FCC TEST REPORT

(PART 22)

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Hong Kong, China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.
Product:	Smart Mobile Payment Terminal
Brand Name:	PAX
Model Name:	A920Pro
FCC ID:	V5PA920PRO
Date of tests:	Apr. 01, 2020~ May 15, 2020

The tests have been carried out according to the requirements of the following standard:

☒ **FCC PART 22, Subpart H**
☒ **ANSI/TIA/EIA-603-D**
☒ **ANSI/TIA/EIA-603-E**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Issued by Evans He Engineer / Mobile Department	Approved by David Huang Manager / Mobile Department
Evans He	David Huang
Date: May 18, 2020	Date: May 18, 2020

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* REFER TO KDB 971168 D01 POWER MEAS LICENSE DIGITAL SYSTEMS V02R02. ..... **5**

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4 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB 57

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200327S003-1	Original release	May 18, 2020

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
2.1046 22.913 (a)	Effective Radiated Power	PASS	Meet the requirement of limit.
2.1055 22.355	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 22.917b	Occupied Bandwidth	PASS	Meet the requirement of limit.
--	Peak to average ratio*	PASS	Meet the requirement of limit.
22.917	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 22.917	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 22.917	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -12.82dB at 1697.6MHz.

* Refer to KDB 971168 D01 Power Meas License Digital Systems v02r02.

1.1 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	2.70dB
Radiated emissions	9KHz ~ 30MHz	2.16dB
	30MHz ~ 1GHz	3.74dB
	1GHz ~ 18GHz	4.66dB
	18GHz ~ 40GHz	4.67dB

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESL6	1300.5001K06-100262-eQ	Mar. 24,20	Mar. 24,21
Bilog Antenna	Sunol Sciences	JB6	A110712	Apr. 08, 20	Apr. 07, 21
Active Antenna	CMO-POWER	AL-130	121031	Mar. 27, 20	Mar. 26, 21
Signal Amplifier	HP	8447E	443008	Mar. 24, 20	Mar. 24, 21
Spectrum	Agilent	E4446A	MY46180622	Mar. 24, 20	Mar. 24, 21
MXA signal analyzer	Agilent	N9020A	MY49100060	Mar. 22, 20	Mar. 21, 21
Horn Antenna	COM-POWER	HAH-118	71259	Mar. 20, 20	Mar. 19, 21
Horn Antenna	COM-POWER	HAH-118	71283	Jun. 30, 19	Jun. 29, 20
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170147	Jun. 30, 19	Jun. 29, 20
SHF-EHF Horn	Schwarzbeck	BBHA9170	BBHA9170242	Mar. 24, 20	Mar. 24, 21
AMPLIFIER	EM Electornic Corporation	EM01G26G	60613	Jan. 04, 20	Jan. 03,21
AMPLIFIER	Emc Instruments Corporation	Emc012645	980077	Oct. 18,18	Oct. 17,21
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Mar. 24, 20	Mar. 24, 21
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A
Wireless Connectivity Tester	R&S	CMW270	1201.0002K75	Dec. 18, 19	Dec. 17, 20
MXA VEXTOR SIGNAL	Agilent	n5182a	MY50140530	Mar. 24,20	Mar. 24,21
MXA signal analyzer	Agilent	n9020a	MY49100060	Mar. 24,20	Mar. 24,21
RF Control Unit	Tonscend	JS0806-2	188060112	Mar. 24,20	Mar. 24,21
Signal Generation	Agilent	E4421B	US40051152	Dec. 18, 19	Dec. 17, 20
DC Power Supply	Agilent	E3640A	MY40004013	Mar. 28,20	Mar. 27,21
Programmable Temperature & Humidity Chamber	Hongjin	HYC-TH-225DH	DG-180746	Mar. 24,20	Mar. 24,21
Test System	Tonscend	JS 1120-3	N/A	N/A	N/A
Power Splitter	Weinschel	1580-1	TL177	Mar. 20,20	Mar. 19,21
Universal Radio Communication	ROHDE&SCHWARZ	CMU200	112012	Mar. 24,20	Mar. 24,21
Universal Radio Communication	ROHDE&SCHWARZ	CMU200	121393	Mar. 28,20	Mar. 27,21
Wireless Communication Test Set	ROHDE&SCHWARZ	CMW500	1201.0002K500-155842-Gd	Nov. 1, 19	Oct. 31, 20

NOTE: 1. The calibration interval of the above test instruments is 12 months (except 3m Semi-anechoic Chamber). And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 535293.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

EUT	Smart Mobile Payment Terminal	
MODEL NAME	A920Pro	
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.7Vdc (Li-ion, ion battery)	
MODULATION TYPE	**LTE**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 5 (Channel Bandwidth: 1.4MHz)**	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
MAX. ERP POWER	**LTE Band 5 (Channel Bandwidth: 1.4MHz)**	173.78mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	181.13mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	168.27mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	168.66mW
EMISSION DESIGNATOR	**LTE Band 5 (Channel Bandwidth: 1.4MHz)**	QPSK: 1M09G7D
		16QAM: 1M09W7D
	LTE Band 5 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M69W7D
	LTE Band 5 (Channel Bandwidth: 5MHz)	QPSK: 4M47G7D
		16QAM: 4M48W7D
	LTE Band 5 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D
		16QAM: 8M95W7D
ANTENNA TYPE	FPC Antenna with 1dBi gain	
HW VERSION	N/A	
SW VERSION	N/A	
I/O PORTS	Refer to user’s manual	
DATA CABLE	USB cable: non-shielded, detachable, 1.0m	
EUT STAGE	Production Unit	

NOTE:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

2. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	N/A
MODEL:	GLH50D2000HW
INPUT:	100-240V～50/60Hz 0.40A
OUTPUT:	5.0V⎓2000mA

3. The EUT matched the following USB cable:

USB CABLE	
BRAND:	N/A
MODEL:	N/A
SIGNAL LINE:	1.0 METER

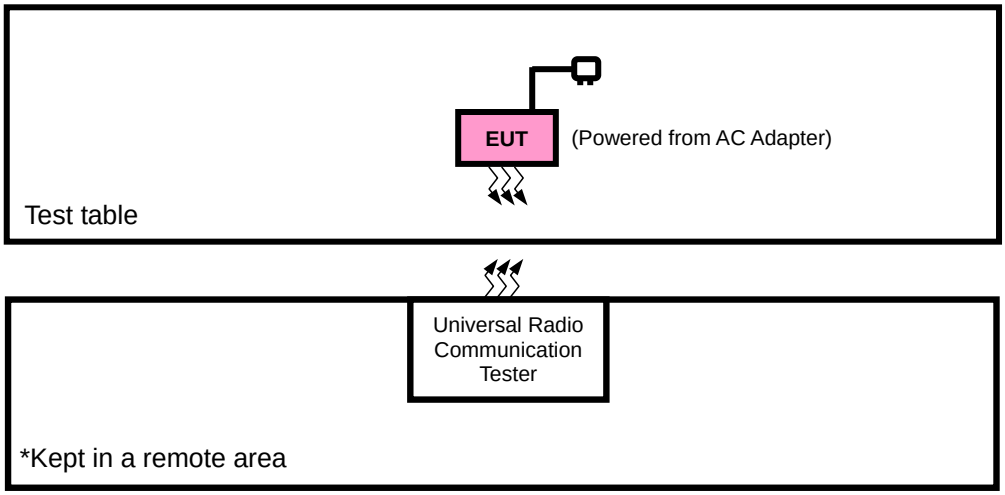
4. The EUT was powered by the following Battery:

ADAPTER	
BRAND:	VEKEN
MODEL:	YW-008
POWER RATING:	3.7V ⎓ 5150mAh 19.05Wh

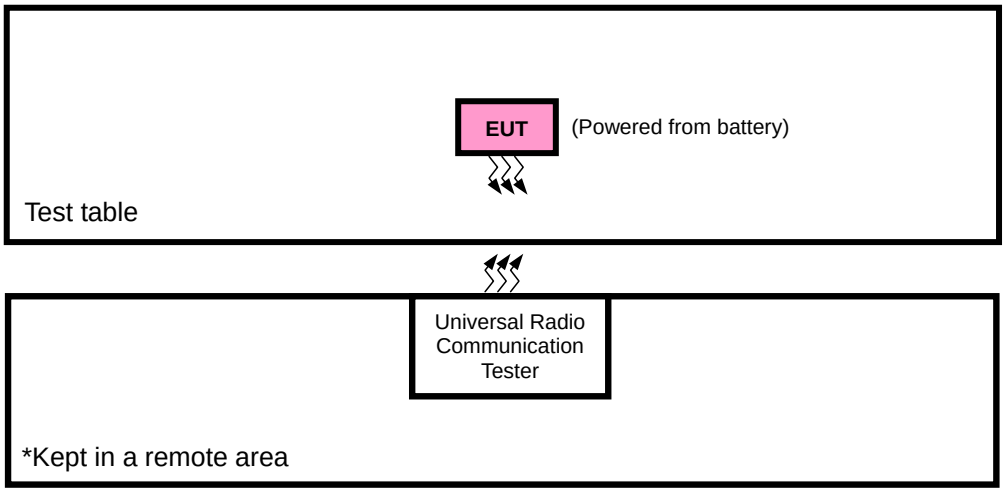
5. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION



FOR CONDUCTED & E.R.P. TEST



2.3 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	N/A	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

2.4 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 in ERP and radiated emission was found when positioned on X-plane for GSM/EDGE/WCDMA/LTE. Following channel(s) was (were) selected for the final test as listed below:

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

LTE BAND 5 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	20407 to 20643	20407, 20643	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20635	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20625	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20600	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	6 RB / 0 RB Offset
				16QAM	6 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	15 RB / 0 RB Offset
				16QAM	15 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	25 RB / 0 RB Offset
				16QAM	25 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	50 RB / 0 RB Offset
				16QAM	50 RB / 0 RB Offset

BAND EDGE	20407 to 20643	20407	1.4 MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	20407 to 20643	20643	1.4 MHz	QPSK	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	20415 to 20635	20415	3 MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	20415 to 20635	20635	3 MHz	QPSK	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	20425 to 20625	20425	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	20425 to 20625	20625	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20450 to 20600	20450	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	20450 to 20600	20600	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
CONDCUDETED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	20407 to 20643	20525	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20525	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20525	10MHz	QPSK	1 RB / 0 RB Offset

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	24deg. C, 60%RH	3.7Vdc from Battery	Aaron Liang
PEAK TO AVERAGE RATIO	24deg. C, 60%RH	3.85Vdc from Battery	Aaron Liang
FREQUENCY STABILITY	24deg. C, 60%RH	DC 3.4V/3.7V/4.2V	Aaron Liang
OCCUPIED BANDWIDTH	24deg. C, 60%RH	3.7Vdc from Battery	Aaron Liang
BAND EDGE	24deg. C, 60%RH	3.7Vdc from Battery	Aaron Liang
CONDCUDETED EMISSION	24deg. C, 60%RH	3.7Vdc from Battery	Aaron Liang
RADIATED EMISSION	25deg. C, 59%RH	5Vdc from adapter	Aaron Liang

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

2.6 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 22

KDB 971168 D01 Power Meas License Digital Systems v03

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T - L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

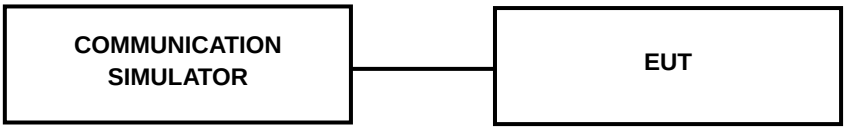
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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.

