FCC TEST REPORT

(PART 27)

REPORT NO.:	RF121023C07-2
MODEL NO.:	P530A
FCC ID:	UZI-P530A
RECEIVED:	Oct. 23, 2012
TESTED:	Nov. 08 ~ Nov. 12, 2012
ISSUED:	Nov. 27, 2012

APPLICANT:	BandRich Inc.
ADDRESS:	6F., No. 71, Zhouzi St., Neihu Dist., Taipei City 11493, Taiwan (R.O.C.)

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF121023C07-2	Original release	Nov. 27, 2012

1 CERTIFICATION

PRODUCT:	LTE/HSPA+ Mobile Router
MODEL NO.:	P530A
BRAND:	BandLuxe
APPLICANT:	BandRich Inc.
TESTED:	Nov. 08 ~ Nov. 12, 2012
TEST SAMPLE:	ENGINEERING SAMPLE
TEST STANDARDS:	**FCC Part 27, Subpart C, L** **FCC Part 2** ANSI C63.4-2003

The above equipment (model: P530A) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan 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:** Nov. 27, 2012
Ivonne Wu / Senior Specialist

APPROVED BY : _____ , **DATE:** Nov. 27, 2012
James Lee / Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

WCDMA			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
2.1046 27.50(d)(4)	Equivalent isotropically radiated power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(h)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(h)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(h)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(h)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -22.73dB at 3465.20MHz.

LTE BAND 4			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(d)(4)	Maximum Peak Output Power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(h)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(h)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(h)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(h)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is –19.98dB at 3465.00MHz.

LTE BAND 12			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(C)(10)	Maximum Peak Output Power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(g)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -24.07dB at 32.43MHz.

LTE BAND 17			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(C)(10)	Maximum Peak Output Power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(g)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -24.05dB at 32.16MHz.

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	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver Agilent	N9038A	MY51210203	Dec. 22, 2011	Dec. 21, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2011	Dec. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 20, 2011	Dec. 19, 2012
Preamplifier EMCI	EMC 012645	980115	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 330H	980112	Dec. 30, 2011	Dec. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 21, 2011	Oct. 20, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Jan. 02, 2012	Jan. 01, 2013
RF signal cable Worken	RG-213	NA	Jan. 02, 2012	Jan. 01, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Mar. 23, 2012	Mar. 22, 2013
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	8960 Series 10	MY50260642	Oct. 25, 2011	Oct. 24, 2012
Radio Communication Analyzer	MT8820C	6201127458	May 25, 2012	May 24, 2013

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 9.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 460141.

5. The IC Site Registration No. is IC 7450F-4.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE/HSPA+ Mobile Router	
MODEL NO.	P530A	
POWER SUPPLY	5.0Vdc from adapter	
MODULATION TECHNOLOGY	**WCDMA**	QPSK, BPSK
	LTE Band 12	QPSK, 16QAM
	LTE Band 4	QPSK, 16QAM
FREQUENCY RANGE	**WCDMA**	1712.4MHz ~1752.6MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704.0MHz ~ 711.0MHz
	LTE Band 17 Channel Bandwidth: 5MHz	706.5MHz ~ 713.5MHz
	LTE Band 17 Channel Bandwidth: 10MHz	709MHz ~ 711MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715.0MHz ~1750.0MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720.0MHz ~ 1745.0MHz

EMISSION DESIGNATOR	**WCDMA**	4M18F9W
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M50G7W
		16QAM: 4M50W7W
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 8M93G7W
		16QAM: 8M93W7W
	LTE Band 17 Channel Bandwidth: 5MHz	QPSK: 4M50G7W
		16QAM: 4M49W7W
	LTE Band 17 Channel Bandwidth: 10MHz	QPSK: 8M93G7W
		16QAM: 8M93W7W
	LTE Band 4 Channel Bandwidth: 5MHz	QPSK: 4M49G7W
		16QAM: 4M49W7W
	LTE Band 4 Channel Bandwidth: 10MHz	QPSK: 8M92G7W
		16QAM: 8M92W7W
	LTE Band 4 Channel Bandwidth: 15MHz	QPSK: 13M4G7W
		16QAM: 13M4W7W
	LTE Band 4 Channel Bandwidth: 20MHz	QPSK: 17M9G7W
		16QAM: 17M9W7W
MAX. ERP POWER (W)	**WCDMA**	255.86mW
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 79.25mW
		16QAM: 59.70mW
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 72.95mW
		16QAM: 61.24mW
	LTE Band 17 Channel Bandwidth: 5MHz	QPSK: 79.25mW
		16QAM: 60.12mW
	LTE Band 17 Channel Bandwidth: 10MHz	QPSK: 73.96mW
		16QAM: 61.09mW
MAX. EIRP POWER (W)	**LTE Band 4 Channel Bandwidth: 5MHz**	QPSK: 199.07mW
		16QAM: 150.66mW
	LTE Band 4 Channel Bandwidth: 10MHz	QPSK: 225.42mW
		16QAM: 146.22mW
	LTE Band 4 Channel Bandwidth: 15MHz	QPSK: 198.61mW
		16QAM: 151.36mW
	LTE Band 4 Channel Bandwidth: 20MHz	QPSK: 193.64mW
		16QAM: 154.17mW
CATEGORY	LTE: 3	
ANTENNA TYPE	Fixed Internal antenna	

DATA CABLE	1m non-shielded USB cable without core
I/O PORTS	Refer to users' manual
ACCESSORY DEVICES	Adapter

NOTE:

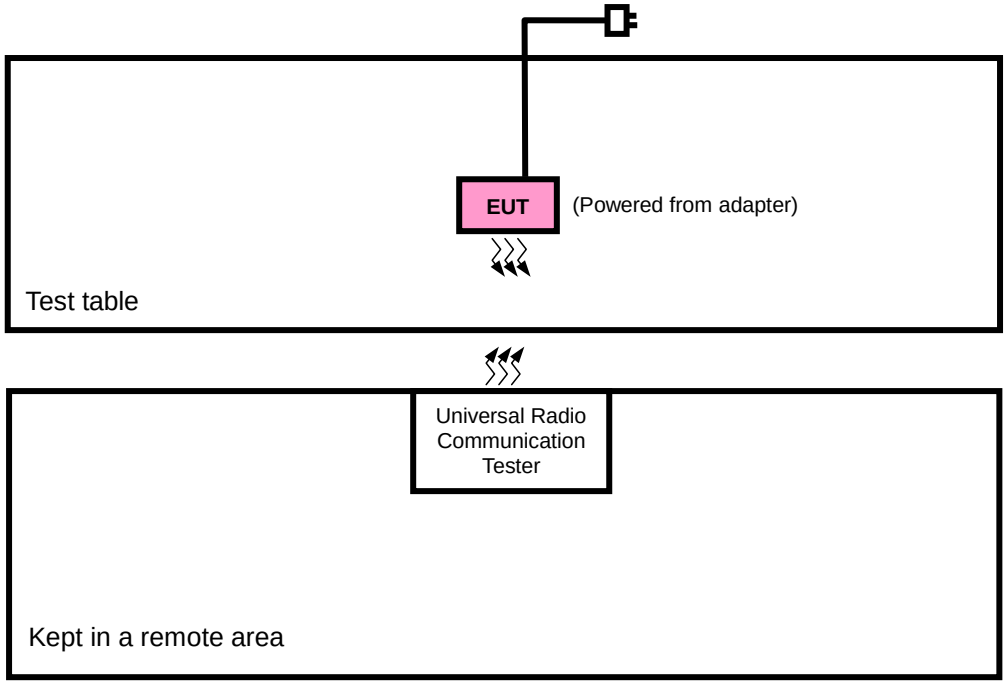
1. The EUT consumes power from the following adapter.

ADAPTER	
BRAND:	PHIHONG
MODEL:	PSA05A-050Q
INPUT:	100-240Vac ~ 0.2A, 50-60Hz
OUTPUT:	5Vdc, 1A

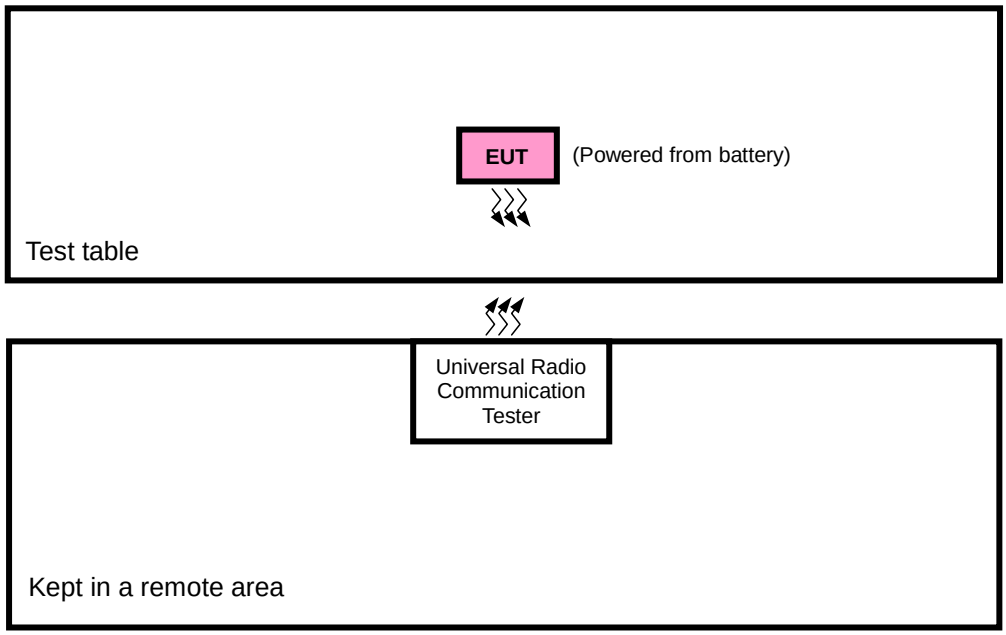
2. The HW version is V01.
3. The SW version is B2031V01.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 CONFIGURATION OF SYSTEM UNDER TEST

<For Radiated Emission Test>



<For Output Power Test>



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

3.4 DESCRIPTION OF TEST MODES

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 WCDMA and X-plane for LTE Band 12/17 and Z-plane for LTE Band 4 for ERP, and Z-axis for WCDMA and X-axis for LTE Band 12/17/4 for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

WCDMA

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
FREQUENCY STABILITY	1312 to 1513	1413	WCDMA
OCCUPIED BANDWIDTH	1312 to 1513	1312, 1413, 1513	WCDMA
BAND EDGE	1312 to 1513	1312, 1513	WCDMA
CONDCUDETED EMISSION	1312 to 1513	1413	WCDMA
RADIATED EMISSION	1312 to 1513	1413	WCDMA

LTE Band 12

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23035 to 23155	23035, 23095, 23155	5MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK	1 RB / 24 RB Offset
				16QAM	1 RB / 24 RB Offset
FREQUENCY STABILITY	23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 24 RB Offset
OCCUPIED BANDWIDTH	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1 RB / 24 RB Offset
BAND EDGE	23035 to 23155	23035	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		23155	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	23060 to 23130	23060	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		23130	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
CONDCUDETED EMISSION	23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 24 RB Offset
RADIATED EMISSION	23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
					25 RB / 0 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
				16QAM	1 RB / 24 RB Offset
					50 RB / 0 RB Offset

LTE Band 17

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	23755 to 23825	23790	5MHz	QPSK	1 RB / 0 RB Offset
	23780 to 23800	23790	10MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	23755 to 23825	23790	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23780 to 23800	23790	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	23755 to 23825	23790	5MHz	QPSK	1 RB / 0 RB Offset
	23780 to 23800	23790	10MHz	QPSK	1 RB / 0 RB Offset
BAND EDGE	23755 to 23825	23755	5MHz	QPSK	1 RB / 0 RB Offset
					1 RB / 24 RB Offset
		23825	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	23780 to 23800	23780	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		23800	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
CONDCUDETED EMISSION	23755 to 23825	23790	5MHz	QPSK	1 RB / 0 RB Offset
	23780 to 23800	23790	10MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	23755 to 23825	23790	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
					25 RB / 0 RB Offset
	23780 to 23800	23790	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset

LTE Band 4

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	19975 to 20375	19975, 20175, 20375	5MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK	1 RB / 24 RB Offset
				16QAM	1 RB / 24 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK	1 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
	20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 24 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
BAND EDGE	19975 to 20375	19975	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		20375	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20000 to 20350	20000	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		20350	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	20025 to 20325	20025	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		20325	15MHz	QPSK	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	20050 to 20300	20050	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		20300	20MHz	QPSK	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
CONDCUDETED EMISSION	19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
	20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset

RADIATED EMISSION	19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
				16QAM	1 RB / 12 RB Offset
					25 RB / 0 RB Offset
	20000 to 20350	20175	10MHz	QPSK	1 RB / 24 RB Offset
					50 RB / 0 RB Offset
				16QAM	1 RB / 24 RB Offset
					50 RB / 0 RB Offset
	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
				16QAM	1 RB / 0 RB Offset
					100 RB / 0 RB Offset

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP/EIRP	26deg. C, 58%RH	3.8Vdc	Howard Kao
FREQUENCY STABILITY	26deg. C, 58%RH	3.8Vdc	Howard Kao
OCCUPIED BANDWIDTH	26deg. C, 58%RH	3.8Vdc	Howard Kao
PEAK TO AVERAGE RATIO	26deg. C, 58%RH	3.8Vdc	Howard Kao
BAND EDGE	26deg. C, 58%RH	3.8Vdc	Howard Kao
CONDCUDETED EMISSION	26deg. C, 58%RH	3.8Vdc	Howard Kao
RADIATED EMISSION	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu

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

ANSI C63.4-2003

ANSI/TIA/EIA-603-C 2004

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B. The test report has been issued separately.

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
Portable stations (hand-held devices) operating in the 698-746 MHz band are limited to 3 watts ERP

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. All measurements were done at low, middle and high operational frequency range. RWB and VBW is 5MHz for CDMA mode and10MHz for LTE mode.

b. E.I.R.P power 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 a. Record the power level of S.G

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

e. E.R.P = E.I.R.P- 2.15 dB

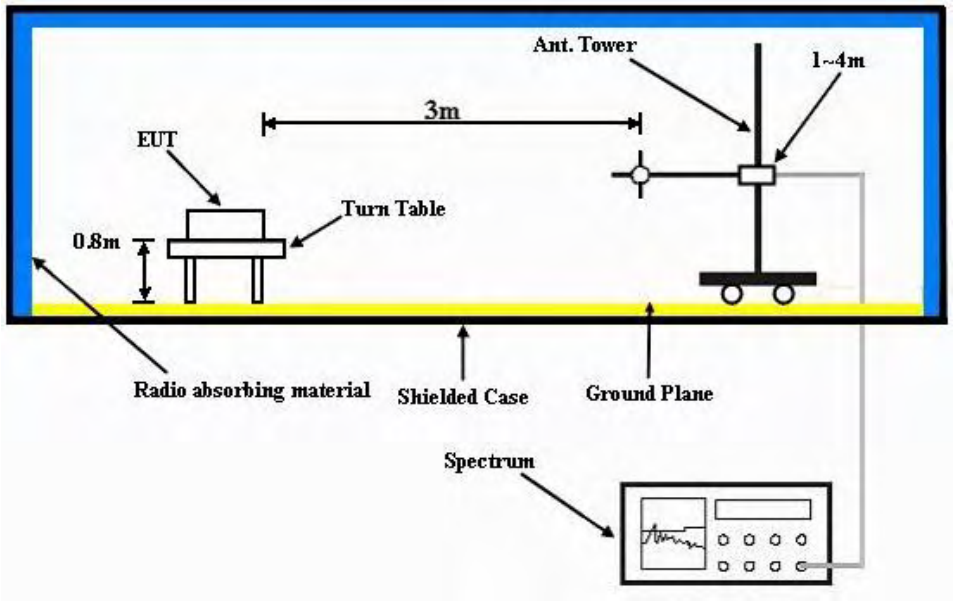
CONDUCTED POWER MEASUREMENT:

a. The EUT was set up for the maximum power with CDMA/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.

