



RADIO TEST REPORT

Report No.: STS2007355W02

Issued for

K-MOBILE TECHNOLOGY CO., LTD

NO 1109-1110, C1 Block, bantian international center, NO 5 huancheng south road, longgang district, Shenzhen, China.

Product Name:	Multi Mode 4G Android PTT Phone
Brand Name:	Estalky
Model Name:	E966
Series Model:	E966P
FCC ID:	2AVAF-E966
IC:	26705-E966
Test Standard:	47 CFR Part 2, 22, 24, 27 RSS-130 Issue 2, February 2019 RSS-132 issue 3 January 2013 RSS-133 issue 6 January 2018 RSS-139 Issue 3, July 2015 RSS-199 Issue 3, December 2016

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS, All Test Data Presented in this report is only applicable to presented Test sample.



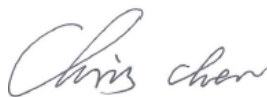



TEST RESULT CERTIFICATION


Applicant's Name.....: K-MOBILE TECHNOLOGY CO., LTD
Address.....: NO 1109-1110, C1 Block, bantian international center, NO 5 huancheng south road, longgang district, Shenzhen, China.
Manufacturer's Name.....: K-MOBILE TECHNOLOGY CO., LTD
Address.....: NO 1109-1110, C1 Block, bantian international center, NO 5 huancheng south road, longgang district, Shenzhen, China.
Product Description
Product Name.....: Multi Mode 4G Android PTT Phone
Brand Name.....: Estalky
Model Name.....: E966
Series Model.....: E966P
Test Standards.....: 47 CFR Part 2, 22, 24, 27
RSS-130 Issue 2, February 2019
RSS-132 issue 3 January 2013
RSS-133 issue 6 January 2018
RSS-139 Issue 3, July 2015
RSS-199 Issue 3, December 2016
Test Procedure.....: KDB 971168 D01 v03r01, ANSI C63.26 2015

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC/IC requirements. And it is applicable only to the tested sample identified in the report.
This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test..... :
Date of receipt of test item..... : 25 Aug. 2020
Date (s) of performance of tests : 25 Aug. 2020 ~ 04 Sept. 2020
Date of Issue..... : 04 Sept. 2020
Test Result..... : Pass

Testing Engineer : 

(Chris Chen)
Technical Manager : 

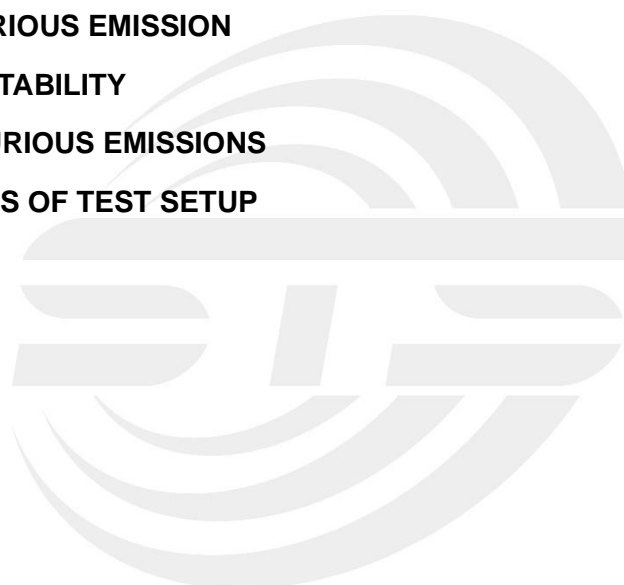
(Sean she)
Authorized Signatory : 

(Vita Li)





Table of Contents	Page
1. TEST FACTORY & MEASUREMENT UNCERTAINTY	5
2. GENERAL INFORMATION	6
3. CONDUCTED OUTPUT POWER	15
4. PEAK-TO-AVERAGE RATIO	27
5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER	29
6. OCCUPIED BANDWIDTH	44
7. CONDUCTED BAND EDGE	47
8. CONDUCTED SPURIOUS EMISSION	50
9. RADIATED SPURIOUS EMISSION	51
10. FREQUENCY STABILITY	75
11. RECEIVER SPURIOUS EMISSIONS	81
APPENDIX-PHOTOS OF TEST SETUP	91





Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	04 Sept. 2020	STS2007355W02	ALL	Initial Issue





1. TEST FACTORY & MEASUREMENT UNCERTAINTY

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 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	$\pm 0.68\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.988\text{dB}$
3	All emissions, radiated 30-1GHz	$\pm 5.6\text{dB}$
4	All emissions, radiated 1G-6GHz	$\pm 5.5\text{dB}$
5	All emissions, radiated >6G	$\pm 5.8\text{dB}$
6	Conducted Emission (9KHz-150KHz)	$\pm 3.37\text{dB}$
7	Conducted Emission (150KHz-30MHz)	$\pm 3.83\text{dB}$



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	Multi Mode 4G Android PTT Phone
Trade Name	Estalky
Model Name	E966
Series Model	E966P
Model Difference	Only different in model name
Frequency Bands	U.S. Bands: LTE FDD Band 2 LTE FDD Band 4 LTE FDD Band 5 LTE FDD Band 7 LTE FDD Band 17
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 gain	LTE B2:0.6dBi LTE B4:0.7dBi LTE B5:0.3dBi LTE B7:1.6dBi LTE B17:0.1dBi
Battery	Rated Voltage: 3.8V Charge Limit: 4.35V Capacity: 4500mA
Adapter	Input: AC 100-240V, 50/60Hz, 0.5A Output: 5V, 3A
Extreme Vol. Limits	4.35V to 3.47V (Nominal 3.8V)
Extreme Temp. Tolerance	-30°C to +50°C
Hardware version number	Y6128A-V2.0
Software version number	Y6128A_E966_DMR_D01_2020081114



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 17:704~716MHz
Rx Frequency	LTE Band 2:1930 ~1990MHz LTE Band 4:2110~2155MHz LTE Band 5:869~894MHz LTE Band 7:2620~2690MHz LTE Band 17:734~746MHz
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 17: 5MHz / 10MHz
Maximum Output Power	LTE Band 2: 22.82 dBm LTE Band 4: 22.45 dBm LTE Band 5: 24.82 dBm LTE Band 7: 20.47 dBm LTE Band 17: 22.76 dBm
Type of Modulation	QPSK /16QAM

RF Function	Band	UE Category UL	Modulation	Power Class	Ant Gain(dBi)	Ant Type	SIM Card
LTE	FDD:2/4/5/ 7/17	1	QPSK, 16QAM	3	LTE-B2:0.6dBi LTE-B4:0.7dBi LTE-B5:0.3dBi LTE-B7:1.6dBi LTE-B17:0.1dBi	PIFA	2 SIM 1 is used to tested.



2.1.3 EMISSION DESIGNATOR

LTE Band 2	Emission Designator	Emission Designator
BW(MHz)	(99%OBW)QPSK	(99%OBW)16QAM
1.4	1M10G7D	1M10W7D
3	2M67G7D	2M67W7D
5	4M51G7D	4M51W7D
10	8M94G7D	8M94W7D
15	13M5G7D	13M5W7D
20	18M0G7D	18M0W7D
LTE Band 4	Emission Designator	Emission Designator
BW(MHz)	(99%OBW)QPSK	(99%OBW)16QAM
1.4	1M10G7D	1M10W7D
3	2M68G7D	2M68W7D
5	4M51G7D	4M51W7D
10	8M95G7D	8M94W7D
15	13M5G7D	13M5W7D
20	17M9G7D	18M0W7D
LTE Band 5	Emission Designator	Emission Designator
BW(MHz)	(99%OBW)QPSK	(99%OBW)16QAM
1.4	1M10G7D	1M10W7D
3	2M68G7D	2M68W7D
5	4M51G7D	4M51W7D
10	8M94G7D	8M94W7D
LTE Band 7	Emission Designator	Emission Designator
BW(MHz)	(99%OBW)QPSK	(99%OBW)16QAM
5	4M50G7D	4M51W7D
10	8M95G7D	8M95W7D
15	13M5G7D	13M5W7D
20	17M9G7D	18M0W7D
LTE Band 17	Emission Designator	Emission Designator
BW(MHz)	(99%OBW)QPSK	(99%OBW)16QAM
5	4M54G7D	4M57W7D
10	8M92G7D	8M93W7D



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
	17			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
	17				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
	17			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
	17			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
	17			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	
	17				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
	17			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
	17			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, 22, 24, 27 and IC RSS- Rule.

2.1.6 SPECIAL ACCESSORIES

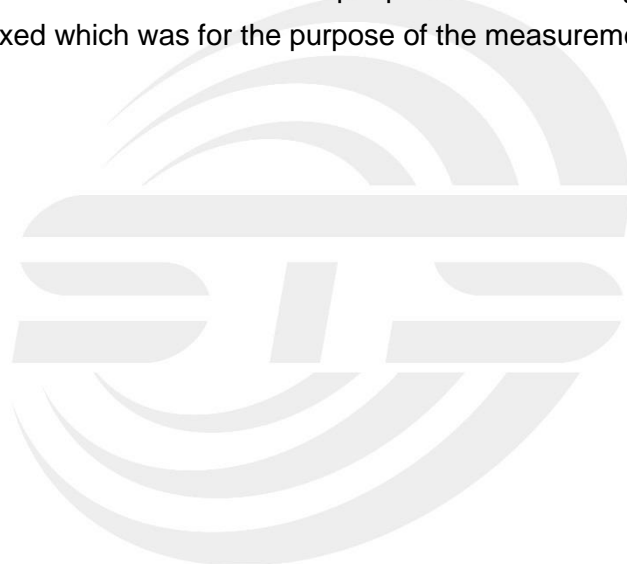
The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with eut intended for fcc grant together.

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.

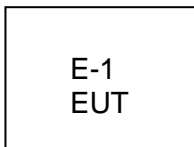


Table 2-1 Equipment Used in EUT System

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

Note:

- (1) 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	2019.10.09	2020.10.08
Signal Analyzer	Agilent	N9020A	MY51110105	2020.03.05	2021.03.04
Wireless Communications Test Set	R&S	CMW 500	133884	2020.03.05	2021.03.04
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.01
Horn Antenna	SCHWARZBECK	BBHA 9120D(1201)	9120D-1343	2018.10.19	2021.10.18
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2018.03.11	2021.03.10
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2019.10.09	2020.10.08
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2019.10.12	2020.10.11
Pre-Amplifier (18G-40GHz)	SKET	LNPA-1840-50	SK2018101801	2019.10.12	2020.10.11
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	2019.10.17	2020.10.16
Test SW	BULUN	BL410-E/18.905			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Universal Radio communication tester	R&S	CMU200	119907	2020.10.11	2021.10.10
Wireless Communications Test Set	R&S	CMW 500	133884	2020.03.05	2021.03.04
Signal Analyzer	Agilent	N9020A	MY49100060	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.17	2020.10.16
Test SW	FARAD	LZ-RF /LzRf-3A3			



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

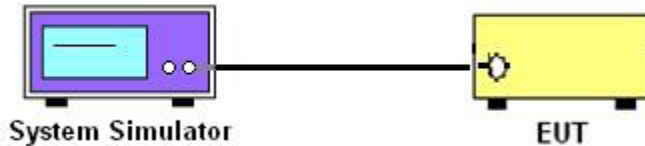
3.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

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 system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest/middle/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 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.58	22.62	22.49
1.4	1	2		22.36	22.35	22.27
1.4	1	5		22.13	22.11	22.03
1.4	3	0		21.85	21.90	21.77
1.4	3	1		21.60	21.70	21.57
1.4	3	2		21.31	21.42	21.37
1.4	6	0		21.09	21.13	21.08
1.4	1	0	16-QAM	22.31	22.37	22.23
1.4	1	2		22.05	22.13	22.03
1.4	1	5		21.76	21.89	21.76
1.4	3	0		21.48	21.59	21.56
1.4	3	1		21.23	21.30	21.34
1.4	3	2		20.95	21.03	21.04
1.4	6	0		20.68	20.81	20.84
3	1	0	QPSK	22.58	22.37	22.30
3	1	7		22.37	22.11	22.01
3	1	14		22.15	21.87	21.72
3	8	0		21.88	21.63	21.42
3	8	4		21.68	21.43	21.18
3	8	7		21.47	21.19	20.92
3	15	0		21.22	20.93	20.68
3	1	0	16-QAM	22.28	22.09	22.05
3	1	7		21.99	21.89	21.83
3	1	14		21.78	21.68	21.58
3	8	0		21.54	21.42	21.37
3	8	4		21.32	21.21	21.11
3	8	7		21.12	20.94	20.86
3	15	0		20.90	20.68	20.57



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.24	22.16	22.39
5	1	12		21.98	21.86	22.14
5	1	24		21.74	21.61	21.85
5	12	0		21.54	21.32	21.63
5	12	6		21.32	21.10	21.41
5	12	11		21.10	20.86	21.17
5	25	0		20.80	20.61	20.88
5	1	0		21.95	21.88	22.14
5	1	12	16-QAM	21.73	21.66	21.89
5	1	24		21.45	21.46	21.61
5	12	0		21.20	21.18	21.37
5	12	6		20.98	20.93	21.11
5	12	11		20.74	20.72	20.87
5	25	0		20.53	20.43	20.62
10	1	0		22.34	22.32	22.43
10	1	24	QPSK	22.11	22.12	22.19
10	1	49		21.85	21.90	21.91
10	25	0		21.61	21.69	21.71
10	25	12		21.39	21.49	21.49
10	25	24		21.17	21.21	21.25
10	50	0		20.93	20.91	20.98
10	1	0		22.12	22.07	22.19
10	1	24	16-QAM	21.84	21.78	21.95
10	1	49		21.54	21.49	21.72
10	25	0		21.27	21.27	21.47
10	25	12		21.06	21.00	21.22
10	25	24		20.79	20.76	20.97
10	50	0		20.52	20.51	20.68



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.44	22.57	22.65
15	1	37		22.21	22.35	22.37
15	1	74		21.94	22.15	22.15
15	36	0		21.72	21.95	21.94
15	36	18		21.46	21.66	21.68
15	36	39		21.21	21.45	21.44
15	75	0		20.98	21.20	21.23
15	1	0	16-QAM	22.24	22.35	22.43
15	1	38		21.95	22.08	22.17
15	1	75		21.69	21.78	21.94
15	36	0		21.42	21.52	21.73
15	36	18		21.17	21.23	21.53
15	36	39		20.93	20.99	21.23
15	75	0		20.69	20.72	21.01
20	1	0	QPSK	22.73	22.82	22.70
20	1	49		22.49	22.54	22.46
20	1	99		22.19	22.27	22.18
20	50	0		21.95	22.01	21.96
20	50	24		21.69	21.77	21.70
20	50	49		21.39	21.48	21.41
20	100	0		21.13	21.25	21.18
20	1	0	16-QAM	22.45	22.54	22.48
20	1	49		22.17	22.26	22.20
20	1	99		21.94	22.02	21.93
20	50	0		21.71	21.73	21.63
20	50	24		21.41	21.44	21.38
20	50	49		21.20	21.18	21.11
20	100	0		20.95	20.95	20.83



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.15	22.38	22.34
1.4	1	2		21.91	22.09	22.06
1.4	1	5		21.70	21.81	21.78
1.4	3	0		21.46	21.54	21.56
1.4	3	1		21.18	21.34	21.36
1.4	3	2		20.89	21.09	21.11
1.4	6	0		20.63	20.82	20.86
1.4	1	0		16-QAM	21.92	22.09
1.4	1	2	21.68		21.80	21.83
1.4	1	5	21.39		21.55	21.60
1.4	3	0	21.12		21.31	21.34
1.4	3	1	20.91		21.05	21.10
1.4	3	2	20.71		20.81	20.83
1.4	6	0	20.43		20.56	20.55
3	1	0	QPSK		22.05	21.95
3	1	7		21.75	21.70	21.69
3	1	14		21.53	21.47	21.43
3	8	0		21.33	21.24	21.17
3	8	4		21.08	21.03	20.90
3	8	7		20.84	20.79	20.68
3	15	0		20.59	20.54	20.46
3	1	0		16-QAM	21.81	21.71
3	1	7	21.53		21.45	21.47
3	1	14	21.32		21.16	21.19
3	8	0	21.12		20.93	20.92
3	8	4	20.85		20.63	20.68
3	8	7	20.62		20.36	20.43
3	15	0	20.37		20.16	20.23



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.91	21.86	22.17
5	1	12		21.66	21.60	21.92
5	1	24		21.45	21.38	21.63
5	12	0		21.22	21.14	21.38
5	12	6		20.96	20.86	21.08
5	12	11		20.71	20.61	20.82
5	25	0		20.43	20.40	20.60
5	1	0		21.63	21.64	21.94
5	1	12	16-QAM	21.38	21.39	21.67
5	1	24		21.12	21.17	21.45
5	12	0		20.88	20.94	21.16
5	12	6		20.60	20.67	20.89
5	12	11		20.39	20.45	20.67
5	25	0		20.09	20.19	20.38
10	1	0		22.19	22.19	22.24
10	1	24	QPSK	21.99	21.91	21.97
10	1	49		21.74	21.61	21.74
10	25	0		21.50	21.39	21.51
10	25	12		21.26	21.14	21.27
10	25	24		21.00	20.87	21.05
10	50	0		20.72	20.60	20.85
10	1	0		21.98	21.98	21.98
10	1	24	16-QAM	21.72	21.68	21.69
10	1	49		21.45	21.44	21.46
10	25	0		21.16	21.15	21.16
10	25	12		20.93	20.91	20.86
10	25	24		20.64	20.64	20.60
10	50	0		20.35	20.40	20.39