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 5

Band/BW	Modulation	RB Size	RB Offset	Low CH 20407	Mid CH 20525	High CH 20643	3GPP MPR (dB)
				Frequency 824.7 MHz	Frequency 836.5 MHz	Frequency 848.3 MHz	
5/1.4	QPSK	1	0	23.18	23.24	23.52	0
		1	2	23.18	23.22	23.52	0
		1	5	23.16	23.29	23.55	0
		3	0	23.23	23.41	23.44	0
		3	1	23.13	23.48	23.44	0
		3	3	23.21	23.42	23.36	0
		6	0	22.22	22.23	22.38	1
	16QAM	1	0	22.29	23.03	22.27	1
		1	2	22.21	22.91	22.38	1
		1	5	22.21	22.83	22.46	1
		3	0	22.42	22.39	22.45	1
		3	1	22.43	22.4	22.44	1
		3	3	22.39	22.4	22.57	1
		6	0	21.43	21.58	21.58	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20415	Mid CH 20525	High CH 20635	3GPP MPR (dB)
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz	
5/3	QPSK	1	0	23.16	23.41	23.72	0
		1	7	23.03	23.29	23.73	0
		1	14	23.21	23.3	23.54	0
		8	0	22.3	22.45	22.38	1
		8	3	22.35	22.34	22.27	1
		8	7	22.44	22.33	22.34	1
		15	0	22.16	22.3	22.28	1
	16QAM	1	0	21.81	23.08	22.69	1
		1	7	21.72	22.87	22.74	1
		1	14	21.84	22.88	22.77	1
		8	0	21.27	21.55	21.53	2
		8	3	21.32	21.12	21.25	2
		8	7	21.41	21.14	21.52	2
		15	0	21.13	21.16	21.27	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20425	Mid CH 20525	High CH 20625	3GPP MPR (dB)
				Frequency 826.5 MHz	Frequency 836.5 MHz	Frequency 846.5 MHz	
5/5	QPSK	1	0	23.16	23.41	23.37	0
		1	12	23.26	23.4	23.37	0
		1	24	23.23	23.37	23.31	0
		12	0	22.23	22.4	22.42	1
		12	6	22.31	22.16	22.29	1
		12	13	22.28	22.33	22.21	1
		25	0	22.21	22.31	22.33	1
	16QAM	1	0	22.16	22.34	22.02	1
		1	12	22.31	22.15	21.85	1
		1	24	22.39	22.28	21.85	1
		12	0	21.32	21.43	21.2	2
		12	6	21.32	21.34	21.09	2
		12	13	21.33	21.35	21.07	2
		25	0	21.33	21.38	21.29	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20450	Mid CH 20525	High CH 20600	3GPP MPR (dB)
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz	
5/10	QPSK	1	0	23.13	23.29	23.27	0
		1	24	23.19	23.39	23.42	0
		1	49	23.34	23.35	23.35	0
		25	0	22.28	22.34	22.5	1
		25	12	22.39	22.15	22.66	1
		25	25	22.33	22.48	22.3	1
		50	0	22.43	22.09	22.6	1
	16QAM	1	0	22.38	22.53	22.62	1
		1	24	22.58	22.6	22.83	1
		1	49	22.43	22.7	22.7	1
		25	0	21.35	21.5	21.64	2
		25	12	21.37	21.43	21.56	2
		25	25	21.38	21.59	21.44	2
		50	0	21.13	21.38	21.39	2

ERP POWER (dBm)

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	23.23	1	22.08	161.44	7
20525	836.5	23.48	1	22.33	171	7
20643	848.3	23.55	1	22.4	173.78	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	22.43	1	21.28	134.28	7
20525	836.5	23.03	1	21.88	154.17	7
20643	848.3	22.57	1	21.42	138.68	7

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	23.21	1	22.06	160.69	7
20525	836.5	23.41	1	22.26	168.27	7
20635	847.5	23.73	1	22.58	181.13	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	21.84	1	20.69	117.22	7
20525	836.5	23.08	1	21.93	155.96	7
20635	847.5	22.77	1	21.62	145.21	7

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	23.26	1	22.11	162.55	7
20525	836.5	23.41	1	22.26	168.27	7
20625	846.5	23.37	1	22.22	166.72	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	22.39	1	21.24	133.05	7
20525	836.5	22.34	1	21.19	131.52	7
20625	846.5	22.02	1	20.87	122.18	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829.0	23.34	1	22.19	165.58	7
20525	836.5	23.39	1	22.24	167.49	7
20600	844.0	23.42	1	22.27	168.66	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829.0	22.58	1	21.43	139	7
20525	836.5	22.7	1	21.55	142.89	7
20600	844.0	22.83	1	21.68	147.23	7

REMARKS: 1. ERP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB) -2.15(dB).
: 2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

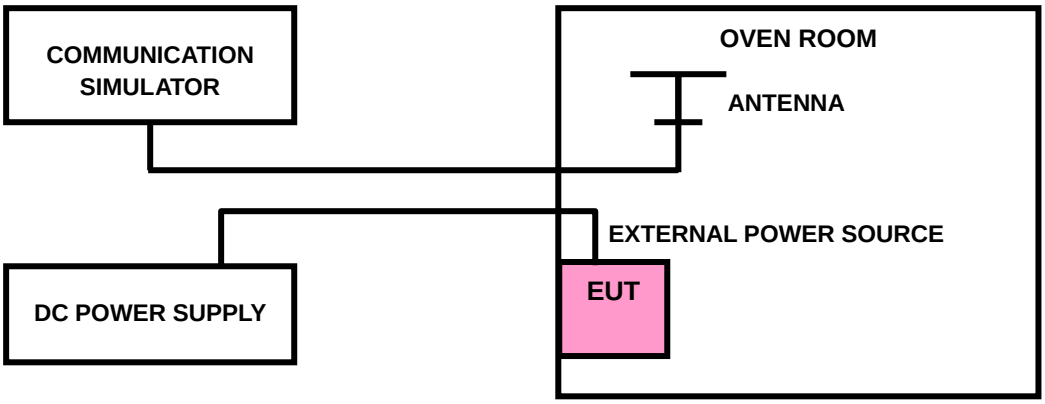
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

LTE Band 5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
3.8	0.1013	0.1081	2.5
3.55(BEP)	0.1074	0.1135	2.5
4.35	0.1195	0.105	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.55Vdc to 4.35Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	0.1044	0.1192	2.5
-20	0.0995	0.1248	2.5
-10	0.0949	0.122	2.5
0	0.1057	0.1277	2.5
10	0.1179	0.1153	2.5
20	0.115	0.1198	2.5
30	0.1272	0.1107	2.5
40	0.1284	0.1065	2.5
50	0.1197	0.1164	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
3.8	0.1039	0.0982	2.5
3.55(BEP)	0.1079	0.0924	2.5
4.35	0.0934	0.0839	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.55Vdc to 4.35Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	0.1188	0.0858	2.5
-20	0.1124	0.0949	2.5
-10	0.1256	0.1048	2.5
0	0.1162	0.095	2.5
10	0.1245	0.0999	2.5
20	0.1318	0.1055	2.5
30	0.1354	0.0916	2.5
40	0.1374	0.1046	2.5
50	0.1317	0.1101	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
3.8	0.1094	0.1057	2.5
3.55(BEP)	0.0967	0.0924	2.5
4.35	0.0893	0.1022	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.55Vdc to 4.35Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	0.0827	0.1043	2.5
-20	0.0893	0.119	2.5
-10	0.0973	0.1132	2.5
0	0.0975	0.1276	2.5
10	0.0852	0.114	2.5
20	0.0801	0.1234	2.5
30	0.0806	0.1311	2.5
40	0.0814	0.1409	2.5
50	0.0745	0.1351	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
3.8	0.0957	0.1057	2.5
3.55(BEP)	0.0938	0.1104	2.5
4.35	0.0813	0.1066	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.55Vdc to 4.35Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

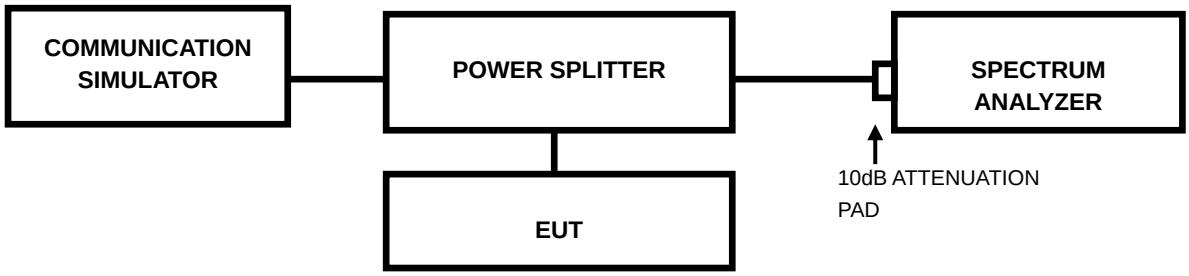
TEMP. (℃)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	0.0905	0.1165	2.5
-20	0.0787	0.113	2.5
-10	0.0815	0.1189	2.5
0	0.0872	0.1156	2.5
10	0.0807	0.1025	2.5
20	0.0756	0.0882	2.5
30	0.0781	0.0864	2.5
40	0.0752	0.0751	2.5
50	0.0739	0.0734	2.5