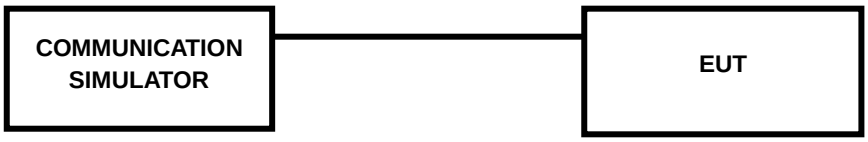
4.1.3 TEST SETUP

EIRP / ERP 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

CONDUCTED OUTPUT POWER (dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	22.26	22.21	**23.02**
HSDPA Subtest-1	21.33	21.30	22.15
HSDPA Subtest-2	21.28	21.25	22.10
HSDPA Subtest-3	20.82	20.79	21.64
HSDPA Subtest-4	20.79	20.76	21.61
HSUPA Subtest-1	21.18	21.19	21.33
HSUPA Subtest-2	19.21	19.25	19.32
HSUPA Subtest-3	20.15	20.18	20.23
HSUPA Subtest-4	19.11	19.15	19.26
HSUPA Subtest-5	21.15	21.19	21.32

LTE Band 12								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	23035	701.5	1	0	0	22.5	22.44
		23095	707.5	1	0	0	22.5	22.47
		23155	713.5	1	0	0	22.5	22.39
		23035	701.5	1	12	0	22.5	22.43
		23095	707.5	1	12	0	22.5	22.46
		23155	713.5	1	12	0	22.5	22.38
		23035	701.5	1	24	0	22.5	22.37
		23095	707.5	1	24	0	22.5	22.4
		23155	713.5	1	24	0	22.5	22.32
		23035	701.5	12	0	1	22.5	21.16
		23095	707.5	12	0	1	22.5	21.19
		23155	713.5	12	0	1	22.5	21.11
		23035	701.5	12	6	1	22.5	21.21
		23095	707.5	12	6	1	22.5	21.24
		23155	713.5	12	6	1	22.5	21.16
		23035	701.5	12	13	1	22.5	21.18
		23095	707.5	12	13	1	22.5	21.21
		23155	713.5	12	13	1	22.5	21.13
		23035	701.5	25	0	1	22.5	20.93
		23095	707.5	25	0	1	22.5	20.96
		23155	713.5	25	0	1	22.5	20.88
	16QAM	23035	701.5	1	0	1	22.5	21.1
		23095	707.5	1	0	1	22.5	21.13
		23155	713.5	1	0	1	22.5	21.05
		23035	701.5	1	12	1	22.5	21.2
		23095	707.5	1	12	1	22.5	21.23
		23155	713.5	1	12	1	22.5	21.15
		23035	701.5	1	24	1	22.5	21.1
		23095	707.5	1	24	1	22.5	21.13
		23155	713.5	1	24	1	22.5	21.05
		23035	701.5	12	0	2	22.5	20.17
		23095	707.5	12	0	2	22.5	20.2
		23155	713.5	12	0	2	22.5	20.12
		23035	701.5	12	6	2	22.5	20.08
		23095	707.5	12	6	2	22.5	20.11
		23155	713.5	12	6	2	22.5	20.03
		23035	701.5	12	13	2	22.5	20.06
		23095	707.5	12	13	2	22.5	20.09
		23155	713.5	12	13	2	22.5	20.01
		23035	701.5	25	0	2	22.5	19.9
		23095	707.5	25	0	2	22.5	19.93
		23155	713.5	25	0	2	22.5	19.85

LTE Band 12								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10MHz	QPSK	23060	704	1	0	0	22.5	22.36
		23095	707.5	1	0	0	22.5	22.15
		23130	711	1	0	0	22.5	22.28
		23060	704	1	24	0	22.5	22.5
		23095	707.5	1	24	0	22.5	22.29
		23130	711	1	24	0	22.5	22.42
		23060	704	1	49	0	22.5	22.32
		23095	707.5	1	49	0	22.5	22.11
		23130	711	1	49	0	22.5	22.24
		23060	704	25	0	1	22.5	20.95
		23095	707.5	25	0	1	22.5	20.74
		23130	711	25	0	1	22.5	20.87
		23060	704	25	12	1	22.5	20.93
		23095	707.5	25	12	1	22.5	20.72
		23130	711	25	12	1	22.5	20.85
		23060	704	25	25	1	22.5	20.87
		23095	707.5	25	25	1	22.5	20.66
		23130	711	25	25	1	22.5	20.79
		23060	704	50	0	1	22.5	20.72
		23095	707.5	50	0	1	22.5	20.51
		23130	711	50	0	1	22.5	20.64
	16QAM	23060	704	1	0	1	22.5	21.11
		23095	707.5	1	0	1	22.5	20.9
		23130	711	1	0	1	22.5	21.03
		23060	704	1	24	1	22.5	21.28
		23095	707.5	1	24	1	22.5	21.07
		23130	711	1	24	1	22.5	21.2
		23060	704	1	49	1	22.5	21.06
		23095	707.5	1	49	1	22.5	20.85
		23130	711	1	49	1	22.5	20.98
		23060	704	25	0	2	22.5	19.87
		23095	707.5	25	0	2	22.5	19.66
		23130	711	25	0	2	22.5	19.79
		23060	704	25	12	2	22.5	19.96
		23095	707.5	25	12	2	22.5	19.75
		23130	711	25	12	2	22.5	19.88
		23060	704	25	25	2	22.5	19.9
		23095	707.5	25	25	2	22.5	19.69
		23130	711	25	25	2	22.5	19.82
		23060	704	50	0	2	22.5	19.75
		23095	707.5	50	0	2	22.5	19.54
		23130	711	50	0	2	22.5	19.67

LTE Band 17								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	23755	706.5	1	0	0	22.5	22.42
		23790	710	1	0	0	22.5	22
		23825	713.5	1	0	0	22.5	22.2
		23755	706.5	1	12	0	22.5	22.26
		23790	710	1	12	0	22.5	21.84
		23825	713.5	1	12	0	22.5	22.04
		23755	706.5	1	24	0	22.5	22.15
		23790	710	1	24	0	22.5	21.73
		23825	713.5	1	24	0	22.5	21.93
		23755	706.5	12	0	1	22.5	20.98
		23790	710	12	0	1	22.5	20.56
		23825	713.5	12	0	1	22.5	20.76
		23755	706.5	12	6	1	22.5	21.01
		23790	710	12	6	1	22.5	20.59
		23825	713.5	12	6	1	22.5	20.79
		23755	706.5	12	13	1	22.5	20.98
		23790	710	12	13	1	22.5	20.56
		23825	713.5	12	13	1	22.5	20.76
		23755	706.5	25	0	1	22.5	20.98
		23790	710	25	0	1	22.5	20.56
		23825	713.5	25	0	1	22.5	20.76
	16QAM	23755	706.5	1	0	1	22.5	21.38
		23790	710	1	0	1	22.5	20.96
		23825	713.5	1	0	1	22.5	20.74
		23755	706.5	1	12	1	22.5	21.44
		23790	710	1	12	1	22.5	21.02
		23825	713.5	1	12	1	22.5	20.8
		23755	706.5	1	24	1	22.5	21.29
		23790	710	1	24	1	22.5	20.87
		23825	713.5	1	24	1	22.5	20.65
		23755	706.5	12	0	2	22.5	20.26
		23790	710	12	0	2	22.5	19.84
		23825	713.5	12	0	2	22.5	19.62
		23755	706.5	12	6	2	22.5	20.21
		23790	710	12	6	2	22.5	19.79
		23825	713.5	12	6	2	22.5	19.57
		23755	706.5	12	13	2	22.5	20.18
		23790	710	12	13	2	22.5	19.76
		23825	713.5	12	13	2	22.5	19.54
		23755	706.5	25	0	2	22.5	20.08
		23790	710	25	0	2	22.5	19.66
		23825	713.5	25	0	2	22.5	19.54

LTE Band 17								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10MHz	QPSK	23780	709	1	0	0	22.5	22.50
		23790	710	1	0	0	22.5	22.37
		23800	711	1	0	0	22.5	22.29
		23780	709	1	24	0	22.5	22.32
		23790	710	1	24	0	22.5	22.24
		23800	711	1	24	0	22.5	22.11
		23780	709	1	49	0	22.5	22.35
		23790	710	1	49	0	22.5	22.11
		23800	711	1	49	0	22.5	22.14
		23780	709	25	0	1	22.5	20.97
		23790	710	25	0	1	22.5	21.47
		23800	711	25	0	1	22.5	20.76
		23780	709	25	12	1	22.5	20.96
		23790	710	25	12	1	22.5	21.36
		23800	711	25	12	1	22.5	20.75
		23780	709	25	25	1	22.5	20.98
		23790	710	25	25	1	22.5	21.23
		23800	711	25	25	1	22.5	20.77
		23780	709	50	0	1	22.5	20.77
		23790	710	50	0	1	22.5	21.10
		23800	711	50	0	1	22.5	20.56
	16QAM	23780	709	1	0	1	22.5	21.06
		23790	710	1	0	1	22.5	21.46
		23800	711	1	0	1	22.5	20.85
		23780	709	1	24	1	22.5	21.24
		23790	710	1	24	1	22.5	21.33
		23800	711	1	24	1	22.5	21.03
		23780	709	1	49	1	22.5	21.13
		23790	710	1	49	1	22.5	21.20
		23800	711	1	49	1	22.5	20.92
		23780	709	25	0	2	22.5	20.37
		23790	710	25	0	2	22.5	20.24
		23800	711	25	0	2	22.5	20.16
		23780	709	25	12	2	22.5	20.25
		23790	710	25	12	2	22.5	20.12
		23800	711	25	12	2	22.5	20.04
		23780	709	25	25	2	22.5	20.26
		23790	710	25	25	2	22.5	20.13
		23800	711	25	25	2	22.5	20.05
		23780	709	50	0	2	22.5	20.05
		23790	710	50	0	2	22.5	19.92
		23800	711	50	0	2	22.5	19.84

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	19975	1712.5	1	0	0	22.6	22.52
		20175	1732.5	1	0	0	22.6	22.23
		20375	1752.5	1	0	0	22.6	22.5
		19975	1712.5	1	12	0	22.6	22.36
		20175	1732.5	1	12	0	22.6	22.07
		20375	1752.5	1	12	0	22.6	22.34
		19975	1712.5	1	24	0	22.6	22.36
		20175	1732.5	1	24	0	22.6	22.07
		20375	1752.5	1	24	0	22.6	22.34
		19975	1712.5	12	0	1	22.6	21.31
		20175	1732.5	12	0	1	22.6	21.02
		20375	1752.5	12	0	1	22.6	21.29
		19975	1712.5	12	6	1	22.6	21.2
		20175	1732.5	12	6	1	22.6	20.91
		20375	1752.5	12	6	1	22.6	21.18
		19975	1712.5	12	13	1	22.6	21.15
		20175	1732.5	12	13	1	22.6	20.86
		20375	1752.5	12	13	1	22.6	21.13
		19975	1712.5	25	0	1	22.6	21.12
		20175	1732.5	25	0	1	22.6	20.83
		20375	1752.5	25	0	1	22.6	21.1
	16QAM	19975	1712.5	1	0	1	22.6	21.48
		20175	1732.5	1	0	1	22.6	21.19
		20375	1752.5	1	0	1	22.6	21.46
		19975	1712.5	1	12	1	22.6	21.51
		20175	1732.5	1	12	1	22.6	21.22
		20375	1752.5	1	12	1	22.6	21.49
		19975	1712.5	1	24	1	22.6	21.39
		20175	1732.5	1	24	1	22.6	21.1
		20375	1752.5	1	24	1	22.6	21.37
		19975	1712.5	12	0	2	22.6	20.52
		20175	1732.5	12	0	2	22.6	20.23
		20375	1752.5	12	0	2	22.6	20.5
		19975	1712.5	12	6	2	22.6	20.4
		20175	1732.5	12	6	2	22.6	20.11
		20375	1752.5	12	6	2	22.6	20.38
		19975	1712.5	12	13	2	22.6	20.34
		20175	1732.5	12	13	2	22.6	20.05
		20375	1752.5	12	13	2	22.6	20.32
		19975	1712.5	25	0	2	22.6	20.35
		20175	1732.5	25	0	2	22.6	20.06
		20375	1752.5	25	0	2	22.6	20.33

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10MHz	QPSK	20000	1715	1	0	0	22.6	22.28
		20175	1732.5	1	0	0	22.6	22.02
		20350	1750	1	0	0	22.6	22.43
		20000	1715	1	24	0	22.6	22.39
		20175	1732.5	1	24	0	22.6	22.13
		20350	1750	1	24	0	22.6	22.54
		20000	1715	1	49	0	22.6	22.17
		20175	1732.5	1	49	0	22.6	21.91
		20350	1750	1	49	0	22.6	22.32
		20000	1715	25	0	1	22.6	21.14
		20175	1732.5	25	0	1	22.6	20.88
		20350	1750	25	0	1	22.6	21.29
		20000	1715	25	12	1	22.6	21.17
		20175	1732.5	25	12	1	22.6	20.91
		20350	1750	25	12	1	22.6	21.32
		20000	1715	25	25	1	22.6	21.08
		20175	1732.5	25	25	1	22.6	20.82
		20350	1750	25	25	1	22.6	21.23
		20000	1715	50	0	1	22.6	21.03
		20175	1732.5	50	0	1	22.6	20.77
		20350	1750	50	0	1	22.6	21.18
	16QAM	20000	1715	1	0	1	22.6	21.14
		20175	1732.5	1	0	1	22.6	20.88
		20350	1750	1	0	1	22.6	21.29
		20000	1715	1	24	1	22.6	21.38
		20175	1732.5	1	24	1	22.6	21.12
		20350	1750	1	24	1	22.6	21.53
		20000	1715	1	49	1	22.6	21.1
		20175	1732.5	1	49	1	22.6	20.84
		20350	1750	1	49	1	22.6	21.25
		20000	1715	25	0	2	22.6	20.11
		20175	1732.5	25	0	2	22.6	19.85
		20350	1750	25	0	2	22.6	20.26
		20000	1715	25	12	2	22.6	20.06
		20175	1732.5	25	12	2	22.6	19.8
		20350	1750	25	12	2	22.6	20.21
		20000	1715	25	25	2	22.6	19.98
		20175	1732.5	25	25	2	22.6	19.72
		20350	1750	25	25	2	22.6	20.13
		20000	1715	50	0	2	22.6	19.92
		20175	1732.5	50	0	2	22.6	19.66
		20350	1750	50	0	2	22.6	20.07

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
15 MHz	QPSK	20025	1717.5	1	0	0	22.6	22.57
		20175	1732.5	1	0	0	22.6	22.18
		20325	1747.5	1	0	0	22.6	22.5
		20025	1717.5	1	37	0	22.6	22.3
		20175	1732.5	1	37	0	22.6	21.91
		20325	1747.5	1	37	0	22.6	22.23
		20025	1717.5	1	74	0	22.6	22.01
		20175	1732.5	1	74	0	22.6	21.62
		20325	1747.5	1	74	0	22.6	21.94
		20025	1717.5	36	0	1	22.6	21.19
		20175	1732.5	36	0	1	22.6	20.8
		20325	1747.5	36	0	1	22.6	21.12
		20025	1717.5	36	19	1	22.6	21.06
		20175	1732.5	36	19	1	22.6	20.67
		20325	1747.5	36	19	1	22.6	20.99
		20025	1717.5	36	39	1	22.6	21
		20175	1732.5	36	39	1	22.6	20.61
		20325	1747.5	36	39	1	22.6	20.93
		20025	1717.5	75	0	1	22.6	21.05
		20175	1732.5	75	0	1	22.6	20.66
		20325	1747.5	75	0	1	22.6	20.98
	16QAM	20025	1717.5	1	0	1	22.6	21.55
		20175	1732.5	1	0	1	22.6	21.03
		20325	1747.5	1	0	1	22.6	21.37
		20025	1717.5	1	37	1	22.6	21.48
		20175	1732.5	1	37	1	22.6	20.96
		20325	1747.5	1	37	1	22.6	21.3
		20025	1717.5	1	74	1	22.6	21.47
		20175	1732.5	1	74	1	22.6	20.95
		20325	1747.5	1	74	1	22.6	21.29
		20025	1717.5	36	0	2	22.6	20.49
		20175	1732.5	36	0	2	22.6	19.97
		20325	1747.5	36	0	2	22.6	20.31
		20025	1717.5	36	19	2	22.6	20.32
		20175	1732.5	36	19	2	22.6	19.8
		20325	1747.5	36	19	2	22.6	20.14
		20025	1717.5	36	39	2	22.6	20.2
		20175	1732.5	36	39	2	22.6	19.68
		20325	1747.5	36	39	2	22.6	20.02
		20025	1717.5	75	0	2	22.6	20.28
		20175	1732.5	75	0	2	22.6	19.76
		20325	1747.5	75	0	2	22.6	20.1

