FCC TEST REPORT

(PART 27)

REPORT NO.:	RF130627C19-2
MODEL NO.:	M530S
FCC ID:	UZI-M30S58
RECEIVED:	Jun. 27, 2013
TESTED:	Jul. 16 ~ Aug. 07, 2013
ISSUED:	Aug. 12, 2013

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.

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130627C19-2	Original release	Aug. 12, 2013

1 CERTIFICATION

PRODUCT:	LTE/CDMA module
MODEL NO.:	M530S
BRAND:	BandLuxe
APPLICANT:	BandRich Inc.
TESTED:	Jul. 16 ~ Aug. 07, 2013
TEST SAMPLE:	ENGINEERING SAMPLE
TEST STANDARDS:	**FCC Part 27, Subpart C, M**
	FCC Part 2

The above equipment (model: M530S) 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 : Celine Chou , **DATE:** Aug. 12, 2013

Celine Chou / Specialist

APPROVED BY : , **DATE:** Aug. 12, 2013

Anderson Chiu / Senior Engineer

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 27 & Part 2			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(h)(2)	Equivalent Isotropically radiated power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	PASS	Meet the requirement of limit.
2.1049 27.53(m)(6)	Emission Bandwidth	PASS	Meet the requirement of limit.
2.1051 27.53(m)(4)(6)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(m)(4)(6)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(m)(4)(6)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -16.82dB at 7779.00MHz.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 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 ROHDE & SCHWARZ	ESI7	838496/016	Dec. 25, 2012	Dec. 24, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jan. 31, 2013	Jan. 30, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Mar. 20, 2013	Mar. 19, 2014
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/4	Aug. 28, 2012	Aug. 27, 2013
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jun. 13, 2013	Jun. 12, 2014
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY50266653	Oct. 08, 2012	Oct. 09, 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 3.

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 988962.

5. The IC Site Registration No. is IC 7450F-3.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	LTE/CDMA module	
MODEL NO.	M530S	
POWER SUPPLY	3.7Vdc (host equipment)	
MODULATION TECHNOLOGY	QPSK, 16QAM	
FREQUENCY RANGE	**Channel Bandwidth 10MHz:**	2501MHz ~ 2685MHz
	Channel Bandwidth 15MHz:	2503.5MHz ~ 2682.5MHz
	Channel Bandwidth 20MHz:	2506MHz ~ 2680MHz
MAX. EIRP POWER (W)	**Channel Bandwidth 10MHz:**	0.386W (25.87dBm)
	Channel Bandwidth 15MHz:	0.375W (25.74dBm)
	Channel Bandwidth 20MHz:	0.337W (25.27dBm)
EMISSION DESIGNATOR	**Channel Bandwidth 10MHz:**	9M00G7D (QPSK)
		9M00W7D (16QAM)
	Channel Bandwidth 15MHz:	13M4G7D (QPSK)
		13M4W7D (16QAM)
	Channel Bandwidth 20MHz:	17M8G7D (QPSK)
		18M0W7D (16QAM)
ANTENNA TYPE	Dipole antenna with -1.36dBi gain	
ANTENNA connector	IPEX 20279	
I/O PORTS	Refer to users' manual	
DATA CABLE	NA	
ACCESSORY DEVICES	NA	

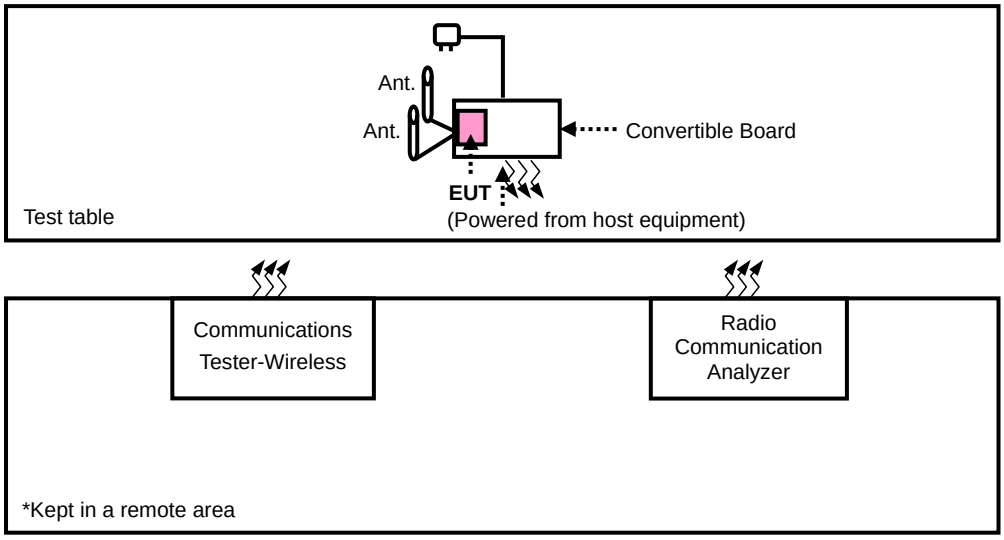
NOTE:

1. The convertible Board consumes power from the following adapter (for support unit only).

Brand	TPT
Model	FSY050200UU12-2
Input Power	100-240Vac, 50/60Hz, 0.6A
Output Power	5Vdc, 2A
Power Line	1.8m cable without core attached on adapter

2. The above EUT information was 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



3.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Antenna x2	NA	NA	NA	NA
2	Convertible Board	BandLuxe	PCIe Mini Card evaluation board 1.0	NA	NA
3	Communications Tester-Wireless	Agilent	8960 Series 10	MY50260642	NA
4	Radio Communication Analyzer	Anritsu	MT8820C	6201010284	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA
4	NA

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Items 2-3 act as communication partners to transfer data.
3. Item 1, 2 were provided by the client.

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 Z-plane. Following channel(s) was (were) selected for the final test as listed below:

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
OUTPUT POWER	39700 to 41540	39700, 40620, 41540	10MHz	QPSK	1 RB / 49 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK	1 RB / 74 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK	1 RB / 99 RB Offset
FREQUENCY STABILITY	39700 to 41540	40620	10MHz	QPSK	1 RB / 49 RB Offset
	39725 to 41515	40620	15MHz	QPSK	1 RB / 74 RB Offset
	39750 to 41490	40620	20MHz	QPSK	1 RB / 99 RB Offset
EMISSION BANDWIDTH	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
CHANNEL EDGE	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
CONDCUDETED EMISSION	39700 to 41540	39700, 40620, 41540	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK, 16QAM	1 RB / 99 RB Offset
RADIATED EMISSION Below 1GHz	39700 to 41540	39700	10MHz	QPSK	1 RB / 49 RB Offset
	39725 to 41515	39725	15MHz	QPSK	1 RB / 74 RB Offset
	39750 to 41490	39750	20MHz	QPSK	1 RB / 99 RB Offset
RADIATED EMISSION Above 1GHz	39700 to 41540	39700, 40620, 41540	10MHz	QPSK	1 RB / 49 RB Offset
	39725 to 41515	39725, 40620, 41515	15MHz	QPSK	1 RB / 74 RB Offset
	39750 to 41490	39750, 40620, 41490	20MHz	QPSK	1 RB / 99 RB Offset

NOTE:

1. For radiated emission below 1 GHz, the low, mid and high channels were pre-tested in chamber. The low channel was the worst case and chosen for final test.
2. The conducted output power for QPSK and 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, the EIRP power, FREQUENCY STABILITY and RADIATED EMISSION were performed under QPSK mode only.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
OUTPUT POWER	27deg. C, 66%RH	120Vac, 60Hz	Martin Lee
FREQUENCY STABILITY	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
EMISSION BANDWIDTH	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
CHANNEL EDGE	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
CONDCUDETED EMISSION	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
RADIATED EMISSION	25deg. C, 65%RH 27deg. C, 67%RH	120Vac, 60Hz	Chris Lin Alan 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/TIA/EIA-603-C 2004

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

4.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.)

b. The conducted peak output power used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. The path loss included the splitter loss, cable loss and 20dB pad loss. The spectrum set RB/VB 3MHz, then read peak power value and record to the test. (All transmitted path loss shall be considered in the test report data.)

c. 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.

d. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value“ of step b. Record the power level of S.G

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

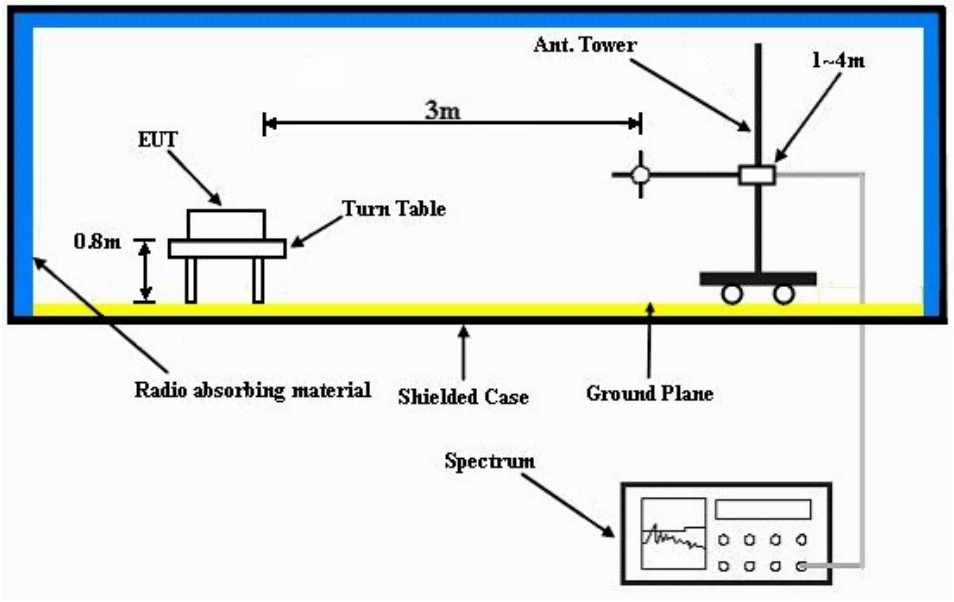
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 10MHz/10MHz.

CONDUCTED POWER MEASUREMENT:

A power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

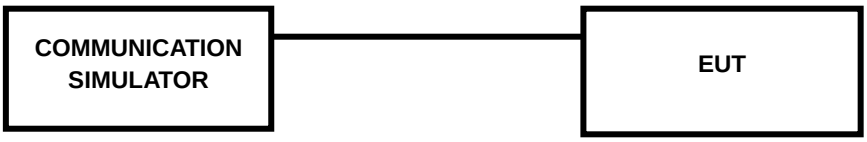
4.1.3 TEST SETUP

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)

BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10MHz	QPSK	39700	2501	1	0	0	27.3	24.43
		40620	2593	1	0	0	27.3	22.46
		41540	2685	1	0	0	27.3	23.33
		39700	2501	1	24	0	27.3	26.81
		40620	2593	1	24	0	27.3	22.50
		41540	2685	1	24	0	27.3	23.26
		39700	2501	1	49	0	27.3	27.04
		40620	2593	1	49	0	27.3	22.44
		41540	2685	1	49	0	27.3	22.84
		39700	2501	25	0	1	27.3	21.69
		40620	2593	25	0	1	27.3	21.50
		41540	2685	25	0	1	27.3	21.76
		39700	2501	25	12	1	27.3	22.31
		40620	2593	25	12	1	27.3	21.56
		41540	2685	25	12	1	27.3	21.77
		39700	2501	25	25	1	27.3	22.81
		40620	2593	25	25	1	27.3	21.51
		41540	2685	25	25	1	27.3	21.56
		39700	2501	50	0	1	27.3	22.40
		40620	2593	50	0	1	27.3	21.64
		41540	2685	50	0	1	27.3	21.85
	16QAM	39700	2501	1	0	1	27.3	23.26
		40620	2593	1	0	1	27.3	21.29
		41540	2685	1	0	1	27.3	22.16
		39700	2501	1	24	1	27.3	25.64
		40620	2593	1	24	1	27.3	21.33
		41540	2685	1	24	1	27.3	22.09
		39700	2501	1	49	1	27.3	25.87
		40620	2593	1	49	1	27.3	21.27
		41540	2685	1	49	1	27.3	21.67
		39700	2501	25	0	2	27.3	20.52
		40620	2593	25	0	2	27.3	20.33
		41540	2685	25	0	2	27.3	20.59
		39700	2501	25	12	2	27.3	21.14
		40620	2593	25	12	2	27.3	20.39
		41540	2685	25	12	2	27.3	20.60
		39700	2501	25	25	2	27.3	21.64
		40620	2593	25	25	2	27.3	20.34
		41540	2685	25	25	2	27.3	20.39
		39700	2501	50	0	2	27.3	21.23
		40620	2593	50	0	2	27.3	20.47
		41540	2685	50	0	2	27.3	20.68

BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
15MHz	QPSK	39725	2503.5	1	0	0	27.3	24.55
		40620	2593	1	0	0	27.3	22.58
		41515	2682.5	1	0	0	27.3	23.45
		39725	2503.5	1	37	0	27.3	26.93
		40620	2593	1	37	0	27.3	22.62
		41515	2682.5	1	37	0	27.3	23.38
		39725	2503.5	1	74	0	27.3	27.16
		40620	2593	1	74	0	27.3	22.56
		41515	2682.5	1	74	0	27.3	22.96
		39725	2503.5	36	0	1	27.3	21.81
		40620	2593	36	0	1	27.3	21.62
		41515	2682.5	36	0	1	27.3	21.88
		39725	2503.5	36	19	1	27.3	22.43
		40620	2593	36	19	1	27.3	21.68
		41515	2682.5	36	19	1	27.3	21.89
		39725	2503.5	36	39	1	27.3	22.93
		40620	2593	36	39	1	27.3	21.63
		41515	2682.5	36	39	1	27.3	21.68
		39725	2503.5	75	0	1	27.3	22.52
		40620	2593	75	0	1	27.3	21.76
		41515	2682.5	75	0	1	27.3	21.97
	16QAM	39725	2503.5	1	0	1	27.3	23.43
		40620	2593	1	0	1	27.3	21.46
		41515	2682.5	1	0	1	27.3	22.33
		39725	2503.5	1	37	1	27.3	25.81
		40620	2593	1	37	1	27.3	21.50
		41515	2682.5	1	37	1	27.3	22.26
		39725	2503.5	1	74	1	27.3	26.04
		40620	2593	1	74	1	27.3	21.44
		41515	2682.5	1	74	1	27.3	21.84
		39725	2503.5	36	0	2	27.3	20.69
		40620	2593	36	0	2	27.3	20.50
		41515	2682.5	36	0	2	27.3	20.76
		39725	2503.5	36	19	2	27.3	21.31
		40620	2593	36	19	2	27.3	20.56
		41515	2682.5	36	19	2	27.3	20.77
		39725	2503.5	36	39	2	27.3	21.81
		40620	2593	36	39	2	27.3	20.51
		41515	2682.5	36	39	2	27.3	20.56
		39725	2503.5	75	0	2	27.3	21.40
		40620	2593	75	0	2	27.3	20.64
		41515	2682.5	75	0	2	27.3	20.85

BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
20MHz	QPSK	39750	2506	1	0	0	27.3	24.68
		40620	2593	1	0	0	27.3	22.71
		41490	2680	1	0	0	27.3	23.58
		39750	2506	1	50	0	27.3	27.06
		40620	2593	1	50	0	27.3	22.75
		41490	2680	1	50	0	27.3	23.51
		39750	2506	1	99	0	27.3	27.29
		40620	2593	1	99	0	27.3	22.69
		41490	2680	1	99	0	27.3	23.09
		39750	2506	50	0	1	27.3	21.94
		40620	2593	50	0	1	27.3	21.75
		41490	2680	50	0	1	27.3	22.01
		39750	2506	50	25	1	27.3	22.56
		40620	2593	50	25	1	27.3	21.81
		41490	2680	50	25	1	27.3	22.02
		39750	2506	50	50	1	27.3	23.06
		40620	2593	50	50	1	27.3	21.76
		41490	2680	50	50	1	27.3	21.81
		39750	2506	100	0	1	27.3	22.65
		40620	2593	100	0	1	27.3	21.89
		41490	2680	100	0	1	27.3	22.10
	16QAM	39750	2506	1	0	1	27.3	23.66
		40620	2593	1	0	1	27.3	21.69
		41490	2680	1	0	1	27.3	22.56
		39750	2506	1	50	1	27.3	26.04
		40620	2593	1	50	1	27.3	21.73
		41490	2680	1	50	1	27.3	22.49
		39750	2506	1	99	1	27.3	26.27
		40620	2593	1	99	1	27.3	21.67
		41490	2680	1	99	1	27.3	22.07
		39750	2506	50	0	2	27.3	20.92
		40620	2593	50	0	2	27.3	20.73
		41490	2680	50	0	2	27.3	20.99
		39750	2506	50	25	2	27.3	21.54
		40620	2593	50	25	2	27.3	20.79
		41490	2680	50	25	2	27.3	21.00
		39750	2506	50	50	2	27.3	22.04
		40620	2593	50	50	2	27.3	20.74
		41490	2680	50	50	2	27.3	20.79
		39750	2506	100	0	2	27.3	21.63
		40620	2593	100	0	2	27.3	20.87
		41490	2680	100	0	2	27.3	21.08

EIRP (dBm)

CHANNEL BANDWIDTH: 10MHz QPSK

MODE		TX channel 39700					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2501.00	-24.48	14.09	0.68	14.77	33.00	-18.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2501.00	-16.00	25.19	0.68	**25.87**	33.00	-7.13

MODE		TX channel 40620					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2593.00	-27.92	11.89	0.85	12.74	33.00	-20.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2593.00	-21.36	19.50	0.85	20.35	33.00	-12.65

MODE		TX channel 41540					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2685.00	-27.56	13.29	0.84	14.13	33.00	-18.87
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2685.00	-22.62	18.74	0.84	19.58	33.00	-13.42

NOTE: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

CHANNEL BANDWIDTH: 15MHz QPSK

MODE		TX channel 39725					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2503.50	-24.75	13.86	0.68	14.54	33.00	-18.46
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2503.50	-16.12	25.06	0.68	**25.74**	33.00	-7.26

MODE		TX channel 40620					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2593.00	-29.38	10.43	0.85	11.28	33.00	-21.72
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2593.00	-21.49	19.37	0.85	20.22	33.00	-12.78

MODE		TX channel 41515					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2682.50	-27.37	13.45	0.84	14.29	33.00	-18.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2682.50	-21.19	20.15	0.84	20.99	33.00	-12.01

NOTE: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

CHANNEL BANDWIDTH: 20MHz QPSK

MODE		TX channel 39750					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2506.00	-26.02	12.62	0.69	13.31	33.00	-19.69
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2506.00	-16.59	24.58	0.69	**25.27**	33.00	-7.73

MODE		TX channel 40620					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2593.00	-28.03	11.78	0.85	12.63	33.00	-20.37
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2593.00	-21.35	19.51	0.85	20.36	33.00	-12.64

MODE		TX channel 41490					
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2680.00	-27.70	13.10	0.84	13.94	33.00	-19.06
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	2680.00	-21.60	19.73	0.84	20.57	33.00	-12.43

NOTE: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

4.2 FREQUENCY STABILITY MEASUREMENT

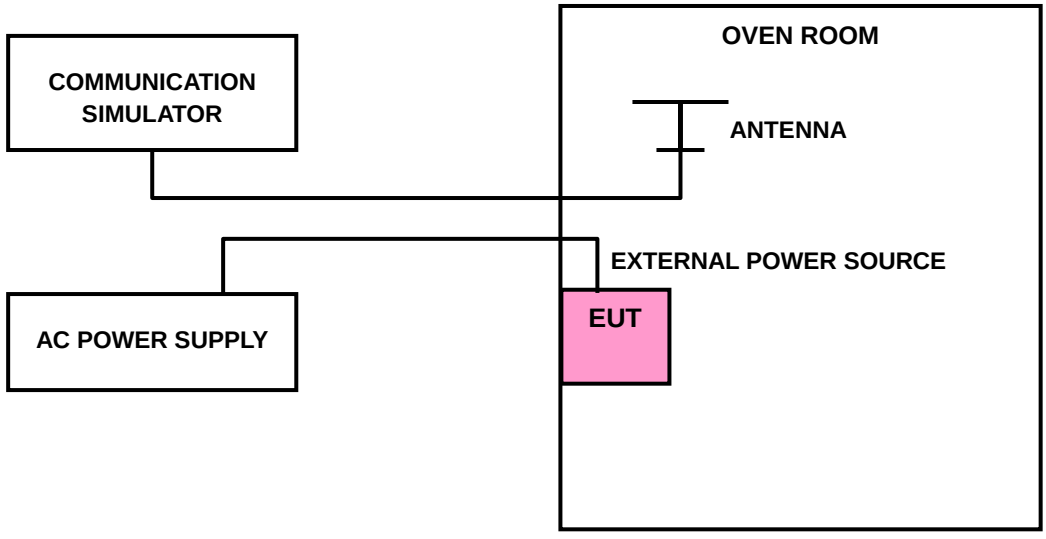
4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with specification of EUT -30℃ ~ 50℃.

4.2.2 TEST PROCEDURE

a. Power must be removed when changing from one temperature to another or one voltage to another voltage. 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 AC input power. The various Volts from the minimum 108Volts to 132Volts. 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.
d. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

4.2.3 TEST SETUP



4.2.4 TEST RESULTS

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)			LIMIT (ppm)
	10MHz	15MHz	20MHz	
132	-0.008	-0.007	-0.008	2.5
120	-0.007	-0.007	-0.008	2.5
108	-0.008	-0.006	-0.007	2.5

NOTE: The applicant defined the normal working voltage of the adapter is from 108Vac to 132Vac.

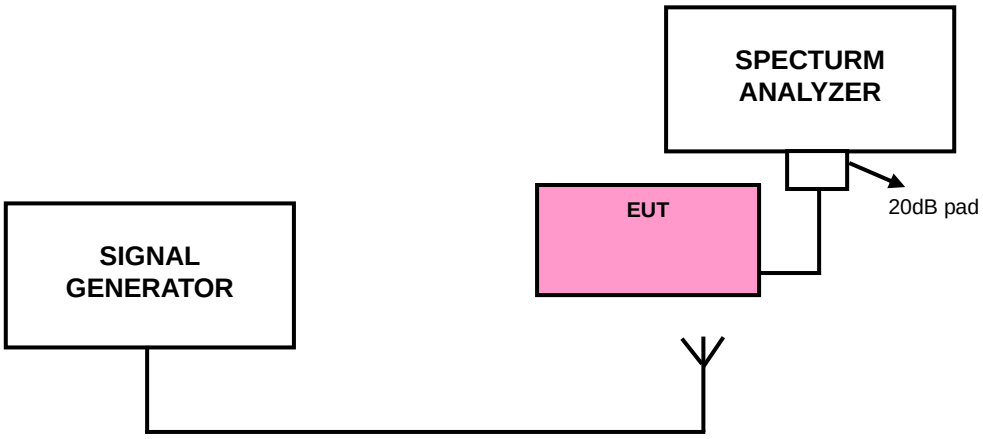
TEMP. (℃)	FREQUENCY ERROR (ppm)			LIMIT (ppm)
	10MHz	15MHz	20MHz	
50	-0.013	-0.013	-0.013	2.5
40	-0.012	-0.013	-0.011	2.5
30	-0.010	-0.008	-0.008	2.5
20	-0.007	-0.007	-0.008	2.5
10	-0.008	-0.007	-0.009	2.5
0	-0.011	-0.010	-0.014	2.5
-10	-0.013	-0.013	-0.016	2.5
-20	-0.017	-0.016	-0.018	2.5
-30	-0.019	-0.018	-0.018	2.5

