Vertical	Pass
	1	0	Highest	16.88	1.23	6.40	22.05	Vertical	Pass
16QAM	1	0	Lowest	15.03	1.21	6.40	20.22	Horizontal	Pass
	1	0	Middle	14.99	1.22	6.40	20.17	Horizontal	Pass
	1	0	Highest	15.23	1.23	6.40	20.40	Horizontal	Pass
	1	0	Lowest	16.42	1.21	6.40	21.61	Vertical	Pass
	1	0	Middle	16.48	1.22	6.40	21.66	Vertical	Pass
	1	0	Highest	16.68	1.23	6.40	21.85	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 17 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization	
								Of Max. ERP	
QPSK	1	0	Lowest	15.24	1.21	6.40	20.43	Horizontal	Pass
	1	0	Middle	15.49	1.22	6.40	20.67	Horizontal	Pass
	1	0	Highest	15.37	1.23	6.40	20.54	Horizontal	Pass
	1	0	Lowest	16.6	1.21	6.40	21.79	Vertical	Pass
	1	0	Middle	16.89	1.22	6.40	22.07	Vertical	Pass
	1	0	Highest	16.86	1.23	6.40	22.03	Vertical	Pass
16QAM	1	0	Lowest	15.06	1.21	6.40	20.25	Horizontal	Pass
	1	0	Middle	15.24	1.22	6.40	20.42	Horizontal	Pass
	1	0	Highest	15.34	1.23	6.40	20.51	Horizontal	Pass
	1	0	Lowest	16.39	1.21	6.40	21.58	Vertical	Pass
	1	0	Middle	16.62	1.22	6.40	21.80	Vertical	Pass
	1	0	Highest	16.69	1.23	6.40	21.86	Vertical	Pass
Limit	EIRP<2W=33dBm								



LTE Band 41

Radiated Power (EIRP) for LTE Band 41 / 5M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	10.88	2.56	10.60	18.92	Horizontal	Pass
	1	0	Middle	11.91	2.67	10.65	19.89	Horizontal	Pass
	1	0	Highest	10.79	2.72	10.70	18.77	Horizontal	Pass
	1	0	Lowest	12.27	2.56	10.60	20.31	Vertical	Pass
	1	0	Middle	13.31	2.67	10.65	21.29	Vertical	Pass
	1	0	Highest	12.12	2.72	10.70	20.10	Vertical	Pass
16QAM	1	0	Lowest	10.45	2.56	10.60	18.49	Horizontal	Pass
	1	0	Middle	11.71	2.67	10.65	19.69	Horizontal	Pass
	1	0	Highest	10.55	2.72	10.70	18.53	Horizontal	Pass
	1	0	Lowest	11.94	2.56	10.60	19.98	Vertical	Pass
	1	0	Middle	13.04	2.67	10.65	21.02	Vertical	Pass
	1	0	Highest	11.87	2.72	10.70	19.85	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 41 / 10M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	10.78	2.56	10.60	18.82	Horizontal	Pass
	1	0	Middle	11.9	2.67	10.65	19.88	Horizontal	Pass
	1	0	Highest	10.85	2.72	10.70	18.83	Horizontal	Pass
	1	0	Lowest	12.27	2.56	10.60	20.31	Vertical	Pass
	1	0	Middle	13.2	2.67	10.65	21.18	Vertical	Pass
	1	0	Highest	12.23	2.72	10.70	20.21	Vertical	Pass
16QAM	1	0	Lowest	10.54	2.56	10.60	18.58	Horizontal	Pass
	1	0	Middle	11.78	2.67	10.65	19.76	Horizontal	Pass
	1	0	Highest	10.53	2.72	10.70	18.51	Horizontal	Pass
	1	0	Lowest	11.99	2.56	10.60	20.03	Vertical	Pass
	1	0	Middle	13.14	2.67	10.65	21.12	Vertical	Pass
	1	0	Highest	11.89	2.72	10.70	19.87	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (EIRP) for LTE Band 41 / 15M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	10.85	2.56	10.60	18.89	Horizontal	Pass
	1	0	Middle	11.05	2.67	10.65	19.03	Horizontal	Pass
	1	0	Highest	10.71	2.72	10.70	18.69	Horizontal	Pass
	1	0	Lowest	12.31	2.56	10.60	20.35	Vertical	Pass
	1	0	Middle	12.4	2.67	10.65	20.38	Vertical	Pass
	1	0	Highest	12.17	2.72	10.70	20.15	Vertical	Pass
16QAM	1	0	Lowest	10.6	2.56	10.60	18.64	Horizontal	Pass
	1	0	Middle	10.84	2.67	10.65	18.82	Horizontal	Pass
	1	0	Highest	10.74	2.72	10.70	18.72	Horizontal	Pass
	1	0	Lowest	12.08	2.56	10.60	20.12	Vertical	Pass
	1	0	Middle	12.14	2.67	10.65	20.12	Vertical	Pass
	1	0	Highest	12.05	2.72	10.70	20.03	Vertical	Pass
Limit	EIRP<2W=33dBm								

Radiated Power (EIRP) for LTE Band 41 / 20M									
Modulation	RB		Channel	Result					Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization	
								Of Max. EIRP	
QPSK	1	0	Lowest	10.92	2.56	10.60	18.96	Horizontal	Pass
	1	0	Middle	11.06	2.67	10.65	19.04	Horizontal	Pass
	1	0	Highest	10.67	2.72	10.70	18.65	Horizontal	Pass
	1	0	Lowest	12.23	2.56	10.60	20.27	Vertical	Pass
	1	0	Middle	12.4	2.67	10.65	20.38	Vertical	Pass
	1	0	Highest	12.13	2.72	10.70	20.11	Vertical	Pass
16QAM	1	0	Lowest	10.72	2.56	10.60	18.76	Horizontal	Pass
	1	0	Middle	10.76	2.67	10.65	18.74	Horizontal	Pass
	1	0	Highest	10.54	2.72	10.70	18.52	Horizontal	Pass
	1	0	Lowest	12.08	2.56	10.60	20.12	Vertical	Pass
	1	0	Middle	12.15	2.67	10.65	20.13	Vertical	Pass
	1	0	Highest	11.96	2.72	10.70	19.94	Vertical	Pass
Limit	EIRP<2W=33dBm								

6. OCCUPIED BANDWIDTH

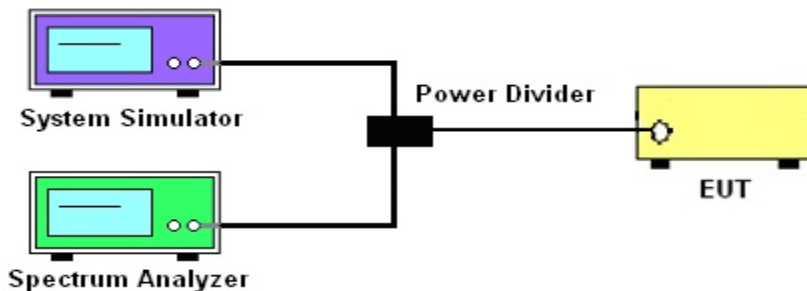
6.1 DESCRIPTION OF OCCUPIED BANDWIDTH MEASUREMENT

6.1.1 MEASUREMENT METHOD

1.The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

2.The 26 db emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 db below the maximum in-band spectral density of the modulated signal. spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

6.1.2 TEST SETUP



6.1.3 TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 4.1.and 4.2
2. The EUT was connected to spectrum and system simulator via a power divider
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Set the test probe and measure the Occupied Bandwidth of the spectrum analyzer
5. Measure and record the Occupied Bandwidth from the Spectrum Analyzer.

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	30kHz	100kHz	100kHz	300kHz	300kHz
VBW	100kHz	100kHz	300kHz	300kHz	1000kHz	1000kHz
Detector	PK	PK	PK	PK	PK	PK
Trace	Max	Max	Max	Max	Max	Max
Sweep Count	Auto	Auto	Auto	Auto	Auto	Auto



6.1.4 MEASUREMENT RESULT

LTE BAND 2

LTE Band 2 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
1.4	QPSK	1.282	1.1005	1.283	1.0917	1.288	1.0961
1.4	16-QAM	1.280	1.0878	1.285	1.0939	1.300	1.0989
3	QPSK	2.860	2.6757	2.846	2.6740	2.857	2.6812
3	16-QAM	2.861	2.6729	2.848	2.6744	2.851	2.6713
5	QPSK	5.136	4.5173	5.094	4.5187	5.160	4.5288
5	16-QAM	5.187	4.5226	5.203	4.5177	5.170	4.5280
10	QPSK	9.892	8.9503	9.824	8.9612	9.706	8.9327
10	16-QAM	9.731	8.9521	9.832	8.9516	9.771	8.9361
15	QPSK	15.05	13.494	15.01	13.537	14.78	13.421
15	16-QAM	14.90	13.500	14.95	13.522	14.94	13.478
20	QPSK	19.57	17.940	18.67	17.871	19.28	17.828
20	16-QAM	19.58	17.942	19.51	17.939	19.50	17.928

LTE BAND 4

LTE Band 4 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
1.4	QPSK	2.051	1.1182	1.330	1.0979	1.418	1.1060
1.4	16-QAM	1.628	1.0993	1.320	1.0976	1.429	1.1077
3	QPSK	3.501	2.6899	2.868	2.6780	2.865	2.6762
3	16-QAM	2.873	2.6787	2.850	2.6763	2.872	2.6757
5	QPSK	5.600	4.5409	5.216	4.5300	5.339	4.5385
5	16-QAM	5.289	4.5332	5.169	4.5239	5.281	4.5436
10	QPSK	10.36	8.9668	10.20	8.9641	9.853	8.9482
10	16-QAM	10.07	8.9620	9.898	8.9555	10.01	8.9662
15	QPSK	16.59	13.495	15.23	13.492	15.48	13.546
15	16-QAM	15.17	13.537	14.99	13.503	15.16	13.534
20	QPSK	23.55	17.956	19.73	17.927	19.63	17.949
20	16-QAM	23.07	17.989	19.86	17.925	19.67	17.936