LTE Band 4								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
20MHz	QPSK	20050	1720	1	0	0	22.6	22.6
		20175	1732.5	1	0	0	22.6	22.45
		20300	1745	1	0	0	22.6	22.41
		20050	1720	1	50	0	22.6	22.46
		20175	1732.5	1	50	0	22.6	22.31
		20300	1745	1	50	0	22.6	22.27
		20050	1720	1	99	0	22.6	22.27
		20175	1732.5	1	99	0	22.6	22.12
		20300	1745	1	99	0	22.6	22.08
		20050	1720	50	0	1	22.6	21.16
		20175	1732.5	50	0	1	22.6	21.01
		20300	1745	50	0	1	22.6	20.97
		20050	1720	50	25	1	22.6	21
		20175	1732.5	50	25	1	22.6	20.85
		20300	1745	50	25	1	22.6	20.81
		20050	1720	50	50	1	22.6	20.88
		20175	1732.5	50	50	1	22.6	20.73
		20300	1745	50	50	1	22.6	20.69
		20050	1720	100	0	1	22.6	21.08
		20175	1732.5	100	0	1	22.6	20.93
		20300	1745	100	0	1	22.6	20.89
	16QAM	20050	1720	1	0	1	22.6	21.58
		20175	1732.5	1	0	1	22.6	21.43
		20300	1745	1	0	1	22.6	21.39
		20050	1720	1	50	1	22.6	21.53
		20175	1732.5	1	50	1	22.6	21.38
		20300	1745	1	50	1	22.6	21.34
		20050	1720	1	99	1	22.6	21.32
		20175	1732.5	1	99	1	22.6	21.17
		20300	1745	1	99	1	22.6	21.13
		20050	1720	50	0	2	22.6	20.22
		20175	1732.5	50	0	2	22.6	20.07
		20300	1745	50	0	2	22.6	20.03
		20050	1720	50	25	2	22.6	19.91
		20175	1732.5	50	25	2	22.6	19.76
		20300	1745	50	25	2	22.6	19.72
		20050	1720	50	50	2	22.6	19.83
		20175	1732.5	50	50	2	22.6	19.68
		20300	1745	50	50	2	22.6	19.64
		20050	1720	100	0	2	22.6	19.96
		20175	1732.5	100	0	2	22.6	19.81
		20300	1745	100	0	2	22.6	19.77

ERP (dBm)

LTE BAND 12

CHANNEL BANDWIDTH: 5MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23035	701.5	-9.93	30.36	18.28	67.30	H
	23095	707.5	-9.03	30.17	18.99	79.25	
	23155	713.5	-9.48	30.17	18.54	71.45	
	23035	701.5	-16.78	32.03	13.10	20.42	V
	23095	707.5	-16.14	31.98	13.69	23.39	
	23155	713.5	-16.18	32.06	13.73	23.60	

CHANNEL BANDWIDTH: 5MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23035	701.5	-10.45	30.36	17.76	59.70	H
	23095	707.5	-10.64	30.17	17.38	54.70	
	23155	713.5	-10.69	30.17	17.33	54.08	
	23035	701.5	-17.42	32.03	12.46	17.62	V
	23095	707.5	-16.96	31.98	12.87	19.36	
	23155	713.5	-17.57	32.06	12.34	17.14	

CHANNEL BANDWIDTH: 10MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23060	704.0	-9.60	30.17	18.42	69.50	H
	23095	707.5	-9.99	30.17	18.03	63.53	
	23130	711.0	-9.40	30.18	18.63	72.95	
	23060	704.0	-16.59	31.96	13.22	20.99	V
	23095	707.5	-16.28	31.98	13.55	22.65	
	23130	711.0	-16.91	32.03	12.97	19.82	

CHANNEL BANDWIDTH: 10MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23060	704.0	-10.49	30.17	17.53	56.62	H
	23095	707.5	-10.77	30.17	17.25	53.09	
	23130	711.0	-10.16	30.18	17.87	61.24	
	23060	704.0	-16.46	31.96	13.35	21.63	V
	23095	707.5	-15.96	31.98	13.87	24.38	
	23130	711.0	-16.73	32.03	13.15	20.65	

LTE BAND 17

CHANNEL BANDWIDTH: 5MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23755	706.5	-10.07	30.36	18.14	65.16	H
	23790	710.0	-9.10	30.17	18.92	77.98	
	23825	713.5	-9.03	30.17	18.99	79.25	
	23755	706.5	-16.83	32.03	13.05	20.18	V
	23790	710.0	-16.09	31.98	13.74	23.66	
	23825	713.5	-16.31	32.06	13.60	22.91	

CHANNEL BANDWIDTH: 5MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23755	706.5	-10.42	30.36	17.79	60.12	H
	23790	710.0	-10.30	30.17	17.72	59.16	
	23825	713.5	-10.27	30.17	17.75	59.57	
	23755	706.5	-16.92	32.03	12.96	19.77	V
	23790	710.0	-17.59	31.98	12.24	16.75	
	23825	713.5	-17.04	32.06	12.87	19.36	

CHANNEL BANDWIDTH: 10MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23780	709.0	-9.82	30.17	18.20	66.07	H
	23790	710.0	-9.47	30.17	18.55	71.61	
	23800	711.0	-9.34	30.18	18.69	73.96	
	23780	709.0	-16.71	31.96	13.10	20.42	V
	23790	710.0	-16.41	31.98	13.42	21.98	
	23800	711.0	-16.08	32.03	13.80	23.99	

CHANNEL BANDWIDTH: 10MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
X	23780	709.0	-10.16	30.17	17.86	61.09	H
	23790	710.0	-10.61	30.17	17.41	55.08	
	23800	711.0	-10.63	30.18	17.40	54.95	
	23780	709.0	-16.51	31.96	13.30	21.38	V
	23790	710.0	-16.04	31.98	13.79	23.93	
	23800	711.0	-15.91	32.03	13.97	24.95	

EIRP (dBm)

WCDMA

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Y	1312	1712.4	-21.30	37.90	16.60	45.71	H
	1413	1732.6	-21.13	37.99	16.86	48.53	
	1513	1752.6	-21.87	38.31	16.44	44.06	
	1312	1712.4	-13.74	37.81	24.07	255.27	V
	1413	1732.6	-13.32	37.40	24.08	255.86	
	1513	1752.6	-14.29	38.22	23.93	247.17	

LTE BAND 4

CHANNEL BANDWIDTH: 5MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	19975	1712.5	-24.33	37.90	13.57	22.75	H
	20175	1732.5	-24.52	37.99	13.47	22.23	
	20375	1752.5	-24.55	38.31	13.76	23.77	
	19975	1712.5	-15.18	37.81	22.63	183.23	V
	20175	1732.5	-15.01	38.00	22.99	199.07	
	20375	1752.5	-15.83	38.22	22.39	173.38	

CHANNEL BANDWIDTH: 5MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	19975	1712.5	-25.24	37.99	12.75	18.84	H
	20175	1732.5	-25.80	37.99	12.19	16.56	
	20375	1752.5	-25.75	38.36	12.61	18.24	
	19975	1712.5	-16.13	37.91	21.78	150.66	V
	20175	1732.5	-16.49	38.00	21.51	141.58	
	20375	1752.5	-17.24	38.28	21.04	127.06	

CHANNEL BANDWIDTH: 10MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20000	1715.0	-24.22	37.99	13.77	23.82	H
	20175	1732.5	-24.22	37.99	13.77	23.82	
	20350	1750.0	-24.65	38.36	13.71	23.50	
	20000	1715.0	-14.73	37.91	23.18	207.97	V
	20175	1732.5	-14.98	38.00	23.02	200.45	
	20350	1750.0	-14.75	38.28	23.53	225.42	

CHANNEL BANDWIDTH: 10MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20000	1715.0	-25.62	37.99	12.37	17.26	H
	20175	1732.5	-25.88	37.99	12.11	16.26	
	20350	1750.0	-25.51	38.36	12.85	19.28	
	20000	1715.0	-16.70	37.91	21.21	132.13	V
	20175	1732.5	-16.75	38.00	21.25	133.35	
	20350	1750.0	-16.63	38.28	21.65	146.22	

CHANNEL BANDWIDTH: 15MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20025	1717.5	-24.44	37.99	13.55	22.65	H
	20175	1732.5	-24.13	37.99	13.86	24.32	
	20325	1747.5	-24.47	38.36	13.89	24.49	
	20025	1717.5	-14.93	37.91	22.98	198.61	V
	20175	1732.5	-15.81	38.00	22.19	165.58	
	20325	1747.5	-15.63	38.28	22.65	184.08	

CHANNEL BANDWIDTH: 15MHz 16QAM

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20025	1717.5	-25.32	37.99	12.67	18.49	H
	20175	1732.5	-25.87	37.99	12.12	16.29	
	20325	1747.5	-25.39	38.36	12.97	19.82	
	20025	1717.5	-16.17	37.91	21.74	149.28	V
	20175	1732.5	-16.20	38.00	21.80	151.36	
	20325	1747.5	-16.57	38.28	21.71	148.25	

CHANNEL BANDWIDTH: 20MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20050	1720.0	-24.56	37.99	13.43	22.03	H
	20175	1732.5	-24.16	37.99	13.83	24.15	
	20300	1745.0	-24.38	38.36	13.98	25.00	
	20050	1720.0	-15.11	37.91	22.80	190.55	V
	20175	1732.5	-15.13	38.00	22.87	193.64	
	20300	1745.0	-15.49	38.28	22.79	190.11	

CHANNEL BANDWIDTH: 20MHz QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)
Z	20050	1720.0	-25.41	37.99	12.58	18.11	H
	20175	1732.5	-25.90	37.99	12.09	16.18	
	20300	1745.0	-25.40	38.36	12.96	19.77	
	20050	1720.0	-16.03	37.91	21.88	154.17	V
	20175	1732.5	-16.33	38.00	21.67	146.89	
	20300	1745.0	-16.84	38.28	21.44	139.32	

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

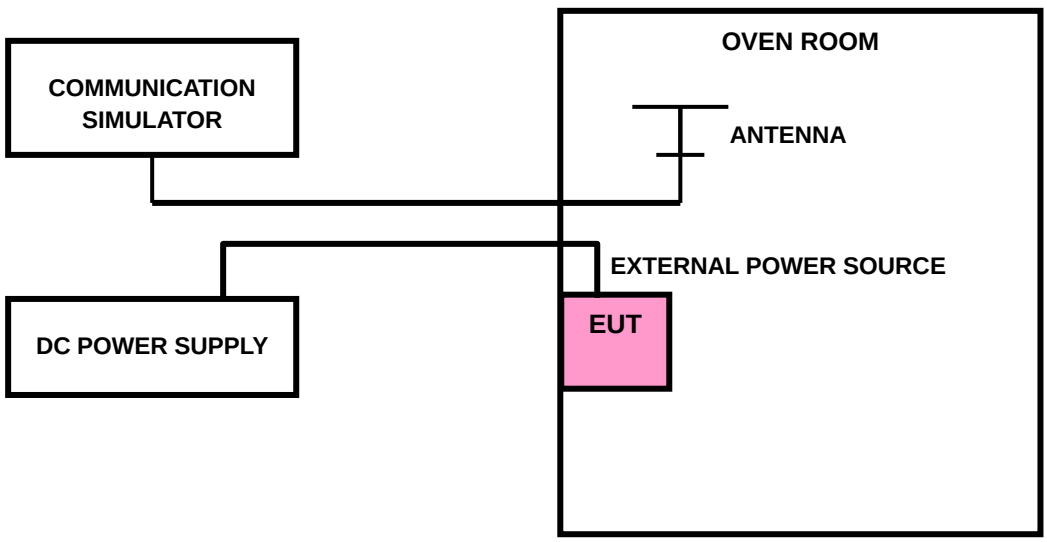
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)									LIMIT (ppm)
	WCDMA	LTE BAND 12		LTE BAND 17		LTE BAND 4				
		5MHz	10MHz	5MHz	10MHz	5MHz	10MHz	15MHz	20MHz	
3.8	0.003	-0.004	-0.006	-0.006	-0.003	0.009	0.004	0.002	-0.001	2.5
3.6	0.004	-0.004	-0.003	-0.004	-0.002	0.004	0.003	-0.004	0.001	2.5
4.2	0.003	-0.010	-0.003	-0.003	-0.007	-0.003	0.003	0.002	0.001	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 3.6Vdc to 4.2Vdc.

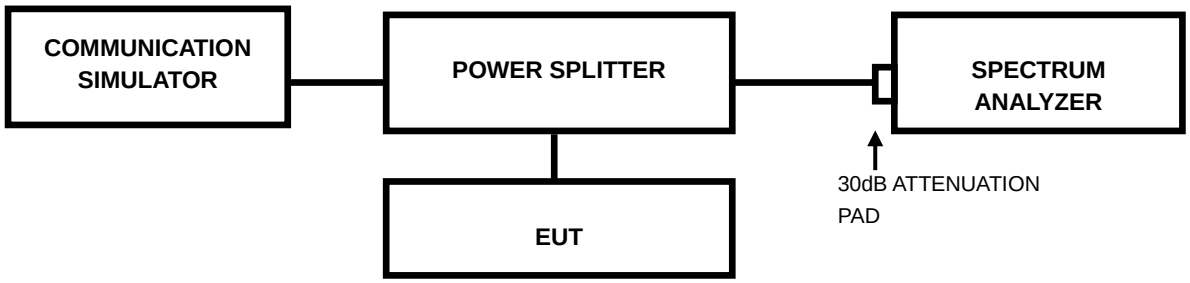
TEMP. (℃)	FREQUENCY ERROR (ppm)									LIMIT (ppm)
	WCDMA	LTE BAND 12		LTE BAND 17		LTE BAND 4				
		5MHz	10MHz	5MHz	10MHz	5MHz	10MHz	15MHz	20MHz	
-30	0.004	-0.010	-0.002	0.003	-0.004	0.006	0.005	-0.003	0.004	2.5
-20	0.004	0.007	-0.006	-0.002	-0.005	0.004	0.005	0.002	0.003	2.5
-10	0.004	-0.003	-0.007	-0.003	-0.005	0.006	0.006	0.004	-0.003	2.5
0	0.003	-0.004	-0.006	-0.006	-0.004	0.004	0.003	0.004	0.003	2.5
10	0.004	-0.008	-0.004	-0.007	-0.005	0.005	-0.002	0.002	0.003	2.5
20	0.003	0.006	-0.002	-0.003	-0.011	0.002	0.005	0.003	-0.004	2.5
30	0.004	-0.010	-0.007	0.002	-0.003	0.003	-0.002	0.003	-0.001	2.5
40	0.004	-0.003	-0.005	-0.009	-0.003	0.003	0.003	0.006	0.001	2.5
50	0.004	-0.001	-0.002	-0.004	-0.003	0.007	0.004	0.002	0.002	2.5
55	0.004	-0.004	-0.005	-0.003	-0.003	0.004	0.004	0.007	-0.003	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

