Test Lab
Cert 2951.01

FCC TEST REPORT

(PART 27)

Product:	Mobile Phone
Model Name:	Lenovo A2016a40
FCC ID:	YCNA2016A40
Applicant:	Lenovo Mobile Communication Technology Ltd.
Address:	No.999, Qishan North 2nd Road, Information & Optoelectronics Park, Torch Hi-tech Industry Development Zone, Xiamen, P.R.China
Manufacturer 1:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Manufacturer 2:	Motorola Mobility LLC
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Report No.:	RF160316W001-5
Received Date:	Apr. 15, 2016
Test Date:	Apr. 17, 2016 ~ May 17, 2016
Issued Date:	May 18, 2016

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RE160316W001-5	Original release	May 18, 2016

1 CERTIFICATION

PRODUCT:	Mobile Phone
BRAND NAME:	Lenovo
MODEL NAME:	Lenovo A2016a40
APPLICANT:	Lenovo Mobile Communication Technology Ltd.
TESTED:	Apr. 17, 2016 ~ May 17, 2016
TEST SAMPLE:	Identical Prototype
STANDARDS:	**FCC Part 27, Subpart C, M**
	FCC Part 2
	ANSI/TIA/EIA-603-D

The above equipment has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** May 18, 2016
(Amyee Qian / Engineer)

APPROVED BY : _____ , **DATE:** May 18, 2016
(William Chung / Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 27 & Part 2			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(h)	Equivalent Isotropically Radiated Power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
2.1051 27.53(m)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(m)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(m)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -10.88dB at 7605.00MHz.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.74dB
	30MHz ~ 1GMHz	3.55dB
	1GHz ~ 18GHz	4.84dB
	18GHz ~ 40GHz	1.94dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Apr. 05,16	Apr. 04,17
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Apr. 05,16	Apr. 04,17
Bilog Antenna 1	Teseq	CBL 6111D	30643	Jun. 25,15	Jun. 24,16
Bilog Antenna 2	Teseq	CBL 6111D	27089	Jun. 25,15	Jun. 24,16
Horn Antenna	ETS-Lindgren	3117	00062558	May 30,14	May 29,16
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	Jan. 21,14	Jan. 20,17
Amplifier	Burgeon	BPA-530	100220	Apr. 05,16	Apr. 04,17
Pre-Amplifier	HP	8449B	3008A00409	Apr. 25,15	Apr. 24,16
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 11,15	Nov. 10,16
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 08, 14	Aug. 07, 16
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 12,16	Mar. 11,18
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A
Power Meter	Anritsu	ML2495A	1139001	Feb.19,16	Feb. 18,17
Power Sensor	Anritsu	MA2411B	1126068	Feb.19,16	Feb. 18,17
Power Sensor	Keysight	U2021XA	MY55060016	May 27,15	May 26,16
Power Sensor	Keysight	U2021XA	MY55060018	May 27,15	May 26,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.07,15	Sep. 06,16
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 09,15	Nov. 08,16
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 09,15	Nov. 08,16
Signal Generator	Agilent	N5183A	MY50140980	Apr. 21, 16	Apr. 20, 17
ESG Vector Signal Generator	Agilent	E4438C	MY49072505	Sep. 01,15	Aug. 31,16
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Oct. 12, 15	Oct.11, 16

NOTE:
1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in Dongguan 966 Chamber.
3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 502831.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Phone	
MODEL NAME	Lenovo A2016a40	
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (battery)	
MODULATION TECHNOLOGY	**LTE**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 7 Channel Bandwidth: 5MHz**	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 41 Channel Bandwidth: 5MHz	2498.5MHz ~ 2687.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2501.0MHz ~ 2685.0MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2503.5MHz ~ 2682.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2506.0MHz ~ 2680.0MHz
EMISSION DESIGNATOR	**LTE Band 7 Channel Bandwidth: 5MHz**	QPSK: 4M47G7D
		16QAM: 4M47W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M92G7D
		16QAM: 8M92W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 17M8G7D
		16QAM: 17M9W7D
	LTE Band 41 Channel Bandwidth: 5MHz	QPSK: 4M47G7D
		16QAM: 4M47W7D
	LTE Band 41 Channel Bandwidth: 10MHz	QPSK: 8M93G7D
		16QAM: 8M93W7D
	LTE Band 41 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
	LTE Band 41 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
MAX. EIRP POWER	**LTE Band 7 Channel Bandwidth: 5MHz**	160mW

	LTE Band 7 Channel Bandwidth: 10MHz	222mW
	LTE Band 7 Channel Bandwidth: 15MHz	182mW
	LTE Band 7 Channel Bandwidth: 20MHz	152mW
	LTE Band 41 Channel Bandwidth: 5MHz	199mW
	LTE Band 41 Channel Bandwidth: 10MHz	201mW
	LTE Band 41 Channel Bandwidth: 15MHz	198mW
	LTE Band 41 Channel Bandwidth: 20MHz	179mW
ANTENNA TYPE	Fixed Internal antenna with -2.9dBi gain for LTE Band 7 Fixed Internal antenna with -1.6dBi gain for LTE Band 41	
HW VERSION	AL732_MB_PCB_V2.0_160220	
SW VERSION	A2016a40_S106_160308_8G_ROW	
I/O PORTS	Refer to user's manual	
DATA CABLE	USB cable: Unshielded, detachable, 0.7meter Earphone cable: Unshielded, detachable, 1.3meter	

NOTE:

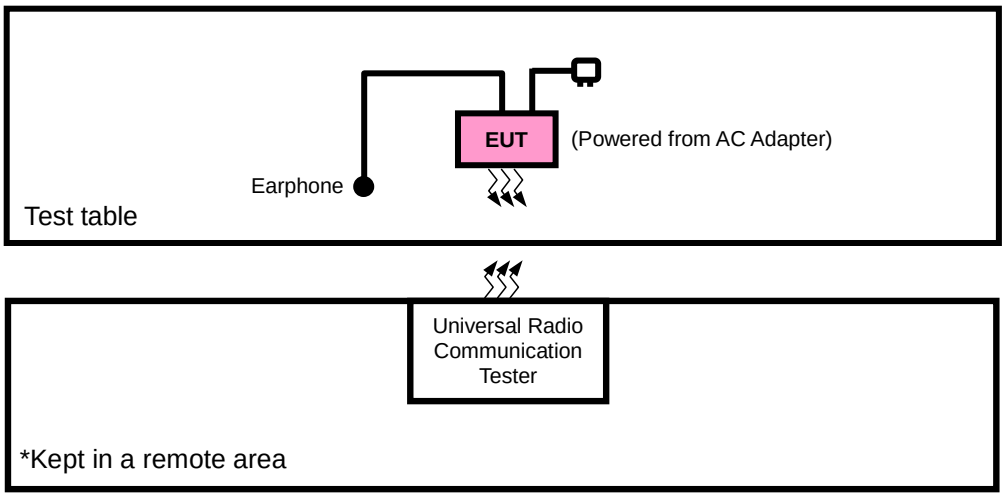
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