**LTE BAND 5**

LTE Band 5 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
1.4	QPSK	1.312	1.1051	1.285	1.0910	1.304	1.0969
1.4	16-QAM	1.275	1.0906	1.292	1.0934	1.309	1.0971
3	QPSK	2.875	2.6774	2.837	2.6729	2.858	2.6808
3	16-QAM	2.865	2.6738	2.846	2.6746	2.856	2.6723
5	QPSK	5.109	4.5257	5.114	4.5194	5.239	4.5345
5	16-QAM	5.177	4.5216	5.103	4.5174	5.229	4.5370
10	QPSK	9.809	8.9512	9.765	8.9685	9.767	8.9459
10	16-QAM	9.875	8.9468	9.980	8.9548	9.996	8.9592

LTE BAND 7

LTE Band 7 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
5	QPSK	5.204	4.5233	5.139	4.5181	5.203	4.5302
5	16-QAM	5.155	4.5201	5.199	4.5360	5.215	4.5239
10	QPSK	9.961	8.9613	9.860	8.9345	9.974	8.9560
10	16-QAM	9.659	8.9363	9.811	8.9539	9.953	8.9552
15	QPSK	15.03	13.518	15.03	13.479	15.28	13.524
15	16-QAM	15.06	13.496	14.95	13.517	15.15	13.519
20	QPSK	19.54	17.901	19.62	17.926	19.68	17.944
20	16-QAM	19.76	17.921	19.74	17.923	19.68	17.954

LTE BAND 12

LTE Band 12 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
1.4	QPSK	1.298	1.0945	1.286	1.1026	1.292	1.0934
1.4	16-QAM	1.295	1.0955	1.294	1.0923	1.307	1.0992
3	QPSK	2.851	2.6769	2.861	2.6779	2.845	2.6712
3	16-QAM	2.849	2.6739	2.863	2.6707	2.863	2.6695
5	QPSK	5.137	4.5187	5.160	4.5164	5.095	4.5129
5	16-QAM	5.161	4.5162	5.192	4.5313	5.128	4.5051
10	QPSK	9.742	8.9338	9.968	8.9637	9.854	8.9441
10	16-QAM	9.728	8.9508	9.906	8.9697	9.678	8.9313

**LTE BAND 17**

LTE Band 17 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
5	QPSK	5.213	4.5294	5.137	4.5136	5.136	4.5179
5	16-QAM	5.168	4.5265	5.213	4.5326	5.170	4.5071
10	QPSK	9.962	8.9702	9.803	8.9384	9.727	8.9317
10	16-QAM	9.699	8.9475	9.831	8.9455	9.722	8.9342

LTE BAND 41

LTE Band 41 Bandwidth [MHz]							
BW [MHz]	Mod	Lowest		Middle		Highest	
		26dB BW	99% BW	26dB BW	99% BW	26dB BW	99% BW
5	QPSK	5.012	4.5251	5.148	4.5186	4.969	4.500
5	16-QAM	4.901	4.5090	5.000	4.5114	4.892	4.4905
10	QPSK	9.515	8.9481	10.57	8.9503	9.558	8.9437
10	16-QAM	9.819	8.9470	10.09	8.9650	9.441	8.9453
15	QPSK	14.19	13.409	21.41	13.463	14.04	13.381
15	16-QAM	14.32	13.407	17.94	13.454	14.32	13.401
20	QPSK	18.92	17.833	21.83	17.886	18.58	17.842
20	16-QAM	18.78	17.855	19.59	17.880	18.67	17.832

NOTE:Test chart See Appendix A



7. CONDUCTED BAND EDGE

7.1 DESCRIPTION OF CONDUCTED BAND EDGE MEASUREMENT

7.1.1 MEASUREMENT METHOD

1. §22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

2. §24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed

3. §27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

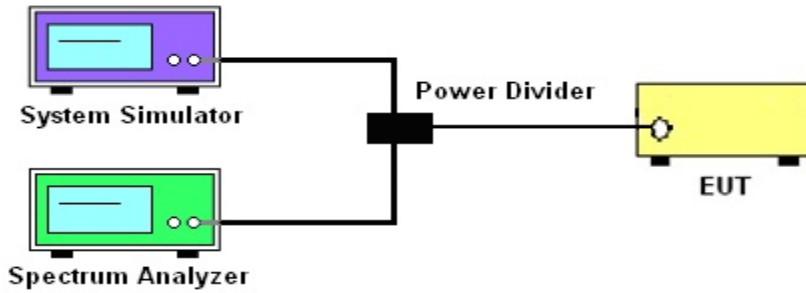
4. §27.53(m)(4)

For operations in the 2500 MHz ~ 2570 MHz band this section, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

5. §27.53 (g)

For operations in the 698 -746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

7.1.2 TEST SETUP



7.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26 2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS/AVG detector
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.

Band 7:
 $= P(W) - [55 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[55 + 10\log(P)]$ (dB)
 $= -25$ dBm.

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	12MHz	13MHz	15MHz	20MHz	25MHz	30MHz
RBW	30kHz	30kHz	100kHz	100kHz	300kHz	300kHz
VBW	100kHz	100kHz	300kHz	300kHz	1000kHz	1000kHz
Detector	RMS	RMS	RMS	RMS	RMS	RMS
Trace	Max	Max	Max	Max	Max	Max
Sweep Count	Auto	Auto	Auto	Auto	Auto	Auto

7.1.4 MEASUREMENT RESULT

NOTE: Test chart See Appendix B

8. CONDUCTED SPURIOUS EMISSION

8.1 DESCRIPTION OF CONDUCTED SPURIOUS EMISSION MEASUREMENT

8.1.1 MEASUREMENT METHOD

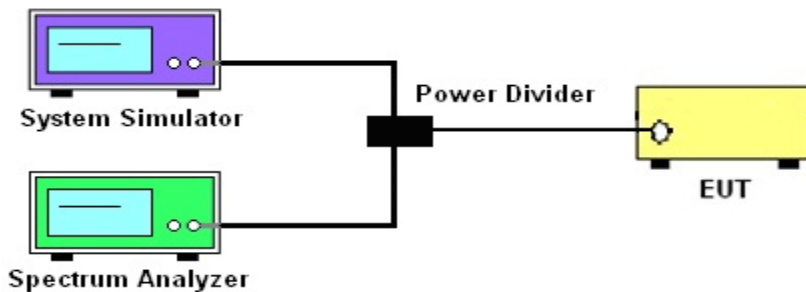
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

8.1.2 TEST SETUP



8.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26 2015 Section 5.7.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement
4. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)} = [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$
For Band 7: $P(W) - [43 + 10\log(P)] \text{ (dB)} = -25\text{dBm}$

	LTE					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	Auto	Auto	Auto	Auto	Auto	Auto
RBW	1000kHz	1000kHz	1000kHz	1000kHz	1000kHz	1000kHz
VBW	3000kHz	3000kHz	3000kHz	3000kHz	3000kHz	3000kHz
Detector	PK	PK	PK	PK	PK	PK
Trace	Max	Max	Max	Max	Max	Max

8.1.4 TEST RESULTS

NOTE: Test chart See Appendix C

9. RADIATED SPURIOUS EMISSION

9.1 DESCRIPTION OF RADIATED SPURIOUS EMISSION

9.1.1 MEASUREMENT METHOD

The radiated spurious emission was measured by substitution method according to ANSI C63.26 2015 . The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. For Band 7 The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB. For Band. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

5.1.2 Test Setup

The procedure of radiated spurious emissions is as follows:

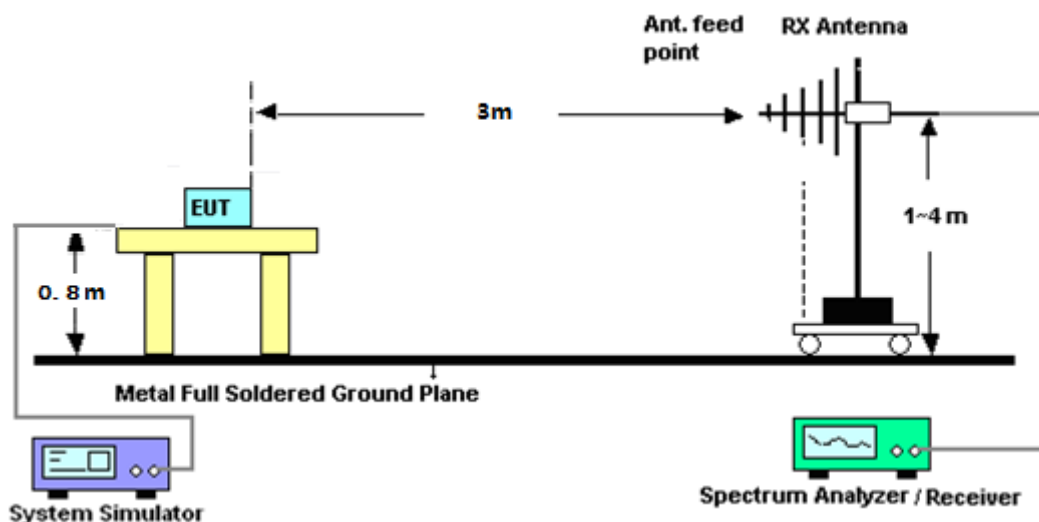
a) Pre-calibration With pre-calibration method, the Radiated Spurious Emissions(RSE) is calculated as, $RSE = Rx \text{ (dBuV)} + CL \text{ (dB)} + SA \text{ (dB)} + Gain \text{ (dBi)} - 107 \text{ (dBuV to dBm)}$ The SA is calibrated using following setup.

b) EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the test item and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector and 1MHz bandwidth.