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.16	21.88	22.14
15	1	37		21.96	21.65	21.90
15	1	74		21.68	21.39	21.63
15	36	0		21.43	21.09	21.40
15	36	18		21.16	20.84	21.17
15	36	39		20.95	20.61	20.89
15	75	0		20.74	20.32	20.61
15	1	0	16-QAM	21.92	21.60	21.85
15	1	38		21.64	21.31	21.57
15	1	75		21.37	21.09	21.33
15	36	0		21.13	20.89	21.03
15	36	18		20.84	20.60	20.75
15	36	39		20.59	20.33	20.51
15	75	0		20.32	20.09	20.29
20	1	0	QPSK	22.36	22.41	22.45
20	1	49		22.15	22.15	22.23
20	1	99		21.95	21.93	22.00
20	50	0		21.74	21.64	21.74
20	50	24		21.50	21.34	21.53
20	50	49		21.29	21.08	21.24
20	100	0		21.09	20.87	21.00
20	1	0	16-QAM	22.14	22.19	22.17
20	1	49		21.91	21.96	21.94
20	1	99		21.68	21.70	21.70
20	50	0		21.41	21.48	21.48
20	50	24		21.12	21.21	21.23
20	50	49		20.90	20.99	20.97
20	100	0		20.68	20.73	20.75



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	24.34	24.24	24.50
1.4	1	2		24.09	23.99	24.24
1.4	1	5		23.87	23.74	24.03
1.4	3	0		23.66	23.51	23.74
1.4	3	1		23.46	23.23	23.47
1.4	3	2		23.25	22.98	23.21
1.4	6	0		23.04	22.77	22.97
1.4	1	0	16-QAM	24.06	23.99	24.27
1.4	1	2		23.85	23.78	24.03
1.4	1	5		23.62	23.51	23.83
1.4	3	0		23.33	23.24	23.59
1.4	3	1		23.07	23.00	23.30
1.4	3	2		22.84	22.74	23.04
1.4	6	0		22.55	22.52	22.83
3	1	0	QPSK	24.34	24.40	24.17
3	1	7		24.05	24.15	23.94
3	1	14		23.80	23.90	23.67
3	8	0		23.51	23.65	23.39
3	8	4		23.24	23.42	23.11
3	8	7		23.02	23.13	22.90
3	15	0		22.79	22.91	22.63
3	1	0	16-QAM	24.05	24.12	23.92
3	1	7		23.84	23.90	23.66
3	1	14		23.56	23.63	23.43
3	8	0		23.34	23.35	23.16
3	8	4		23.09	23.10	22.93
3	8	7		22.87	22.85	22.68
3	15	0		22.61	22.62	22.45



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	24.82	24.65	24.00
5	1	12		24.59	24.38	23.74
5	1	24		24.31	24.12	23.47
5	12	0		24.05	23.86	23.23
5	12	6		23.76	23.62	23.00
5	12	11		23.49	23.39	22.75
5	25	0		23.28	23.11	22.50
5	1	0	16-QAM	24.61	24.35	23.72
5	1	12		24.34	24.11	23.49
5	1	24		24.12	23.88	23.20
5	12	0		23.88	23.66	22.98
5	12	6		23.63	23.43	22.78
5	12	11		23.35	23.19	22.53
5	25	0		23.11	22.96	22.29
10	1	0	QPSK	24.48	24.43	24.52
10	1	24		24.22	24.22	24.27
10	1	49		23.93	23.94	24.00
10	25	0		23.64	23.71	23.75
10	25	12		23.42	23.47	23.48
10	25	24		23.13	23.24	23.22
10	50	0		22.87	22.99	22.99
10	1	0	16-QAM	24.27	24.21	24.25
10	1	24		24.05	23.98	23.98
10	1	49		23.76	23.77	23.72
10	25	0		23.52	23.51	23.48
10	25	12		23.25	23.30	23.26
10	25	24		23.00	23.06	23.03
10	50	0		22.79	22.83	22.81



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.34	20.37	20.23
5	1	12		20.08	20.13	20.01
5	1	24		19.83	19.88	19.74
5	12	0		19.57	19.64	19.50
5	12	6		19.28	19.44	19.22
5	12	11		19.03	19.15	18.96
5	25	0		18.74	18.91	18.71
5	1	0	16-QAM	20.08	20.08	19.99
5	1	12		19.80	19.88	19.75
5	1	24		19.59	19.62	19.52
5	12	0		19.31	19.39	19.24
5	12	6		19.03	19.15	19.03
5	12	11		18.82	18.92	18.80
5	25	0		18.59	18.62	18.53
10	1	0	QPSK	19.93	20.30	19.87
10	1	24		19.66	20.05	19.63
10	1	49		19.39	19.80	19.36
10	25	0		19.15	19.59	19.08
10	25	12		18.93	19.38	18.78
10	25	24		18.64	19.13	18.58
10	50	0		18.43	18.92	18.28
10	1	0	16-QAM	19.72	20.00	19.66
10	1	24		19.47	19.80	19.44
10	1	49		19.19	19.50	19.24
10	25	0		18.94	19.25	19.01
10	25	12		18.70	19.01	18.73
10	25	24		18.41	18.80	18.49
10	50	0		18.16	18.56	18.24



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	19.96	20.04	20.23
15	1	37		19.74	19.80	19.99
15	1	74		19.47	19.57	19.73
15	36	0		19.26	19.27	19.52
15	36	18		19.03	19.04	19.31
15	36	39		18.80	18.83	19.09
15	75	0		18.59	18.53	18.87
15	1	0	16-QAM	19.68	19.75	19.97
15	1	38		19.40	19.52	19.74
15	1	75		19.17	19.31	19.52
15	36	0		18.95	19.11	19.26
15	36	18		18.65	18.85	19.05
15	36	39		18.45	18.56	18.81
15	75	0		18.20	18.32	18.58
20	1	0	QPSK	20.39	20.47	20.42
20	1	49		20.14	20.19	20.18
20	1	99		19.91	19.93	19.95
20	50	0		19.71	19.66	19.72
20	50	24		19.44	19.39	19.44
20	50	49		19.24	19.16	19.15
20	100	0		19.00	18.86	18.87
20	1	0	16-QAM	20.17	20.26	20.20
20	1	49		19.94	20.00	19.98
20	1	99		19.70	19.72	19.73
20	50	0		19.44	19.48	19.44
20	50	24		19.23	19.22	19.18
20	50	49		18.94	18.98	18.93
20	100	0		18.72	18.76	18.64



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.57	22.61	22.58
5	1	12		22.30	22.39	22.33
5	1	24		22.08	22.12	22.11
5	12	0		21.84	21.83	21.90
5	12	6		21.55	21.56	21.61
5	12	11		21.32	21.29	21.34
5	25	0		21.03	21.04	21.05
5	1	0	16-QAM	22.36	22.40	22.28
5	1	12		22.10	22.14	22.01
5	1	24		21.81	21.92	21.78
5	12	0		21.58	21.67	21.54
5	12	6		21.34	21.44	21.31
5	12	11		21.08	21.24	21.09
5	25	0		20.88	21.03	20.85
10	1	0	QPSK	22.73	22.76	22.65
10	1	24		22.53	22.55	22.39
10	1	49		22.26	22.27	22.10
10	25	0		22.04	22.03	21.86
10	25	12		21.81	21.75	21.59
10	25	24		21.57	21.53	21.38
10	50	0		21.35	21.24	21.10
10	1	0	16-QAM	22.47	22.48	22.37
10	1	24		22.20	22.24	22.15
10	1	49		21.99	21.96	21.86
10	25	0		21.78	21.72	21.56
10	25	12		21.52	21.46	21.28
10	25	24		21.26	21.22	21.04
10	50	0		21.04	20.93	20.82

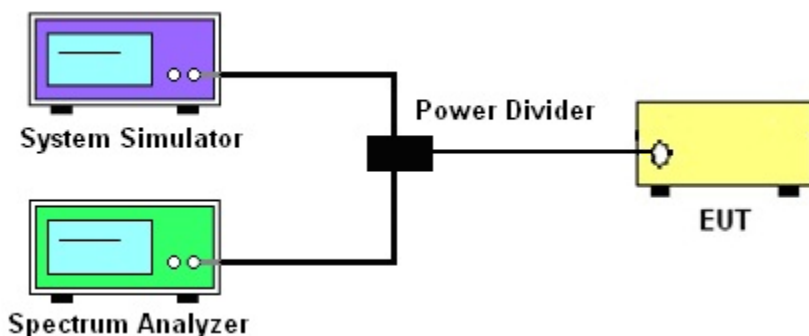
4. PEAK-TO-AVERAGE RATIO

4.1 DESCRIPTION OF THE CONDUCTED OUTPUT POWER MEASUREMENT

4.1.1 MEASUREMENT METHOD

Use one of the procedures presented in 4.1.3 to measure the total peak power and record as PPK. Use one of the applicable procedures presented 4.1.3 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 and ANSI C63.26 2015 Section 5.2.6.
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 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	5.4	4.18	3.9
20	100		5.73	5.28	5.46
20	1	16-QAM	5.84	4.78	4.77
20	100		6.36	5.88	6.08
Limit			≤13dB		
LTE Band 4 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	5.67	5.5	6.07
20	100		5.94	5.71	5.68
20	1	16-QAM	7.26	6.32	6.05
20	100		6.63	6.36	6.26
Limit			≤13dB		
LTE Band 5 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
10	1	QPSK	4.72	5.34	4.48
10	50		5.44	5.39	5.32
10	1	16-QAM	5.43	5.73	4.98
10	50		6.23	6.15	6.22
Limit			≤13dB		
LTE Band 7 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
20	1	QPSK	5.07	4.16	3.94
20	100		5.29	5.47	5.56
20	1	16-QAM	4.99	4.88	4.98
20	100		6.22	6.3	6.27
Limit			≤13dB		
LTE Band 17 PAR [dBm]					
BW [MHz]	RB Size	Modulation	Lowest	Middle	Highest
			P-A	P-A	P-A
10	1	QPSK	4.14	3.41	1.58
10	50		4.73	4.66	4.6
10	1	16-QAM	4.7	4.64	3.36
10	50		5.51	5.52	5.46
Limit			≤13dB		

Note: Test chart See Appendix D

5. RADIATED POWER AND EFFECTIVE ISOTROPIC RADIATED POWER

5.1 DESCRIPTION OF THE ERP/EIRP MEASUREMENT

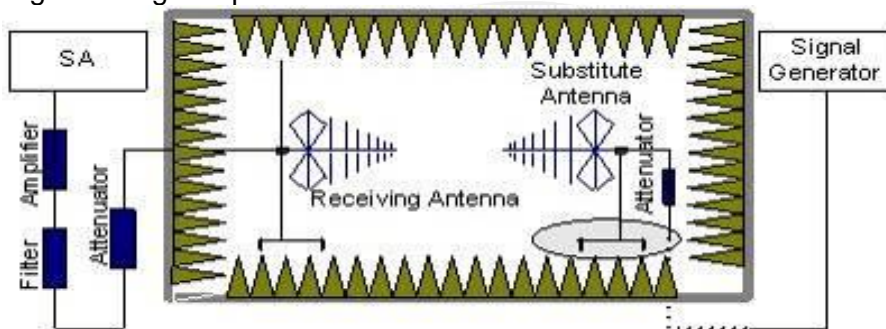
5.1.1 MEASUREMENT METHOD

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.

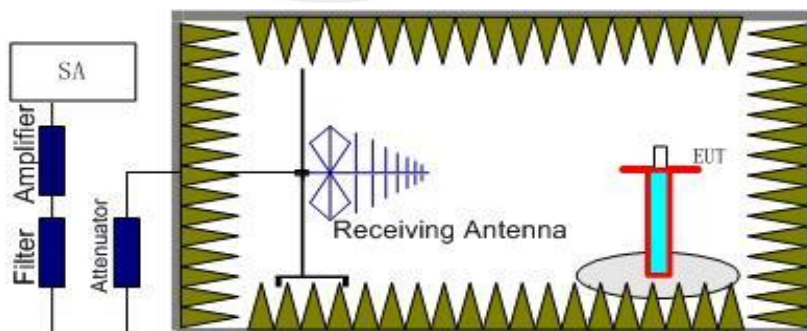
5.1.2 TEST SETUP

The procedure of radiated spurious emissions is as follows:

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



b) EUT was placed on a 1.5m non-conductive stand at a 3 m test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 m 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 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 m 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. $EIRP = S.G \text{ Level} + \text{Gain} - \text{Cable loss}$; $ERP = S.G \text{ Level} + \text{Gain} - \text{Cable loss} - 2.15$.
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.

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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.89	2.37	10.40	19.92	Horizontal	Pass
	1	0	Middle	12.01	2.39	10.42	20.04	Horizontal	Pass
	1	0	Highest	11.74	2.40	10.44	19.78	Horizontal	Pass
	1	0	Lowest	13.3	2.37	10.40	21.33	Vertical	Pass
	1	0	Middle	13.36	2.39	10.42	21.39	Vertical	Pass
	1	0	Highest	13.12	2.40	10.44	21.16	Vertical	Pass
16QAM	1	0	Lowest	11.59	2.37	10.40	19.62	Horizontal	Pass
	1	0	Middle	11.61	2.39	10.42	19.64	Horizontal	Pass
	1	0	Highest	11.43	2.40	10.44	19.47	Horizontal	Pass
	1	0	Lowest	12.9	2.37	10.40	20.93	Vertical	Pass
	1	0	Middle	13.08	2.39	10.42	21.11	Vertical	Pass
	1	0	Highest	12.89	2.40	10.44	20.93	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.9	2.37	10.40	19.93	Horizontal	Pass
	1	0	Middle	11.59	2.39	10.42	19.62	Horizontal	Pass
	1	0	Highest	11.65	2.40	10.44	19.69	Horizontal	Pass
	1	0	Lowest	13.23	2.37	10.40	21.26	Vertical	Pass
	1	0	Middle	13.08	2.39	10.42	21.11	Vertical	Pass
	1	0	Highest	13.01	2.40	10.44	21.05	Vertical	Pass
16QAM	1	0	Lowest	11.49	2.37	10.40	19.52	Horizontal	Pass
	1	0	Middle	11.33	2.39	10.42	19.36	Horizontal	Pass
	1	0	Highest	11.35	2.40	10.44	19.39	Horizontal	Pass
	1	0	Lowest	12.89	2.37	10.40	20.92	Vertical	Pass
	1	0	Middle	12.76	2.39	10.42	20.79	Vertical	Pass
	1	0	Highest	12.69	2.40	10.44	20.73	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.65	2.37	10.40	19.68	Horizontal	Pass
	1	0	Middle	11.42	2.39	10.42	19.45	Horizontal	Pass
	1	0	Highest	11.8	2.40	10.44	19.84	Horizontal	Pass
	1	0	Lowest	12.95	2.37	10.40	20.98	Vertical	Pass
	1	0	Middle	12.9	2.39	10.42	20.93	Vertical	Pass
	1	0	Highest	13.15	2.40	10.44	21.19	Vertical	Pass
16QAM	1	0	Lowest	11.2	2.37	10.40	19.23	Horizontal	Pass
	1	0	Middle	11.12	2.39	10.42	19.15	Horizontal	Pass
	1	0	Highest	11.36	2.40	10.44	19.40	Horizontal	Pass
	1	0	Lowest	12.62	2.37	10.40	20.65	Vertical	Pass
	1	0	Middle	12.5	2.39	10.42	20.53	Vertical	Pass
	1	0	Highest	12.79	2.40	10.44	20.83	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.7	2.37	10.40	19.73	Horizontal	Pass
	1	0	Middle	11.69	2.39	10.42	19.72	Horizontal	Pass
	1	0	Highest	11.77	2.40	10.44	19.81	Horizontal	Pass
	1	0	Lowest	13.05	2.37	10.40	21.08	Vertical	Pass
	1	0	Middle	13.07	2.39	10.42	21.10	Vertical	Pass
	1	0	Highest	13.19	2.40	10.44	21.23	Vertical	Pass
16QAM	1	0	Lowest	11.38	2.37	10.40	19.41	Horizontal	Pass
	1	0	Middle	11.32	2.39	10.42	19.35	Horizontal	Pass
	1	0	Highest	11.34	2.40	10.44	19.38	Horizontal	Pass
	1	0	Lowest	12.7	2.37	10.40	20.73	Vertical	Pass
	1	0	Middle	12.69	2.39	10.42	20.72	Vertical	Pass
	1	0	Highest	12.83	2.40	10.44	20.87	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.79	2.37	10.40	19.82	Horizontal	Pass
	1	0	Middle	11.82	2.39	10.42	19.85	Horizontal	Pass
	1	0	Highest	11.97	2.40	10.44	20.01	Horizontal	Pass
	1	0	Lowest	13.12	2.37	10.40	21.15	Vertical	Pass
	1	0	Middle	13.18	2.39	10.42	21.21	Vertical	Pass
	1	0	Highest	13.36	2.40	10.44	21.40	Vertical	Pass
16QAM	1	0	Lowest	11.48	2.37	10.40	19.51	Horizontal	Pass
	1	0	Middle	11.66	2.39	10.42	19.69	Horizontal	Pass
	1	0	Highest	11.82	2.40	10.44	19.86	Horizontal	Pass
	1	0	Lowest	12.92	2.37	10.40	20.95	Vertical	Pass
	1	0	Middle	13.09	2.39	10.42	21.12	Vertical	Pass
	1	0	Highest	13.12	2.40	10.44	21.16	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	12.01	2.37	10.40	20.04	Horizontal	Pass
	1	0	Middle	12.13	2.39	10.42	20.16	Horizontal	Pass
	1	0	Highest	11.87	2.40	10.44	19.91	Horizontal	Pass
	1	0	Lowest	13.45	2.37	10.40	21.48	Vertical	Pass
	1	0	Middle	13.55	2.39	10.42	21.58	Vertical	Pass
	1	0	Highest	13.26	2.40	10.44	21.30	Vertical	Pass
16QAM	1	0	Lowest	11.67	2.37	10.40	19.70	Horizontal	Pass
	1	0	Middle	11.81	2.39	10.42	19.84	Horizontal	Pass
	1	0	Highest	11.77	2.40	10.44	19.81	Horizontal	Pass
	1	0	Lowest	13.05	2.37	10.40	21.08	Vertical	Pass
	1	0	Middle	13.27	2.39	10.42	21.30	Vertical	Pass
	1	0	Highest	13.18	2.40	10.44	21.22	Vertical	Pass
Limit	EIRP<2W=33dBm								