LIST OF ACCESSORIES:

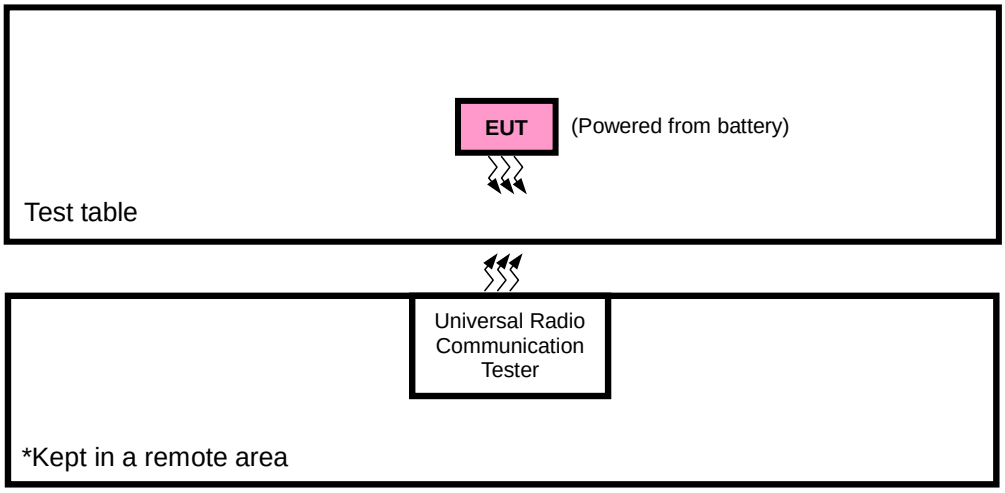
ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter 1	Lenovo	CHENYANG	C-P56	I/P:100-240Vac, 130mA O/P:5Vdc, 1000mA
AC Adapter 2	Lenovo	Acbel	C-P56	I/P:100-240Vac, 130mA O/P:5Vdc, 1000mA
Battery 1	Lenovo	ATL	BL253	Rating: 3.8Vdc, 2000mAh
Battery 2	Lenovo	VK	BL253	Rating: 3.8Vdc, 2000mAh
Earphone 1	Lenovo	TIANZHI	TJ101247A	1.3m non-shielded cable w/o core
Earphone 2	Lenovo	LIANYUN	TS990B-28AMS05-M	1.3m non-shielded cable w/o core
USB Cable 1	Lenovo	FUKANGYUAN	F16W-05100070L	0.7m non-shielded cable w/o core
USB Cable 2	Lenovo	LIQI	L16W-05100070L	0.7m non-shielded cable w/o core
LCD Panel 1	HELITAI	--	QTB4D543	--
LCD Panel 2	TONGXING DA	--	TXDT450SKP-73V6	--
Photo Camera 1	BOLIXIN	--	BLX2355H-AL732-F	--
Photo Camera 2	HUAQUAN	--	G6P2-AL732FHQ	--
Video Camera 1	QUNHUI	--	SHT6029B1S-1P0J0	--
Video Camera 2	HUAQUAN	--	G7B5-AL732BHQ	--
Main Broad 1	HUASHEN	--	AL732_MB_PCB_V2.0	--
Main Broad 2	YILIANDA	--	AL732_MB_PCB_V2.0	--
BT/WLAN Module	MTK	--	MT6625L	--
WWAN Module	NA	--	NA	--

3.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



FOR E.I.R.P TEST



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A
2	PC	HP	A6608CN	3CR83825X3	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	AC Line: Unshielded, Detachable 1.5m

NOTE: All power cords of the above support units are non shielded (1.8m).

3.4 TEST ITEM AND TEST CONFIGURATION

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

The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	**EUT + Adapter + USB Cable + Earphone with LTE link**
B	EUT + Battery + USB Cable + Earphone with **LTE link**

LTE BAND 7

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0RB Offset
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset
B	OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20850 to 21350	20850, 21100 21350	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	PEAK TO AVERAGE RATIO	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	BAND EDGE	20775 to 21425	20775, 21425	5MHz	QPSK	1 RB / 12 RB Offset
						25 RB / 0 RB Offset
		20800 to 21400	20800, 21400	10MHz	QPSK	1 RB / 24 RB Offset
						50 RB / 0 RB Offset
		20825 to 21375	20825, 21375	15MHz	QPSK	1 RB / 37 RB Offset
						75 RB / 0 RB Offset
		20850 to 21350	20850, 21350	20MHz	QPSK	1 RB / 50 RB Offset
						100 RB / 0 RB Offset
B	CONDCUDETED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0RB Offset
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0RB Offset
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset

LTE BAND 41

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	1 RB / 24RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	1 RB / 37 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	1 RB / 50 RB Offset
B	FREQUENCY STABILITY	39675 to 41565	40620	5MHz	QPSK	1 RB / 12 RB Offset
		39700 to 41540	40620	10MHz	QPSK	1 RB / 24RB Offset
		39725 to 41515	40620	15MHz	QPSK	1 RB / 37 RB Offset
		39750 to 41490	40620	20MHz	QPSK	1 RB / 50 RB Offset
B	OCCUPIED BANDWIDTH	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	PEAK TO AVERAGE RATIO	39675 to 41565	39675, 40620, 41565	5MHz	QPSK, 16QAM	25RB / 0 RB Offset
		39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	1 RB / 12 RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	1 RB / 24RB Offset
		39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	1 RB / 37 RB Offset
B	BAND EDGE	39675 to 41565	39675, 41565	5MHz	QPSK, 16QAM	1 RB / 50 RB Offset
		39700 to 41540	39700, 41540	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		39725 to 41515	39725, 41515	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		39750 to 41490	39750, 41490	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	CONDCUDETED EMISSION	39675 to 41565	40620	5MHz	QPSK	1 RB / 12 RB Offset
		39700 to 41540	40620	10MHz	QPSK	1 RB / 24RB Offset
		39725 to 41515	40620	15MHz	QPSK	1 RB / 37 RB Offset
		39750 to 41490	40620	20MHz	QPSK	1 RB / 50 RB Offset
A	RADIATED EMISSION	39675 to 41565	40620	5MHz	QPSK	1 RB / 12 RB Offset
		39700 to 41540	40620	10MHz	QPSK	1 RB / 24RB Offset
		39725 to 41515	40620	15MHz	QPSK	1 RB / 37 RB Offset
		39750 to 41490	40620	20MHz	QPSK	1 RB / 50 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	24deg. C, 60%RH	3.8Vdc from Battery	Alex Chen
FREQUENCY STABILITY	24deg. C, 61%RH	3.8Vdc from Battery	Yuqiang Yin
OCCUPIED BANDWIDTH	24deg. C, 61%RH	3.8Vdc from Battery	Yuqiang Yin
PEAK TO AVERAGE RATIO	24deg. C, 61%RH	3.8Vdc from Battery	Yuqiang Yin
BAND EDGE	24deg. C, 61%RH	3.8Vdc from Battery	Yuqiang Yin
CONDCUDETED EMISSION	24deg. C, 61%RH	3.8Vdc from Battery	Yuqiang Yin
RADIATED EMISSION	24deg. C, 60%RH	5Vdc from adapter	Alex Chen

3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB Publication 971168 D02

ANSI/TIA/EIA-603-D

NOTE: All test items have been performed and recorded as per the above standards.