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.2 TEST SETUP

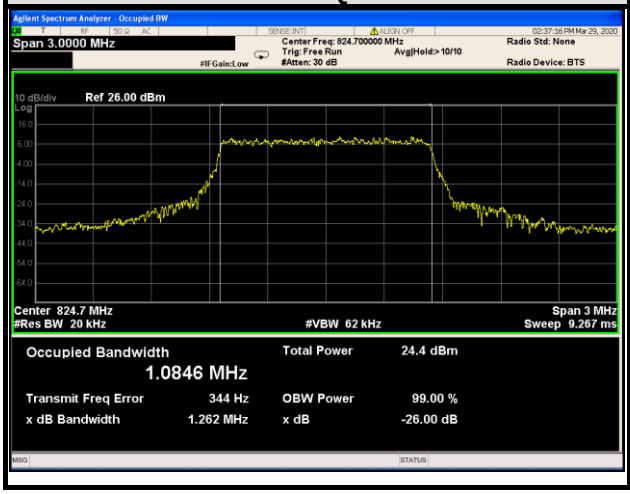


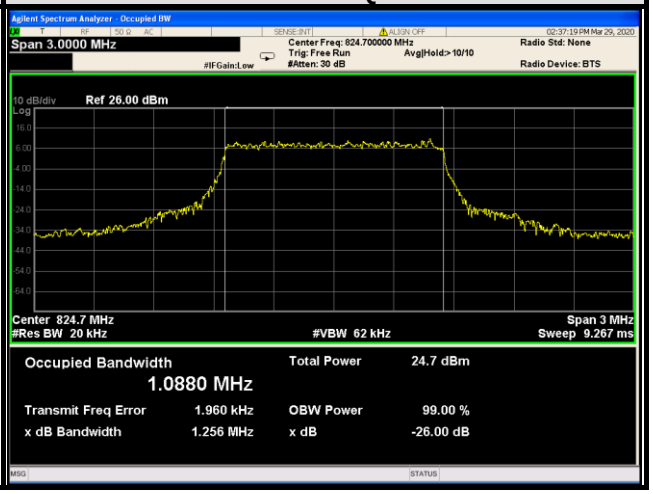
3.3.3 TEST RESULTS

LTE BAND 5

LTE band 5							
Channel Bandwidth : 1.4MHz							
Channel	Frequency (MHz)	99% Occupied bandwidth (MHz)		Channel	Frequency (MHz)	26 dB bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	1.085	1.088	20407	824.7	1.262	1.256
20525	836.5	1.084	1.085	20525	836.5	1.259	1.261
20643	848.3	1.083	1.085	20643	848.3	1.262	1.265

SPECTRUM PLOT OF WORST VALUE	
1.4MHz/QPSK	1.4MHz/16QAM

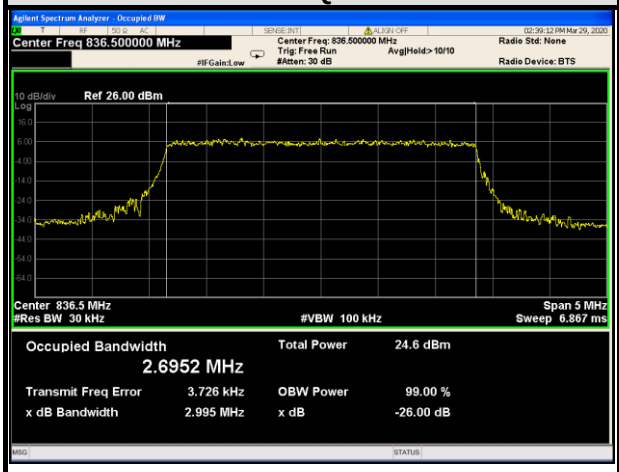




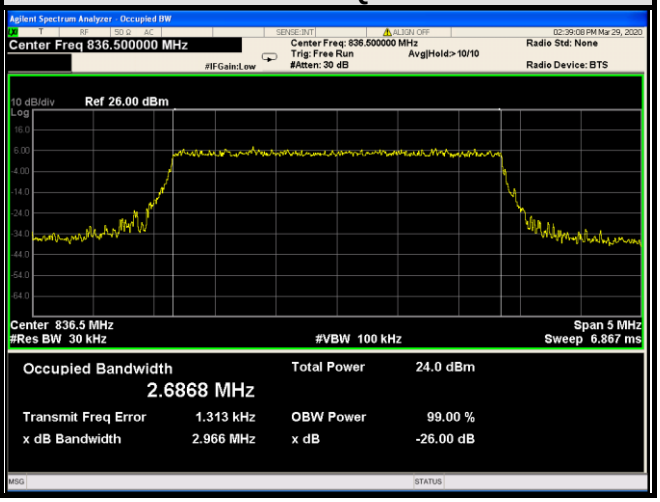
LTE band 5							
Channel Bandwidth : 3MHz							
Channel	Frequency (MHz)	99% Occupied bandwidth (MHz)		Channel	Frequency (MHz)	26 dB bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20415	825.5	2.6865	2.6860	20415	825.5	2.957	2.957
20525	836.5	2.6952	2.6868	20525	836.5	2.995	2.966
20635	847.5	2.6856	2.6848	20635	847.5	2.976	2.984

SPECTRUM PLOT OF WORST VALUE

3MHz/QPSK



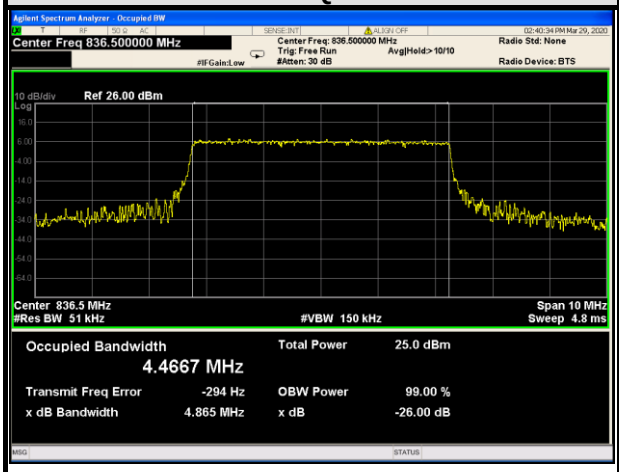
3MHz/16QAM



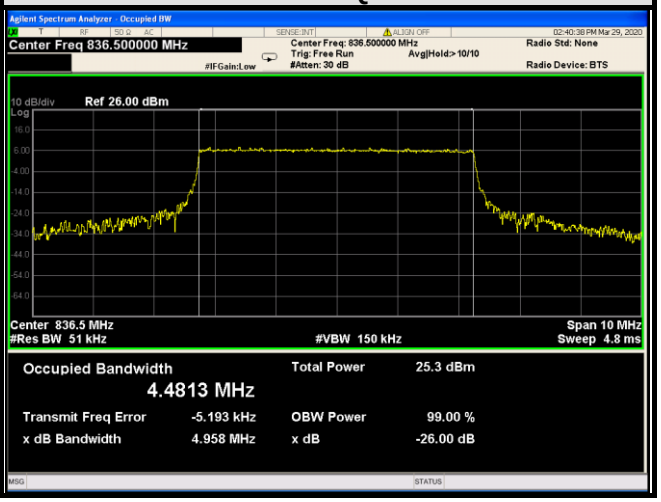
LTE band 5							
Channel Bandwidth : 5 MHz							
Channel	Frequency (MHz)	99% Occupied bandwidth (MHz)		Channel	Frequency (MHz)	26 dB bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	4.4648	4.4742	20425	826.5	5.009	5.007
20525	836.5	4.4667	4.4813	20525	836.5	4.865	4.958
20625	846.5	4.4491	4.4619	20625	846.5	4.999	5.137

SPECTRUM PLOT OF WORST VALUE

5MHz/QPSK



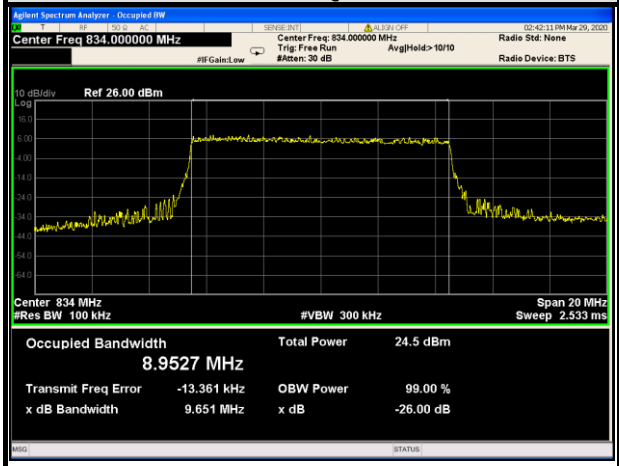
5MHz/16QAM



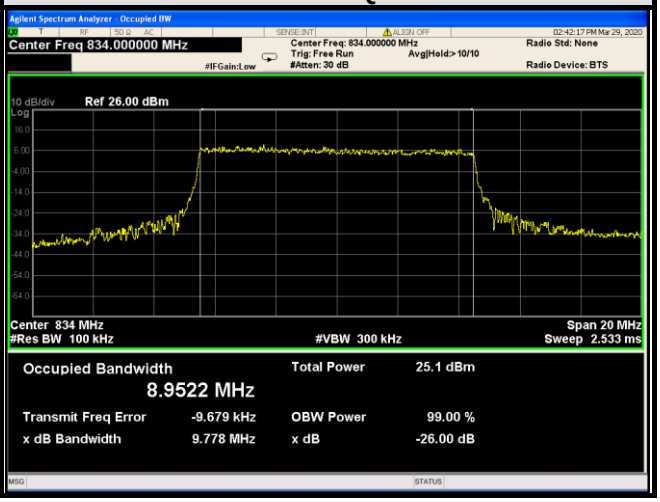
LTE band 5							
Channel Bandwidth : 10 MHz							
Channel	Frequency (MHz)	99% Occupied bandwidth (MHz)		Channel	Frequency (MHz)	26 dB bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20450	829	8.9259	8.9255	20450	829	9.656	9.681
20525	836.5	8.9425	8.9418	20525	836.5	9.628	9.780
20600	844	8.9527	8.9522	20600	844	9.651	9.778

SPECTRUM PLOT OF WORST VALUE

10MHz/QPSK



10MHz/16QAM

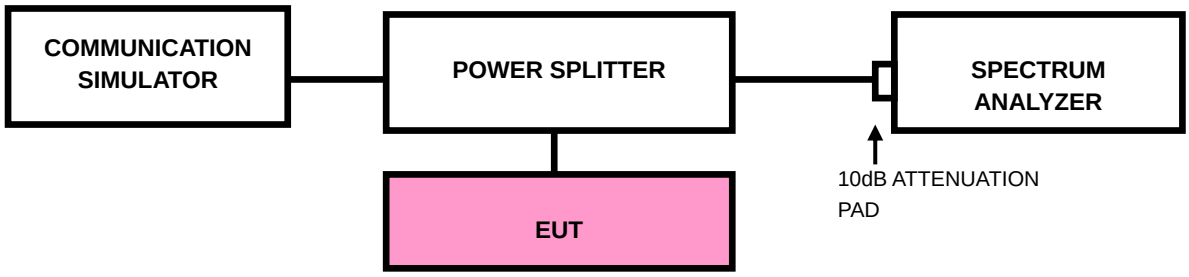


3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. 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.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a. All measurements were done at low and high operational frequency range.

b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RBW of the spectrum is 10kHz and VBW of the spectrum is 30kHz (GSM/GPRS/ EDGE).

c. The center frequency of spectrum is the band edge frequency and span is 10MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).

d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz).