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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.59	2.35	10.13	19.37	Horizontal	Pass
	1	0	Middle	11.89	2.36	10.16	19.69	Horizontal	Pass
	1	0	Highest	11.83	2.37	10.22	19.68	Horizontal	Pass
	1	0	Lowest	13.02	2.35	10.13	20.80	Vertical	Pass
	1	0	Middle	13.36	2.36	10.16	21.16	Vertical	Pass
	1	0	Highest	13.18	2.37	10.22	21.03	Vertical	Pass
16QAM	1	0	Lowest	11.41	2.35	10.13	19.19	Horizontal	Pass
	1	0	Middle	11.5	2.36	10.16	19.30	Horizontal	Pass
	1	0	Highest	11.5	2.37	10.22	19.35	Horizontal	Pass
	1	0	Lowest	12.82	2.35	10.13	20.60	Vertical	Pass
	1	0	Middle	12.94	2.36	10.16	20.74	Vertical	Pass
	1	0	Highest	12.83	2.37	10.22	20.68	Vertical	Pass
Limit	EIRP<1W=30dBm								

Radiated Power (EIRP) for LTE Band 4 / 3M									
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	11.64	2.35	10.13	19.42	Horizontal	Pass
	1	0	Middle	11.41	2.36	10.16	19.21	Horizontal	Pass
	1	0	Highest	11.47	2.37	10.22	19.32	Horizontal	Pass
	1	0	Lowest	13.02	2.35	10.13	20.80	Vertical	Pass
	1	0	Middle	12.76	2.36	10.16	20.56	Vertical	Pass
	1	0	Highest	12.83	2.37	10.22	20.68	Vertical	Pass
16QAM	1	0	Lowest	11.21	2.35	10.13	18.99	Horizontal	Pass
	1	0	Middle	11.18	2.36	10.16	18.98	Horizontal	Pass
	1	0	Highest	11.25	2.37	10.22	19.10	Horizontal	Pass
	1	0	Lowest	12.71	2.35	10.13	20.49	Vertical	Pass
	1	0	Middle	12.53	2.36	10.16	20.33	Vertical	Pass
	1	0	Highest	12.56	2.37	10.22	20.41	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.52	2.35	10.13	19.30	Horizontal	Pass
	1	0	Middle	11.44	2.36	10.16	19.24	Horizontal	Pass
	1	0	Highest	11.6	2.37	10.22	19.45	Horizontal	Pass
	1	0	Lowest	12.88	2.35	10.13	20.66	Vertical	Pass
	1	0	Middle	12.75	2.36	10.16	20.55	Vertical	Pass
	1	0	Highest	13.02	2.37	10.22	20.87	Vertical	Pass
16QAM	1	0	Lowest	11.03	2.35	10.13	18.81	Horizontal	Pass
	1	0	Middle	11.08	2.36	10.16	18.88	Horizontal	Pass
	1	0	Highest	11.32	2.37	10.22	19.17	Horizontal	Pass
	1	0	Lowest	12.52	2.35	10.13	20.30	Vertical	Pass
	1	0	Middle	12.55	2.36	10.16	20.35	Vertical	Pass
	1	0	Highest	12.77	2.37	10.22	20.62	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.82	2.35	10.13	19.60	Horizontal	Pass
	1	0	Middle	11.73	2.36	10.16	19.53	Horizontal	Pass
	1	0	Highest	11.71	2.37	10.22	19.56	Horizontal	Pass
	1	0	Lowest	13.16	2.35	10.13	20.94	Vertical	Pass
	1	0	Middle	13.15	2.36	10.16	20.95	Vertical	Pass
	1	0	Highest	13.13	2.37	10.22	20.98	Vertical	Pass
16QAM	1	0	Lowest	11.52	2.35	10.13	19.30	Horizontal	Pass
	1	0	Middle	11.43	2.36	10.16	19.23	Horizontal	Pass
	1	0	Highest	11.41	2.37	10.22	19.26	Horizontal	Pass
	1	0	Lowest	12.83	2.35	10.13	20.61	Vertical	Pass
	1	0	Middle	12.91	2.36	10.16	20.71	Vertical	Pass
	1	0	Highest	12.81	2.37	10.22	20.66	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.6	2.35	10.13	19.38	Horizontal	Pass
	1	0	Middle	11.28	2.36	10.16	19.08	Horizontal	Pass
	1	0	Highest	11.58	2.37	10.22	19.43	Horizontal	Pass
	1	0	Lowest	13.03	2.35	10.13	20.81	Vertical	Pass
	1	0	Middle	12.71	2.36	10.16	20.51	Vertical	Pass
	1	0	Highest	12.97	2.37	10.22	20.82	Vertical	Pass
16QAM	1	0	Lowest	11.29	2.35	10.13	19.07	Horizontal	Pass
	1	0	Middle	11.01	2.36	10.16	18.81	Horizontal	Pass
	1	0	Highest	11.31	2.37	10.22	19.16	Horizontal	Pass
	1	0	Lowest	12.75	2.35	10.13	20.53	Vertical	Pass
	1	0	Middle	12.45	2.36	10.16	20.25	Vertical	Pass
	1	0	Highest	12.65	2.37	10.22	20.50	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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	11.85	2.35	10.13	19.63	Horizontal	Pass
	1	0	Middle	11.79	2.36	10.16	19.59	Horizontal	Pass
	1	0	Highest	11.93	2.37	10.22	19.78	Horizontal	Pass
	1	0	Lowest	13.32	2.35	10.13	21.10	Vertical	Pass
	1	0	Middle	13.28	2.36	10.16	21.08	Vertical	Pass
	1	0	Highest	13.24	2.37	10.22	21.09	Vertical	Pass
16QAM	1	0	Lowest	11.73	2.35	10.13	19.51	Horizontal	Pass
	1	0	Middle	11.59	2.36	10.16	19.39	Horizontal	Pass
	1	0	Highest	11.58	2.37	10.22	19.43	Horizontal	Pass
	1	0	Lowest	13.09	2.35	10.13	20.87	Vertical	Pass
	1	0	Middle	13.05	2.36	10.16	20.85	Vertical	Pass
	1	0	Highest	13.04	2.37	10.22	20.89	Vertical	Pass
Limit	EIRP<1W=30dBm								



Radiated Power (ERP) for LTE Band 5 / 1.4M										
Modulation	RB		Channel	Result						Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	
QPSK	1	0	Lowest	18.37	1.27	6.70	2.15	21.65	Horizontal	Pass
	1	0	Middle	18.25	1.28	6.70	2.15	21.52	Horizontal	Pass
	1	0	Highest	18.59	1.29	6.70	2.15	21.85	Horizontal	Pass
	1	0	Lowest	19.79	1.27	6.70	2.15	23.07	Vertical	Pass
	1	0	Middle	19.7	1.28	6.70	2.15	22.97	Vertical	Pass
	1	0	Highest	19.97	1.29	6.70	2.15	23.23	Vertical	Pass
16QAM	1	0	Lowest	18.09	1.27	6.70	2.15	21.37	Horizontal	Pass
	1	0	Middle	17.99	1.28	6.70	2.15	21.26	Horizontal	Pass
	1	0	Highest	18.46	1.29	6.70	2.15	21.72	Horizontal	Pass
	1	0	Lowest	19.5	1.27	6.70	2.15	22.78	Vertical	Pass
	1	0	Middle	19.41	1.28	6.70	2.15	22.68	Vertical	Pass
	1	0	Highest	19.77	1.29	6.70	2.15	23.03	Vertical	Pass
Limit	ERP<7W=38.45dBm									

Radiated Power (ERP) for LTE Band 5 / 3M										
Modulation	RB		Channel	Result						Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	
QPSK	1	0	Lowest	18.49	1.27	6.70	2.15	21.77	Horizontal	Pass
	1	0	Middle	18.34	1.28	6.70	2.15	21.61	Horizontal	Pass
	1	0	Highest	18.16	1.29	6.70	2.15	21.42	Horizontal	Pass
	1	0	Lowest	19.8	1.27	6.70	2.15	23.08	Vertical	Pass
	1	0	Middle	19.74	1.28	6.70	2.15	23.01	Vertical	Pass
	1	0	Highest	19.6	1.29	6.70	2.15	22.86	Vertical	Pass
16QAM	1	0	Lowest	17.99	1.27	6.70	2.15	21.27	Horizontal	Pass
	1	0	Middle	18.11	1.28	6.70	2.15	21.38	Horizontal	Pass
	1	0	Highest	17.86	1.29	6.70	2.15	21.12	Horizontal	Pass
	1	0	Lowest	19.43	1.27	6.70	2.15	22.71	Vertical	Pass
	1	0	Middle	19.52	1.28	6.70	2.15	22.79	Vertical	Pass
	1	0	Highest	19.31	1.29	6.70	2.15	22.57	Vertical	Pass
Limit	ERP<7W=38.45dBm									



Radiated Power (ERP) for LTE Band 5 / 5M										
Modulation	RB		Channel	Result						Conclusion
				S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization	
	Size	Offset		Of Max. ERP						
QPSK	1	0	Lowest	18.9	1.27	6.70	2.15	22.18	Horizontal	Pass
	1	0	Middle	18.64	1.28	6.70	2.15	21.91	Horizontal	Pass
	1	0	Highest	18.06	1.29	6.70	2.15	21.32	Horizontal	Pass
	1	0	Lowest	20.33	1.27	6.70	2.15	23.61	Vertical	Pass
	1	0	Middle	20.1	1.28	6.70	2.15	23.37	Vertical	Pass
	1	0	Highest	19.37	1.29	6.70	2.15	22.63	Vertical	Pass
16QAM	1	0	Lowest	18.56	1.27	6.70	2.15	21.84	Horizontal	Pass
	1	0	Middle	18.3	1.28	6.70	2.15	21.57	Horizontal	Pass
	1	0	Highest	17.79	1.29	6.70	2.15	21.05	Horizontal	Pass
	1	0	Lowest	20.05	1.27	6.70	2.15	23.33	Vertical	Pass
	1	0	Middle	19.78	1.28	6.70	2.15	23.05	Vertical	Pass
	1	0	Highest	19.26	1.29	6.70	2.15	22.52	Vertical	Pass
Limit	ERP<7W=38.45dBm									

Radiated Power (ERP) for LTE Band 5 / 10M										
Modulation	RB		Channel	Result						Conclusion
				S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization	
	Size	Offset		Of Max. ERP						
QPSK	1	0	Lowest	18.45	1.27	6.70	2.15	21.73	Horizontal	Pass
	1	0	Middle	18.48	1.28	6.70	2.15	21.75	Horizontal	Pass
	1	0	Highest	18.6	1.29	6.70	2.15	21.86	Horizontal	Pass
	1	0	Lowest	19.94	1.27	6.70	2.15	23.22	Vertical	Pass
	1	0	Middle	19.79	1.28	6.70	2.15	23.06	Vertical	Pass
	1	0	Highest	20.03	1.29	6.70	2.15	23.29	Vertical	Pass
16QAM	1	0	Lowest	18.43	1.27	6.70	2.15	21.71	Horizontal	Pass
	1	0	Middle	18.24	1.28	6.70	2.15	21.51	Horizontal	Pass
	1	0	Highest	18.38	1.29	6.70	2.15	21.64	Horizontal	Pass
	1	0	Lowest	19.75	1.27	6.70	2.15	23.03	Vertical	Pass
	1	0	Middle	19.59	1.28	6.70	2.15	22.86	Vertical	Pass
	1	0	Highest	19.71	1.29	6.70	2.15	22.97	Vertical	Pass
Limit	ERP<7W=38.45dBm									



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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	18.37	1.27	6.70	23.80	Horizontal	Pass
	1	0	Middle	18.25	1.28	6.70	23.67	Horizontal	Pass
	1	0	Highest	18.59	1.29	6.70	24.00	Horizontal	Pass
	1	0	Lowest	19.79	1.27	6.70	25.22	Vertical	Pass
	1	0	Middle	19.7	1.28	6.70	25.12	Vertical	Pass
	1	0	Highest	19.97	1.29	6.70	25.38	Vertical	Pass
16QAM	1	0	Lowest	18.09	1.27	6.70	23.52	Horizontal	Pass
	1	0	Middle	17.99	1.28	6.70	23.41	Horizontal	Pass
	1	0	Highest	18.46	1.29	6.70	23.87	Horizontal	Pass
	1	0	Lowest	19.5	1.27	6.70	24.93	Vertical	Pass
	1	0	Middle	19.41	1.28	6.70	24.83	Vertical	Pass
	1	0	Highest	19.77	1.29	6.70	25.18	Vertical	Pass
Limit	EIRP<11.5W=40.6dBm								

Radiated Power (EIRP) for LTE Band 5 / 3M									
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	18.49	1.27	6.70	23.92	Horizontal	Pass
	1	0	Middle	18.34	1.28	6.70	23.76	Horizontal	Pass
	1	0	Highest	18.16	1.29	6.70	23.57	Horizontal	Pass
	1	0	Lowest	19.8	1.27	6.70	25.23	Vertical	Pass
	1	0	Middle	19.74	1.28	6.70	25.16	Vertical	Pass
	1	0	Highest	19.6	1.29	6.70	25.01	Vertical	Pass
16QAM	1	0	Lowest	17.99	1.27	6.70	23.42	Horizontal	Pass
	1	0	Middle	18.11	1.28	6.70	23.53	Horizontal	Pass
	1	0	Highest	17.86	1.29	6.70	23.27	Horizontal	Pass
	1	0	Lowest	19.43	1.27	6.70	24.86	Vertical	Pass
	1	0	Middle	19.52	1.28	6.70	24.94	Vertical	Pass
	1	0	Highest	19.31	1.29	6.70	24.72	Vertical	Pass
Limit	EIRP<11.5W=40.6dBm								



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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	18.9	1.27	6.70	24.33	Horizontal	Pass
	1	0	Middle	18.64	1.28	6.70	24.06	Horizontal	Pass
	1	0	Highest	18.06	1.29	6.70	23.47	Horizontal	Pass
	1	0	Lowest	20.33	1.27	6.70	25.76	Vertical	Pass
	1	0	Middle	20.1	1.28	6.70	25.52	Vertical	Pass
	1	0	Highest	19.37	1.29	6.70	24.78	Vertical	Pass
16QAM	1	0	Lowest	18.56	1.27	6.70	23.99	Horizontal	Pass
	1	0	Middle	18.3	1.28	6.70	23.72	Horizontal	Pass
	1	0	Highest	17.79	1.29	6.70	23.20	Horizontal	Pass
	1	0	Lowest	20.05	1.27	6.70	25.48	Vertical	Pass
	1	0	Middle	19.78	1.28	6.70	25.20	Vertical	Pass
	1	0	Highest	19.26	1.29	6.70	24.67	Vertical	Pass
Limit	EIRP<11.5W=40.6dBm								

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.I.R.P.(dBm)	Polarization Of Max. EIRP	
QPSK	1	0	Lowest	18.45	1.27	6.70	23.88	Horizontal	Pass
	1	0	Middle	18.48	1.28	6.70	23.90	Horizontal	Pass
	1	0	Highest	18.6	1.29	6.70	24.01	Horizontal	Pass
	1	0	Lowest	19.94	1.27	6.70	25.37	Vertical	Pass
	1	0	Middle	19.79	1.28	6.70	25.21	Vertical	Pass
	1	0	Highest	20.03	1.29	6.70	25.44	Vertical	Pass
16QAM	1	0	Lowest	18.43	1.27	6.70	23.86	Horizontal	Pass
	1	0	Middle	18.24	1.28	6.70	23.66	Horizontal	Pass
	1	0	Highest	18.38	1.29	6.70	23.79	Horizontal	Pass
	1	0	Lowest	19.75	1.27	6.70	25.18	Vertical	Pass
	1	0	Middle	19.59	1.28	6.70	25.01	Vertical	Pass
	1	0	Highest	19.71	1.29	6.70	25.12	Vertical	Pass
Limit	EIRP<11.5W=40.6dBm								