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

4.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

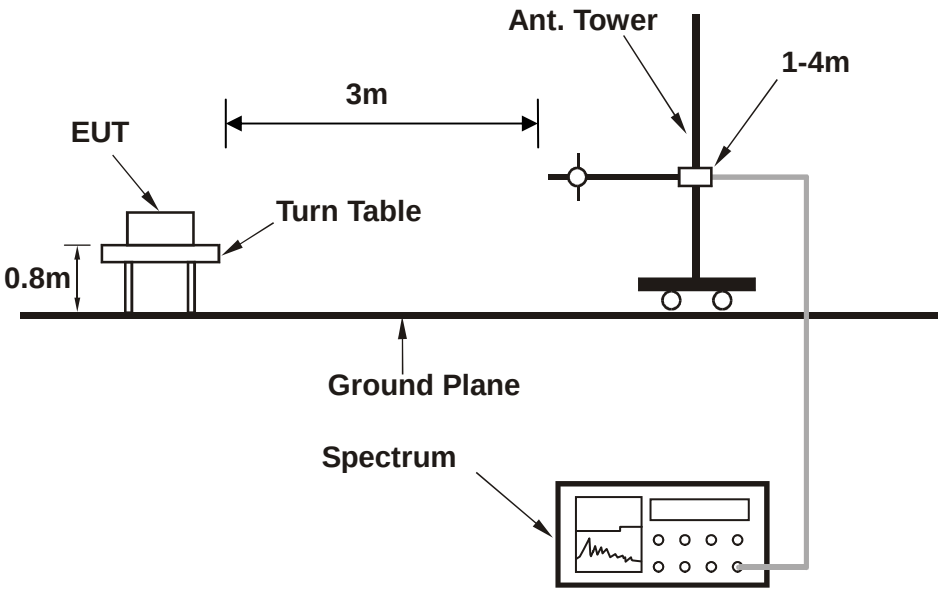
a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10MHz for LTE mode.
b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step b. Record the power level of S.G.
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

CONDUCTED POWER MEASUREMENT:

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

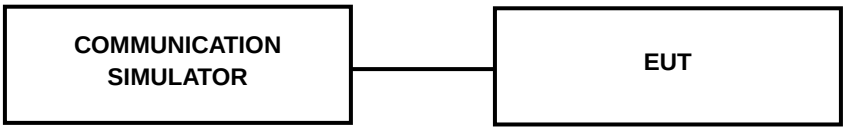
4.1.3 TEST SETUP

EIRP MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band 7							
BW	Modulation	RB Size	RB Offset	Low CH 20775	Mid CH 21100	High CH 21425	MPR
				Frequency 2502.5 MHz	Frequency 2535 MHz	Frequency 2567.5 MHz	
5 MHz	QPSK	1	0	21.06	21.13	21.12	0
		1	12	20.92	21.11	21.07	0
		1	24	20.79	21.08	21.02	0
		12	0	20.08	20.28	20.27	1
		12	6	20.04	20.21	20.18	1
		12	13	20.01	20.17	20.17	1
		25	0	20.04	20.23	20.21	1
	16QAM	1	0	20.11	20.18	20.17	1
		1	12	19.97	20.16	20.12	1
		1	24	19.84	20.13	20.07	1
		12	0	19.13	19.33	19.32	2
		12	6	19.09	19.26	19.23	2
		12	13	19.06	19.22	19.22	2
		25	0	19.09	19.28	19.26	2

LTE Band 7							
BW	Modulation	RB Size	RB Offset	Low CH 20800	Mid CH 21100	High CH 21400	MPR
				Frequency 2505 MHz	Frequency 2535 MHz	Frequency 2565 MHz	
10 MHz	QPSK	1	0	21.10	21.17	21.16	0
		1	24	20.96	21.15	21.11	0
		1	49	20.83	21.12	21.06	0
		25	0	20.12	20.32	20.31	1
		25	12	20.08	20.25	20.22	1
		25	25	20.05	20.21	20.21	1
		50	0	20.08	20.27	20.25	1
	16QAM	1	0	20.15	20.22	20.21	1
		1	24	20.01	20.20	20.16	1
		1	49	19.88	20.17	20.11	1
		25	0	19.17	19.37	19.36	2
		25	12	19.13	19.30	19.27	2
		25	25	19.10	19.26	19.26	2
		50	0	19.13	19.32	19.30	2
BW	Modulation	RB Size	RB Offset	Low CH 20825	Mid CH 21100	High CH 21375	MPR
				Frequency 2507.5 MHz	Frequency 2535 MHz	Frequency 2562.5 MHz	
15 MHz	QPSK	1	0	21.16	21.23	21.22	0
		1	37	21.02	21.21	21.17	0
		1	74	20.89	21.18	21.12	0
		36	0	20.18	20.38	20.37	1
		36	19	20.14	20.31	20.28	1
		36	39	20.11	20.27	20.27	1
		75	0	20.14	20.33	20.31	1
	16QAM	1	0	20.21	20.28	20.27	1
		1	37	20.07	20.26	20.22	1
		1	74	19.94	20.23	20.17	1
		36	0	19.23	19.43	19.42	2
		36	19	19.19	19.36	19.33	2
		36	39	19.16	19.32	19.32	2
		75	0	19.19	19.38	19.36	2

LTE Band 7							
BW	Modulation	RB Size	RB Offset	Low CH 20850	Mid CH 21100	High CH 21350	MPR
				Frequency 2510 MHz	Frequency 2535 MHz	Frequency 2560 MHz	
20 MHz	QPSK	1	0	21.19	**21.26**	21.25	0
		1	50	21.05	21.24	21.20	0
		1	99	20.92	21.21	21.15	0
		50	0	20.21	20.41	20.40	1
		50	25	20.17	20.34	20.31	1
		50	50	20.14	20.30	20.30	1
		100	0	20.17	20.36	20.34	1
	16QAM	1	0	20.24	20.31	20.30	1
		1	50	20.10	20.29	20.25	1
		1	99	19.97	20.26	20.20	1
		50	0	19.26	19.46	19.45	2
		50	25	19.22	19.39	19.36	2
		50	50	19.19	19.35	19.35	2
		100	0	19.22	19.41	19.39	2