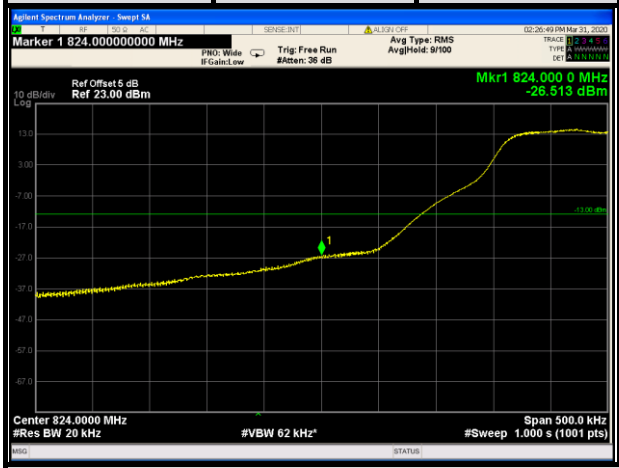
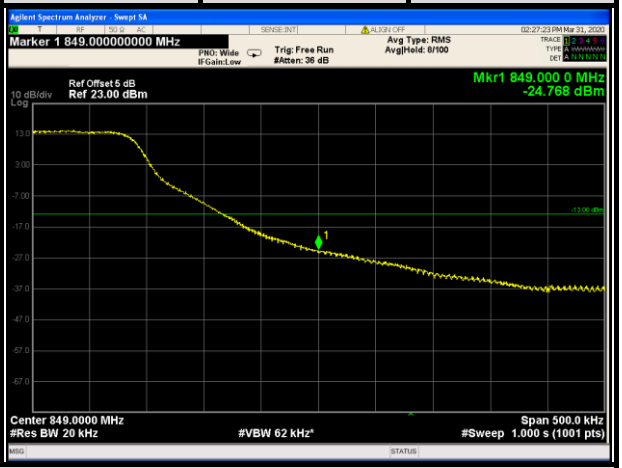
e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz)

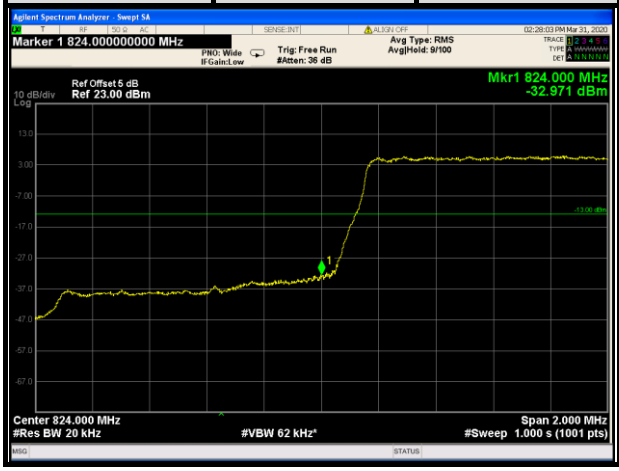
f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 5MHz)

g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)

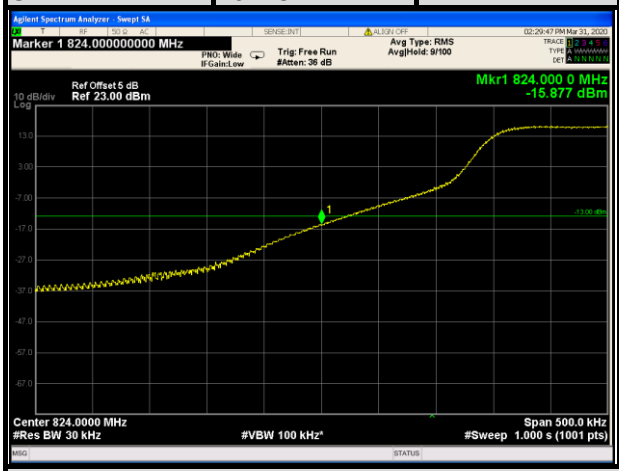
h. Record the max trace plot into the test report.

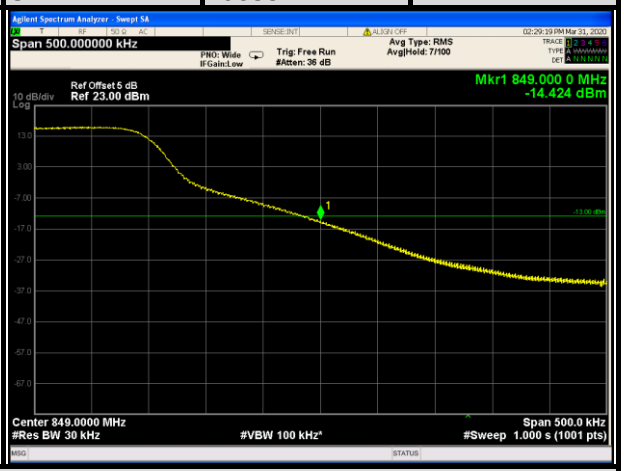
3.4.4 TEST RESULTS

LTE Band5					
Channel Bandwidth: 1.4MHz					
CHANNEL	20407	1 RB	CHANNEL	20643	1 RB
					

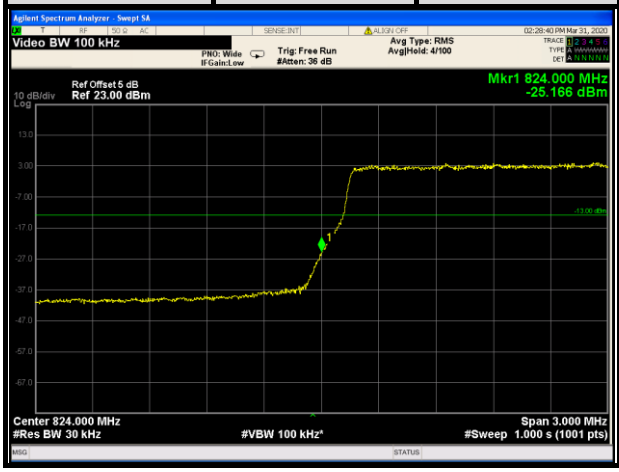
LTE Band5					
Channel Bandwidth: 1.4MHz					
CHANNEL	20407	Full RB	CHANNEL	20643	Full RB
					

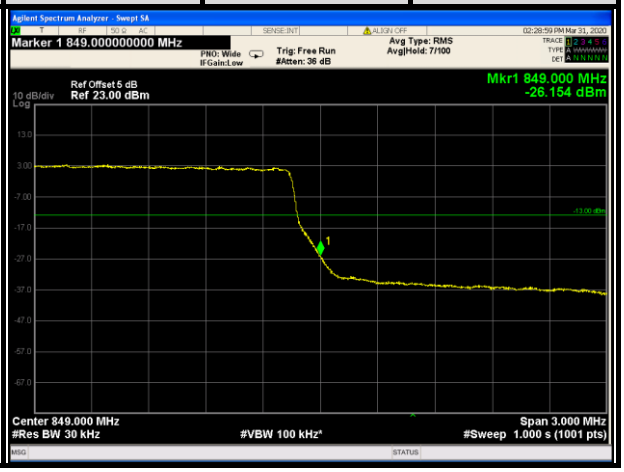
LTE Band5					
Channel Bandwidth: 3MHz					
CHANNEL	20415	1 RB	CHANNEL	20635	1 RB



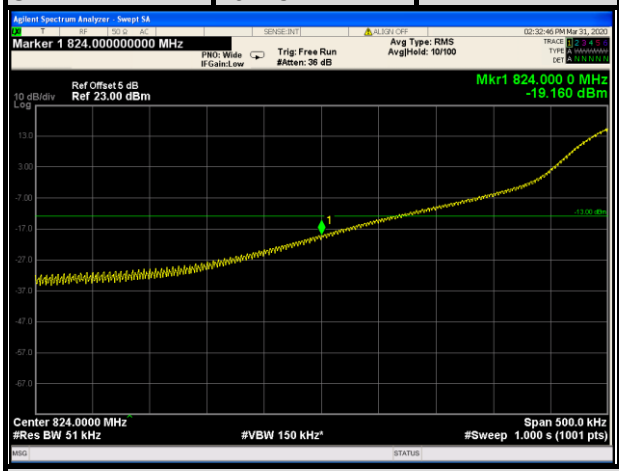


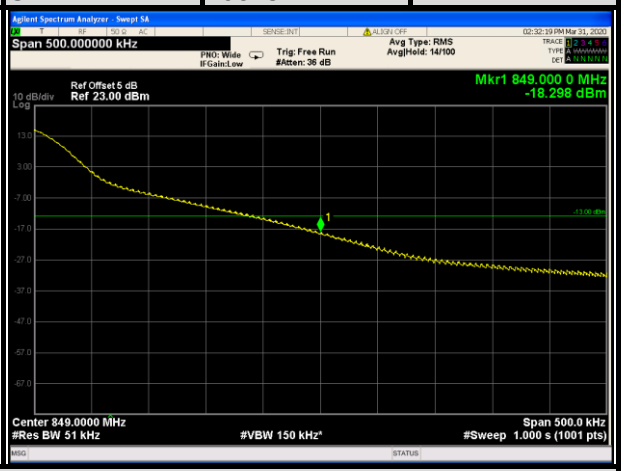
LTE Band5					
Channel Bandwidth: 3MHz					
CHANNEL	20415	Full RB	CHANNEL	20635	Full RB