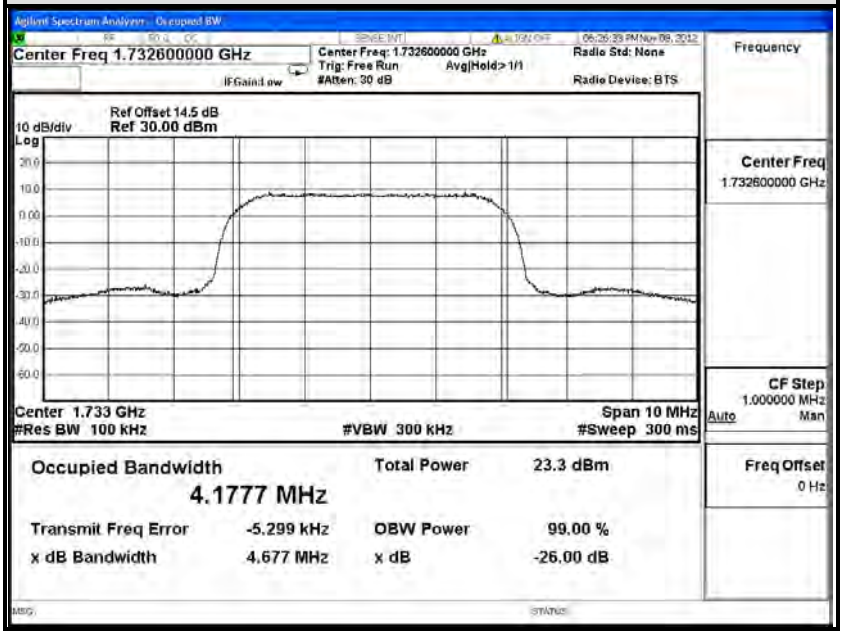
a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.4 TEST RESULTS

CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
		WCDMA
1312	1712.4	4.1761
1413	1732.6	4.1777
1513	1752.6	4.1752

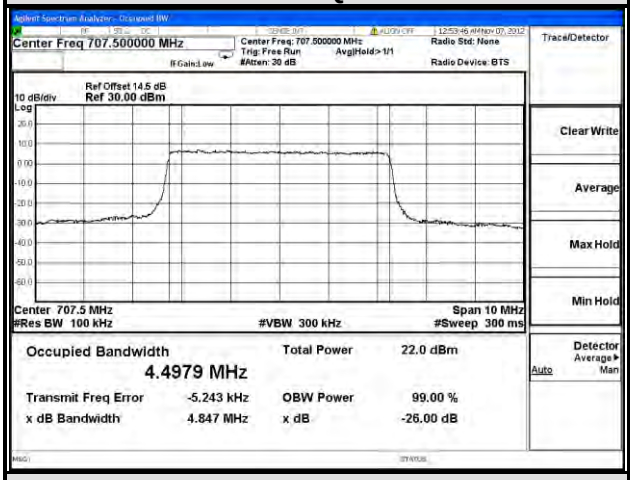
SPECTRUM PLOT OF WORST VALUE



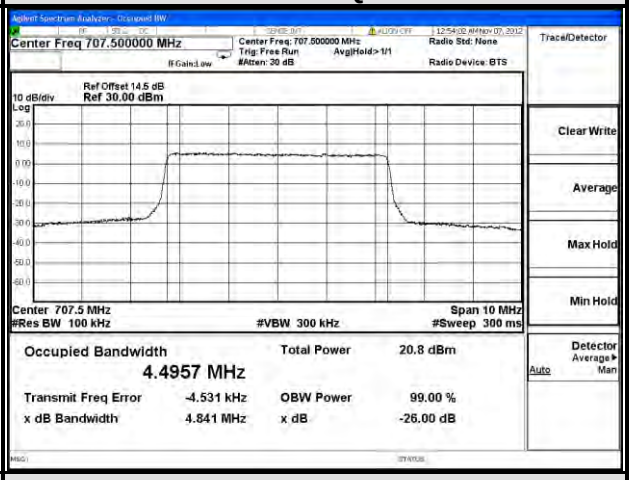
LTE BAND 12							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
23035	701.5	4.4907	4.4918	23060	704.0	8.9168	8.9123
23095	707.5	4.4979	4.4957	23095	707.5	8.9312	8.9283
23155	713.5	4.4909	4.4916	23130	711.0	8.9277	8.9299

SPECTRUM PLOT OF WORST VALUE

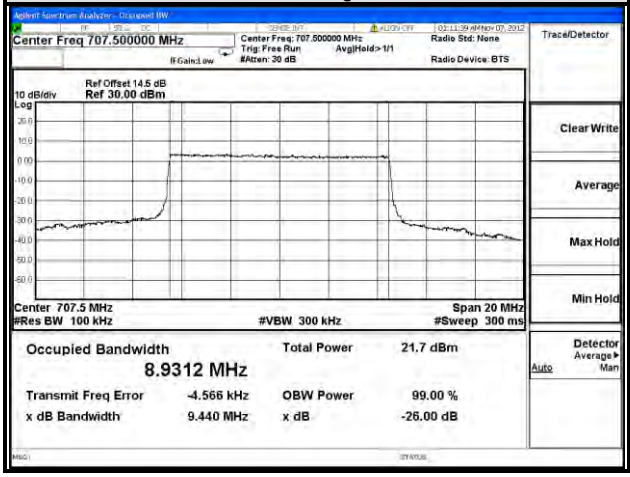
5MHz / QPSK



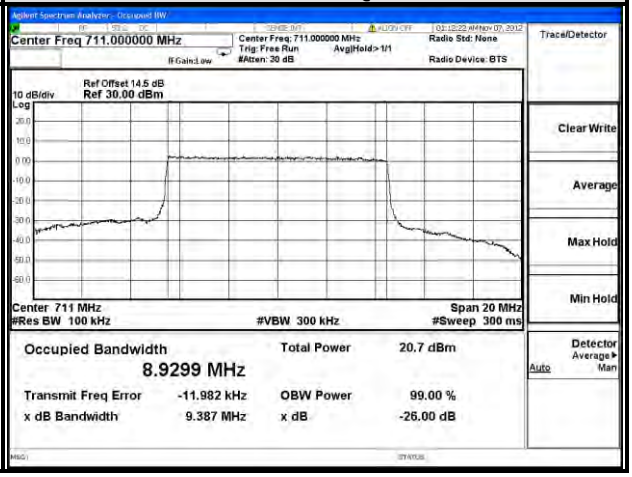
5MHz / 16QAM



10MHz / QPSK



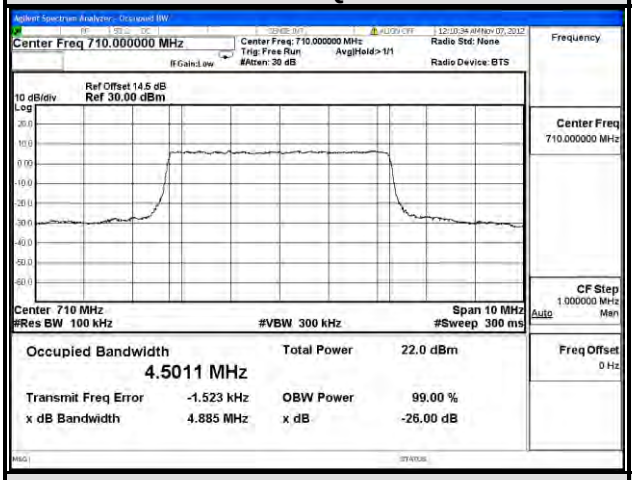
10MHz / 16QAM



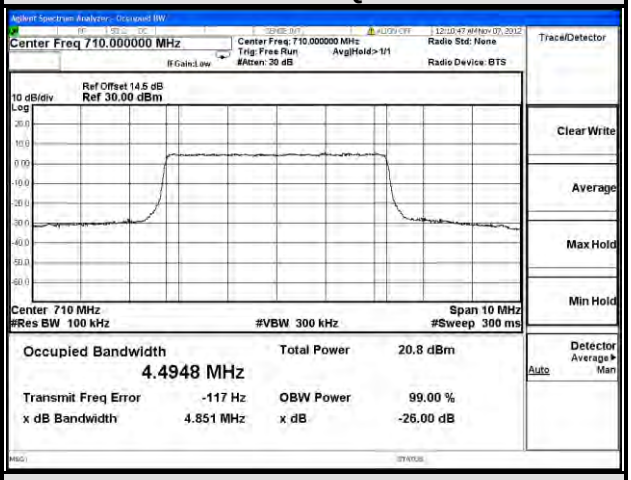
LTE BAND 17							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
23755	706.5	4.4946	4.4937	23780	709	8.9292	8.9293
23790	710	4.5011	4.4948	23790	710	8.9307	8.9315
23825	713.5	4.4945	4.4892	23800	711	8.9248	8.9194

SPECTRUM PLOT OF WORST VALUE

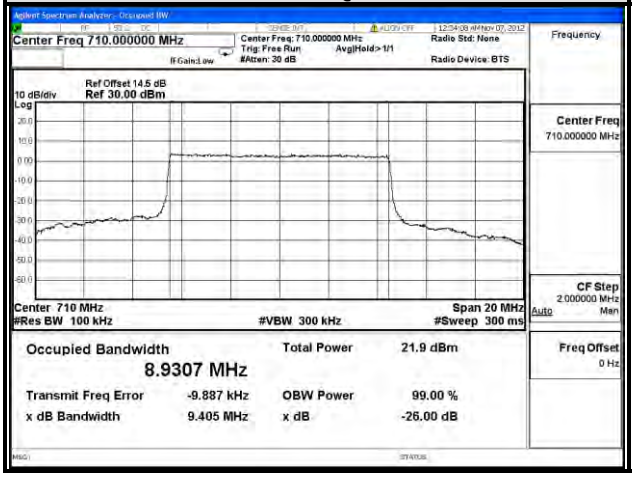
5MHz / QPSK



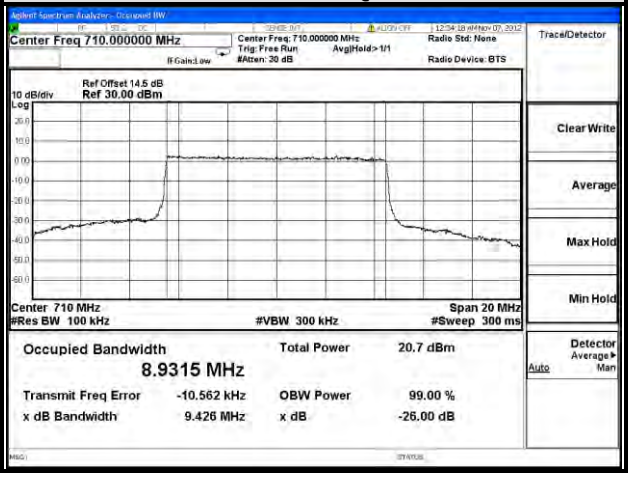
5MHz / 16QAM



10MHz / QPSK



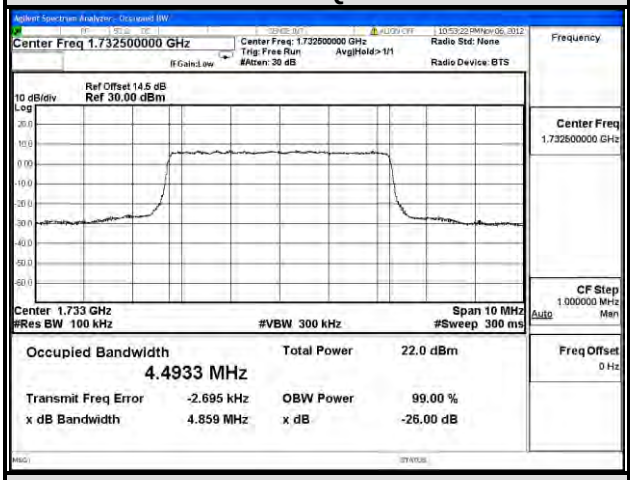
10MHz / 16QAM



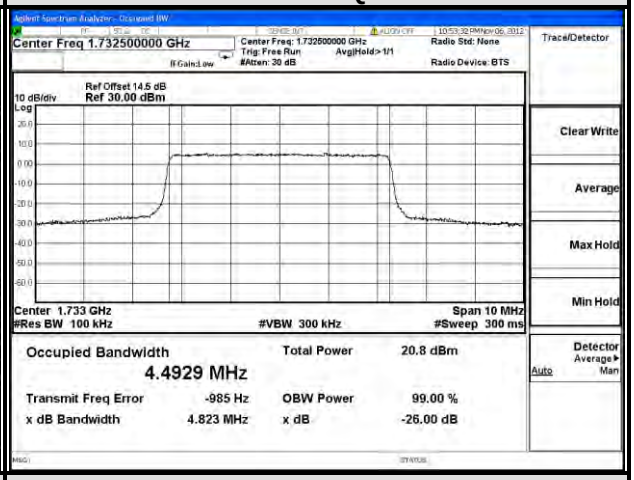
LTE BAND 4							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
19975	1712.5	4.4871	4.4869	20000	1715.0	8.9178	8.9205
20175	1732.5	4.4933	4.4929	20175	1732.5	8.9210	8.9241
20375	1752.5	4.4890	4.4858	20350	1750.0	8.9133	8.9084
CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	13.384	13.370	20050	1720	17.809	17.817
20175	1732.5	13.397	13.389	20175	1732.5	17.848	17.849
20325	1747.5	13.371	13.369	20300	1745	17.819	17.837

