FCC Part 15C Test Report

FCC ID: XHWAGT418

Product Name:	OTT Set-top Box
Trademark:	Ematic
Model Name :	AGT418
Prepared For : Address :	E-matic 3435 Ocean Park Blvd #107 PMB # 444, Santa Monica CA 90405, Los Angeles CA 90405, United States
Prepared By : Address :	Shenzhen BCTC Testing Co., Ltd. BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China
Test Date:	Jul. 04, 2018 – Jul. 24, 2018
Date of Report :	Jul. 24, 2018
Report No.:	BCTC-FY180703663-1E

TEST RESULT CERTIFICATION

Applicant's name ..... :	E-matic
Address ..... :	3435 Ocean Park Blvd #107 PMB # 444, Santa Monica CA 90405, Los Angeles CA 90405, United States
Manufacture's Name..... :	Shenzhen SDMC Technology Co.,Ltd
Address ..... :	7/F, W2-A, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, China, 518027
Product description	
Product name ..... :	OTT Set-top Box
Trademark ..... :	Ematic
Model and/or type reference :	AGT418
Standards ..... :	FCC Part15.247 ANSI C63.10:2013

This device described above has been tested by BCTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Prepared by(Engineer):	Lake Xie	Lake Xie
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Table of Contents

Page

1 . SUMMARY OF TEST RESULTS 6
1.1 TEST FACILITY 7
1.2 MEASUREMENT UNCERTAINTY 7
2 . GENERAL INFORMATION 8
2.1 GENERAL DESCRIPTION OF EUT 8
2.2 DESCRIPTION OF TEST MODES 9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED 10
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE) 10
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS 12
3 . EMC EMISSION TEST 13
3.1 CONDUCTED EMISSION MEASUREMENT 13
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS 13
3.1.2 TEST PROCEDURE 13
3.1.3 DEVIATION FROM TEST STANDARD 13
3.1.4 TEST SETUP 14
3.1.5 EUT OPERATING CONDITIONS 14
3.1.6 TEST RESULTS 15
3.2 RADIATED EMISSION MEASUREMENT 17
3.2.1 RADIATED EMISSION LIMITS 17
3.2.2 TEST PROCEDURE 18
3.2.3 DEVIATION FROM TEST STANDARD 18
3.2.4 TEST SETUP 18
3.2.5 EUT OPERATING CONDITIONS 19
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ) 20
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ) 21
3.3 RADIATED BAND EMISSION MEASUREMENT 26
3.3.1 TEST REQUIREMENT: 26
3.3.2 TEST PROCEDURE 26
3.3.3 DEVIATION FROM TEST STANDARD 27
3.3.4 TEST SETUP 27
3.3.5 EUT OPERATING CONDITIONS 27
4 . POWER SPECTRAL DENSITY TEST 40

Table of Contents

Page

4.1 APPLIED PROCEDURES / LIMIT 40
4.1.1 TEST PROCEDURE 40
4.1.2 DEVIATION FROM STANDARD 40
4.1.3 TEST SETUP 40
4.1.4 EUT OPERATION CONDITIONS 40
4.1.5 TEST RESULTS 41

5 . BANDWIDTH TEST 47
5.1 APPLIED PROCEDURES / LIMIT 47
5.1.1 TEST PROCEDURE 47
5.1.2 DEVIATION FROM STANDARD 47
5.1.3 TEST SETUP 47
5.1.4 EUT OPERATION CONDITIONS 47
5.1.5 TEST RESULTS 48

6 . PEAK OUTPUT POWER TEST 54
6.1 APPLIED PROCEDURES / LIMIT 54
6.1.1 TEST PROCEDURE 54
6.1.2 DEVIATION FROM STANDARD 54
6.1.3 TEST SETUP 54
6.1.4 EUT OPERATION CONDITIONS 54
6.1.5 TEST RESULTS 55

7 . 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE 56
7.1 APPLICABLE STANDARD 56
7.2 TEST PROCEDURE 56
7.3 DEVIATION FROM STANDARD 56
7.4 TEST SETUP 56
7.5 EUT OPERATION CONDITIONS 56
7.1 TEST RESULTS 56

8 . DUTY CYCLE OF TEST SIGNAL 63
8.1 STANDARD REQUIREMENT 63
8.2 FORMULA: 63

9 . ANTENNA REQUIREMENT 65
9.1 STANDARD REQUIREMENT 65
9.2 EUT ANTENNA 65

10 . EUT TEST PHOTO 66

11 . EUT PHOTO 68

Table of Contents

Page

APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Restricted Band of Operation	PASS	
15.247 (d)	Band Edge (Out of Band Emissions)	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

1.1 TEST FACILITY

Shenzhen BCTC Testing Co., Ltd.
Add. : BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China
Test Firm Registration Number: 712850
IC Registered No.: 23583

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y ± U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95** %。

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	OTT Set-top Box
Trade Name	Ematic
Model Name	AGT418
Serial Model	N/A
Model Difference	N/A
Product Description	Operation Frequency: 802.11b/g/n20MHz:2412~2462 MHz Modulation Type: WIFI: OFDM/DSSS Bit Rate of Transmitter 802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n Up to 75Mbps Number Of Channel 802.11b/g/n20MHz:11 CH Antenna Designation: Please see Note 3. Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Channel List	Please refer to the Note 2.
Ratings:	DC 5V from adapter
Adapter:	Input: 100-240V~50/60Hz, 0.4A Output: 5V 2A
hardware version	N/A
Software version	N/A
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel List for 802.11b/g/n(20)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
1	N/A	N/A	Internal Antenna	1	

2.2 DESCRIPTION OF TEST MODES

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Transmitting duty cycle is 100%.

The software is installed in operation system, named “RFTestTool.apk” ,Version 1.0.

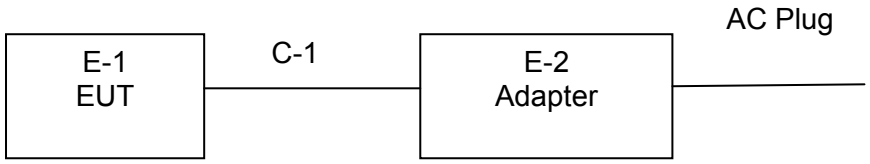
Test mode	Test mode	Low channel	Middle channel	High channel
1	Transmitting(802.11b/g/n20)	2412MHz	2442MHz	2462MHz
2	Transmitting (conducted emission and Radiated emission)			

Note:

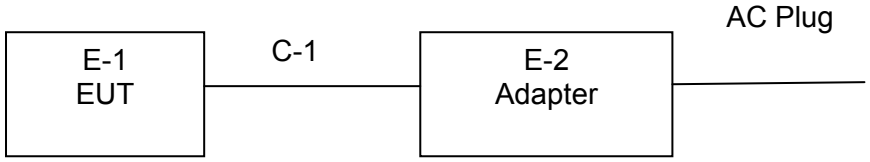
(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test



Radiated Spurious Emission



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	OTT Set-top Box	Ematic	AGT418	N/A	EUT
E-2	AC/DC SWITCHING POWER ADAPTER	N/A	FLD0710-5.0V 2.50A	N/A	Input: 100-240V~50/60Hz, 0.3A Output: 5V 2.5A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.2M	DC cable unshielded

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4407B	MY45108040	2017.08.27	2018.08.26
2	Test Receiver (9kHz-7GHz)	R&S	ESPI	101318	2017.08.27	2018.08.26
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB 9168	VULB91 68-438	2017.08.27	2018.08.26
4	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1201	2017.09.03	2018.09.02
5	Horn Antenna (14GHz-40GHz)	SCHWARZBECK	BBHA 9170	9170-181	2017.09.03	2018.09.02
6	Amplifier (9KHz-6GHz)	SCHWARZBECK	BBV9744	9744-0037	2017.08.27	2018.08.26
7	Amplifier (1GHz-18GHz)	SCHWARZBECK	BBV9718	9718-309	2017.08.27	2018.08.26
8	Amplifier (18GHz-40GHz)	SCHWARZBECK	BBV 9721	9721-205	2017.08.27	2018.08.26
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	00014	2017.09.03	2018.09.02
10	RF cables1 (9kHz-1GHz)	R&S	R203	R20X	2017.08.27	2018.08.26
11	RF cables2 (1GHz-40GHz)	R&S	R204	R21X	2017.08.27	2018.08.26
12	Antenna connector	Florida RF Labs	N/A	RF 01#	2017.08.27	2018.08.26
13	Power Metter	ANRITSU	ML2487A	6K00001568	2017.08.27	2018.08.26
14	Power Sensor (AV)	ANRITSU	ML2491A	030989	2017.08.27	2018.08.26
15	Signal Analyzer 9kHz-26.5GHz	Agilent	N9010A	MY48030494	2017.08.27	2018.08.26
16	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	2017.08.27	2018.08.26
17	D.C. Power Supply	LongWei	PS-305D	010964729	2017.08.27	2018.08.26

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESCI	1166.5950K03-101165-ha	2017.08.27	2018.08.26
2	LISN	SCHWARZBECK	NSLK8127	8127739	2017.08.27	2018.08.26
3	LISN	R&S	NSLK8126	8126487	2017.08.27	2018.08.26
4	RF cables	R&S	R204	R20X	2017.08.27	2018.08.26
5	Attenuator	R&S	ESH3-Z2	143206	2017.08.27	2018.08.26

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

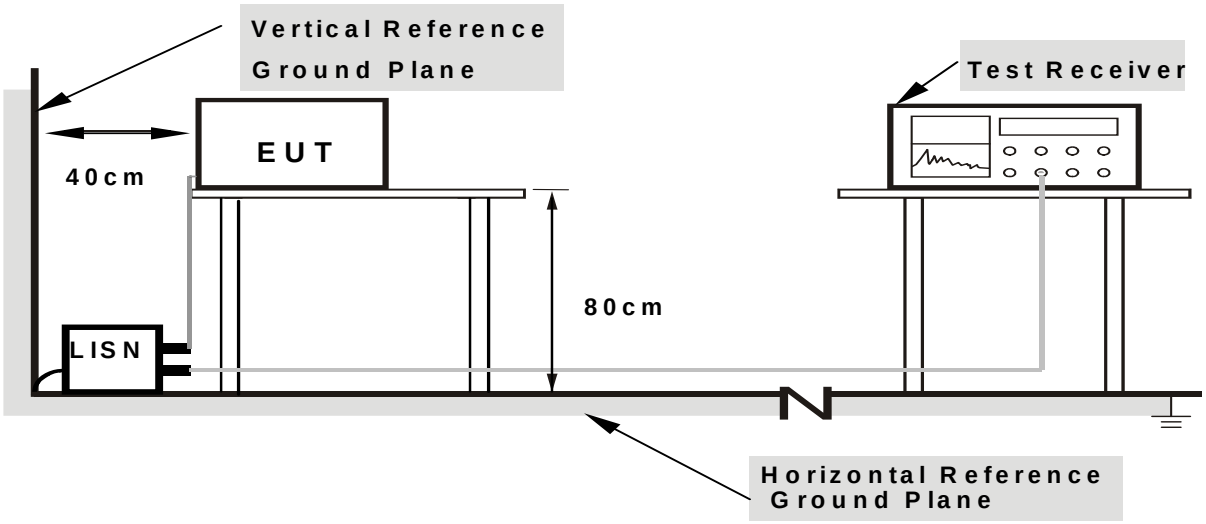
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

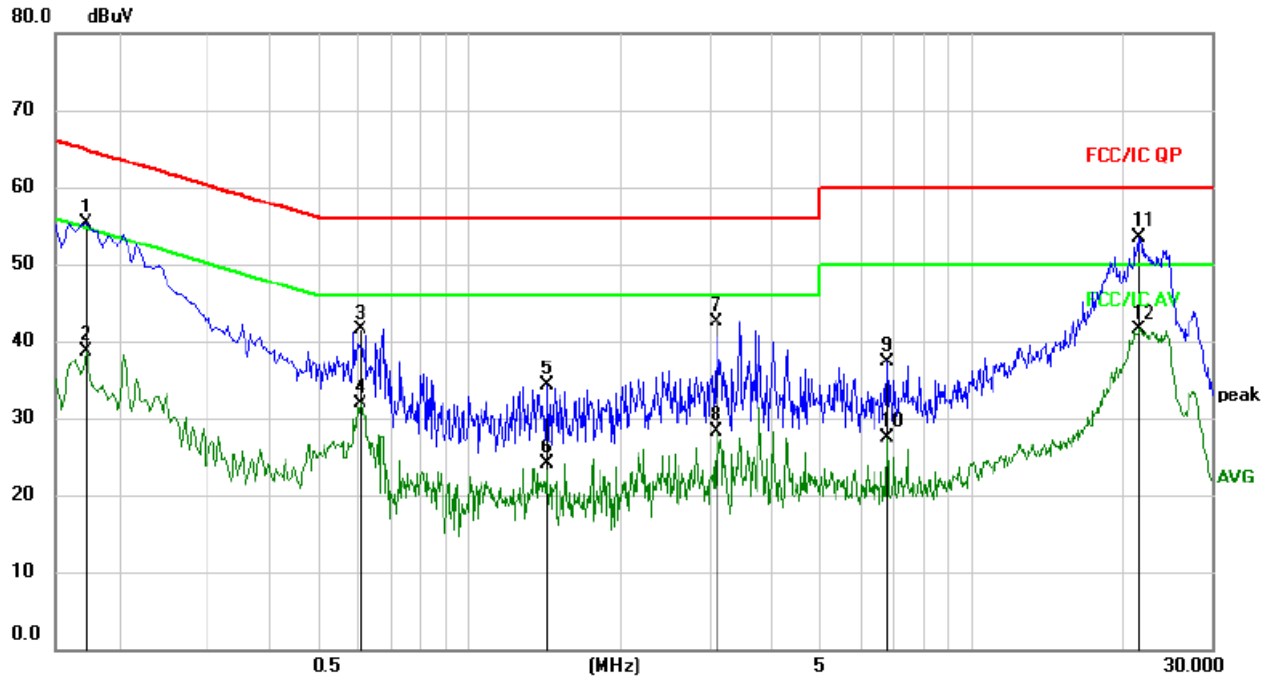
3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

3.1.6 TEST RESULTS

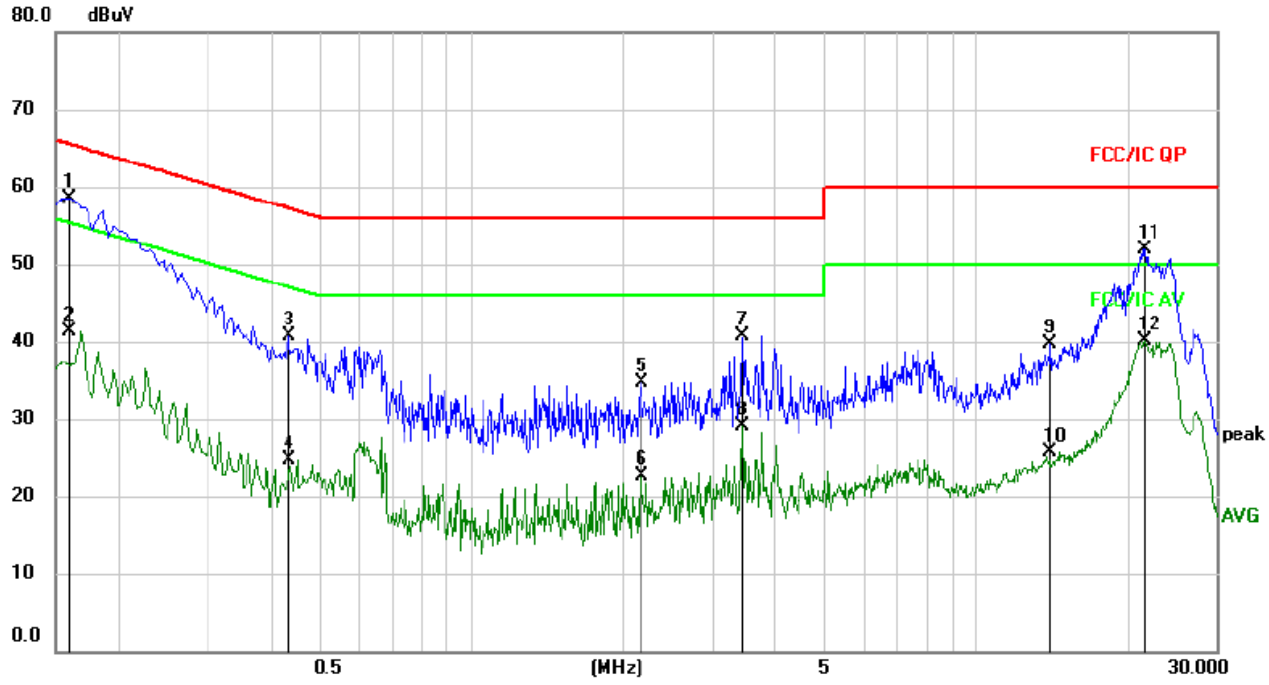
Temperature：	26℃	Relative Humidity：	55%
Pressure：	101kPa	Phase：	L
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 2



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1725	45.58	9.77	55.35	64.84	-9.49	QP	
2		0.1725	28.91	9.77	38.68	54.84	-16.16	AVG	
3		0.6045	31.27	10.18	41.45	56.00	-14.55	QP	
4		0.6045	21.64	10.18	31.82	46.00	-14.18	AVG	
5		1.4280	24.60	9.78	34.38	56.00	-21.62	QP	
6		1.4280	14.39	9.78	24.17	46.00	-21.83	AVG	
7		3.0975	32.59	9.83	42.42	56.00	-13.58	QP	
8		3.0975	18.45	9.83	28.28	46.00	-17.72	AVG	
9		6.7920	27.39	9.92	37.31	60.00	-22.69	QP	
10		6.7920	17.52	9.92	27.44	50.00	-22.56	AVG	
11	*	21.4575	43.40	10.10	53.50	60.00	-6.50	QP	
12		21.4575	31.43	10.10	41.53	50.00	-8.47	AVG	

Temperature：	26℃	Relative Humidity：	55%
Pressure：	101kPa	Phase：	N
Test Voltage ：	AC 120V/60Hz	Test Mode：	Mode 2



Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1590	48.83	9.77	58.60	65.52	-6.92	QP	
2		0.1590	31.60	9.77	41.37	55.52	-14.15	AVG	
3		0.4335	31.00	9.73	40.73	57.19	-16.46	QP	
4		0.4335	14.95	9.73	24.68	47.19	-22.51	AVG	
5		2.1660	24.86	9.80	34.66	56.00	-21.34	QP	
6		2.1660	12.90	9.80	22.70	46.00	-23.30	AVG	
7		3.4485	30.86	9.84	40.70	56.00	-15.30	QP	
8		3.4485	19.22	9.84	29.06	46.00	-16.94	AVG	
9		14.0685	29.69	9.98	39.67	60.00	-20.33	QP	
10		14.0685	15.66	9.98	25.64	50.00	-24.36	AVG	
11		21.6465	41.78	10.10	51.88	60.00	-8.12	QP	
12		21.6465	30.05	10.10	40.15	50.00	-9.85	AVG	

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	25GHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / *10Hz* for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).

h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel

Note:

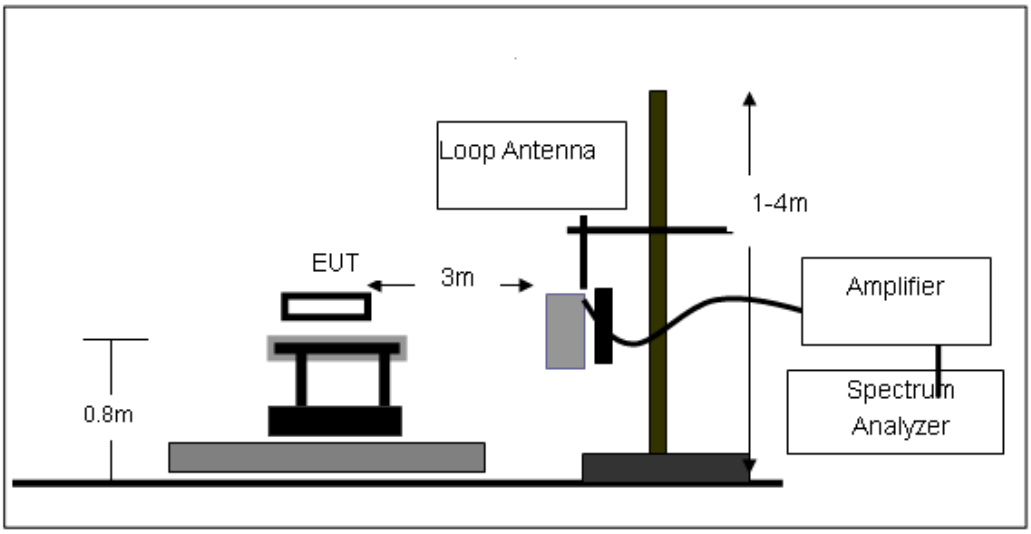
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