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	9.65	2.56	10.60	17.69	Horizontal	Pass
	1	0	Middle	9.7	2.67	10.65	17.68	Horizontal	Pass
	1	0	Highest	9.6	2.72	10.70	17.58	Horizontal	Pass
	1	0	Lowest	11.08	2.56	10.60	19.12	Vertical	Pass
	1	0	Middle	11.15	2.67	10.65	19.13	Vertical	Pass
	1	0	Highest	11	2.72	10.70	18.98	Vertical	Pass
16QAM	1	0	Lowest	9.51	2.56	10.60	17.55	Horizontal	Pass
	1	0	Middle	9.44	2.67	10.65	17.42	Horizontal	Pass
	1	0	Highest	9.28	2.72	10.70	17.26	Horizontal	Pass
	1	0	Lowest	10.82	2.56	10.60	18.86	Vertical	Pass
	1	0	Middle	10.85	2.67	10.65	18.83	Vertical	Pass
	1	0	Highest	10.69	2.72	10.70	18.67	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	9.24	2.56	10.60	17.28	Horizontal	Pass
	1	0	Middle	9.69	2.67	10.65	17.67	Horizontal	Pass
	1	0	Highest	9.12	2.72	10.70	17.10	Horizontal	Pass
	1	0	Lowest	10.56	2.56	10.60	18.60	Vertical	Pass
	1	0	Middle	11.04	2.67	10.65	19.02	Vertical	Pass
	1	0	Highest	10.54	2.72	10.70	18.52	Vertical	Pass
16QAM	1	0	Lowest	8.9	2.56	10.60	16.94	Horizontal	Pass
	1	0	Middle	9.3	2.67	10.65	17.28	Horizontal	Pass
	1	0	Highest	8.92	2.72	10.70	16.90	Horizontal	Pass
	1	0	Lowest	10.32	2.56	10.60	18.36	Vertical	Pass
	1	0	Middle	10.64	2.67	10.65	18.62	Vertical	Pass
	1	0	Highest	10.42	2.72	10.70	18.40	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	9.21	2.56	10.60	17.25	Horizontal	Pass
	1	0	Middle	9.21	2.67	10.65	17.19	Horizontal	Pass
	1	0	Highest	9.54	2.72	10.70	17.52	Horizontal	Pass
	1	0	Lowest	10.54	2.56	10.60	18.58	Vertical	Pass
	1	0	Middle	10.69	2.67	10.65	18.67	Vertical	Pass
	1	0	Highest	11	2.72	10.70	18.98	Vertical	Pass
16QAM	1	0	Lowest	8.93	2.56	10.60	16.97	Horizontal	Pass
	1	0	Middle	9.16	2.67	10.65	17.14	Horizontal	Pass
	1	0	Highest	9.21	2.72	10.70	17.19	Horizontal	Pass
	1	0	Lowest	10.35	2.56	10.60	18.39	Vertical	Pass
	1	0	Middle	10.49	2.67	10.65	18.47	Vertical	Pass
	1	0	Highest	10.63	2.72	10.70	18.61	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	9.66	2.56	10.60	17.70	Horizontal	Pass
	1	0	Middle	9.73	2.67	10.65	17.71	Horizontal	Pass
	1	0	Highest	9.86	2.72	10.70	17.84	Horizontal	Pass
	1	0	Lowest	11.13	2.56	10.60	19.17	Vertical	Pass
	1	0	Middle	11.14	2.67	10.65	19.12	Vertical	Pass
	1	0	Highest	11.23	2.72	10.70	19.21	Vertical	Pass
16QAM	1	0	Lowest	9.34	2.56	10.60	17.38	Horizontal	Pass
	1	0	Middle	9.59	2.67	10.65	17.57	Horizontal	Pass
	1	0	Highest	9.52	2.72	10.70	17.50	Horizontal	Pass
	1	0	Lowest	10.82	2.56	10.60	18.86	Vertical	Pass
	1	0	Middle	10.91	2.67	10.65	18.89	Vertical	Pass
	1	0	Highest	10.9	2.72	10.70	18.88	Vertical	Pass
Limit	EIRP<2W=33dBm								



Radiated Power (ERP) for LTE Band 17 / 5M										
Modulation	RB		Channel	Result						Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	
QPSK	1	0	Lowest	16.87	1.21	6.40	2.15	19.91	Horizontal	Pass
	1	0	Middle	16.87	1.22	6.40	2.15	19.90	Horizontal	Pass
	1	0	Highest	16.96	1.23	6.40	2.15	19.98	Horizontal	Pass
	1	0	Lowest	18.18	1.21	6.40	2.15	21.22	Vertical	Pass
	1	0	Middle	18.24	1.22	6.40	2.15	21.27	Vertical	Pass
	1	0	Highest	18.35	1.23	6.40	2.15	21.37	Vertical	Pass
16QAM	1	0	Lowest	16.64	1.21	6.40	2.15	19.68	Horizontal	Pass
	1	0	Middle	16.83	1.22	6.40	2.15	19.86	Horizontal	Pass
	1	0	Highest	16.62	1.23	6.40	2.15	19.64	Horizontal	Pass
	1	0	Lowest	18.01	1.21	6.40	2.15	21.05	Vertical	Pass
	1	0	Middle	18.16	1.22	6.40	2.15	21.19	Vertical	Pass
1	0	Highest	17.94	1.23	6.40	2.15	20.96	Vertical	Pass	
Limit	ERP<3W=34.77dBm									

Radiated Power (ERP) for LTE Band 17 / 10M										
Modulation	RB		Channel	Result						Conclusion
	Size	Offset		S G.Level (dBm)	Cable loss	Gain (dBi)	correction factor(dB)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	
QPSK	1	0	Lowest	16.87	1.21	6.40	2.15	19.91	Horizontal	Pass
	1	0	Middle	17.03	1.22	6.40	2.15	20.06	Horizontal	Pass
	1	0	Highest	17.11	1.23	6.40	2.15	20.13	Horizontal	Pass
	1	0	Lowest	18.37	1.21	6.40	2.15	21.41	Vertical	Pass
	1	0	Middle	18.44	1.22	6.40	2.15	21.47	Vertical	Pass
	1	0	Highest	18.41	1.23	6.40	2.15	21.43	Vertical	Pass
16QAM	1	0	Lowest	16.75	1.21	6.40	2.15	19.79	Horizontal	Pass
	1	0	Middle	16.74	1.22	6.40	2.15	19.77	Horizontal	Pass
	1	0	Highest	16.7	1.23	6.40	2.15	19.72	Horizontal	Pass
	1	0	Lowest	18.08	1.21	6.40	2.15	21.12	Vertical	Pass
	1	0	Middle	18.19	1.22	6.40	2.15	21.22	Vertical	Pass
1	0	Highest	18.04	1.23	6.40	2.15	21.06	Vertical	Pass	
Limit	ERP<3W=34.77dBm									

6. OCCUPIED BANDWIDTH

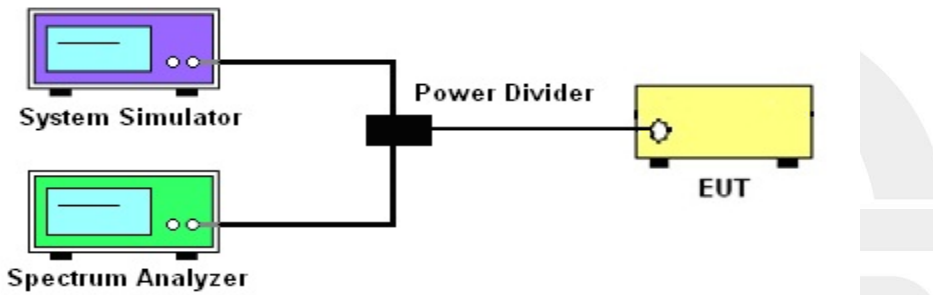
6.1 DESCRIPTION OF OCCUPIED BANDWIDTH MEASUREMENT

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 4.2 and 4.3.
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 Bandwidth [MHz]							
BW [MHz]	Mode	Lowest		Middle		Highest	
		99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
1.4	QPSK	1.0966	1.305	1.098	1.291	1.094	1.311
1.4	16-QAM	1.098	1.306	1.09	1.275	1.093	1.289
3	QPSK	2.677	2.868	5.673	2.854	2.68	2.858
3	16-QAM	2.672	2.856	5.672	2.857	2.674	2.868
5	QPSK	4.493	4.929	4.506	4.941	4.501	4.945
5	16-QAM	4.512	4.94	4.502	4.944	4.4779	4.927
10	QPSK	8.934	9.553	8.939	9.641	8.926	9.51
10	16-QAM	8.943	9.575	8.934	9.566	8.935	9.538
15	QPSK	13.492	14.93	13.425	14.56	13.477	14.61
15	16-QAM	13.501	14.88	13.465	14.56	13.481	14.56
20	QPSK	17.95	19.3	17.916	19.05	17.907	19.1
20	16-QAM	17.922	20.42	17.889	19.09	17.955	19.06
LTE Band 4 Bandwidth [MHz]							
BW [MHz]	Mode	Lowest		Middle		Highest	
		99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
1.4	QPSK	1.102	1.283	1.0827	1.283	1.097	1.308
1.4	16-QAM	1.0887	1.281	1.0925	1.292	1.0972	1.299
3	QPSK	2.676	2.864	2.675	2.852	2.682	2.863
3	16-QAM	2.672	2.852	2.673	2.871	2.6753	2.859
5	QPSK	4.488	4.928	4.507	4.927	4.502	4.944
5	16-QAM	4.508	4.925	4.4958	4.932	4.4901	5.002
10	QPSK	8.926	9.655	8.938	9.551	8.9459	9.584
10	16-QAM	8.931	9.553	8.927	9.529	8.935	9.564
15	QPSK	13.477	14.58	13.427	14.55	13.464	14.63
15	16-QAM	13.5	15.55	13.467	14.58	13.478	14.56
20	QPSK	17.921	19.35	17.902	19.13	17.879	19.03
20	16-QAM	17.983	19.65	17.877	19.18	17.873	19.12
LTE Band 5 Bandwidth [MHz]							
BW [MHz]	Mode	Lowest		Middle		Highest	
		99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
1.4	QPSK	1.0969	1.301	1.1026	1.281	1.092	1.287
1.4	16-QAM	1.098	1.307	1.09	1.272	1.093	1.292
3	QPSK	2.674	2.852	2.6814	2.856	2.677	2.863
3	16-QAM	2.673	2.856	2.672	2.854	2.675	2.851
5	QPSK	4.501	4.928	4.511	4.939	4.4996	4.958
5	16-QAM	4.51	4.924	4.506	4.956	4.484	4.893
10	QPSK	8.94	9.671	8.934	9.517	8.94	9.581
10	16-QAM	8.939	9.571	8.937	9.501	8.939	9.56



LTE Band 7 Bandwidth [MHz]							
BW [MHz]	Mode	Lowest		Middle		Highest	
		99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
5	QPSK	4.491	4.904	4.5	4.946	4.503	4.939
5	16-QAM	4.513	4.934	4.51	4.968	4.489	4.942
10	QPSK	8.93	9.609	8.945	9.596	8.94	9.553
10	16-QAM	8.94	9.606	8.926	9.559	8.947	9.596
15	QPSK	13.407	14.49	13.517	14.72	13.466	14.53
15	16-QAM	13.435	14.52	13.504	14.63	13.495	14.57
20	QPSK	17.806	19.04	17.908	19.22	17.908	19.3
20	16-QAM	17.797	19.07	17.965	19.17	17.923	19.12

LTE Band 17 Bandwidth [MHz]							
BW [MHz]	Mode	Lowest		Middle		Highest	
		99% BW	26dB BW	99% BW	26dB BW	99% BW	26dB BW
5	QPSK	4.536	5.165	4.502	5.115	4.531	5.176
5	16-QAM	4.52	5.212	4.522	5.131	4.566	5.291
10	QPSK	8.899	9.588	8.904	9.766	8.921	9.589
10	16-QAM	8.894	9.634	8.9	9.64	8.926	9.71

Note: Test chart See Appendix A





7. CONDUCTED BAND EDGE

7.1 DESCRIPTION OF CONDUCTED BAND EDGE MEASUREMENT

7.1.1 MEASUREMENT METHOD

FCC:

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 that $43 + 10 \log (P)$ Db on all frequencies between 2490.5 Mhzand 2496 MHz and $55 + 10 \log (P)$ Db at or below 2490.5 MHz. Mobile Satellite Service licenseesoperating on frequencies below 2495 MHz may also submit a documented interference complaintagainst 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.



IC:

1. RSS – 132

For operations in the 824 – 849 MHz band, the IC 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. RSS – 133

For operations in the 1850-1910 and 1930-1990 MHz band, the IC 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. RSS – 139

For operations in the 1710 – 1755 MHz band, the IC 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. RSS – 199

For operations in the 2502.7 MHz ~ 2567.3 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. RSS – 130

General unwanted emissions limits

For operations in the 698 -746 MHz band, the IC 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.

Additional unwanted emissions limits

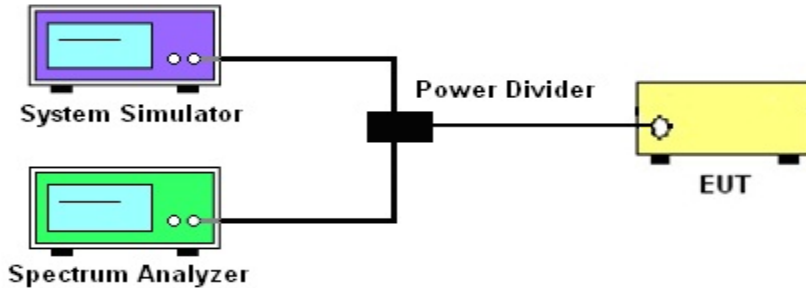
In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

- (i) $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment, and
- (ii) $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment.

b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

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

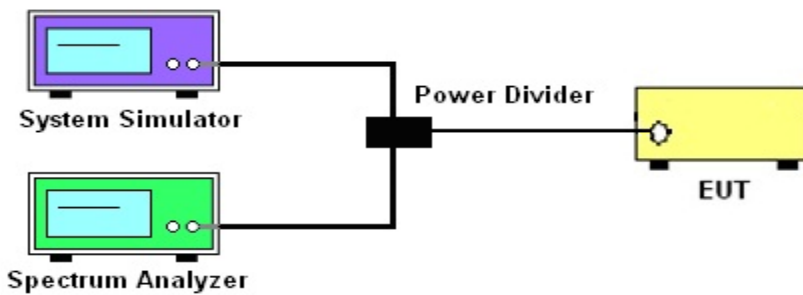
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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 $43 + 10\log(P)\text{dB}$ 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. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

9.1.2 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.

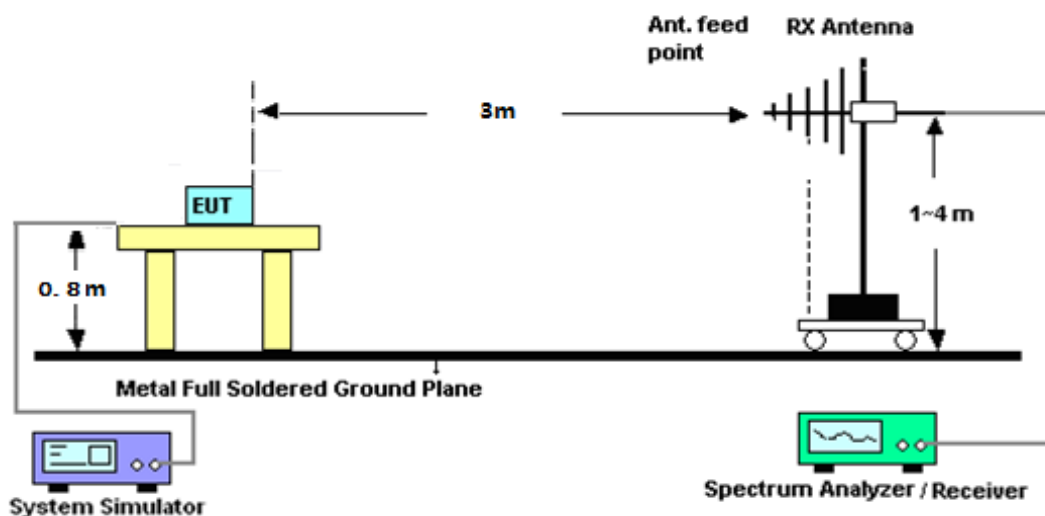
b) EUT was placed on 1.5 m non-conductive stand at a 3 m test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 m from the test item for emission measurements. The height of receiving antenna is 0.8m. The test setup refers to figure below. Detected emissions were 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 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.