SPECTRUM PLOT OF WORST VALUE

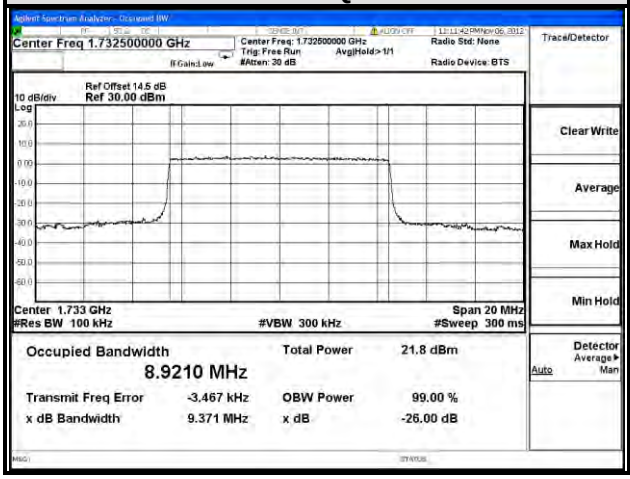
5MHz / QPSK



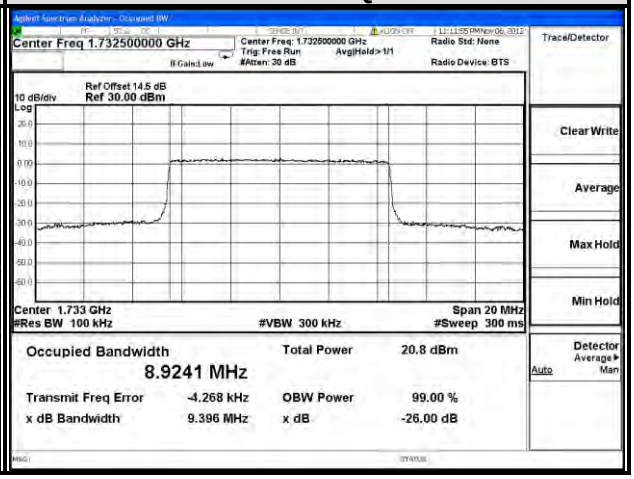
5MHz / 16QAM



10MHz / QPSK

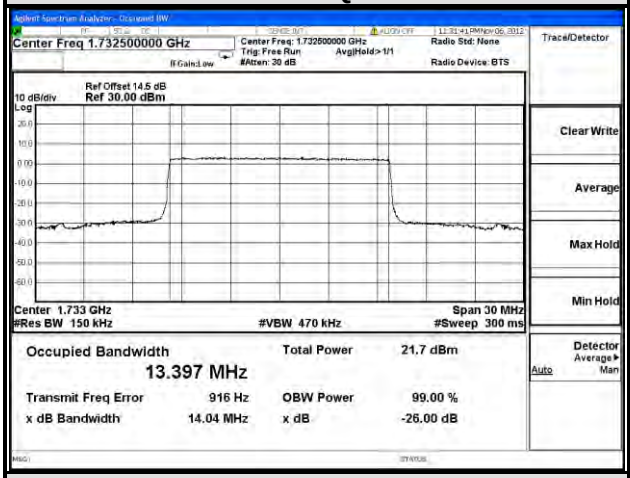


10MHz / 16QAM

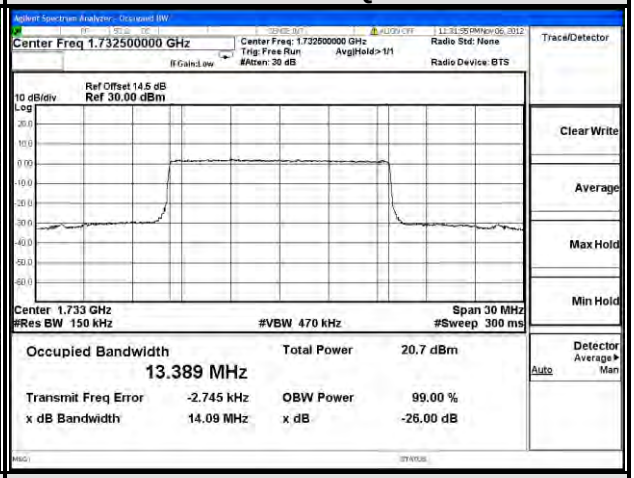


SPECTRUM PLOT OF WORST VALUE

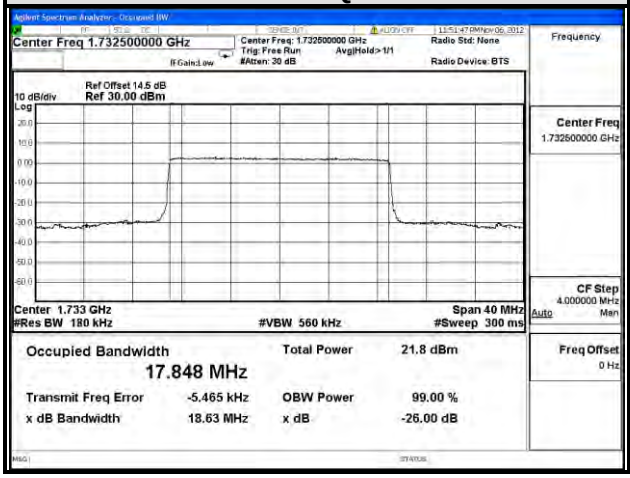
15MHz / QPSK



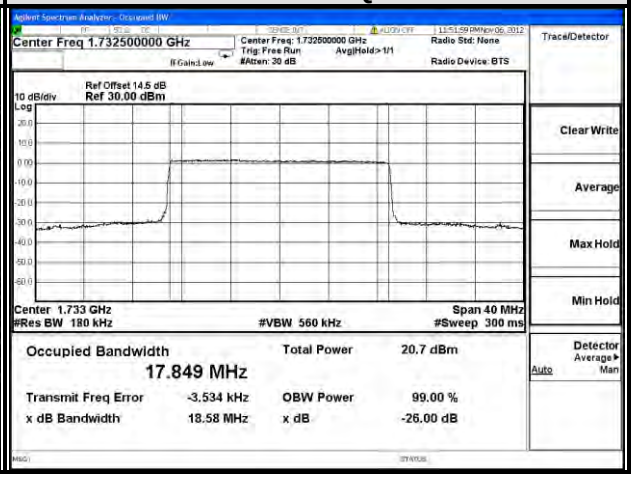
15MHz / 16QAM



20MHz / QPSK



20MHz / 16QAM

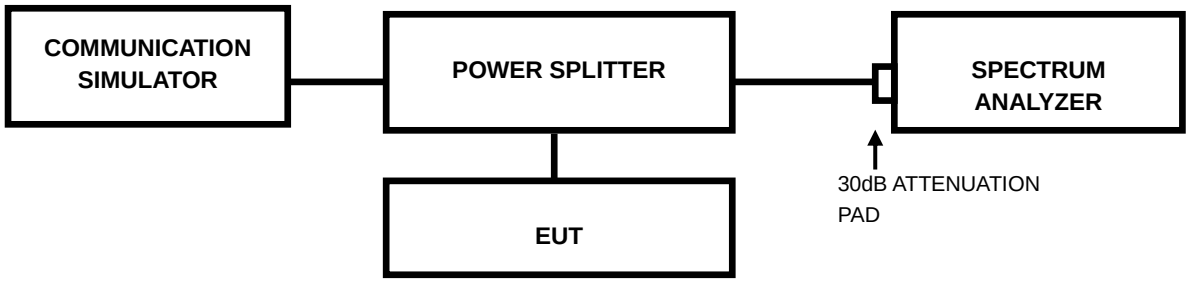


4.4 PEAK TO AVERAGE RATIO

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

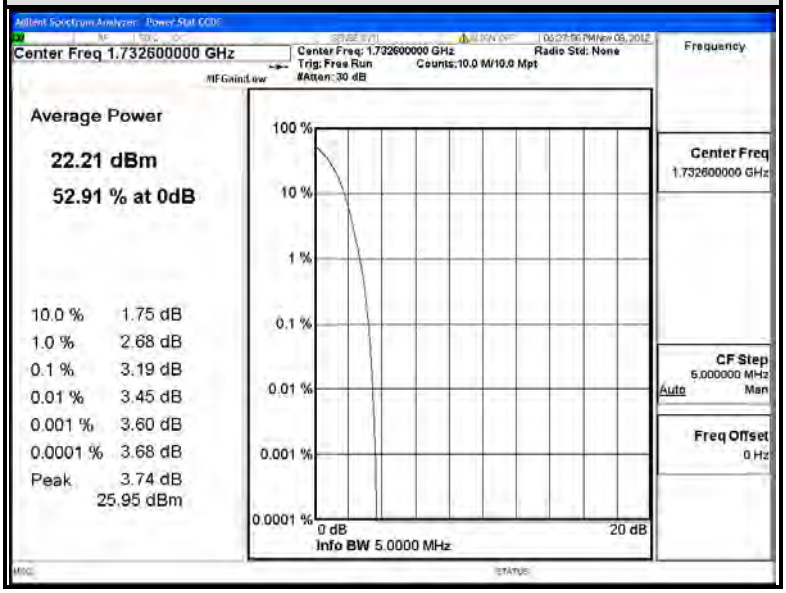


4.4.3 TEST PROCEDURES

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%.

4.4.4 TEST RESULTS

CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
		WCDMA
1312	1712.4	3.06
1413	1732.6	3.19
1513	1752.6	2.98

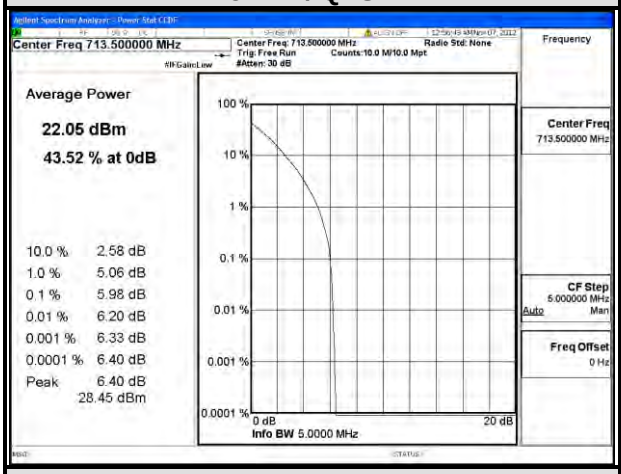
SPECTRUM PLOT OF WORST VALUE


LTE BAND 12

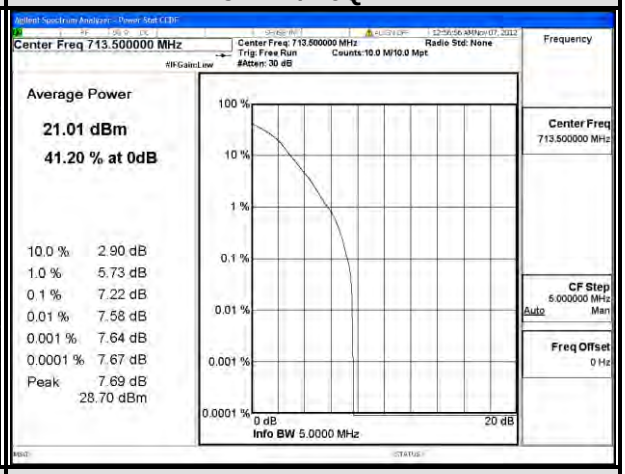
LTE BAND 12							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
23035	701.5	5.73	6.87	23060	704.0	5.77	6.93
23095	707.5	5.92	7.09	23095	707.5	5.91	7.10
23155	713.5	5.98	7.22	23130	711.0	5.90	7.10

SPECTRUM PLOT OF WORST VALUE

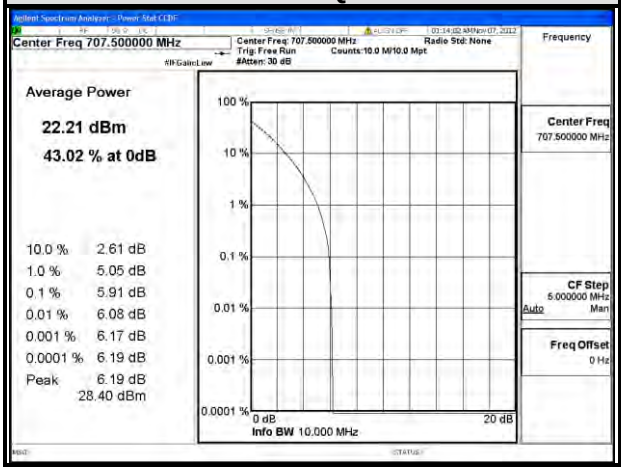
5MHz / QPSK



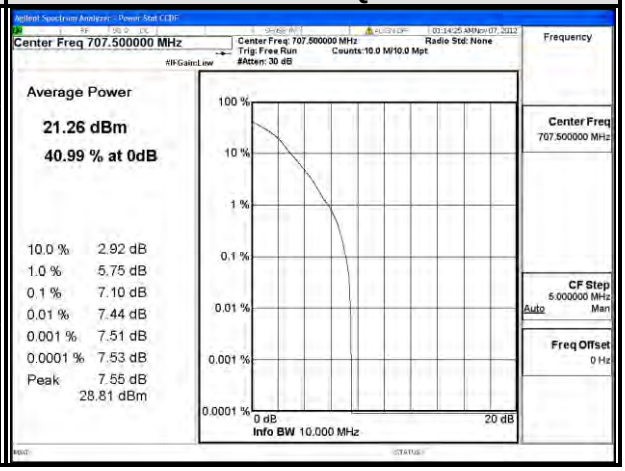
5MHz / 16QAM



10MHz / QPSK



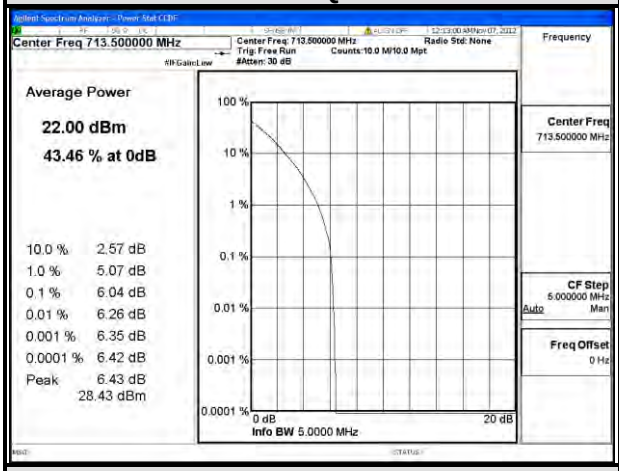
10MHz / 16QAM



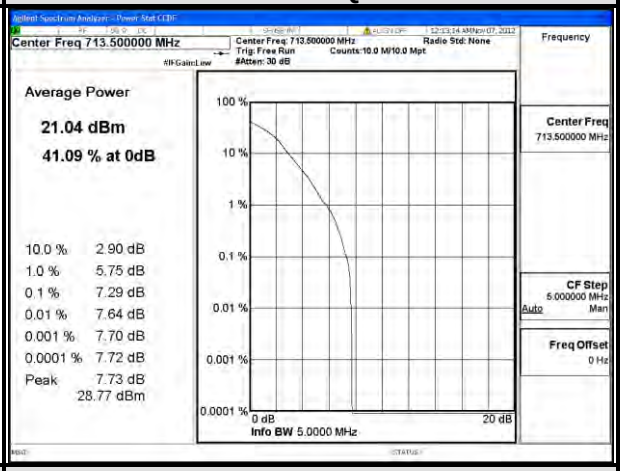
LTE BAND 17							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
23755	706.5	5.94	7.18	23780	709	6.19	6.77
23790	710	5.99	7.21	23790	710	6.17	6.77
23825	713.5	6.04	7.29	23800	711	6.09	6.75

SPECTRUM PLOT OF WORST VALUE

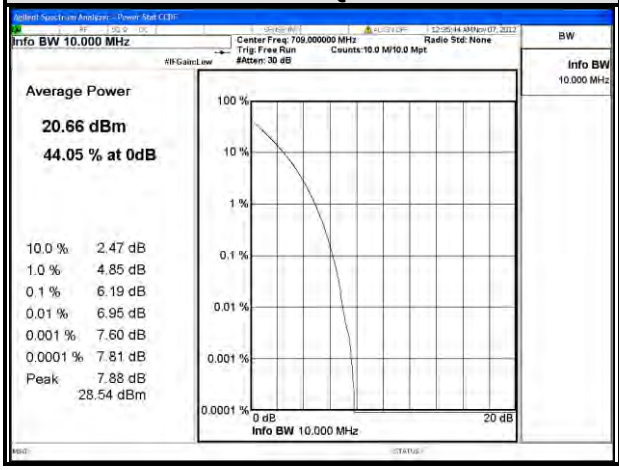
5MHz / QPSK



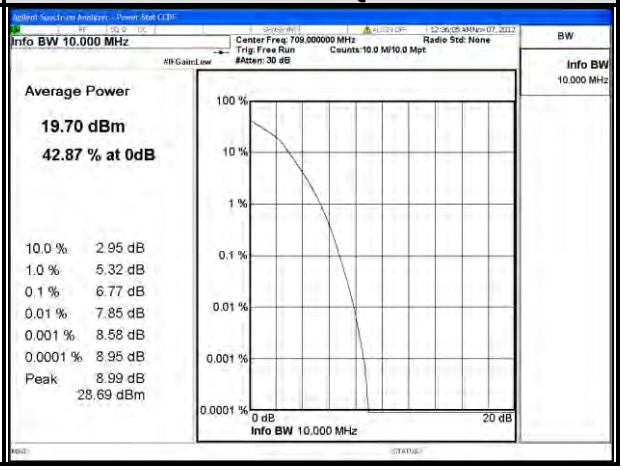
5MHz / 16QAM



10MHz / QPSK

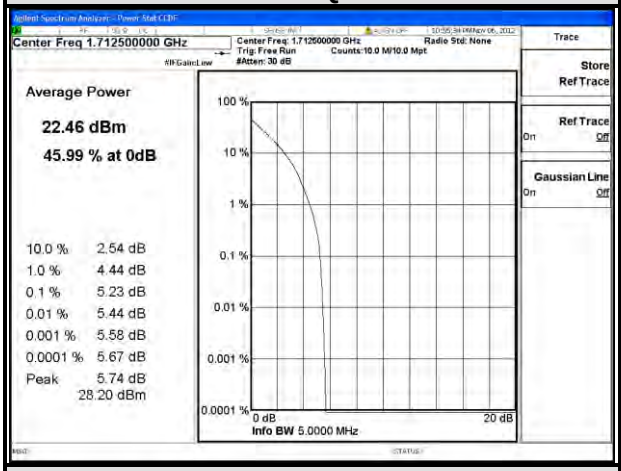
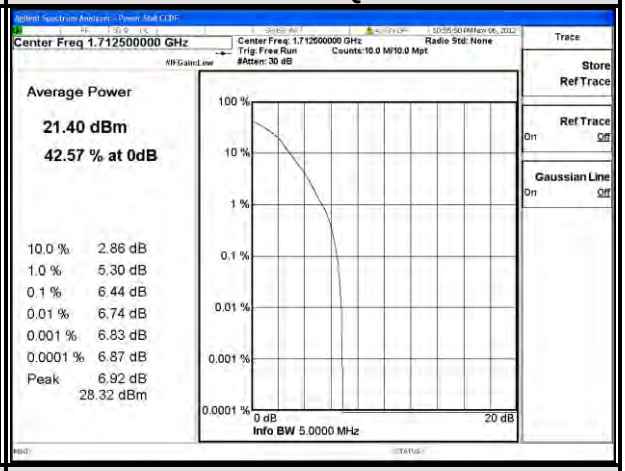
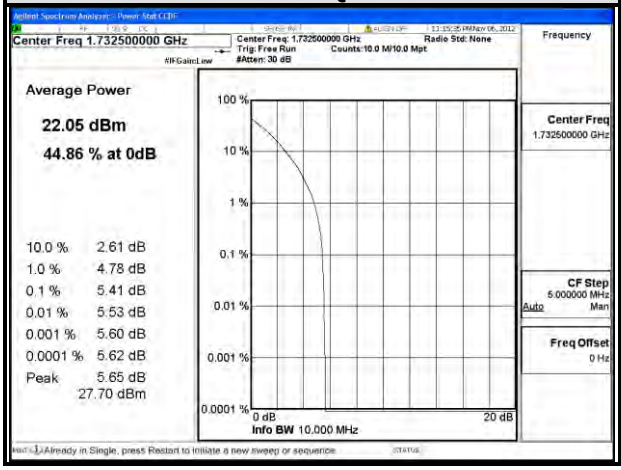
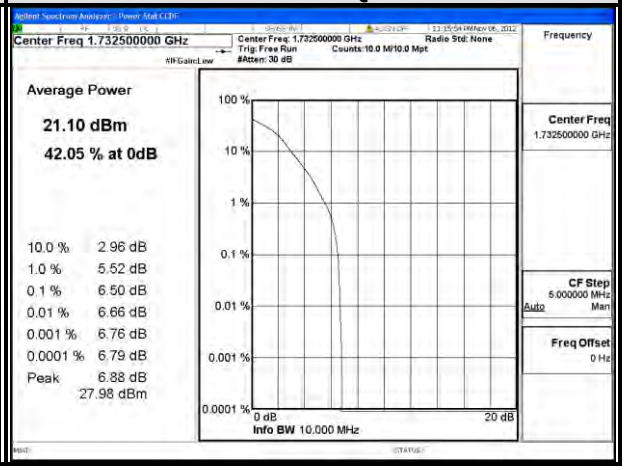