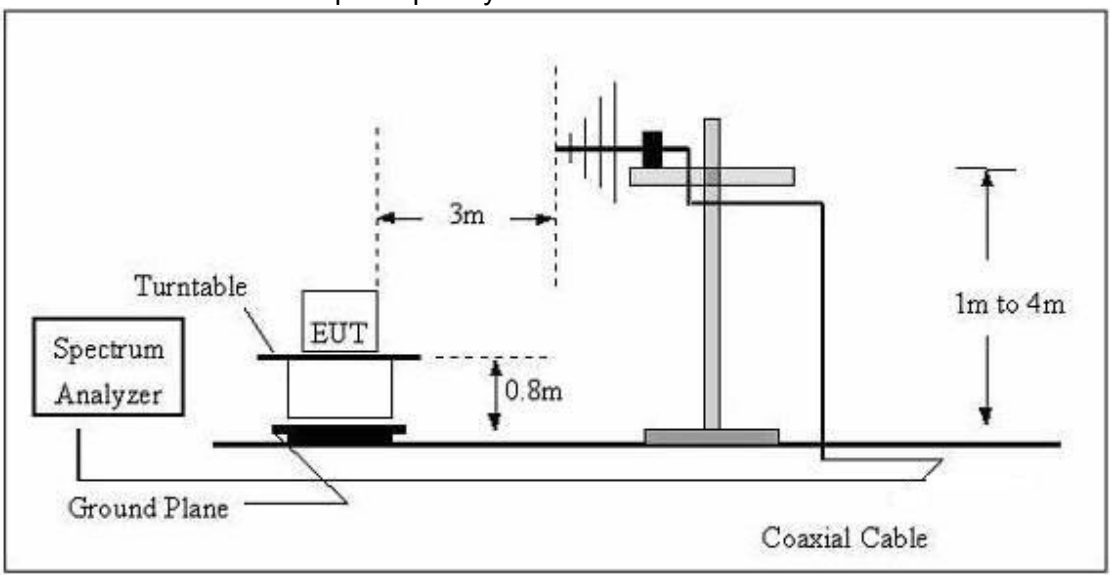
No deviation

3.2.4 TEST SETUP

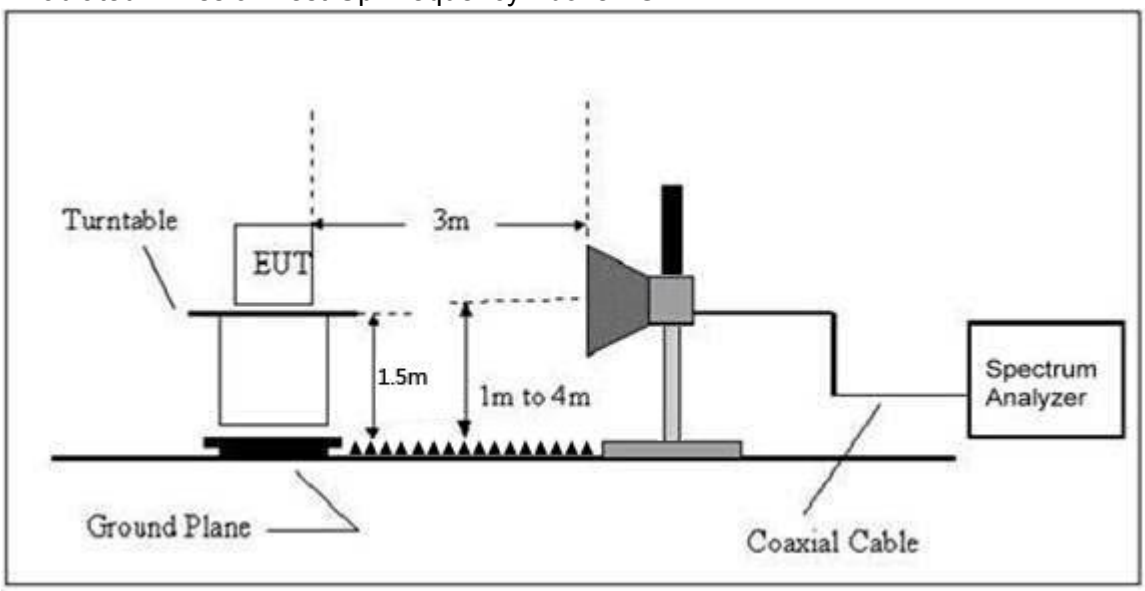
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	Mode 2	Polarization :	--

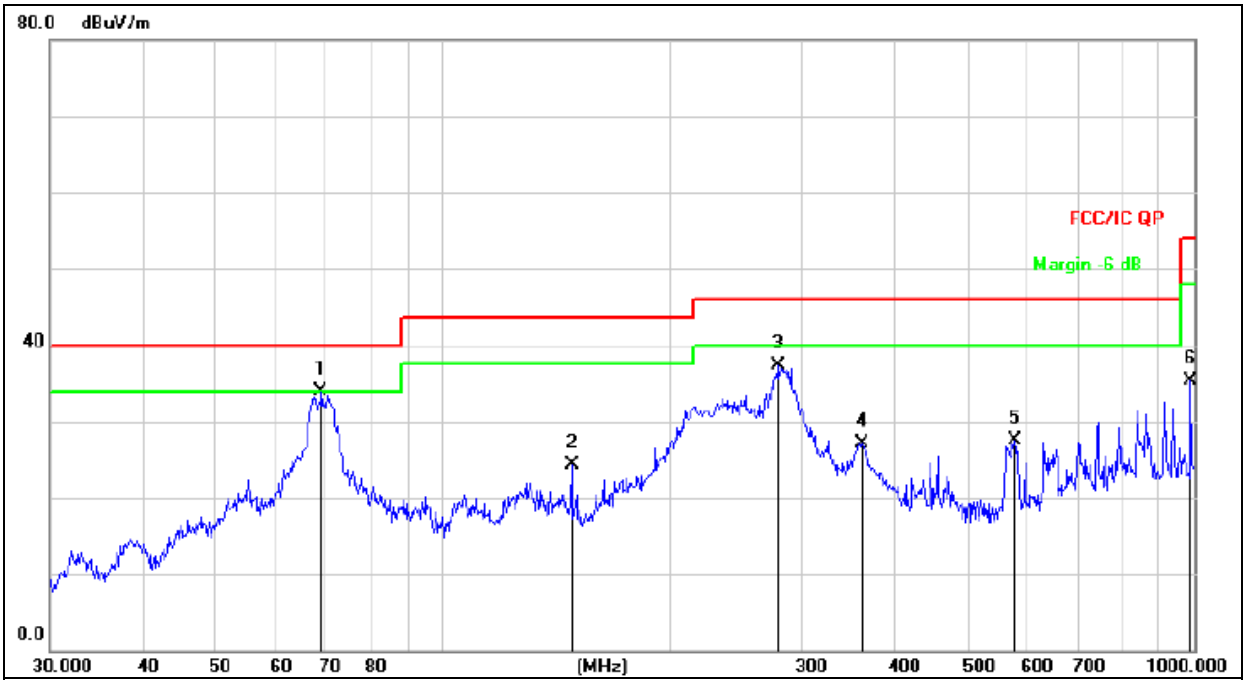
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

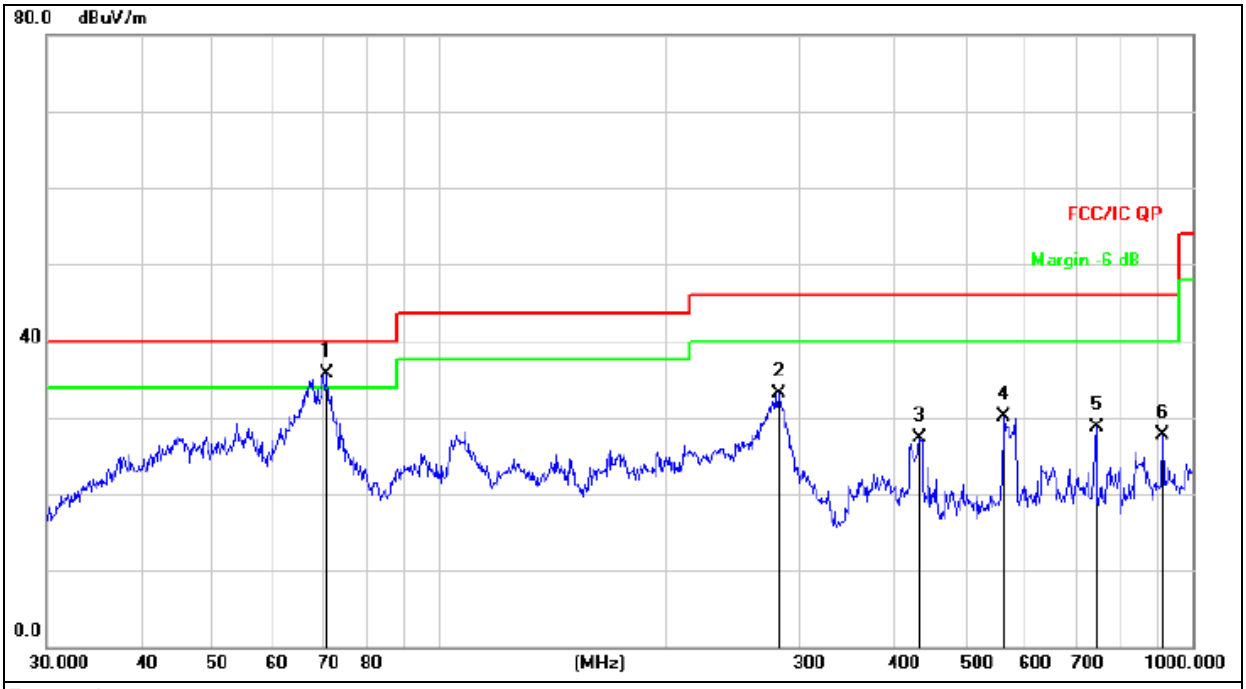
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Polarization：	Horizontal
Test Voltage ：	AC 120V/60Hz		
Test Mode ：	Mode 2		



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	68.8721	51.21	-17.36	33.85	40.00	-6.15	QP
2		148.4410	43.38	-19.05	24.33	43.50	-19.17	QP
3		280.0237	51.95	-14.58	37.37	46.00	-8.63	QP
4		361.7139	39.33	-12.18	27.15	46.00	-18.85	QP
5		576.6443	34.51	-7.05	27.46	46.00	-18.54	QP
6		989.5355	36.93	-1.71	35.22	54.00	-18.78	QP

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Polarization：	Vertical
Test Voltage ：	AC 120V/60Hz		
Test Mode ：	Mode 2		



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	*	70.8315	53.52	-17.76	35.76	40.00	-4.24	QP
2		281.9946	47.59	-14.47	33.12	46.00	-12.88	QP
3		434.0651	38.21	-10.82	27.39	46.00	-18.61	QP
4		560.6928	37.86	-7.85	30.01	46.00	-15.99	QP
5		744.8661	33.65	-5.04	28.61	46.00	-17.39	QP
6		912.8620	29.97	-2.28	27.69	46.00	-18.31	QP

3.2.8 TEST RESULTS (1Ghz~25Ghz)

802.11b

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Low Channel:2412							
V	4824.00	53.23	39.55	7.85	25.66	47.19	74.00	-26.81	PK
V	4824.00	43.11	39.55	7.85	25.66	37.07	54.00	-16.93	AV
V	7236.00	53.66	38.33	7.52	24.55	47.40	74.00	-26.60	PK
V	7236.00	43.41	38.33	7.52	24.55	37.15	54.00	-16.85	AV
V	15450.00	53.02	35.23	6.75	26.59	51.13	74.00	-22.87	PK
H	4824.00	51.59	39.55	7.85	25.66	45.55	74.00	-28.45	PK
H	4824.00	43.49	39.55	7.85	25.66	37.45	54.00	-16.55	AV
H	7236.00	54.62	38.33	7.52	23.55	47.36	74.00	-26.64	PK
H	7236.00	43.82	38.33	7.52	23.22	36.23	54.00	-17.77	AV
H	15450.00	51.96	35.45	6.75	27.88	51.14	74.00	-22.86	PK

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Middle Channel:2437							
V	4874.00	52.73	38.89	7.57	25.45	46.86	74.00	-27.14	PK
V	4874.00	43.44	38.89	7.57	25.45	37.57	54.00	-16.43	AV
V	7311.00	51.43	38.78	7.35	24.78	44.78	74.00	-29.22	PK
V	7311.00	43.08	38.78	7.35	24.78	36.43	54.00	-17.57	AV
V	15430.00	50.05	35.89	6.42	26.47	47.05	74.00	-26.95	PK
H	4874.00	52.91	38.89	7.57	25.45	47.04	74.00	-26.96	PK
H	4874.00	43.82	38.89	7.57	25.45	37.95	54.00	-16.05	AV
H	7311.00	52.36	38.78	7.35	24.78	45.71	74.00	-28.29	PK
H	7311.00	43.72	38.78	7.35	24.78	37.07	54.00	-16.93	AV
H	15430.00	51.95	36.68	6.42	26.65	48.34	74.00	-25.66	PK

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		High Channel:2462							
V	4924.00	50.86	38.75	7.46	25.45	45.02	74.00	-28.98	PK
V	4924.00	43.79	38.75	7.46	25.45	37.95	54.00	-16.05	AV
V	7386.00	53.51	38.65	7.22	24.78	46.86	74.00	-27.14	PK
V	7386.00	43.14	38.65	7.22	24.78	36.49	54.00	-17.51	AV
V	15450.00	51.58	35.58	6.35	26.47	48.82	74.00	-25.18	PK
H	4924.00	53.66	38.75	7.46	25.45	47.82	74.00	-26.18	PK
H	4924.00	43.39	38.75	7.46	25.45	37.55	54.00	-16.45	AV
H	7386.00	51.38	38.65	7.22	24.78	44.73	74.00	-29.27	PK
H	7386.00	43.47	38.65	7.22	24.78	36.82	54.00	-17.18	AV
H	15450.00	52.69	36.42	6.32	26.65	49.24	74.00	-24.76	PK

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11g

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Low Channel:2412							
V	4824.00	52.02	39.55	7.85	25.66	45.98	74.00	-28.02	PK
V	4824.00	43.92	39.55	7.85	25.66	37.88	54.00	-16.12	AV
V	7236.00	52.52	38.33	7.52	24.55	46.26	74.00	-27.74	PK
V	7236.00	43.77	38.33	7.52	24.55	37.51	54.00	-16.49	AV
V	15450.00	51.24	35.23	6.75	26.59	49.35	74.00	-24.65	PK
H	4824.00	54.48	39.55	7.85	25.66	48.44	74.00	-25.56	PK
H	4824.00	43.12	39.55	7.85	25.66	37.08	54.00	-16.92	AV
H	7236.00	50.79	38.33	7.52	23.55	43.53	74.00	-30.47	PK
H	7236.00	43.19	38.33	7.52	23.22	35.60	54.00	-18.40	AV
H	15450.00	53.73	35.45	6.75	27.88	52.91	74.00	-21.09	PK

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Middle Channel:2437							
V	4874.00	50.19	38.89	7.57	25.45	44.32	74.00	-29.68	PK
V	4874.00	43.05	38.89	7.57	25.45	37.18	54.00	-16.82	AV
V	7311.00	50.67	38.78	7.35	24.78	44.02	74.00	-29.98	PK
V	7311.00	43.87	38.78	7.35	24.78	37.22	54.00	-16.78	AV
V	15430.00	51.74	35.89	6.42	26.47	48.74	74.00	-25.26	PK
H	4874.00	54.96	38.89	7.57	25.45	49.09	74.00	-24.91	PK
H	4874.00	44.00	38.89	7.57	25.45	38.13	54.00	-15.87	AV
H	7311.00	53.59	38.78	7.35	24.78	46.94	74.00	-27.06	PK
H	7311.00	43.32	38.78	7.35	24.78	36.67	54.00	-17.33	AV
H	15430.00	53.54	36.68	6.42	26.65	49.93	74.00	-24.07	PK

Polar (H/V)	**Frequency (MHz)**	**Meter Reading (dBuV)**	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	**Emission Level (dBuV/m)**	**Limits (dBuV/m)**	**Margin (dB)**	**Detector Type**
		High Channel:2462							
V	4924.00	51.10	38.75	7.46	25.45	45.26	74.00	-28.74	PK
V	4924.00	43.14	38.75	7.46	25.45	37.30	54.00	-16.70	AV
V	7386.00	50.71	38.65	7.22	24.78	44.06	74.00	-29.94	PK
V	7386.00	43.93	38.65	7.22	24.78	37.28	54.00	-16.72	AV
V	15450.00	50.97	35.58	6.35	26.47	48.21	74.00	-25.79	PK
H	4924.00	54.21	38.75	7.46	25.45	48.37	74.00	-25.63	PK
H	4924.00	43.89	38.75	7.46	25.45	38.05	54.00	-15.95	AV
H	7386.00	51.81	38.65	7.22	24.78	45.16	74.00	-28.84	PK
H	7386.00	43.84	38.65	7.22	24.78	37.19	54.00	-16.81	AV
H	15450.00	54.75	36.42	6.32	26.65	51.30	74.00	-22.70	PK

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

802.11n(20MHz)

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Low Channel:2412							
V	4824.00	52.86	39.55	7.85	25.66	46.82	74.00	-27.18	PK
V	4824.00	43.28	39.55	7.85	25.66	37.24	54.00	-16.76	AV
V	7236.00	54.29	38.33	7.52	24.55	48.03	74.00	-25.97	PK
V	7236.00	43.90	38.33	7.52	24.55	37.64	54.00	-16.36	AV
V	15450.00	53.79	35.23	6.75	26.59	51.90	74.00	-22.10	PK
H	4824.00	51.57	39.55	7.85	25.66	45.53	74.00	-28.47	PK
H	4824.00	43.89	39.55	7.85	25.66	37.85	54.00	-16.15	AV
H	7236.00	52.38	38.33	7.52	23.55	45.12	74.00	-28.88	PK
H	7236.00	43.70	38.33	7.52	23.22	36.11	54.00	-17.89	AV
H	15450.00	54.49	35.45	6.75	27.88	53.67	74.00	-20.33	PK

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		Middle Channel:2437							
V	4874.00	53.46	38.89	7.57	25.45	47.59	74.00	-26.41	PK
V	4874.00	43.94	38.89	7.57	25.45	38.07	54.00	-15.93	AV
V	7311.00	53.59	38.78	7.35	24.78	46.94	74.00	-27.06	PK
V	7311.00	43.60	38.78	7.35	24.78	36.95	54.00	-17.05	AV
V	15430.00	53.80	35.89	6.42	26.47	50.80	74.00	-23.20	PK
H	4874.00	53.94	38.89	7.57	25.45	48.07	74.00	-25.93	PK
H	4874.00	43.71	38.89	7.57	25.45	37.84	54.00	-16.16	AV
H	7311.00	53.85	38.78	7.35	24.78	47.20	74.00	-26.80	PK
H	7311.00	43.18	38.78	7.35	24.78	36.53	54.00	-17.47	AV
H	15430.00	51.98	36.68	6.42	26.65	48.37	74.00	-25.63	PK

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
		High Channel:2462							
V	4924.00	53.50	38.75	7.46	25.45	47.66	74.00	-26.34	PK
V	4924.00	43.31	38.75	7.46	25.45	37.47	54.00	-16.53	AV
V	7386.00	54.02	38.65	7.22	24.78	47.37	74.00	-26.63	PK
V	7386.00	43.05	38.65	7.22	24.78	36.40	54.00	-17.60	AV
V	15450.00	52.56	35.58	6.35	26.47	49.80	74.00	-24.20	PK
H	4924.00	50.82	38.75	7.46	25.45	44.98	74.00	-29.02	PK
H	4924.00	43.16	38.75	7.46	25.45	37.32	54.00	-16.68	AV
H	7386.00	52.50	38.65	7.22	24.78	45.85	74.00	-28.15	PK
H	7386.00	43.99	38.65	7.22	24.78	37.34	54.00	-16.66	AV
H	15450.00	51.66	36.42	6.32	26.65	48.21	74.00	-25.79	PK