LTE Band 41							
BW	Modulation	RB Size	RB Offset	Low CH (39675)	Mid CH (40620)	High CH (41565)	MPR
				Frequency (2498.5)MHz	Frequency (2593)MHz	Frequency (2687.5)MHz	
5 MHz	QPSK	1	0	21.97	21.99	21.90	0
		1	12	21.81	21.97	21.87	0
		1	24	21.77	21.96	21.86	0
		12	0	20.86	21.11	21.05	1
		12	6	20.80	21.09	21.05	1
		12	13	20.79	21.08	20.97	1
		25	0	20.90	21.15	21.04	1
	16QAM	1	0	21.02	21.04	20.95	1
		1	12	20.86	21.02	20.92	1
		1	24	20.82	21.01	20.91	1
		12	0	19.91	20.16	20.10	2
		12	6	19.85	20.14	20.10	2
		12	13	19.84	20.13	20.02	2
		25	0	19.95	20.20	20.09	2

LTE Band 41							
BW	Modulation	RB Size	RB Offset	Low CH (39700) Frequency (2501)MHz	Mid CH (40620) Frequency (2593)MHz	High CH (41540) Frequency (2685)MHz	MPR
10 MHz	QPSK	1	0	22.00	22.02	21.93	0
		1	24	21.84	22.00	21.90	0
		1	49	21.80	21.99	21.89	0
		25	0	20.89	21.14	21.08	1
		25	12	20.83	21.12	21.08	1
		25	25	20.82	21.11	21.00	1
		50	0	20.93	21.18	21.07	1
	16QAM	1	0	21.05	21.07	20.98	1
		1	24	20.89	21.05	20.95	1
		1	49	20.85	21.04	20.94	1
		25	0	19.94	20.19	20.13	2
		25	12	19.88	20.17	20.13	2
		25	25	19.87	20.16	20.05	2
		50	0	19.98	20.23	20.12	2
BW	Modulation	RB Size	RB Offset	Low CH (39725) Frequency (2503.5)MHz	Mid CH (40620) Frequency (2593)MHz	High CH (41515) Frequency (2682.5)MHz	MPR
15 MHz	QPSK	1	0	22.04	22.06	21.97	0
		1	37	21.88	22.04	21.94	0
		1	74	21.84	22.03	21.93	0
		36	0	20.93	21.18	21.12	1
		36	19	20.87	21.16	21.12	1
		36	39	20.86	21.15	21.04	1
		75	0	20.97	21.22	21.11	1
	16QAM	1	0	21.09	21.11	21.02	1
		1	37	20.93	21.09	20.99	1
		1	74	20.89	21.08	20.98	1
		36	0	19.98	20.23	20.17	2
		36	19	19.92	20.21	20.17	2
		36	39	19.91	20.20	20.09	2
		75	0	20.02	20.27	20.16	2

LTE Band 41							
BW	Modulation	RB Size	RB Offset	Low CH (39750)	Mid CH (40620)	High CH (41490)	MPR
				Frequency (2506)MHz	Frequency (2593)MHz	Frequency (2680)MHz	
20 MHz	QPSK	1	0	22.10	**22.12**	22.03	0
		1	50	21.94	22.10	22.00	0
		1	99	21.90	22.09	21.99	0
		50	0	20.99	21.24	21.18	1
		50	25	20.93	21.22	21.18	1
		50	50	20.92	21.21	21.10	1
		100	0	21.03	21.28	21.17	1
	16QAM	1	0	21.15	21.17	21.08	1
		1	50	20.99	21.15	21.05	1
		1	99	20.95	21.14	21.04	1
		50	0	20.04	20.29	20.23	2
		50	25	19.98	20.27	20.23	2
		50	50	19.97	20.26	20.15	2
		100	0	20.08	20.33	20.22	2

EIRP

LTE BAND 7

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20775	2502.5	-31.17	45.65	14.48	28.04	H	2
21100	2535.0	-30.98	46.04	15.06	32.03	H	2
21425	2567.5	-31.30	45.87	14.57	28.62	H	2
20775	2502.5	-24.98	47.03	22.05	**160.25**	V	2
21100	2535.0	-25.51	46.57	21.06	127.64	V	2
21425	2567.5	-25.14	46.98	21.84	152.76	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20775	2502.5	-32.00	45.65	13.65	23.16	H	2
21100	2535.0	-32.00	46.04	14.04	25.32	H	2
21425	2567.5	-32.40	45.87	13.47	22.21	H	2
20775	2502.5	-25.81	47.03	21.22	132.37	V	2
21100	2535.0	-26.53	46.57	20.04	100.93	V	2
21425	2567.5	-26.24	46.98	20.74	118.58	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)-2.15dB.

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20800	2505.0	-26.66	45.65	18.99	79.23	H	2
21100	2535.0	-27.62	46.04	18.42	69.42	H	2
21400	2565.0	-26.97	46.07	19.10	81.19	H	2
20800	2505.0	-23.71	47.18	23.47	**222.13**	V	2
21100	2535.0	-23.94	46.57	22.63	183.23	V	2
21400	2565.0	-24.63	47.06	22.43	175.15	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20800	2505.0	-32.13	45.65	13.52	22.49	H	2
21100	2535.0	-32.02	46.04	14.02	25.21	H	2
21400	2565.0	-32.33	46.07	13.74	23.63	H	2
20800	2505.0	-25.94	47.18	21.24	132.92	V	2
21100	2535.0	-26.55	46.57	20.02	100.46	V	2
21400	2565.0	-26.17	47.06	20.89	122.86	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20825	2507.5	-30.99	45.63	14.64	29.13	H	2
21100	2535.0	-30.99	46.04	15.05	31.95	H	2
21375	2562.5	-31.24	45.94	14.70	29.50	H	2
20825	2507.5	-24.80	47.39	22.59	**181.51**	V	2
21100	2535.0	-25.52	46.57	21.05	127.35	V	2
21375	2562.5	-25.08	47.00	21.92	155.56	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20825	2507.5	-31.85	45.63	13.78	23.89	H	2
21100	2535.0	-31.86	46.04	14.18	26.15	H	2
21375	2562.5	-32.09	45.94	13.85	24.25	H	2
20825	2507.5	-25.66	47.39	21.73	148.90	V	2
21100	2535.0	-26.39	46.57	20.18	104.23	V	2
21375	2562.5	-25.93	47.00	21.07	127.91	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20850	2510.0	-31.57	45.80	14.23	26.48	H	2
21100	2535.0	-31.44	46.04	14.60	28.81	H	2
21350	2560.0	-31.82	45.83	14.01	25.19	H	2
20850	2510.0	-25.38	47.21	21.83	**152.41**	V	2
21100	2535.0	-25.97	46.57	20.60	114.71	V	2
21350	2560.0	-25.66	47.07	21.41	138.32	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
20850	2510.0	-32.50	45.80	13.30	21.37	H	2
21100	2535.0	-32.51	46.04	13.53	22.52	H	2
21350	2560.0	-32.65	45.83	13.18	20.81	H	2
20850	2510.0	-26.31	47.21	20.90	123.03	V	2
21100	2535.0	-27.04	46.57	19.53	89.66	V	2
21350	2560.0	-26.49	47.07	20.58	114.26	V	2