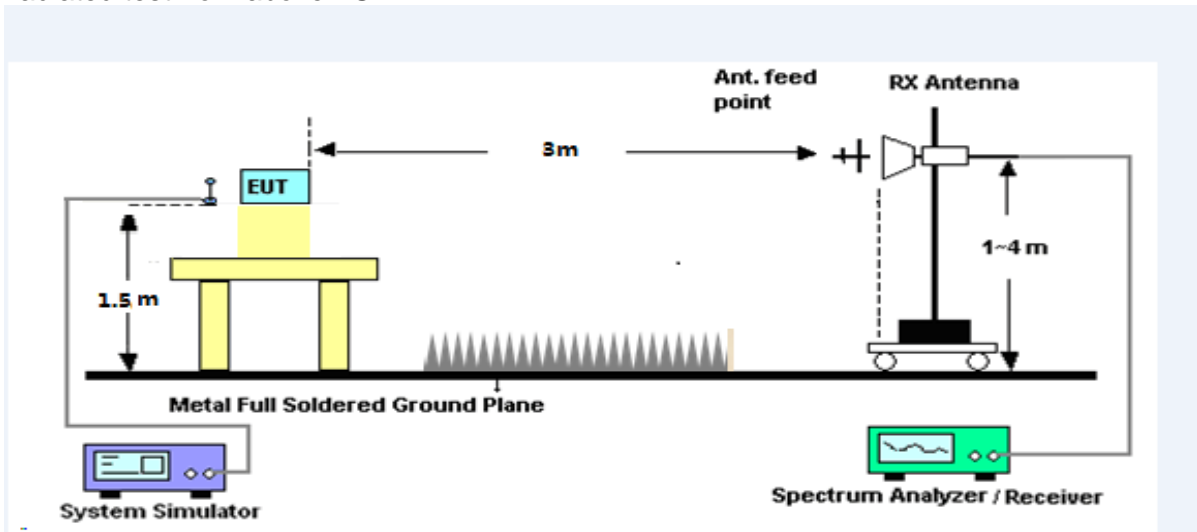
The substitution method is used. Substitution values at each frequency are measured before and saved to the test software. A "reference path loss" is established and the ARpl is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable 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 7 and ANSI C63.26 2015 Section 5.5.
2. The EUT was placed on a rotatable wooden table with 1.5 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)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm

For Band 7:

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

$P_{Mea} = S.G \text{ Level} + \text{Ant-Cable loss}; \text{Margin} = P_{Mea} - \text{Limit.}$



9.1.4 TEST RESULTS

Note: QPSK and 16QAM all has been tested, only shown the worst case in this report.

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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3703.82	-33.51	12.60	12.93	-33.84	-13.00	-20.84	H
5557.01	-34.96	13.10	17.11	-38.97	-13.00	-25.97	H
7409.67	-33.15	11.50	22.20	-43.85	-13.00	-30.85	H
3703.82	-34.69	12.60	12.93	-35.02	-13.00	-22.02	V
5557.01	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V
7409.67	-32.85	11.50	22.20	-43.55	-13.00	-30.55	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.56	-33.53	12.60	12.93	-33.86	-13.00	-20.86	H
5639.50	-35.45	13.10	17.11	-39.46	-13.00	-26.46	H
7520.15	-33.04	11.50	22.20	-43.74	-13.00	-30.74	H
3759.56	-34.94	12.60	12.93	-35.27	-13.00	-22.27	V
5639.50	-34.60	13.10	17.11	-38.61	-13.00	-25.61	V
7520.15	-32.71	11.50	22.20	-43.41	-13.00	-30.41	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3818.09	-34.50	12.60	12.93	-34.83	-13.00	-21.83	H
5727.32	-34.46	13.10	17.11	-38.47	-13.00	-25.47	H
7636.91	-33.43	11.50	22.20	-44.13	-13.00	-31.13	H
3818.09	-35.86	12.60	12.93	-36.19	-13.00	-23.19	V
5727.32	-34.62	13.10	17.11	-38.63	-13.00	-25.63	V
7636.91	-33.04	11.50	22.20	-43.74	-13.00	-30.74	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3703.63	-34.49	12.60	12.93	-34.82	-13.00	-21.82	H
5557.32	-34.97	13.10	17.11	-38.98	-13.00	-25.98	H
7409.48	-32.81	11.50	22.20	-43.51	-13.00	-30.51	H
3703.63	-35.74	12.60	12.93	-36.07	-13.00	-23.07	V
5557.32	-34.23	13.10	17.11	-38.24	-13.00	-25.24	V
7409.48	-33.13	11.50	22.20	-43.83	-13.00	-30.83	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.57	-34.92	12.60	12.93	-35.25	-13.00	-22.25	H
5639.64	-35.41	13.10	17.11	-39.42	-13.00	-26.42	H
7519.81	-33.52	11.50	22.20	-44.22	-13.00	-31.22	H
3759.57	-35.62	12.60	12.93	-35.95	-13.00	-22.95	V
5639.64	-34.74	13.10	17.11	-38.75	-13.00	-25.75	V
7519.81	-32.13	11.50	22.20	-42.83	-13.00	-29.83	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3817.85	-33.98	12.60	12.93	-34.31	-13.00	-21.31	H
5727.24	-34.32	13.10	17.11	-38.33	-13.00	-25.33	H
7636.83	-33.51	11.50	22.20	-44.21	-13.00	-31.21	H
3817.85	-35.14	12.60	12.93	-35.47	-13.00	-22.47	V
5727.24	-33.79	13.10	17.11	-37.80	-13.00	-24.80	V
7636.83	-32.01	11.50	22.20	-42.71	-13.00	-29.71	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3705.02	-34.67	12.60	12.93	-35.00	-13.00	-22.00	H
5557.72	-34.26	13.10	17.11	-38.27	-13.00	-25.27	H
7410.05	-32.21	11.50	22.20	-42.91	-13.00	-29.91	H
3705.02	-35.82	12.60	12.93	-36.15	-13.00	-23.15	V
5557.72	-33.89	13.10	17.11	-37.90	-13.00	-24.90	V
7410.05	-32.82	11.50	22.20	-43.52	-13.00	-30.52	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.96	-34.13	12.60	12.93	-34.46	-13.00	-21.46	H
5639.48	-34.49	13.10	17.11	-38.50	-13.00	-25.50	H
7519.96	-32.34	11.50	22.20	-43.04	-13.00	-30.04	H
3759.96	-35.08	12.60	12.93	-35.41	-13.00	-22.41	V
5639.48	-34.69	13.10	17.11	-38.70	-13.00	-25.70	V
7519.96	-32.59	11.50	22.20	-43.29	-13.00	-30.29	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3814.05	-34.24	12.60	12.93	-34.57	-13.00	-21.57	H
5721.41	-34.22	13.10	17.11	-38.23	-13.00	-25.23	H
7628.72	-32.21	11.50	22.20	-42.91	-13.00	-29.91	H
3814.05	-34.65	12.60	12.93	-34.98	-13.00	-21.98	V
5721.41	-35.08	13.10	17.11	-39.09	-13.00	-26.09	V
7628.72	-31.74	11.50	22.20	-42.44	-13.00	-29.44	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3710.56	-33.73	12.60	12.93	-34.06	-13.00	-21.06	H
5565.64	-34.34	13.10	17.11	-38.35	-13.00	-25.35	H
7420.84	-32.71	11.50	22.20	-43.41	-13.00	-30.41	H
3710.56	-35.93	12.60	12.93	-36.26	-13.00	-23.26	V
5565.64	-33.94	13.10	17.11	-37.95	-13.00	-24.95	V
7420.84	-32.90	11.50	22.20	-43.60	-13.00	-30.60	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.76	-34.44	12.60	12.93	-34.77	-13.00	-21.77	H
5639.51	-34.42	13.10	17.11	-38.43	-13.00	-25.43	H
7520.15	-32.61	11.50	22.20	-43.31	-13.00	-30.31	H
3759.76	-35.36	12.60	12.93	-35.69	-13.00	-22.69	V
5639.51	-33.86	13.10	17.11	-37.87	-13.00	-24.87	V
7520.15	-31.95	11.50	22.20	-42.65	-13.00	-29.65	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3809.13	-34.79	12.60	12.93	-35.12	-13.00	-22.12	H
5713.51	-34.76	13.10	17.11	-38.77	-13.00	-25.77	H
7618.00	-33.54	11.50	22.20	-44.24	-13.00	-31.24	H
3809.13	-34.86	12.60	12.93	-35.19	-13.00	-22.19	V
5713.51	-34.78	13.10	17.11	-38.79	-13.00	-25.79	V
7618.00	-32.30	11.50	22.20	-43.00	-13.00	-30.00	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3715.61	-34.46	12.60	12.93	-34.79	-13.00	-21.79	H
5574.09	-35.03	13.10	17.11	-39.04	-13.00	-26.04	H
7618.62	-32.35	11.50	22.20	-43.05	-13.00	-30.05	H
3715.61	-34.63	12.60	12.93	-34.96	-13.00	-21.96	V
5574.09	-33.85	13.10	17.11	-37.86	-13.00	-24.86	V
7618.62	-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 Middle							
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.50	-34.72	12.60	12.93	-35.05	-13.00	-22.05	H
5639.49	-35.40	13.10	17.11	-39.41	-13.00	-26.41	H
7520.22	-32.70	11.50	22.20	-43.40	-13.00	-30.40	H
3759.50	-35.49	12.60	12.93	-35.82	-13.00	-22.82	V
5639.49	-34.58	13.10	17.11	-38.59	-13.00	-25.59	V
7520.22	-32.77	11.50	22.20	-43.47	-13.00	-30.47	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3803.41	-33.72	12.60	12.93	-34.05	-13.00	-21.05	H
5704.98	-34.37	13.10	17.11	-38.38	-13.00	-25.38	H
7607.28	-33.59	11.50	22.20	-44.29	-13.00	-31.29	H
3803.41	-35.19	12.60	12.93	-35.52	-13.00	-22.52	V
5704.98	-35.25	13.10	17.11	-39.26	-13.00	-26.26	V
7607.28	-32.65	11.50	22.20	-43.35	-13.00	-30.35	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3721.30	-34.33	12.60	12.93	-34.66	-13.00	-21.66	H
5581.05	-34.80	13.10	17.11	-38.81	-13.00	-25.81	H
7441.64	-33.09	11.50	22.20	-43.79	-13.00	-30.79	H
3721.30	-35.65	12.60	12.93	-35.98	-13.00	-22.98	V
5581.05	-34.06	13.10	17.11	-38.07	-13.00	-25.07	V
7441.64	-32.51	11.50	22.20	-43.21	-13.00	-30.21	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3759.70	-34.40	12.60	12.93	-34.73	-13.00	-21.73	H
5639.78	-35.08	13.10	17.11	-39.09	-13.00	-26.09	H
7519.78	-33.20	11.50	22.20	-43.90	-13.00	-30.90	H
3759.70	-35.29	12.60	12.93	-35.62	-13.00	-22.62	V
5639.78	-34.96	13.10	17.11	-38.97	-13.00	-25.97	V
7519.78	-32.11	11.50	22.20	-42.81	-13.00	-29.81	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3798.06	-34.27	12.60	12.93	-34.60	-13.00	-21.60	H
5697.33	-34.71	13.10	17.11	-38.72	-13.00	-25.72	H
7596.70	-32.24	11.50	22.20	-42.94	-13.00	-29.94	H
3798.06	-35.69	12.60	12.93	-36.02	-13.00	-23.02	V
5697.33	-35.19	13.10	17.11	-39.20	-13.00	-26.20	V
7596.70	-31.78	11.50	22.20	-42.48	-13.00	-29.48	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3421.09	-34.78	12.90	12.56	-34.44	-13.00	-21.44	H
5131.87	-34.75	13.10	16.32	-37.97	-13.00	-24.97	H
6842.72	-33.28	12.33	21.13	-42.08	-13.00	-29.08	H
3421.09	-35.15	12.90	12.56	-34.81	-13.00	-21.81	V
5131.87	-35.24	13.10	16.32	-38.46	-13.00	-25.46	V
6842.72	-32.28	12.33	21.13	-41.08	-13.00	-28.08	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.66	-34.61	12.90	12.56	-34.27	-13.00	-21.27	H
5196.99	-34.23	13.10	16.32	-37.45	-13.00	-24.45	H
6929.98	-32.94	12.33	21.13	-41.74	-13.00	-28.74	H
3464.66	-35.80	12.90	12.56	-35.46	-13.00	-22.46	V
5196.99	-34.83	13.10	16.32	-38.05	-13.00	-25.05	V
6929.98	-32.95	12.33	21.13	-41.75	-13.00	-28.75	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3508.18	-34.12	12.90	12.56	-33.78	-13.00	-20.78	H
5262.38	-35.11	13.10	16.32	-38.33	-13.00	-25.33	H
7015.58	-32.20	12.33	21.13	-41.00	-13.00	-28.00	H
3508.18	-35.27	12.90	12.56	-34.93	-13.00	-21.93	V
5262.38	-34.64	13.10	16.32	-37.86	-13.00	-24.86	V
7015.58	-32.10	12.33	21.13	-40.90	-13.00	-27.90	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3423.93	-34.51	12.90	12.56	-34.17	-13.00	-21.17	H
5136.06	-35.48	13.10	16.32	-38.70	-13.00	-25.70	H
6848.35	-33.48	12.33	21.13	-42.28	-13.00	-29.28	H
3423.93	-35.11	12.90	12.56	-34.77	-13.00	-21.77	V
5136.06	-34.27	13.10	16.32	-37.49	-13.00	-24.49	V
6848.35	-31.97	12.33	21.13	-40.77	-13.00	-27.77	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.96	-34.59	12.90	12.56	-34.25	-13.00	-21.25	H
5196.57	-35.18	13.10	16.32	-38.40	-13.00	-25.40	H
6929.75	-32.23	12.33	21.13	-41.03	-13.00	-28.03	H
3464.96	-34.86	12.90	12.56	-34.52	-13.00	-21.52	V
5196.57	-34.88	13.10	16.32	-38.10	-13.00	-25.10	V
6929.75	-31.95	12.33	21.13	-40.75	-13.00	-27.75	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3506.23	-34.39	12.90	12.56	-34.05	-13.00	-21.05	H
5261.82	-34.60	13.10	16.32	-37.82	-13.00	-24.82	H
7012.36	-33.30	12.33	21.13	-42.10	-13.00	-29.10	H
3506.23	-34.71	12.90	12.56	-34.37	-13.00	-21.37	V
5261.82	-34.37	13.10	16.32	-37.59	-13.00	-24.59	V
7012.36	-32.80	12.33	21.13	-41.60	-13.00	-28.60	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3424.99	-34.54	12.90	12.56	-34.20	-13.00	-21.20	H
5136.87	-35.43	13.10	16.32	-38.65	-13.00	-25.65	H
6849.88	-32.90	12.33	21.13	-41.70	-13.00	-28.70	H
3424.99	-35.65	12.90	12.56	-35.31	-13.00	-22.31	V
5136.87	-35.17	13.10	16.32	-38.39	-13.00	-25.39	V
6849.88	-31.75	12.33	21.13	-40.55	-13.00	-27.55	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.32	-33.48	12.90	12.56	-33.14	-13.00	-20.14	H
5196.71	-34.90	13.10	16.32	-38.12	-13.00	-25.12	H
6929.91	-32.30	12.33	21.13	-41.10	-13.00	-28.10	H
3464.32	-34.62	12.90	12.56	-34.28	-13.00	-21.28	V
5196.71	-33.99	13.10	16.32	-37.21	-13.00	-24.21	V
6929.91	-32.25	12.33	21.13	-41.05	-13.00	-28.05	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3504.87	-34.71	12.90	12.56	-34.37	-13.00	-21.37	H
5256.80	-35.26	13.10	16.32	-38.48	-13.00	-25.48	H
7009.91	-32.96	12.33	21.13	-41.76	-13.00	-28.76	H
3504.87	-35.94	12.90	12.56	-35.60	-13.00	-22.60	V
5256.80	-34.91	13.10	16.32	-38.13	-13.00	-25.13	V
7009.91	-32.19	12.33	21.13	-40.99	-13.00	-27.99	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3429.73	-34.07	12.90	12.56	-33.73	-13.00	-20.73	H
5145.37	-34.70	13.10	16.32	-37.92	-13.00	-24.92	H
6860.50	-33.45	12.33	21.13	-42.25	-13.00	-29.25	H
3429.73	-34.91	12.90	12.56	-34.57	-13.00	-21.57	V
5145.37	-33.89	13.10	16.32	-37.11	-13.00	-24.11	V
6860.50	-32.62	12.33	21.13	-41.42	-13.00	-28.42	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.79	-34.49	12.90	12.56	-34.15	-13.00	-21.15	H
5196.70	-34.97	13.10	16.32	-38.19	-13.00	-25.19	H
6929.76	-33.35	12.33	21.13	-42.15	-13.00	-29.15	H
3464.79	-34.85	12.90	12.56	-34.51	-13.00	-21.51	V
5196.70	-34.38	13.10	16.32	-37.60	-13.00	-24.60	V
6929.76	-31.95	12.33	21.13	-40.75	-13.00	-27.75	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3500.15	-34.63	12.90	12.56	-34.29	-13.00	-21.29	H
5250.06	-35.43	13.10	16.32	-38.65	-13.00	-25.65	H
6999.78	-32.99	12.33	21.13	-41.79	-13.00	-28.79	H
3500.15	-35.45	12.90	12.56	-35.11	-13.00	-22.11	V
5250.06	-34.20	13.10	16.32	-37.42	-13.00	-24.42	V
6999.78	-33.19	12.33	21.13	-41.99	-13.00	-28.99	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3434.77	-34.08	12.90	12.56	-33.74	-13.00	-20.74	H
5152.36	-34.56	13.10	16.32	-37.78	-13.00	-24.78	H
6870.63	-33.02	12.33	21.13	-41.82	-13.00	-28.82	H
3434.77	-35.07	12.90	12.56	-34.73	-13.00	-21.73	V
5152.36	-34.66	13.10	16.32	-37.88	-13.00	-24.88	V
6870.63	-32.04	12.33	21.13	-40.84	-13.00	-27.84	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.79	-34.46	12.90	12.56	-34.12	-13.00	-21.12	H
5196.36	-35.04	13.10	16.32	-38.26	-13.00	-25.26	H
6929.97	-32.93	12.33	21.13	-41.73	-13.00	-28.73	H
3464.79	-35.03	12.90	12.56	-34.69	-13.00	-21.69	V
5196.36	-34.52	13.10	16.32	-37.74	-13.00	-24.74	V
6929.97	-32.45	12.33	21.13	-41.25	-13.00	-28.25	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3495.22	-34.05	12.90	12.56	-33.71	-13.00	-20.71	H
5242.08	-34.25	13.10	16.32	-37.47	-13.00	-24.47	H
6990.12	-33.24	12.33	21.13	-42.04	-13.00	-29.04	H
3495.22	-35.68	12.90	12.56	-35.34	-13.00	-22.34	V
5242.08	-33.89	13.10	16.32	-37.11	-13.00	-24.11	V
6990.12	-32.74	12.33	21.13	-41.54	-13.00	-28.54	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3439.99	-33.77	12.90	12.56	-33.43	-13.00	-20.43	H
5160.04	-34.97	13.10	16.32	-38.19	-13.00	-25.19	H
6880.49	-32.90	12.33	21.13	-41.70	-13.00	-28.70	H
3439.99	-34.67	12.90	12.56	-34.33	-13.00	-21.33	V
5160.04	-34.02	13.10	16.32	-37.24	-13.00	-24.24	V
6880.49	-32.31	12.33	21.13	-41.11	-13.00	-28.11	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3464.66	-33.78	12.90	12.56	-33.44	-13.00	-20.44	H
5196.46	-34.86	13.10	16.32	-38.08	-13.00	-25.08	H
6929.99	-32.80	12.33	21.13	-41.60	-13.00	-28.60	H
3464.66	-34.77	12.90	12.56	-34.43	-13.00	-21.43	V
5196.46	-34.55	13.10	16.32	-37.77	-13.00	-24.77	V
6929.99	-33.03	12.33	21.13	-41.83	-13.00	-28.83	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
3490.29	-34.91	12.90	12.56	-34.57	-13.00	-21.57	H
5234.89	-34.62	13.10	16.32	-37.84	-13.00	-24.84	H
6979.51	-32.23	12.33	21.13	-41.03	-13.00	-28.03	H
3490.29	-34.85	12.90	12.56	-34.51	-13.00	-21.51	V
5234.89	-34.33	13.10	16.32	-37.55	-13.00	-24.55	V
6979.51	-32.77	12.33	21.13	-41.57	-13.00	-28.57	V