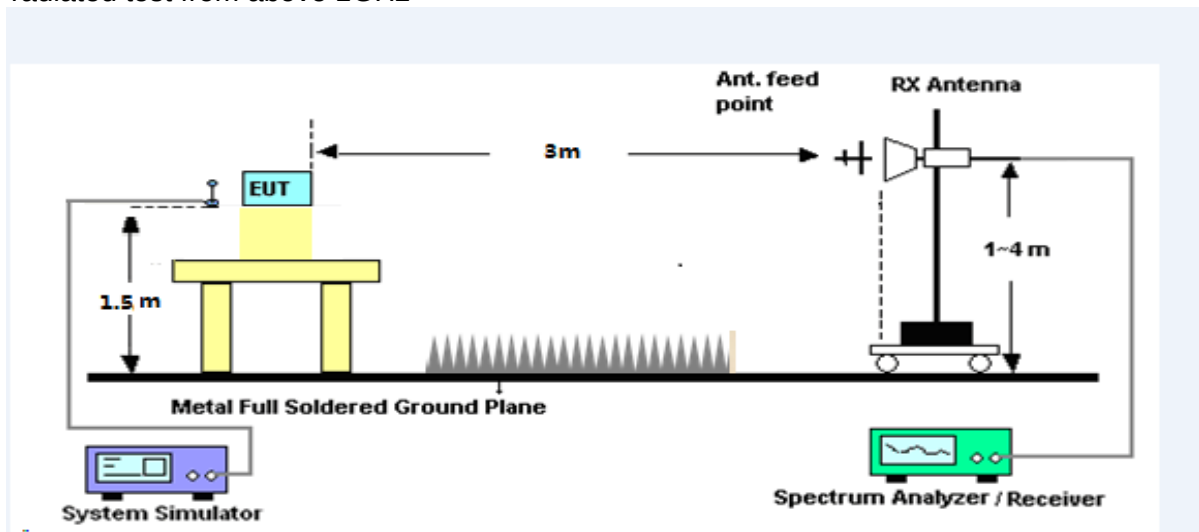
Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of any band into any of the other blocks.

The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss and the air loss. The measurement results are obtained as described below: $Power = P_{Mea} + AR_{pl}$

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



9.1.3 TEST PROCEDURES

1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26 2015 Section 5.5.
2. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}$

For Band 7:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= [30 + 10\log(P)] \text{ (dBm)} - [55 + 10\log(P)] \text{ (dB)}$
 $= -25\text{dBm}$

EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

ERP (dBm) = EIRP - 2.15



9.1.4 TEST RESULTS

LTE BAND 2

LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3701.06	-34.89	12.60	12.93	-35.22	-13.00	-22.22	H
5552.01	-34.65	13.10	17.11	-38.66	-13.00	-25.66	H
7402.95	-32.43	11.50	22.20	-43.13	-13.00	-30.13	H
3701.06	-35.21	12.60	12.93	-35.54	-13.00	-22.54	V
5552.01	-34.47	13.10	17.11	-38.48	-13.00	-25.48	V
7402.95	-32.68	11.50	22.20	-43.38	-13.00	-30.38	V
LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.25	-33.56	12.60	12.93	-33.89	-13.00	-20.89	H
5640.14	-34.73	13.10	17.11	-38.74	-13.00	-25.74	H
7520.02	-32.18	11.50	22.20	-42.88	-13.00	-29.88	H
3760.25	-35.62	12.60	12.93	-35.95	-13.00	-22.95	V
5640.14	-34.82	13.10	17.11	-38.83	-13.00	-25.83	V
7520.02	-31.82	11.50	22.20	-42.52	-13.00	-29.52	V
LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3818.46	-33.45	12.60	12.93	-33.78	-13.00	-20.78	H
5727.71	-35.23	13.10	17.11	-39.24	-13.00	-26.24	H
7636.91	-33.02	11.50	22.20	-43.72	-13.00	-30.72	H
3818.46	-35.04	12.60	12.93	-35.37	-13.00	-22.37	V
5727.71	-34.53	13.10	17.11	-38.54	-13.00	-25.54	V
7636.91	-32.98	11.50	22.20	-43.68	-13.00	-30.68	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 2

LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3703.29	-34.36	12.60	12.93	-34.69	-13.00	-21.69	H
5554.28	-34.65	13.10	17.11	-38.66	-13.00	-25.66	H
7406.74	-32.87	11.50	22.20	-43.57	-13.00	-30.57	H
3703.29	-35.69	12.60	12.93	-36.02	-13.00	-23.02	V
5554.28	-34.86	13.10	17.11	-38.87	-13.00	-25.87	V
7406.74	-32.84	11.50	22.20	-43.54	-13.00	-30.54	V
LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.21	-33.61	12.60	12.93	-33.94	-13.00	-20.94	H
5639.96	-34.18	13.10	17.11	-38.19	-13.00	-25.19	H
7520.18	-33.24	11.50	22.20	-43.94	-13.00	-30.94	H
3760.21	-34.82	12.60	12.93	-35.15	-13.00	-22.15	V
5639.96	-34.90	13.10	17.11	-38.91	-13.00	-25.91	V
7520.18	-32.74	11.50	22.20	-43.44	-13.00	-30.44	V
LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3816.71	-34.13	12.60	12.93	-34.46	-13.00	-21.46	H
5724.90	-34.23	13.10	17.11	-38.24	-13.00	-25.24	H
7633.35	-32.75	11.50	22.20	-43.45	-13.00	-30.45	H
3816.71	-35.64	12.60	12.93	-35.97	-13.00	-22.97	V
5724.90	-35.18	13.10	17.11	-39.19	-13.00	-26.19	V
7633.35	-33.10	11.50	22.20	-43.80	-13.00	-30.80	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 2

LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3705.01	-33.91	12.60	12.93	-34.24	-13.00	-21.24	H
5557.74	-34.80	13.10	17.11	-38.81	-13.00	-25.81	H
7410.50	-32.30	11.50	22.20	-43.00	-13.00	-30.00	H
3705.01	-34.82	12.60	12.93	-35.15	-13.00	-22.15	V
5557.74	-33.92	13.10	17.11	-37.93	-13.00	-24.93	V
7410.50	-32.75	11.50	22.20	-43.45	-13.00	-30.45	V
LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.94	-33.61	12.60	12.93	-33.94	-13.00	-20.94	H
5640.28	-34.45	13.10	17.11	-38.46	-13.00	-25.46	H
7519.91	-33.17	11.50	22.20	-43.87	-13.00	-30.87	H
3759.94	-35.73	12.60	12.93	-36.06	-13.00	-23.06	V
5640.28	-33.95	13.10	17.11	-37.96	-13.00	-24.96	V
7519.91	-32.04	11.50	22.20	-42.74	-13.00	-29.74	V
LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3813.93	-34.43	12.60	12.93	-34.76	-13.00	-21.76	H
5721.60	-35.40	13.10	17.11	-39.41	-13.00	-26.41	H
7628.81	-32.28	11.50	22.20	-42.98	-13.00	-29.98	H
3813.93	-34.96	12.60	12.93	-35.29	-13.00	-22.29	V
5721.60	-34.74	13.10	17.11	-38.75	-13.00	-25.75	V
7628.81	-31.92	11.50	22.20	-42.62	-13.00	-29.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 2

LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3710.50	-34.24	12.60	12.93	-34.57	-13.00	-21.57	H
5565.74	-34.31	13.10	17.11	-38.32	-13.00	-25.32	H
7420.82	-32.56	11.50	22.20	-43.26	-13.00	-30.26	H
3710.50	-34.93	12.60	12.93	-35.26	-13.00	-22.26	V
5565.74	-34.63	13.10	17.11	-38.64	-13.00	-25.64	V
7420.82	-33.10	11.50	22.20	-43.80	-13.00	-30.80	V
LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.89	-33.90	12.60	12.93	-34.23	-13.00	-21.23	H
5640.01	-35.17	13.10	17.11	-39.18	-13.00	-26.18	H
7520.12	-32.62	11.50	22.20	-43.32	-13.00	-30.32	H
3759.89	-34.97	12.60	12.93	-35.30	-13.00	-22.30	V
5640.01	-33.77	13.10	17.11	-37.78	-13.00	-24.78	V
7520.12	-32.12	11.50	22.20	-42.82	-13.00	-29.82	V
LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3809.29	-33.72	12.60	12.93	-34.05	-13.00	-21.05	H
5713.89	-34.11	13.10	17.11	-38.12	-13.00	-25.12	H
7617.99	-32.32	11.50	22.20	-43.02	-13.00	-30.02	H
3809.29	-36.00	12.60	12.93	-36.33	-13.00	-23.33	V
5713.89	-34.24	13.10	17.11	-38.25	-13.00	-25.25	V
7617.99	-32.33	11.50	22.20	-43.03	-13.00	-30.03	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 2

LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3716.10	-34.87	12.60	12.93	-35.20	-13.00	-22.20	H
5573.90	-34.71	13.10	17.11	-38.72	-13.00	-25.72	H
7618.84	-32.61	11.50	22.20	-43.31	-13.00	-30.31	H
3716.10	-35.50	12.60	12.93	-35.83	-13.00	-22.83	V
5573.90	-35.19	13.10	17.11	-39.20	-13.00	-26.20	V
7618.84	-31.79	11.50	22.20	-42.49	-13.00	-29.49	V
LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3759.86	-33.85	12.60	12.93	-34.18	-13.00	-21.18	H
5640.28	-35.45	13.10	17.11	-39.46	-13.00	-26.46	H
7520.21	-32.56	11.50	22.20	-43.26	-13.00	-30.26	H
3759.86	-34.95	12.60	12.93	-35.28	-13.00	-22.28	V
5640.28	-34.85	13.10	17.11	-38.86	-13.00	-25.86	V
7520.21	-33.14	11.50	22.20	-43.84	-13.00	-30.84	V
LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3803.82	-33.94	12.60	12.93	-34.27	-13.00	-21.27	H
5705.57	-34.96	13.10	17.11	-38.97	-13.00	-25.97	H
7607.44	-32.37	11.50	22.20	-43.07	-13.00	-30.07	H
3803.82	-34.70	12.60	12.93	-35.03	-13.00	-22.03	V
5705.57	-34.74	13.10	17.11	-38.75	-13.00	-25.75	V
7607.44	-32.50	11.50	22.20	-43.20	-13.00	-30.20	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 2

LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3721.04	-33.93	12.60	12.93	-34.26	-13.00	-21.26	H
5581.50	-34.67	13.10	17.11	-38.68	-13.00	-25.68	H
7442.04	-32.45	11.50	22.20	-43.15	-13.00	-30.15	H
3721.04	-34.78	12.60	12.93	-35.11	-13.00	-22.11	V
5581.50	-33.92	13.10	17.11	-37.93	-13.00	-24.93	V
7442.04	-32.39	11.50	22.20	-43.09	-13.00	-30.09	V
LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3760.18	-33.50	12.60	12.93	-33.83	-13.00	-20.83	H
5640.12	-34.42	13.10	17.11	-38.43	-13.00	-25.43	H
7520.04	-32.55	11.50	22.20	-43.25	-13.00	-30.25	H
3760.18	-35.26	12.60	12.93	-35.59	-13.00	-22.59	V
5640.12	-35.24	13.10	17.11	-39.25	-13.00	-26.25	V
7520.04	-32.58	11.50	22.20	-43.28	-13.00	-30.28	V
LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3798.16	-34.57	12.60	12.93	-34.90	-13.00	-21.90	H
5697.58	-35.27	13.10	17.11	-39.28	-13.00	-26.28	H
7597.13	-32.58	11.50	22.20	-43.28	-13.00	-30.28	H
3798.16	-35.96	12.60	12.93	-36.29	-13.00	-23.29	V
5697.58	-34.82	13.10	17.11	-38.83	-13.00	-25.83	V
7597.13	-32.20	11.50	22.20	-42.90	-13.00	-29.90	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 4**

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3422.21	-33.66	12.90	12.56	-33.32	-13.00	-20.32	H
5133.28	-35.21	13.10	12.46	-34.57	-13.00	-21.57	H
6844.56	-33.09	12.33	21.13	-41.89	-13.00	-28.89	H
3422.21	-34.83	12.90	12.76	-34.69	-13.00	-21.69	V
5133.28	-34.60	13.10	16.32	-37.82	-13.00	-24.82	V
6844.56	-32.34	12.33	21.13	-41.14	-13.00	-28.14	V
LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3465.88	-34.73	12.80	12.56	-34.49	-13.00	-21.49	H
5199.14	-35.03	13.10	12.46	-34.39	-13.00	-21.39	H
6931.96	-32.79	12.33	21.13	-41.59	-13.00	-28.59	H
3465.88	-35.98	12.80	12.76	-35.94	-13.00	-22.94	V
5199.14	-34.72	13.10	16.32	-37.94	-13.00	-24.94	V
6931.96	-32.29	12.33	21.13	-41.09	-13.00	-28.09	V
LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3508.41	-34.40	12.61	12.56	-34.35	-13.00	-21.35	H
5262.36	-34.97	13.12	12.46	-34.31	-13.00	-21.31	H
7016.32	-32.77	12.32	21.13	-41.58	-13.00	-28.58	H
3508.41	-34.80	12.61	12.76	-34.95	-13.00	-21.95	V
5262.36	-35.21	13.12	16.32	-38.41	-13.00	-25.41	V
7016.32	-32.80	12.32	21.13	-41.61	-13.00	-28.61	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 4

LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3424.26	-34.87	12.90	12.56	-34.53	-13.00	-21.53	H
5136.54	-34.92	13.10	12.46	-34.28	-13.00	-21.28	H
6848.94	-33.58	12.33	21.13	-42.38	-13.00	-29.38	H
3424.26	-36.02	12.90	12.76	-35.88	-13.00	-22.88	V
5136.54	-33.88	13.10	16.32	-37.10	-13.00	-24.10	V
6848.94	-32.84	12.33	21.13	-41.64	-13.00	-28.64	V
LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.03	-34.60	12.80	12.56	-34.36	-13.00	-21.36	H
5198.84	-35.48	13.10	12.46	-34.84	-13.00	-21.84	H
6932.12	-32.42	12.33	21.13	-41.22	-13.00	-28.22	H
3466.03	-34.82	12.80	12.76	-34.78	-13.00	-21.78	V
5198.84	-35.11	13.10	16.32	-38.33	-13.00	-25.33	V
6932.12	-32.60	12.33	21.13	-41.40	-13.00	-28.40	V
LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3506.66	-33.76	12.61	12.56	-33.71	-13.00	-20.71	H
5262.23	-34.67	13.12	12.46	-34.01	-13.00	-21.01	H
7012.87	-32.72	12.32	21.13	-41.53	-13.00	-28.53	H
3506.66	-34.72	12.61	12.76	-34.87	-13.00	-21.87	V
5262.23	-34.74	13.12	16.32	-37.94	-13.00	-24.94	V
7012.87	-32.25	12.32	21.13	-41.06	-13.00	-28.06	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 4

LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3426.48	-34.83	12.90	12.56	-34.49	-13.00	-21.49	H
5139.20	-34.77	13.10	12.46	-34.13	-13.00	-21.13	H
6852.72	-33.28	12.33	21.13	-42.08	-13.00	-29.08	H
3426.48	-35.69	12.90	12.76	-35.55	-13.00	-22.55	V
5139.20	-33.97	13.10	16.32	-37.19	-13.00	-24.19	V
6852.72	-32.42	12.33	21.13	-41.22	-13.00	-28.22	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.04	-34.29	12.80	12.56	-34.05	-13.00	-21.05	H
5199.12	-35.36	13.10	12.46	-34.72	-13.00	-21.72	H
6932.12	-32.69	12.33	21.13	-41.49	-13.00	-28.49	H
3466.04	-35.16	12.80	12.76	-35.12	-13.00	-22.12	V
5199.12	-35.17	13.10	16.32	-38.39	-13.00	-25.39	V
6932.12	-32.87	12.33	21.13	-41.67	-13.00	-28.67	V
LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3506.41	-34.74	12.61	12.56	-34.69	-13.00	-21.69	H
5262.19	-34.94	13.12	12.46	-34.28	-13.00	-21.28	H
7013.06	-33.51	12.32	21.13	-42.32	-13.00	-29.32	H
3506.41	-34.73	12.61	12.76	-34.88	-13.00	-21.88	V
5262.19	-34.96	13.12	16.32	-38.16	-13.00	-25.16	V
7013.06	-32.14	12.32	21.13	-40.95	-13.00	-27.95	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 4

LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3436.08	-34.10	12.90	12.56	-33.76	-13.00	-20.76	H
5154.24	-34.69	13.10	12.46	-34.05	-13.00	-21.05	H
6872.68	-32.18	12.33	21.13	-40.98	-13.00	-27.98	H
3436.08	-35.66	12.90	12.76	-35.52	-13.00	-22.52	V
5154.24	-34.27	13.10	16.32	-37.49	-13.00	-24.49	V
6872.68	-32.41	12.33	21.13	-41.21	-13.00	-28.21	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.26	-33.70	12.80	12.56	-33.46	-13.00	-20.46	H
5199.03	-34.22	13.10	12.46	-33.58	-13.00	-20.58	H
6931.97	-32.83	12.33	21.13	-41.63	-13.00	-28.63	H
3466.26	-35.52	12.80	12.76	-35.48	-13.00	-22.48	V
5199.03	-34.16	13.10	16.32	-37.38	-13.00	-24.38	V
6931.97	-32.64	12.33	21.13	-41.44	-13.00	-28.44	V
LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3494.55	-34.77	12.61	12.56	-34.72	-13.00	-21.72	H
5241.27	-34.17	13.12	12.46	-33.51	-13.00	-20.51	H
6988.15	-32.29	12.32	21.13	-41.10	-13.00	-28.10	H
3494.55	-35.34	12.61	12.76	-35.49	-13.00	-22.49	V
5241.27	-35.12	13.12	16.32	-38.32	-13.00	-25.32	V
6988.15	-32.23	12.32	21.13	-41.04	-13.00	-28.04	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 4

LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3436.39	-34.85	12.90	12.56	-34.51	-13.00	-21.51	H
5154.62	-34.38	13.10	12.46	-33.74	-13.00	-20.74	H
6872.52	-32.20	12.33	21.13	-41.00	-13.00	-28.00	H
3436.39	-35.80	12.90	12.76	-35.66	-13.00	-22.66	V
5154.62	-35.07	13.10	16.32	-38.29	-13.00	-25.29	V
6872.52	-32.38	12.33	21.13	-41.18	-13.00	-28.18	V
LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3466.00	-34.89	12.80	12.56	-34.65	-13.00	-21.65	H
5199.17	-34.21	13.10	12.46	-33.57	-13.00	-20.57	H
6932.21	-32.40	12.33	21.13	-41.20	-13.00	-28.20	H
3466.00	-35.71	12.80	12.76	-35.67	-13.00	-22.67	V
5199.17	-35.01	13.10	16.32	-38.23	-13.00	-25.23	V
6932.21	-32.80	12.33	21.13	-41.60	-13.00	-28.60	V
LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3494.34	-34.20	12.61	12.56	-34.15	-13.00	-21.15	H
5242.28	-34.62	13.12	12.46	-33.96	-13.00	-20.96	H
6989.25	-33.42	12.32	21.13	-42.23	-13.00	-29.23	H
3494.34	-34.70	12.61	12.76	-34.85	-13.00	-21.85	V
5242.28	-34.22	13.12	16.32	-37.42	-13.00	-24.42	V
6989.25	-32.22	12.32	21.13	-41.03	-13.00	-28.03	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 4

LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3440.31	-34.10	12.90	12.56	-33.76	-13.00	-20.76	H
5160.54	-34.42	13.10	12.46	-33.78	-13.00	-20.78	H
6880.57	-33.34	12.33	21.13	-42.14	-13.00	-29.14	H
3440.31	-35.74	12.90	12.76	-35.60	-13.00	-22.60	V
5160.54	-35.24	13.10	16.32	-38.46	-13.00	-25.46	V
6880.57	-32.49	12.33	21.13	-41.29	-13.00	-28.29	V
LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3465.92	-33.71	12.80	12.56	-33.47	-13.00	-20.47	H
5198.89	-35.14	13.10	12.46	-34.50	-13.00	-21.50	H
6932.29	-32.31	12.33	21.13	-41.11	-13.00	-28.11	H
3465.92	-35.58	12.80	12.76	-35.54	-13.00	-22.54	V
5198.89	-34.41	13.10	16.32	-37.63	-13.00	-24.63	V
6932.29	-32.35	12.33	21.13	-41.15	-13.00	-28.15	V
LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
3490.79	-34.40	12.61	12.56	-34.35	-13.00	-21.35	H
5235.08	-34.93	13.12	12.46	-34.27	-13.00	-21.27	H
6980.13	-32.37	12.32	21.13	-41.18	-13.00	-28.18	H
3490.79	-35.04	12.61	12.76	-35.19	-13.00	-22.19	V
5235.08	-33.80	13.12	16.32	-37.00	-13.00	-24.00	V
6980.13	-32.17	12.32	21.13	-40.98	-13.00	-27.98	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 5

LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1649.07	-34.27	9.56	9.72	-34.43	-13.00	-21.43	H
2473.84	-34.40	10.50	10.86	-34.76	-13.00	-21.76	H
3298.33	-33.54	12.78	11.57	-32.33	-13.00	-19.33	H
1649.07	-35.95	9.56	9.34	-35.73	-13.00	-22.73	V
2473.84	-34.74	10.50	10.42	-34.66	-13.00	-21.66	V
3298.33	-32.04	12.78	11.12	-30.38	-13.00	-17.38	V
LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1672.57	-33.71	9.56	9.72	-33.87	-13.00	-20.87	H
2509.35	-34.75	10.50	10.86	-35.11	-13.00	-22.11	H
3345.90	-33.03	12.78	11.57	-31.82	-13.00	-18.82	H
1672.57	-34.63	9.56	9.34	-34.41	-13.00	-21.41	V
2509.35	-34.23	10.50	10.42	-34.15	-13.00	-21.15	V
3345.90	-31.89	12.78	11.12	-30.23	-13.00	-17.23	V
LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1696.27	-34.69	9.56	9.72	-34.85	-13.00	-21.85	H
2544.82	-34.79	10.50	10.86	-35.15	-13.00	-22.15	H
3392.73	-32.70	12.78	11.57	-31.49	-13.00	-18.49	H
1696.27	-35.17	9.56	9.34	-34.95	-13.00	-21.95	V
2544.82	-34.08	10.50	10.42	-34.00	-13.00	-21.00	V
3392.73	-32.64	12.78	11.12	-30.98	-13.00	-17.98	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 5

LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1650.61	-34.89	9.56	9.72	-35.05	-13.00	-22.05	H
2476.19	-35.33	10.50	10.86	-35.69	-13.00	-22.69	H
3301.74	-33.03	12.78	11.57	-31.82	-13.00	-18.82	H
1650.61	-35.39	9.56	9.34	-35.17	-13.00	-22.17	V
2476.19	-34.87	10.50	10.42	-34.79	-13.00	-21.79	V
3301.74	-31.75	12.78	11.12	-30.09	-13.00	-17.09	V
LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1672.62	-33.50	9.56	9.72	-33.66	-13.00	-20.66	H
2509.24	-35.02	10.50	10.86	-35.38	-13.00	-22.38	H
3345.74	-32.27	12.78	11.57	-31.06	-13.00	-18.06	H
1672.62	-34.56	9.56	9.34	-34.34	-13.00	-21.34	V
2509.24	-33.91	10.50	10.42	-33.83	-13.00	-20.83	V
3345.74	-32.71	12.78	11.12	-31.05	-13.00	-18.05	V
LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1694.56	-34.30	9.56	9.72	-34.46	-13.00	-21.46	H
2542.17	-34.20	10.50	10.86	-34.56	-13.00	-21.56	H
3389.58	-32.21	12.78	11.57	-31.00	-13.00	-18.00	H
1694.56	-35.17	9.56	9.34	-34.95	-13.00	-21.95	V
2542.17	-34.83	10.50	10.42	-34.75	-13.00	-21.75	V
3389.58	-31.73	12.78	11.12	-30.07	-13.00	-17.07	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 5

LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1652.57	-34.28	9.56	9.72	-34.44	-13.00	-21.44	H
2479.44	-35.27	10.50	10.86	-35.63	-13.00	-22.63	H
3305.74	-33.32	12.78	11.57	-32.11	-13.00	-19.11	H
1652.57	-35.35	9.56	9.34	-35.13	-13.00	-22.13	V
2479.44	-34.45	10.50	10.42	-34.37	-13.00	-21.37	V
3305.74	-32.33	12.78	11.12	-30.67	-13.00	-17.67	V
LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1672.76	-34.93	9.56	9.72	-35.09	-13.00	-22.09	H
2509.27	-34.08	10.50	10.86	-34.44	-13.00	-21.44	H
3345.66	-32.80	12.78	11.57	-31.59	-13.00	-18.59	H
1672.76	-35.88	9.56	9.34	-35.66	-13.00	-22.66	V
2509.27	-34.87	10.50	10.42	-34.79	-13.00	-21.79	V
3345.66	-32.32	12.78	11.12	-30.66	-13.00	-17.66	V
LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1692.73	-33.69	9.56	9.72	-33.85	-13.00	-20.85	H
2539.04	-35.22	10.50	10.86	-35.58	-13.00	-22.58	H
3385.74	-32.46	12.78	11.57	-31.25	-13.00	-18.25	H
1692.73	-35.83	9.56	9.34	-35.61	-13.00	-22.61	V
2539.04	-34.39	10.50	10.42	-34.31	-13.00	-21.31	V
3385.74	-31.97	12.78	11.12	-30.31	-13.00	-17.31	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 5

LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1657.97	-34.28	9.56	9.72	-34.44	-13.00	-21.44	H
2486.99	-34.70	10.50	10.86	-35.06	-13.00	-22.06	H
3315.81	-32.45	12.78	11.57	-31.24	-13.00	-18.24	H
1657.97	-35.39	9.56	9.34	-35.17	-13.00	-22.17	V
2486.99	-33.87	10.50	10.42	-33.79	-13.00	-20.79	V
3315.81	-33.21	12.78	11.12	-31.55	-13.00	-18.55	V
LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1672.65	-34.22	9.56	9.72	-34.38	-13.00	-21.38	H
2509.31	-34.76	10.50	10.86	-35.12	-13.00	-22.12	H
3345.65	-32.55	12.78	11.57	-31.34	-13.00	-18.34	H
1672.65	-35.11	9.56	9.34	-34.89	-13.00	-21.89	V
2509.31	-34.46	10.50	10.42	-34.38	-13.00	-21.38	V
3345.65	-32.58	12.78	11.12	-30.92	-13.00	-17.92	V
LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
1687.77	-34.52	9.56	9.72	-34.68	-13.00	-21.68	H
2531.60	-35.20	10.50	10.86	-35.56	-13.00	-22.56	H
3375.71	-33.21	12.78	11.57	-32.00	-13.00	-19.00	H
1687.77	-36.00	9.56	9.34	-35.78	-13.00	-22.78	V
2531.60	-35.23	10.50	10.42	-35.15	-13.00	-22.15	V
3375.71	-32.17	12.78	11.12	-30.51	-13.00	-17.51	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 7**

LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5005.30	-33.66	12.66	12.54	-33.54	-25.00	-8.54	H
7507.76	-34.18	11.46	12.57	-35.29	-25.00	-10.29	H
10010.64	-32.76	12.79	21.23	-41.20	-25.00	-16.20	H
5005.30	-35.37	12.66	12.54	-35.25	-25.00	-10.25	V
7507.76	-34.62	11.46	12.57	-35.73	-25.00	-10.73	V
10010.64	-32.33	12.79	21.23	-40.77	-25.00	-15.77	V
LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5070.26	-34.08	12.72	12.55	-33.91	-25.00	-8.91	H
7605.02	-34.41	11.46	12.57	-35.52	-25.00	-10.52	H
10140.09	-33.44	12.09	21.25	-42.60	-25.00	-17.60	H
5070.26	-34.96	12.80	12.55	-34.71	-25.00	-9.71	V
7605.02	-35.10	13.10	12.57	-34.57	-25.00	-9.57	V
10140.09	-32.70	12.33	21.25	-41.62	-25.00	-16.62	V
LTE Band 7 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5134.23	-33.98	12.76	12.57	-33.79	-25.00	-8.79	H
7701.51	-34.96	11.45	12.58	-36.09	-25.00	-11.09	H
10268.66	-32.62	12.28	21.27	-41.61	-25.00	-16.61	H
5134.23	-34.93	12.76	12.57	-34.74	-25.00	-9.74	V
7701.51	-34.10	11.45	12.58	-35.23	-25.00	-10.23	V
10268.66	-32.68	12.28	21.27	-41.67	-25.00	-16.67	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 7**

LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5010.20	-34.31	12.66	12.54	-34.19	-25.00	-9.19	H
7515.80	-35.16	11.46	12.57	-36.27	-25.00	-11.27	H
10020.85	-32.24	12.79	21.23	-40.68	-25.00	-15.68	H
5010.20	-34.67	12.66	12.54	-34.55	-25.00	-9.55	V
7515.80	-35.23	11.46	12.57	-36.34	-25.00	-11.34	V
10020.85	-31.92	12.79	21.23	-40.36	-25.00	-15.36	V
LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5070.08	-33.88	12.72	12.55	-33.71	-25.00	-8.71	H
7604.83	-34.26	11.46	12.57	-35.37	-25.00	-10.37	H
10139.82	-32.79	12.09	21.25	-41.95	-25.00	-16.95	H
5070.08	-35.88	12.80	12.55	-35.63	-25.00	-10.63	V
7604.83	-34.39	13.10	12.57	-33.86	-25.00	-8.86	V
10139.82	-32.81	12.33	21.25	-41.73	-25.00	-16.73	V
LTE Band 7 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5129.27	-33.62	12.76	12.57	-33.43	-25.00	-8.43	H
7694.52	-34.21	11.45	12.58	-35.34	-25.00	-10.34	H
10259.10	-33.36	12.28	21.27	-42.35	-25.00	-17.35	H
5129.27	-34.72	12.76	12.57	-34.53	-25.00	-9.53	V
7694.52	-34.55	11.45	12.58	-35.68	-25.00	-10.68	V
10259.10	-32.95	12.28	21.27	-41.94	-25.00	-16.94	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 7

LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5015.85	-34.02	12.66	12.54	-33.90	-25.00	-8.90	H
7523.98	-34.00	11.46	12.57	-35.11	-25.00	-10.11	H
10032.39	-33.59	12.79	21.23	-42.03	-25.00	-17.03	H
5015.85	-35.02	12.66	12.54	-34.90	-25.00	-9.90	V
7523.98	-35.04	11.46	12.57	-36.15	-25.00	-11.15	V
10032.39	-31.82	12.79	21.23	-40.26	-25.00	-15.26	V
LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5069.96	-34.85	12.72	12.55	-34.68	-25.00	-9.68	H
7605.06	-35.29	11.46	12.57	-36.40	-25.00	-11.40	H
10139.97	-33.03	12.09	21.25	-42.19	-25.00	-17.19	H
5069.96	-35.76	12.80	12.55	-35.51	-25.00	-10.51	V
7605.06	-34.92	13.10	12.57	-34.39	-25.00	-9.39	V
10139.97	-31.93	12.33	21.25	-40.85	-25.00	-15.85	V
LTE Band 7 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5123.54	-34.29	12.76	12.57	-34.10	-25.00	-9.10	H
7523.98	-35.10	11.45	12.58	-36.23	-25.00	-11.23	H
10032.18	-33.16	12.28	21.27	-42.15	-25.00	-17.15	H
5123.54	-34.71	12.76	12.57	-34.52	-25.00	-9.52	V
7523.98	-34.90	11.45	12.58	-36.03	-25.00	-11.03	V
10032.18	-33.18	12.28	21.27	-42.17	-25.00	-17.17	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 7

LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5021.06	-34.83	12.66	12.54	-34.71	-25.00	-9.71	H
7531.16	-34.12	11.46	12.57	-35.23	-25.00	-10.23	H
7524.21	-32.36	12.79	21.23	-40.80	-25.00	-15.80	H
5021.06	-35.07	12.66	12.54	-34.95	-25.00	-9.95	V
7531.16	-34.86	11.46	12.57	-35.97	-25.00	-10.97	V
7524.21	-33.03	12.79	21.23	-41.47	-25.00	-16.47	V
LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5069.99	-33.64	12.72	12.55	-33.47	-25.00	-8.47	H
7605.17	-35.22	11.46	12.57	-36.33	-25.00	-11.33	H
10140.23	-32.35	12.09	21.25	-41.51	-25.00	-16.51	H
5069.99	-36.01	12.80	12.55	-35.76	-25.00	-10.76	V
7605.17	-34.49	13.10	12.57	-33.96	-25.00	-8.96	V
10140.23	-33.05	12.33	21.25	-41.97	-25.00	-16.97	V
LTE Band 7 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5118.97	-34.68	12.76	12.57	-34.49	-25.00	-9.49	H
7678.04	-35.36	11.45	12.58	-36.49	-25.00	-11.49	H
10238.19	-33.34	12.28	21.27	-42.33	-25.00	-17.33	H
5118.97	-35.43	12.76	12.57	-35.24	-25.00	-10.24	V
7678.04	-34.72	11.45	12.58	-35.85	-25.00	-10.85	V
10238.19	-33.09	12.28	21.27	-42.08	-25.00	-17.08	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 12

LTE Band 12 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1398.95	-33.59	8.17	9.34	-34.76	-13.00	-21.76	H
2098.84	-35.08	9.53	10.42	-35.97	-13.00	-22.97	H
2798.59	-33.23	11.27	11.12	-33.08	-13.00	-20.08	H
1398.95	-35.77	8.17	9.34	-36.94	-13.00	-23.94	V
2098.84	-34.83	9.53	10.42	-35.72	-13.00	-22.72	V
2798.59	-31.98	11.27	11.12	-31.83	-13.00	-18.83	V
LTE Band 12 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1414.77	-33.67	8.17	9.34	-34.84	-13.00	-21.84	H
2122.23	-35.47	9.53	10.42	-36.36	-13.00	-23.36	H
2829.57	-33.49	11.27	11.12	-33.34	-13.00	-20.34	H
1414.77	-35.89	8.17	9.34	-37.06	-13.00	-24.06	V
2122.23	-34.75	9.53	10.42	-35.64	-13.00	-22.64	V
2829.57	-33.13	11.27	11.12	-32.98	-13.00	-19.98	V
LTE Band 12 / 1.4MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1430.51	-34.87	8.17	9.34	-36.04	-13.00	-23.04	H
2145.49	-34.87	9.53	10.42	-35.76	-13.00	-22.76	H
2860.81	-32.15	11.27	11.12	-32.00	-13.00	-19.00	H
1430.51	-35.41	8.17	9.34	-36.58	-13.00	-23.58	V
2145.49	-34.88	9.53	10.42	-35.77	-13.00	-22.77	V
2860.81	-31.99	11.27	11.12	-31.84	-13.00	-18.84	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 12

LTE Band 12 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1400.68	-34.82	8.17	9.34	-35.99	-13.00	-22.99	H
2101.38	-34.36	9.53	10.42	-35.25	-13.00	-22.25	H
2801.83	-32.45	11.27	11.12	-32.30	-13.00	-19.30	H
1400.68	-35.68	8.17	9.34	-36.85	-13.00	-23.85	V
2101.38	-34.30	9.53	10.42	-35.19	-13.00	-22.19	V
2801.83	-32.88	11.27	11.12	-32.73	-13.00	-19.73	V
LTE Band 12 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1414.62	-34.45	8.17	9.34	-35.62	-13.00	-22.62	H
2122.19	-34.74	9.53	10.42	-35.63	-13.00	-22.63	H
2829.66	-32.90	11.27	11.12	-32.75	-13.00	-19.75	H
1414.62	-35.70	8.17	9.34	-36.87	-13.00	-23.87	V
2122.19	-34.72	9.53	10.42	-35.61	-13.00	-22.61	V
2829.66	-33.19	11.27	11.12	-33.04	-13.00	-20.04	V
LTE Band 12 / 3MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1429.00	-34.00	8.17	9.34	-35.17	-13.00	-22.17	H
2143.34	-35.38	9.53	10.42	-36.27	-13.00	-23.27	H
2857.55	-32.80	11.27	11.12	-32.65	-13.00	-19.65	H
1429.00	-34.62	8.17	9.34	-35.79	-13.00	-22.79	V
2143.34	-33.86	9.53	10.42	-34.75	-13.00	-21.75	V
2857.55	-31.85	11.27	11.12	-31.70	-13.00	-18.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 12

LTE Band 12 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1402.64	-34.91	8.17	9.34	-36.08	-13.00	-23.08	H
2104.38	-35.05	9.53	10.42	-35.94	-13.00	-22.94	H
2805.95	-33.16	11.27	11.12	-33.01	-13.00	-20.01	H
1402.64	-34.71	8.17	9.34	-35.88	-13.00	-22.88	V
2104.38	-35.09	9.53	10.42	-35.98	-13.00	-22.98	V
2805.95	-32.67	11.27	11.12	-32.52	-13.00	-19.52	V
LTE Band 12 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1414.64	-34.04	8.17	9.34	-35.21	-13.00	-22.21	H
2122.11	-34.67	9.53	10.42	-35.56	-13.00	-22.56	H
2829.73	-32.84	11.27	11.12	-32.69	-13.00	-19.69	H
1414.64	-34.79	8.17	9.34	-35.96	-13.00	-22.96	V
2122.11	-34.06	9.53	10.42	-34.95	-13.00	-21.95	V
2829.73	-33.20	11.27	11.12	-33.05	-13.00	-20.05	V
LTE Band 12 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1426.71	-34.58	8.17	9.34	-35.75	-13.00	-22.75	H
2140.32	-35.18	9.53	10.42	-36.07	-13.00	-23.07	H
2853.75	-33.09	11.27	11.12	-32.94	-13.00	-19.94	H
1426.71	-35.28	8.17	9.34	-36.45	-13.00	-23.45	V
2140.32	-34.43	9.53	10.42	-35.32	-13.00	-22.32	V
2853.75	-32.36	11.27	11.12	-32.21	-13.00	-19.21	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 12**