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

LTE BAND 41

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39675	2498.5	-23.93	45.69	21.76	149.97	H	1
40620	2593	-23.09	46.07	22.98	**198.61**	H	1
41565	2687.5	-23.62	46.49	22.87	193.64	H	1
39675	2498.5	-26.16	46.76	20.60	114.82	V	1
40620	2593	-25.53	47.13	21.60	144.54	V	1
41565	2687.5	-26.04	47.60	21.56	143.32	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39675	2498.5	-24.76	45.69	20.93	123.88	H	1
40620	2593	-24.11	46.07	21.96	157.04	H	1
41565	2687.5	-24.72	46.49	21.77	150.31	H	1
39675	2498.5	-26.99	46.76	19.77	94.84	V	1
40620	2593	-26.55	47.13	20.58	114.29	V	1
41565	2687.5	-27.14	47.60	20.46	111.25	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)-2.15dB.

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39700	2501	-23.74	45.71	21.97	157.40	H	1
40620	2593	-23.03	46.07	23.04	**201.37**	H	1
41540	2685	-23.49	46.42	22.93	196.34	H	1
39700	2501	-25.97	46.78	20.81	120.50	V	1
40620	2593	-25.47	47.13	21.66	146.55	V	1
41540	2685	-25.91	47.56	21.65	146.32	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39700	2501	-24.89	45.71	20.82	120.78	H	1
40620	2593	-24.13	46.07	21.94	156.31	H	1
41540	2685	-24.65	46.42	21.77	150.31	H	1
39700	2501	-27.12	46.78	19.66	92.47	V	1
40620	2593	-26.57	47.13	20.56	113.76	V	1
41540	2685	-27.07	47.56	20.49	112.02	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39725	2503.5	-23.75	45.74	21.99	158.12	H	1
40620	2593	-23.10	46.07	22.97	**198.15**	H	1
41515	2682.5	-23.56	46.39	22.83	191.87	H	1
39725	2503.5	-25.98	46.78	20.80	120.23	V	1
40620	2593	-25.54	47.13	21.59	144.21	V	1
41515	2682.5	-25.98	47.41	21.43	139.09	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39725	2503.5	-24.61	45.74	21.13	129.72	H	1
40620	2593	-23.97	46.07	22.10	162.18	H	1
41515	2682.5	-24.41	46.39	21.98	157.76	H	1
39725	2503.5	-26.84	46.78	19.94	98.63	V	1
40620	2593	-26.41	47.13	20.72	118.03	V	1
41515	2682.5	-26.83	47.41	20.58	114.37	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39750	2506	-24.33	45.76	21.43	139.00	H	1
40620	2593	-23.55	46.07	22.52	**178.65**	H	1
41490	2680	-24.14	46.36	22.22	166.72	H	1
39750	2506	-26.56	46.80	20.24	105.68	V	1
40620	2593	-25.99	47.13	21.14	130.02	V	1
41490	2680	-26.56	47.39	20.83	121.14	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
39750	2506	-25.26	45.76	20.50	112.20	H	1
40620	2593	-24.62	46.07	21.45	139.64	H	1
41490	2680	-24.97	46.36	21.39	137.72	H	1
39750	2506	-27.49	46.80	19.31	85.31	V	1
40620	2593	-27.06	47.13	20.07	101.62	V	1
41490	2680	-27.39	47.39	20.00	100.07	V	1

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

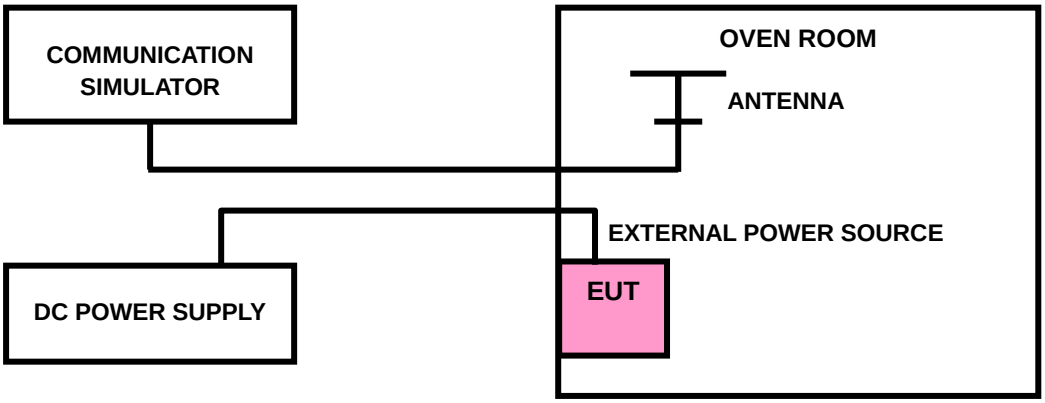
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 TEST PROCEDURE

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

4.2.3 TEST SETUP



4.2.4 TEST RESULTS

FREQUENCY ERROR vs. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 7				
	5MHz	10MHz	15MHz	20MHz	
3.8	-0.0008	0.0008	0.0010	0.0008	2.5
3.45	0.0010	-0.0013	-0.0011	-0.0012	2.5
4.4	0.0012	-0.0009	0.0008	0.0010	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.45Vdc to 4.4Vdc.

FREQUENCY ERROR vs. TEMPERATURE

TEMP. (℃)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 7				
	5MHz	10MHz	15MHz	20MHz	
-30	-0.0045	-0.0044	-0.0042	-0.0044	2.5
-20	-0.0040	-0.0040	-0.0038	-0.0039	2.5
-10	-0.0036	-0.0035	-0.0033	-0.0034	2.5
0	-0.0031	-0.0030	-0.0028	-0.0029	2.5
+10	-0.0026	-0.0025	-0.0022	-0.0024	2.5
+20	-0.0021	-0.0021	-0.0018	-0.0019	2.5
+30	-0.0015	-0.0016	-0.0013	-0.0014	2.5
+40	-0.0010	-0.0010	-0.0008	-0.0009	2.5
+50	-0.0005	-0.0005	-0.0003	-0.0004	2.5
+60	0.0000	0.0000	0.0001	0.0000	2.5

FREQUENCY ERROR vs. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 41				
	5MHz	10MHz	15MHz	20MHz	
3.8	0.0010	0.0011	0.0011	0.0011	2.5
3.45	-0.0011	-0.0012	-0.0012	-0.0012	2.5
4.4	0.0012	-0.0010	-0.0008	-0.0009	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.45Vdc to 4.4Vdc.