4.3 EMISSION BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF EMISSION BANDWIDTH MEASUREMENT

According to FCC 27.53(m)(6) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

4.3.2 TEST SETUP



4.3.3 TEST PROCEDURES

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW = 200kHz and VBW = 620kHz (Channel Bandwidth: 10MHz and 15MHz), RBW = 430kHz and VBW = 1.2MHz (Channel Bandwidth: 20MHz). The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

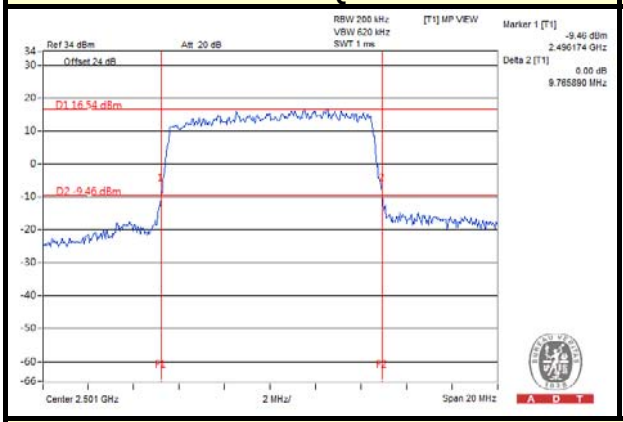
4.3.4 TEST RESULTS

CHANNEL BANDWIDTH: 10MHz					
CHANNEL	FREQUENCY (MHz)	-26dBc BANDWIDTH (MHz)		OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
39700	2501.0	9.766	9.782	8.93	8.93
40620	2593.0	9.723	9.788	9.00	9.00
41540	2685.0	9.669	9.724	8.93	8.84

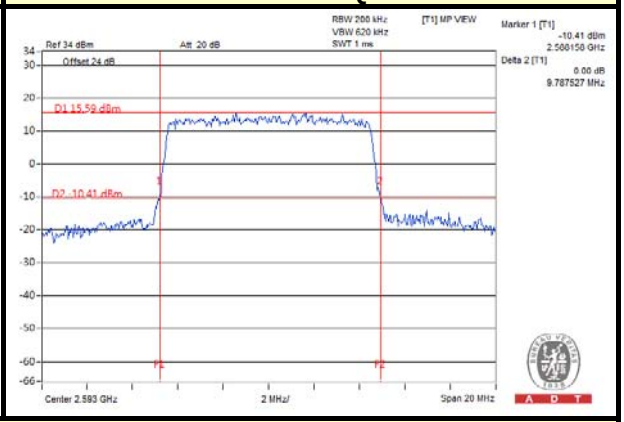
SPECTRUM PLOT OF WORST VALUE

-26dBc Bandwidth

10MHz / QPSK

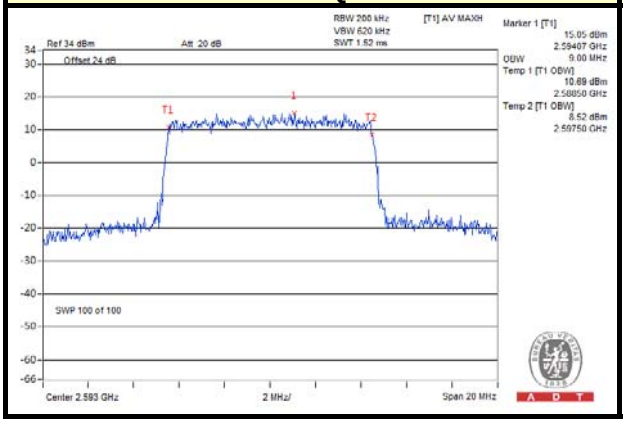


10MHz / 16QAM

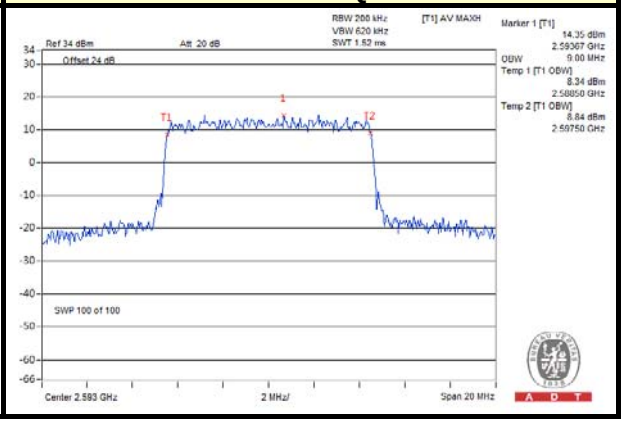


Occupied Bandwidth

10MHz / QPSK



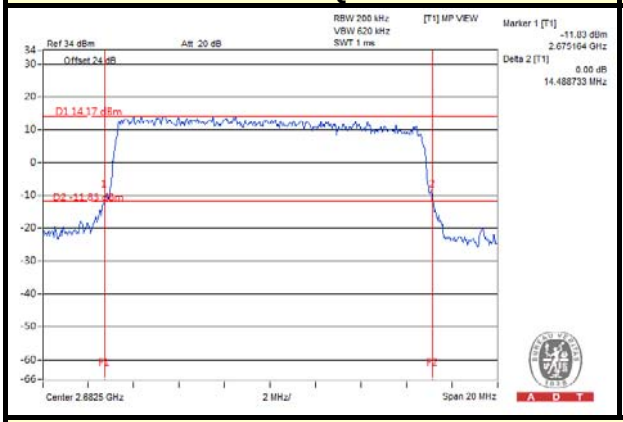
10MHz / 16QAM



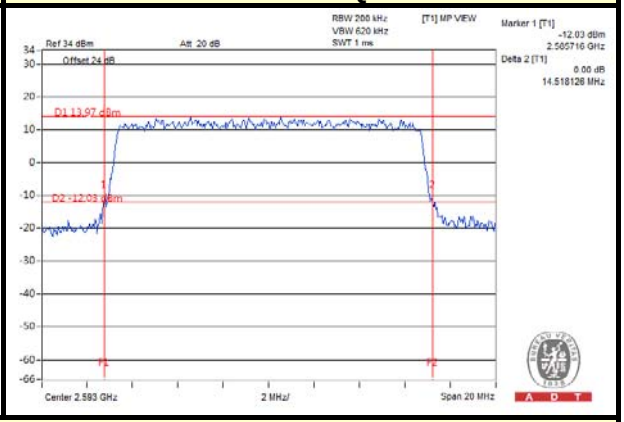
CHANNEL BANDWIDTH: 15MHz					
CHANNEL	FREQUENCY (MHz)	-26dBc BANDWIDTH (MHz)		OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
39725	2503.5	14.459	14.355	13.33	13.37
40620	2593.0	14.473	14.518	13.37	13.37
41515	2682.5	14.489	14.288	13.33	13.37

SPECTRUM PLOT OF WORST VALUE

15MHz / QPSK

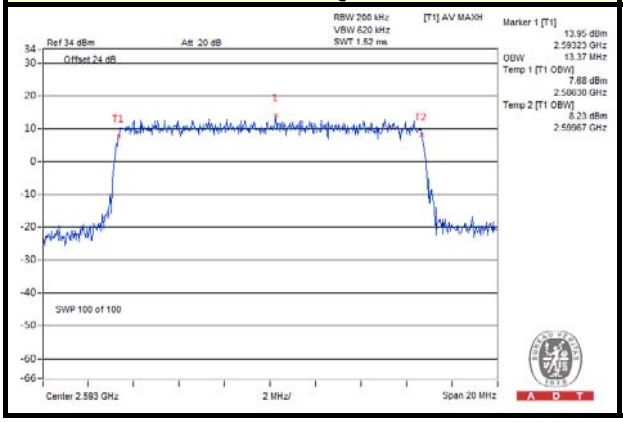


15MHz / 16QAM

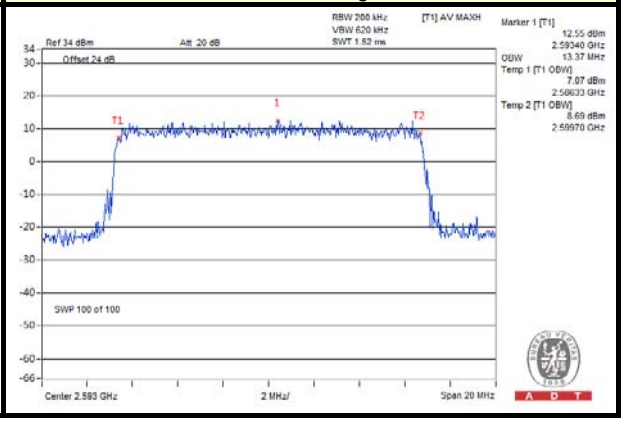


Occupied Bandwidth

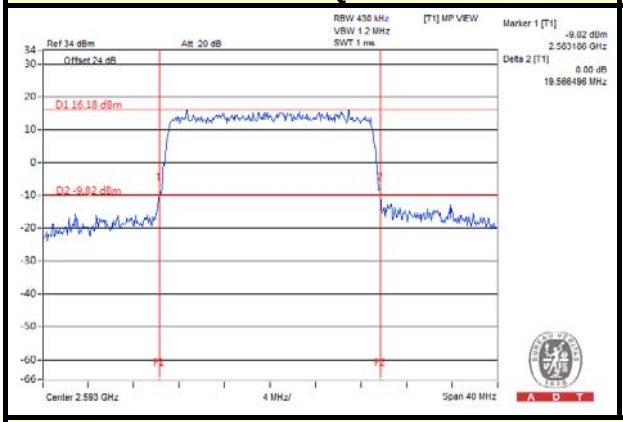
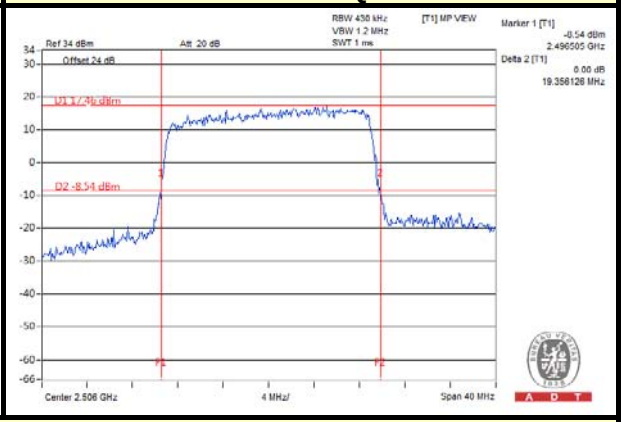
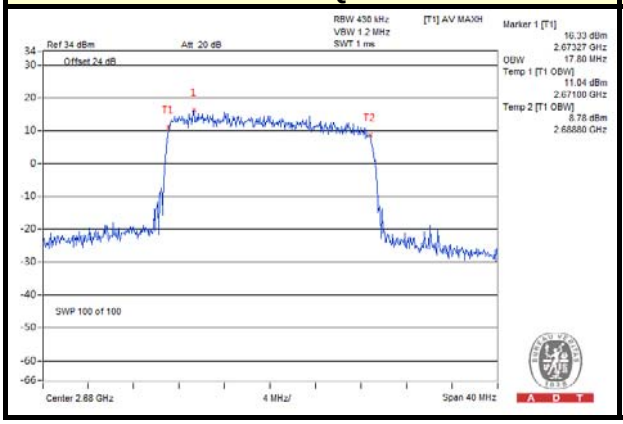
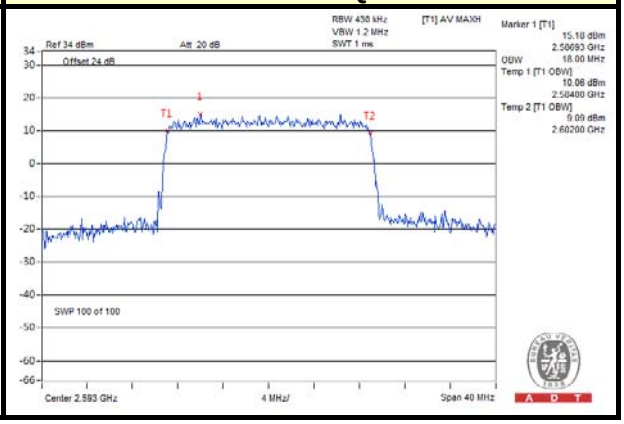
15MHz / QPSK