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.3 RADIATED BAND EMISSION MEASUREMENT

3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.205

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

3.3.2 TEST PROCEDURE

Above 1GHz test procedure as below:

a. 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel,the Highest channel

Note:

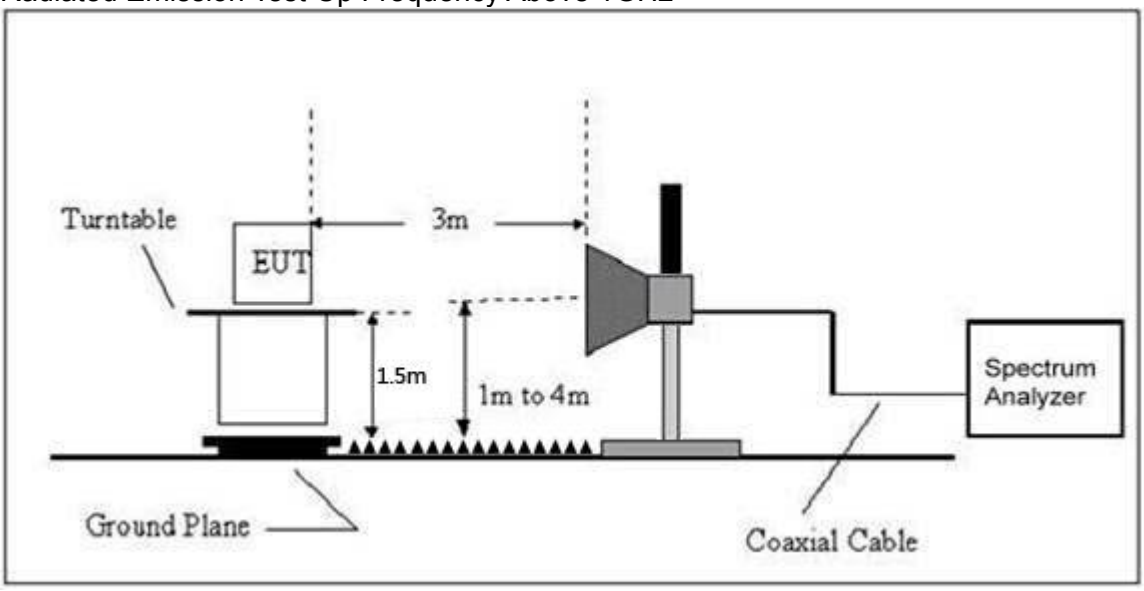
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



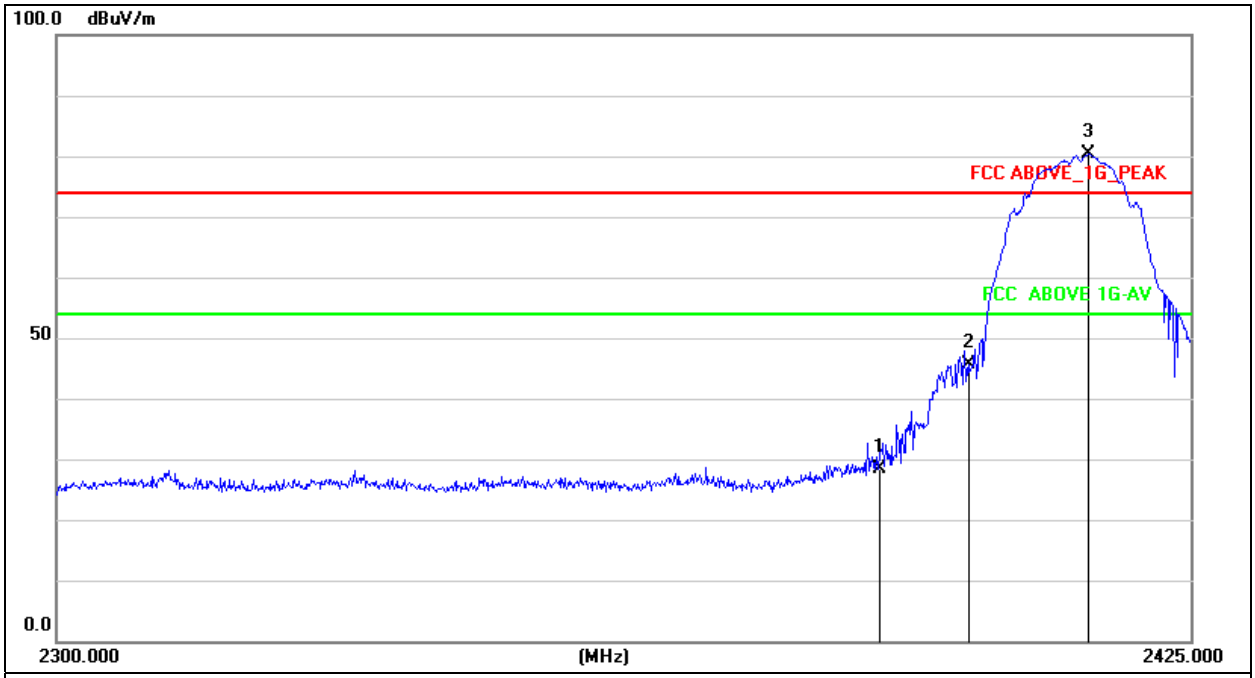
3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.3.6 TEST RESULT

Radiated Bandedge Emission

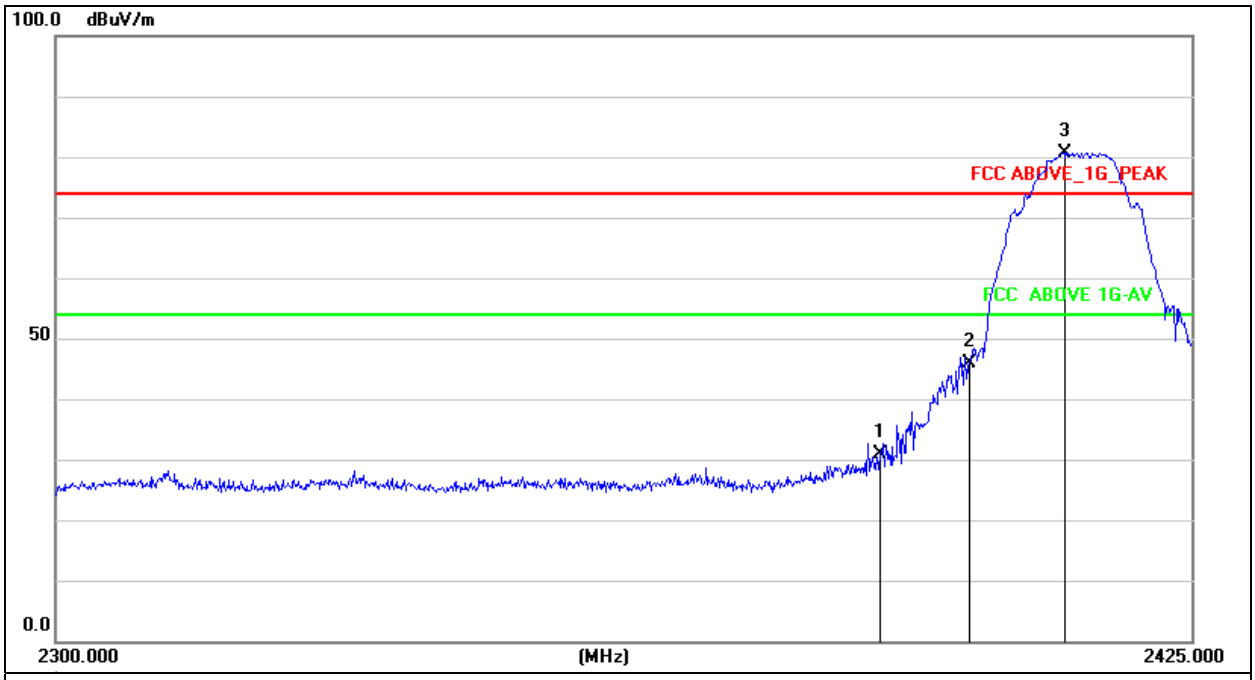
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11b Low Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	46.47	-18.05	28.42	74.00	-45.58	peak
2	2400.000	63.67	-18.03	45.64	74.00	-28.36	peak
3	2413.500	98.29	-18.01	80.28	74.00	6.28	peak

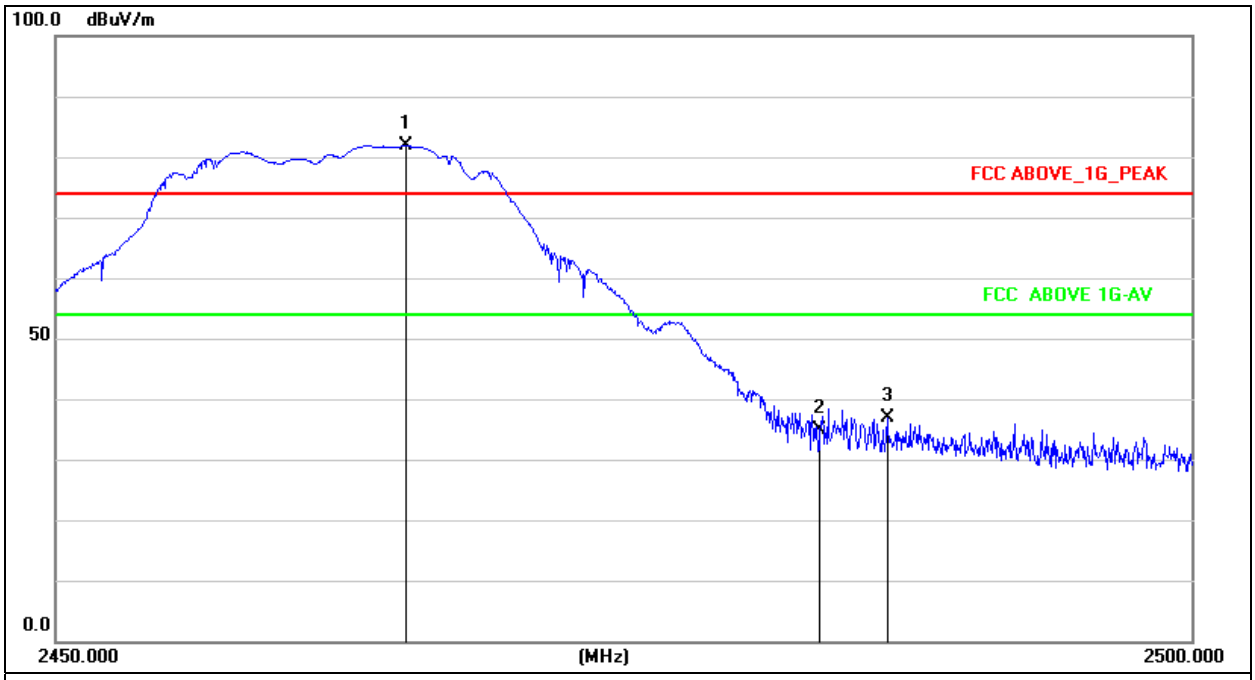
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11b Low Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	49.04	-18.05	30.99	74.00	-43.01	peak
2	2400.000	63.85	-18.03	45.82	74.00	-28.18	peak
3	2410.669	98.75	-18.01	80.74	74.00	6.74	peak

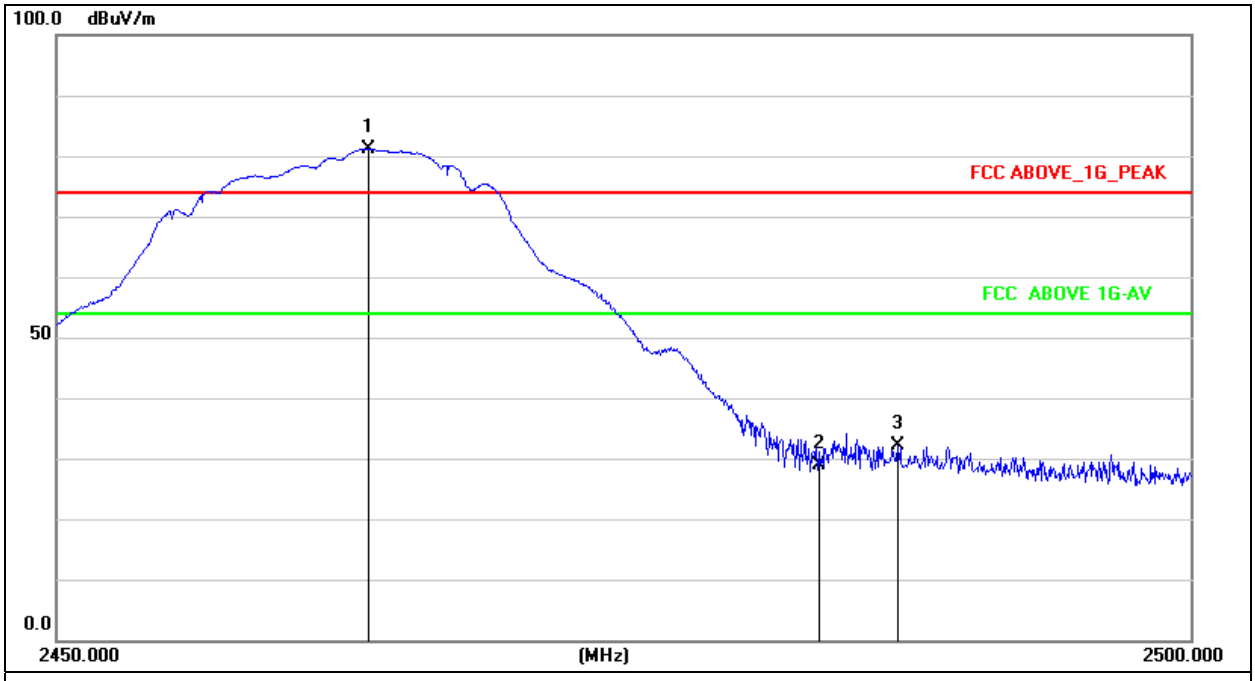
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11b High Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2465.342	99.82	-17.95	81.87	74.00	7.87	peak
2	2483.500	52.68	-17.92	34.76	74.00	-39.24	peak
3	2486.501	54.79	-17.91	36.88	74.00	-37.12	peak

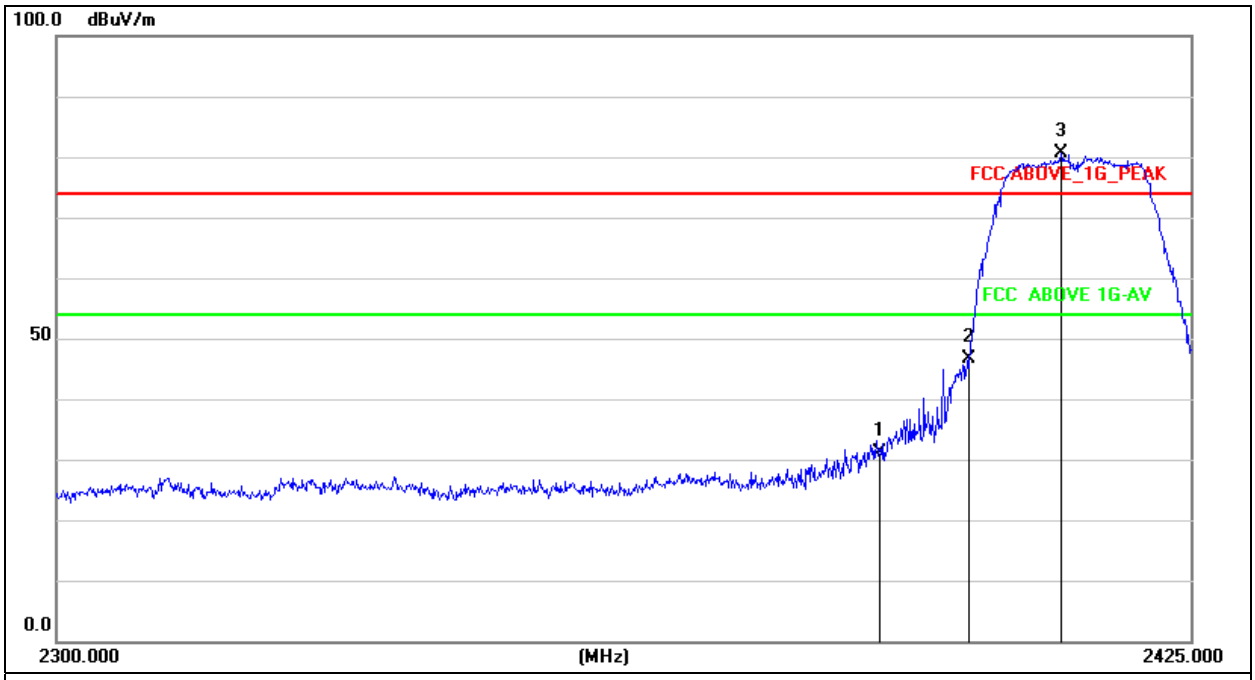
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11b High Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2463.649	99.09	-17.95	81.14	74.00	7.14	peak
2	2483.500	46.69	-17.92	28.77	74.00	-45.23	peak
3	2487.003	49.92	-17.91	32.01	74.00	-41.99	peak

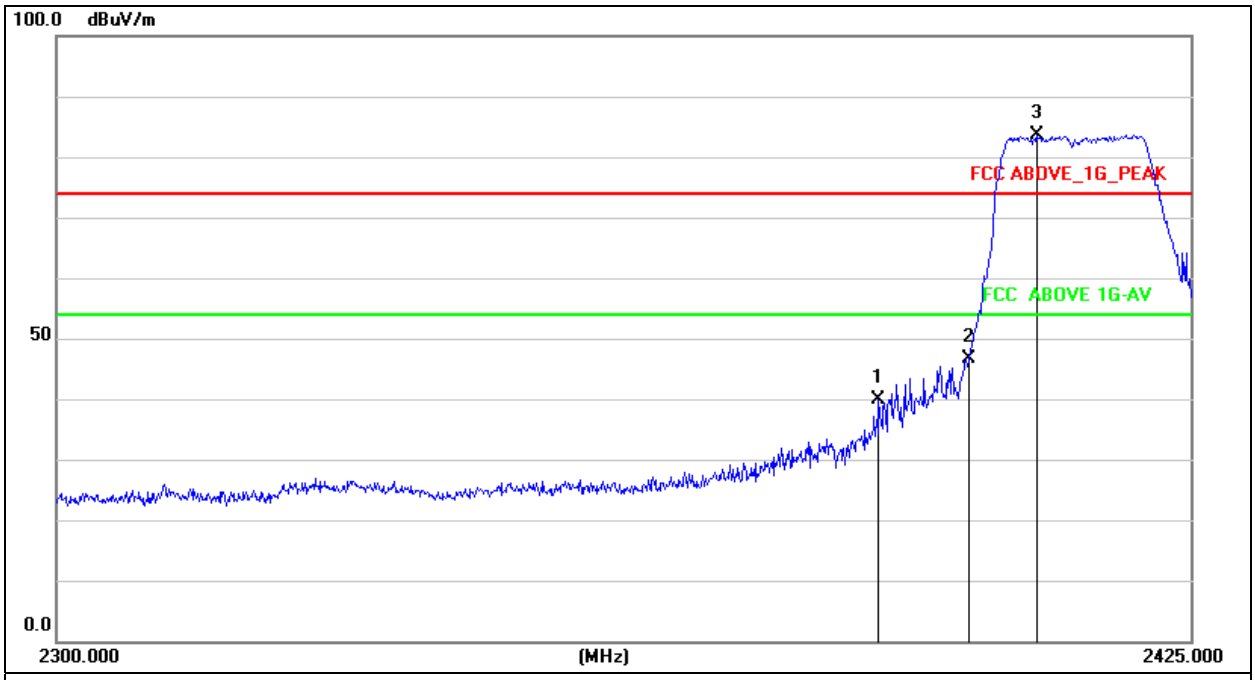
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11g Low Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	49.11	-18.05	31.06	74.00	-42.94	peak
2	2400.000	64.76	-18.03	46.73	74.00	-27.27	peak
3	2410.500	98.75	-18.01	80.74	74.00	6.74	peak