FREQUENCY ERROR vs. TEMPERATURE

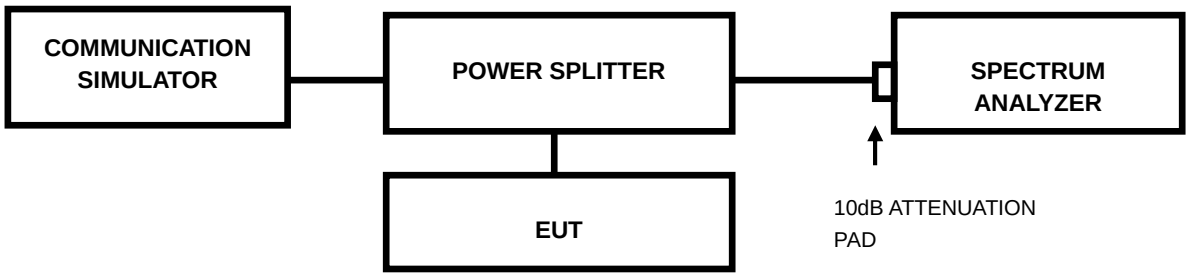
TEMP. (℃)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 41				
	5MHz	10MHz	15MHz	20MHz	
-30	-0.0045	-0.0043	-0.0046	-0.0045	2.5
-20	-0.0040	-0.0038	-0.0042	-0.0039	2.5
-10	-0.0035	-0.0032	-0.0036	-0.0033	2.5
0	-0.0029	-0.0027	-0.0031	-0.0027	2.5
+10	-0.0024	-0.0023	-0.0026	-0.0022	2.5
+20	-0.0018	-0.0019	-0.0020	-0.0016	2.5
+30	-0.0013	-0.0013	-0.0015	-0.0012	2.5
+40	-0.0007	-0.0009	-0.0010	-0.0006	2.5
+50	-0.0003	-0.0004	-0.0004	0.0000	2.5
+60	0.0001	0.0001	0.0001	0.0003	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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 power of a given emission.

4.3.2 TEST SETUP



4.3.3 TEST PROCEDURES

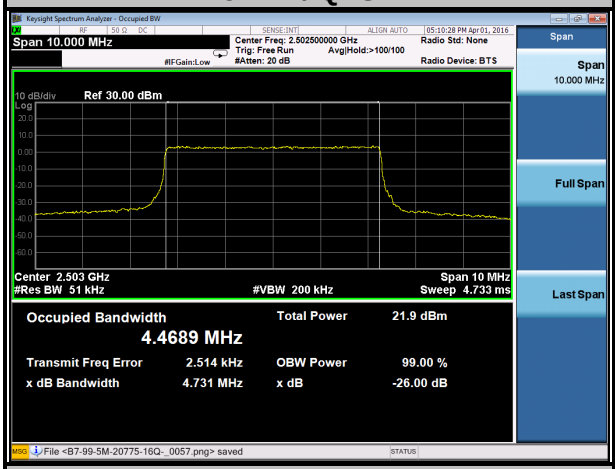
a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.4 TEST RESULTS

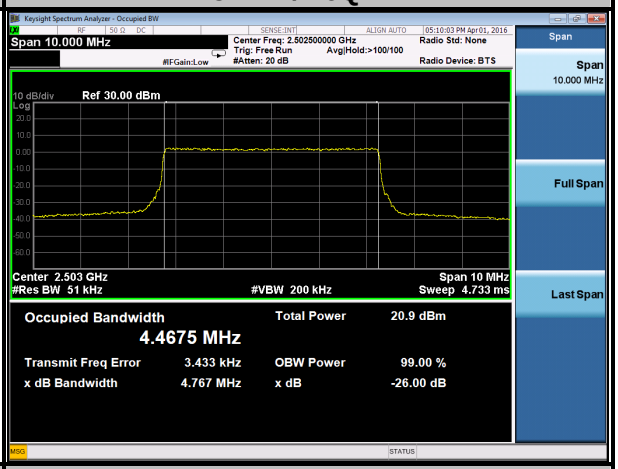
LTE BAND 7							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
20775	2502.5	4.47	4.47	20800	2505	8.92	8.92
21100	2535	4.47	4.47	21100	2535	8.92	8.92
21425	2567.5	4.47	4.46	21400	2565	8.91	8.92