LTE Band 12 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1407.53	-33.78	8.17	9.34	-34.95	-13.00	-21.95	H
2111.63	-34.63	9.53	10.42	-35.52	-13.00	-22.52	H
2815.92	-33.38	11.27	11.12	-33.23	-13.00	-20.23	H
1407.53	-35.45	8.17	9.34	-36.62	-13.00	-23.62	V
2111.63	-35.06	9.53	10.42	-35.95	-13.00	-22.95	V
2815.92	-32.38	11.27	11.12	-32.23	-13.00	-19.23	V
LTE Band 12 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1414.63	-33.80	8.17	9.34	-34.97	-13.00	-21.97	H
2122.33	-34.74	9.53	10.42	-35.63	-13.00	-22.63	H
2829.67	-32.91	11.27	11.12	-32.76	-13.00	-19.76	H
1414.63	-35.12	8.17	9.34	-36.29	-13.00	-23.29	V
2122.33	-34.23	9.53	10.42	-35.12	-13.00	-22.12	V
2829.67	-32.05	11.27	11.12	-31.90	-13.00	-18.90	V
LTE Band 12 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1421.60	-34.36	8.17	9.34	-35.53	-13.00	-22.53	H
2132.53	-34.90	9.53	10.42	-35.79	-13.00	-22.79	H
2843.68	-33.59	11.27	11.12	-33.44	-13.00	-20.44	H
1421.60	-35.50	8.17	9.34	-36.67	-13.00	-23.67	V
2132.53	-33.84	9.53	10.42	-34.73	-13.00	-21.73	V
2843.68	-32.56	11.27	11.12	-32.41	-13.00	-19.41	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.



LTE BAND 17

LTE Band 17 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1413.42	-34.07	8.17	9.34	-35.24	-13.00	-22.24	H
2120.59	-35.01	9.53	10.42	-35.90	-13.00	-22.90	H
2826.37	-32.85	11.27	11.12	-32.70	-13.00	-19.70	H
1413.42	-35.05	8.17	9.34	-36.22	-13.00	-23.22	V
2120.59	-34.44	9.53	10.42	-35.33	-13.00	-22.33	V
2826.37	-32.78	11.27	11.12	-32.63	-13.00	-19.63	V
LTE Band 17 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1420.24	-34.03	8.17	9.34	-35.20	-13.00	-22.20	H
2130.13	-35.24	9.53	10.42	-36.13	-13.00	-23.13	H
2840.02	-32.78	11.27	11.12	-32.63	-13.00	-19.63	H
1420.24	-34.88	8.17	9.34	-36.05	-13.00	-23.05	V
2130.13	-34.48	9.53	10.42	-35.37	-13.00	-22.37	V
2840.02	-32.10	11.27	11.12	-31.95	-13.00	-18.95	V
LTE Band 17 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1426.04	-34.77	8.17	9.34	-35.94	-13.00	-22.94	H
2139.51	-35.23	9.53	10.42	-36.12	-13.00	-23.12	H
2852.70	-33.22	11.27	11.12	-33.07	-13.00	-20.07	H
1426.04	-34.67	8.17	9.34	-35.84	-13.00	-22.84	V
2139.51	-34.32	9.53	10.42	-35.21	-13.00	-22.21	V
2852.70	-31.82	11.27	11.12	-31.67	-13.00	-18.67	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 17**

LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1418.03	-34.72	8.17	9.34	-35.89	-13.00	-22.89	H
2127.56	-34.58	9.53	10.42	-35.47	-13.00	-22.47	H
2836.68	-32.73	11.27	11.12	-32.58	-13.00	-19.58	H
1418.03	-35.18	8.17	9.34	-36.35	-13.00	-23.35	V
2127.56	-35.10	9.53	10.42	-35.99	-13.00	-22.99	V
2836.68	-31.83	11.27	11.12	-31.68	-13.00	-18.68	V
LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1419.99	-33.55	8.17	9.34	-34.72	-13.00	-21.72	H
2129.84	-34.33	9.53	10.42	-35.22	-13.00	-22.22	H
2840.21	-33.11	11.27	11.12	-32.96	-13.00	-19.96	H
1419.99	-34.63	8.17	9.34	-35.80	-13.00	-22.80	V
2129.84	-34.35	9.53	10.42	-35.24	-13.00	-22.24	V
2840.21	-32.53	11.27	11.12	-32.38	-13.00	-19.38	V
LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dBm)	Polarity
1421.40	-33.63	8.17	9.34	-34.80	-13.00	-21.80	H
2131.72	-34.38	9.53	10.42	-35.27	-13.00	-22.27	H
2842.79	-33.21	11.27	11.12	-33.06	-13.00	-20.06	H
1421.40	-34.65	8.17	9.34	-35.82	-13.00	-22.82	V
2131.72	-35.21	9.53	10.42	-36.10	-13.00	-23.10	V
2842.79	-33.05	11.27	11.12	-32.90	-13.00	-19.90	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 41**

LTE Band41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
4997.13	-33.70	12.66	12.54	-33.58	-25.00	-8.58	H
7495.46	-35.37	11.46	12.57	-36.48	-25.00	-11.48	H
9994.49	-32.46	12.79	21.23	-40.90	-25.00	-15.90	H
4997.29	-35.05	12.66	12.54	-34.93	-25.00	-9.93	V
7495.88	-33.93	11.46	12.57	-35.04	-25.00	-10.04	V
9994.40	-32.31	12.79	21.23	-40.75	-25.00	-15.75	V
LTE Band 41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5186.01	-34.11	12.72	12.55	-33.94	-25.00	-8.94	H
7779.14	-34.33	11.46	12.57	-35.44	-25.00	-10.44	H
10371.92	-32.53	12.09	21.25	-41.69	-25.00	-16.69	H
5186.01	-35.86	12.80	12.55	-35.61	-25.00	-10.61	V
7779.14	-34.44	13.10	12.57	-33.91	-25.00	-8.91	V
10371.92	-33.08	12.33	21.25	-42.00	-25.00	-17.00	V
LTE Band41 / 5MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5375.18	-34.80	12.76	12.57	-34.61	-25.00	-9.61	H
8062.28	-35.15	11.45	12.58	-36.28	-25.00	-11.28	H
10750.14	-33.21	12.28	21.27	-42.20	-25.00	-17.20	H
5375.18	-35.83	12.76	12.57	-35.64	-25.00	-10.64	V
8062.28	-35.17	11.45	12.58	-36.30	-25.00	-11.30	V
10750.14	-32.69	12.28	21.27	-41.68	-25.00	-16.68	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 41**

LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5002.29	-34.82	12.66	12.54	-34.70	-25.00	-9.70	H
7503.31	-34.04	11.46	12.57	-35.15	-25.00	-10.15	H
10004.44	-33.20	12.79	21.23	-41.64	-25.00	-16.64	H
5002.29	-35.01	12.66	12.54	-34.89	-25.00	-9.89	V
7503.31	-35.11	11.46	12.57	-36.22	-25.00	-11.22	V
10004.44	-31.80	12.79	21.23	-40.24	-25.00	-15.24	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5186.87	-34.92	12.72	12.55	-34.75	-25.00	-9.75	H
7779.45	-34.13	11.46	12.57	-35.24	-25.00	-10.24	H
10371.09	-32.29	12.09	21.25	-41.45	-25.00	-16.45	H
5186.87	-34.60	12.80	12.55	-34.35	-25.00	-9.35	V
7779.45	-34.38	13.10	12.57	-33.85	-25.00	-8.85	V
10371.09	-31.80	12.33	21.25	-40.72	-25.00	-15.72	V
LTE Band 41 / 10MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5370.34	-33.72	12.76	12.57	-33.53	-25.00	-8.53	H
8055.73	-34.07	11.45	12.58	-35.20	-25.00	-10.20	H
10739.91	-32.33	12.28	21.27	-41.32	-25.00	-16.32	H
5370.34	-35.39	12.76	12.57	-35.20	-25.00	-10.20	V
8055.73	-34.05	11.45	12.58	-35.18	-25.00	-10.18	V
10739.91	-32.94	12.28	21.27	-41.93	-25.00	-16.93	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 41**

LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5006.87	-33.48	12.66	12.54	-33.36	-25.00	-8.36	H
7510.15	-34.27	11.46	12.57	-35.38	-25.00	-10.38	H
10014.68	-32.74	12.79	21.23	-41.18	-25.00	-16.18	H
5006.87	-36.00	12.66	12.54	-35.88	-25.00	-10.88	V
7510.15	-35.17	11.46	12.57	-36.28	-25.00	-11.28	V
10014.68	-32.54	12.79	21.23	-40.98	-25.00	-15.98	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5185.75	-33.53	12.72	12.55	-33.36	-25.00	-8.36	H
7778.88	-35.42	11.46	12.57	-36.53	-25.00	-11.53	H
10372.56	-32.45	12.09	21.25	-41.61	-25.00	-16.61	H
5185.75	-34.87	12.80	12.55	-34.62	-25.00	-9.62	V
7778.88	-34.57	13.10	12.57	-34.04	-25.00	-9.04	V
10372.56	-31.83	12.33	21.25	-40.75	-25.00	-15.75	V
LTE Band 41 / 15MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5365.68	-34.92	12.76	12.57	-34.73	-25.00	-9.73	H
8046.86	-34.61	11.45	12.58	-35.74	-25.00	-10.74	H
10730.29	-32.72	12.28	21.27	-41.71	-25.00	-16.71	H
5365.68	-35.39	12.76	12.57	-35.20	-25.00	-10.20	V
8046.86	-35.19	11.45	12.58	-36.32	-25.00	-11.32	V
10730.29	-32.02	12.28	21.27	-41.01	-25.00	-16.01	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