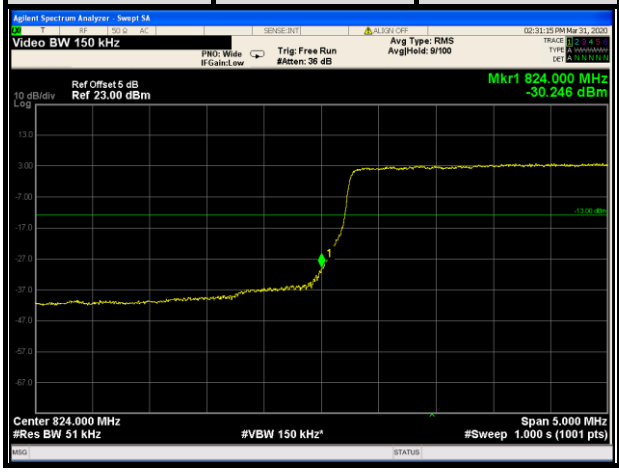


LTE Band5					
Channel Bandwidth: 5MHz					
CHANNEL	20425	1 RB	CHANNEL	20625	1 RB





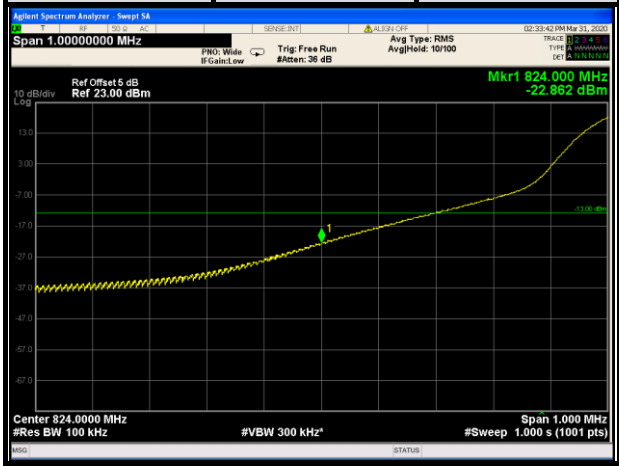
LTE Band5					
Channel Bandwidth: 5MHz					
CHANNEL	20425	Full RB	CHANNEL	20625	Full RB



LTE Band5

Channel Bandwidth: 10MHz

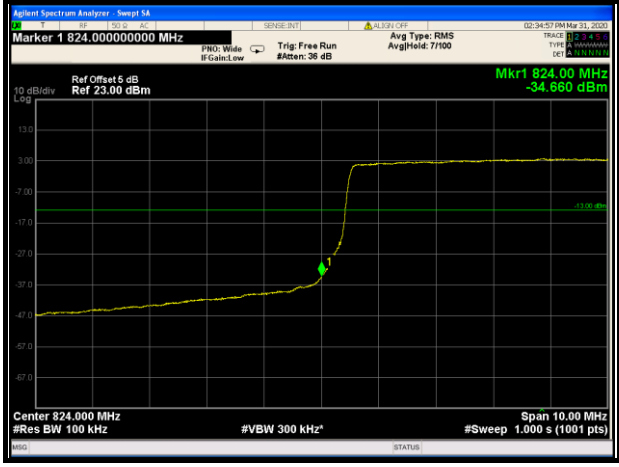
CHANNEL	20450	1 RB	CHANNEL	20600	1 RB



LTE Band5

Channel Bandwidth: 10MHz

CHANNEL	20450	Full RB	CHANNEL	20600	Full RB



3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

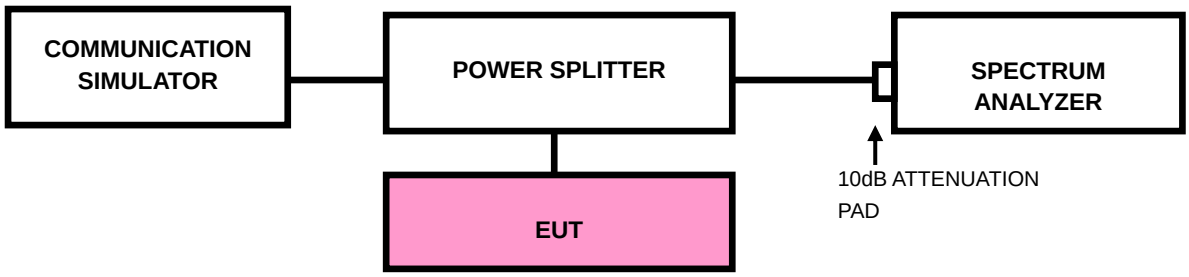
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

3.5.2 TEST PROCEDURE

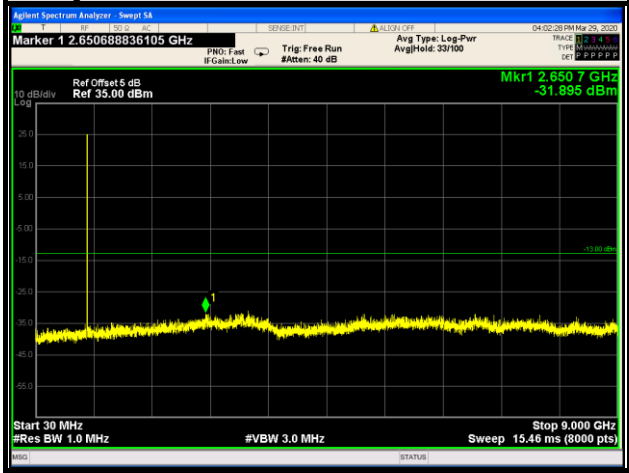
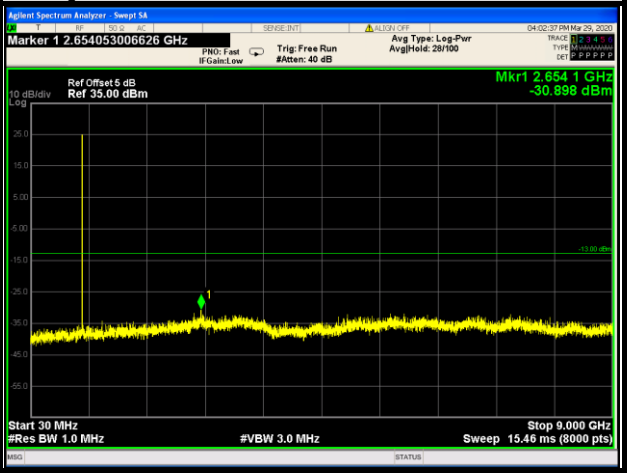
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

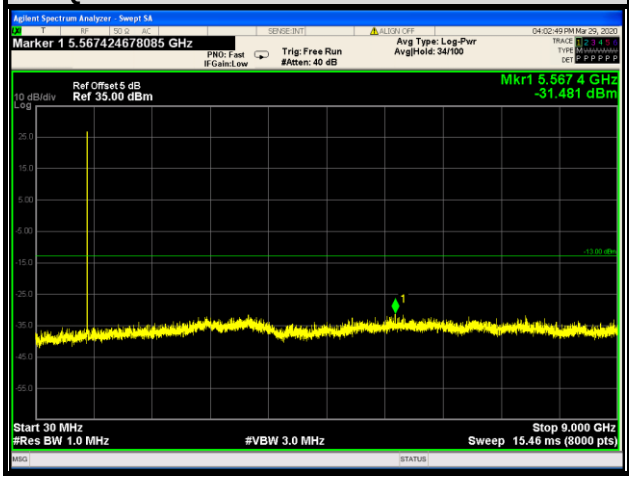
b. Measuring frequency range is from 9 kHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

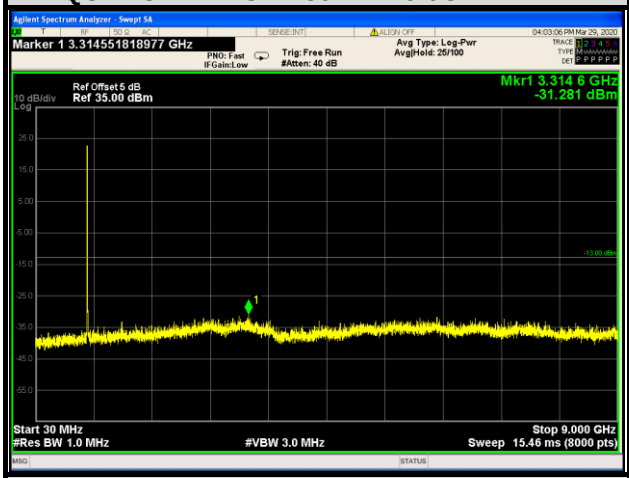
LTE Band 5 (Channel Bandwidth: 1.4MHz)	
CHANNEL 20407	CHANNEL 20525
FREQUENCY RANGE : 30MHz~9.0GHz	FREQUENCY RANGE : 30MHz~9.0GHz
	

LTE Band 5 (Channel Bandwidth: 1.4MHz)	
CHANNEL 20643	
FREQUENCY RANGE : 30MHz~9.0GHz	
	

LTE Band 5 (Channel Bandwidth: 3MHz)