15MHz / 16QAM



CHANNEL BANDWIDTH: 20MHz					
CHANNEL	FREQUENCY (MHz)	-26dBc BANDWIDTH (MHz)		OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
39750	2506.0	19.441	19.356	17.73	17.87
40620	2593.0	19.566	19.313	17.78	18.00
41490	2680.0	19.374	19.292	17.80	17.87

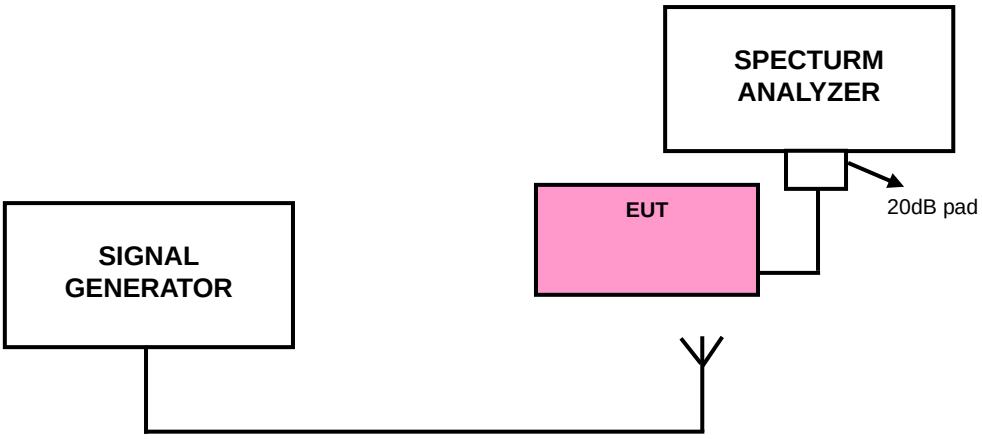
SPECTRUM PLOT OF WORST VALUE	
20MHz / QPSK	20MHz / 16QAM
	
Occupied Bandwidth	
20MHz / QPSK	20MHz / 16QAM
	

4.4 CHANNEL EDGE MEASUREMENT

4.4.1 LIMITS OF CHANNEL EDGE MEASUREMENT

According to FCC 27.53(m)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power (P) by a factor shall be not less than 43 + 10 log (P) dB at the channel edge, the limit of emission equal to –13dBm. And 55 + 10 log (P) dB at 5.5 MHz from the channel edges, the limit of emission equal to –25dBm.In the 1MHz 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.

4.4.2 TEST SETUP



4.4.3 TEST PROCEDURES

a. The EUT was set up for the rated peak power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels: low, middle and high operational frequency range.

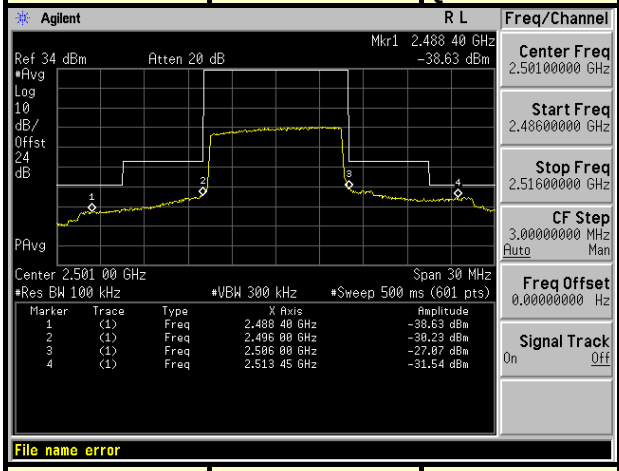
b. The center frequency of spectrum is the band edge frequency and span is 30MHz (Channel Bandwidth: 10MHz) / 40MHz (Channel Bandwidth: 15MHz) / 50MHz (Channel Bandwidth: 25MHz). RBW of the spectrum is 100kHz (Channel Bandwidth: 10MHz) / 100kHz (Channel Bandwidth: 10MHz) / 150kHz (Channel Bandwidth: 15MHz) / 200kHz (Channel Bandwidth: 20MHz).

