Wireless LAN Radio Test Report

FCC ID: BQO-XC24M

This report concerns (check one) : ■ **Original Grant** □ **Class I Change**

Issued Date : Mar. 02, 2012
Project No. : 1203009
Equipment : 802.11b/g miniPCI Module
Model Name : XC24M

Applicant : XAGYL COMMUNICATIONS LLC
Address : 1700 Bryant Drive, Unit 207 Round Rock, Texas 78664 USA

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Nov. 16, 2011
Date of Test: Nov. 16, 2011 ~ Dec. 12, 2011

Testing Engineer : Gary Chou
(Gary Chou)

Technical Manager : Jeff Yang
(Jeff Yang)

Authorized Signatory : Andy Chiu
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NVLAP Lab Code: 200145-0

ilac-MRA

TAF Testing Laboratory 0659

Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**., or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Table of Contents Page

Table of Contents Page

1. CERTIFICATION

Equipment : 802.11b/g miniPCI Module
Brand Name : XAGYL
Model Name : XC24M
Applicant : XAGYL COMMUNICATIONS LLC
Date of Test : Nov. 16, 2011 ~ Dec. 12, 2011
Standards : FCC Part15, Subpart C / ANCI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1203009) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).
This is a copy report to original test report: Project No.: 1111061, Report No.: NEI-FCCP-1-1111061. The original test data and photos are inherited.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (c)	Antenna conducted Spurious 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	
15.203	Antenna Requirement	PASS	
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

NOTE:

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

(2) Portable device; SAR report is required.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

C01: (VCCI RN: C-2918; T-1666; FCC RN: 95335; FCC DN: TW1010)
No.132-1, Ln. 329, Sec. 2, Balian Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

CB08: (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054;
IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

2.2 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**%.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Ra ge	U，(dB)	NOTE
C01	ANSI	150 kHz ~ 30 MHz	1.94	

B. Radiated Measurement :

Test Site	Item	Measurement Frequency Range		Uncertainty	NOTE
CB08	Radiated Emission at 3m	Horizontal Polarization	30 - 00MHz	3.35 dB	
			200 - 1000MHz	3.11 dB	
			1 - 18GHz	3. 7 dB	
			18 - 40GHz	4.01 dB	
		Vertical Polarization	30 - 200MHz	3.22 dB	
			200 - 1000MHz	3.24 dB	
			1 - 18GHz	4.05 dB	
			18 - 40GHz	4.04 dB	

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR}, as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz : 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz : 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR}.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>802.11b/g miniPCI Module</td></tr>
<tr><td>Brand Name</td><td>XAGYL</td></tr>
<tr><td>Model Name</td><td>XC24M</td></tr>
<tr><td>OEM Brand/Model Name</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is an 802.11b/g miniPCI Module.
<table>
<tr><td>Operation Frequency:</td><td>2412~2462 MHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11b:CCK, DQPSK, DBPSK
802.11g:OFDM</td></tr>
<tr><td>Bit Rate of Transmitter:</td><td>802.11b: 11/5.5/2/1 Mbps
802.11g: 54/48/36/24/18/12/9/6 Mbps</td></tr>
<tr><td>Number Of Channel</td><td>Please see Note 2.</td></tr>
<tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr>
<tr><td>Antenna Gain(Peak)</td><td>Please see Note 3.</td></tr>
<tr><td>Conducted Output Power:</td><td>802.11b: 21.53 dBm (Max.)
802.11g: 29.08 dBm (Max.)</td></tr>
</table>
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.</td></tr>
<tr><td>Power Source</td><td>Supplied from miniPCI Slot.</td></tr>
<tr><td>Power Rating</td><td>Please refer to the User's Manual</td></tr>
<tr><td>Products Covered</td><td>Please refer to the User's Manual</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>1 * Antenna Cable
1 * Antenna: XAGYL, AC/SWI-NM</td></tr>
<tr><td>EUT Modification(s)</td><td>N/A</td></tr>
</table>

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

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

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	XAGYL	AC/SWI-NM	Dipole	N-Male	5.00

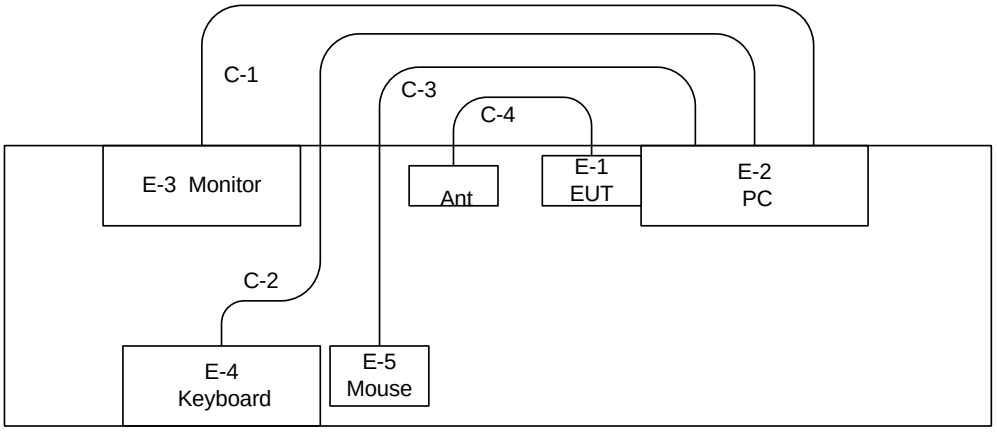
3.2 DESCRIPTION OF TEST MODES

During the output power test, all data rates have been investigated and the highest output powers were recorded are as follows:
802.11b mode: CCK (1Mbps)
802.11g mode: BPSK (6Mbps)
For radiated emission tests, the highest output powers were set for final test.

All test item following channel(s) was (were) selected for the final test as listed below.

Test Items	Mode	Data Rate	Channel	Note
Conducted Emission	802.11b/CCK	1 Mbps	06	
Radiated Spurious Emission (30MHz~1GHz)	802.11b/CCK	1 Mbps	06	
Radiated Spurious Emissions (1GHz~26.5GHz)	802.11b/CCK	1 Mbps	01/06/11	
	802.11g/BPSK	6 Mbps	01/06/11	
6dB Bandwidth	802.11b/CCK	1 Mbps	01/06/11	
	802.11g/BPSK	6 Mbps	01/06/11	
Peak Output Power	802.11b/CCK	1 Mbps	01/06/11	
	802.11g/BPSK	6 Mbps	01/06/11	
Antenna conducted Spurious Emission	802.11b/CCK	1 Mbps	01/11	
	802.11g/BPSK	6 Mbps	01/11	
Power Spectral Density	802.11b/CCK	1 Mbps	01/06/11	
	802.11g/BPSK	6 Mbps	01/06/11	
RF Exposure Compliance	802.11b/CCK	1 Mbps	01/06/11	
	802.11g/BPSK	6 Mbps	01/06/11	

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF RADIATED EMISSION TESTED



C-1 VGA Cable
C-2 PS2 Cable
C-3 PS2 Cable
C-4 ANT Cable

3.4 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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	802.11b/g miniPCI Module	XAGYL	XC24M	BQO-XC24M	N/A	EUT
E-2	PC	HP	HP Compaq dx7400 MT	DOC	SGH7480DKZ	
E-3	24" LCD Monitor	DELL	2408WFPb	DOC	071863-11	
E-4	PS/2 K/B	Logitech	Y-SJ17(ACK260A)	DOC	SYU44664880	
E-5	PS/2 Mouse	Logitech	M-SBF69	DOC	HCA44601156	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	YES	1.8M	VGA Cable
C-2	YES	N/A	1.7M	PS2 Cable
C-3	YES	N/A	1.7M	PS2 Cable
C-4	N/A	N/A	1.3M	ANT Cable

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.
(3) " ※ " denotes the support equipment by applicant.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

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.

(3) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value – Limit Value

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jun. 06, 2012
2	Test Cable	TIMES	CFD300-NL	130	Jun. 16, 2012
3	EMI Test Receiver	R&S	ESCS30	833364/017	Aug. 02, 2012
4	LISN	EMCO	3816/2	00066528	Mar. 22, 2012

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

4.1.3 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.

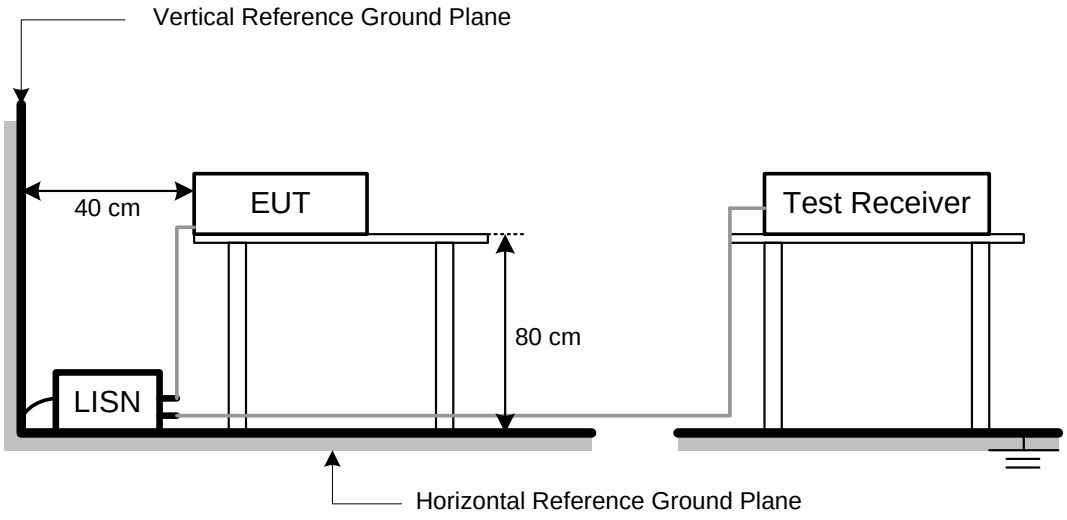
NOTE:

a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz; SPA setting in RBW=10 kHz, VBW =10 kHz, Swp. Time = 0.2 sec./ MHz.
b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



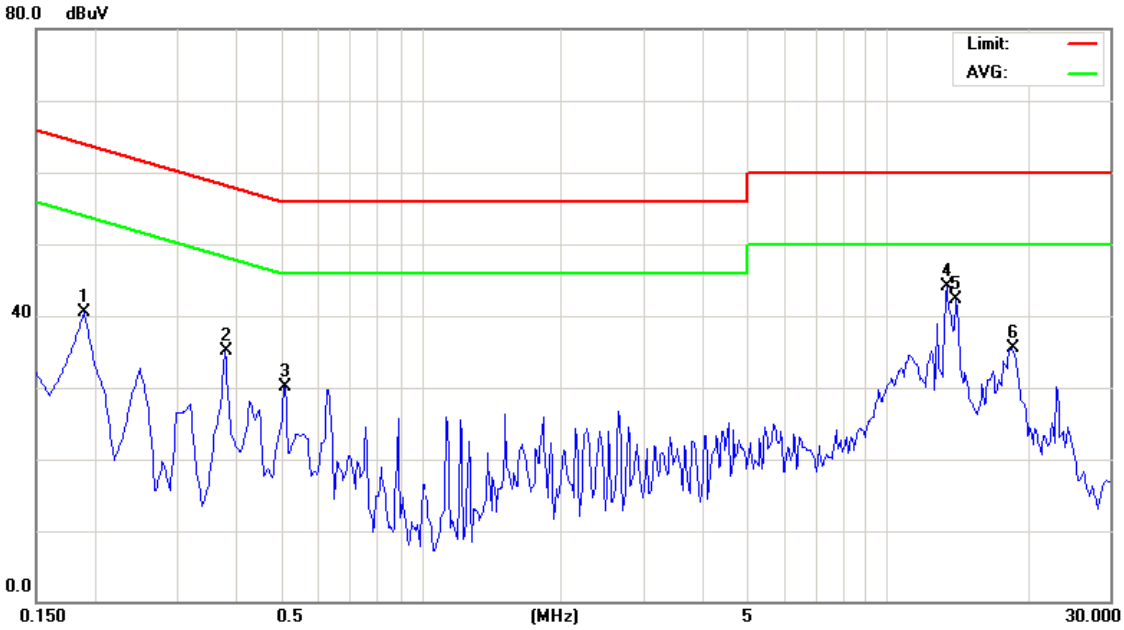
4.1.6 EUT OPERATING CONDITIONS

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.