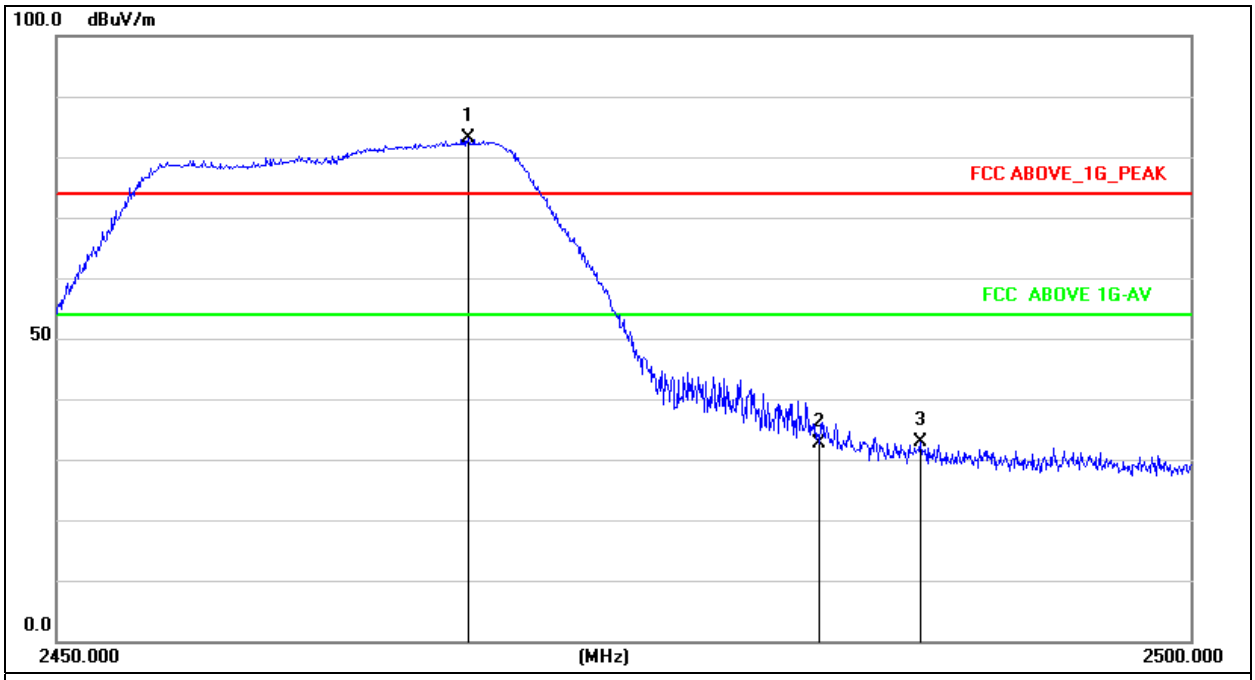
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11g Low Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	57.97	-18.05	39.92	74.00	-34.08	peak
2	2400.000	64.58	-18.03	46.55	74.00	-27.45	peak
3	2407.625	101.58	-18.02	83.56	74.00	9.56	peak

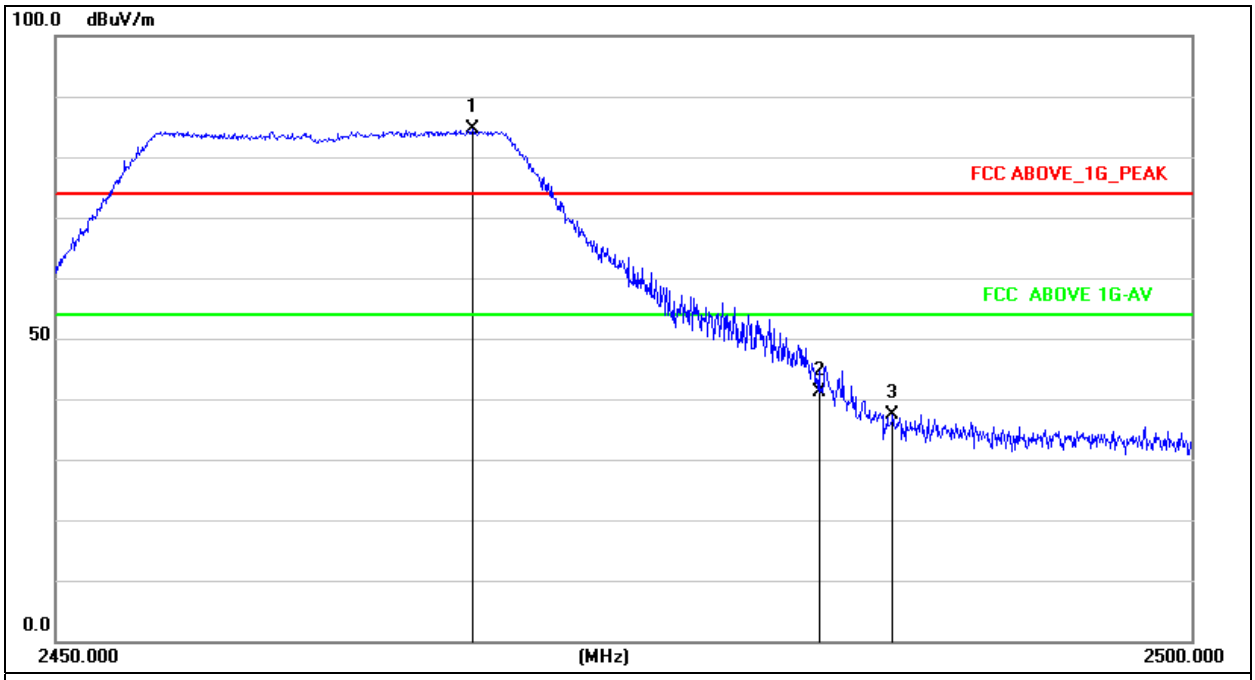
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11g High Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2468.033	101.11	-17.95	83.16	74.00	9.16	peak
2	2483.500	50.59	-17.92	32.67	74.00	-41.33	peak
3	2488.008	50.74	-17.91	32.83	74.00	-41.17	peak

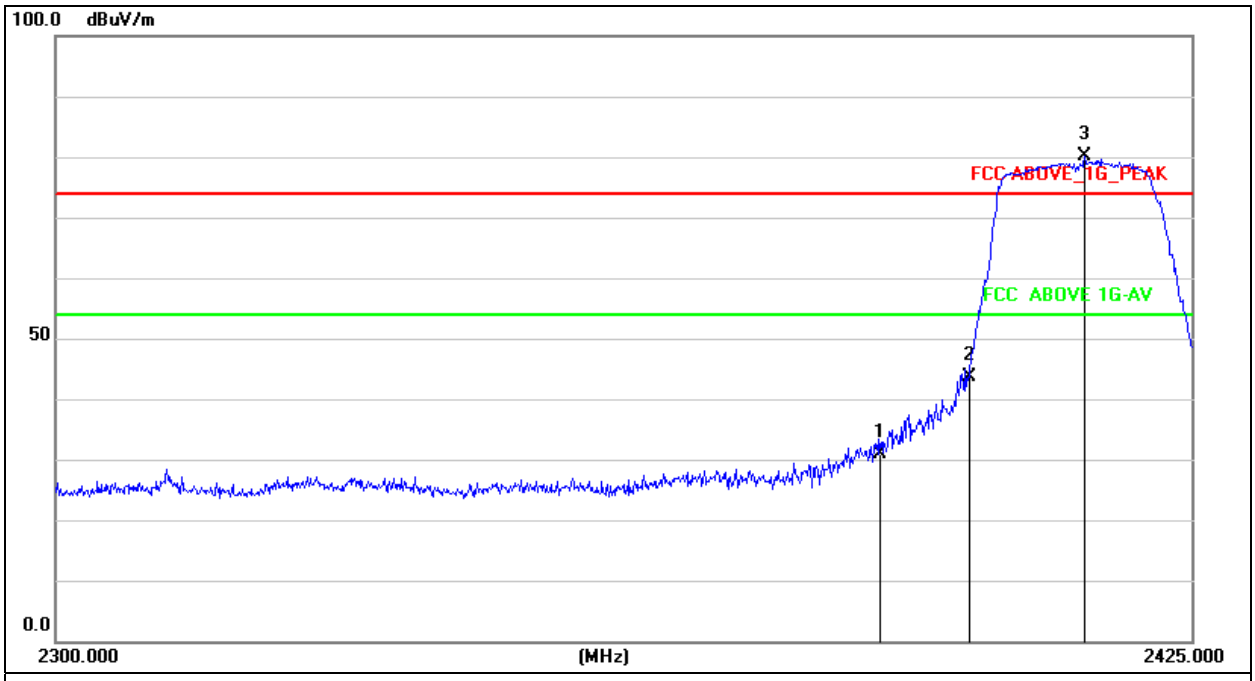
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11g High Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2468.233	102.62	-17.95	84.67	74.00	10.67	peak
2	2483.500	59.11	-17.92	41.19	74.00	-32.81	peak
3	2486.752	55.23	-17.91	37.32	74.00	-36.68	peak

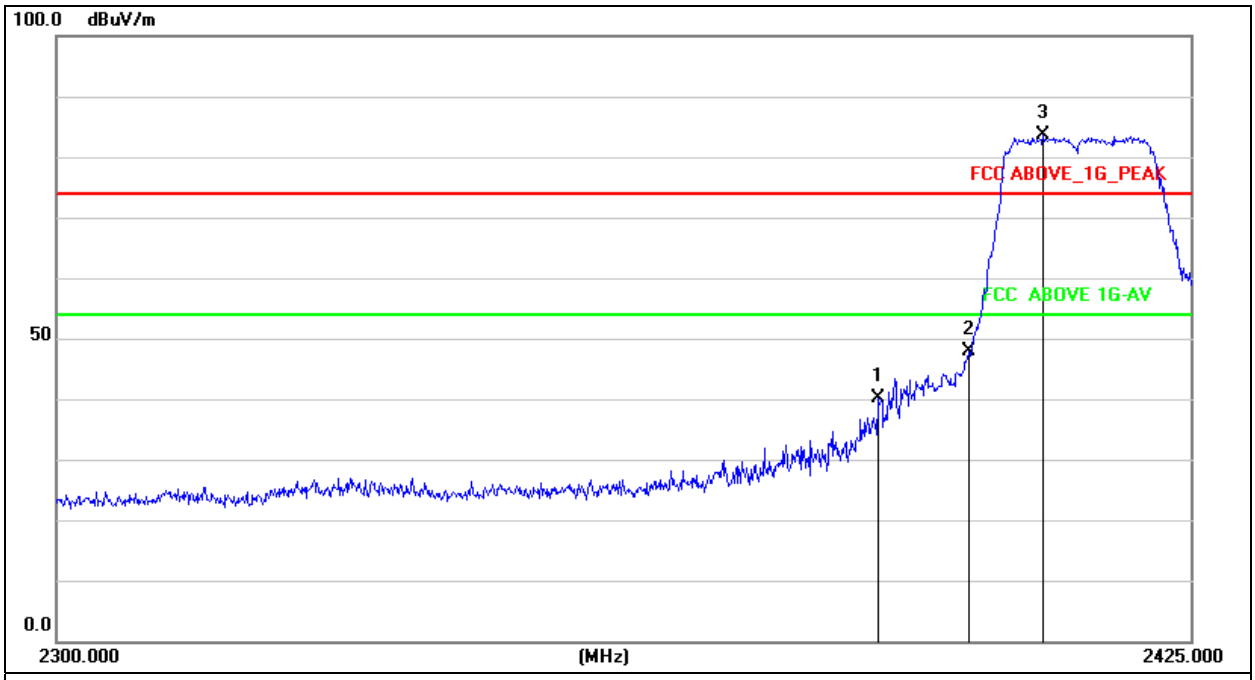
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11n20 Low Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	48.96	-18.05	30.91	74.00	-43.09	peak
2	2400.000	61.66	-18.03	43.63	74.00	-30.37	peak
3	2413.000	98.03	-18.01	80.02	74.00	6.02	peak

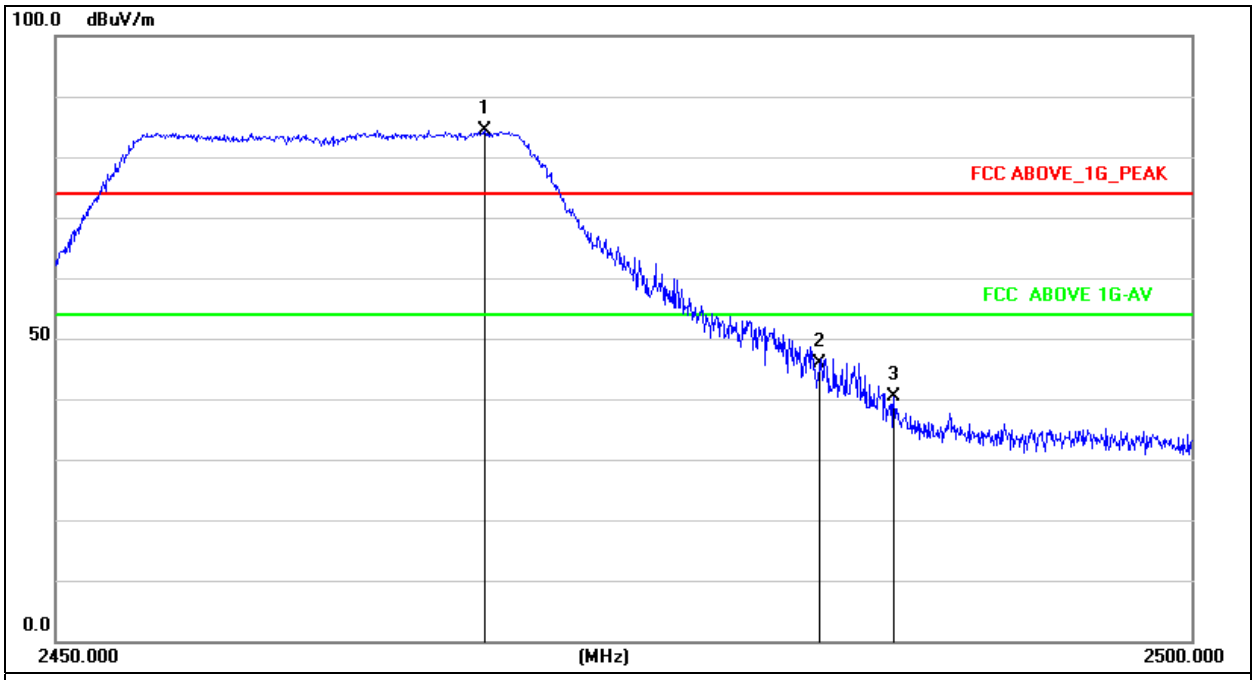
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11n20 Low Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	58.16	-18.05	40.11	74.00	-33.89	peak
2	2400.000	66.02	-18.03	47.99	74.00	-26.01	peak
3	2408.500	101.61	-18.02	83.59	74.00	9.59	peak

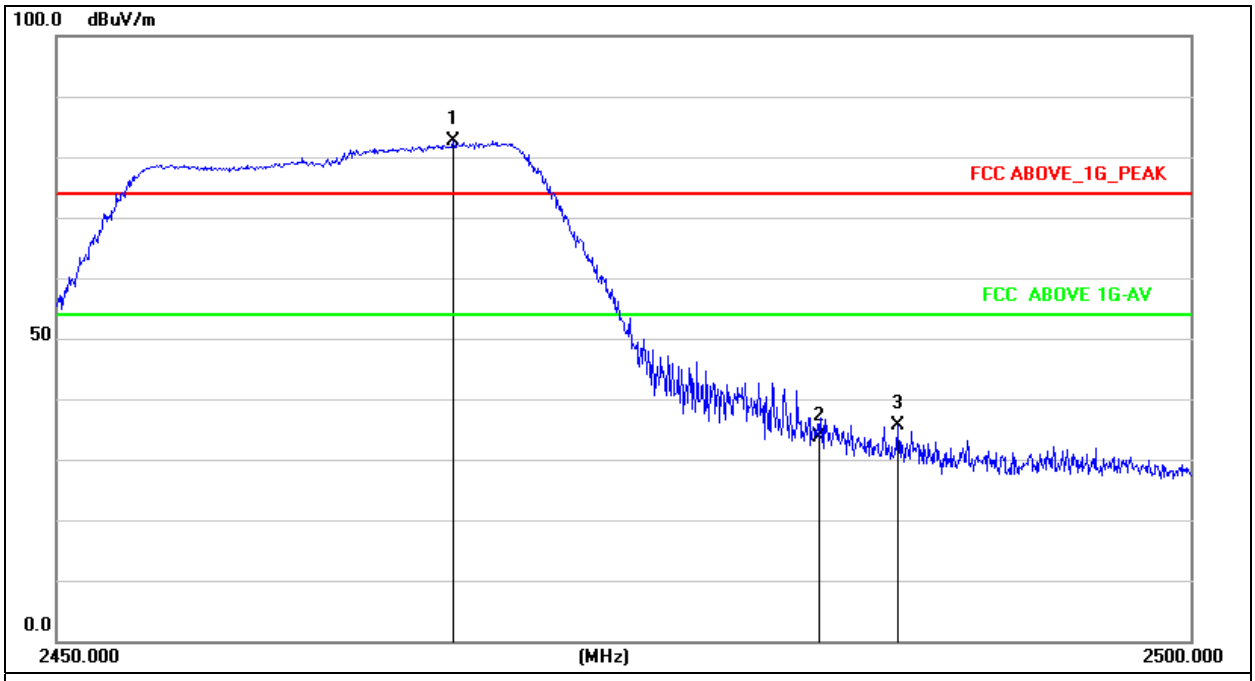
Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11n20 High Channel	Polarization :	Horizontal



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2468.781	102.27	-17.94	84.33	74.00	10.33	peak
2	2483.500	63.89	-17.92	45.97	74.00	-28.03	peak
3	2486.802	58.26	-17.91	40.35	74.00	-33.65	peak

Temperature：	25℃	Relative Humidtity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	802.11n20 High Channel	Polarization :	Vertical



Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2467.385	100.53	-17.95	82.58	74.00	8.58	peak
2	2483.500	51.67	-17.92	33.75	74.00	-40.25	peak
3	2487.003	53.44	-17.91	35.53	74.00	-38.47	peak

4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP

4.1.4 EUT OPERATION CONDITIONS

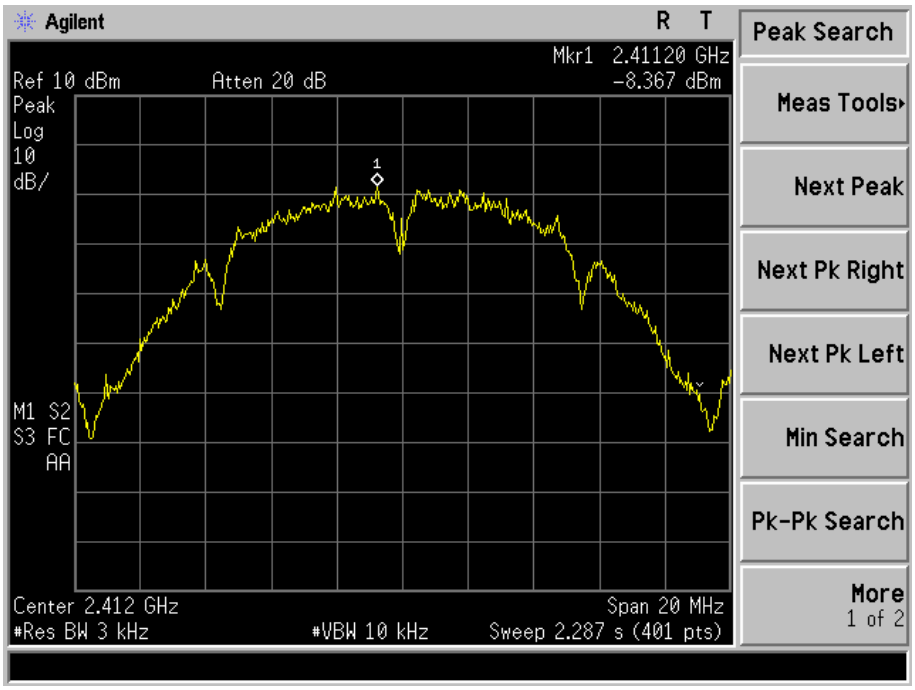
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