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

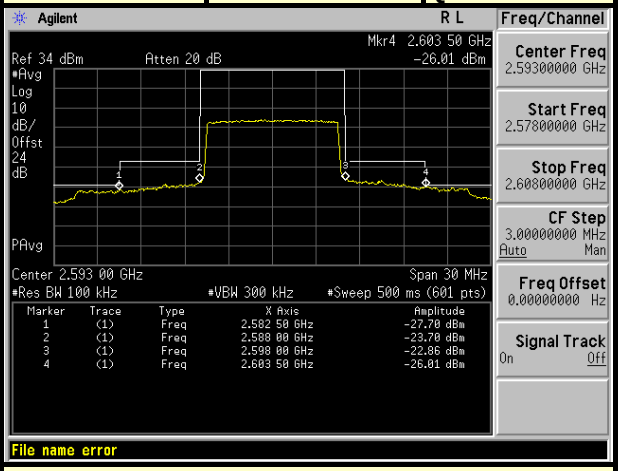
4.4.4 TEST RESULTS

Channel Bandwidth: 10MHz

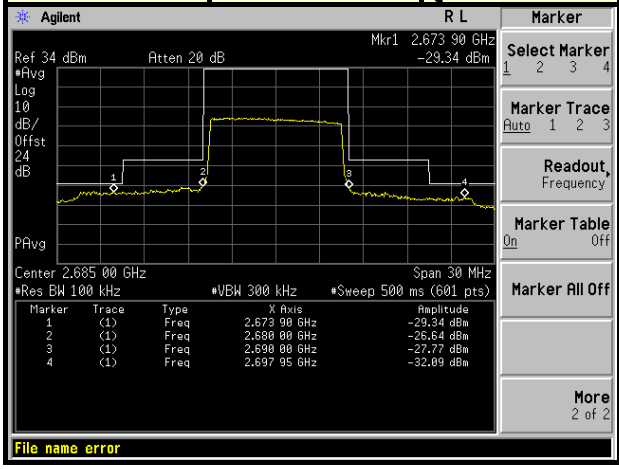
CHANNEL	39700	QPSK



CHANNEL	40620	QPSK

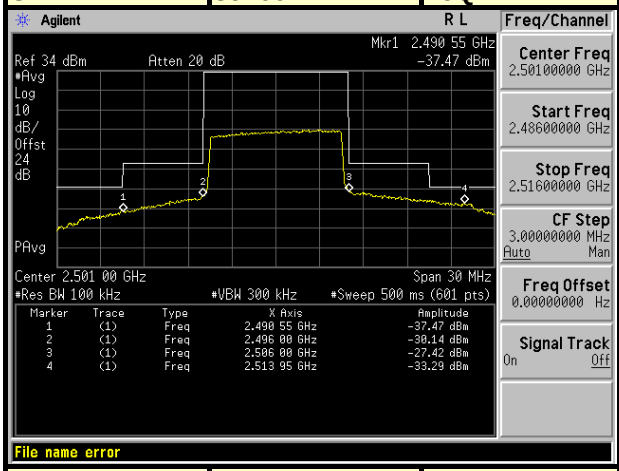


CHANNEL	41540	QPSK

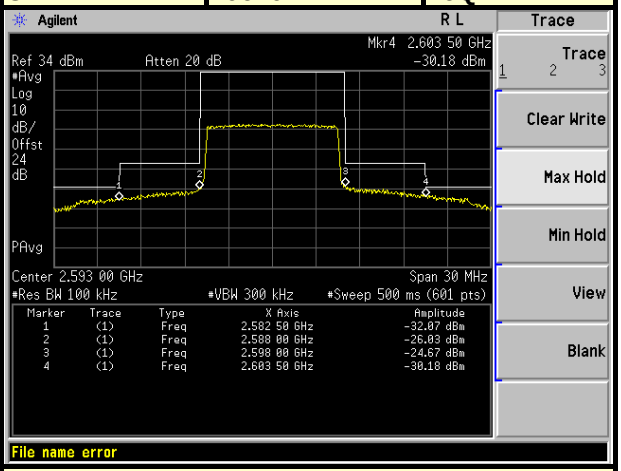


Channel Bandwidth: 10MHz

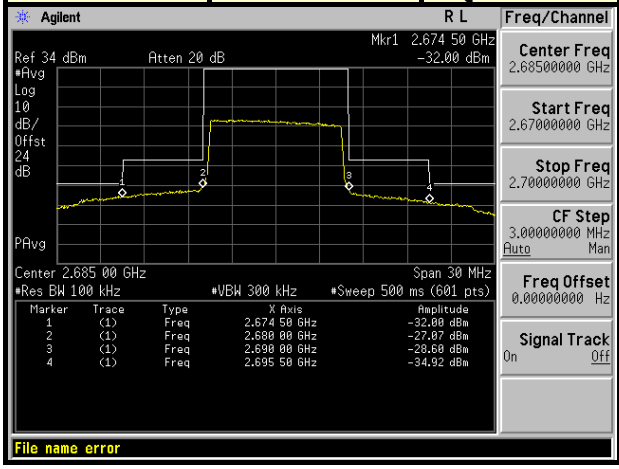
CHANNEL	39700	16QAM



CHANNEL	40620	16QAM

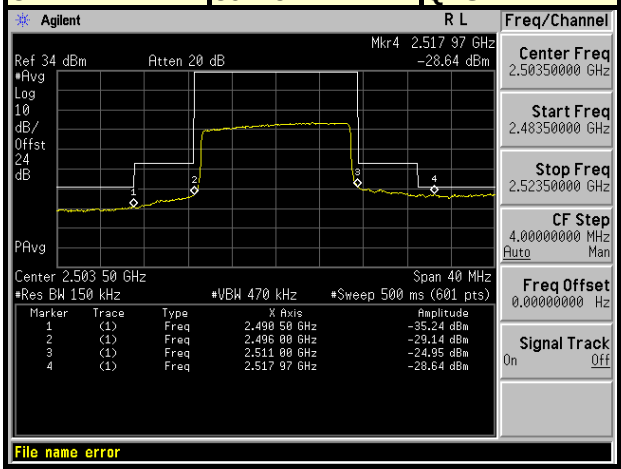


CHANNEL	41540	16QAM

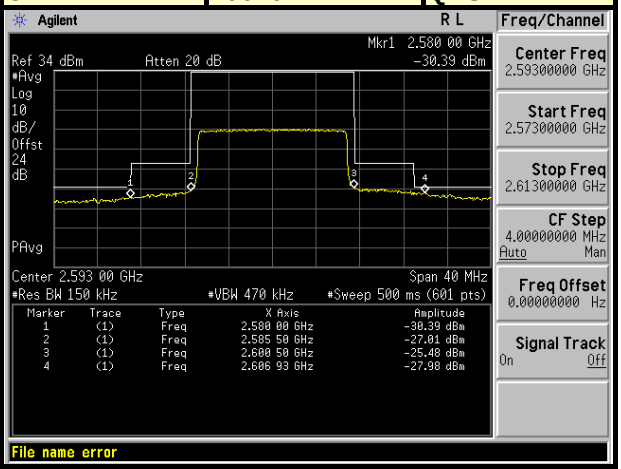


Channel Bandwidth: 15MHz

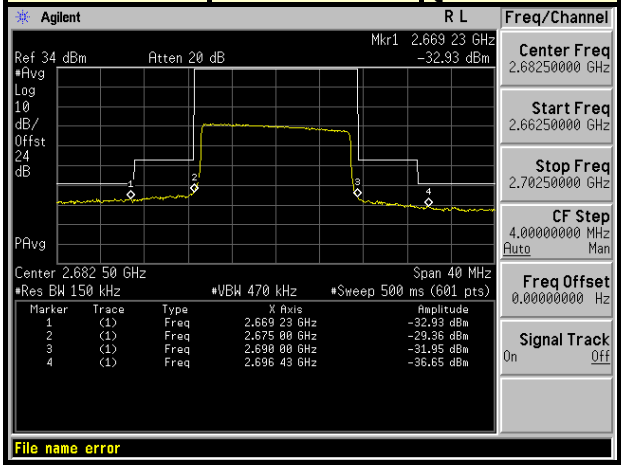
CHANNEL	39725	QPSK



CHANNEL	40620	QPSK

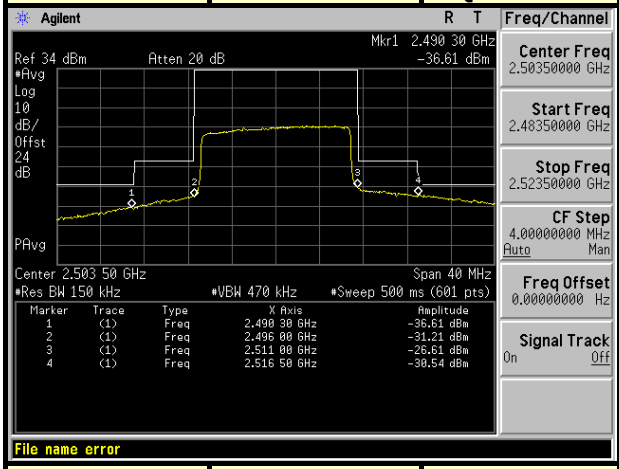


CHANNEL	41515	QPSK

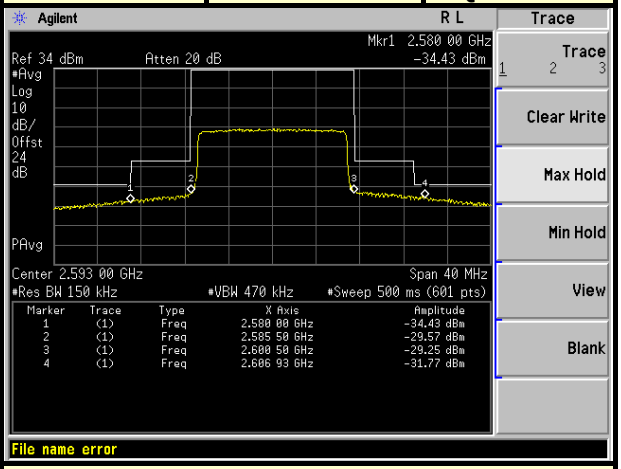


Channel Bandwidth: 15MHz

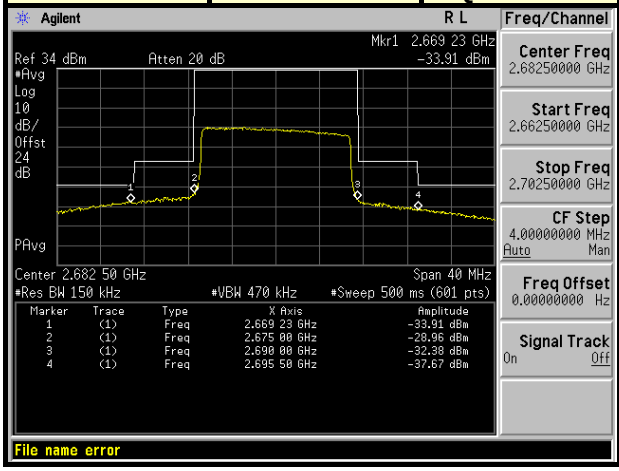
CHANNEL	39725	16QAM



CHANNEL	40620	16QAM

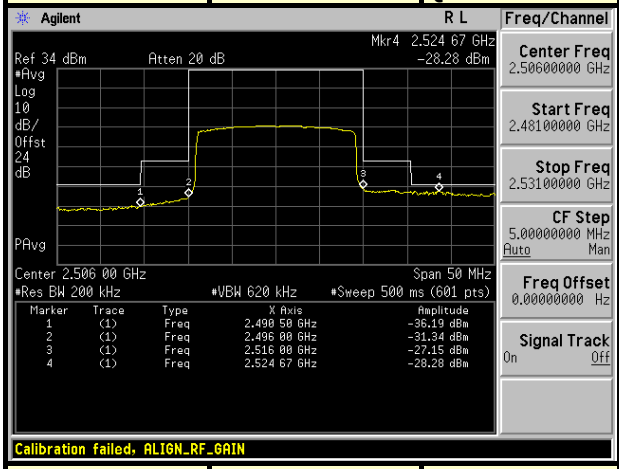


CHANNEL	41515	16QAM

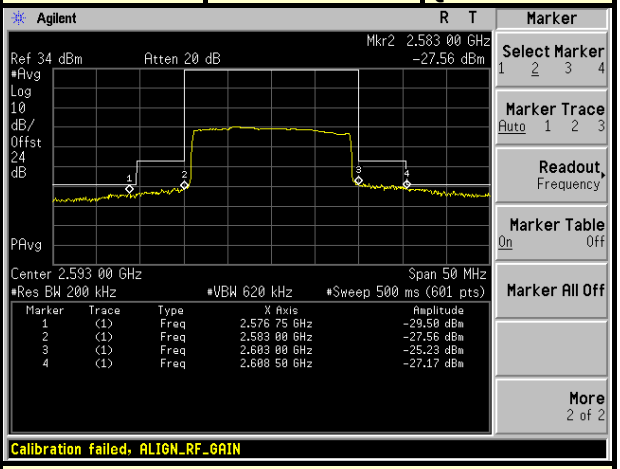


Channel Bandwidth: 20MHz

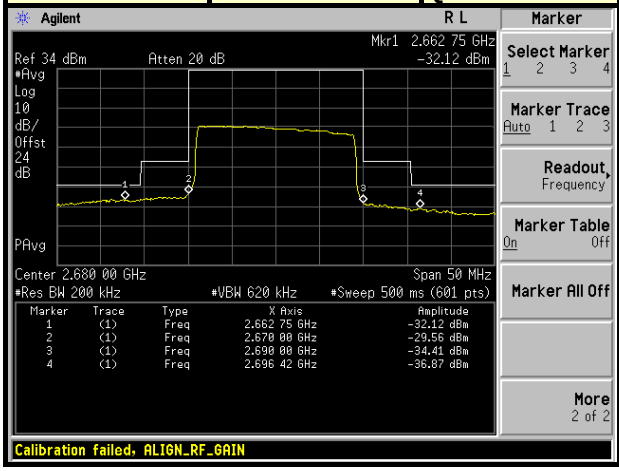
CHANNEL	39750	QPSK



CHANNEL	40620	QPSK

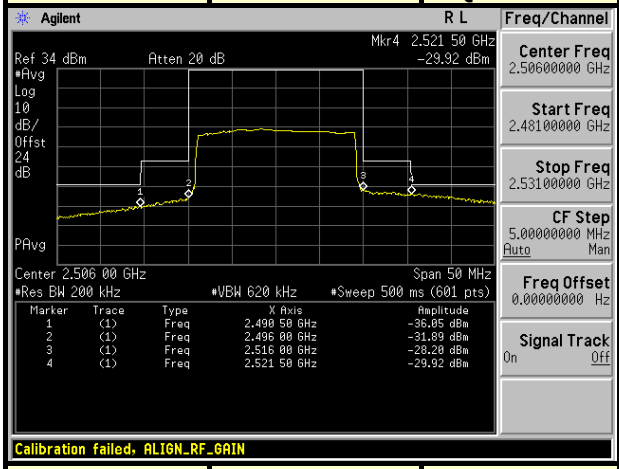


CHANNEL	41490	QPSK

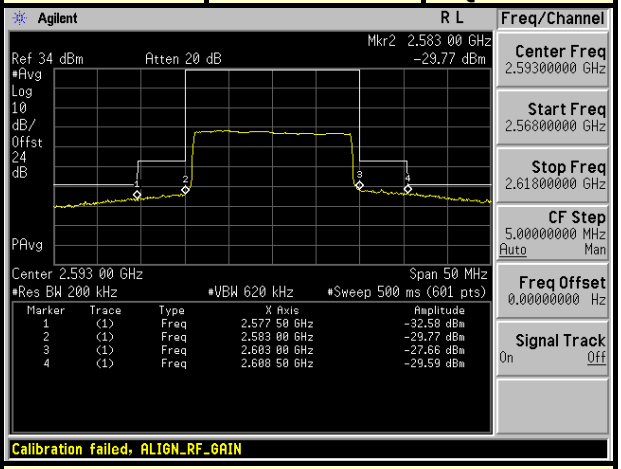


Channel Bandwidth: 20MHz

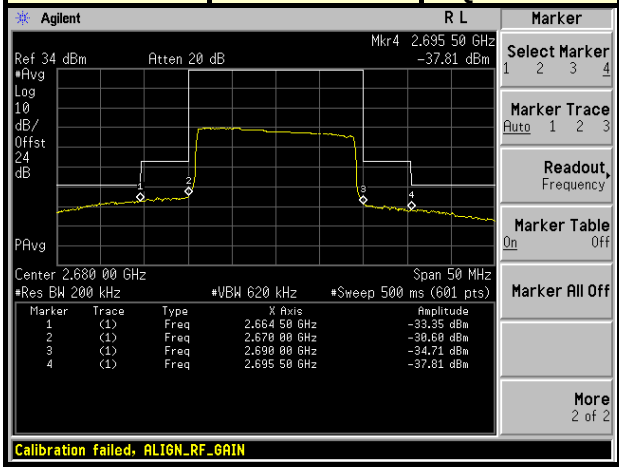
CHANNEL	39750	16QAM



CHANNEL	40620	16QAM



CHANNEL	41490	16QAM



4.5 CONDUCTED SPURIOUS EMISSIONS

4.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

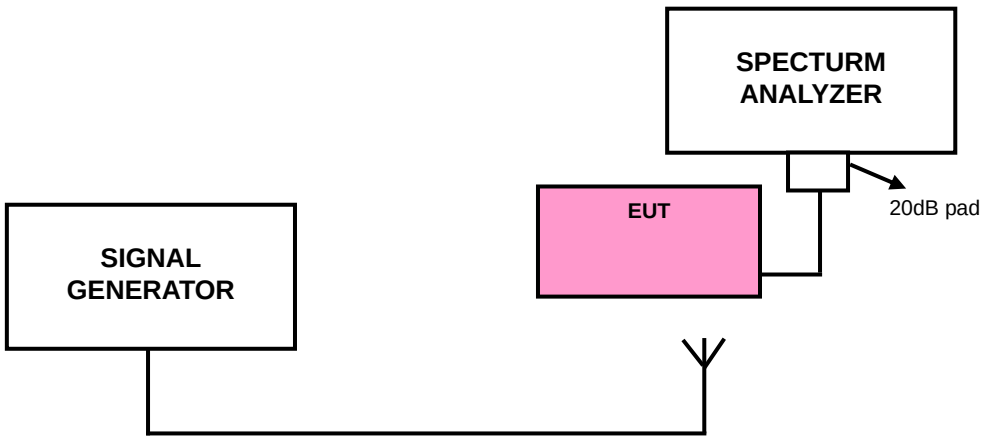
In the FCC 27.53(m)(4), On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB. The emission limit equal to –13dBm.