4.1.7 TEST RESULTS

EUT：	802.11b/g miniPCI Module	Model Name :	XC24M
Temperature：	24°C	Relative Humidity :	46%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

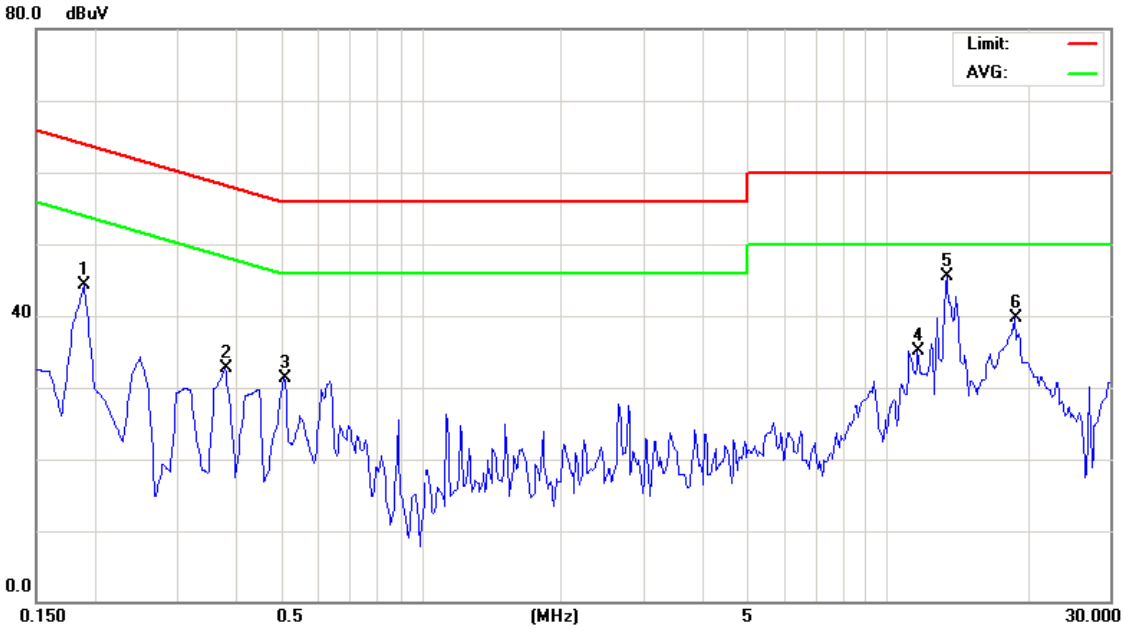
Phase: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1899	30.88	9.60	40.48	64.04	-23.56	peak	
2		0.3799	25.53	9.62	35.15	58.28	-23.13	peak	
3		0.5099	20.50	9.63	30.13	56.00	-25.87	peak	
4	*	13.4200	34.24	9.86	44.10	60.00	-15.90	peak	
5		14.0299	32.42	9.87	42.29	60.00	-17.71	peak	
6		18.5599	25.53	9.91	35.44	60.00	-24.56	peak	

EUT：	802.11b/g miniPCI Module	Model Name :	XC24M
Temperature：	24°C	Relative Humidity :	46%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

Phase: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1900	34.67	9.60	44.27	64.04	-19.77	peak	
2		0.3800	23.03	9.61	32.64	58.28	-25.64	peak	
3		0.5100	21.65	9.62	31.27	56.00	-24.73	peak	
4		11.6500	25.29	9.84	35.13	60.00	-24.87	peak	
5	*	13.4200	35.55	9.87	45.42	60.00	-14.58	peak	
6		18.7600	29.67	9.94	39.61	60.00	-20.39	peak	

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 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 on15.205(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)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

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

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

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

(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)
Margin Level = Measurement Value – Limit Value

4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 06, 2012
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Dec. 07, 2012
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 18, 2012
4	Microflex Cable	N/A	N/A	1m	May. 18, 2012
5	Microflex Cable	AISI	S104-SMAP-1	10m	Aug. 22, 2012
6	Microflex Cable	N/A	N/A	3m	Aug. 22, 2012
7	Test Cable	N/A	LMR-400	966_12m	Jun. 16, 2012
8	Test Cable	N/A	LMR-400	966_3m	Jun. 16, 2012
9	Pre-Amplifier	EMC	EMC-330	980001	Jun. 02, 2012
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 16, 2012

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

4.2.3 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
g. The testing follows the guidelines in ANSI C63.4-2003 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW / VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

NOTE: (30-1000MHz)

a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=120 kHz, VBW =120 kHz, Swp. Time = 0.3 sec./ MHz.
b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.

NOTE: (Above 1000MHz)

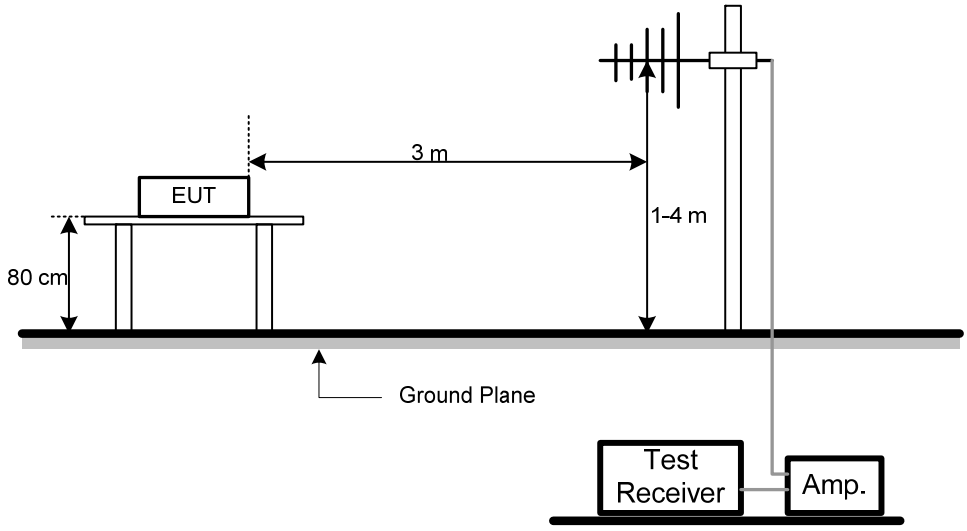
a. Reading in which marked as Peak means measurements by using are Peak Mode with instrument setting in RBW= 1 MHz, VBW= 1 MHz, Swp. Time = Auto.
   Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW= 1 MHz, VBW= 10 Hz, Swp. Time = Auto.
b. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform.

4.2.4 DEVIATION FROM TEST STANDARD

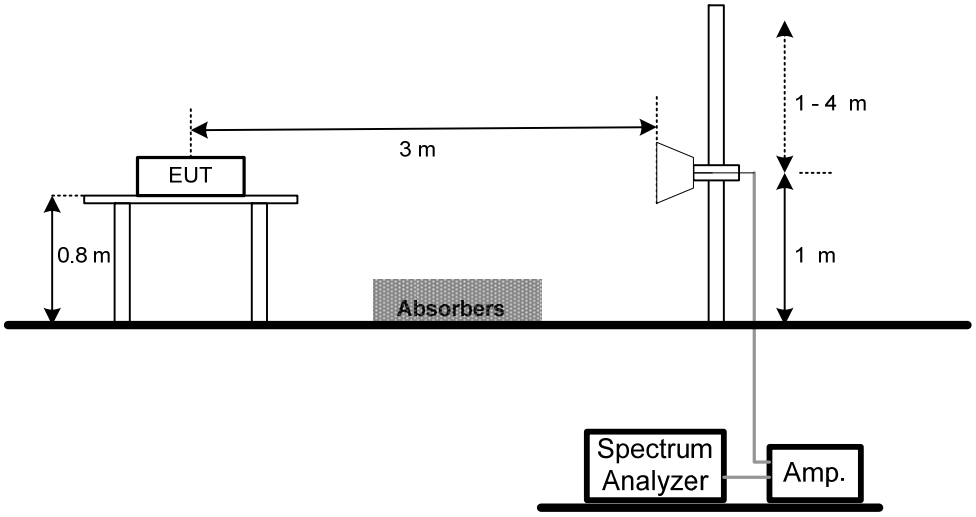
No deviation

4.2.5 TEST SETUP

Radiated Emission Test Set-Up Frequency 30 - 1000MHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



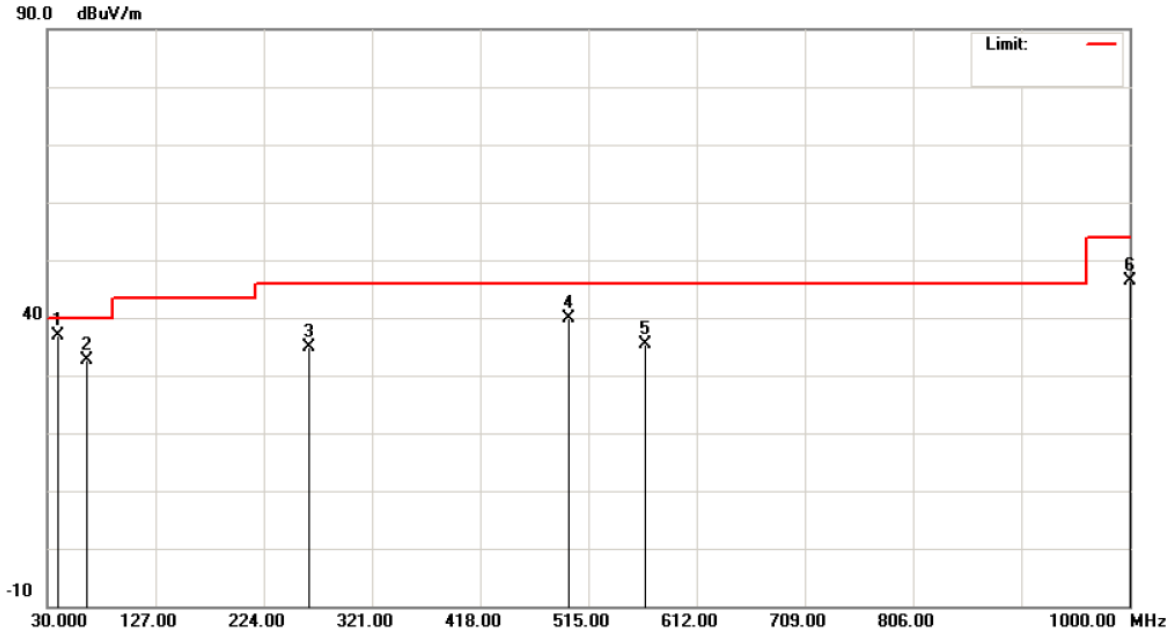
4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.7 TEST RESULTS-BETWEEN 30MHZ - 1000MHZ - TX

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

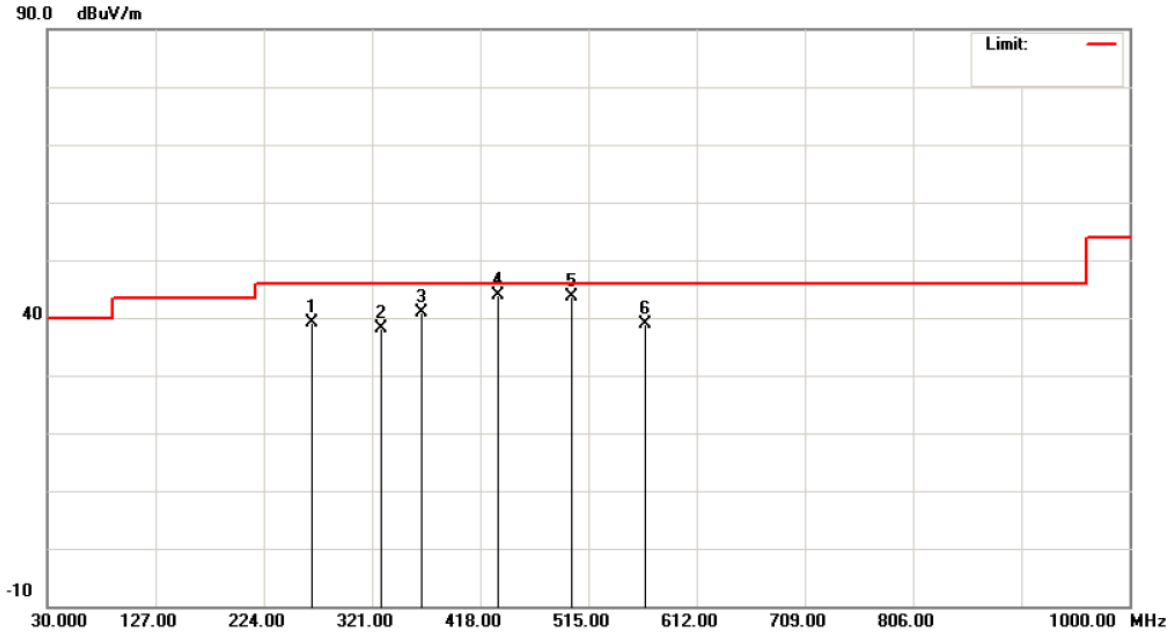
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	39.7000	49.21	-12.45	36.76	40.00	-3.24	peak	
2		64.9198	46.96	-14.21	32.75	40.00	-7.25	peak	
3		264.7398	48.88	-13.89	34.99	46.00	-11.01	peak	
4		497.5400	47.83	-8.01	39.82	46.00	-6.18	peak	
5		565.4400	42.28	-6.87	35.41	46.00	-10.59	peak	
6		1000.000	47.55	-1.07	46.48	54.00	-7.52	peak	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