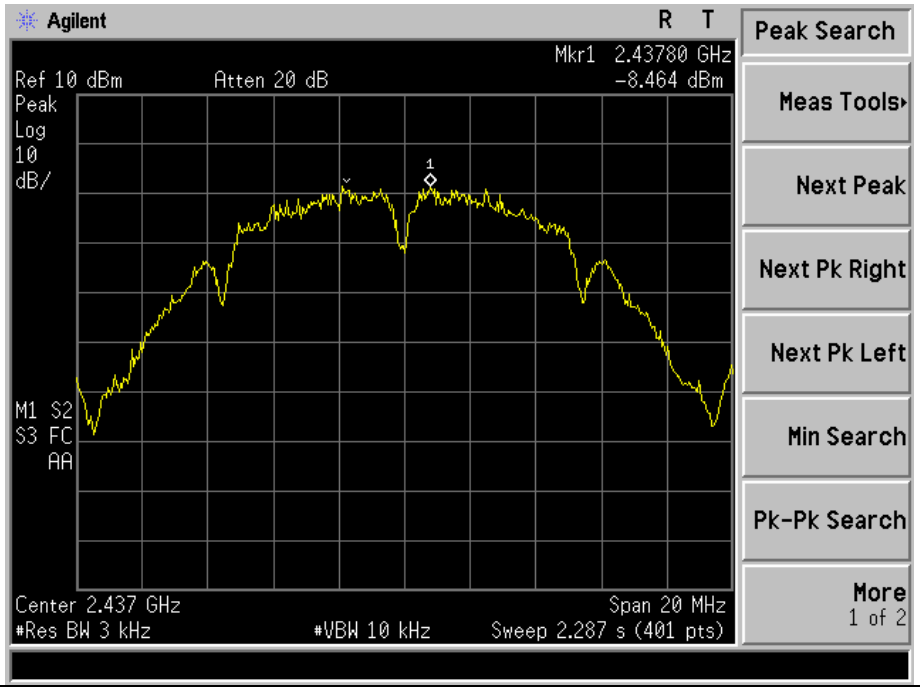
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX b Mode		

Frequency	Power Spectral Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-8.367	8	PASS
2437 MHz	-8.464	8	PASS
2462 MHz	-8.486	8	PASS

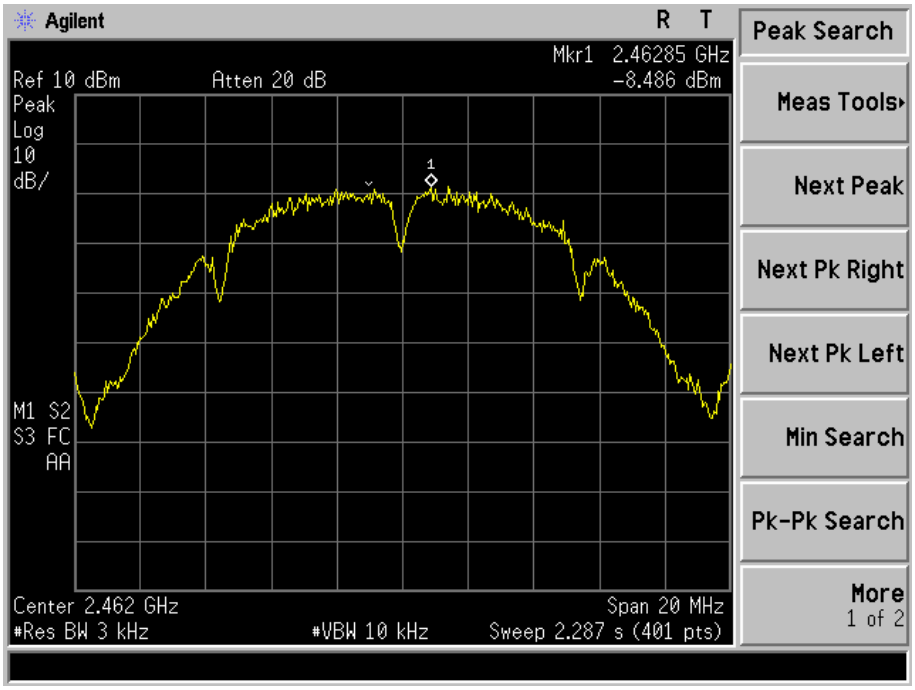
TX CH01



TX CH06



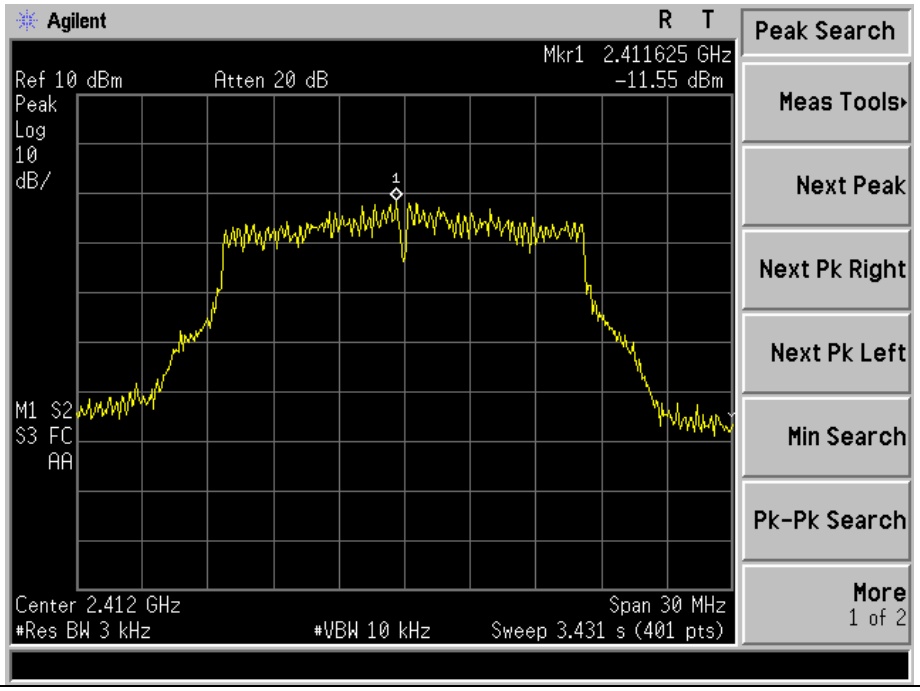
TX CH11



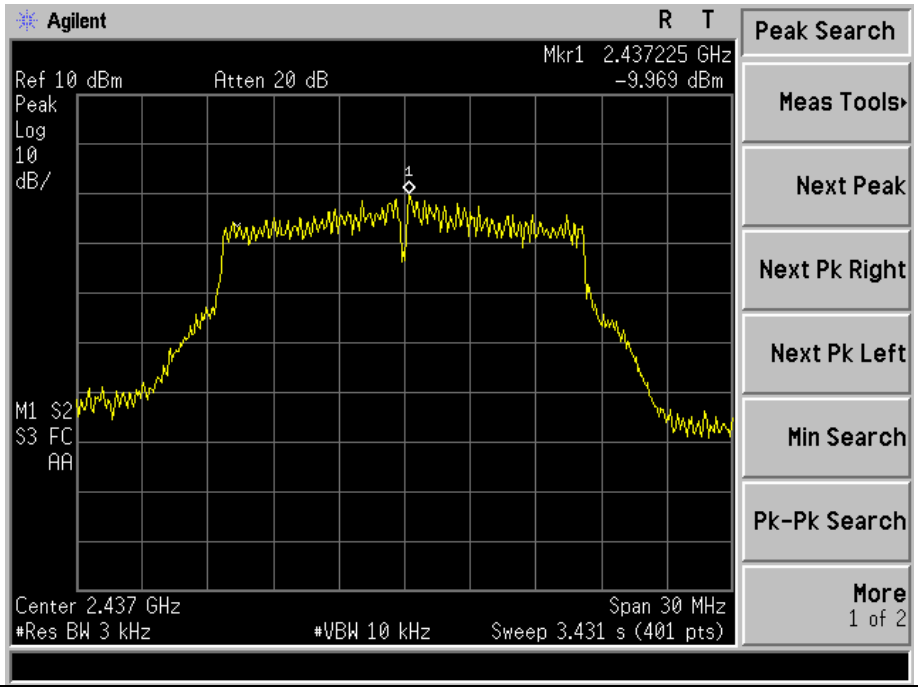
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX g Mode		

Frequency	Power Spectral Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-11.550	8	PASS
2437 MHz	-9.969	8	PASS
2462 MHz	-10.580	8	PASS

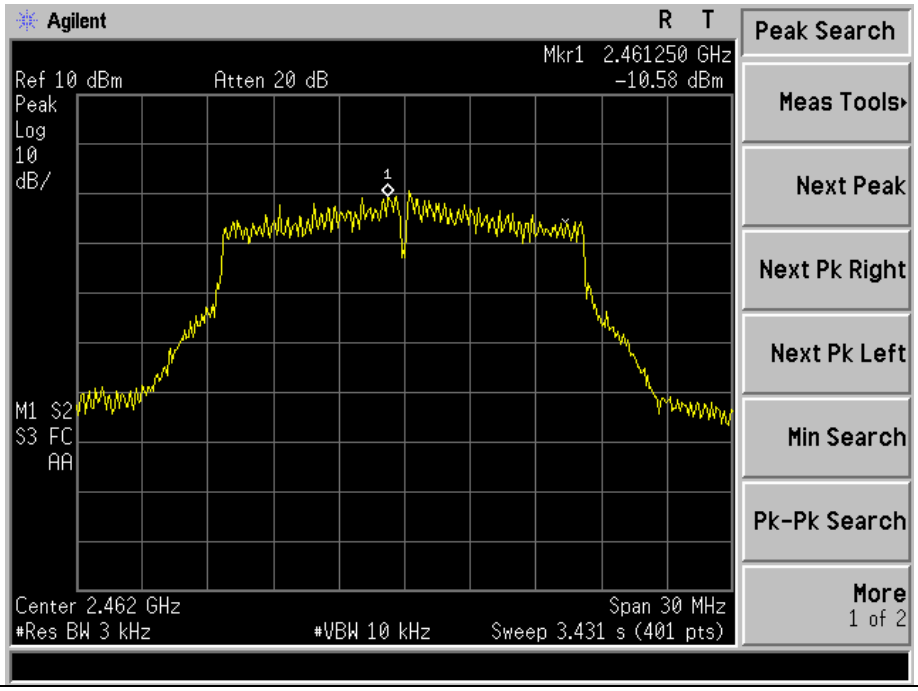
TX CH01



TX CH06



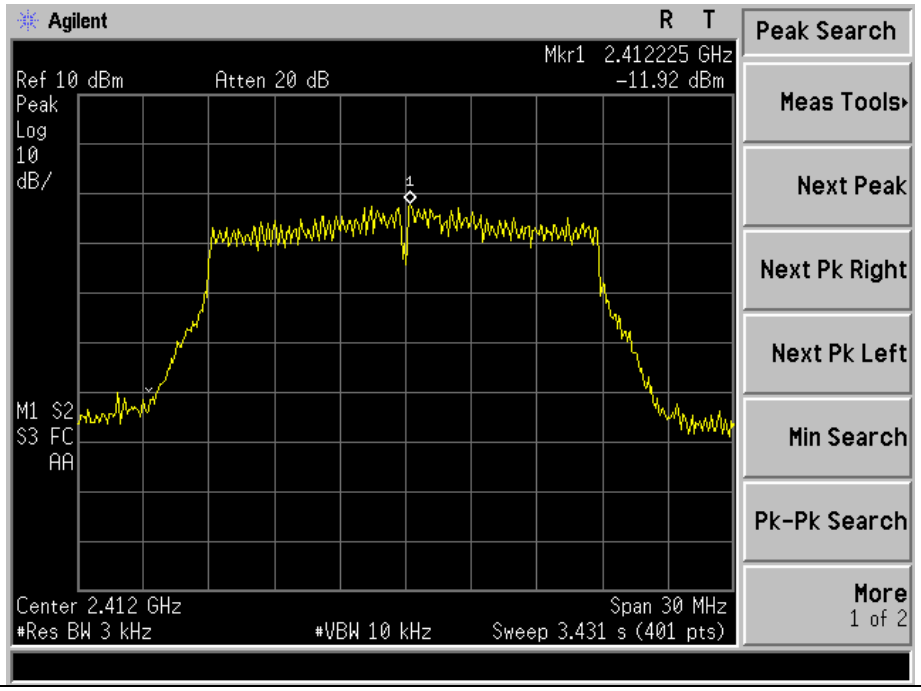
TX CH11



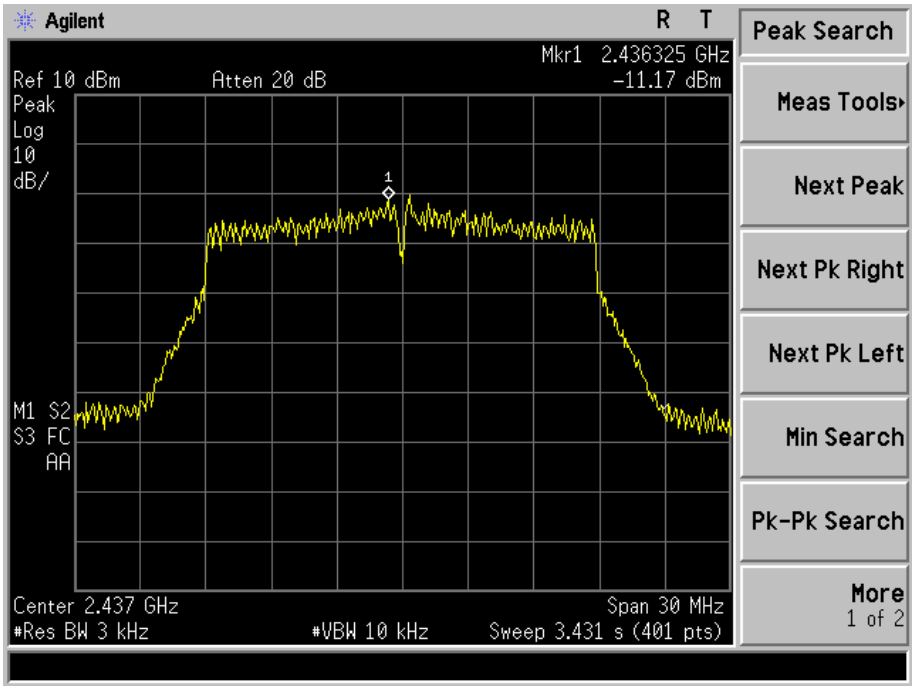
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX n Mode(20M)		

Frequency	Power Spectral Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-11.920	8	PASS
2437 MHz	-11.170	8	PASS
2462 MHz	-10.720	8	PASS

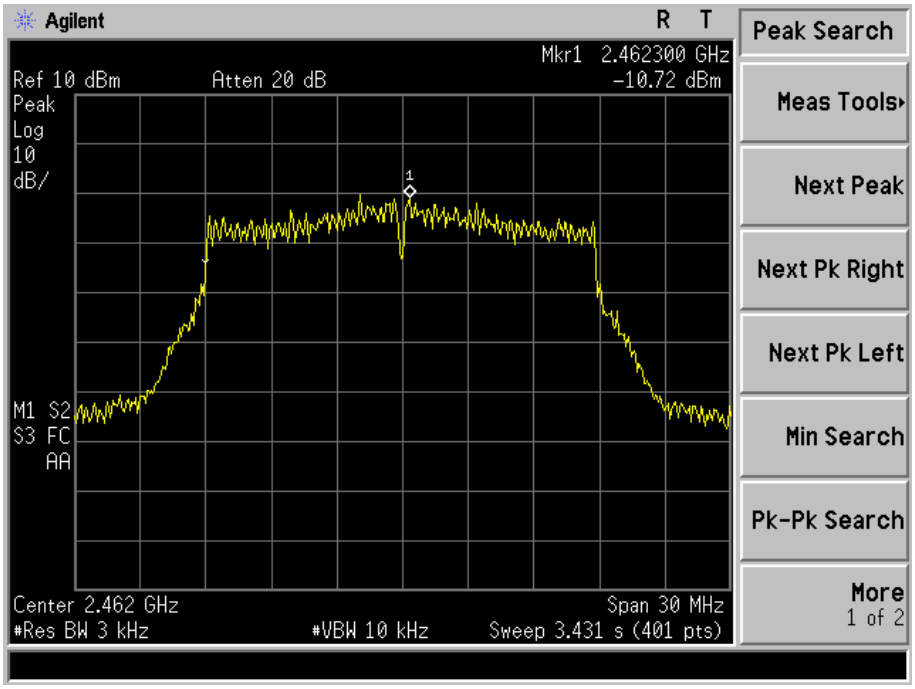
TX CH01



TX CH06



TX CH11



5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

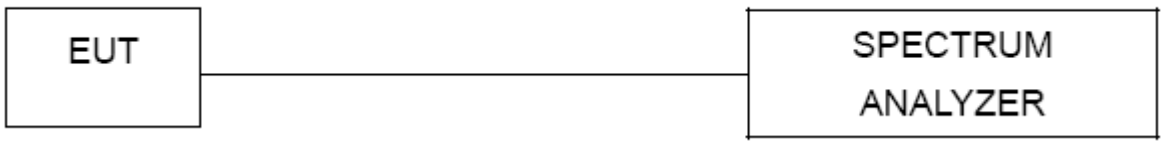
5.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

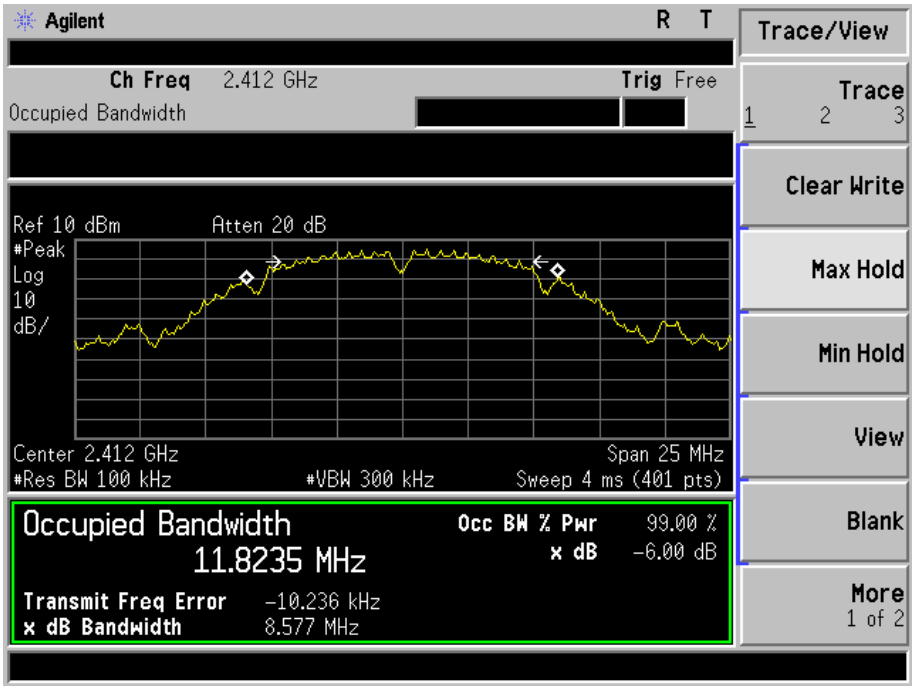
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