10MHz / 16QAM



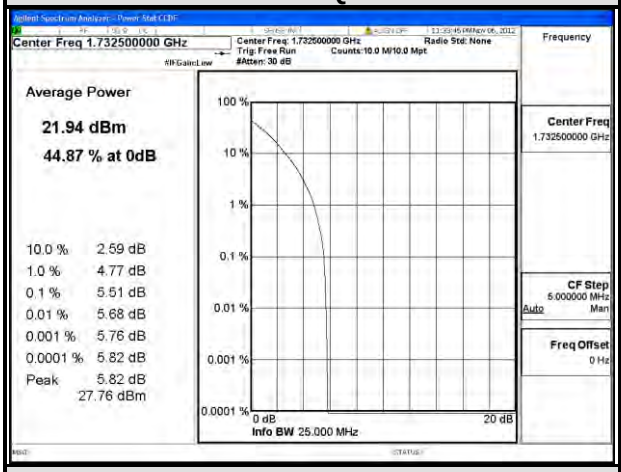
LTE BAND 4

LTE BAND 4							
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
19975	1712.5	5.23	6.44	20000	1715.0	5.26	6.32
20175	1732.5	4.95	6.05	20175	1732.5	5.41	6.50
20375	1752.5	5.16	6.31	20350	1750.0	4.24	5.28
CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	5.26	6.43	20050	1720	5.45	6.27
20175	1732.5	5.51	6.69	20175	1732.5	5.47	6.60
20325	1747.5	4.02	5.15	20300	1745	4.05	5.06

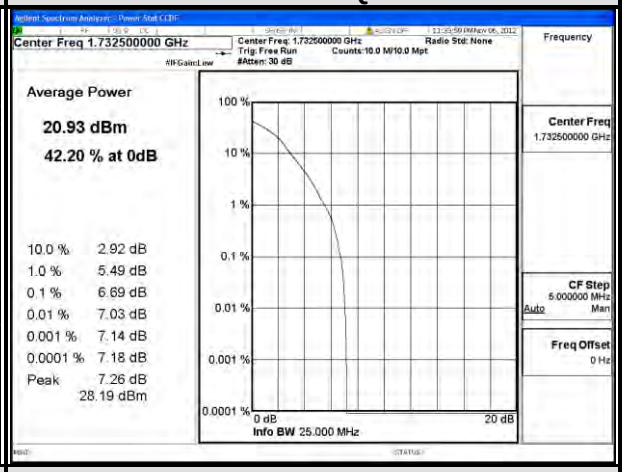
SPECTRUM PLOT OF WORST VALUE	
5MHz / QPSK	5MHz / 16QAM
	
10MHz / QPSK	10MHz / 16QAM
	

SPECTRUM PLOT OF WORST VALUE

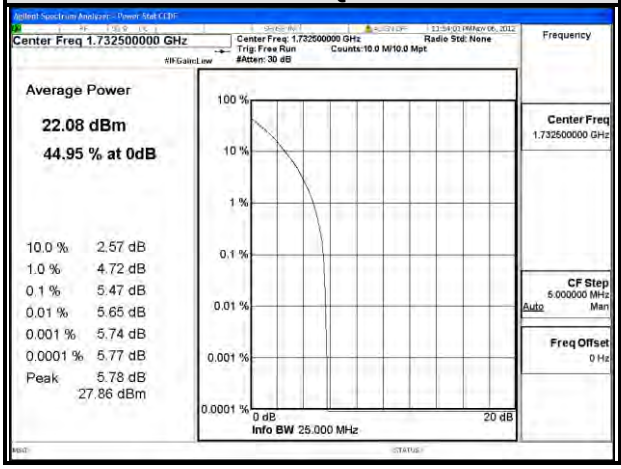
15MHz / QPSK



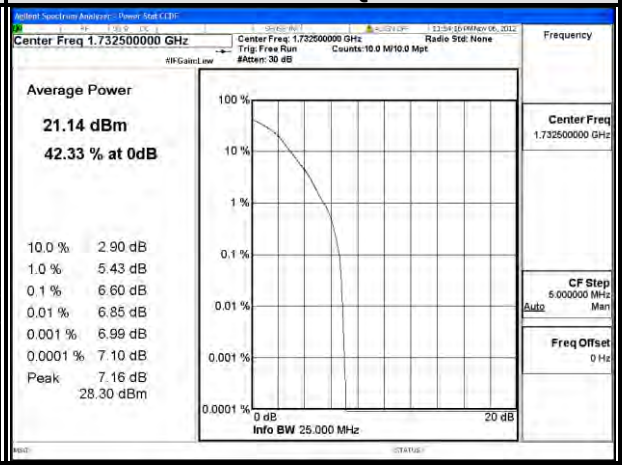
15MHz / 16QAM



20MHz / QPSK



20MHz / 16QAM



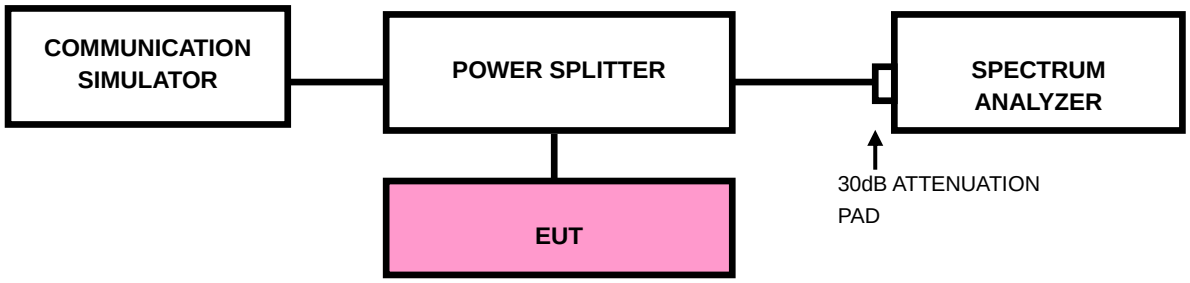
4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

For operations in the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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.

For operations in the 1710 – 1755 MHz MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

4.5.2 TEST SETUP



4.5.3 TEST PROCEDURES

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).

b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The center frequency of spectrum is the band edge frequency and span is 5 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).

d. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Channel Bandwidth 5MHz & 10MHz).

e. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 150kHz and VB of the spectrum is 470kHz (LTE Channel Bandwidth 15MHz).

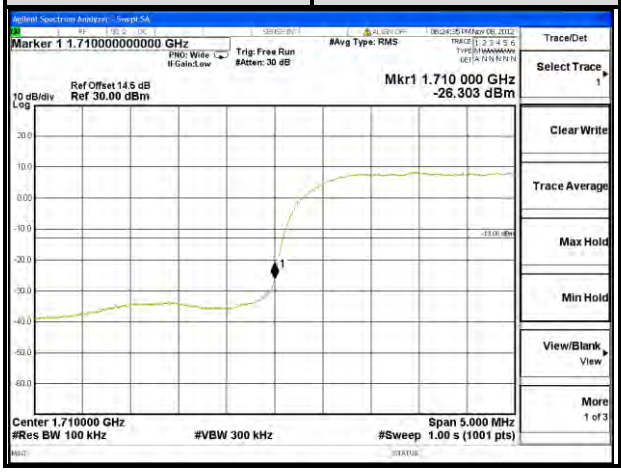
f. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 180kHz and VB of the spectrum is 560kHz (LTE Channel Bandwidth 20MHz).

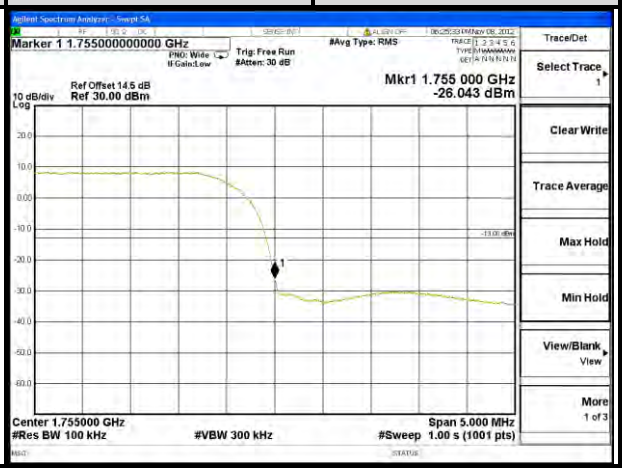
g. Record the max trace plot into the test report.

4.5.4 TEST RESULTS

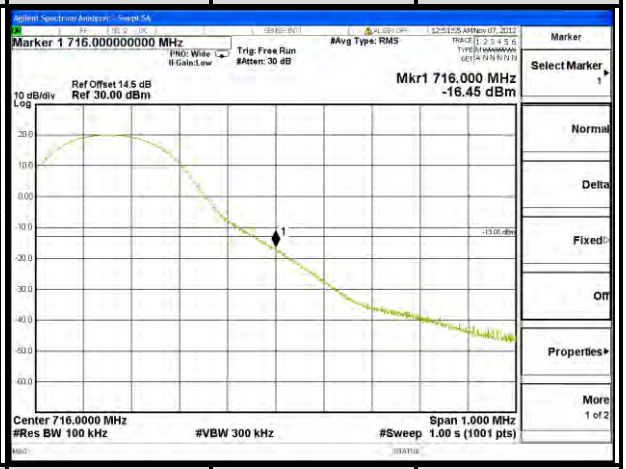
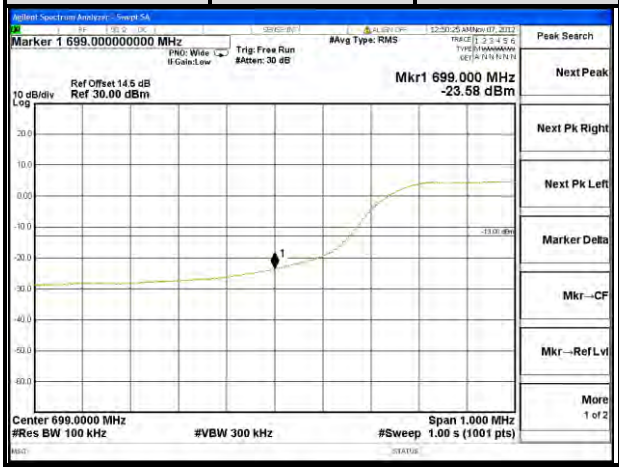
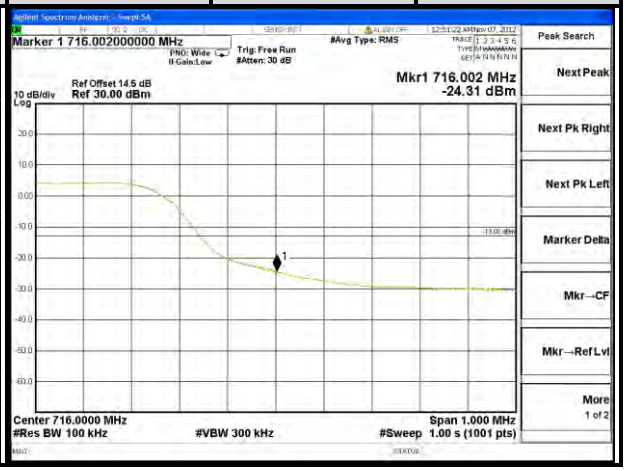
WCDMA

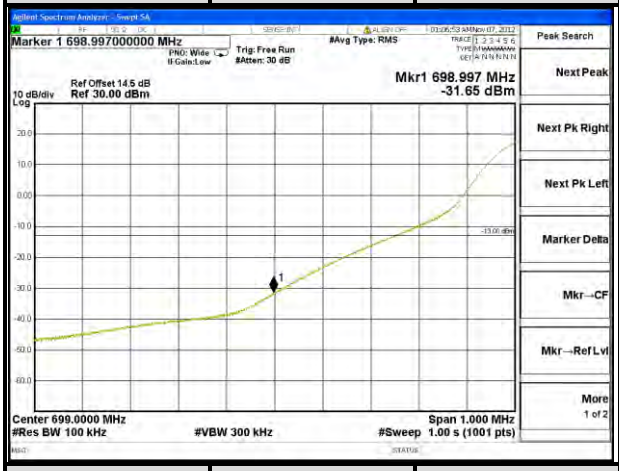
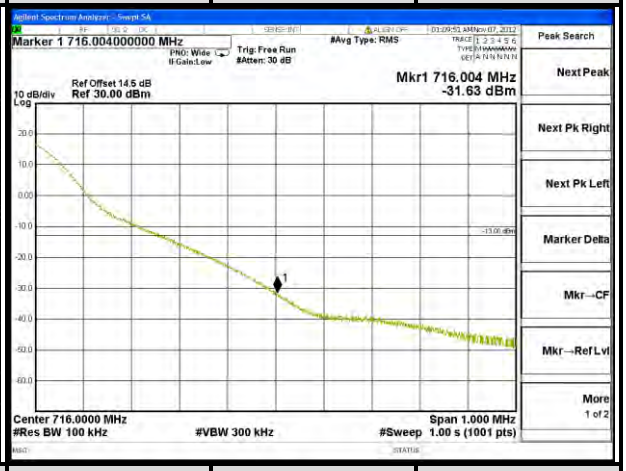
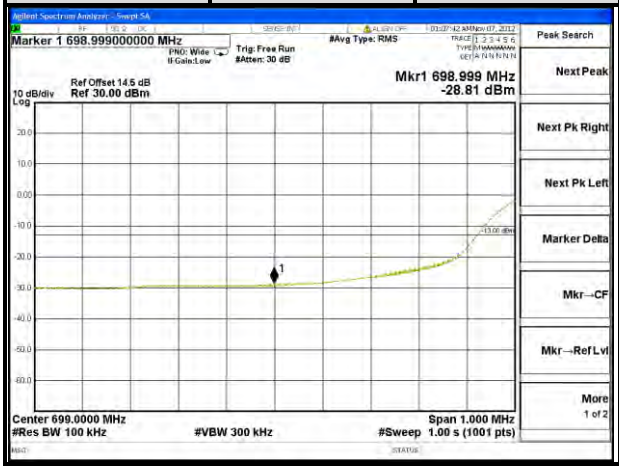
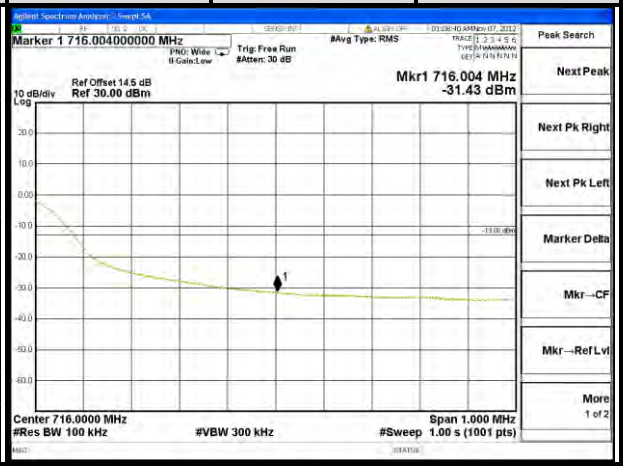
CHANNEL	1312	CHANNEL	1513