Polarization: Horizontal

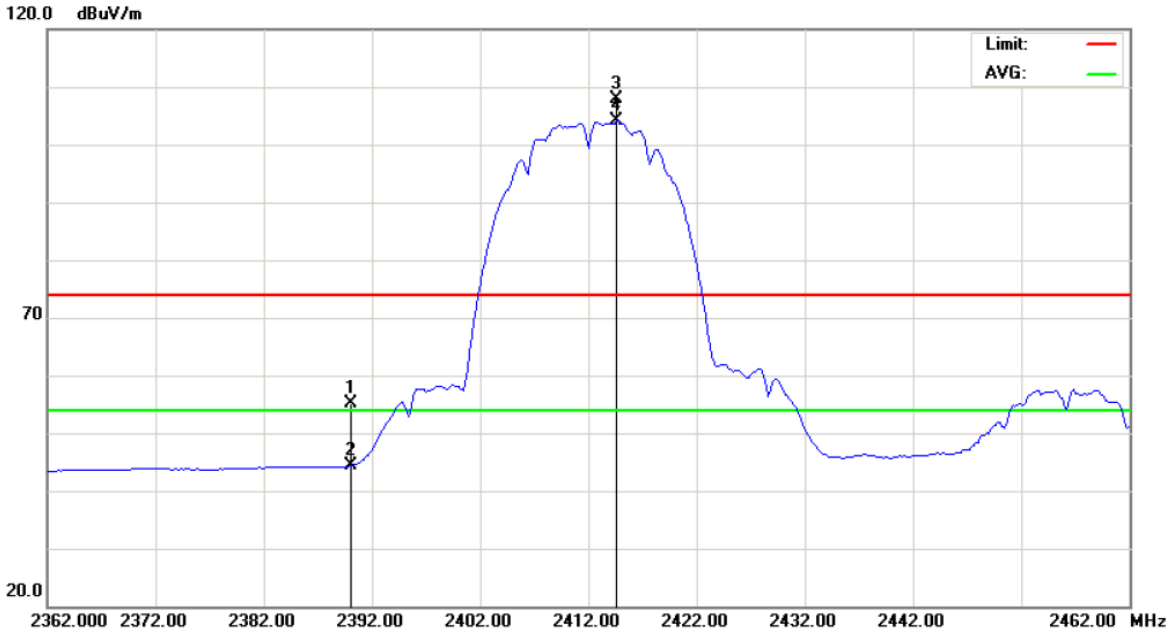


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		266.6799	52.92	-13.80	39.12	46.00	-6.88	peak	
2		328.0000	50.16	-12.00	38.16	46.00	-7.84	peak	
3		365.6199	52.06	-11.08	40.98	46.00	-5.02	peak	
4	*	433.5198	53.16	-9.31	43.85	46.00	-2.15	peak	
5		499.4800	51.55	-7.98	43.57	46.00	-2.43	QP	
6		565.4400	45.68	-6.87	38.81	46.00	-7.19	peak	

4.2.8 TEST RESULTS - ABOVE 1000MHZ - TX

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		

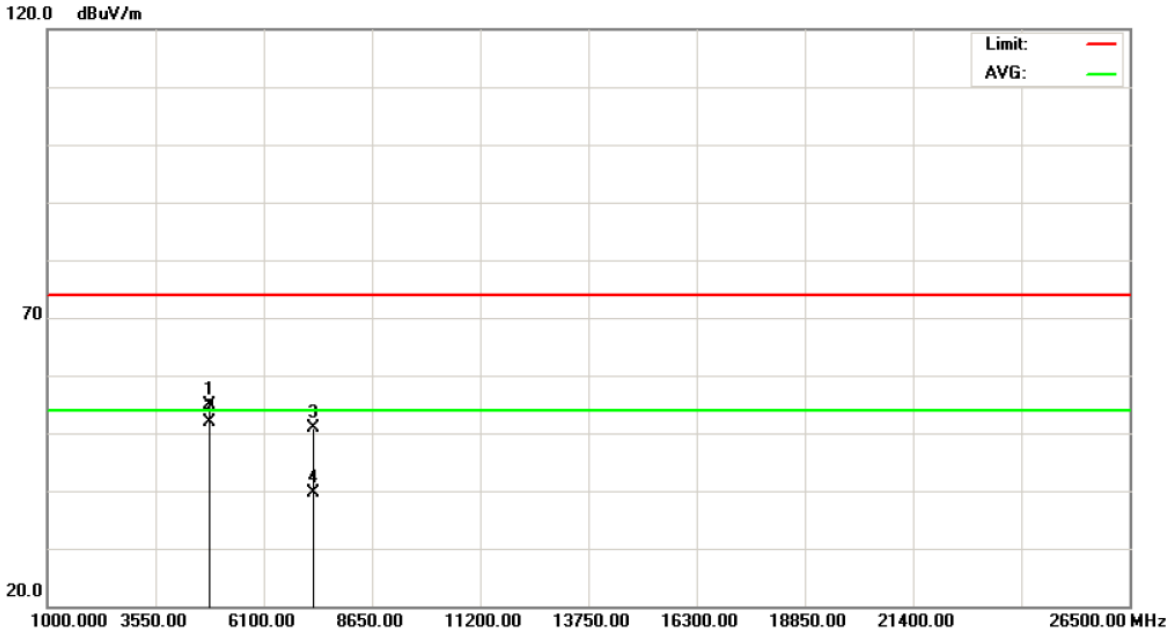
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	22.91	32.15	55.06	74.00	-18.94	peak	
2		2390.000	12.14	32.15	44.29	54.00	-9.71	AVG	
3	X	2414.600	75.66	32.26	107.92	74.00	33.92	peak	
4	*	2414.600	71.81	32.26	104.07	54.00	50.07	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		

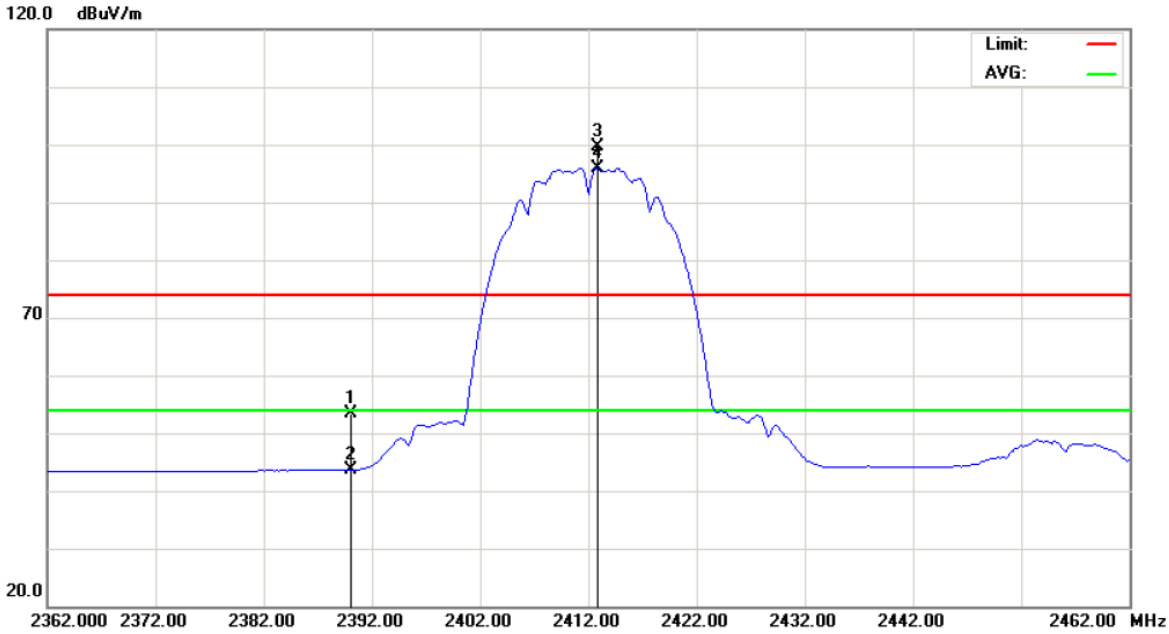
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4823.970	52.27	2.70	54.97	74.00	-19.03	peak	
2	*	4823.970	49.29	2.70	51.99	54.00	-2.01	AVG	
3		7236.240	42.52	8.31	50.83	74.00	-23.17	peak	
4		7236.240	31.30	8.31	39.61	54.00	-14.39	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		

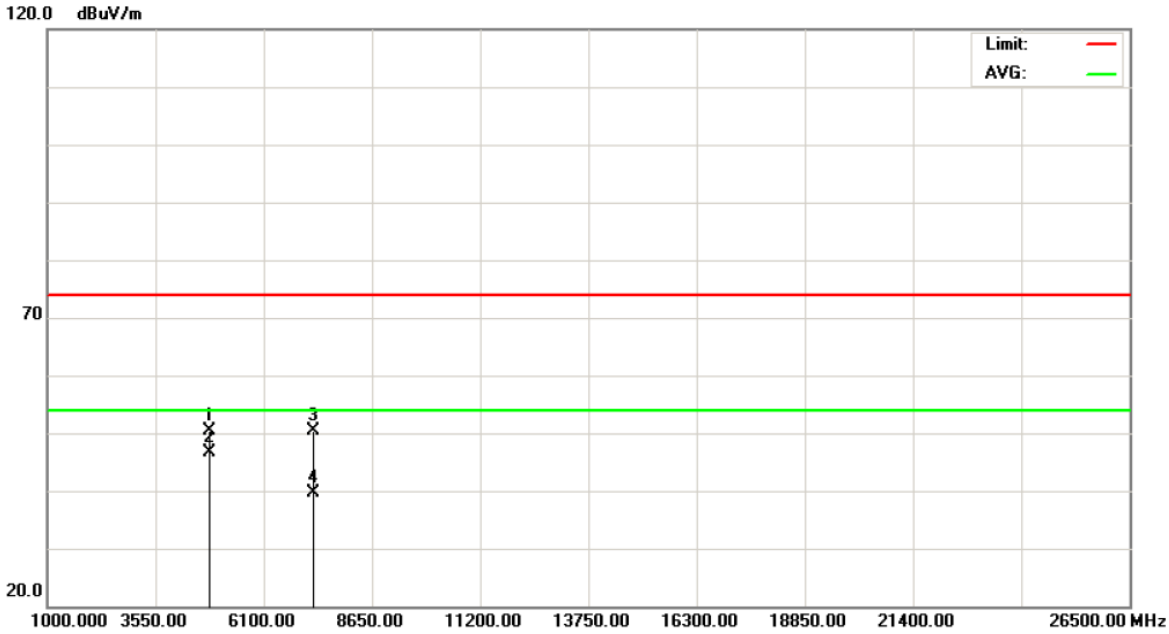
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	21.30	32.15	53.45	74.00	-20.55	peak	
2		2390.000	11.41	32.15	43.56	54.00	-10.44	AVG	
3	X	2412.800	67.47	32.25	99.72	74.00	25.72	peak	
4	*	2412.800	63.67	32.25	95.92	54.00	41.92	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		

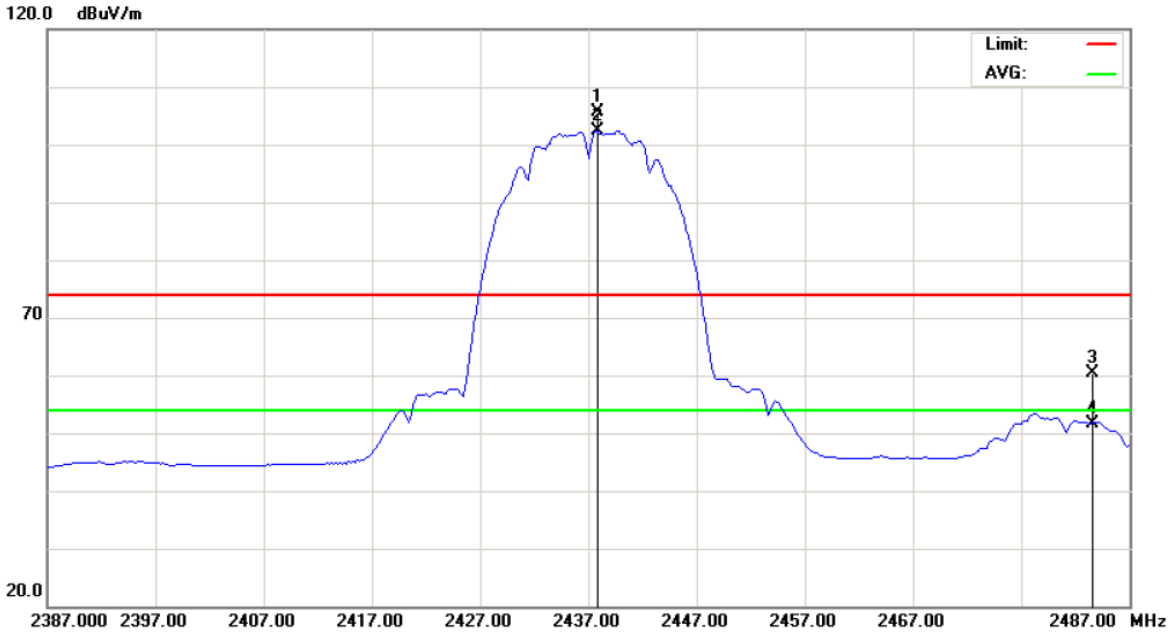
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.050	47.75	2.70	50.45	74.00	-23.55	peak	
2	*	4824.050	43.89	2.70	46.59	54.00	-7.41	AVG	
3		7236.320	42.06	8.31	50.37	74.00	-23.63	peak	
4		7236.320	31.37	8.31	39.68	54.00	-14.32	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