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)	(dBm)	
1648.90	-34.16	9.56	9.72	-34.32	-13.00	-21.32	H
2473.47	-34.25	10.50	10.86	-34.61	-13.00	-21.61	H
3298.36	-32.43	12.78	11.57	-31.22	-13.00	-18.22	H
1648.90	-35.54	9.56	9.72	-35.70	-13.00	-22.70	V
2473.47	-34.24	10.50	10.86	-34.60	-13.00	-21.60	V
3298.36	-32.45	12.78	11.57	-31.24	-13.00	-18.24	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)	(dBm)	
1672.50	-34.17	9.56	9.72	-34.33	-13.00	-21.33	H
2509.34	-34.82	10.50	10.86	-35.18	-13.00	-22.18	H
3345.63	-33.36	12.78	11.57	-32.15	-13.00	-19.15	H
1672.50	-34.63	9.56	9.72	-34.79	-13.00	-21.79	V
2509.34	-34.80	10.50	10.86	-35.16	-13.00	-22.16	V
3345.63	-32.00	12.78	11.57	-30.79	-13.00	-17.79	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)	(dBm)	
1696.32	-34.68	9.56	9.72	-34.84	-13.00	-21.84	H
2544.70	-35.07	10.50	10.86	-35.43	-13.00	-22.43	H
3392.98	-32.47	12.78	11.57	-31.26	-13.00	-18.26	H
1696.32	-35.00	9.56	9.72	-35.16	-13.00	-22.16	V
2544.70	-33.87	10.50	10.86	-34.23	-13.00	-21.23	V
3392.98	-32.62	12.78	11.57	-31.41	-13.00	-18.41	V



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)	(dBm)	
1650.46	-33.61	9.56	9.72	-33.77	-13.00	-20.77	H
2475.92	-35.16	10.50	10.86	-35.52	-13.00	-22.52	H
3301.23	-33.65	12.78	11.57	-32.44	-13.00	-19.44	H
1650.46	-36.00	9.56	9.72	-36.16	-13.00	-23.16	V
2475.92	-34.85	10.50	10.86	-35.21	-13.00	-22.21	V
3301.23	-32.24	12.78	11.57	-31.03	-13.00	-18.03	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)	(dBm)	
1672.10	-34.60	9.56	9.72	-34.76	-13.00	-21.76	H
2509.02	-35.28	10.50	10.86	-35.64	-13.00	-22.64	H
3345.75	-32.40	12.78	11.57	-31.19	-13.00	-18.19	H
1672.10	-34.55	9.56	9.72	-34.71	-13.00	-21.71	V
2509.02	-33.78	10.50	10.86	-34.14	-13.00	-21.14	V
3345.75	-32.10	12.78	11.57	-30.89	-13.00	-17.89	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)	(dBm)	
1694.43	-33.66	9.56	9.72	-33.82	-13.00	-20.82	H
2541.94	-34.09	10.50	10.86	-34.45	-13.00	-21.45	H
3389.32	-33.17	12.78	11.57	-31.96	-13.00	-18.96	H
1694.43	-35.74	9.56	9.72	-35.90	-13.00	-22.90	V
2541.94	-34.14	10.50	10.86	-34.50	-13.00	-21.50	V
3389.32	-33.04	12.78	11.57	-31.83	-13.00	-18.83	V



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)	(dBm)	
1652.66	-33.91	9.56	9.72	-34.07	-13.00	-21.07	H
2478.58	-35.01	10.50	10.86	-35.37	-13.00	-22.37	H
3305.34	-32.82	12.78	11.57	-31.61	-13.00	-18.61	H
1652.66	-35.48	9.56	9.72	-35.64	-13.00	-22.64	V
2478.58	-35.20	10.50	10.86	-35.56	-13.00	-22.56	V
3305.34	-31.75	12.78	11.57	-30.54	-13.00	-17.54	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)	(dBm)	
1672.22	-34.08	9.56	9.72	-34.24	-13.00	-21.24	H
2508.66	-34.83	10.50	10.86	-35.19	-13.00	-22.19	H
3345.25	-32.45	12.78	11.57	-31.24	-13.00	-18.24	H
1672.22	-35.96	9.56	9.72	-36.12	-13.00	-23.12	V
2508.66	-33.77	10.50	10.86	-34.13	-13.00	-21.13	V
3345.25	-33.18	12.78	11.57	-31.97	-13.00	-18.97	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)	(dBm)	
1692.25	-34.31	9.56	9.72	-34.47	-13.00	-21.47	H
2539.02	-35.44	10.50	10.86	-35.80	-13.00	-22.80	H
3385.62	-32.16	12.78	11.57	-30.95	-13.00	-17.95	H
1692.25	-34.52	9.56	9.72	-34.68	-13.00	-21.68	V
2539.02	-33.84	10.50	10.86	-34.20	-13.00	-21.20	V
3385.62	-33.00	12.78	11.57	-31.79	-13.00	-18.79	V



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)	(dBm)	
1657.64	-34.56	9.56	9.72	-34.72	-13.00	-21.72	H
2486.22	-35.02	10.50	10.86	-35.38	-13.00	-22.38	H
3315.11	-32.66	12.78	11.57	-31.45	-13.00	-18.45	H
1657.64	-35.85	9.56	9.72	-36.01	-13.00	-23.01	V
2486.22	-35.21	10.50	10.86	-35.57	-13.00	-22.57	V
3315.11	-32.10	12.78	11.57	-30.89	-13.00	-17.89	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)	(dBm)	
1672.38	-34.87	9.56	9.72	-35.03	-13.00	-22.03	H
2508.94	-35.45	10.50	10.86	-35.81	-13.00	-22.81	H
3345.12	-32.28	12.78	11.57	-31.07	-13.00	-18.07	H
1672.38	-35.04	9.56	9.72	-35.20	-13.00	-22.20	V
2508.94	-34.05	10.50	10.86	-34.41	-13.00	-21.41	V
3345.12	-32.79	12.78	11.57	-31.58	-13.00	-18.58	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)	(dBm)	
1687.33	-33.83	9.56	9.72	-33.99	-13.00	-20.99	H
2531.56	-34.60	10.50	10.86	-34.96	-13.00	-21.96	H
3375.55	-32.97	12.78	11.57	-31.76	-13.00	-18.76	H
1687.33	-35.32	9.56	9.72	-35.48	-13.00	-22.48	V
2531.56	-35.19	10.50	10.86	-35.55	-13.00	-22.55	V
3375.55	-32.84	12.78	11.57	-31.63	-13.00	-18.63	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5005.39	-34.38	12.66	15.86	-37.58	-25.00	-12.58	H
7507.92	-34.95	11.46	19.28	-42.77	-25.00	-17.77	H
10010.59	-32.84	12.79	23.19	-43.24	-25.00	-18.24	H
5005.39	-35.43	12.66	15.86	-38.63	-25.00	-13.63	V
7507.92	-35.00	11.46	19.28	-42.82	-25.00	-17.82	V
10010.59	-32.50	12.79	23.19	-42.90	-25.00	-17.90	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5070.09	-34.39	12.72	15.86	-37.53	-25.00	-12.53	H
7605.16	-35.25	11.46	19.28	-43.07	-25.00	-18.07	H
10140.05	-33.06	12.09	23.19	-44.16	-25.00	-19.16	H
5070.09	-35.41	12.72	15.86	-38.55	-25.00	-13.55	V
7605.16	-34.44	11.46	19.28	-42.26	-25.00	-17.26	V
10140.05	-33.01	12.09	23.19	-44.11	-25.00	-19.11	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5133.99	-33.71	12.76	15.86	-36.81	-25.00	-11.81	H
7701.59	-34.01	11.45	19.28	-41.84	-25.00	-16.84	H
10268.52	-33.50	12.28	23.19	-44.41	-25.00	-19.41	H
5133.99	-34.58	12.76	15.86	-37.68	-25.00	-12.68	V
7701.59	-34.29	11.45	19.28	-42.12	-25.00	-17.12	V
10268.52	-33.01	12.28	23.19	-43.92	-25.00	-18.92	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5010.50	-34.87	12.66	15.86	-38.07	-25.00	-13.07	H
7515.76	-34.42	11.46	19.28	-42.24	-25.00	-17.24	H
10020.77	-32.42	12.79	23.19	-42.82	-25.00	-17.82	H
5010.50	-35.13	12.66	15.86	-38.33	-25.00	-13.33	V
7515.76	-34.55	11.46	19.28	-42.37	-25.00	-17.37	V
10020.77	-33.03	12.79	23.19	-43.43	-25.00	-18.43	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5070.01	-34.30	12.72	15.86	-37.44	-25.00	-12.44	H
7605.17	-35.38	11.46	19.28	-43.20	-25.00	-18.20	H
10139.94	-32.39	12.09	23.19	-43.49	-25.00	-18.49	H
5070.01	-35.31	12.72	15.86	-38.45	-25.00	-13.45	V
7605.17	-34.20	11.46	19.28	-42.02	-25.00	-17.02	V
10139.94	-32.24	12.09	23.19	-43.34	-25.00	-18.34	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5129.38	-34.10	12.76	15.86	-37.20	-25.00	-12.20	H
7694.12	-34.07	11.45	19.28	-41.90	-25.00	-16.90	H
10259.00	-32.96	12.28	23.19	-43.87	-25.00	-18.87	H
5129.38	-36.00	12.76	15.86	-39.10	-25.00	-14.10	V
7694.12	-33.86	11.45	19.28	-41.69	-25.00	-16.69	V
10259.00	-32.35	12.28	23.19	-43.26	-25.00	-18.26	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5015.91	-34.04	12.66	15.86	-37.24	-25.00	-12.24	H
7524.25	-35.40	11.46	19.28	-43.22	-25.00	-18.22	H
10031.98	-32.31	12.79	23.19	-42.71	-25.00	-17.71	H
5015.91	-35.53	12.66	15.86	-38.73	-25.00	-13.73	V
7524.25	-33.77	11.46	19.28	-41.59	-25.00	-16.59	V
10031.98	-32.27	12.79	23.19	-42.67	-25.00	-17.67	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5069.93	-33.91	12.72	15.86	-37.05	-25.00	-12.05	H
7605.00	-34.37	11.46	19.28	-42.19	-25.00	-17.19	H
10140.25	-32.70	12.09	23.19	-43.80	-25.00	-18.80	H
5069.93	-35.25	12.72	15.86	-38.39	-25.00	-13.39	V
7605.00	-34.11	11.46	19.28	-41.93	-25.00	-16.93	V
10140.25	-32.61	12.09	23.19	-43.71	-25.00	-18.71	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5123.55	-34.44	12.76	15.86	-37.54	-25.00	-12.54	H
7524.08	-34.30	11.45	19.28	-42.13	-25.00	-17.13	H
10032.32	-33.44	12.28	23.19	-44.35	-25.00	-19.35	H
5123.55	-35.14	12.76	15.86	-38.24	-25.00	-13.24	V
7524.08	-34.78	11.45	19.28	-42.61	-25.00	-17.61	V
10032.32	-31.82	12.28	23.19	-42.73	-25.00	-17.73	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5021.29	-33.94	12.66	15.86	-37.14	-25.00	-12.14	H
7531.31	-35.24	11.46	19.28	-43.06	-25.00	-18.06	H
7523.92	-33.11	12.79	23.19	-43.51	-25.00	-18.51	H
5021.29	-35.94	12.66	15.86	-39.14	-25.00	-14.14	V
7531.31	-34.12	11.46	19.28	-41.94	-25.00	-16.94	V
7523.92	-33.05	12.79	23.19	-43.45	-25.00	-18.45	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5070.19	-34.14	12.72	15.86	-37.28	-25.00	-12.28	H
7604.91	-33.99	11.46	19.28	-41.81	-25.00	-16.81	H
10139.88	-33.35	12.09	23.19	-44.45	-25.00	-19.45	H
5070.19	-34.83	12.72	15.86	-37.97	-25.00	-12.97	V
7604.91	-34.55	11.46	19.28	-42.37	-25.00	-17.37	V
10139.88	-32.47	12.09	23.19	-43.57	-25.00	-18.57	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
5119.06	-33.75	12.76	15.86	-36.85	-25.00	-11.85	H
7678.47	-34.63	11.45	19.28	-42.46	-25.00	-17.46	H
10238.05	-32.44	12.28	23.19	-43.35	-25.00	-18.35	H
5119.06	-34.54	12.76	15.86	-37.64	-25.00	-12.64	V
7678.47	-34.95	11.45	19.28	-42.78	-25.00	-17.78	V
10238.05	-32.20	12.28	23.19	-43.11	-25.00	-18.11	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1413.33	-33.71	8.17	9.34	-34.88	-13.00	-21.88	H
2120.30	-35.07	9.53	10.42	-35.96	-13.00	-22.96	H
2826.49	-33.08	11.27	11.12	-32.93	-13.00	-19.93	H
1413.33	-35.46	8.17	9.34	-36.63	-13.00	-23.63	V
2120.30	-33.85	9.53	10.42	-34.74	-13.00	-21.74	V
2826.49	-32.01	11.27	11.12	-31.86	-13.00	-18.86	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1419.97	-33.86	8.17	9.34	-35.03	-13.00	-22.03	H
2129.87	-34.96	9.53	10.42	-35.85	-13.00	-22.85	H
2839.80	-33.47	11.27	11.12	-33.32	-13.00	-20.32	H
1419.97	-35.53	8.17	9.34	-36.70	-13.00	-23.70	V
2129.87	-33.82	9.53	10.42	-34.71	-13.00	-21.71	V
2839.80	-31.75	11.27	11.12	-31.60	-13.00	-18.60	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1426.15	-33.91	8.17	9.34	-35.08	-13.00	-22.08	H
2139.49	-34.13	9.53	10.42	-35.02	-13.00	-22.02	H
2852.40	-33.00	11.27	11.12	-32.85	-13.00	-19.85	H
1426.15	-35.70	8.17	9.34	-36.87	-13.00	-23.87	V
2139.49	-34.68	9.53	10.42	-35.57	-13.00	-22.57	V
2852.40	-31.87	11.27	11.12	-31.72	-13.00	-18.72	V



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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1418.22	-34.25	8.17	9.34	-35.42	-13.00	-22.42	H
2127.32	-34.91	9.53	10.42	-35.80	-13.00	-22.80	H
2836.51	-32.90	11.27	11.12	-32.75	-13.00	-19.75	H
1418.22	-35.12	8.17	9.34	-36.29	-13.00	-23.29	V
2127.32	-34.13	9.53	10.42	-35.02	-13.00	-22.02	V
2836.51	-32.10	11.27	11.12	-31.95	-13.00	-18.95	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1420.08	-34.35	8.17	9.34	-35.52	-13.00	-22.52	H
2130.04	-35.44	9.53	10.42	-36.33	-13.00	-23.33	H
2839.84	-32.87	11.27	11.12	-32.72	-13.00	-19.72	H
1420.08	-35.13	8.17	9.34	-36.30	-13.00	-23.30	V
2130.04	-35.13	9.53	10.42	-36.02	-13.00	-23.02	V
2839.84	-32.38	11.27	11.12	-32.23	-13.00	-19.23	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	Limit	Margin	Polarity
				(dBm)	(dBm)	(dBm)	
1421.14	-33.78	8.17	9.34	-34.95	-13.00	-21.95	H
2131.72	-35.01	9.53	10.42	-35.90	-13.00	-22.90	H
2842.48	-32.17	11.27	11.12	-32.02	-13.00	-19.02	H
1421.14	-35.44	8.17	9.34	-36.61	-13.00	-23.61	V
2131.72	-33.93	9.53	10.42	-34.82	-13.00	-21.82	V
2842.48	-32.73	11.27	11.12	-32.58	-13.00	-19.58	V

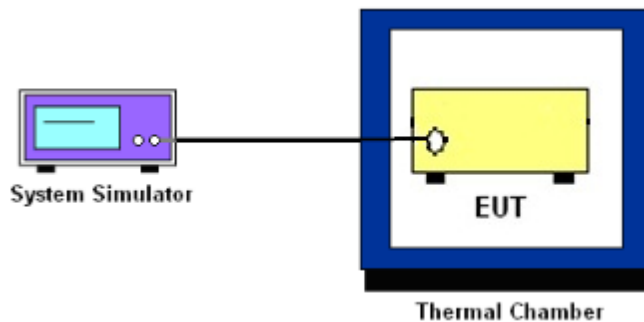
10. FREQUENCY STABILITY

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.
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.