4.5.2 TEST PROCEDURE

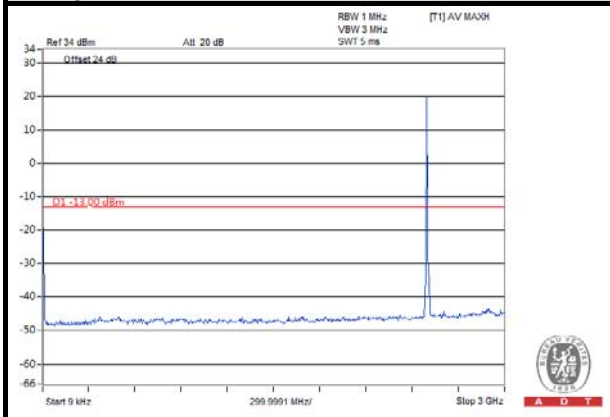
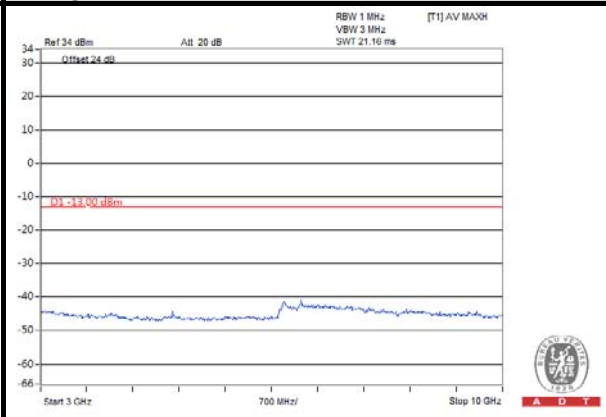
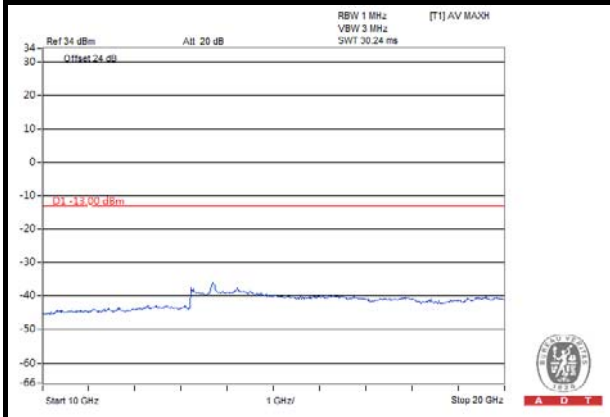
a. All measurements were done at 3 channels: low, middle and high operational frequency range.

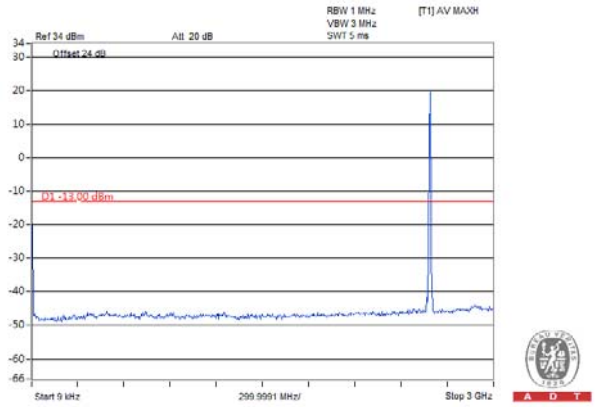
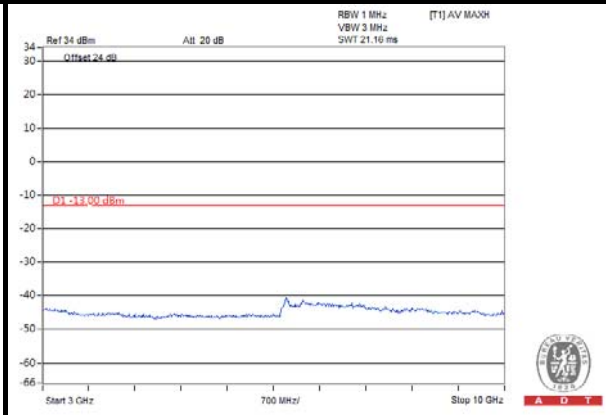
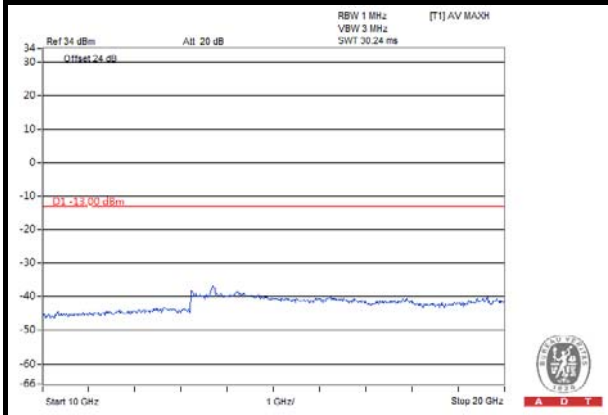
b. When the spectrum scanned from 9kHz to 20GHz, it shall be connected to the 20dB pad attenuated the carried frequency. The spectrum set RB = 1MHz, VB = 3MHz.

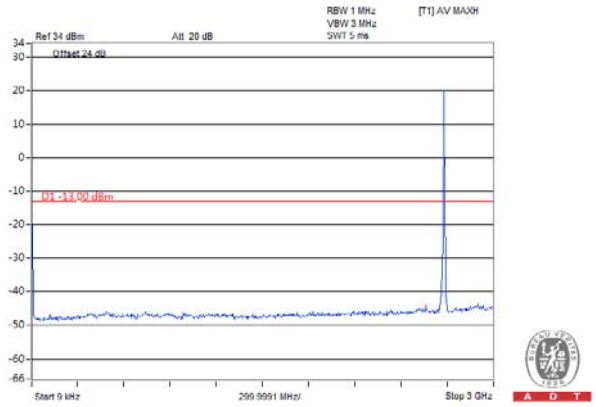
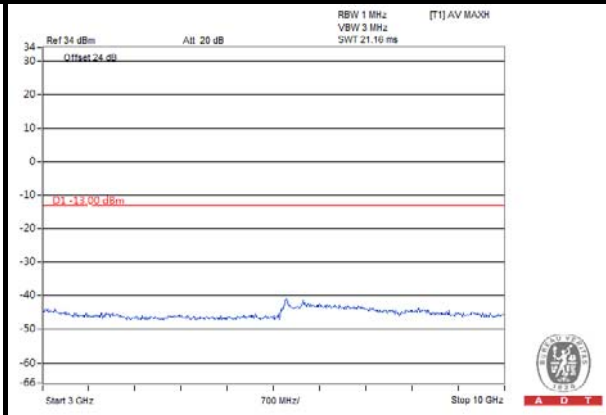
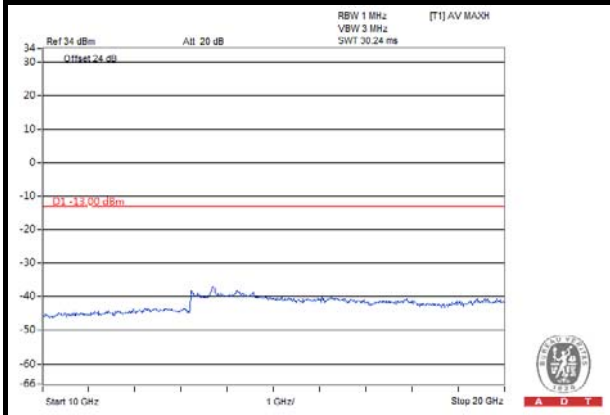
4.5.3 TEST SETUP

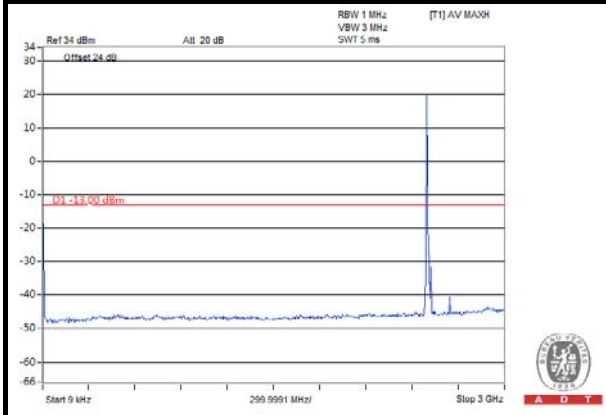
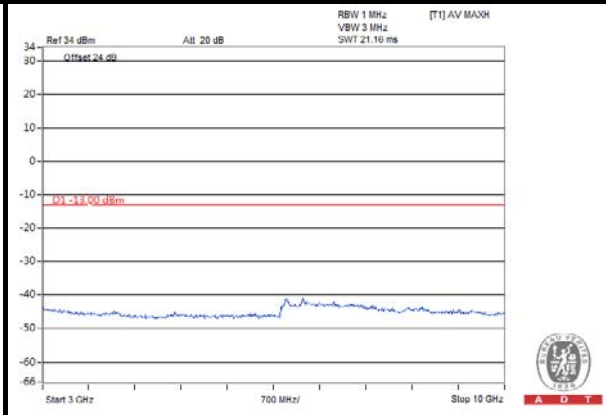
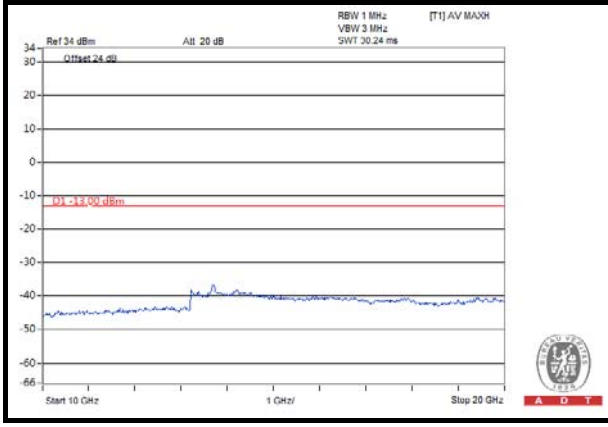


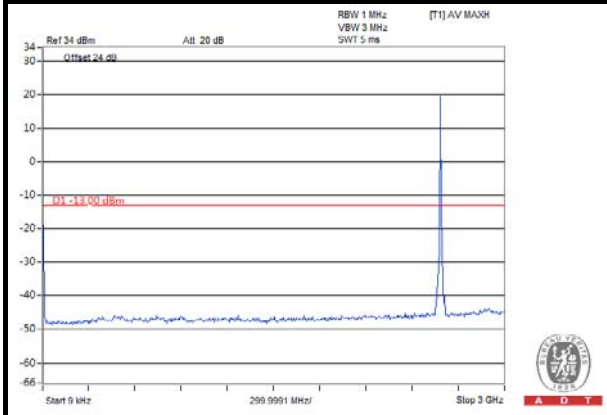
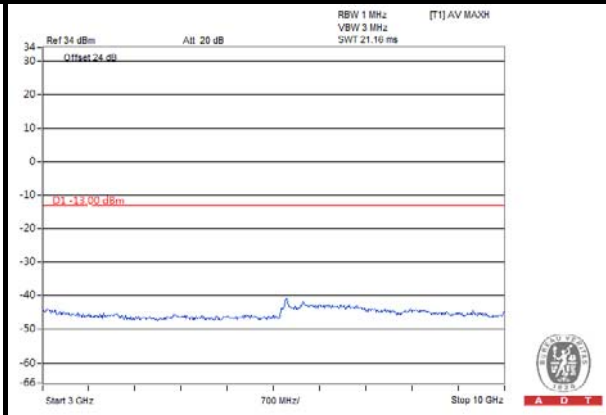
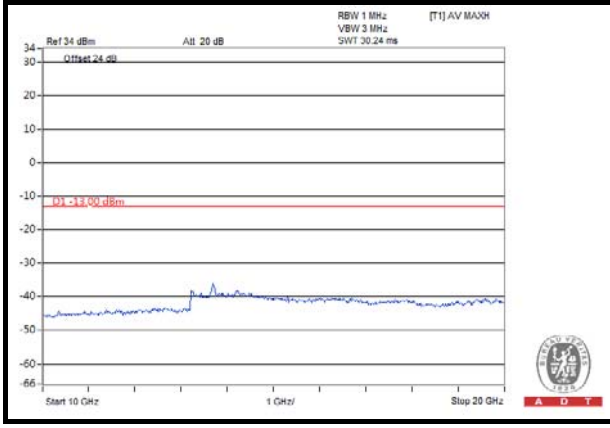
4.5.4 TEST RESULTS