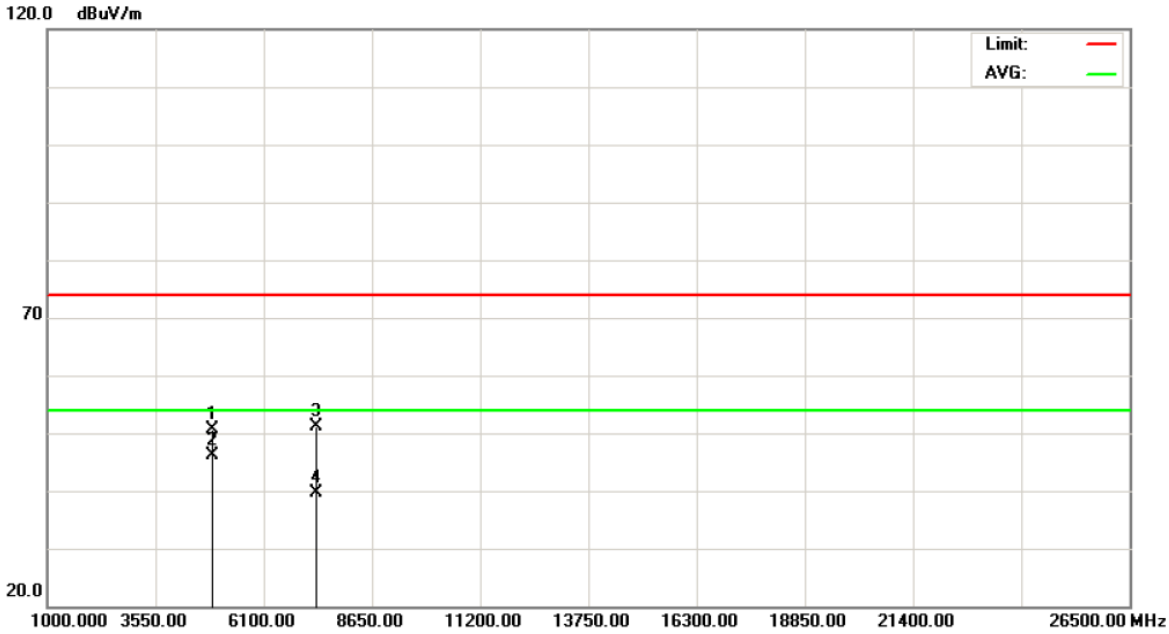
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2437.800	73.38	32.37	105.75	74.00	31.75	peak	
2	*	2437.800	69.93	32.37	102.30	54.00	48.30	AVG	
3		2483.500	27.84	32.59	60.43	74.00	-13.57	peak	
4		2483.500	19.16	32.59	51.75	54.00	-2.25	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

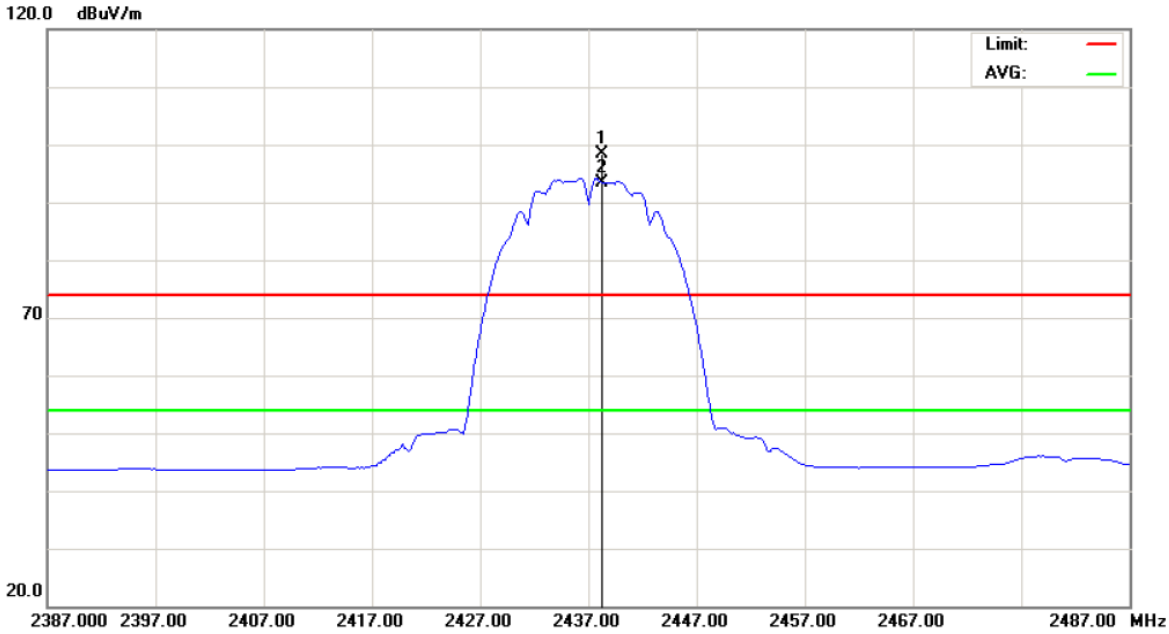
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.970	47.67	3.06	50.73	74.00	-23.27	peak	
2	*	4873.970	43.19	3.06	46.25	54.00	-7.75	AVG	
3		7311.140	41.20	9.99	51.19	74.00	-22.81	peak	
4		7311.140	29.74	9.99	39.73	54.00	-14.27	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

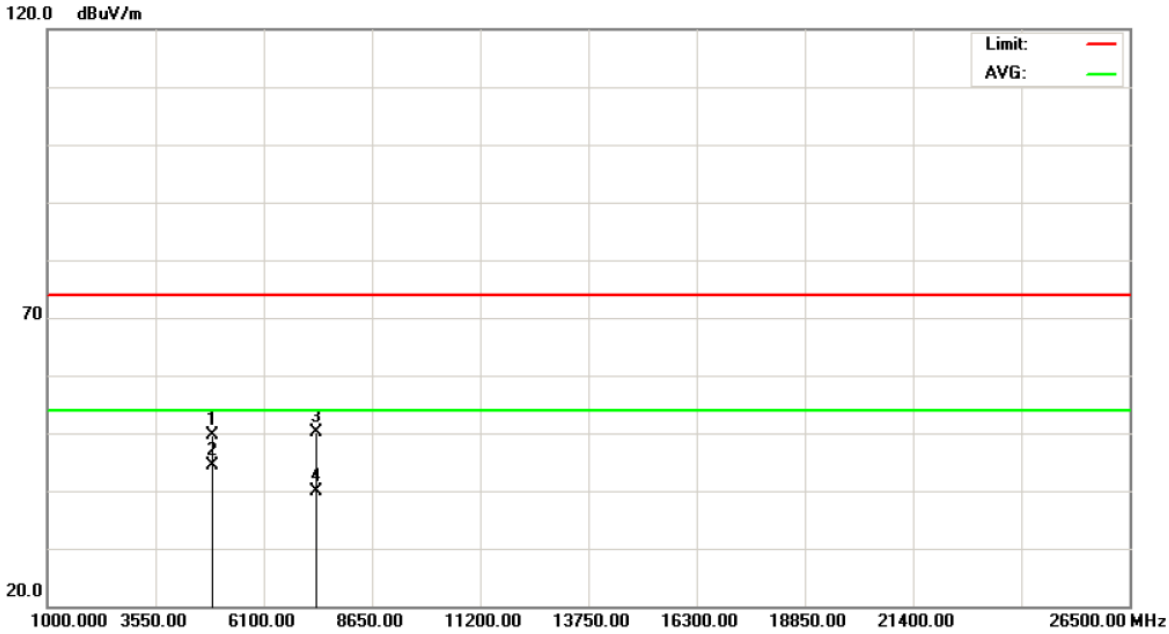
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2438.200	65.95	32.38	98.33	74.00	24.33	peak	
2	*	2438.200	61.05	32.38	93.43	54.00	39.43	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH06 (Data rate: 1 Mbps)		

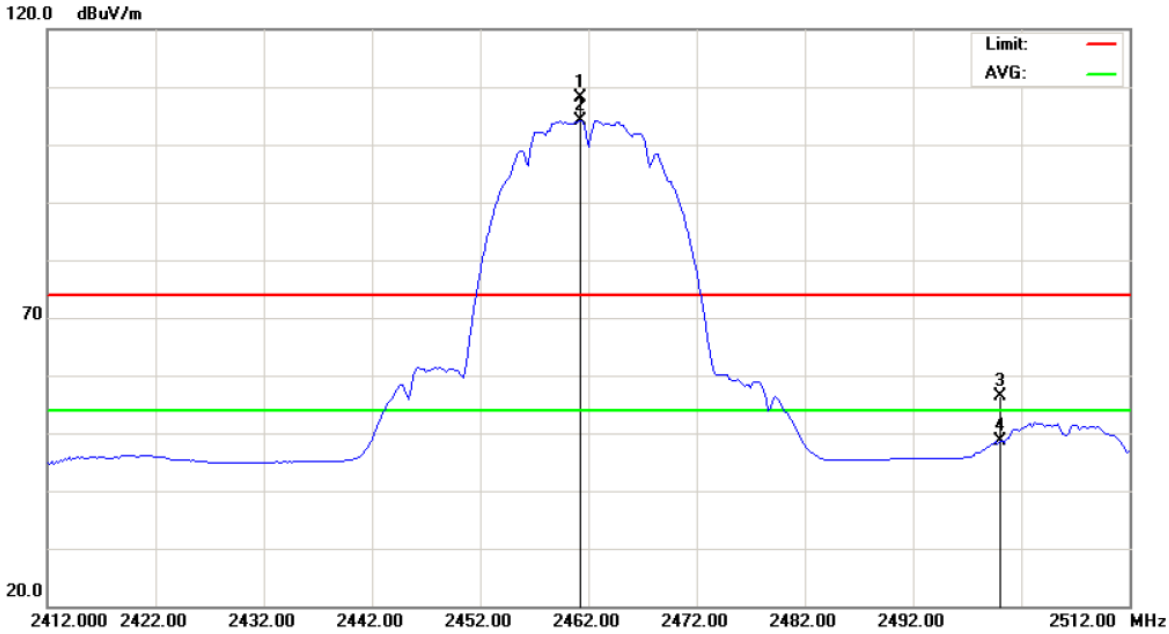
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.948	46.51	3.06	49.57	74.00	-24.43	peak	
2	*	4873.948	41.26	3.06	44.32	54.00	-9.68	AVG	
3		7310.840	40.04	9.99	50.03	74.00	-23.97	peak	
4		7310.840	29.89	9.99	39.88	54.00	-14.12	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		

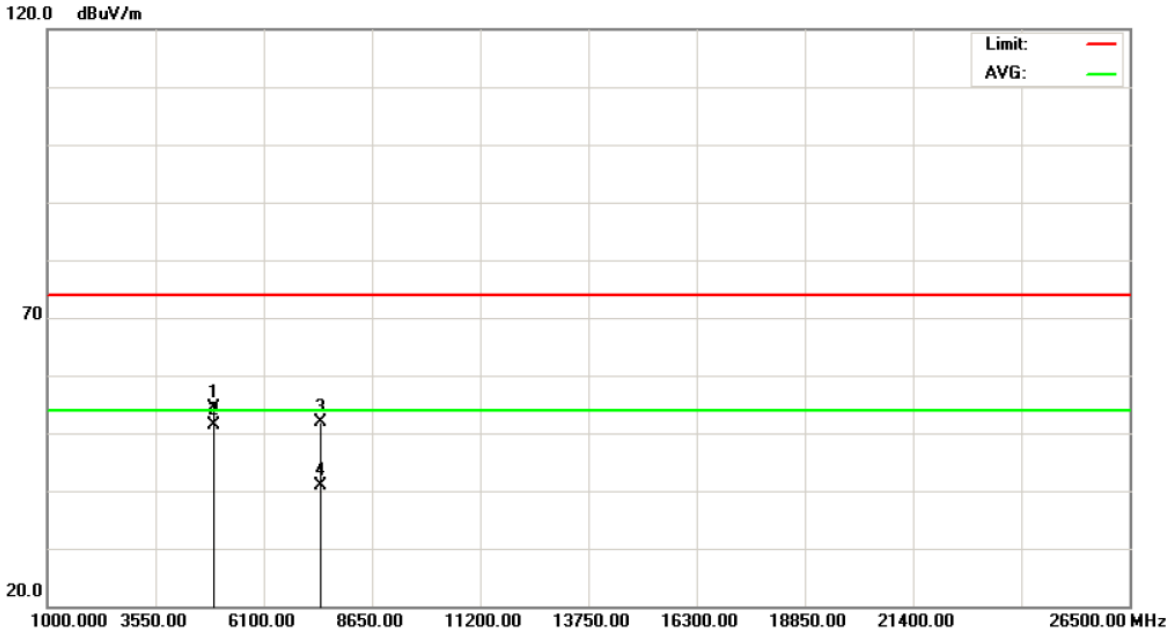
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2461.200	75.60	32.49	108.09	74.00	34.09	peak	
2	*	2461.200	71.71	32.49	104.20	54.00	50.20	AVG	
3		2500.000	23.74	32.67	56.41	74.00	-17.59	peak	
4		2500.000	15.97	32.67	48.64	54.00	-5.36	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		

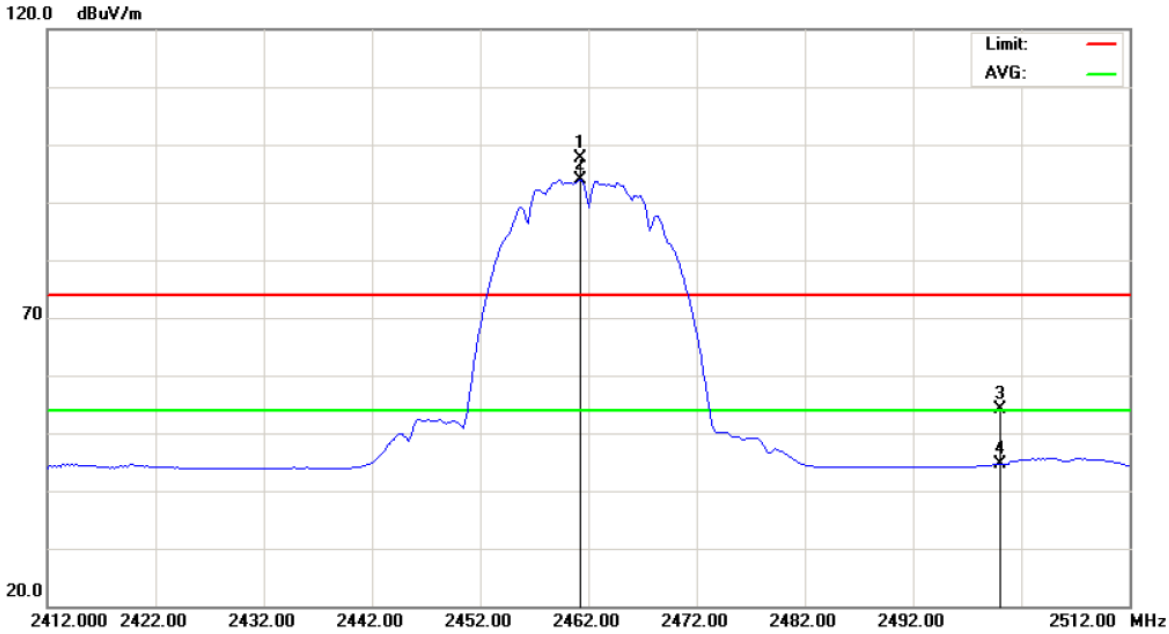
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.980	51.22	3.18	54.40	74.00	-19.60	peak	
2	*	4923.980	48.23	3.18	51.41	54.00	-2.59	AVG	
3		7386.280	41.82	10.10	51.92	74.00	-22.08	peak	
4		7386.280	30.66	10.10	40.76	54.00	-13.24	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		