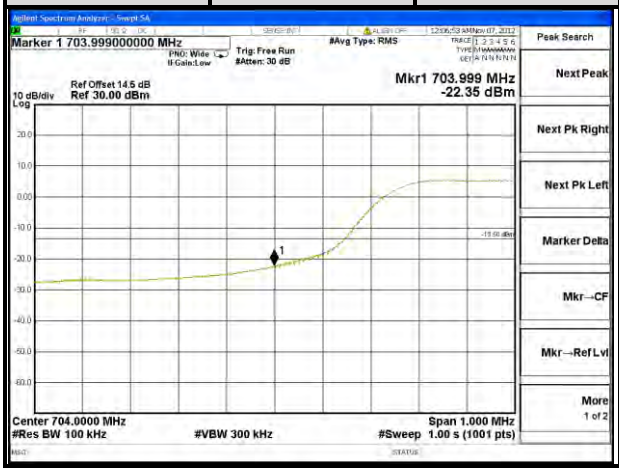
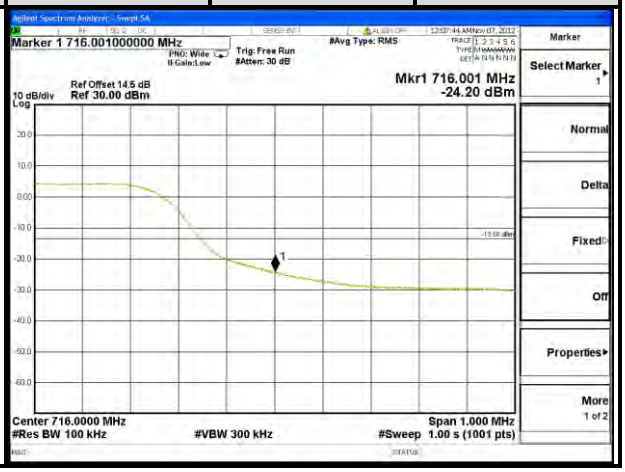


LTE BAND 12

Channel Bandwidth: 5MHz					
CHANNEL	23035	1 RB	CHANNEL	23155	1 RB
					
CHANNEL	23035	25 RB	CHANNEL	23155	25 RB
					

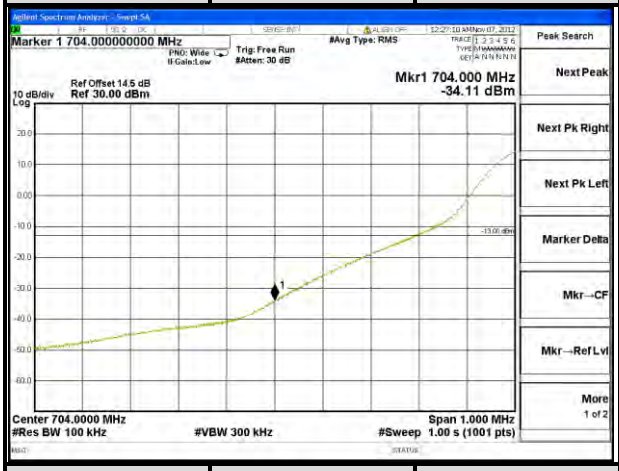
Channel Bandwidth: 10MHz					
CHANNEL	23060	1 RB	CHANNEL	23130	1 RB
					
CHANNEL	23060	50 RB	CHANNEL	23130	50 RB
					

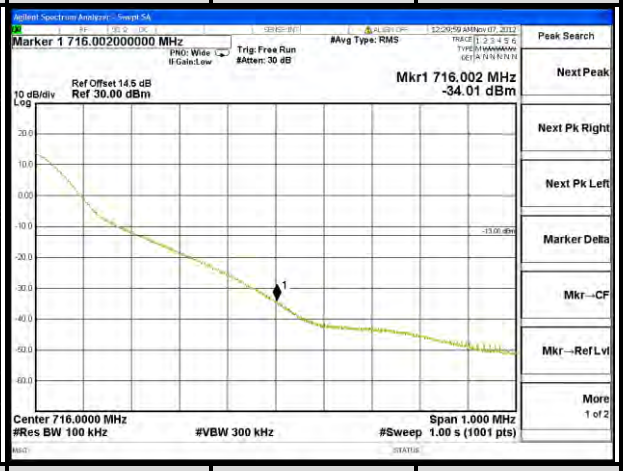
LTE BAND 17

Channel Bandwidth: 5MHz					
CHANNEL	23755	1 RB	CHANNEL	23825	1 RB
					
CHANNEL	23755	25 RB	CHANNEL	23825	25 RB
					

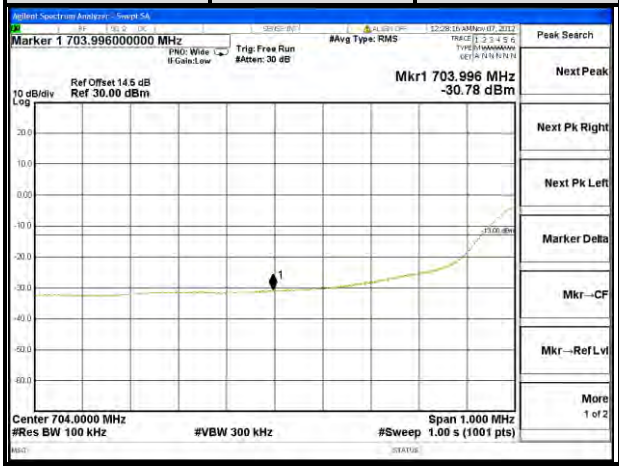
Channel Bandwidth: 10MHz

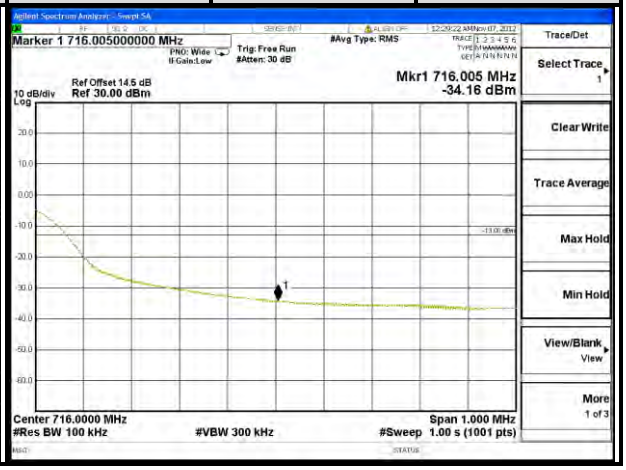
CHANNEL	23780	1 RB	CHANNEL	23800	1 RB



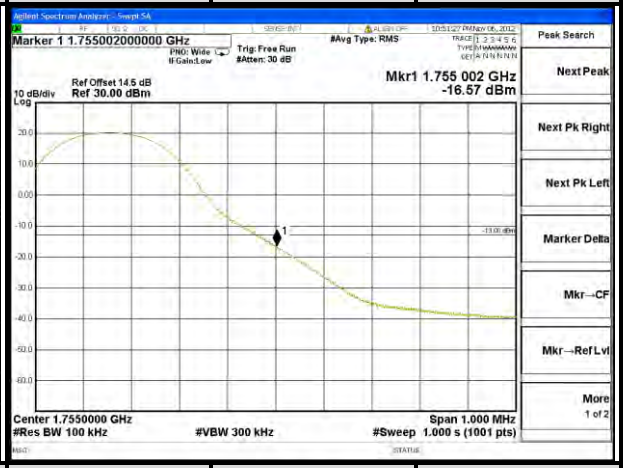
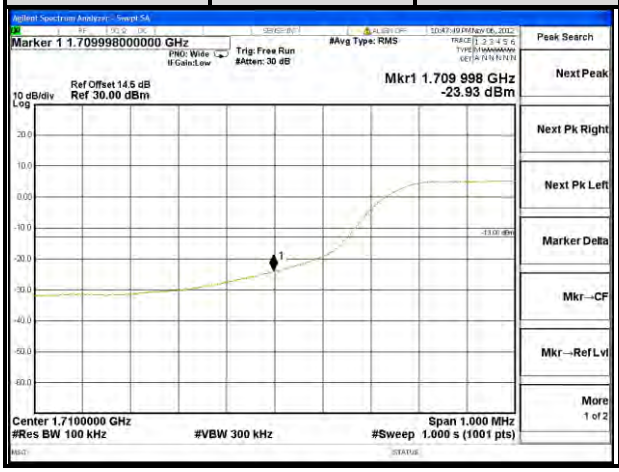
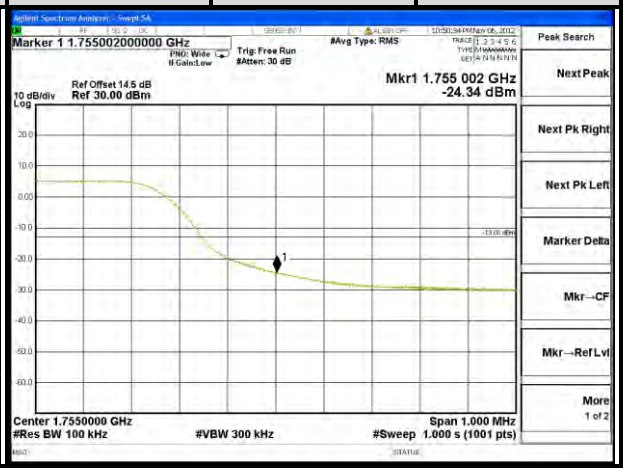


CHANNEL	23780	50 RB	CHANNEL	23800	50 RB

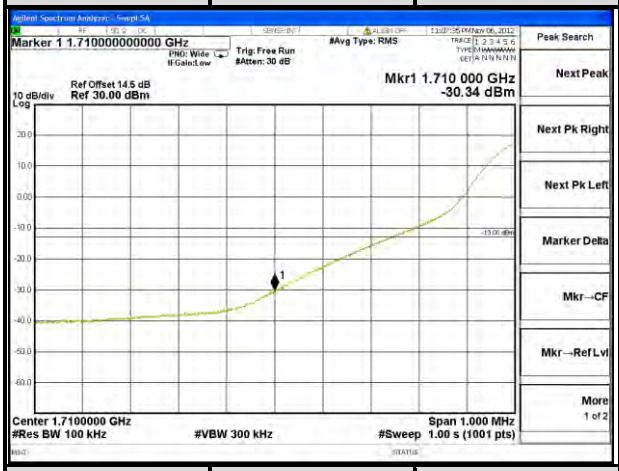
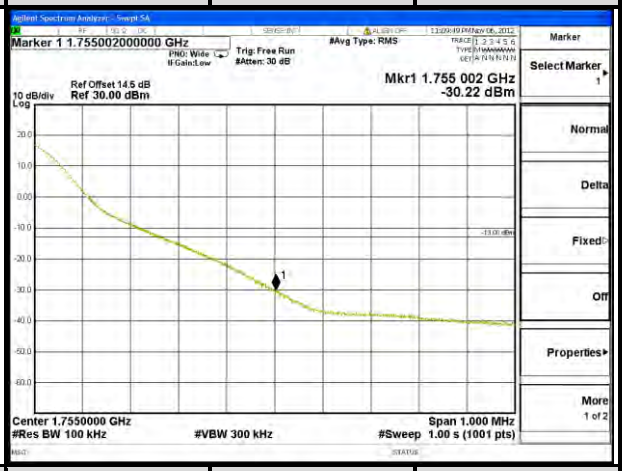
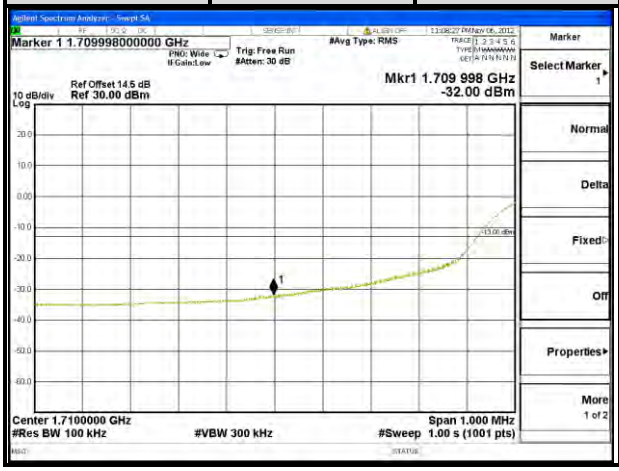
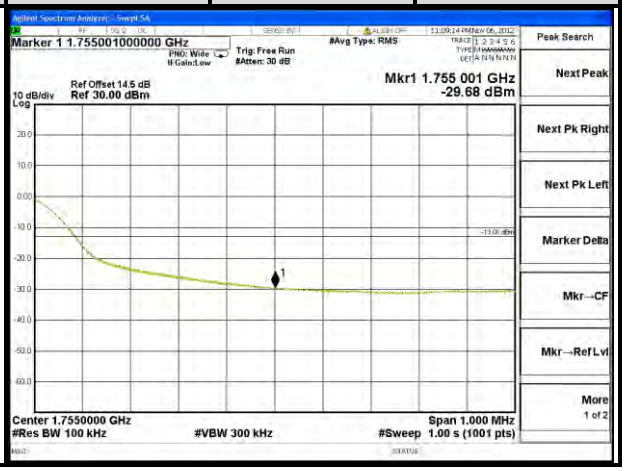




LTE BAND 4

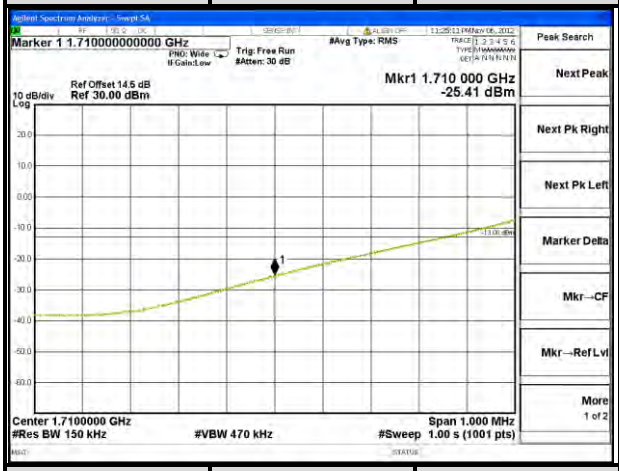
Channel Bandwidth: 5MHz					
CHANNEL	19975	1 RB	CHANNEL	20375	1 RB
					