**LTE BAND 41**

LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Lowest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5012.47	-34.38	12.66	12.54	-34.26	-25.00	-9.26	H
7518.28	-34.27	11.46	12.57	-35.38	-25.00	-10.38	H
10024.02	-33.48	12.79	21.23	-41.92	-25.00	-16.92	H
5012.47	-34.61	12.66	12.54	-34.49	-25.00	-9.49	V
7518.28	-34.89	11.46	12.57	-36.00	-25.00	-11.00	V
10024.02	-32.97	12.79	21.23	-41.41	-25.00	-16.41	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5186.11	-34.14	12.72	12.55	-33.97	-25.00	-8.97	H
7778.92	-34.48	11.46	12.57	-35.59	-25.00	-10.59	H
10372.22	-32.24	12.09	21.25	-41.40	-25.00	-16.40	H
5186.11	-35.14	12.80	12.55	-34.89	-25.00	-9.89	V
7778.92	-34.77	13.10	12.57	-34.24	-25.00	-9.24	V
10372.22	-33.14	12.33	21.25	-42.06	-25.00	-17.06	V
LTE Band 41 / 20MHz / QPSK / RB Size 1 Offset 0/ The Worst Test Results for Highest							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea (dBm)	Limit (dBm)	Margin (dB)	Polarity
5359.71	-33.85	12.76	12.57	-33.66	-25.00	-8.66	H
8040.37	-34.28	11.45	12.58	-35.41	-25.00	-10.41	H
10720.09	-32.73	12.28	21.27	-41.72	-25.00	-16.72	H
5359.71	-34.74	12.76	12.57	-34.55	-25.00	-9.55	V
8040.37	-34.30	11.45	12.58	-35.43	-25.00	-10.43	V
10720.09	-32.90	12.28	21.27	-41.89	-25.00	-16.89	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

Test is divided into three directions, X/Y/Z. X pattern for the worst.

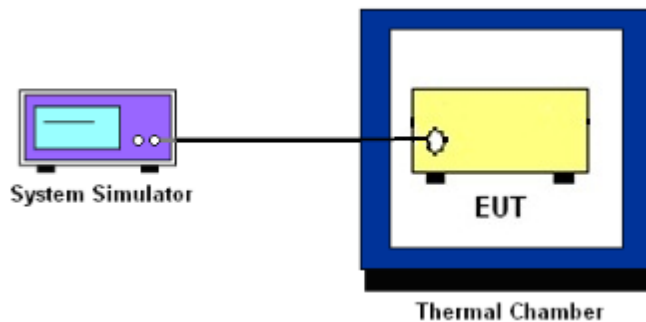
10. FREQUENCY STABILITY

10.1 DESCRIPTION OF FREQUENCY STABILITY MEASUREMENT

10.1.1 MEASUREMENT METHOD

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

10.1.2 Test Setup



10.1.3 TEST PROCEDURES FOR TEMPERATURE VARIATION

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

10.1.4 TEST PROCEDURES FOR VOLTAGE VARIATION

1. The testing follows FCC KDB 971168 D01v01r03 Section 9.0.
2. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.



10.1.4 MEASUREMENT RESULT

LTE BAND 2

LTE Band 2 (QPSK) / 1880MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	32.76	0.017	2.5ppm	PASS
40		15.02	0.008		
30		21.31	0.011		
20		32.70	0.017		
10		33.78	0.018		
0		32.12	0.017		
-10		24.99	0.013		
-20		25.68	0.014		
-30		31.25	0.017		
25	Maximum Voltage	32.50	0.017		
25	BEP	27.11	0.014		

LTE Band 2 (QPSK) / 1880MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	25.06	0.013	2.5ppm	PASS
40		30.97	0.016		
30		29.77	0.016		
20		12.49	0.007		
10		17.31	0.009		
0		29.87	0.016		
-10		15.94	0.008		
-20		32.08	0.017		
-30		27.56	0.015		
25	Maximum Voltage	21.34	0.011		
25	BEP	19.49	0.010		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND 4

LTE Band 4 (QPSK) / 1733MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	35.30	0.020	2.5ppm	PASS
40		11.62	0.007		
30		32.05	0.018		
20		36.17	0.021		
10		23.89	0.014		
0		19.51	0.011		
-10		33.50	0.019		
-20		24.75	0.014		
-30		13.15	0.008		
25	Maximum Voltage	19.07	0.011		
25	BEP	25.85	0.015		

LTE Band 4 (QPSK) / 1733MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	36.07	0.021	2.5ppm	PASS
40		34.69	0.020		
30		33.58	0.019		
20		20.10	0.012		
10		17.18	0.010		
0		18.64	0.011		
-10		22.19	0.013		
-20		15.24	0.009		
-30		27.33	0.016		
25	Maximum Voltage	12.94	0.007		
25	BEP	14.28	0.008		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND 5

LTE Band 5 (QPSK) / 836.5MHz / BW5M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.57	0.037	2.5ppm	PASS
40		33.96	0.048		
30		28.04	0.039		
20		36.32	0.051		
10		18.76	0.026		
0		22.21	0.031		
-10		29.06	0.004		
-20		15.30	0.022		
-30		30.28	0.043		
25	Maximum Voltage	21.46	0.030		
25	BEP	31.29	0.044		

LTE Band 5 (QPSK) / 836.5MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	19.31	0.027	2.5ppm	PASS
40		31.28	0.044		
30		17.80	0.025		
20		28.47	0.040		
10		11.87	0.017		
0		17.84	0.025		
-10		33.17	0.005		
-20		25.58	0.036		
-30		27.61	0.039		
25	Maximum Voltage	28.34	0.040		
25	BEP	12.46	0.018		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage = 4.4V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND 7

LTE Band 7 (QPSK) / 2535MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	34.85	0.014	2.5ppm	PASS
40		11.72	0.005		
30		15.24	0.006		
20		27.49	0.011		
10		31.54	0.012		
0		18.84	0.007		
-10		24.47	0.010		
-20		12.33	0.005		
-30		20.49	0.008		
25	Maximum Voltage	18.42	0.007		
25	BEP	16.52	0.007		

LTE Band 7 (QPSK) / 2535MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	16.31	0.006	2.5ppm	PASS
40		13.47	0.005		
30		28.81	0.011		
20		26.80	0.011		
10		11.95	0.005		
0		16.20	0.006		
-10		20.96	0.008		
-20		26.70	0.011		
-30		35.02	0.014		
25	Maximum Voltage	30.27	0.012		
25	BEP	32.87	0.013		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND 12

LTE Band 12 (QPSK) / 707.5MHz / BW5M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	35.52	0.050	2.5ppm	PASS
40		27.88	0.039		
30		15.15	0.021		
20		14.00	0.020		
10		23.78	0.033		
0		16.61	0.023		
-10		23.70	0.003		
-20		33.83	0.048		
-30		16.69	0.024		
25	Maximum Voltage	14.32	0.020		
25	BEP	32.60	0.046		

LTE Band 12 (QPSK) / 707.5MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	28.25	0.040	2.5ppm	PASS
40		12.90	0.018		
30		28.97	0.041		
20		13.05	0.018		
10		26.50	0.037		
0		35.99	0.051		
-10		24.37	0.003		
-20		34.92	0.049		
-30		33.79	0.048		
25	Maximum Voltage	34.41	0.048		
25	BEP	12.99	0.018		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND 17

LTE Band 17 (QPSK) / 2535MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	11.71	0.016	2.5ppm	PASS
40		24.81	0.035		
30		12.92	0.018		
20		16.65	0.023		
10		13.60	0.019		
0		19.66	0.028		
-10		31.39	0.004		
-20		36.48	0.051		
-30		13.28	0.019		
25	Maximum Voltage	28.12	0.040		
25	BEP	14.70	0.021		

LTE Band 17 (QPSK) / 2535MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	35.02	0.049	2.5ppm	PASS
40		32.50	0.046		
30		32.91	0.046		
20		16.62	0.023		
10		31.78	0.045		
0		14.69	0.021		
-10		35.90	0.005		
-20		30.94	0.044		
-30		16.62	0.023		
25	Maximum Voltage	19.01	0.027		
25	BEP	16.79	0.024		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



LTE BAND41

LTE Band 41 (QPSK) / 2593MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.08	0.010	2.5ppm	PASS
40		26.54	0.010		
30		27.91	0.011		
20		27.17	0.011		
10		13.55	0.005		
0		25.43	0.010		
-10		24.24	0.010		
-20		23.89	0.009		
-30		14.61	0.006		
25	Maximum Voltage	24.91	0.010		
25	BEP	22.33	0.009		

LTE Band 41 (QPSK) / 2593MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	24.69	0.010	2.5ppm	PASS
40		24.07	0.009		
30		27.13	0.011		
20		26.15	0.010		
10		11.76	0.005		
0		16.22	0.006		
-10		12.25	0.005		
-20		25.95	0.010		
-30		29.17	0.012		
25	Maximum Voltage	21.09	0.008		
25	BEP	12.87	0.005		

Note: 1. Normal Voltage = 3.85V. ; Battery End Point (BEP) = 3.5V.; Maximum Voltage = 4.4 V

2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※END OF THE REPORT※※※※