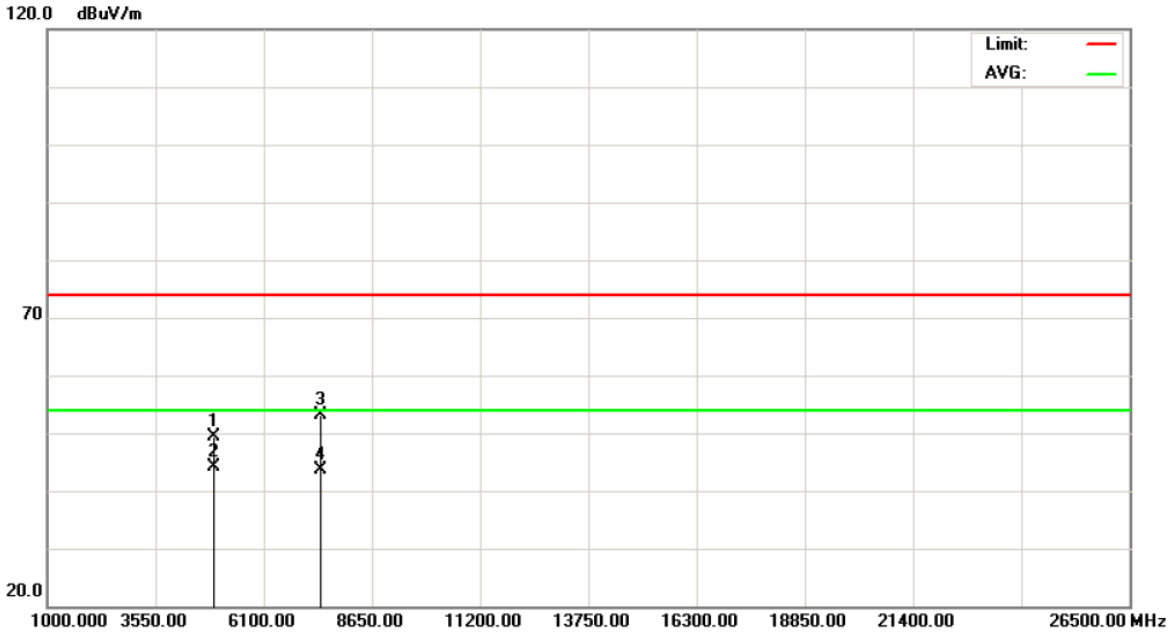
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2461.200	65.19	32.49	97.68	74.00	23.68	peak	
2	*	2461.200	61.40	32.49	93.89	54.00	39.89	AVG	
3		2500.000	21.40	32.67	54.07	74.00	-19.93	peak	
4		2500.000	11.90	32.67	44.57	54.00	-9.43	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		

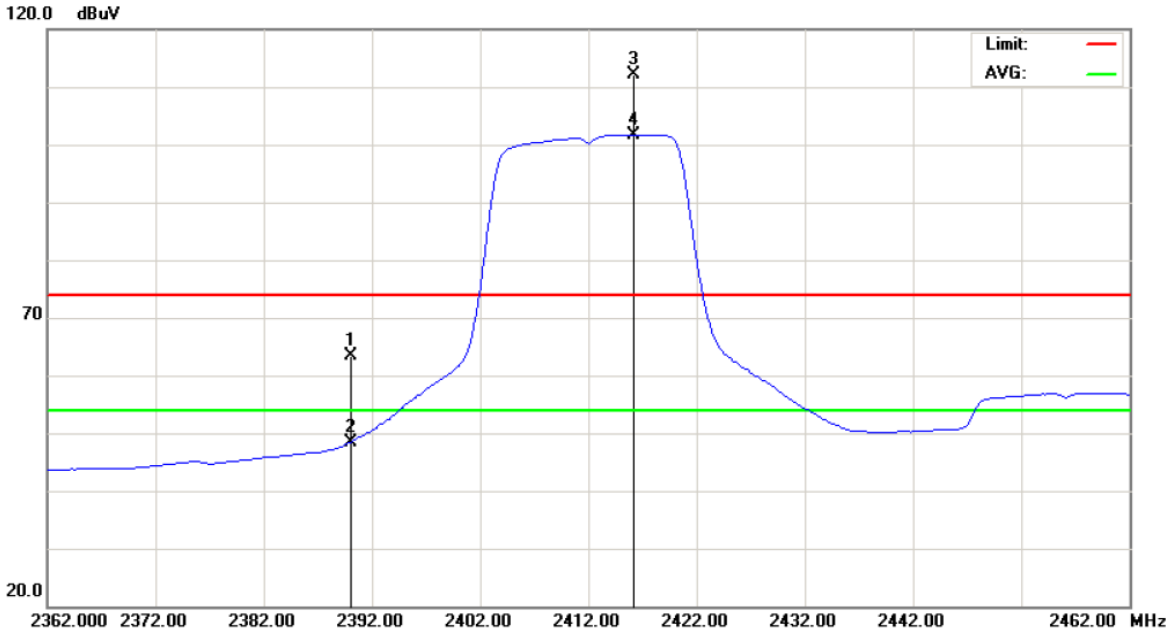
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.952	46.21	3.18	49.39	74.00	-24.61	peak	
2	*	4923.952	40.97	3.18	44.15	54.00	-9.85	AVG	
3		7383.280	42.99	10.09	53.08	74.00	-20.92	peak	
4		7383.280	33.57	10.09	43.66	54.00	-10.34	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		

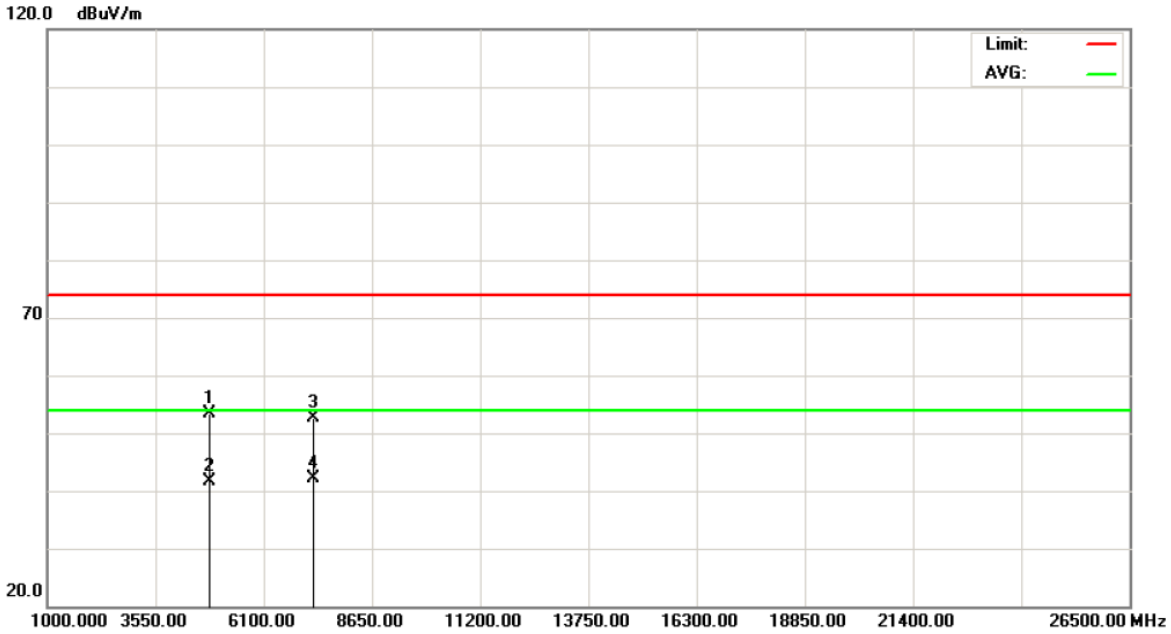
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		2390.000	31.15	32.15	63.30	74.00	-10.70	peak	
2		2390.000	16.30	32.15	48.45	54.00	-5.55	AVG	
3	X	2416.200	79.82	32.27	112.09	74.00	38.09	peak	
4	*	2416.200	69.45	32.27	101.72	54.00	47.72	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		

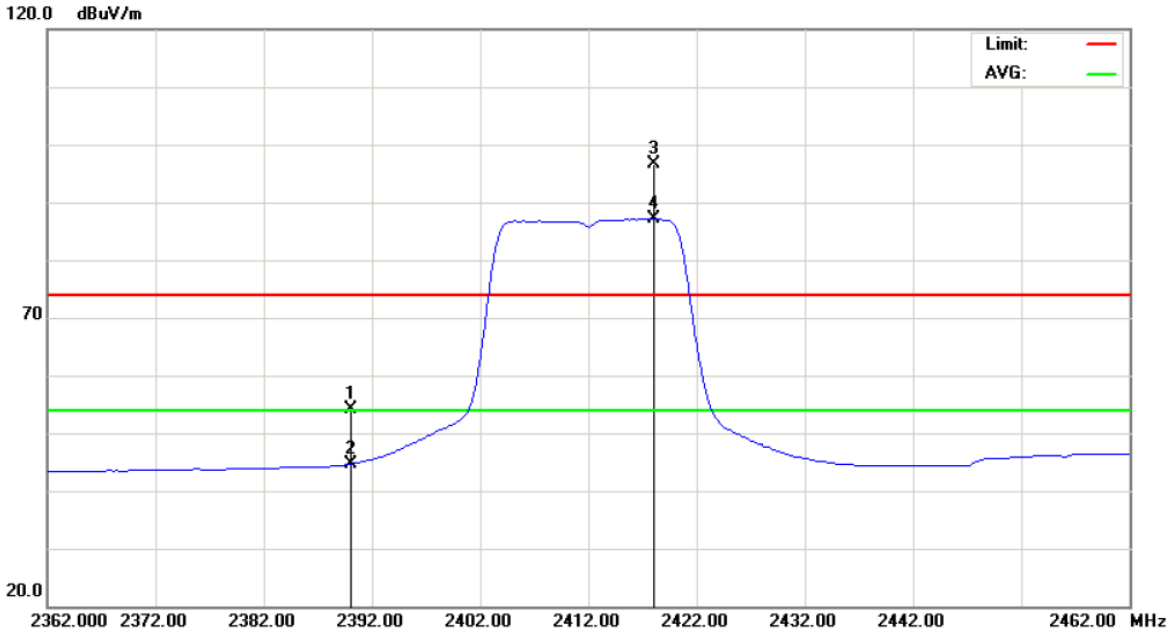
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.800	50.35	2.95	53.30	74.00	-20.70	peak	
2		4824.800	38.65	2.95	41.60	54.00	-12.40	AVG	
3		7237.000	42.80	9.89	52.69	74.00	-21.31	peak	
4	*	7237.000	32.18	9.89	42.07	54.00	-11.93	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		

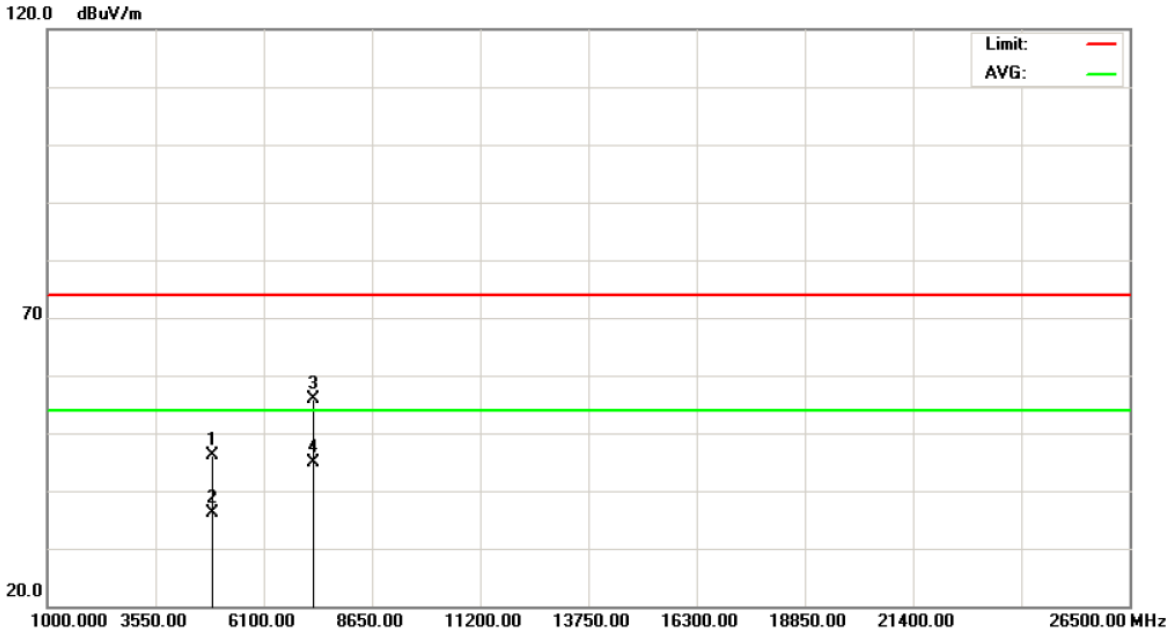
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	22.10	32.15	54.25	74.00	-19.75	peak	
2		2390.000	12.50	32.15	44.65	54.00	-9.35	AVG	
3	X	2418.000	64.43	32.28	96.71	74.00	22.71	peak	
4	*	2418.000	54.86	32.28	87.14	54.00	33.14	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		