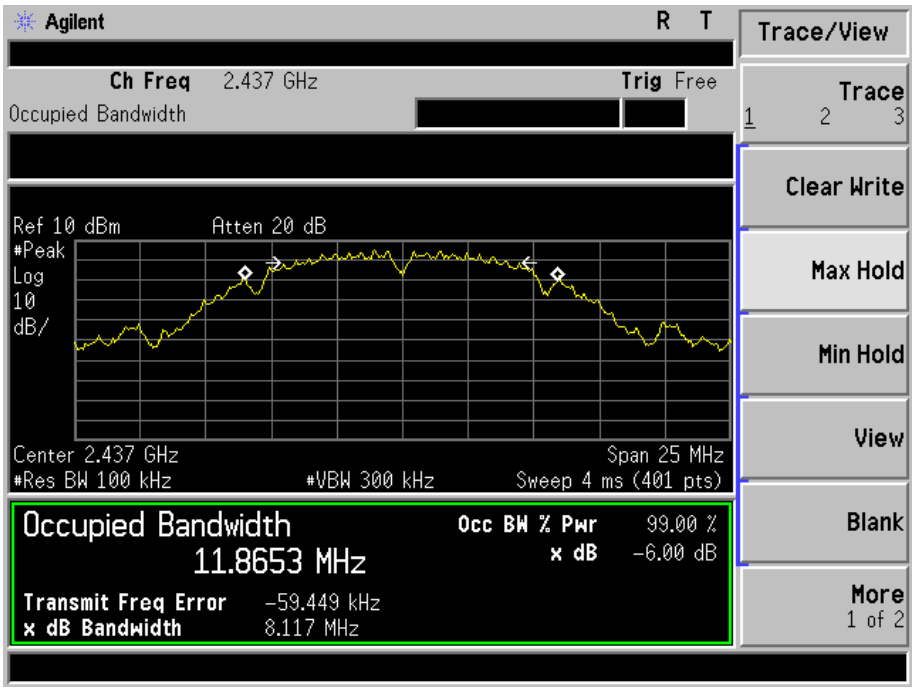
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX b Mode		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	8.577	500	Pass
Middle	2437	8.117	500	Pass
High	2462	8.102	500	Pass

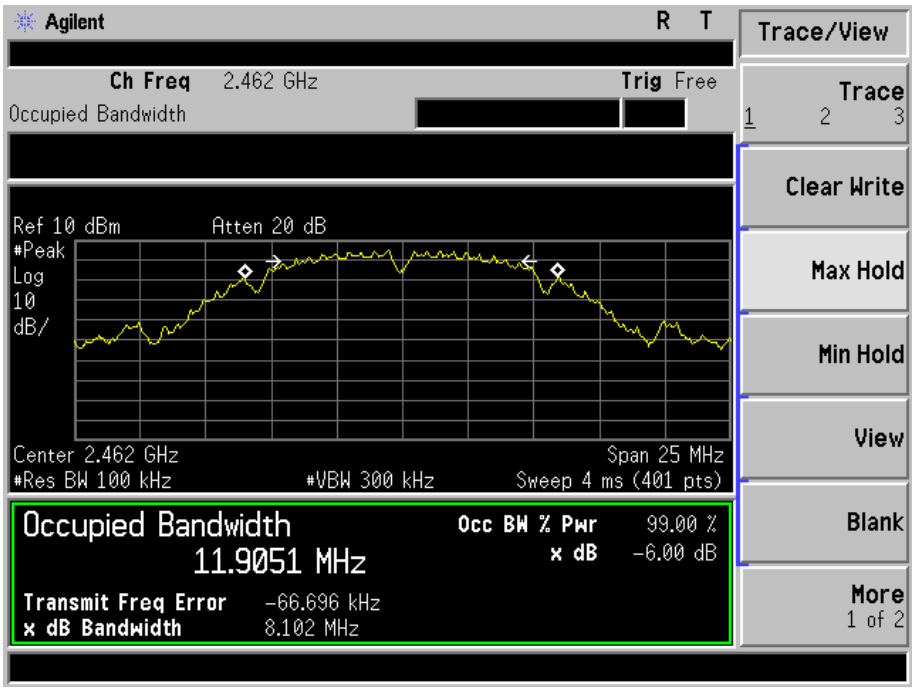
TX CH 01



TX CH 06



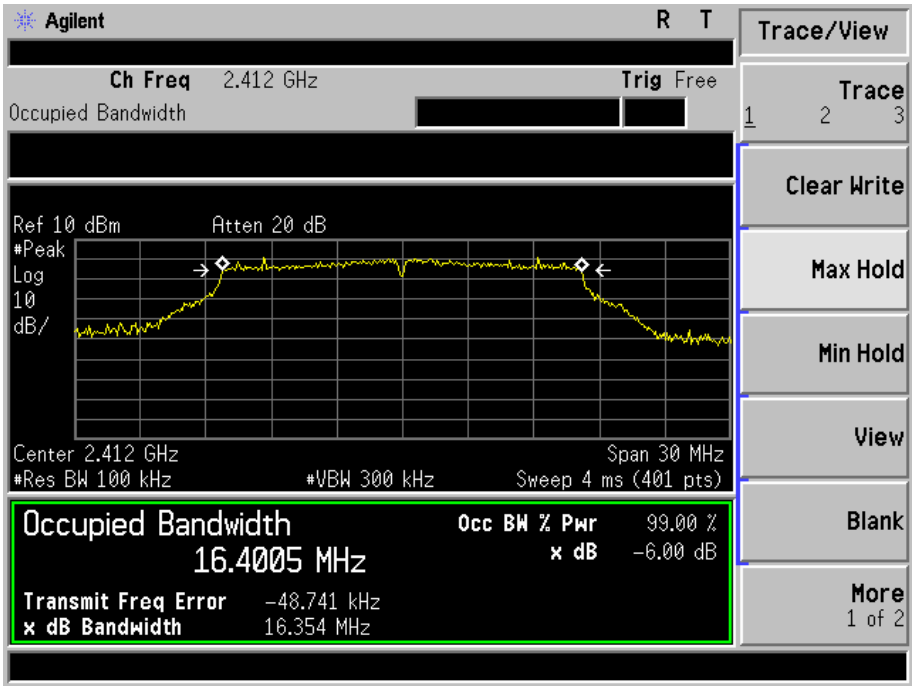
TX CH 11



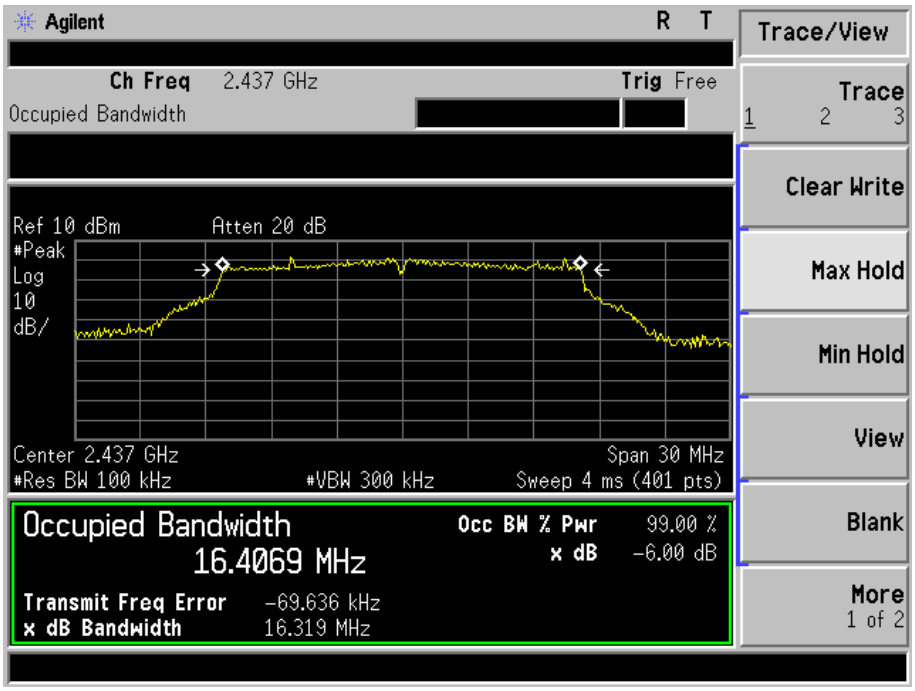
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX g Mode		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.354	500	Pass
Middle	2437	16.319	500	Pass
High	2462	16.092	500	Pass

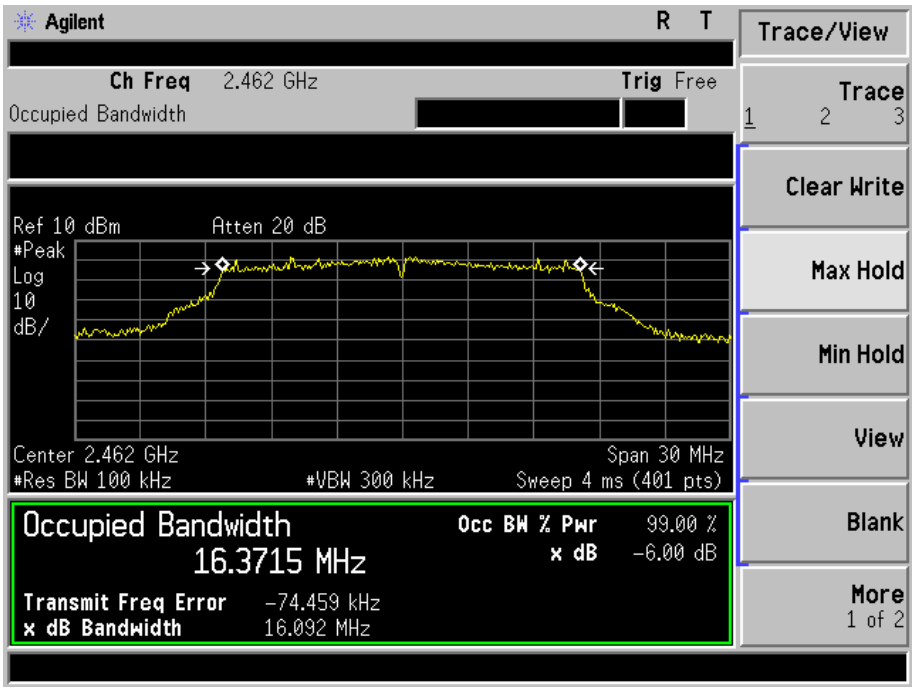
TX CH 01



TX CH 06



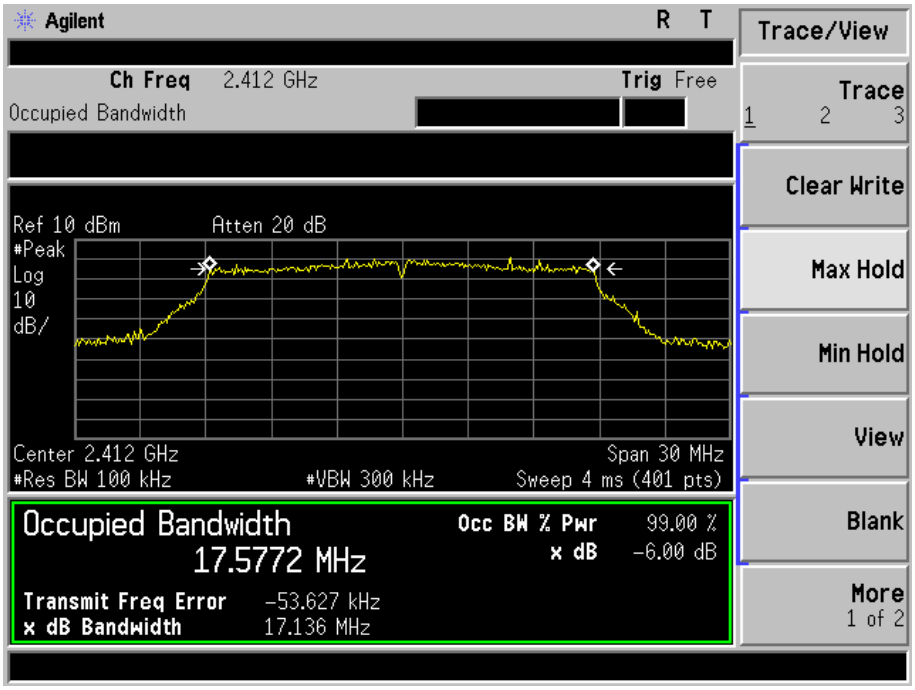
TX CH 11



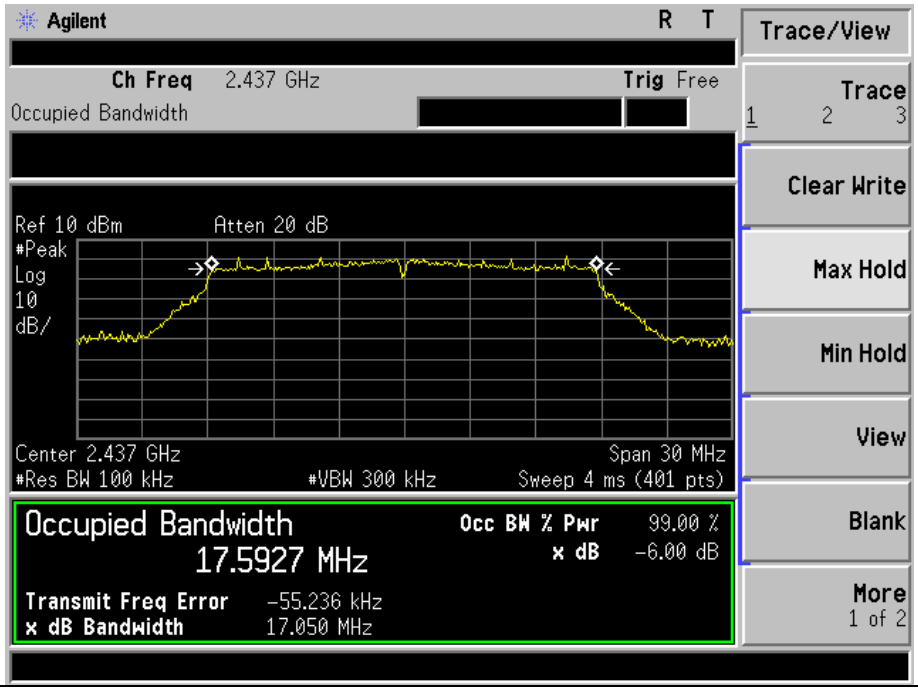
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX n Mode(20M)		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.136	500	Pass
Middle	2437	17.050	500	Pass
High	2462	16.931	500	Pass

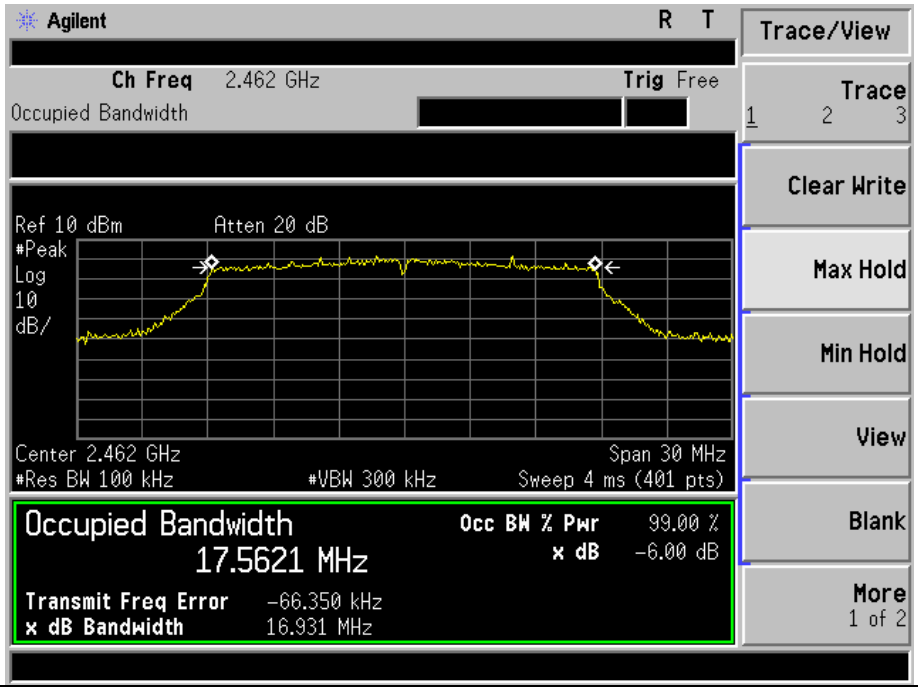
TX CH 01



TX CH 06



TX CH 11



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

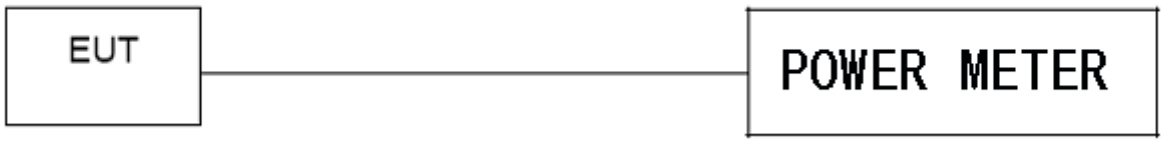
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC 120V/60Hz

Test Channe	Frequency (MHz)	Maximum Conducted Output Power(PK) (dBm)	LIMIT dBm
802.11b Mode			
CH01	2412	13.53	30
CH06	2437	13.79	30
CH11	2462	14.04	30
802.11g Mode			
CH01	2412	12.99	30
CH06	2437	12.33	30
CH11	2462	12.32	30
802.11n-HT20 Mode			
CH01	2412	12.37	30
CH06	2437	12.75	30
CH11	2462	12.12	30

7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

7.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in§15.205(a), must also comply with the radiated emission limits specified in15.209(a).

7.2 TEST PROCEDURE

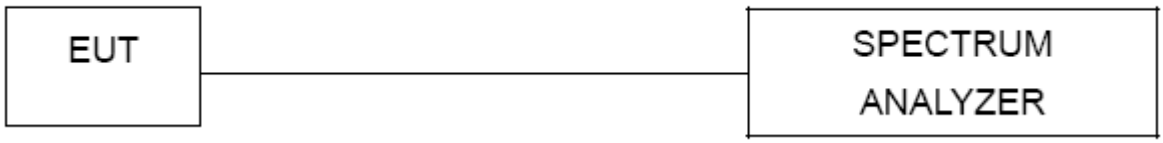
Using the following spectrum analyzer setting:

a) Set the RBW = 100KHz.
b) Set the VBW = 300KHz.
c) Sweep time = auto couple.
d) Detector function = peak.
e) Trace mode = max hold.
f) Allow trace to fully stabilize.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

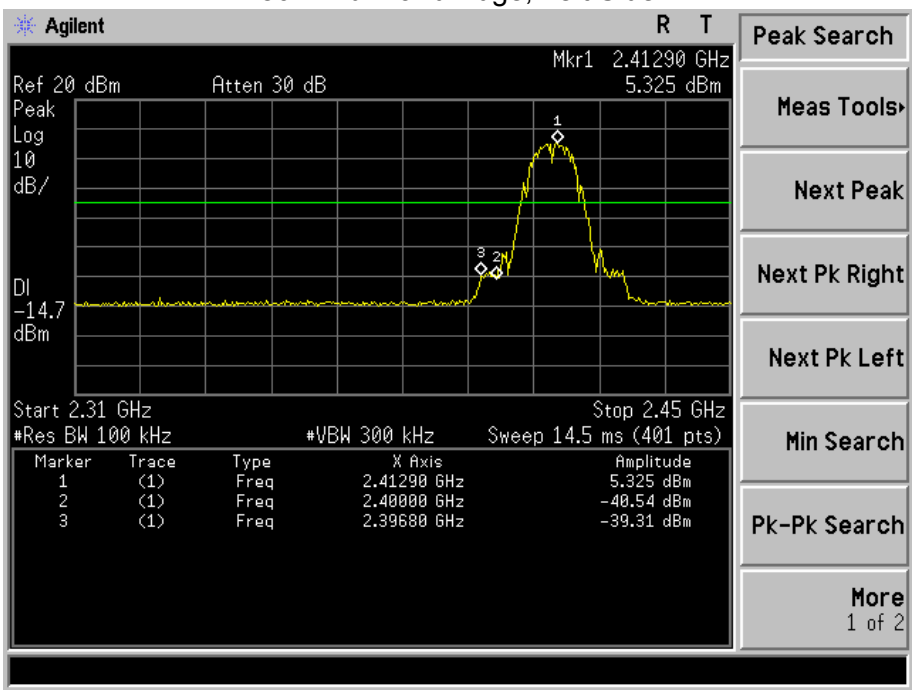


7.5 EUT OPERATION CONDITIONS

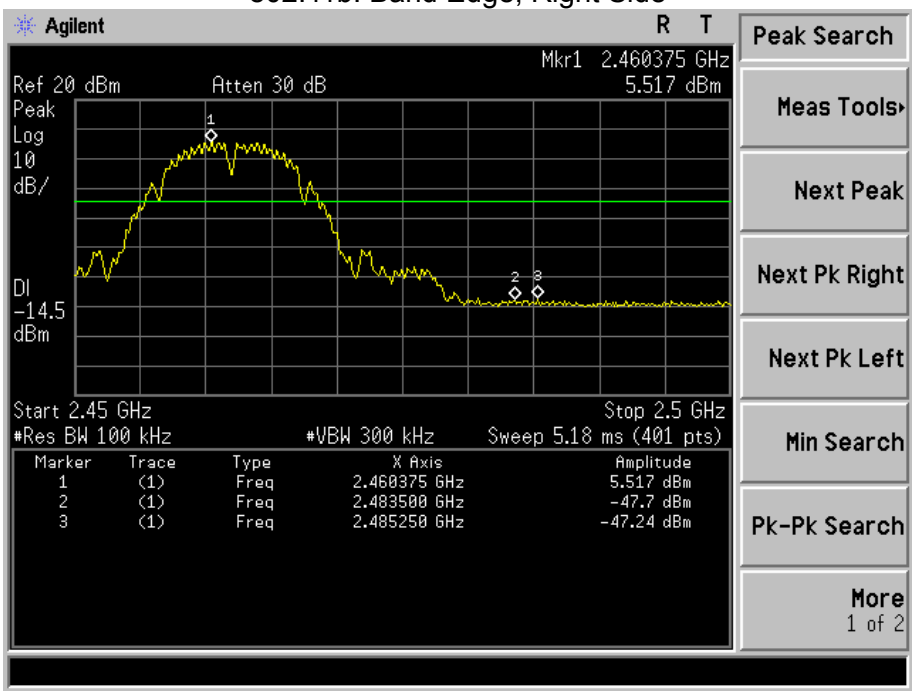
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1 TEST RESULTS