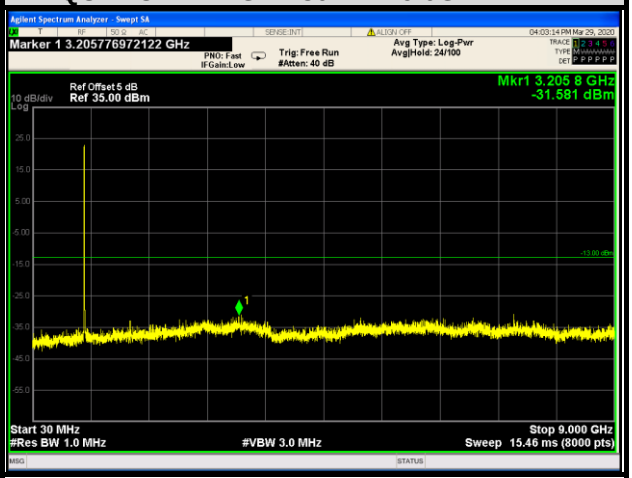
CHANNEL 20415

FREQUENCY RANGE : 30MHz~9.0GHz



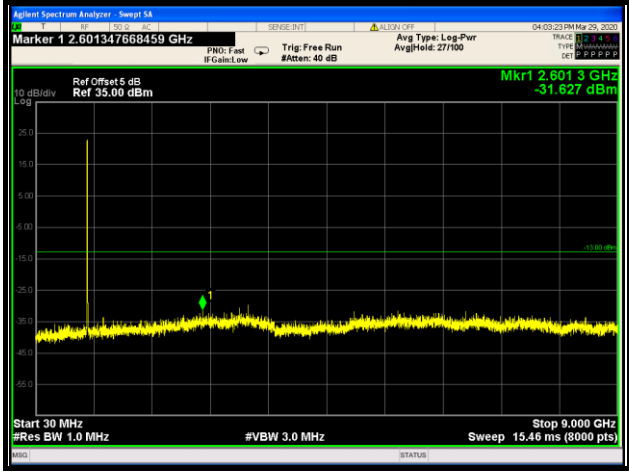
CHANNEL 20525

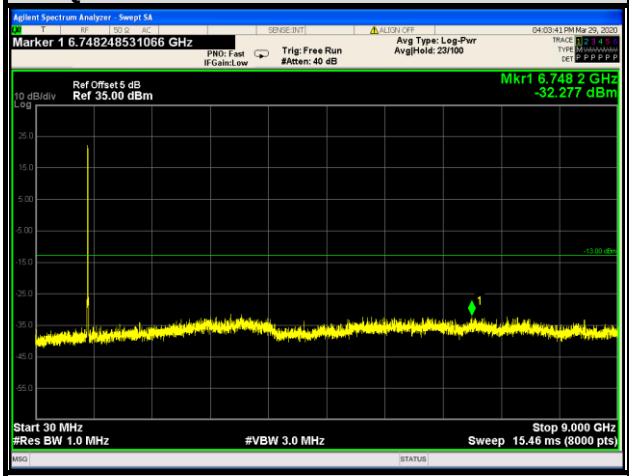
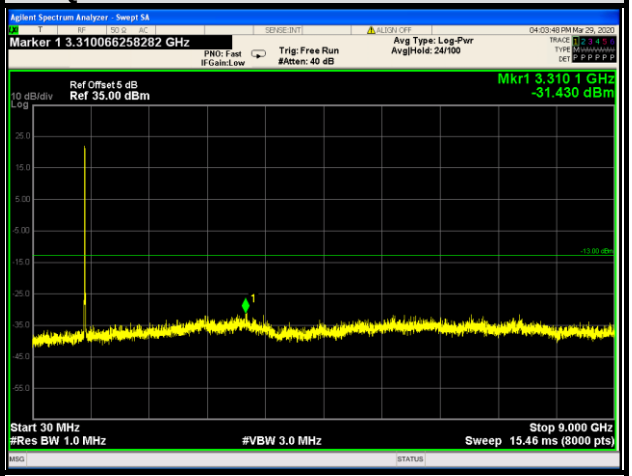
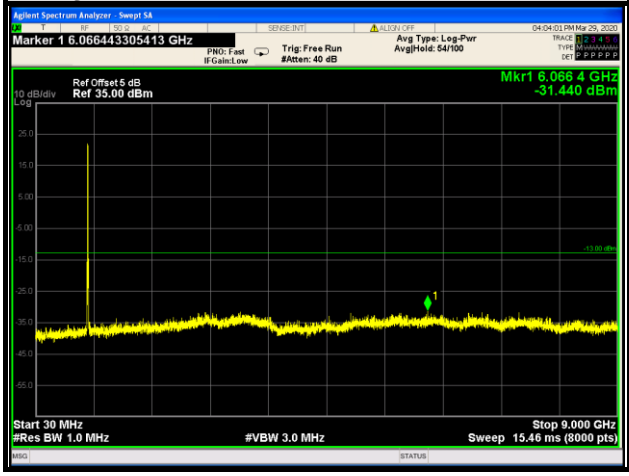
FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 20635

FREQUENCY RANGE : 30MHz~9.0GHz

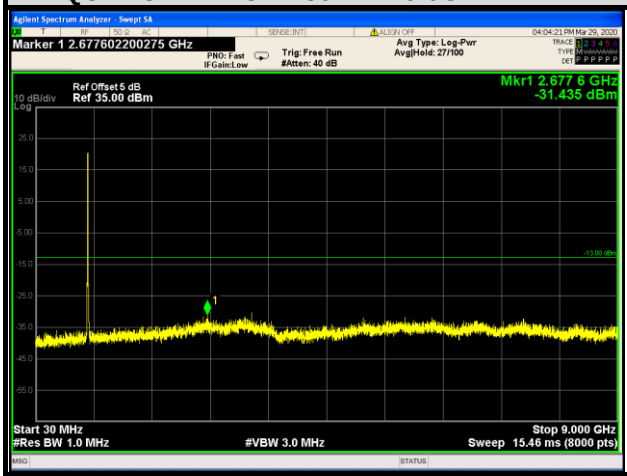


LTE Band 5 (Channel Bandwidth: 5MHz)	
CHANNEL 20425	CHANNEL 20525
FREQUENCY RANGE : 30MHz~9.0GHz	FREQUENCY RANGE : 30MHz~9.0GHz
	
CHANNEL 20625	
FREQUENCY RANGE : 30MHz~9.0GHz	
	

LTE Band 5 (Channel Bandwidth: 10MHz)

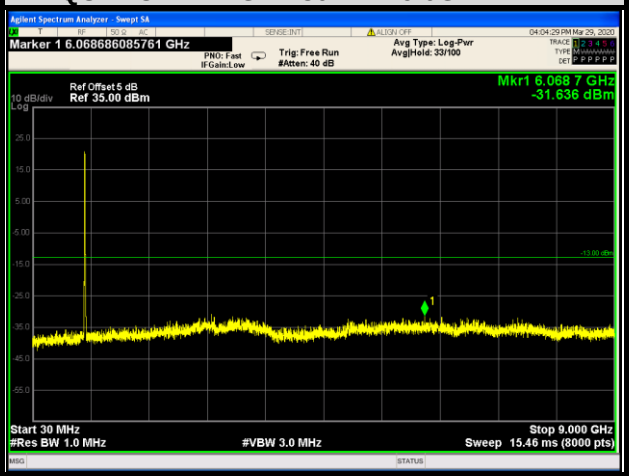
CHANNEL 20450

FREQUENCY RANGE : 30MHz~9.0GHz



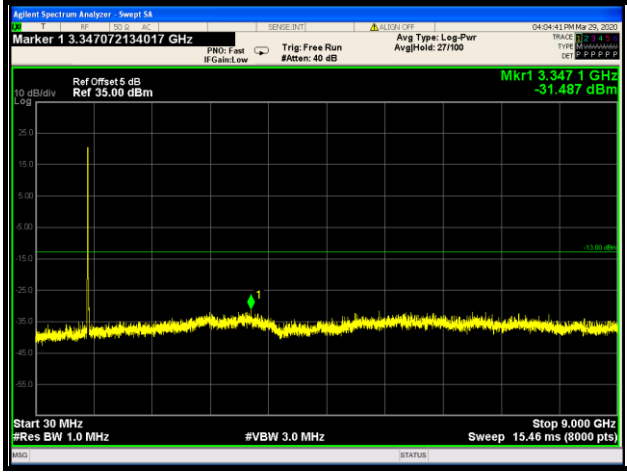
CHANNEL 20525

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 20600

FREQUENCY RANGE : 30MHz~9.0GHz



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

3.6.2 TEST PROCEDURES

a. 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.

b. 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 a. Record the power level of S.G

c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

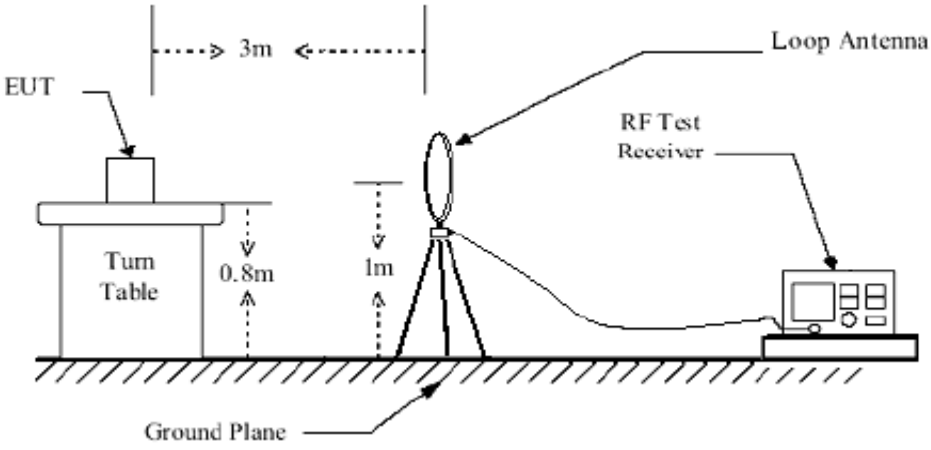
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