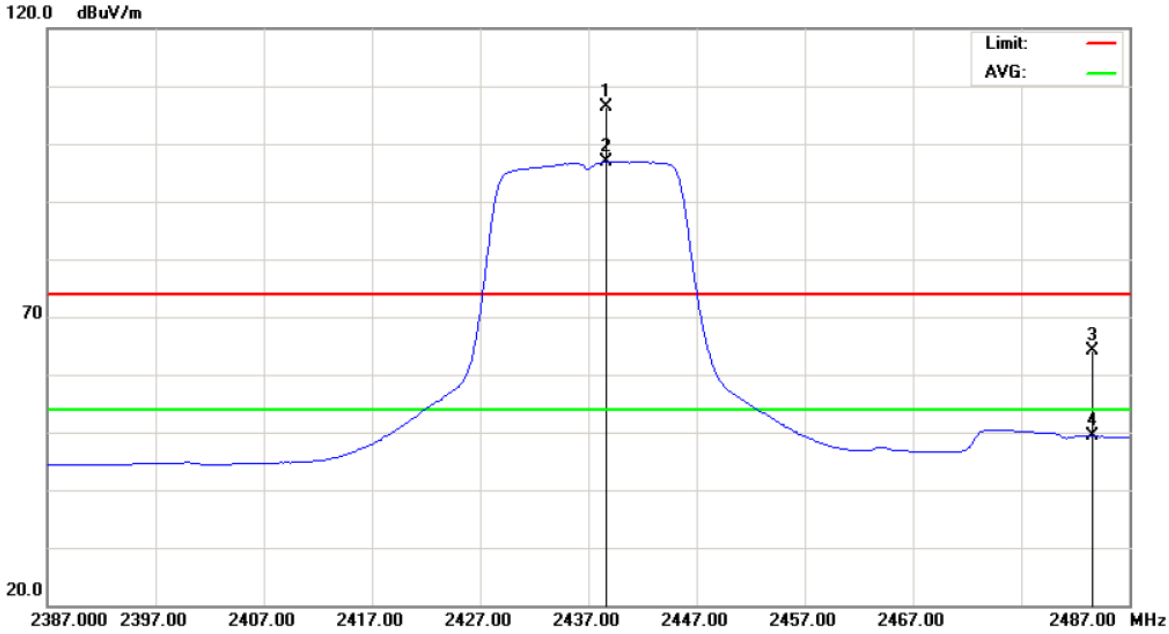
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4825.200	43.24	2.95	46.19	74.00	-27.81	peak	
2		4825.200	33.09	2.95	36.04	54.00	-17.96	AVG	
3		7236.400	45.92	9.89	55.81	74.00	-18.19	peak	
4	*	7236.400	34.95	9.89	44.84	54.00	-9.16	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH06 (Data rate: 6 Mbps)		

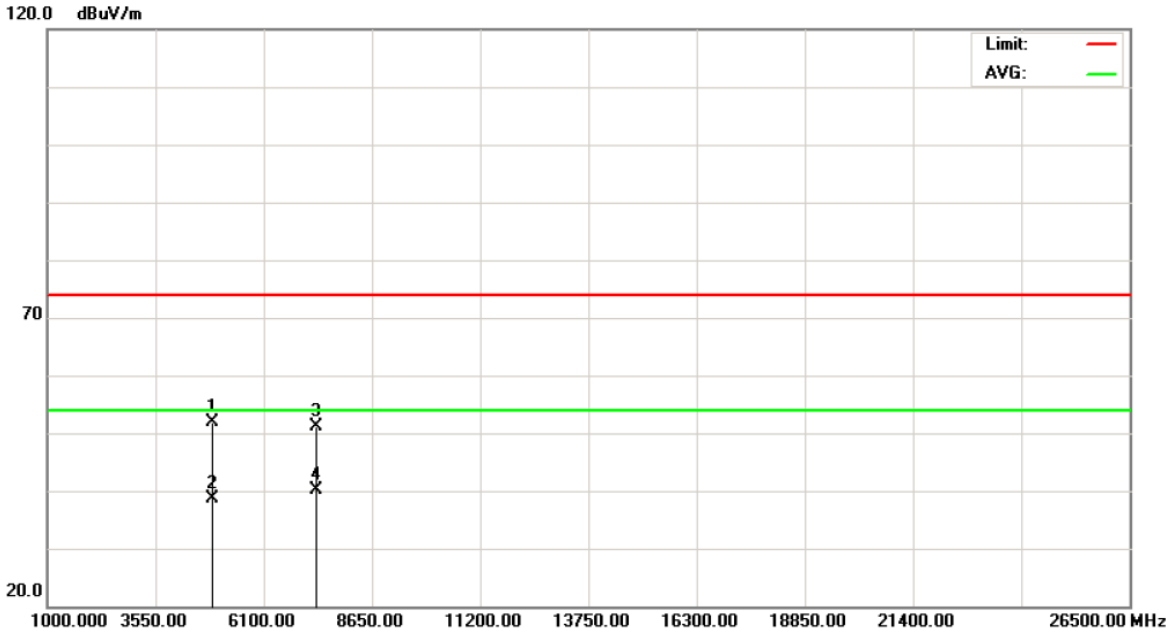
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2438.600	73.70	32.57	106.27	74.00	32.27	peak	
2	*	2438.600	64.32	32.57	96.89	54.00	42.89	AVG	
3		2483.500	31.42	32.79	64.21	74.00	-9.79	peak	
4		2483.500	16.56	32.79	49.35	54.00	-4.65	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH06 (Data rate: 6 Mbps)		

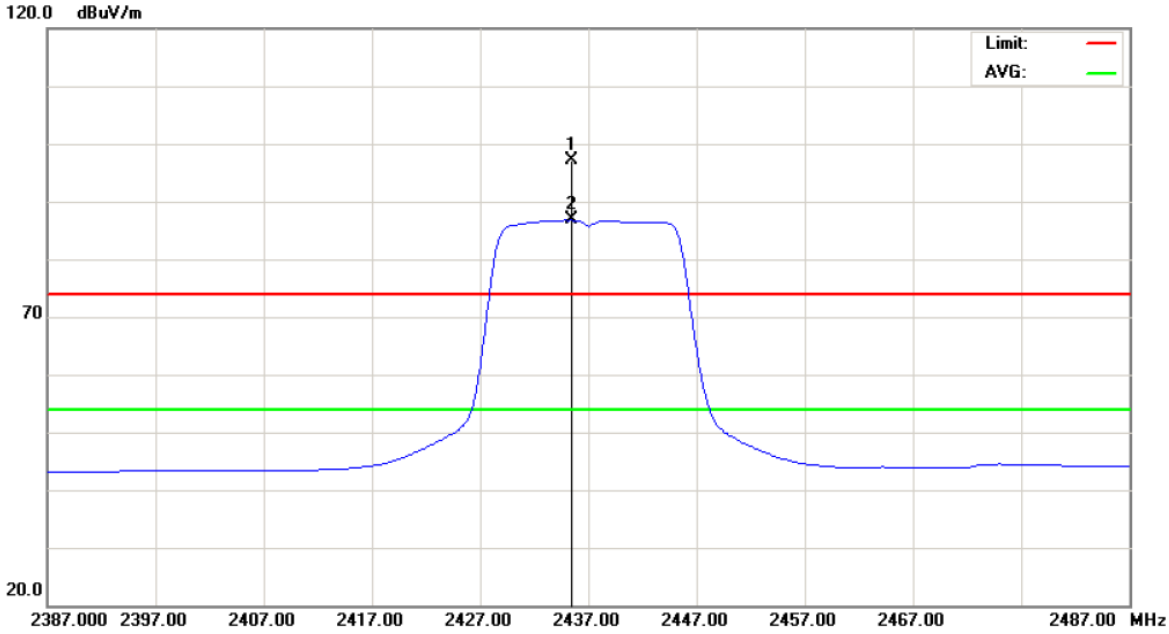
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.500	48.87	3.06	51.93	74.00	-22.07	peak	
2		4874.500	35.52	3.06	38.58	54.00	-15.42	AVG	
3		7311.700	41.17	9.99	51.16	74.00	-22.84	peak	
4	*	7311.700	30.17	9.99	40.16	54.00	-13.84	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH06 (Data rate: 6 Mbps)		

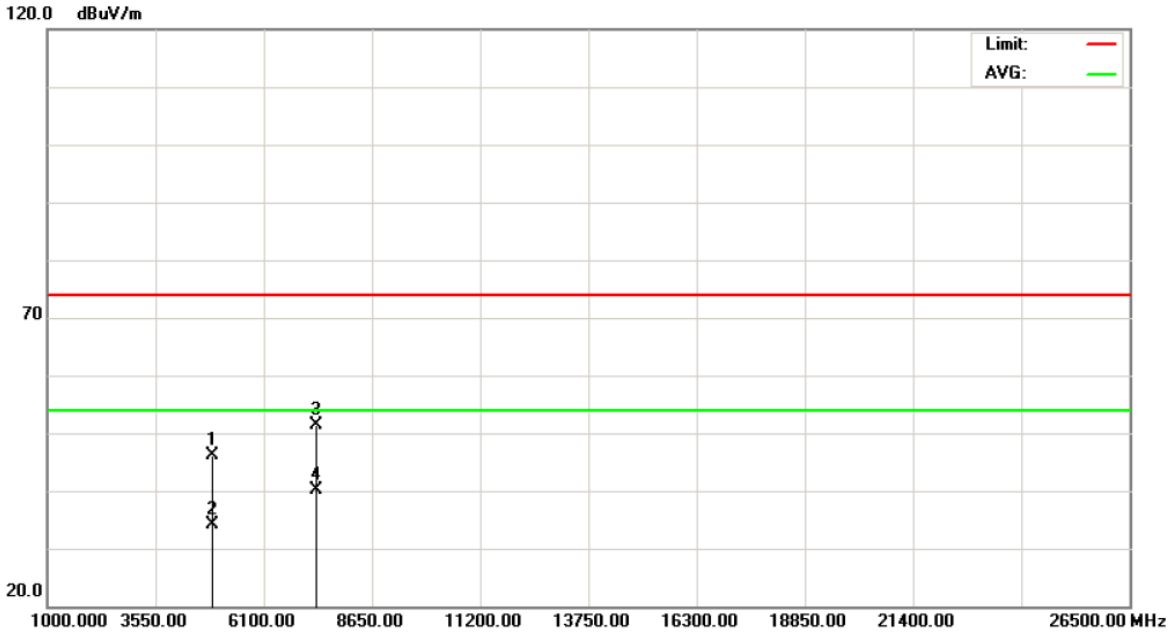
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2435.400	64.60	32.55	97.15	74.00	23.15	peak	
2	*	2435.400	54.22	32.55	86.77	54.00	32.77	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity :	60%
Test Voltage :	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH06 (Data rate: 6 Mbps)		

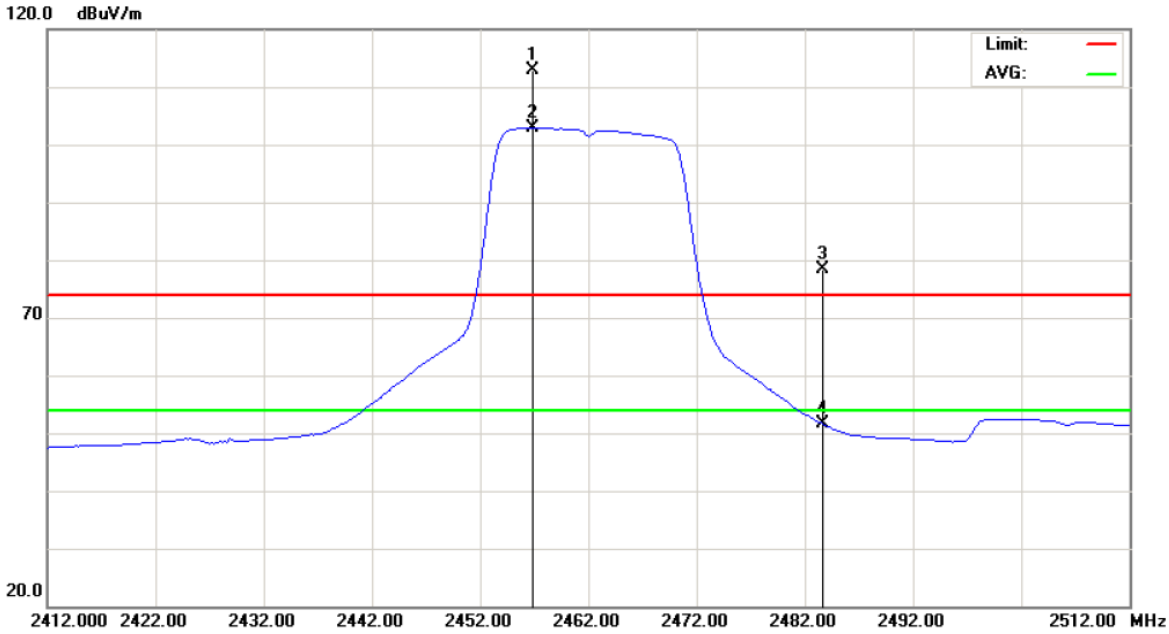
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4873.600	43.10	3.06	46.16	74.00	-27.84	peak	
2		4873.600	31.17	3.06	34.23	54.00	-19.77	AVG	
3		7310.700	41.51	9.99	51.50	74.00	-22.50	peak	
4	*	7310.700	30.15	9.99	40.14	54.00	-13.86	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		