SPECTRUM PLOT OF WORST VALUE

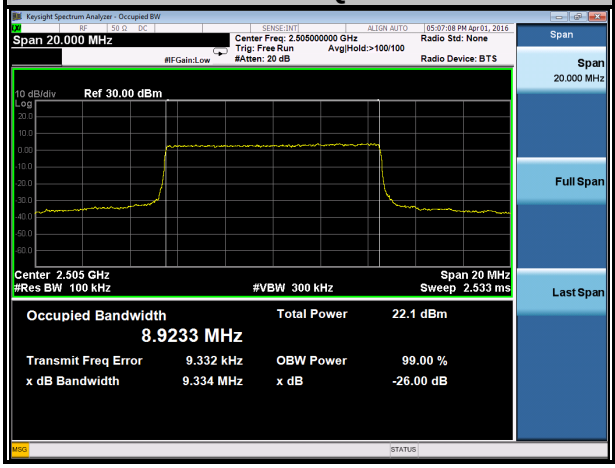
5MHz / QPSK



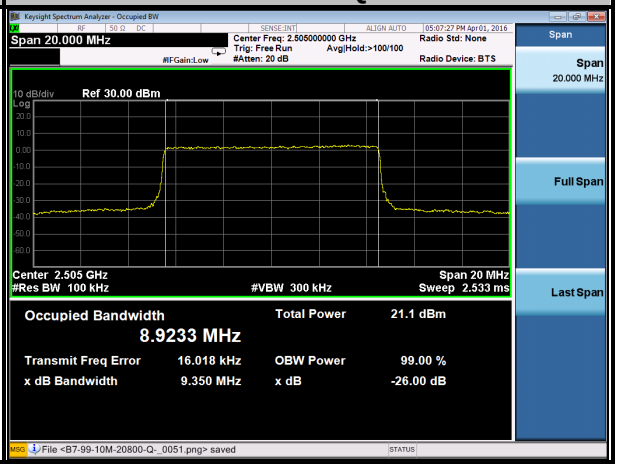
5MHz / 16QAM



10MHz / QPSK



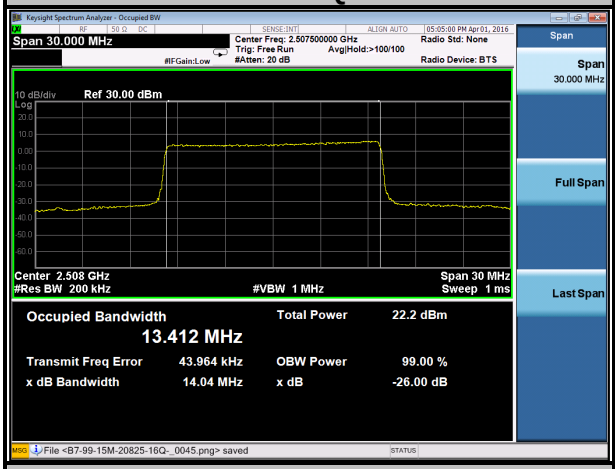
10MHz / 16QAM



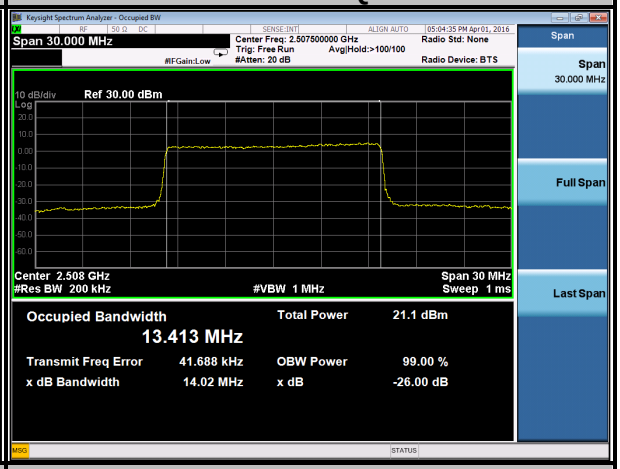
LTE BAND 7							
CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
20825	2507.5	13.41	13.41	20850	2510	17.84	17.85
21100	2535	13.40	13.40	21100	2535	17.85	17.86
21375	2562.5	13.39	13.38	21350	2560	17.81	17.82

SPECTRUM PLOT OF WORST VALUE

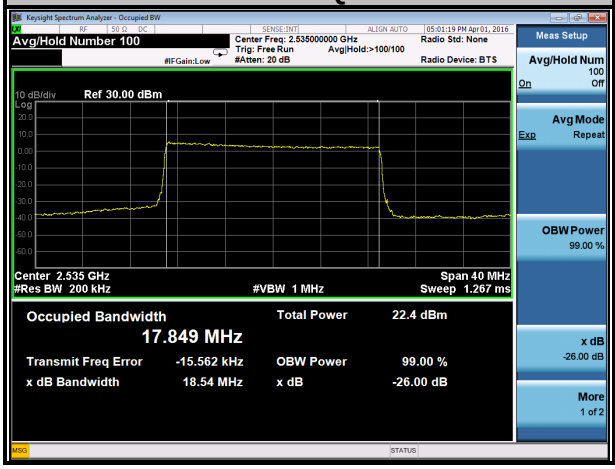
15MHz / QPSK



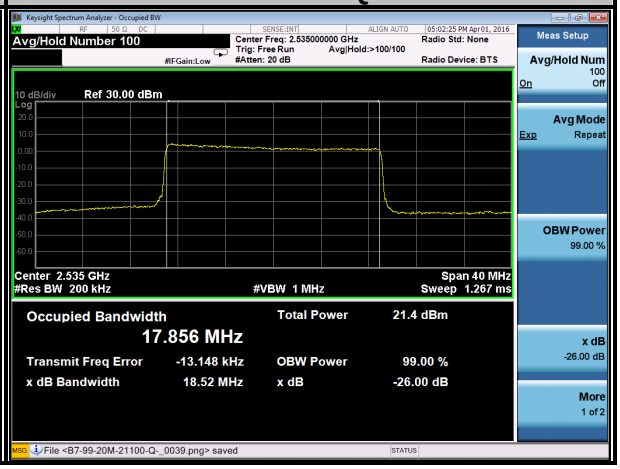
15MHz / 16QAM



20MHz / QPSK



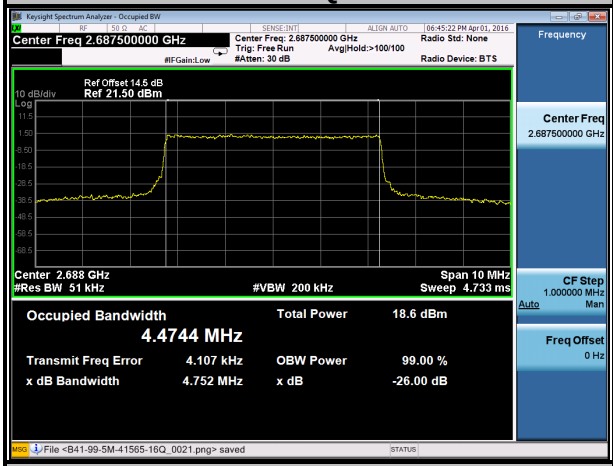
20MHz / 16QAM



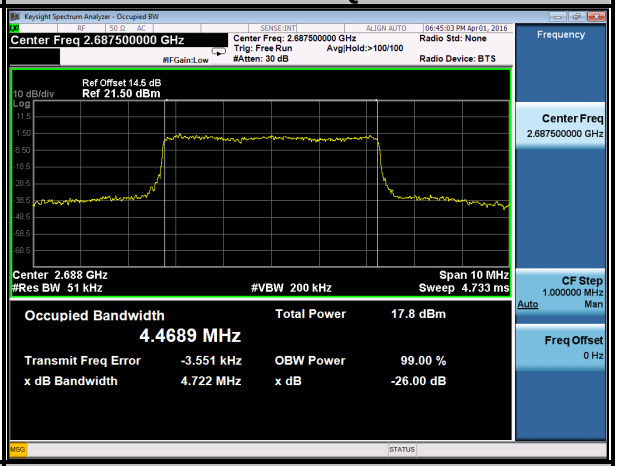
LTE BAND 41							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
39675	2498.5	4.47	4.47	39700	2501	8.92	8.93
40620	2593	4.46	4.46	40620	2593	8.90	8.92
41565	2687.5	4.47	4.47	41540	2685	8.93	8.92