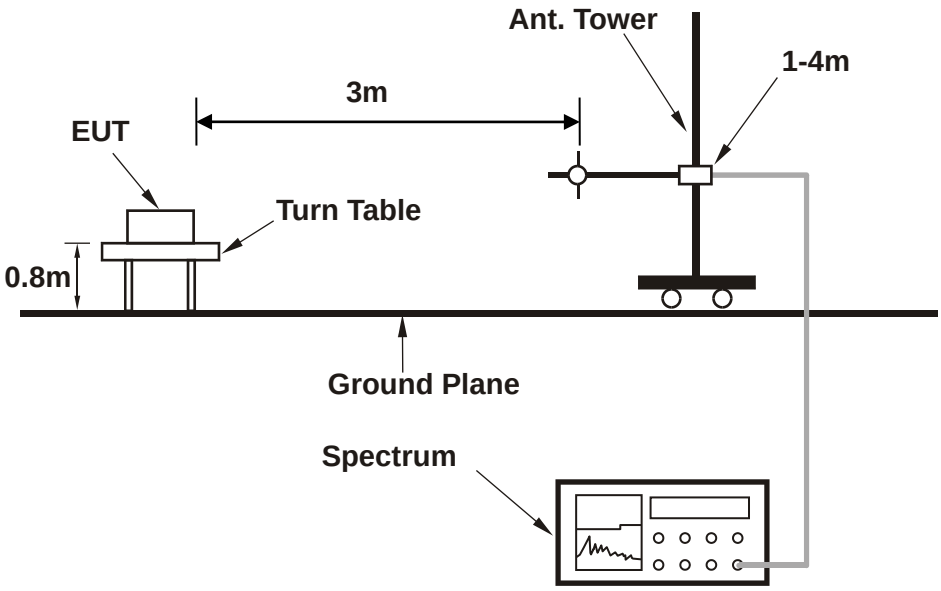
No deviation

3.6.4 TEST SETUP

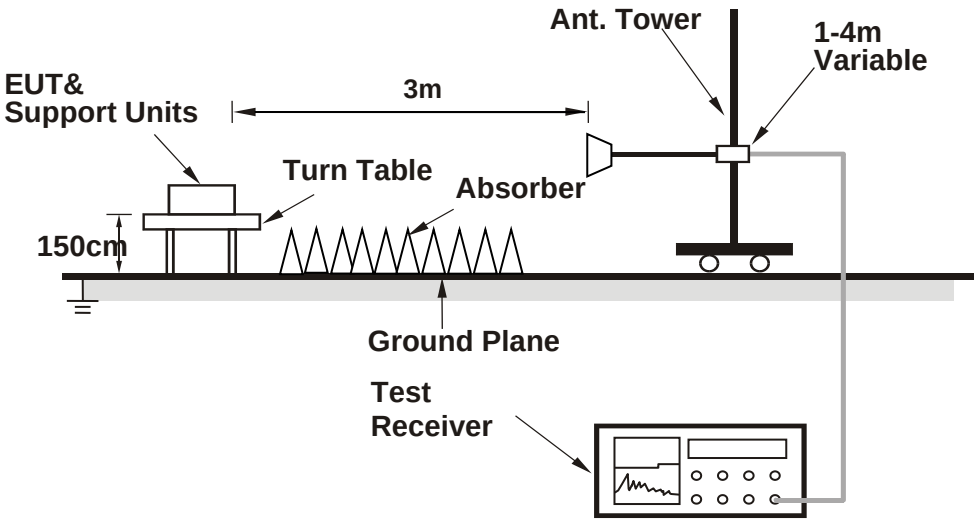
<Below 30MHz>



< Frequency Range 30MHz~1GHz >



< Frequency Range above 1GHz >



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

3.6.5 TEST RESULTS

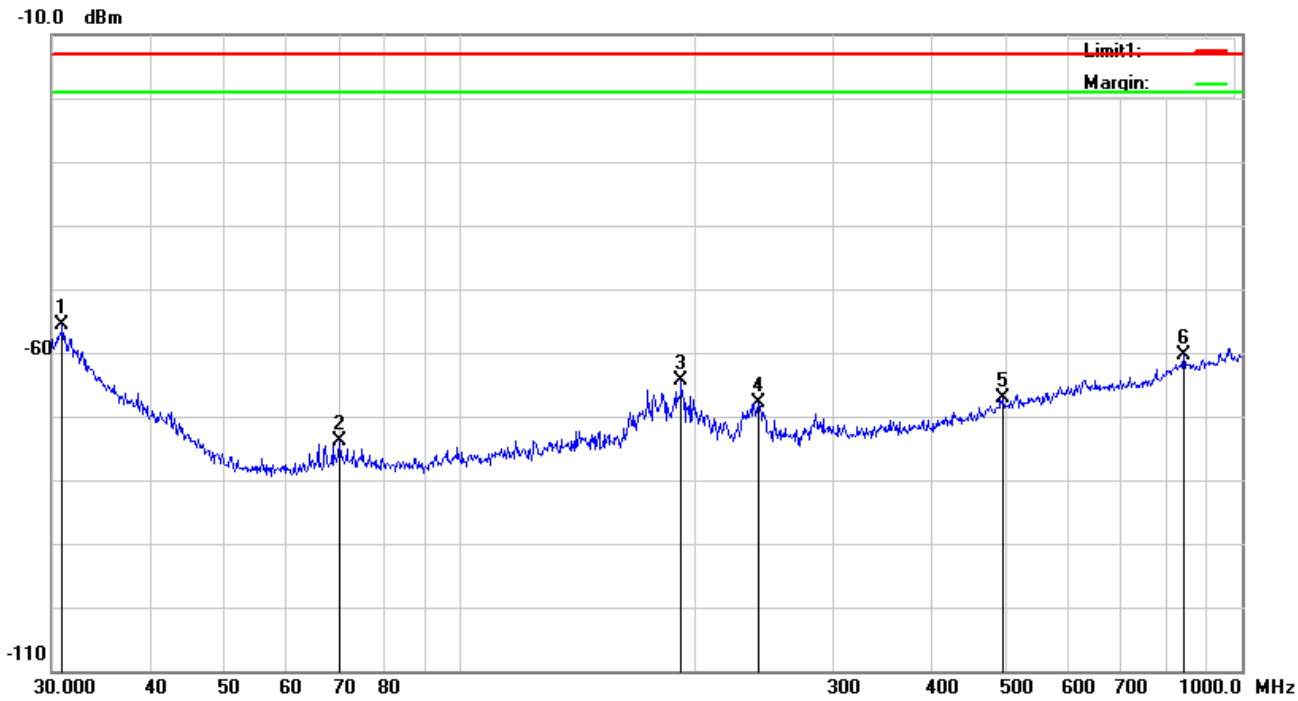
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 5

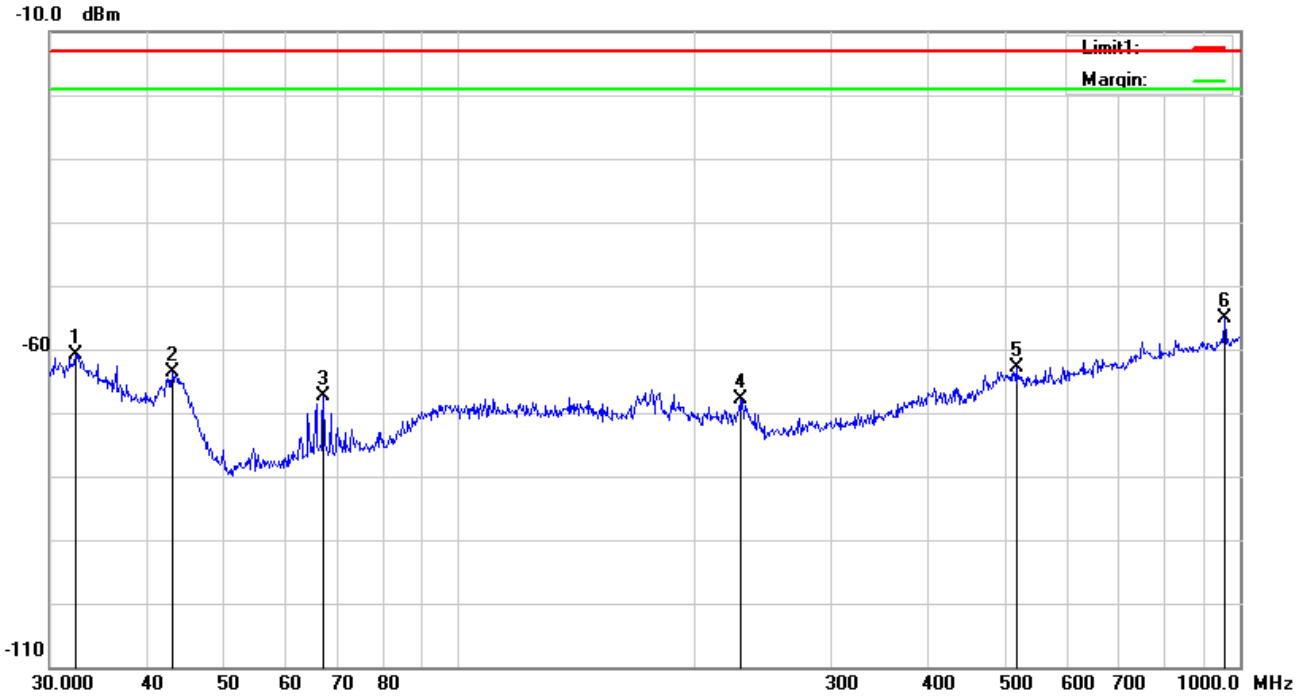
MODE	TX channel 20525	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 60%RH	**INPUT POWER**	DC 5V from adapter
TESTED BY	Aaron Liang		

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	30.9619	H	-55.67	peak	-13	-42.67	-68.91	-13.24
2	70.0903	H	-73.82	peak	-13	-60.82	-71.42	2.4
3	191.745	H	-64.28	peak	-13	-51.28	-64.55	-0.27
4	240.8304	H	-67.8	peak	-13	-54.8	-68.6	-0.8
5	494.1984	H	-67.16	peak	-13	-54.16	-73.21	-6.05
6	842.1296	H	-60.38	peak	-13	-47.38	-71.08	-10.7



MODE	TX channel 20525	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 60%RH	**INPUT POWER**	DC 5V from adapter
TESTED BY	Aaron Liang		

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	32.4059	V	-60.83	peak	-13	-47.83	-65.89	-5.06
2	43.0505	V	-63.52	peak	-13	-50.52	-61.71	1.81
3	67.2022	V	-67.36	peak	-13	-54.36	-65.48	1.88
4	229.2931	V	-67.78	peak	-13	-54.78	-70.2	-2.42
5	517.248	V	-62.93	peak	-13	-49.93	-72.48	-9.55
6	955.4381	V	-55.09	peak	-13	-42.09	-69.8	-14.71



ABOVE 1GHz

Note: For higher frequency, the emission is too low to be detected.