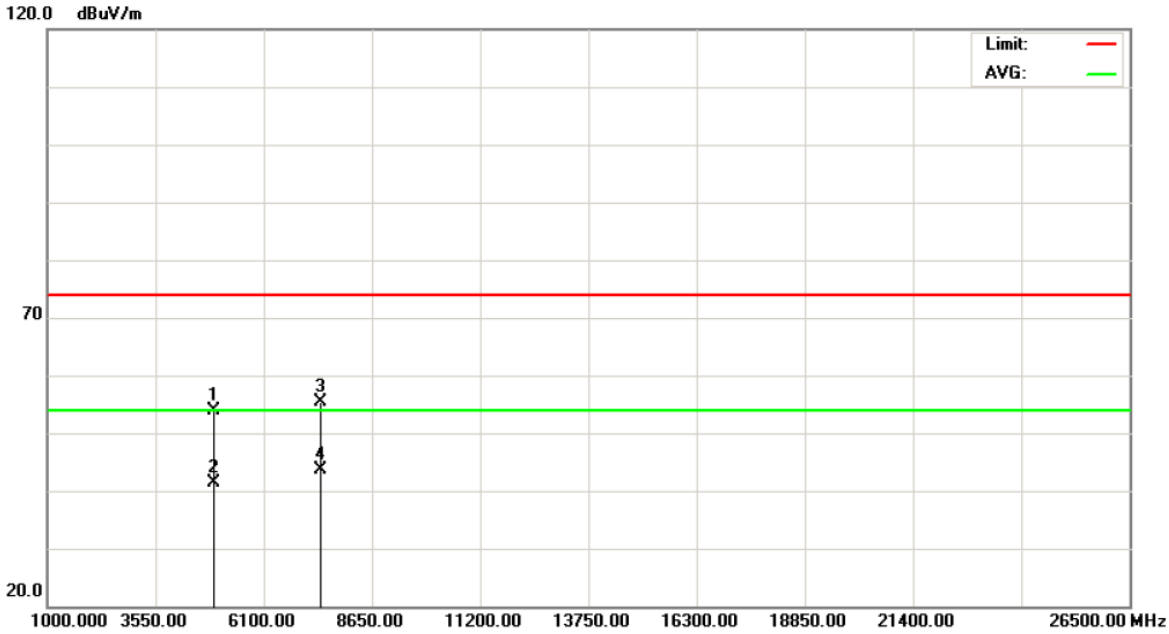
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2456.800	80.44	32.46	112.90	74.00	38.90	peak	
2	*	2456.800	70.39	32.46	102.85	54.00	48.85	AVG	
3	X	2483.500	45.71	32.59	78.30	74.00	4.30	peak	
4		2483.500	18.96	32.59	51.55	54.00	-2.45	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		

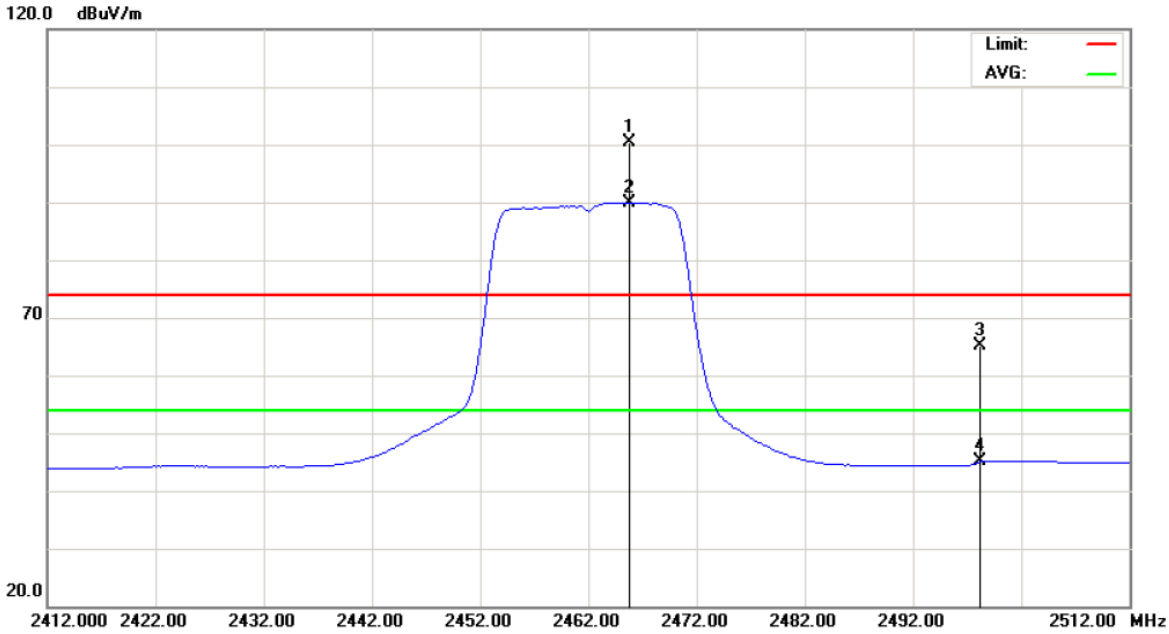
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	50.63	3.18	53.81	74.00	-20.19	peak	
2		4924.000	38.09	3.18	41.27	54.00	-12.73	AVG	
3		7384.600	45.19	10.09	55.28	74.00	-18.72	peak	
4	*	7384.600	33.56	10.09	43.65	54.00	-10.35	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		

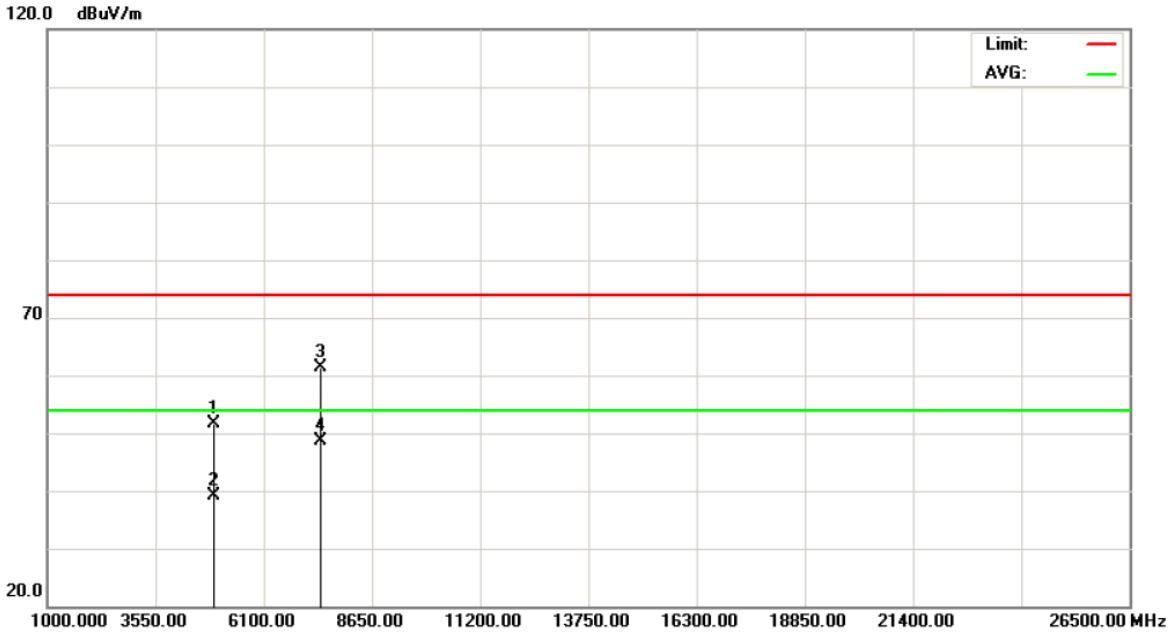
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2465.800	67.75	32.51	100.26	74.00	26.26	peak	
2	*	2465.800	57.46	32.51	89.97	54.00	35.97	AVG	
3		2498.100	32.54	32.66	65.20	74.00	-8.80	peak	
4		2498.100	12.39	32.66	45.05	54.00	-8.95	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		

Polarization: Horizontal

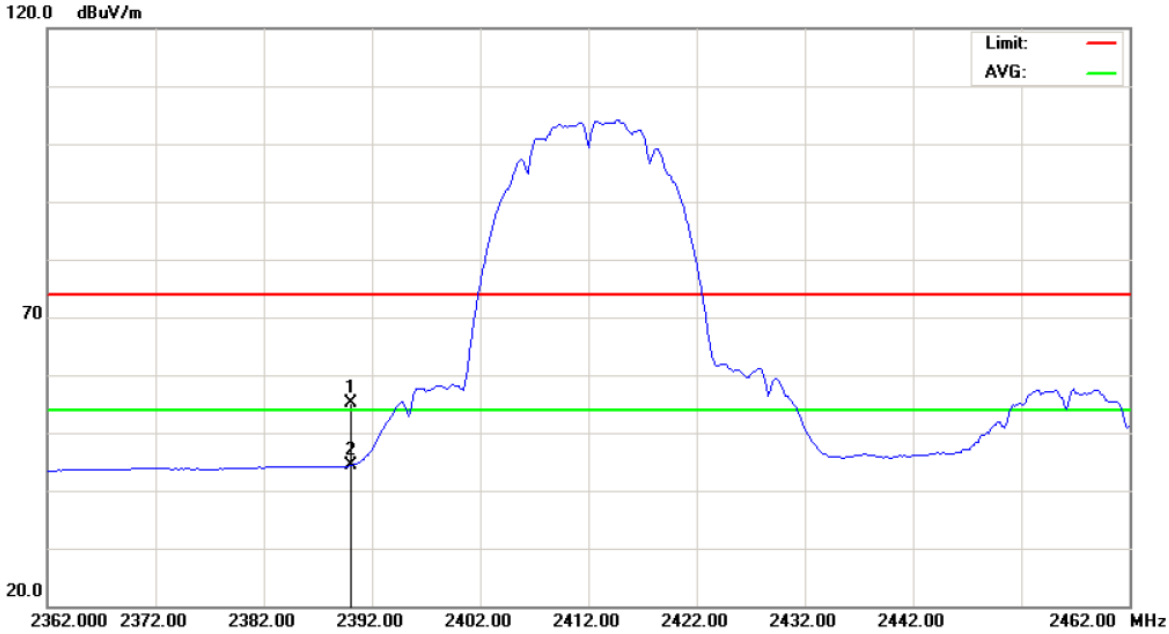


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	48.54	3.18	51.72	74.00	-22.28	peak	
2		4924.000	36.02	3.18	39.20	54.00	-14.80	AVG	
3		7384.600	51.27	10.09	61.36	74.00	-12.64	peak	
4	*	7384.600	38.64	10.09	48.73	54.00	-5.27	AVG	

4.2.9 TEST RESULTS-RESTRICTED BANDS REQUIREMENTS

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		
Note：	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

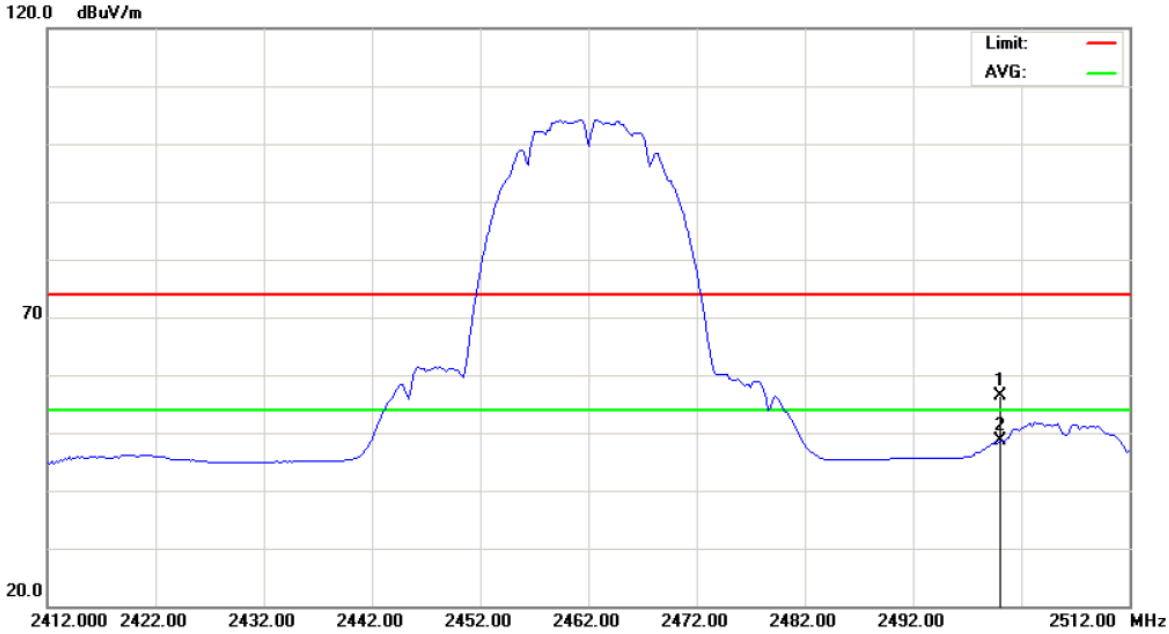
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	22.91	32.15	55.06	74.00	-18.94	peak	
2	*	2390.000	12.14	32.15	44.29	54.00	-9.71	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		
Note：	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