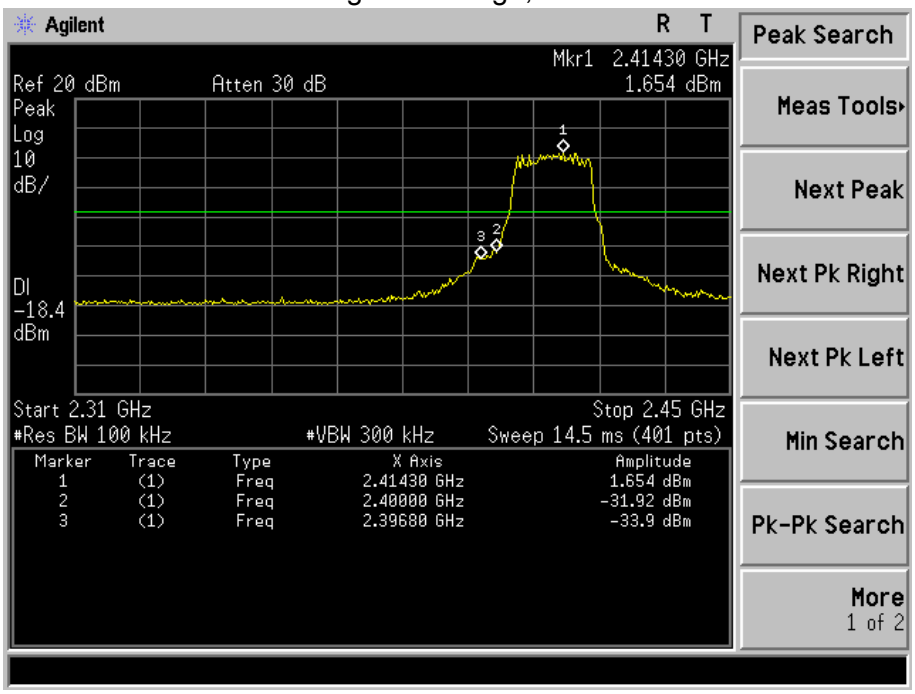
802.11b: Band Edge, Left Side



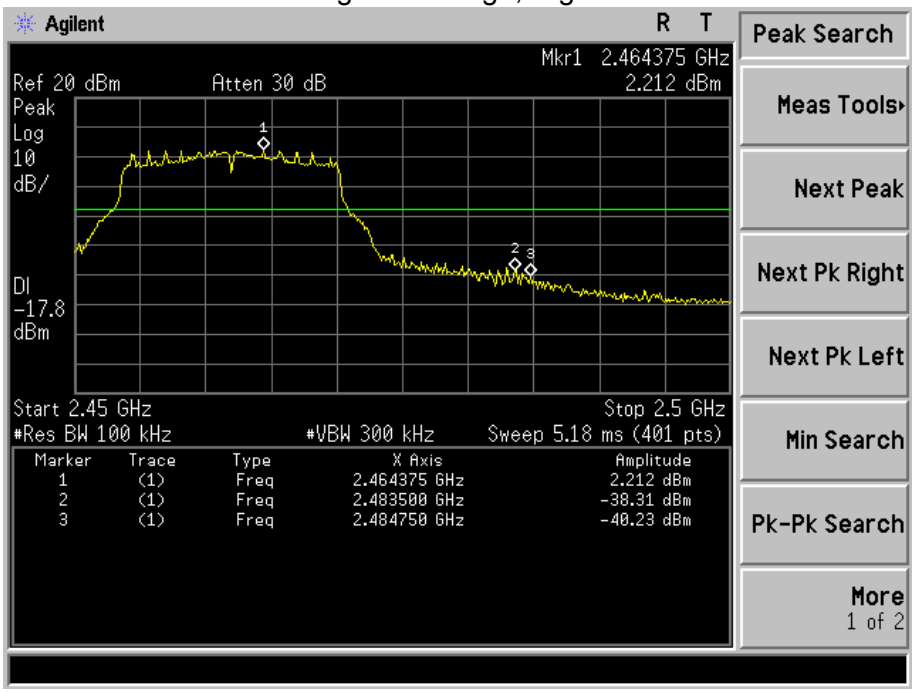
802.11b: Band Edge, Right Side



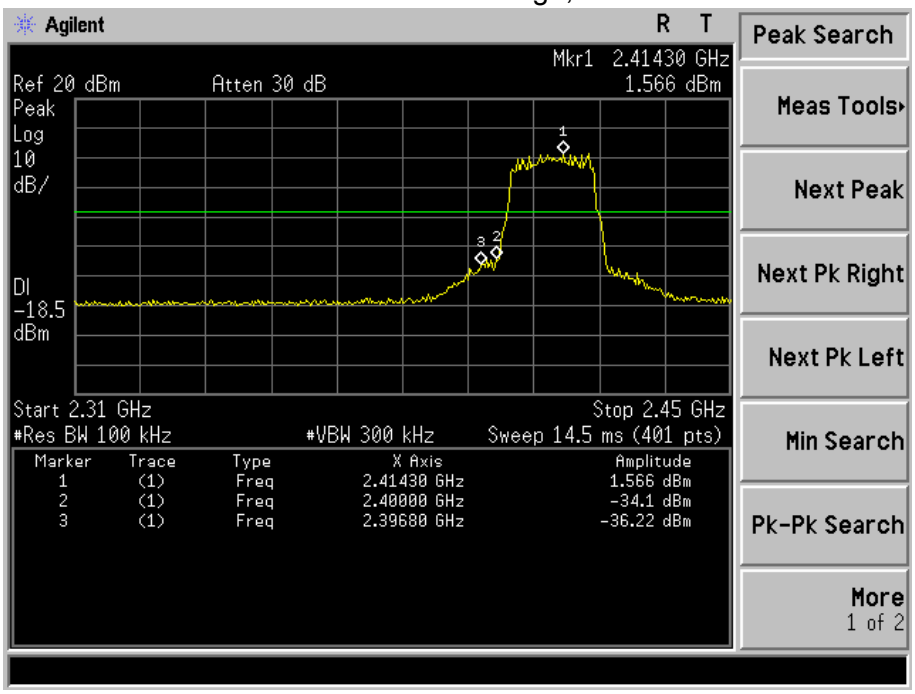
802.11g: Band Edge, Left Side



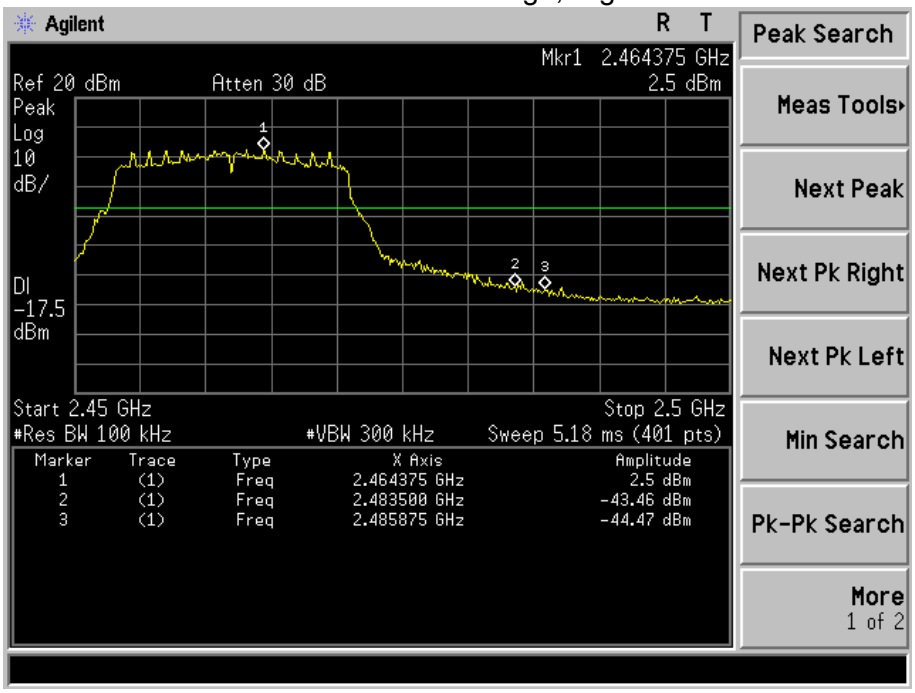
802.11g: Band Edge, Right Side



802.11n-HT20: Band Edge, Left Side



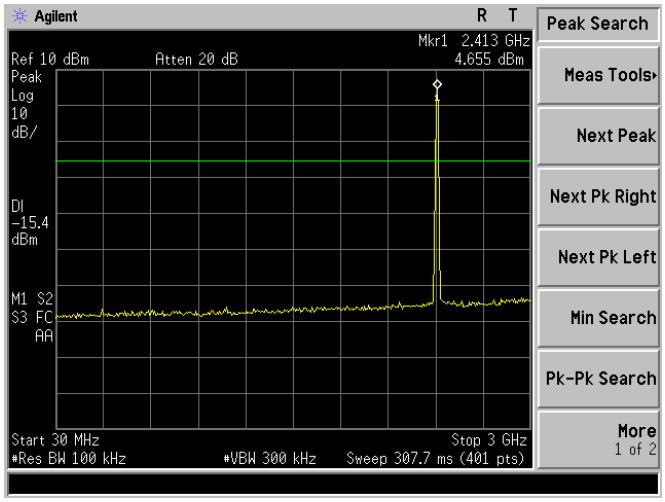
802.11n-HT20: Band Edge, Right Side

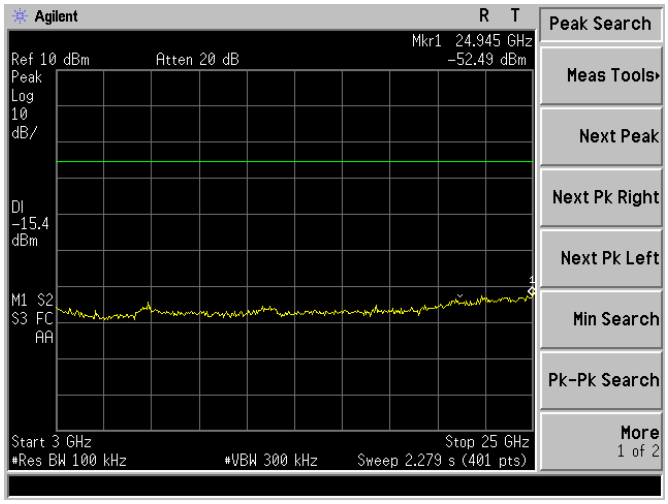


CONDUCTED EMISSION MEASUREMENT

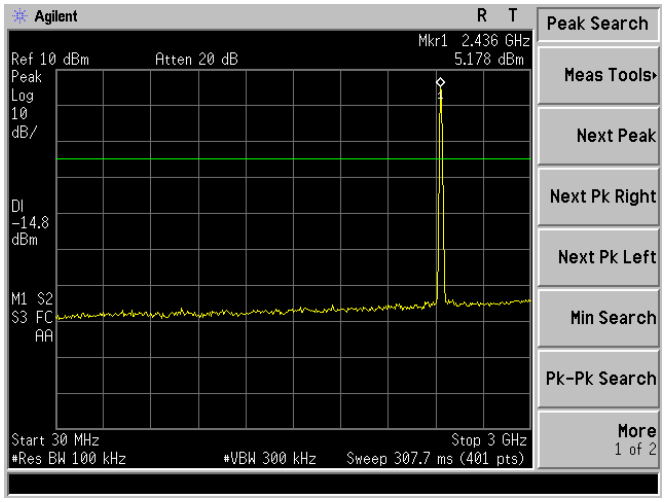
802.11b

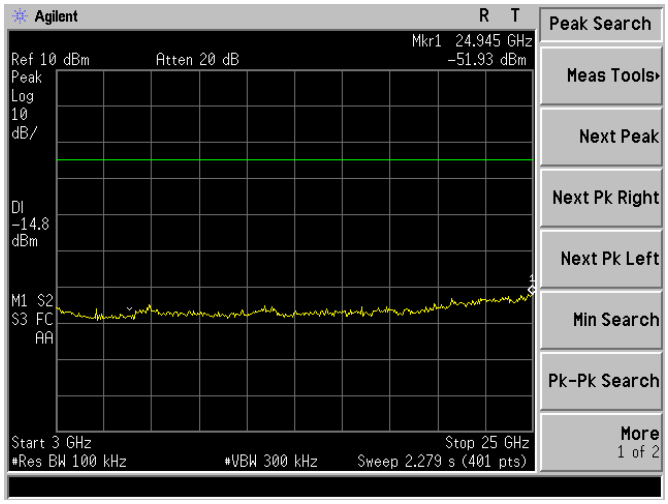
Low Channel 2412MHz



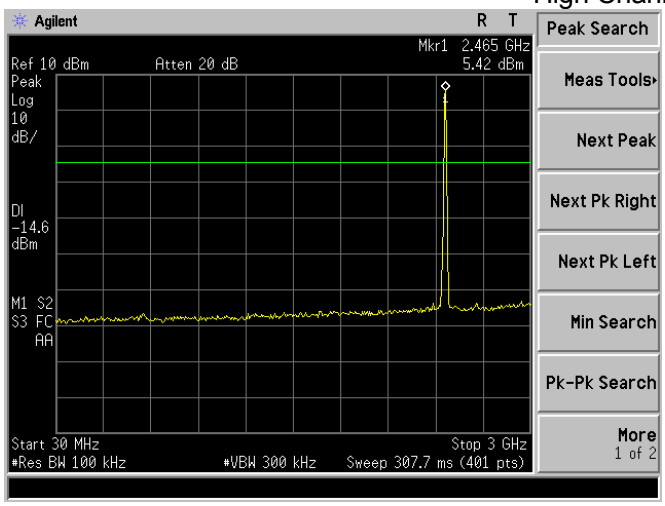


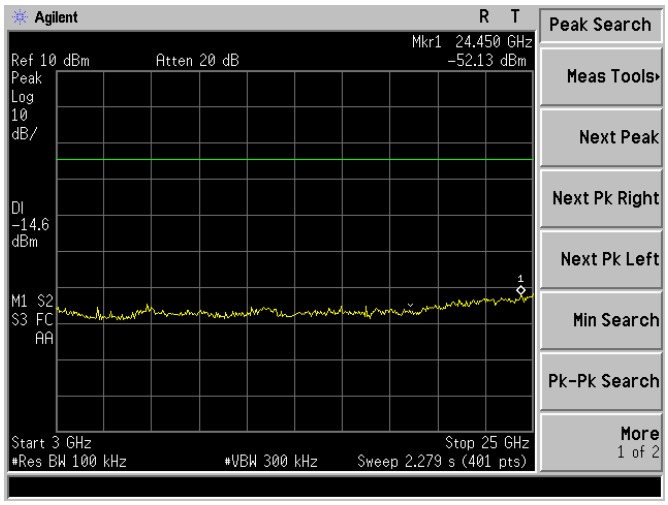
Middle Channel 2437MHz





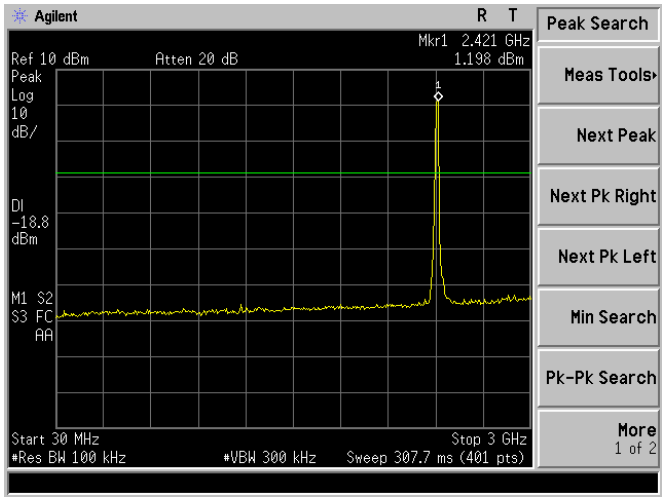
High Channel 2462MHz

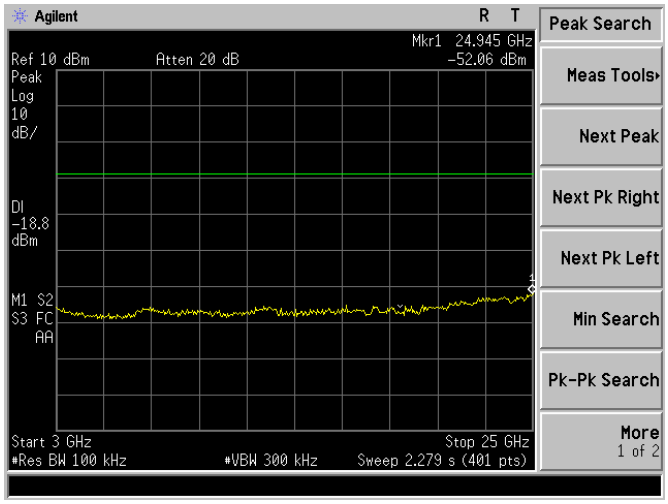




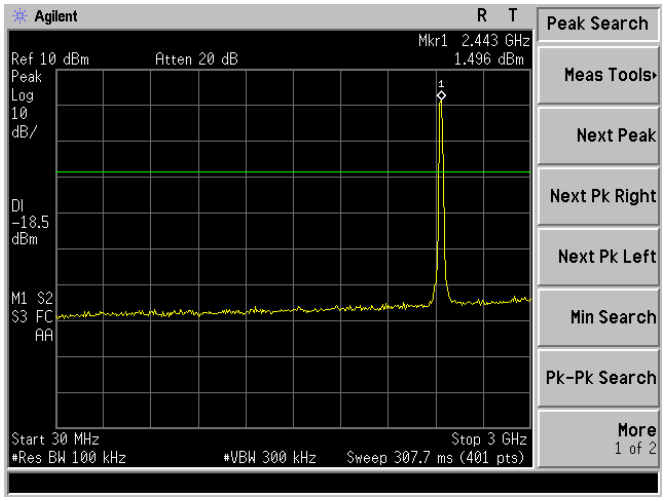
802.11g

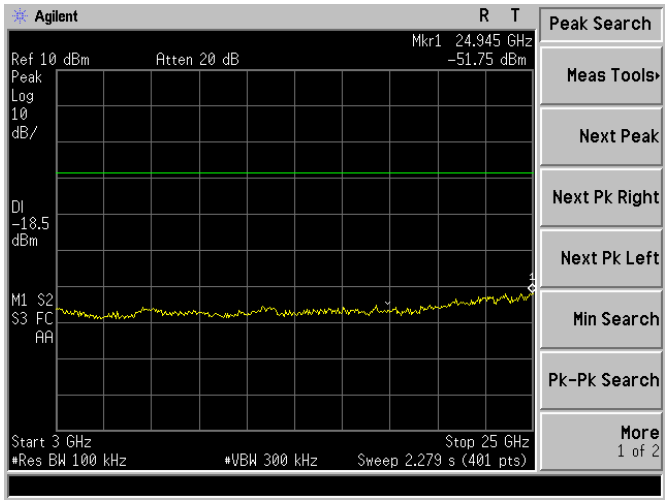
Low Channel 2412MHz



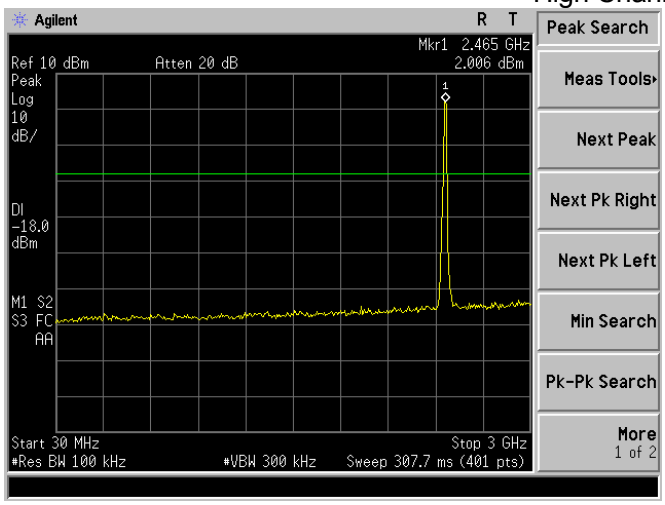


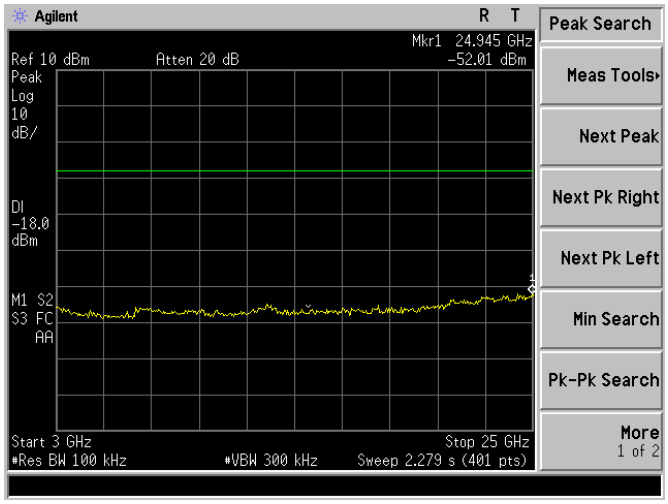
Middle Channel 2437MHz





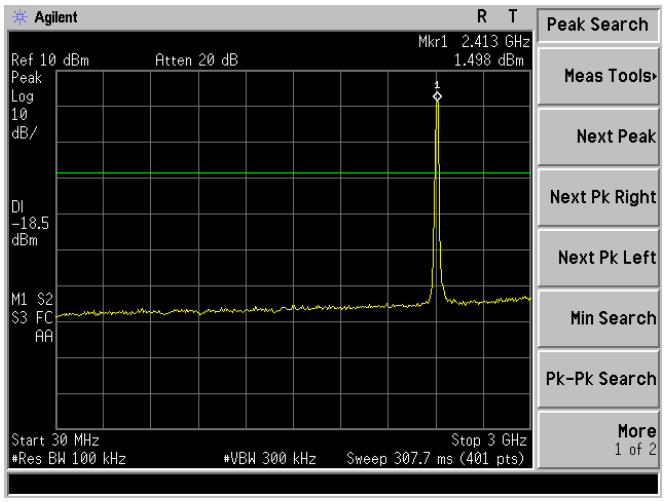
High Channel 2462MHz

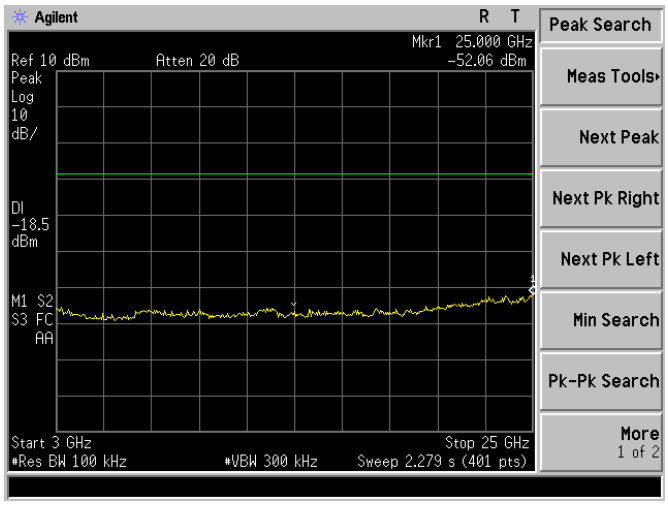