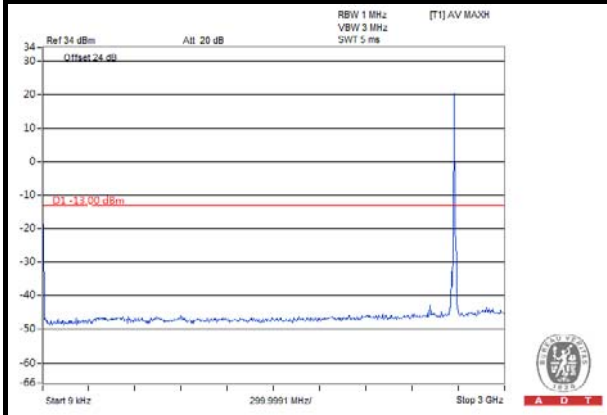
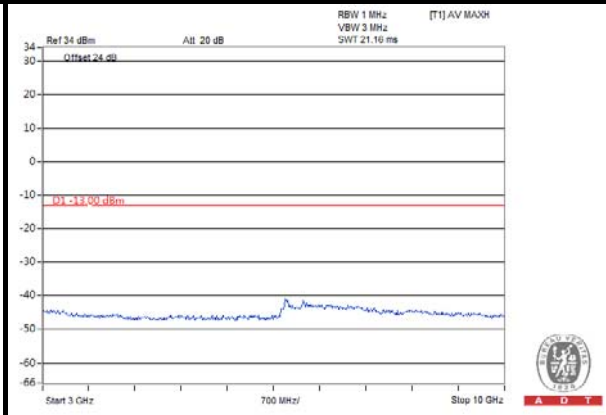
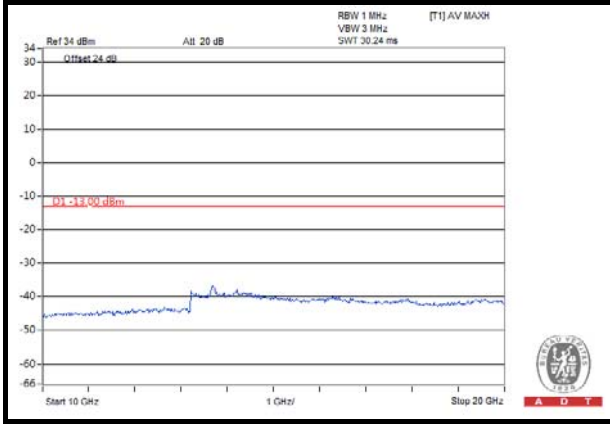
Channel Bandwidth: 10MHz	
CHANNEL 39700	
FREQUENCY RANGE : 9kHz~3GHz	**FREQUENCY RANGE : 3GHz~10GHz**
	
FREQUENCY RANGE : 10GHz~20GHz	
	

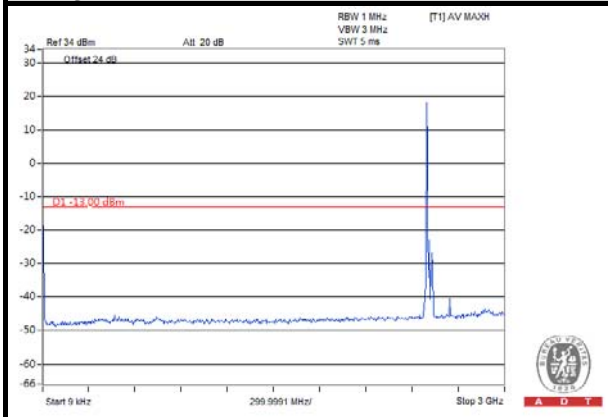
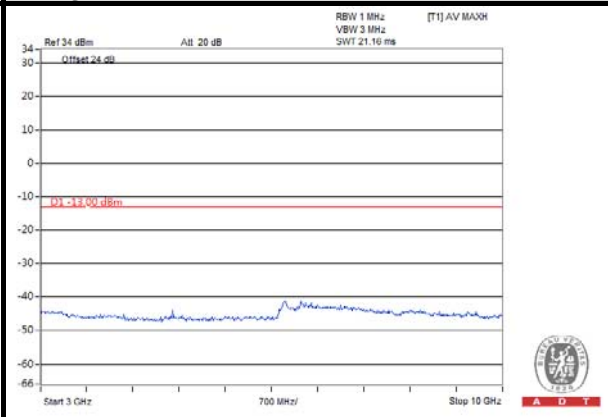
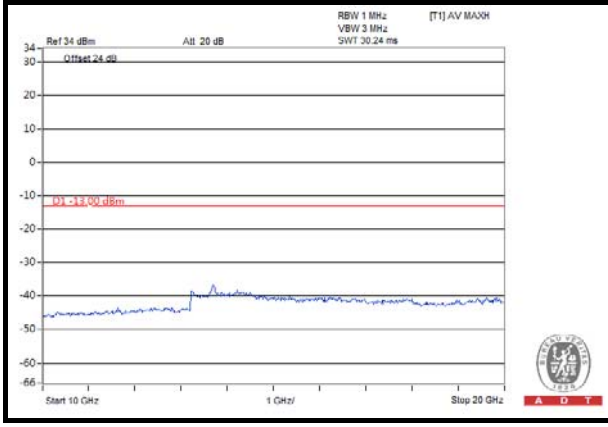
Channel Bandwidth: 10MHz	
CHANNEL 40620	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

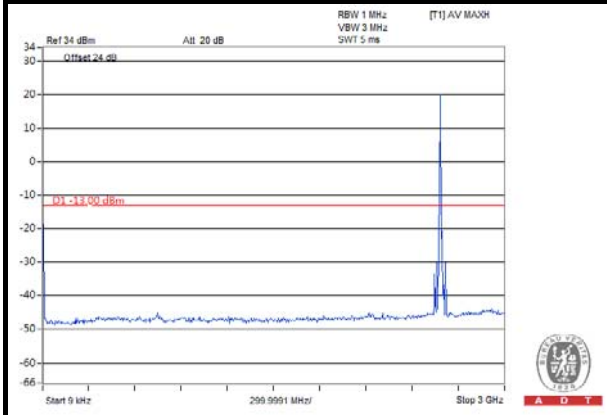
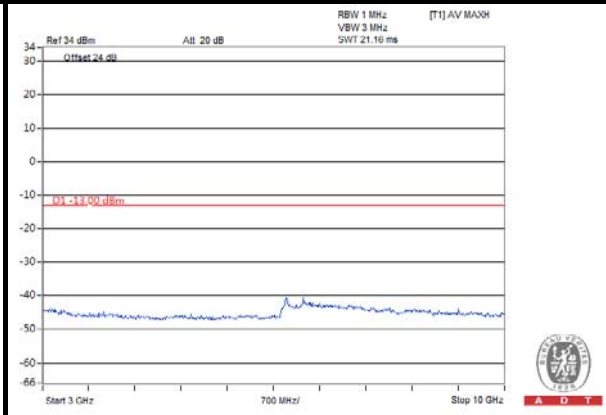
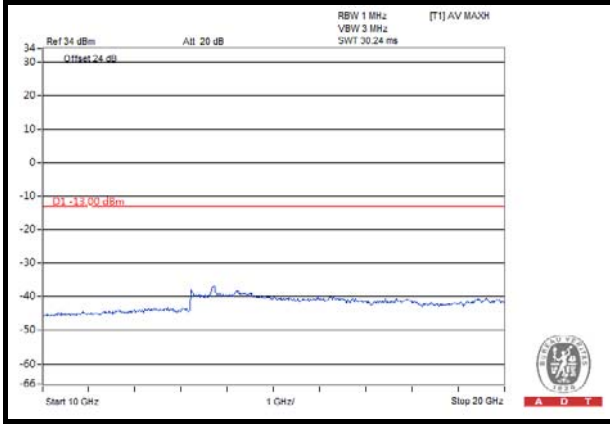
Channel Bandwidth: 10MHz	
CHANNEL 41540	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

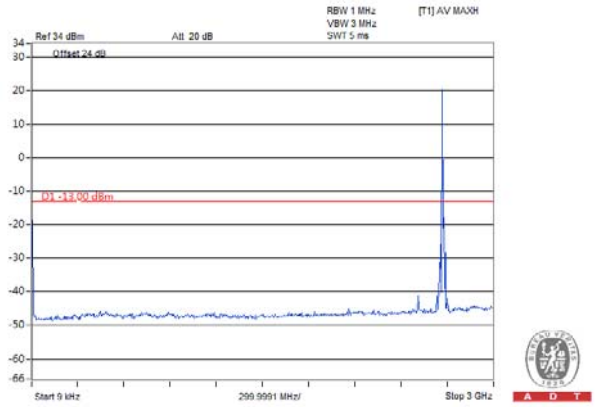
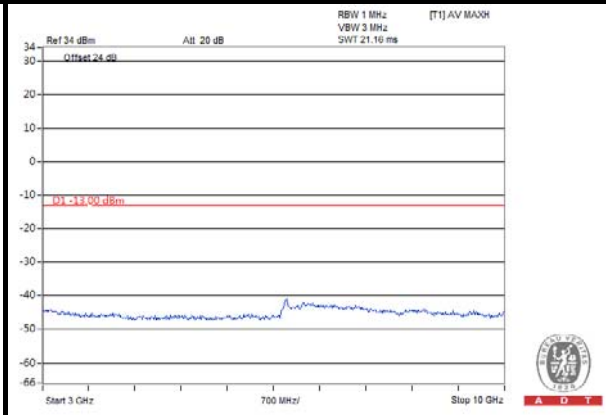
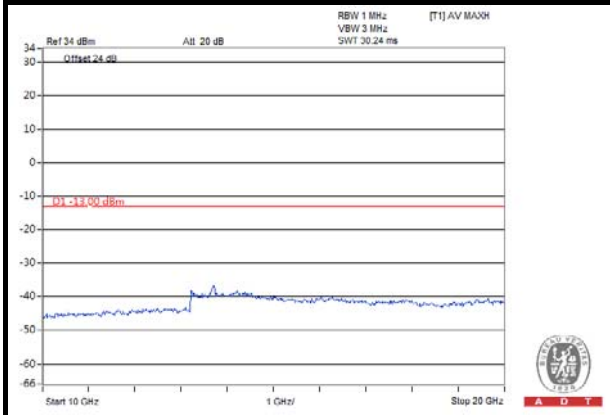
Channel Bandwidth: 15MHz	
CHANNEL 39725	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

Channel Bandwidth: 15MHz	
CHANNEL 40620	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

Channel Bandwidth: 15MHz	
CHANNEL 41515	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

Channel Bandwidth: 20MHz	
CHANNEL 39750	
FREQUENCY RANGE : 9kHz~3GHz	**FREQUENCY RANGE : 3GHz~10GHz**
	
FREQUENCY RANGE : 10GHz~20GHz	
	

Channel Bandwidth: 20MHz	
CHANNEL 40620	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

Channel Bandwidth: 20MHz	
CHANNEL 41490	
FREQUENCY RANGE : 9kHz~3GHz	FREQUENCY RANGE : 3GHz~10GHz
	
FREQUENCY RANGE : 10GHz~20GHz	
	

4.6 RADIATED EMISSION MEASUREMENT

4.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

In the FCC 27.53(m) (4), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB. The emission limit equal to –13dBm.