10.1.5 TEST RESULTS

LTE Band 2 (QPSK) / 1880MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.59	0.014	2.5ppm	PASS
40		25.93	0.014		
30		20.28	0.011		
20		21.01	0.011		
10		25.85	0.014		
0		26.47	0.014		
-10		19.63	0.010		
-20		13.04	0.007		
-30		17.50	0.009		
20	Maximum Voltage	13.08	0.007		
20	BEP	32.24	0.017		

LTE Band 2 (QPSK) / 1880MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	22.52	0.012	2.5ppm	PASS
40		17.29	0.009		
30		27.67	0.015		
20		29.21	0.016		
10		33.61	0.018		
0		31.19	0.017		
-10		26.09	0.014		
-20		24.49	0.013		
-30		30.31	0.016		
20	Maximum Voltage	15.13	0.008		
20	BEP	13.28	0.007		



LTE Band 4 (QPSK) / 1733MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	30.14	0.017	2.5ppm	PASS
40		35.97	0.021		
30		28.69	0.017		
20		16.00	0.009		
10		19.87	0.011		
0		18.85	0.011		
-10		19.27	0.011		
-20		33.27	0.019		
-30		20.70	0.012		
20		Maximum Voltage	11.57		
20	BEP	22.38	0.013		

LTE Band 4 (QPSK) / 1733MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	19.01	0.011	2.5ppm	PASS
40		11.57	0.007		
30		14.85	0.009		
20		23.09	0.013		
10		29.41	0.017		
0		15.92	0.009		
-10		20.30	0.012		
-20		27.02	0.016		
-30		20.60	0.012		
20		Maximum Voltage	27.11		
20	BEP	32.24	0.019		



LTE Band 5 (QPSK) / 836.5MHz / BW5M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	30.26	0.043	2.5ppm	PASS
40		31.52	0.044		
30		32.36	0.046		
20		27.28	0.038		
10		27.30	0.038		
0		15.56	0.022		
-10		22.05	0.003		
-20		28.56	0.040		
-30		17.09	0.024		
20		Maximum Voltage	26.27		
20	BEP	34.25	0.048		

LTE Band 5 (QPSK) / 836.5MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	30.89	0.044	2.5ppm	PASS
40		35.61	0.050		
30		18.47	0.026		
20		19.57	0.028		
10		20.30	0.029		
0		36.13	0.051		
-10		23.39	0.003		
-20		15.06	0.021		
-30		28.22	0.040		
20		Maximum Voltage	24.98		
20	BEP	31.20	0.044		



LTE Band 7 (QPSK) / 2535MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	19.08	0.008	2.5ppm	PASS
40		24.72	0.010		
30		16.23	0.006		
20		24.67	0.010		
10		36.37	0.014		
0		19.84	0.008		
-10		15.69	0.006		
-20		14.50	0.006		
-30		25.68	0.010		
20		Maximum Voltage	11.81		
20	BEP	23.09	0.009		

LTE Band 7 (QPSK) / 2535MHz / BW20M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	27.27	0.011	2.5ppm	PASS
40		20.51	0.008		
30		34.09	0.013		
20		35.72	0.014		
10		18.91	0.007		
0		18.05	0.007		
-10		31.33	0.012		
-20		22.94	0.009		
-30		35.49	0.014		
20		Maximum Voltage	16.65		
20	BEP	26.40	0.010		



LTE Band 17 (QPSK) / 710MHz / BW5M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	26.59	0.037	2.5ppm	PASS
40		24.77	0.035		
30		17.50	0.025		
20		32.67	0.046		
10		35.16	0.050		
0		22.57	0.032		
-10		30.44	0.004		
-20		12.60	0.018		
-30		23.37	0.033		
20		Maximum Voltage	26.65		
20	BEP	12.45	0.018		

LTE Band 17 (QPSK) / 710MHz / BW10M					
Temperature (°C)	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
	(Volt)	(Hz)	(ppm)		
50	Normal Voltage	13.25	0.019	2.5ppm	PASS
40		20.61	0.029		
30		26.82	0.038		
20		28.54	0.040		
10		21.62	0.030		
0		19.34	0.027		
-10		19.53	0.003		
-20		19.56	0.028		
-30		36.44	0.051		
20		Maximum Voltage	24.30		
20	BEP	15.74	0.022		



11. RECEIVER SPURIOUS EMISSIONS

11.1 TEST LIMIT

Radiated emission measurements shall be performed with the receiver antenna connected to the receiver antenna ports. The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least five times the highest tunable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.

Spurious emissions from receivers shall not exceed the radiated emissions limits shown in table 3.

Table 3 – Receiver radiated emissions limits

Frequency (MHz)	Field strength ($\mu\text{V}/\text{m}$ at 3 metres)Note 1
30-88	100
88-216	150
216-960	200
Above 960	500

Note 1: Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with section 6.6.

11.2 TEST PROCEDURE

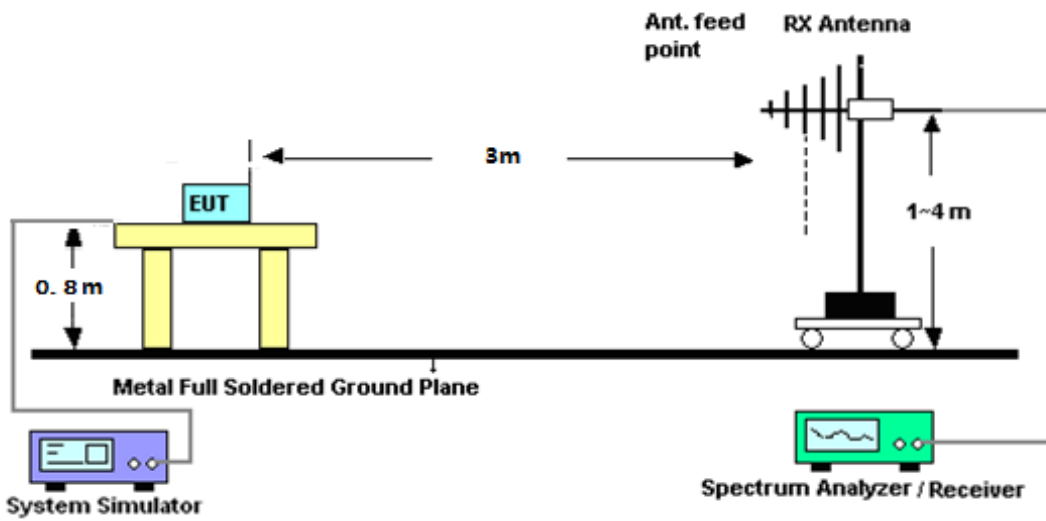
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then QuasiPeak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

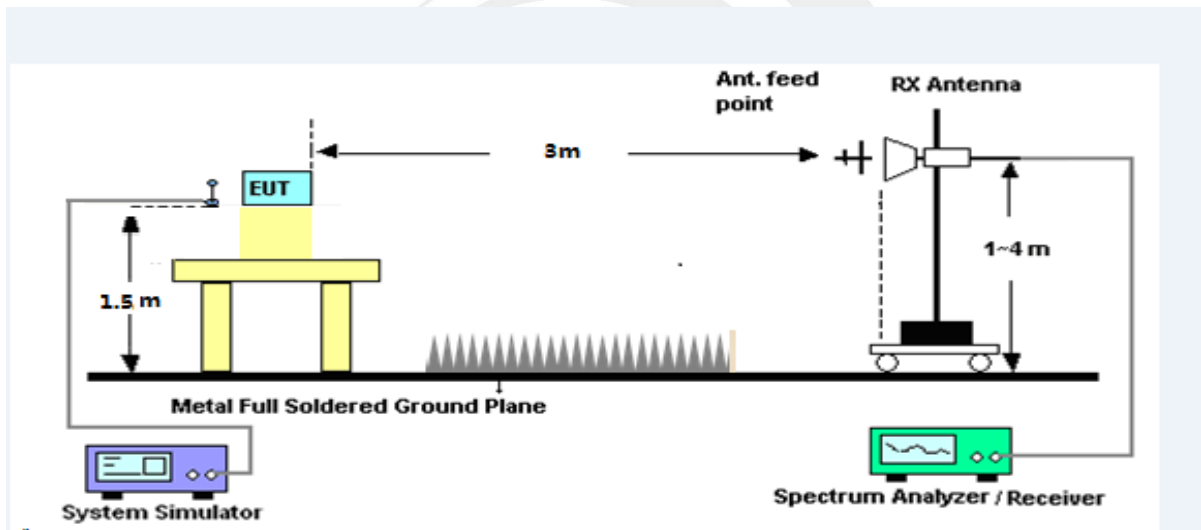
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

11.3 TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



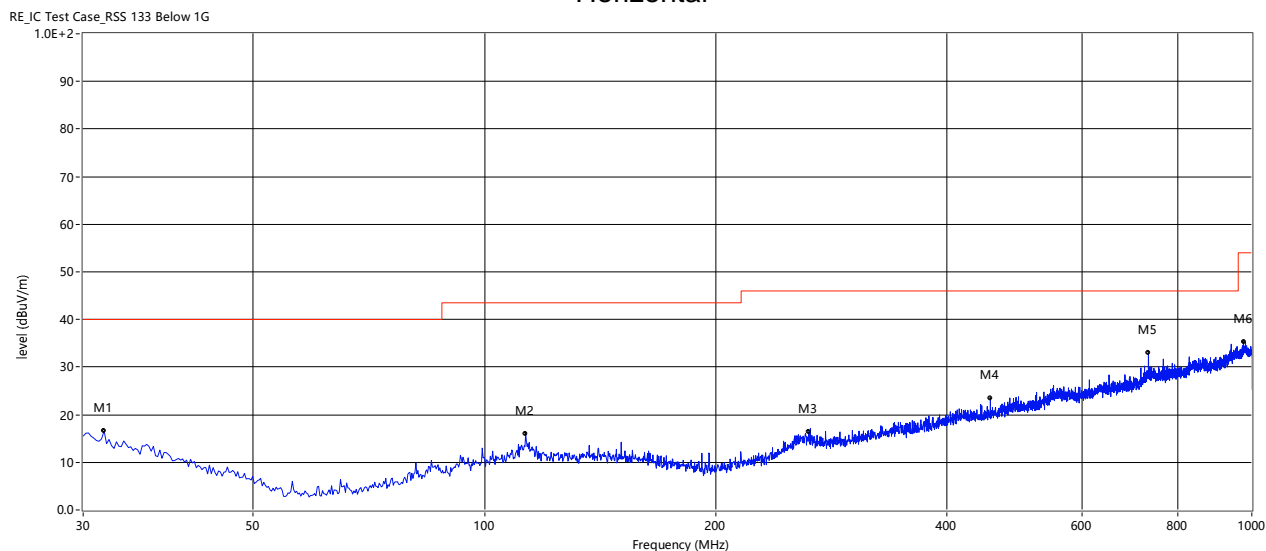


11.4 TEST RESULT

Note: All mode has been tested, only show the worst case in this report.

Band 2 (30MHz -1GHz):

Mid channel Horizontal

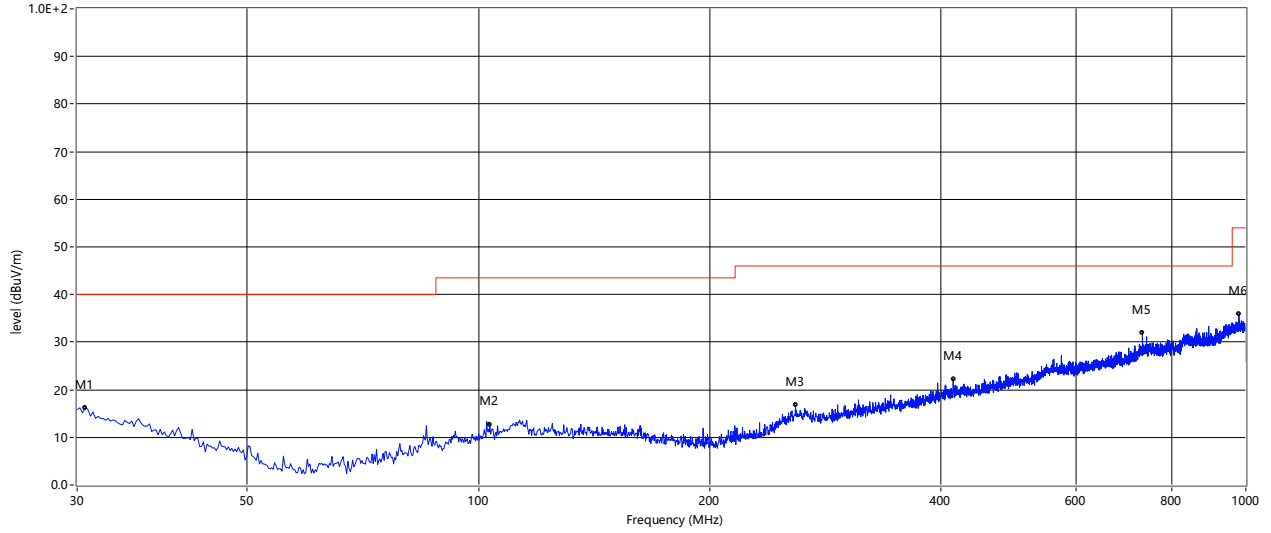


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.940	16.60	--	--	-12.98	--	40.0	--	-23.40	Horizontal	Pass
113.177	16.05	--	--	-17.43	--	43.5	--	-27.45	Horizontal	Pass
264.740	16.36	--	--	-12.77	--	46.0	--	-29.64	Horizontal	Pass
456.315	23.43	--	--	-7.19	--	46.0	--	-22.57	Horizontal	Pass
733.250	32.95	--	--	0.55	--	46.0	--	-13.05	Horizontal	Pass
975.508	35.33	--	--	5.72	--	54.0	--	-18.67	Horizontal	Pass