CHANNEL	19975	25 RB	CHANNEL	20375	25 RB
					

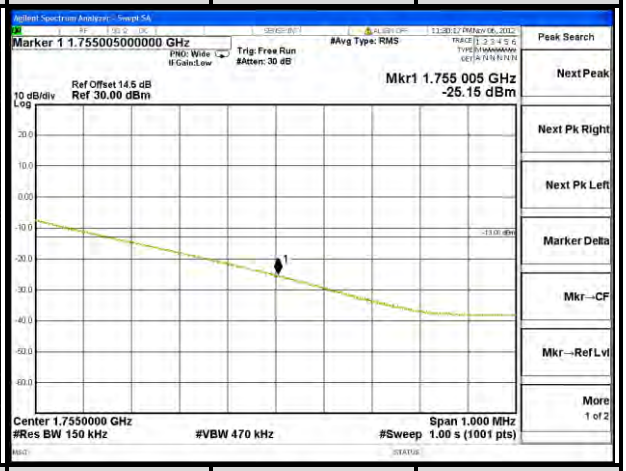
Channel Bandwidth: 10MHz

CHANNEL	20000	1 RB	CHANNEL	20350	1 RB
					
CHANNEL	20000	50 RB	CHANNEL	20350	50 RB
					

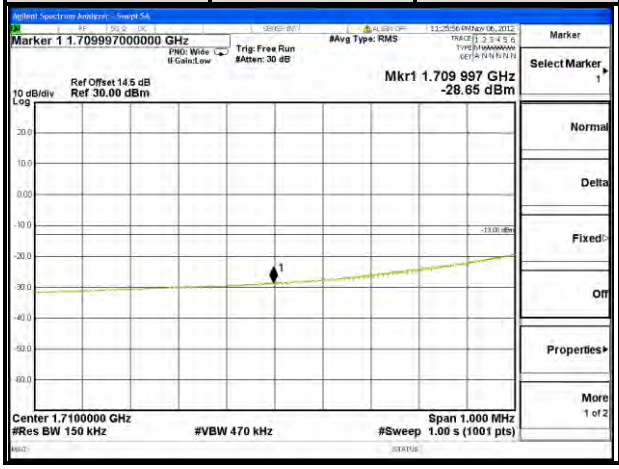
Channel Bandwidth: 15MHz

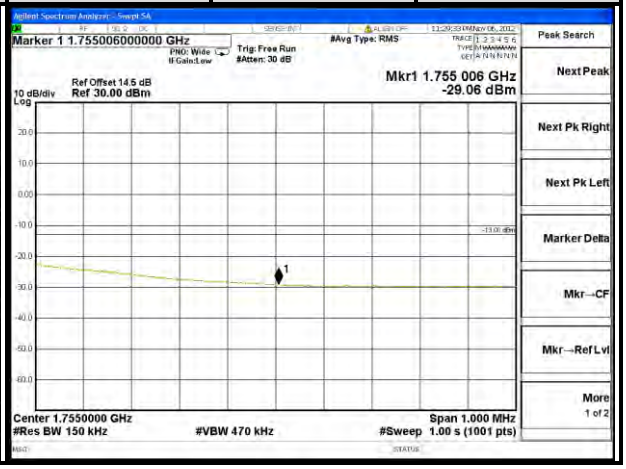
CHANNEL	20025	1 RB	CHANNEL	20325	1 RB





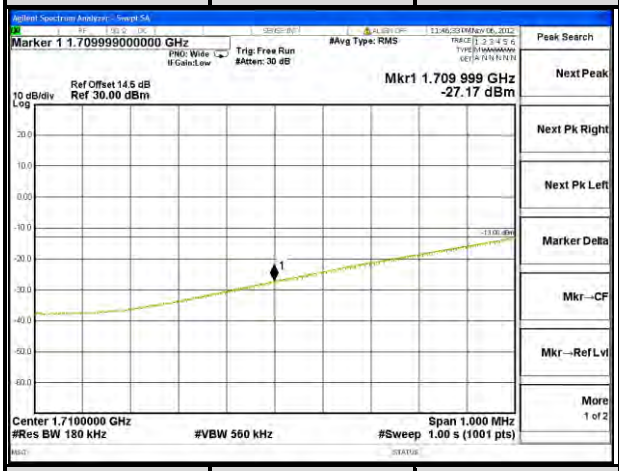
CHANNEL	20025	75 RB	CHANNEL	20325	75 RB

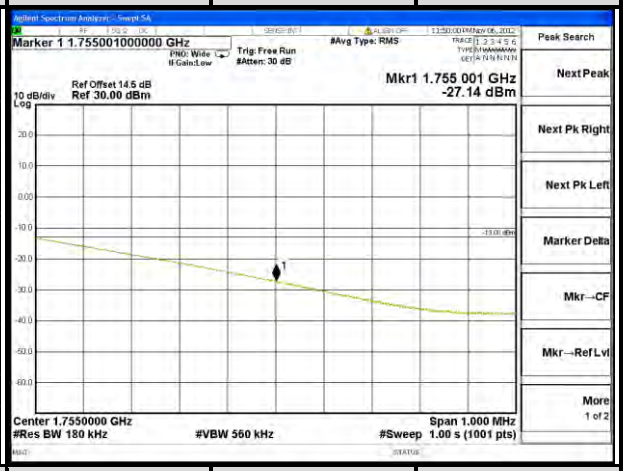




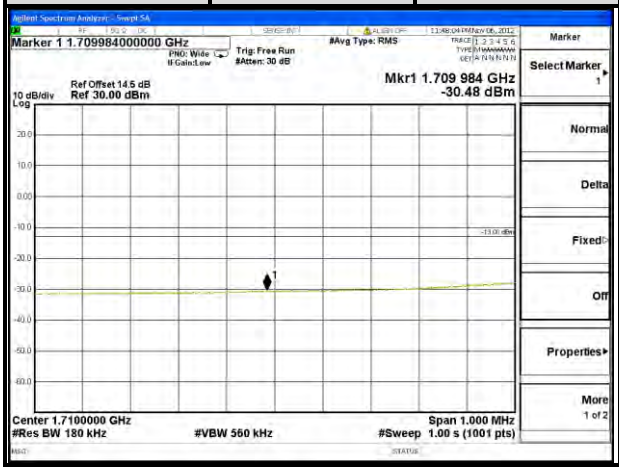
Channel Bandwidth: 20MHz

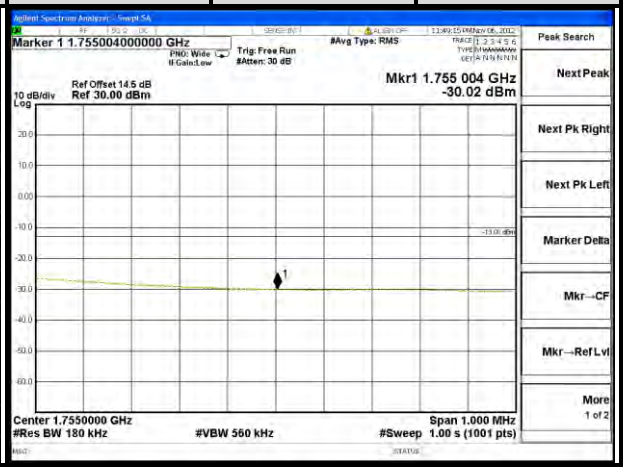
CHANNEL	20050	1 RB	CHANNEL	20300	1 RB





CHANNEL	20050	100 RB	CHANNEL	20300	100 RB





4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

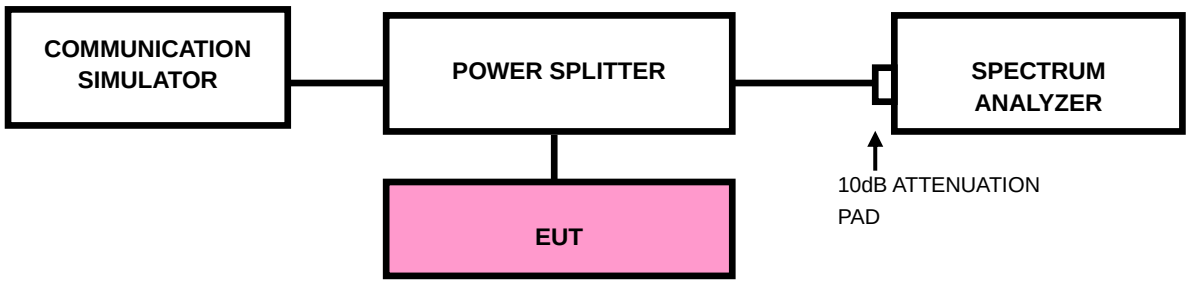
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

4.6.2 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 30 MHz to 8GHz for LTE Band 12 & 17 and from 30MHz to 18GHz for WCDMA & LTE Band 4. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

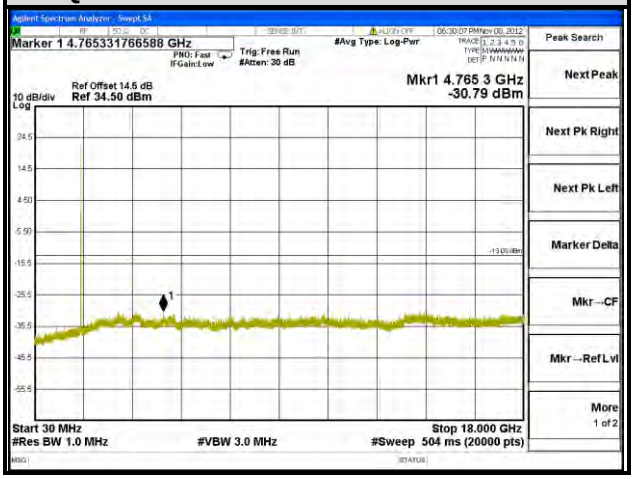
4.6.3 TEST SETUP



4.6.4 TEST RESULTS

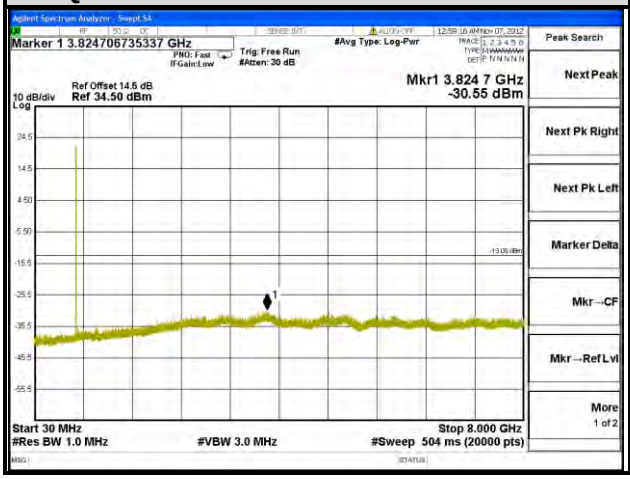
WCDMA

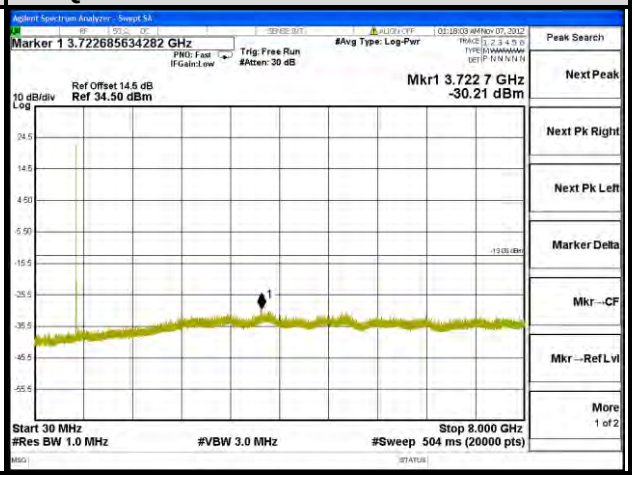
CHANNEL 1413
FREQUENCY RANGE : 30MHz~18GHz



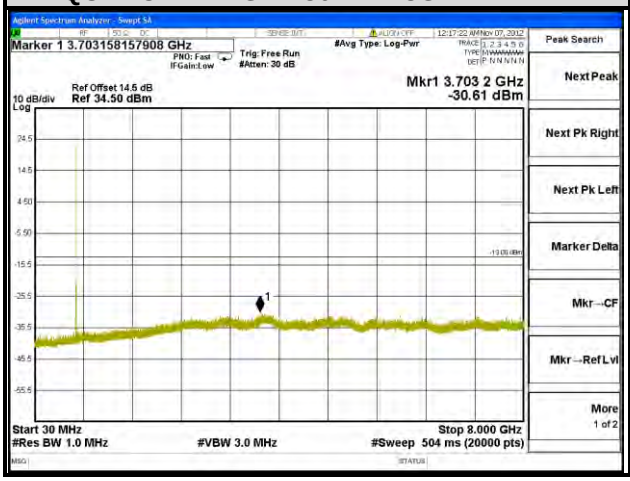
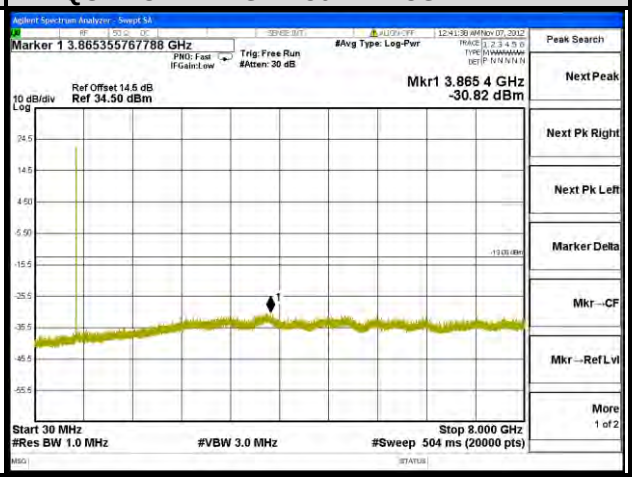
LTE BAND 12

CHANNEL 23095	
CHANNEL BANDWIDTH: 5MHz	CHANNEL BANDWIDTH: 10MHz
FREQUENCY RANGE : 30MHz~8GHz	FREQUENCY RANGE : 30MHz~8GHz

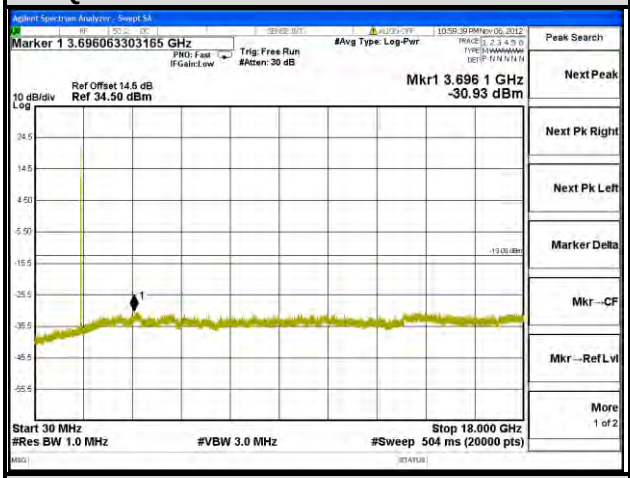
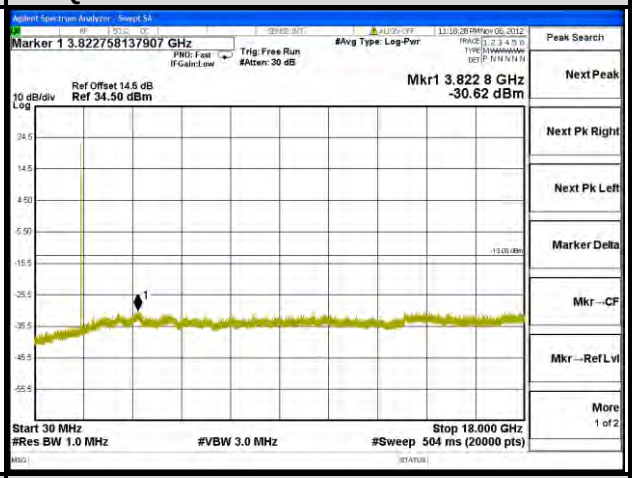




LTE BAND 17

CHANNEL 23790	
CHANNEL BANDWIDTH: 5MHz	**CHANNEL BANDWIDTH: 10MHz**
FREQUENCY RANGE : 30MHz~8GHz	**FREQUENCY RANGE : 30MHz~8GHz**
	

LTE BAND 4

CHANNEL 23790	
CHANNEL BANDWIDTH: 5MHz	**CHANNEL BANDWIDTH: 10MHz**
FREQUENCY RANGE : 30MHz~18GHz	**FREQUENCY RANGE : 30MHz~18GHz**
	
CHANNEL BANDWIDTH: 15MHz	**CHANNEL BANDWIDTH: 20MHz**
FREQUENCY RANGE : 30MHz~18GHz	**FREQUENCY RANGE : 30MHz~18GHz**