4.6.2 TEST PROCEDURES

a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)

b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.

c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step b. Record the power level of S.G

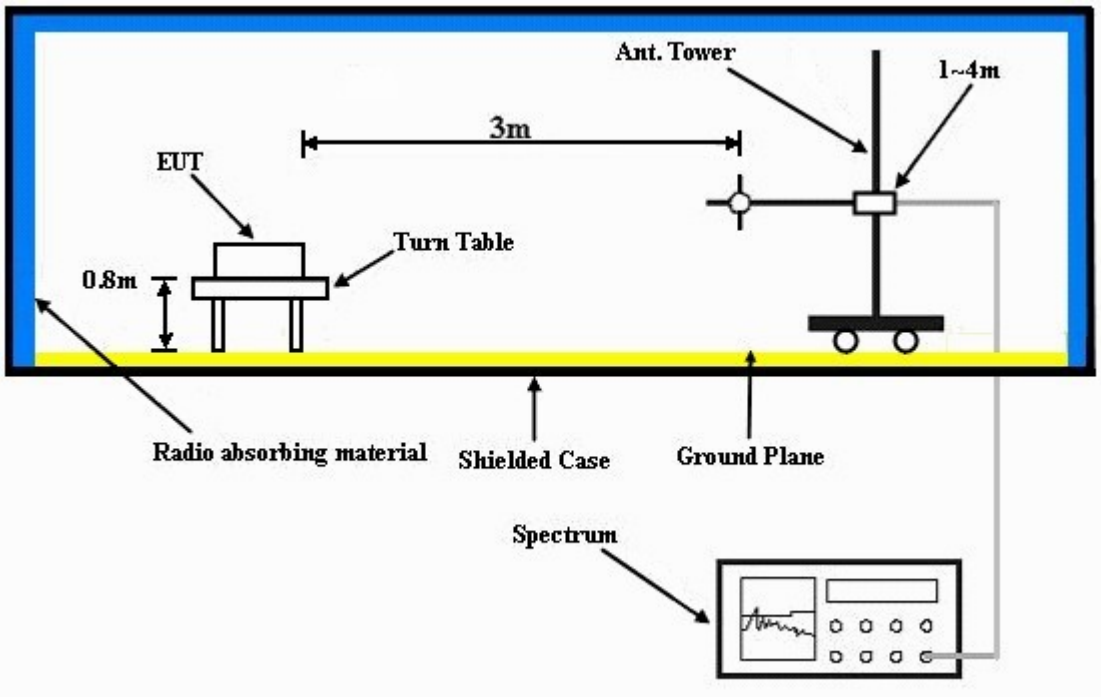
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution antenna.

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

4.6.3 DEVIATION FROM TEST STANDARD

No deviation

4.6.4 TEST SETUP



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

4.6.5 TEST RESULTS

BELOW 1GHz

CHANNEL BANDWIDTH: 10MHz

MODE	TX channel 39700	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Chris Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	41.66	-69.31	-54.99	-10.61	-65.60	-13.00	-52.60
2	113.59	-63.09	-70.12	0.34	-69.78	-13.00	-56.78
3	193.29	-59.29	-69.91	4.62	-65.29	-13.00	-52.29
4	296.31	-66.77	-76.10	5.15	-70.95	-13.00	-57.95
5	757.01	-74.68	-73.75	4.55	-69.20	-13.00	-56.20
6	838.66	-68.79	-67.40	3.97	-63.43	-13.00	-50.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	41.66	-55.04	-40.72	-10.61	-51.33	-13.00	-38.33
2	201.06	-60.56	-71.72	5.47	-66.25	-13.00	-53.25
3	296.31	-59.25	-68.58	5.15	-63.43	-13.00	-50.43
4	362.40	-65.74	-72.67	5.22	-67.45	-13.00	-54.45
5	523.75	-71.25	-75.84	4.78	-71.06	-13.00	-58.06
6	659.82	-73.74	-76.04	4.92	-71.12	-13.00	-58.12

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

CHANNEL BANDWIDTH: 15MHz

MODE	TX channel 39725	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Chris Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	41.66	-70.45	-56.13	-10.61	-66.74	-13.00	-53.74
2	109.70	-63.35	-70.33	0.49	-69.84	-13.00	-56.84
3	193.29	-59.37	-69.99	4.62	-65.37	-13.00	-52.37
4	296.31	-66.88	-76.21	5.15	-71.06	-13.00	-58.06
5	757.01	-74.20	-73.27	4.55	-68.72	-13.00	-55.72
6	801.72	-73.97	-72.69	4.02	-68.67	-13.00	-55.67
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	39.72	-56.32	-41.28	-10.93	-52.21	-13.00	-39.21
2	199.12	-60.85	-71.90	5.35	-66.55	-13.00	-53.55
3	296.31	-59.33	-68.66	5.15	-63.51	-13.00	-50.51
4	362.40	-65.92	-72.85	5.22	-67.63	-13.00	-54.63
5	529.58	-70.76	-75.34	4.74	-70.60	-13.00	-57.60
6	716.19	-71.59	-72.48	5.05	-67.43	-13.00	-54.43

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

CHANNEL BANDWIDTH: 20MHz

MODE	TX channel 39750	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	INPUT POWER	120Vac, 60 Hz
TESTED BY	Chris Lin		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	41.66	-70.45	-56.13	-10.61	-66.74	-13.00	-53.74
2	111.64	-62.58	-69.56	0.41	-69.15	-13.00	-56.15
3	201.06	-59.59	-70.75	5.47	-65.28	-13.00	-52.28
4	296.31	-66.77	-76.10	5.15	-70.95	-13.00	-57.95
5	757.01	-74.20	-73.27	4.55	-68.72	-13.00	-55.72
6	992.22	-75.46	-71.86	3.90	-67.96	-13.00	-54.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	41.66	-55.65	-41.33	-10.61	-51.94	-13.00	-38.94
2	195.23	-60.66	-71.43	4.87	-66.56	-13.00	-53.56
3	296.31	-59.12	-68.45	5.15	-63.30	-13.00	-50.30
4	362.40	-65.65	-72.58	5.22	-67.36	-13.00	-54.36
5	521.80	-70.60	-75.19	4.78	-70.41	-13.00	-57.41
6	659.82	-72.70	-75.00	4.92	-70.08	-13.00	-57.08

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

ABOVE 1GHz

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 39700	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5002.00	-61.07	-51.62	6.59	-45.03	-13.00	-32.03
2	7503.00	-53.97	-36.47	4.24	-32.23	-13.00	-19.23
3	12505.00	-63.41	-39.37	4.24	-35.13	-13.00	-22.13
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5002.00	-58.65	-50.32	6.59	-43.73	-13.00	-30.73
2	7503.00	-50.98	-34.26	4.24	-30.02	-13.00	-17.02
3	12505.00	-60.47	-37.99	4.24	-33.75	-13.00	-20.75

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-59.08	-49.10	6.67	-42.43	-13.00	-29.43
2	7779.00	-57.40	-39.33	4.13	-35.20	-13.00	-22.20
3	12965.00	-64.82	-39.07	3.48	-35.59	-13.00	-22.59
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-51.46	-42.79	6.67	-36.12	-13.00	-23.12
2	7779.00	-55.91	-38.76	4.13	-34.63	-13.00	-21.63
3	12965.00	-61.75	-38.03	3.48	-34.55	-13.00	-21.55

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 41540	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5375.00	-58.84	-48.33	6.78	-41.55	-13.00	-28.55
2	8062.50	-61.87	-43.29	4.09	-39.20	-13.00	-26.20
3	13437.50	-65.42	-37.72	2.80	-34.92	-13.00	-21.92
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5375.00	-54.38	-45.39	6.78	-38.61	-13.00	-25.61
2	8062.50	-59.98	-42.52	4.09	-38.43	-13.00	-25.43
3	13437.50	-62.20	-36.74	2.80	-33.94	-13.00	-20.94

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

CHANNEL BANDWIDTH: 15MHz

MODE	Channel 39725	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5007.00	-60.01	-50.55	6.59	-43.96	-13.00	-30.96
2	7510.50	-53.82	-36.30	4.24	-32.06	-13.00	-19.06
3	12517.50	-62.64	-38.57	4.24	-34.33	-13.00	-21.33
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5007.00	-54.62	-46.27	6.59	-39.68	-13.00	-26.68
2	7510.50	-51.75	-35.02	4.24	-30.78	-13.00	-17.78
3	12517.50	-57.95	-35.46	4.24	-31.22	-13.00	-18.22

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-58.35	-48.37	6.67	-41.70	-13.00	-28.70
2	7779.00	-56.21	-38.14	4.13	-34.01	-13.00	-21.01
3	12965.00	-63.58	-37.83	3.48	-34.35	-13.00	-21.35
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-49.72	-41.05	6.67	-34.38	-13.00	-21.38
2	**7779.00**	**-51.10**	**-33.95**	**4.13**	**-29.82**	**-13.00**	**-16.82**
3	12965.00	-57.80	-34.08	3.48	-30.60	-13.00	-17.60

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 41515	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5365.00	-57.40	-46.92	6.78	-40.14	-13.00	-27.14
2	8047.50	-57.21	-38.64	4.07	-34.57	-13.00	-21.57
3	13412.50	-63.81	-36.21	2.83	-33.38	-13.00	-20.38
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5365.00	-51.77	-42.81	6.78	-36.03	-13.00	-23.03
2	8047.50	-54.83	-37.35	4.07	-33.28	-13.00	-20.28
3	13412.50	-60.83	-35.45	2.83	-32.62	-13.00	-19.62

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

CHANNEL BANDWIDTH: 20MHz

MODE	Channel 39750	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5012.00	-62.48	-53.00	6.59	-46.41	-13.00	-33.41
2	7518.00	-54.43	-36.89	4.23	-32.66	-13.00	-19.66
3	12530.00	-63.10	-39.00	4.23	-34.77	-13.00	-21.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5012.00	-57.10	-48.74	6.59	-42.15	-13.00	-29.15
2	7518.00	-52.21	-35.46	4.23	-31.23	-13.00	-18.23
3	12530.00	-60.19	-37.68	4.23	-33.45	-13.00	-20.45

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-56.81	-46.83	6.67	-40.16	-13.00	-27.16
2	7779.00	-56.20	-38.13	4.13	-34.00	-13.00	-21.00
3	12965.00	-65.65	-39.90	3.48	-36.42	-13.00	-23.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5186.00	-51.48	-42.81	6.67	-36.14	-13.00	-23.14
2	7779.00	-58.46	-41.31	4.13	-37.18	-13.00	-24.18
3	12965.00	-62.41	-38.69	3.48	-35.21	-13.00	-22.21

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

MODE	Channel 41490	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	27deg. C, 67%RH	**INPUT POWER**	120Vac, 60 Hz
TESTED BY	Alan Wu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5360.00	-59.03	-48.56	6.77	-41.79	-13.00	-28.79
2	8040.00	-58.10	-39.53	4.06	-35.47	-13.00	-22.47
3	13400.00	-64.22	-36.66	2.84	-33.82	-13.00	-20.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M							
No.	**Freq. (MHz)**	**Reading (dBm)**	**S.G Power Value (dBm)**	**Correction Factor (dB)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**
1	5360.00	-56.49	-47.53	6.77	-40.76	-13.00	-27.76
2	8040.00	-53.82	-36.34	4.06	-32.28	-13.00	-19.28
3	13400.00	-61.11	-35.77	2.84	-32.93	-13.00	-19.93

REMARKS:

1. EIRP(dBm) = S.G Power Value (dBm) + Correction Factor (dB).
2. Correction Factor = gain of substitution antenna + cable loss

5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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

No modifications were made to the EUT by the lab during the test.

---END---