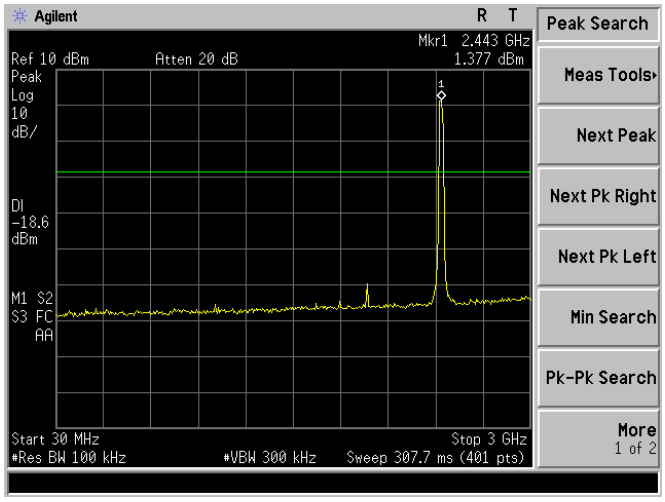
802.11n20

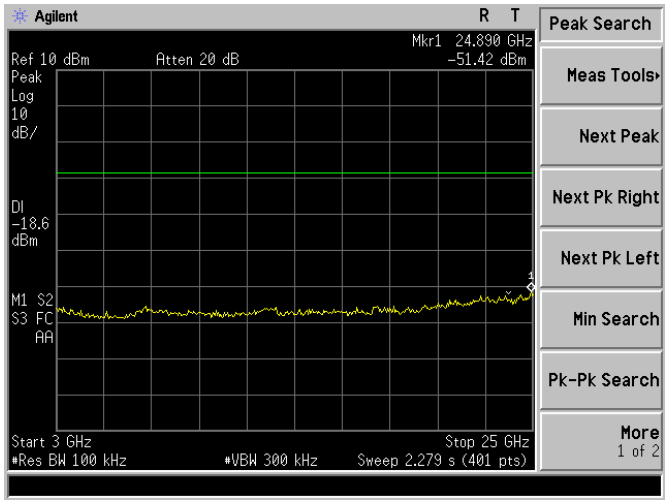
Low Channel 2412MHz



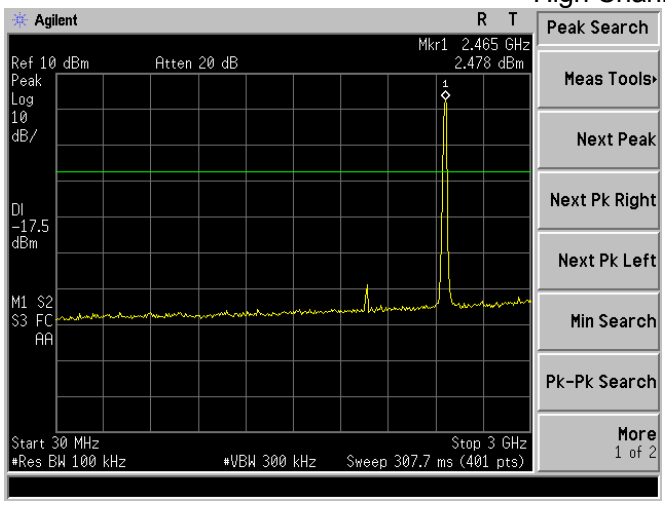


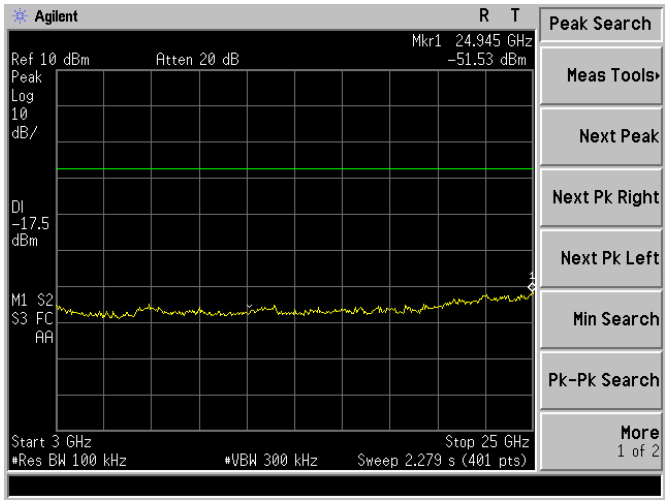
Middle Channel 2437MHz





High Channel 2462MHz





8. DUTY CYCLE OF TEST SIGNAL

8.1 STANDARD REQUIREMENT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

8.2 FORMULA:

Duty Cycle = Ton / (Ton+Toff)

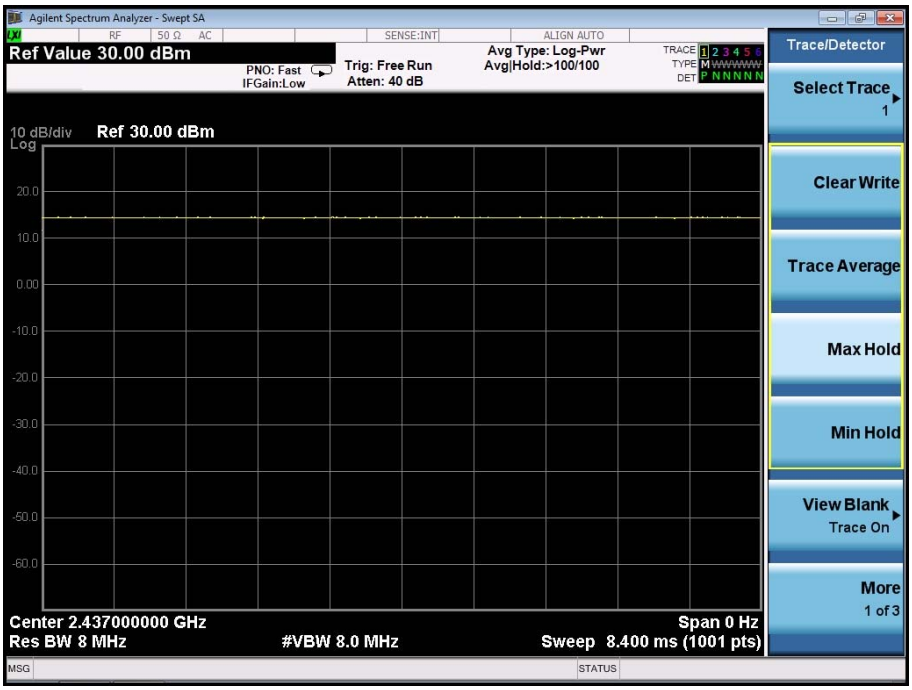
Measurement Procedure:

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

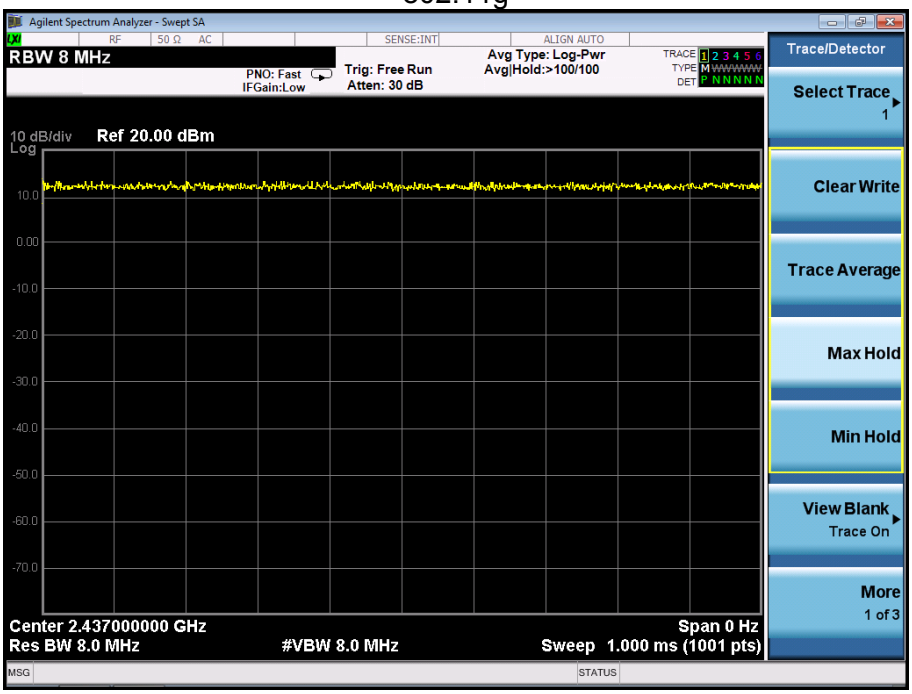
Duty Cycle:

	Duty Cycle	Duty Fator (dB)
802.11b	1	0
802.11g	1	0
802.11n(HT20)	1	0

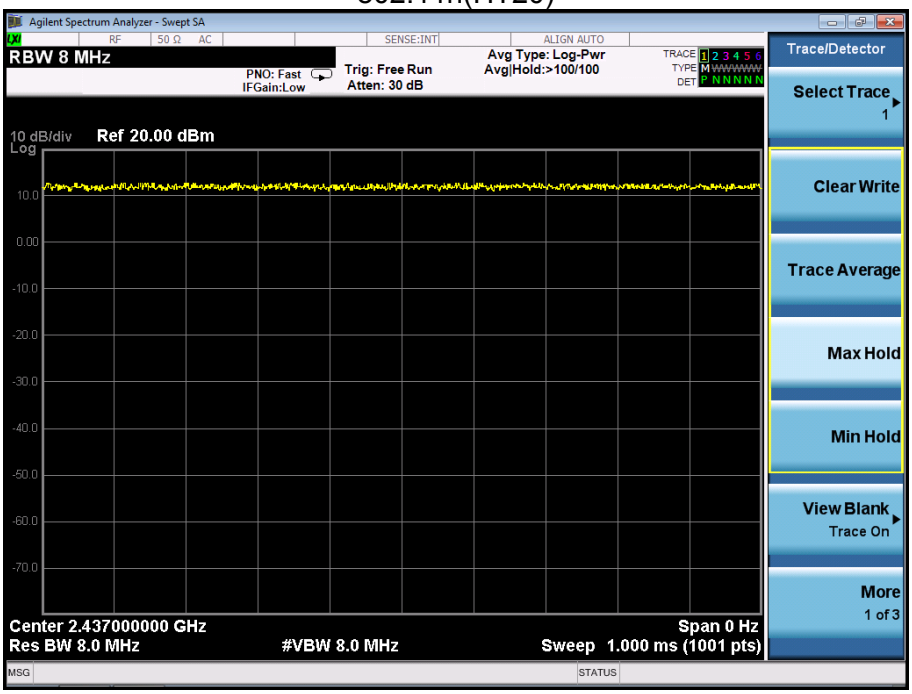
802.11b



802.11g



802.11n(HT20)



9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

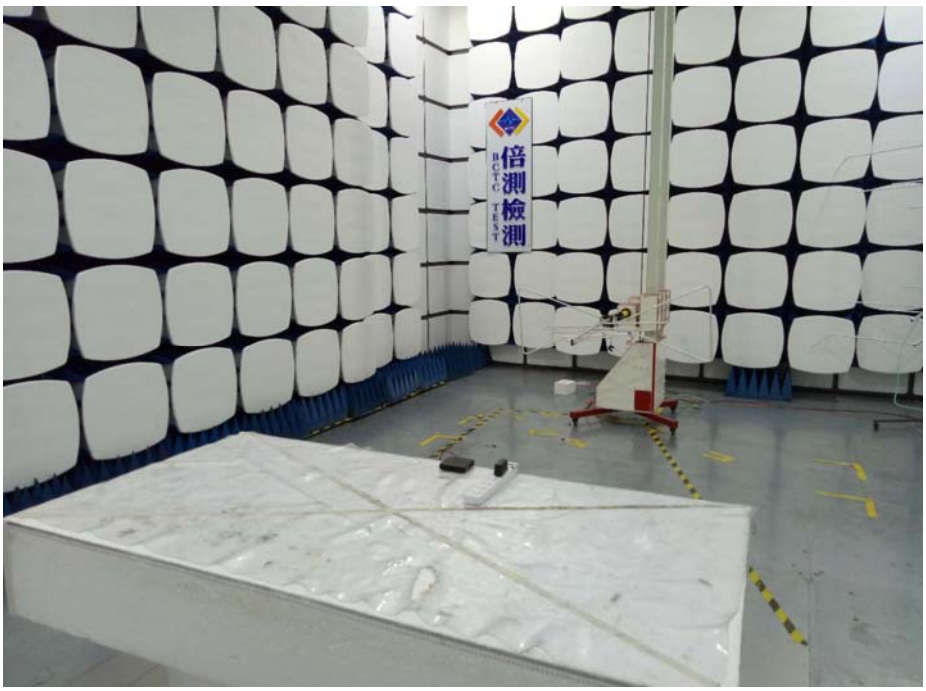
9.2 EUT ANTENNA

The EUT antenna is Internal Antenna. It complies with the standard requirement.

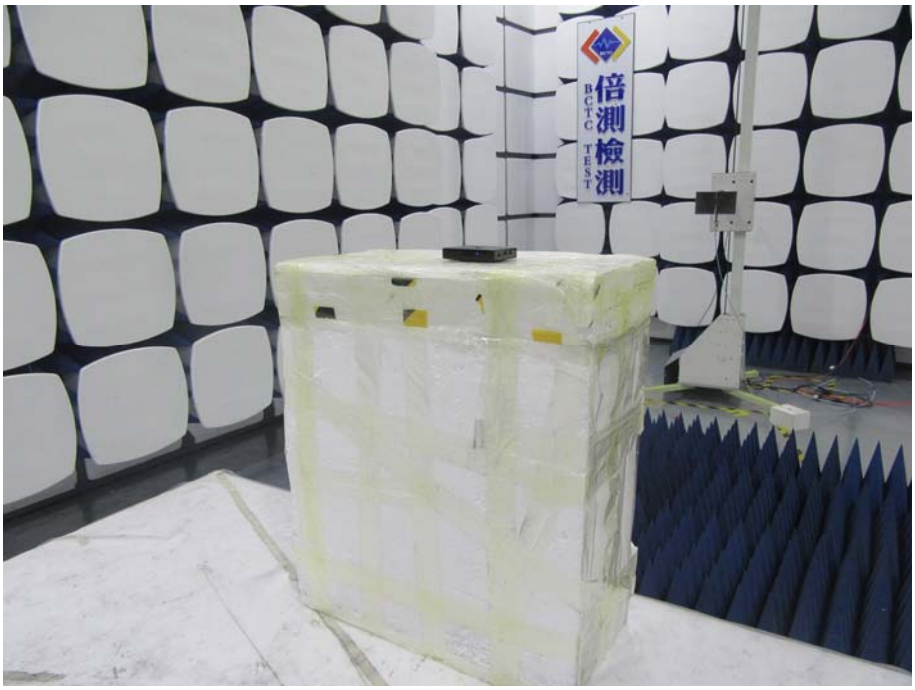
10. EUT TEST PHOTO

Conducted Measurement Photos

Radiated Measurement Photos



Radiated Measurement Photos



11. EUT PHOTO

※※※※※ END OF REPORT ※※※※※