SPECTRUM PLOT OF WORST VALUE

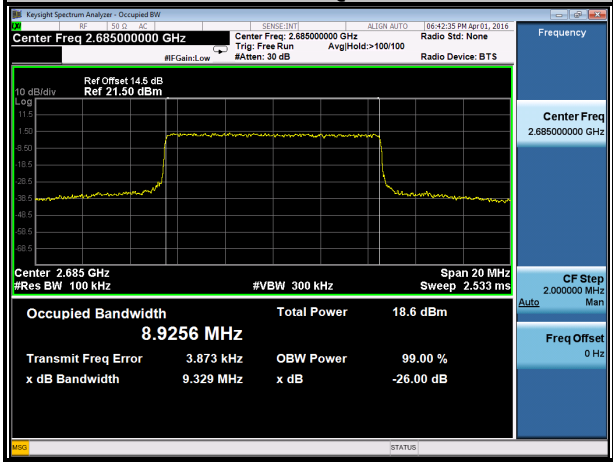
5MHz / QPSK



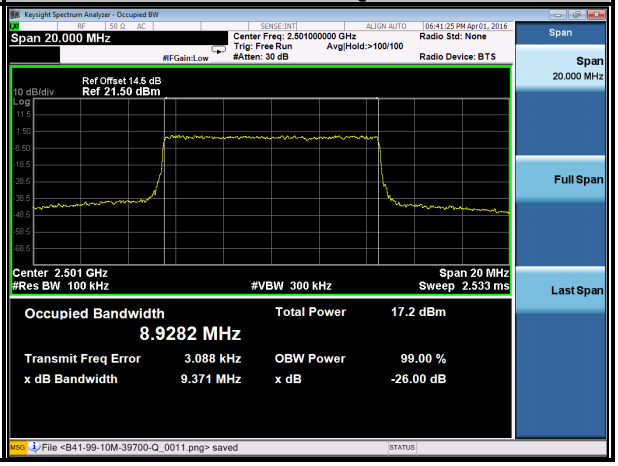
5MHz / 16QAM



10MHz / QPSK



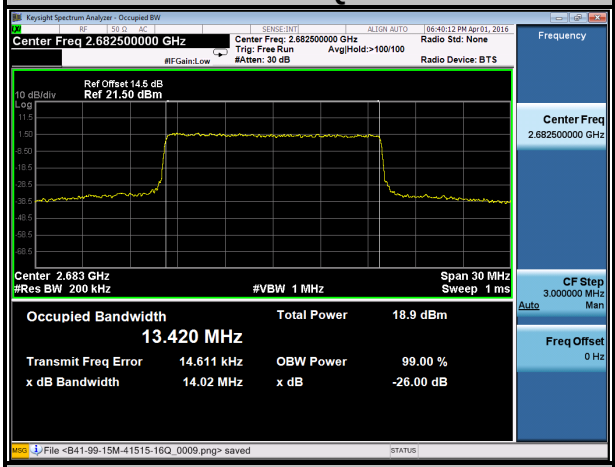
10MHz / 16QAM



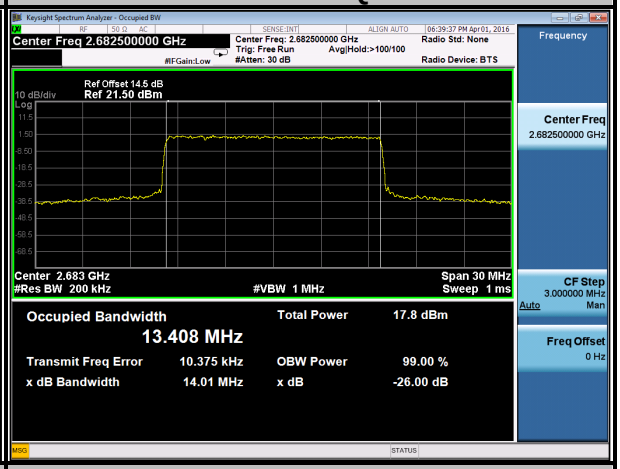
LTE BAND 41							
CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
39725	2503.5	13.41	13.41	39750	2506	17.87	17.89
40620	2593	13.40	13.40	40620	2593	17.86	17.82
41515	2682.5	13.42	13.41	41490	2680	17.86	17.87

SPECTRUM PLOT OF WORST VALUE

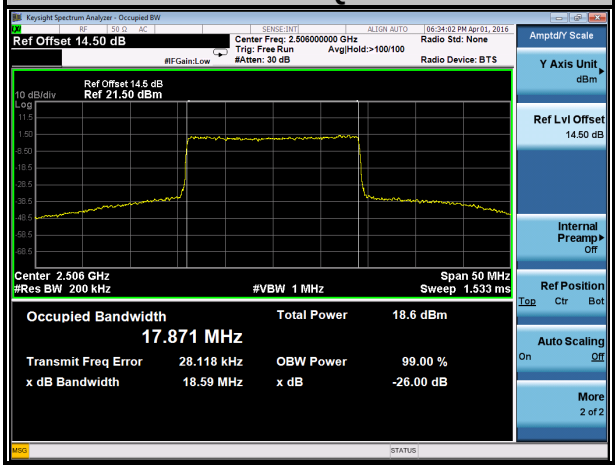
15MHz / QPSK



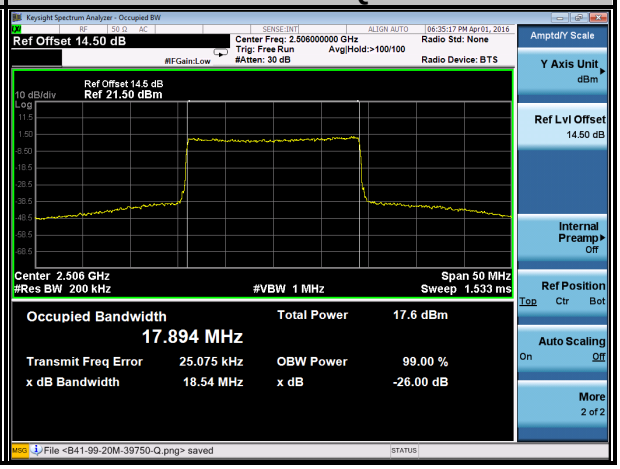
15MHz / 16QAM



20MHz / QPSK



20MHz / 16QAM

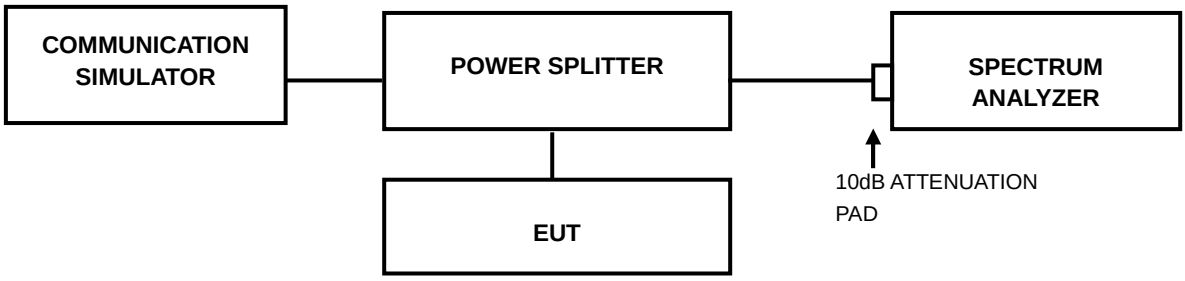


4.4 PEAK TO AVERAGE RATIO

4.4.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.