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

Low channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1649.4	V	-36.87	PK	-13	-23.87	-47.84	10.97
2	1649.4	H	-42.42	PK	-13	-29.42	-53.39	10.97
3	2474.1	V	-44.32	PK	-13	-31.32	-60.03	15.71
4	2474.1	H	-41.46	PK	-13	-28.46	-57.17	15.71

Middle channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1673	V	-36.16	PK	-13	-23.16	-47.13	10.97
2	1673	H	-41.23	PK	-13	-28.23	-52.2	10.97
3	2509.5	V	-40.61	PK	-13	-27.61	-56.32	15.71
4	2509.5	H	-39.33	PK	-13	-26.33	-55.04	15.71

High channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1696.6	V	-36.25	PK	-13	-23.25	-47.22	10.97
2	1696.6	H	-38.87	PK	-13	-25.87	-49.84	10.97
3	3393.2	V	-37.51	PK	-13	-24.51	-55.47	17.96
4	3393.2	H	-29.39	PK	-13	-16.39	-47.35	17.96

Note:

*1, The testing has been conformed to 10*848.3MHz=8,483MHz*

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

LTE Band 5:

CHANNEL BANDWIDTH: 3MHz / QPSK

Low channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1651	V	-37.32	PK	-13	-24.32	-48.29	10.97
2	1651	H	-41.16	PK	-13	-28.16	-52.13	10.97
3	3302	V	-47.19	PK	-13	-34.19	-64.95	17.76
4	3302	H	-38.46	PK	-13	-25.46	-56.22	17.76

Middle channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1673	V	-35.9	PK	-13	-22.9	-46.87	10.97
2	1673	H	-39.01	PK	-13	-26.01	-49.98	10.97
3	3346	V	-42.5	PK	-13	-29.5	-60.26	17.76
4	3346	H	-34.09	PK	-13	-21.09	-51.85	17.76

High channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1695	V	-36.46	PK	-13	-23.46	-47.43	10.97
2	1695	H	-39.85	PK	-13	-26.85	-50.82	10.97
3	3390	V	-39.52	PK	-13	-26.52	-57.48	17.96
4	3390	H	-32.15	PK	-13	-19.15	-50.11	17.96

Note:

*1, The testing has been conformed to 10*847.5MHz=8,475MHz*

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

LTE Band 5:

CHANNEL BANDWIDTH: 5MHz / QPSK

Low channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1653	V	-35.83	PK	-13	-22.83	-46.8	10.97
2	1653	H	-36.15	PK	-13	-23.15	-47.12	10.97
3	3306	V	-47.57	PK	-13	-34.57	-65.33	17.76
4	3306	H	-42.27	PK	-13	-29.27	-60.03	17.76

Middle channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1673	V	-36.97	PK	-13	-23.97	-47.94	10.97
2	1673	H	-38.97	PK	-13	-25.97	-49.94	10.97
3	3346	V	-41.55	PK	-13	-28.55	-59.31	17.76
4	3346	H	-35.17	PK	-13	-22.17	-52.93	17.76

High channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1693	V	-37.85	PK	-13	-24.85	-48.82	10.97
2	1693	H	-39.43	PK	-13	-26.43	-50.4	10.97
3	3386	V	-42.06	PK	-13	-29.06	-60.02	17.96
4	3386	H	-35.68	PK	-13	-22.68	-53.64	17.96

Note:

*1, The testing has been conformed to 10*846.5MHz=8,465MHz*

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

LTE Band 5:

CHANNEL BANDWIDTH: 10MHz / QPSK

Low channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1658	V	-36.5	PK	-13	-23.5	-47.47	10.97
2	1658	H	-35.33	PK	-13	-22.33	-46.3	10.97
3	3316	V	-44.39	PK	-13	-31.39	-62.15	17.76
4	3316	H	-38.88	PK	-13	-25.88	-56.64	17.76

Middle channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1873	V	-37.17	PK	-13	-24.17	-48.14	10.97
2	1873	H	-36.79	PK	-13	-23.79	-47.76	10.97
3	3746	V	-42.8	PK	-13	-29.8	-61.24	18.44
4	3746	H	-36.36	PK	-13	-23.36	-54.8	18.44

High channel

NO.	FREQ. (MHz)	Antenna Polarization (H/V)	EMISSION LEVEL (dBm/m)	DETECTOR (PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
1	1688	V	-35.57	PK	-13	-22.57	-46.54	10.97
2	1688	H	-41.47	PK	-13	-28.47	-52.44	10.97
3	3376	V	-42.71	PK	-13	-29.71	-60.67	17.96
4	3376	H	-34.33	PK	-13	-21.33	-52.29	17.96

Note:

*1, The testing has been conformed to 10*844MHz=8,440MHz*

2, All other emissions more than 30 dB below the limit

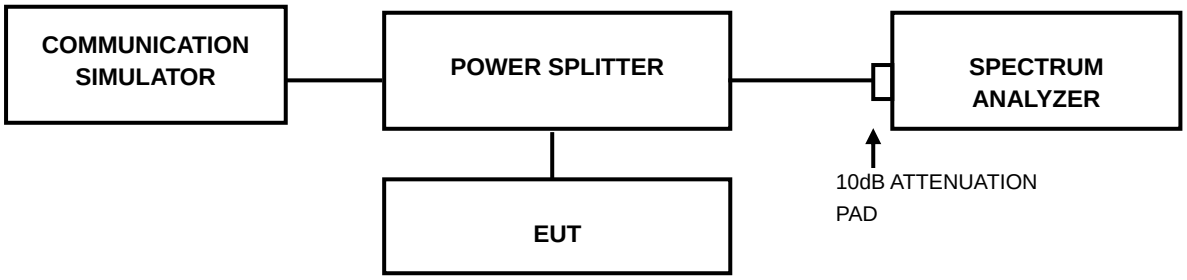
3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

3.7 PEAK TO AVERAGE RATIO

3.7.1 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

3.7.2 TEST SETUP



3.7.3 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%.

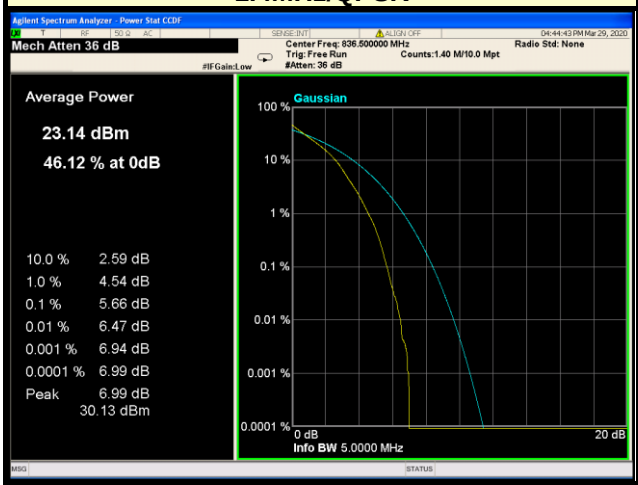
3.7.4 TEST RESULTS

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz				CHANNEL BANDWIDTH: 3MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	5.65	6.35	20415	825.5	5.67	6.30
20525	836.5	5.66	6.55	20525	836.5	5.82	6.53
20643	848.3	5.01	5.68	20635	847.5	5.21	5.91

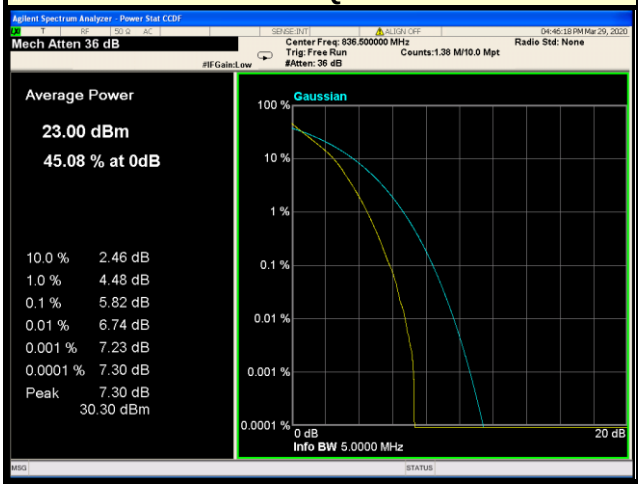
SPECTRUM PLOT OF WORST VALUE

1.4MHz/QPSK



1.4MHz/16QAM

3MHz/QPSK



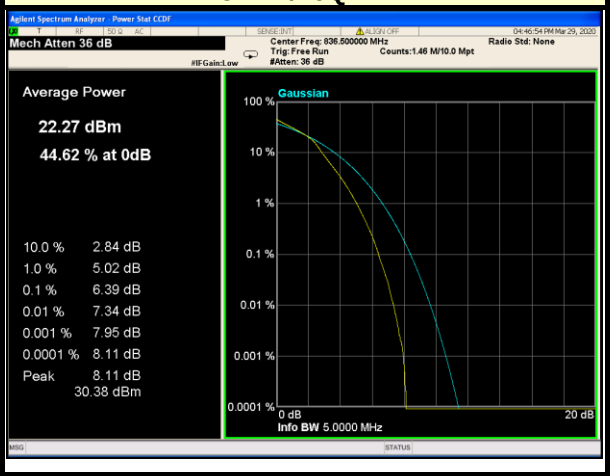
3MHz/16QAM

CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	5.61	6.16	20450	829	5.56	6.12
20525	836.5	5.74	6.39	20525	836.5	5.67	6.32
20625	846.5	5.12	5.78	20600	844	5.04	5.67

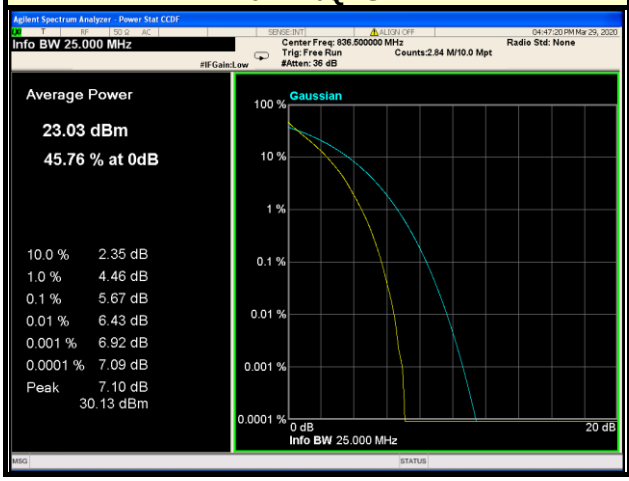
SPECTRUM PLOT OF WORST VALUE

5MHz/QPSK

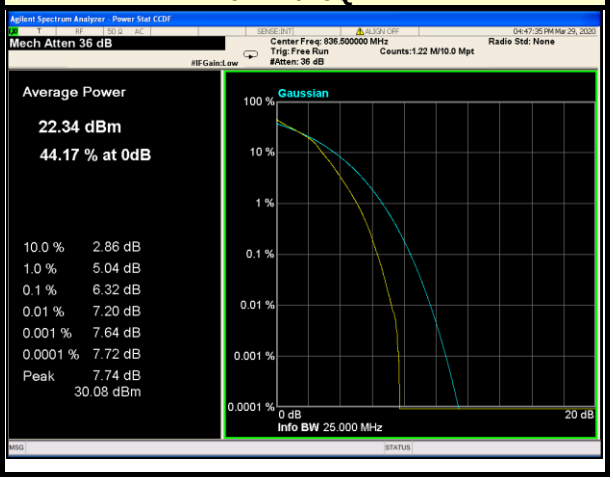
5MHz/16QAM



10MHz/QPSK



10MHz/16QAM



4 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---