Vertical

RE_IC Test Case_RSS 133 Below 1G

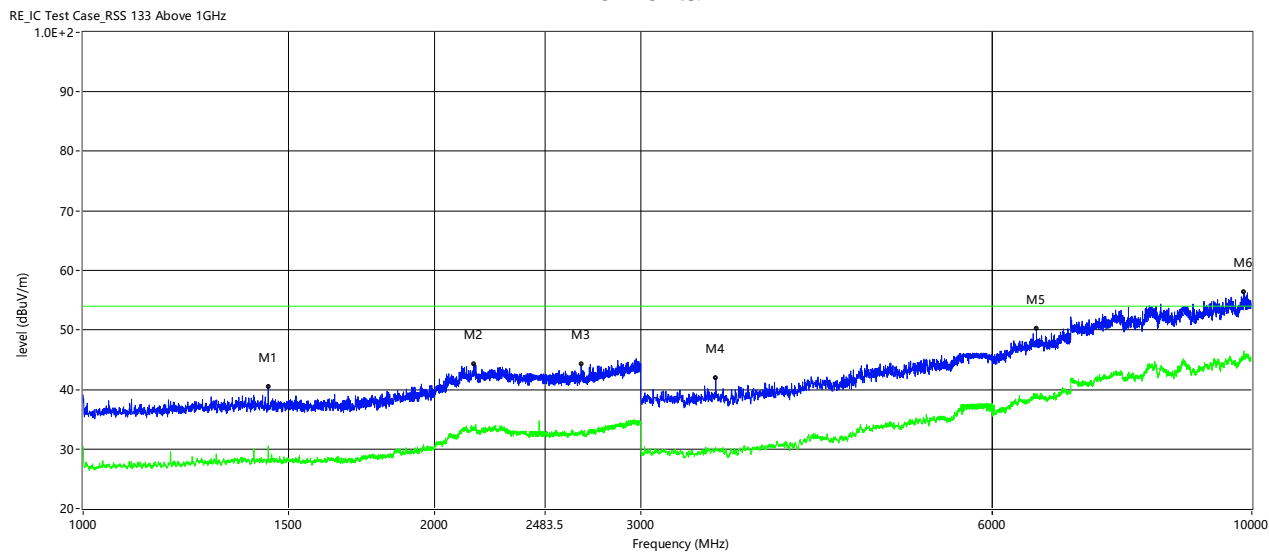


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.727	16.22	--	--	-12.37	--	40.0	--	-23.78	Vertical	Pass
103.478	12.67	--	--	-18.54	--	43.5	--	-30.83	Vertical	Pass
258.920	16.70	--	--	-12.93	--	46.0	--	-29.30	Vertical	Pass
415.575	22.13	--	--	-7.95	--	46.0	--	-23.87	Vertical	Pass
733.250	31.77	--	--	0.55	--	46.0	--	-14.23	Vertical	Pass
979.388	35.91	--	--	5.98	--	54.0	--	-18.09	Vertical	Pass



Band 2 (Above 1GHz):

Mid channel
Horizontal

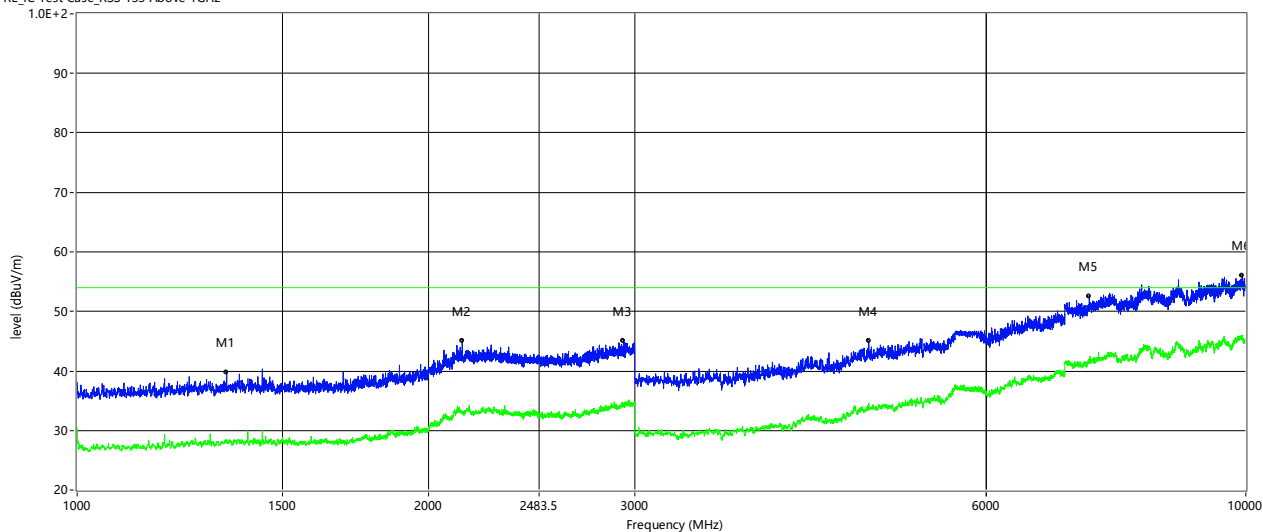


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1440.000	40.45	--	30.51	-0.60	74.0	--	54.0	-23.49	Horizontal	Pass
2159.000	44.27	--	33.03	4.54	74.0	--	54.0	-20.97	Horizontal	Pass
2667.500	44.19	--	32.67	4.50	74.0	--	54.0	-21.33	Horizontal	Pass
3477.750	41.86	--	30.10	-11.47	74.0	--	54.0	-23.90	Horizontal	Pass
6542.000	50.17	--	38.46	-0.42	74.0	--	54.0	-15.54	Horizontal	Pass
9847.750	56.36	--	45.34	5.11	74.0	--	54.0	-8.66	Horizontal	Pass



Vertical

RE_IC Test Case_RSS 133 Above 1GHz

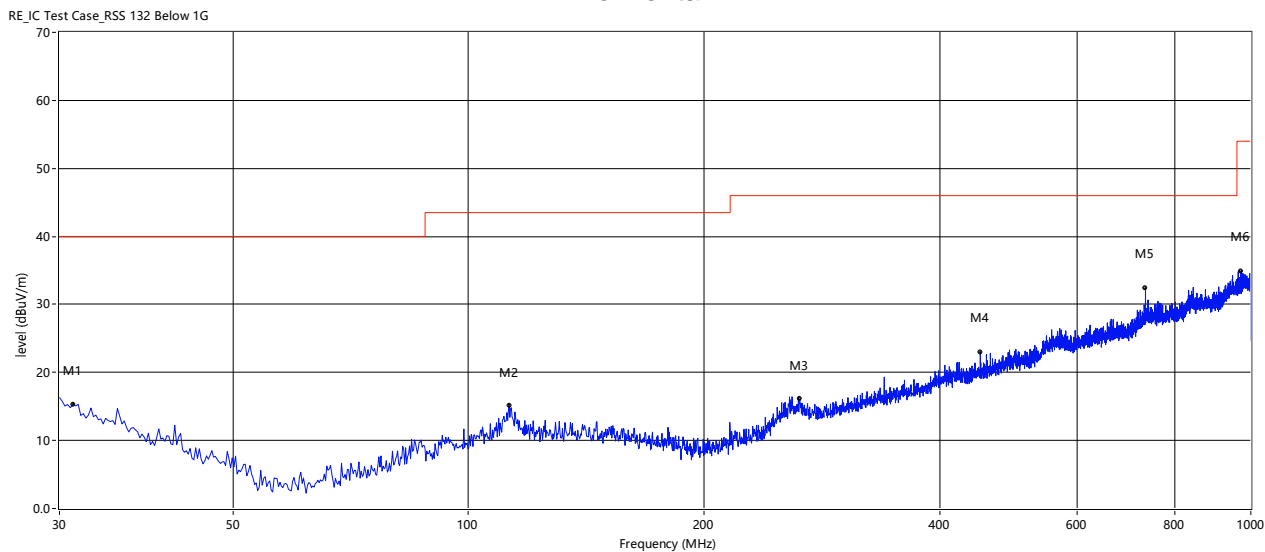


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1342.500	39.79	--	28.47	-0.81	74.0	--	54.0	-25.53	Vertical	Pass
2135.500	45.03	--	33.10	4.39	74.0	--	54.0	-20.90	Vertical	Pass
2933.500	45.06	--	34.23	5.80	74.0	--	54.0	-19.77	Vertical	Pass
4757.000	44.98	--	34.56	-7.17	74.0	--	54.0	-19.44	Vertical	Pass
7345.250	52.48	--	41.57	1.94	74.0	--	54.0	-12.43	Vertical	Pass
9930.000	56.03	--	45.39	4.85	74.0	--	54.0	-8.61	Vertical	Pass



Band 5 (30MHz -1GHz):

Mid channel
Horizontal

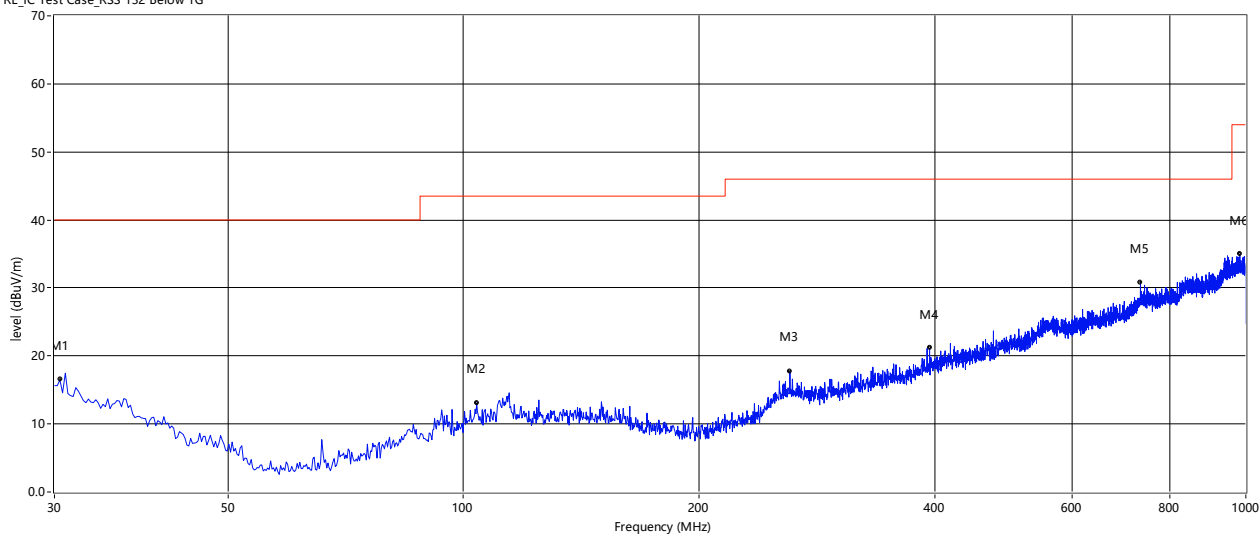


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
31.212	15.31	--	--	-12.62	--	40.0	--	-24.69	Horizontal	Pass
112.692	15.08	--	--	-17.48	--	43.5	--	-28.42	Horizontal	Pass
264.983	16.11	--	--	-12.77	--	46.0	--	-29.89	Horizontal	Pass
450.980	22.96	--	--	-7.30	--	46.0	--	-23.04	Horizontal	Pass
733.492	32.41	--	--	0.56	--	46.0	--	-13.59	Horizontal	Pass
971.385	34.87	--	--	5.44	--	54.0	--	-19.13	Horizontal	Pass



Vertical

RE_IC Test Case_RSS 132 Below 1G

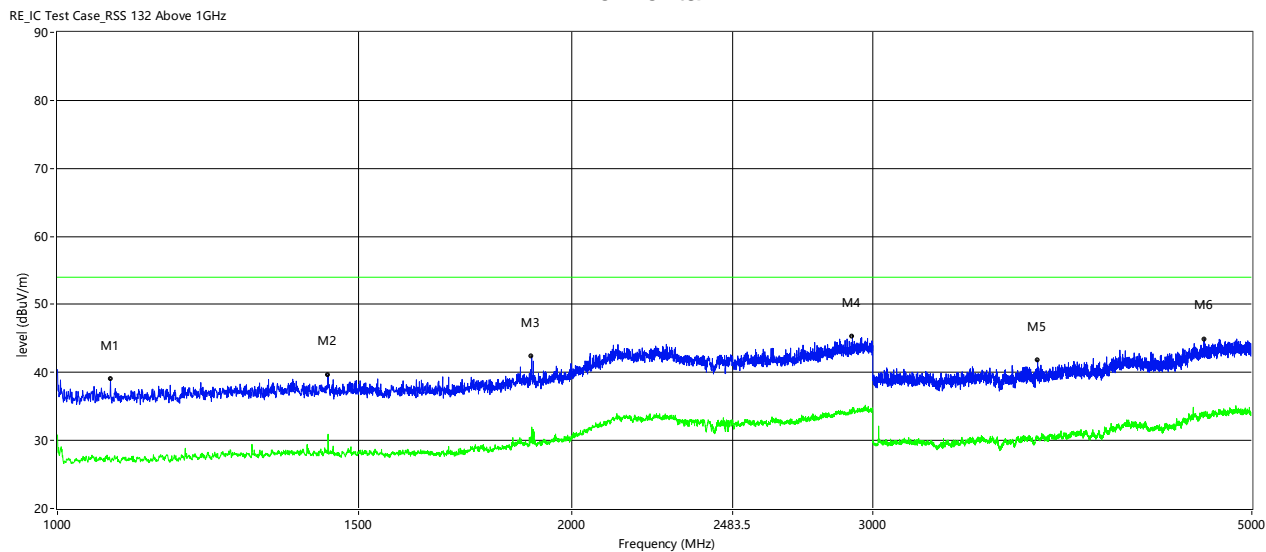


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
30.485	16.49	--	--	-12.25	--	40.0	--	-23.51	Vertical	Pass
103.963	13.09	--	--	-18.48	--	43.5	--	-30.41	Vertical	Pass
261.345	17.74	--	--	-12.79	--	46.0	--	-28.26	Vertical	Pass
394.235	21.13	--	--	-9.08	--	46.0	--	-24.87	Vertical	Pass
733.492	30.61	--	--	0.56	--	46.0	--	-15.39	Vertical	Pass
982.540	35.00	--	--	5.87	--	54.0	--	-19.00	Vertical	Pass



Band 5 (Above 1GHz):

Mid channel
Horizontal

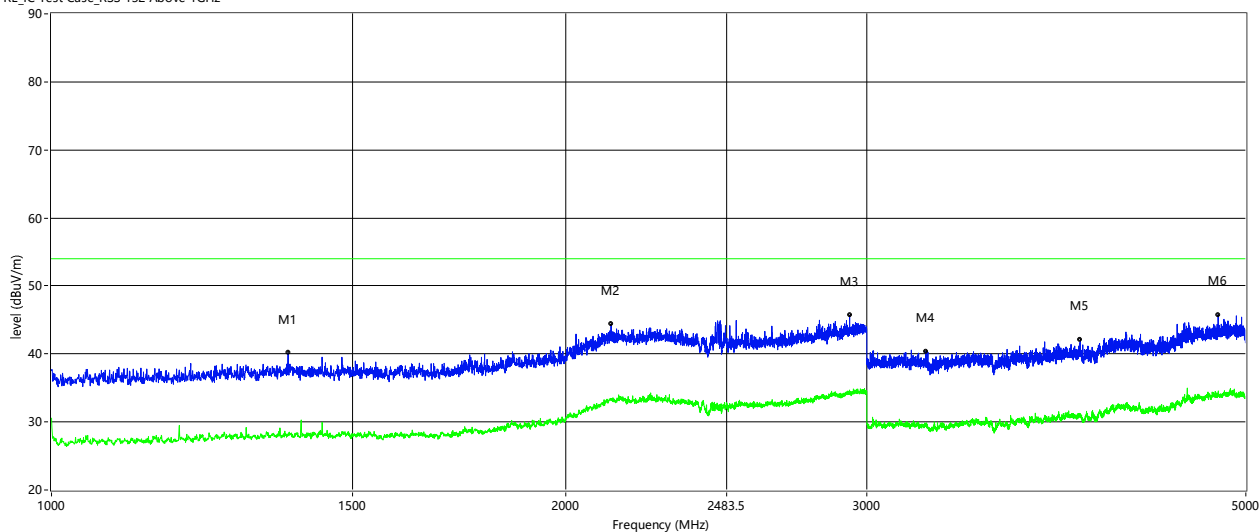


Frequency (MHz)	Peak Level (dBuV/m)	Q-peak Level (dBuV/m)	Average Level (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Over Limit (dB)	ANT	Verdict
1074.000	38.95	--	26.97	-1.66	74.0	--	54.0	-27.03	Horizontal	Pass
1440.000	39.67	--	30.92	-0.60	74.0	--	54.0	-23.08	Horizontal	Pass
1894.500	42.31	--	31.99	0.83	74.0	--	54.0	-22.01	Horizontal	Pass
2919.000	45.20	--	34.84	5.72	74.0	--	54.0	-19.16	Horizontal	Pass
3746.500	41.75	--	30.47	-11.20	74.0	--	54.0	-23.53	Horizontal	Pass
4690.500	44.90	--	34.16	-7.44	74.0	--	54.0	-19.84	Horizontal	Pass



Vertical

RE_IC Test Case_RSS 132 Above 1GHz



Frequency (MHz)	Peak Level (dBUV/m)	Q-peak Level (dBUV/m)	Average Level (dBUV/m)	Factor (dB)	PK Limit (dBUV/m)	QP Limit (dBUV/m)	AV Limit (dBUV/m)	Over Limit (dB)	ANT	Verdict
1375.500	40.16	--	28.27	-0.72	74.0	--	54.0	-25.73	Vertical	Pass
2125.500	44.38	--	33.15	4.22	74.0	--	54.0	-20.85	Vertical	Pass
2931.500	45.71	--	34.25	5.79	74.0	--	54.0	-19.75	Vertical	Pass
3248.500	40.40	--	29.39	-12.18	74.0	--	54.0	-24.61	Vertical	Pass
4001.000	42.13	--	31.05	-10.17	74.0	--	54.0	-22.95	Vertical	Pass
4816.500	45.78	--	34.17	-6.88	74.0	--	54.0	-19.83	Vertical	Pass



APPENDIX-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*****