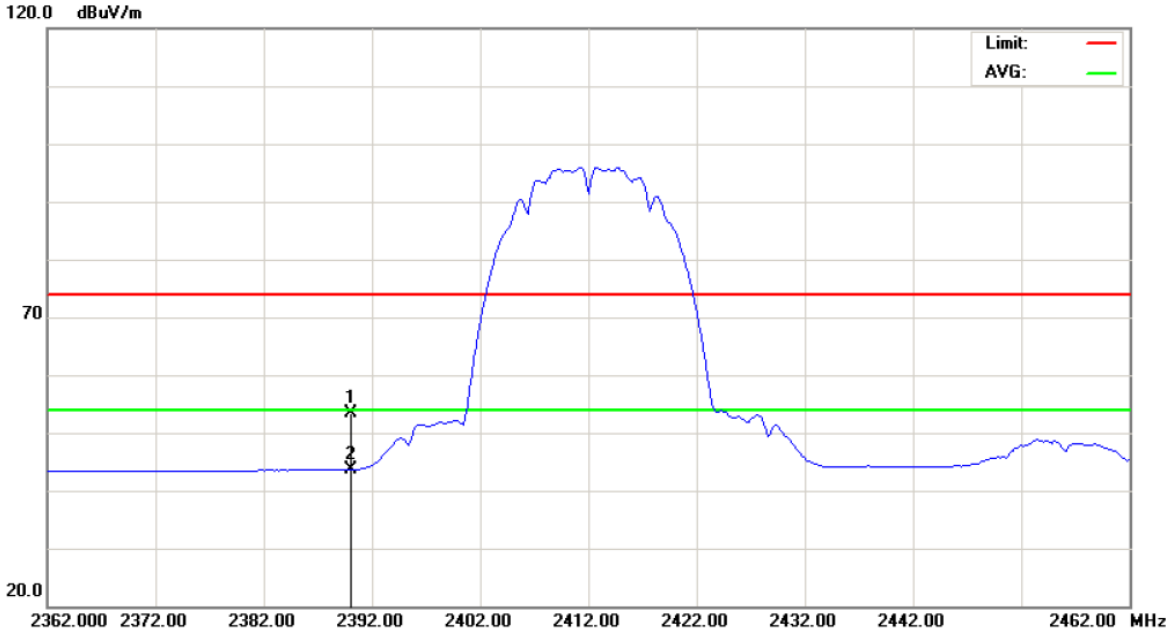
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2500.000	23.74	32.67	56.41	74.00	-17.59	peak	
2	*	2500.000	15.97	32.67	48.64	54.00	-5.36	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH01 (Data rate: 1 Mbps)		
Note：	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

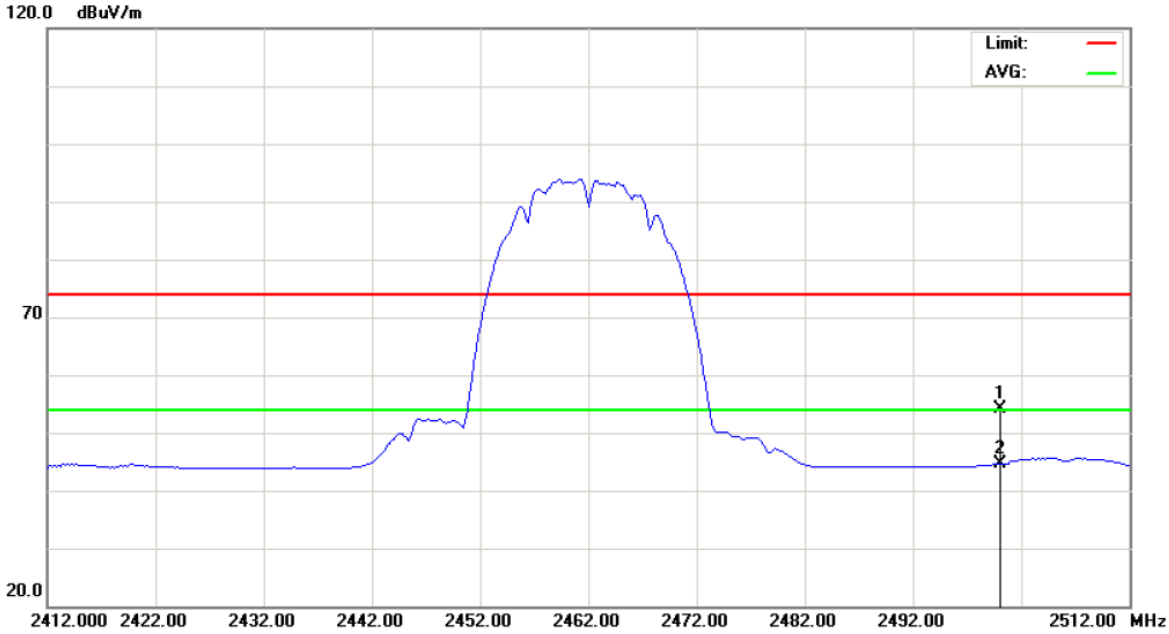
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	21.30	32.15	53.45	74.00	-20.55	peak	
2	*	2390.000	11.41	32.15	43.56	54.00	-10.44	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11b/CH11 (Data rate: 1 Mbps)		
Note：	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

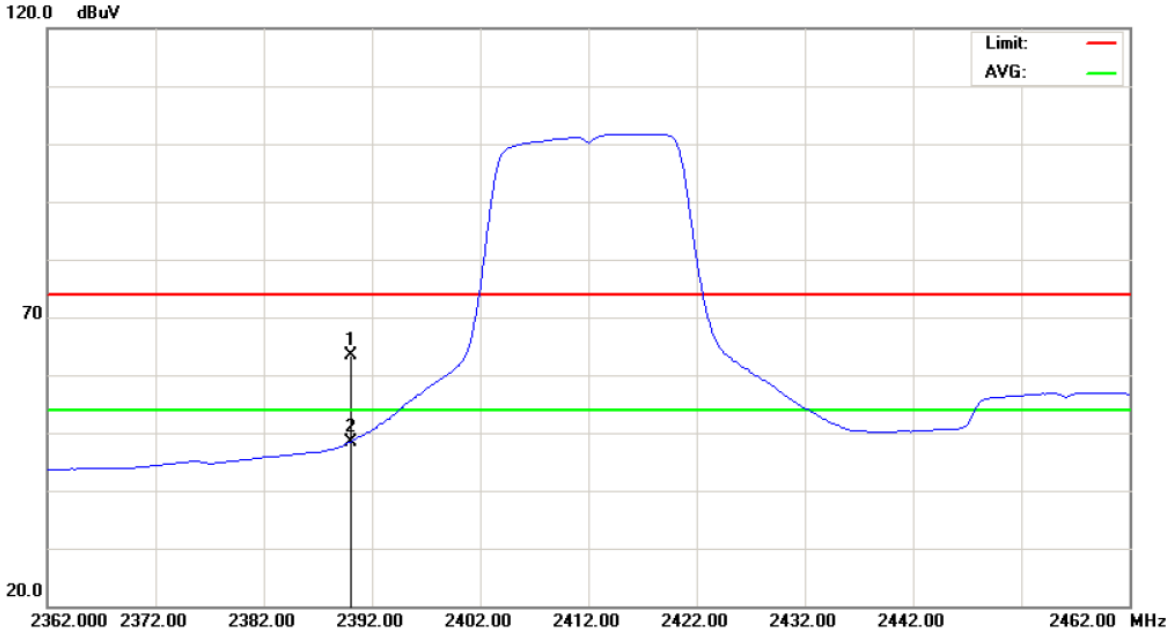
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2500.000	21.40	32.67	54.07	74.00	-19.93	peak	
2	*	2500.000	11.90	32.67	44.57	54.00	-9.43	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		
Note：	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

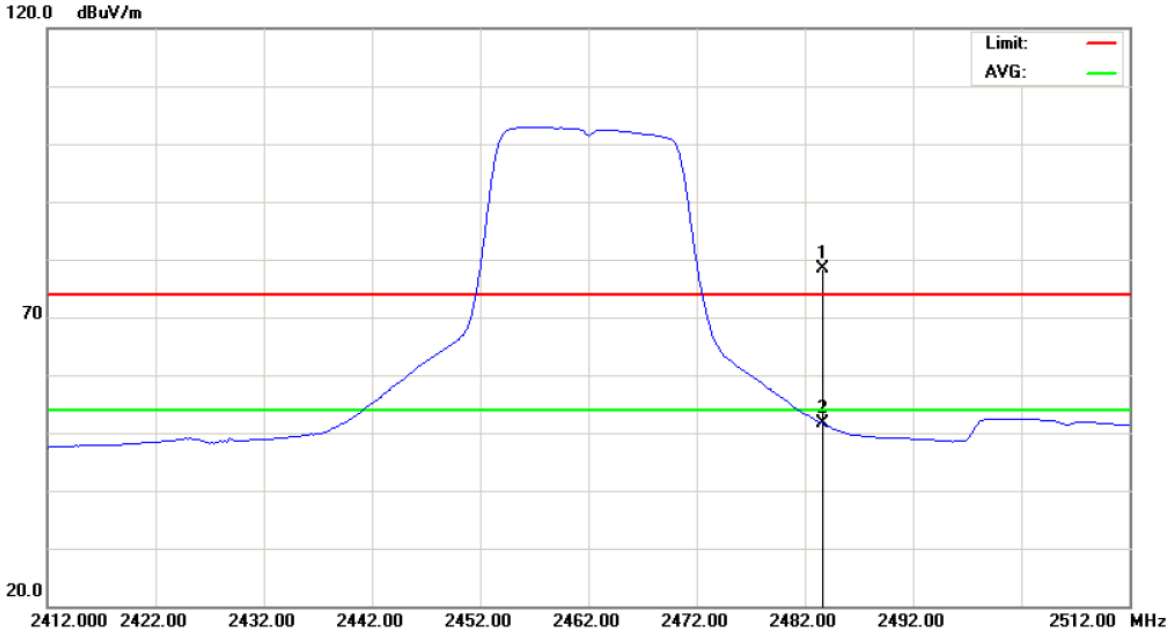
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		2390.000	31.15	32.15	63.30	74.00	-10.70	peak	
2	*	2390.000	16.30	32.15	48.45	54.00	-5.55	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		
Note：	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

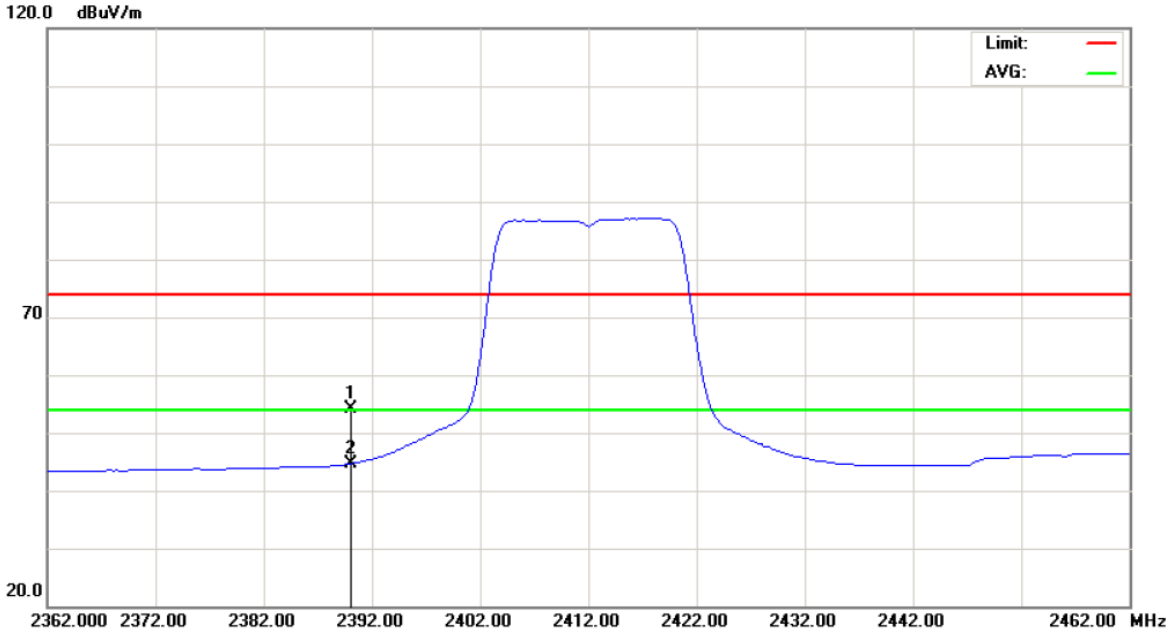
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	45.71	32.59	78.30	74.00	4.30	peak	
2		2483.500	18.96	32.59	51.55	54.00	-2.45	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH01 (Data rate: 6 Mbps)		
Note：	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

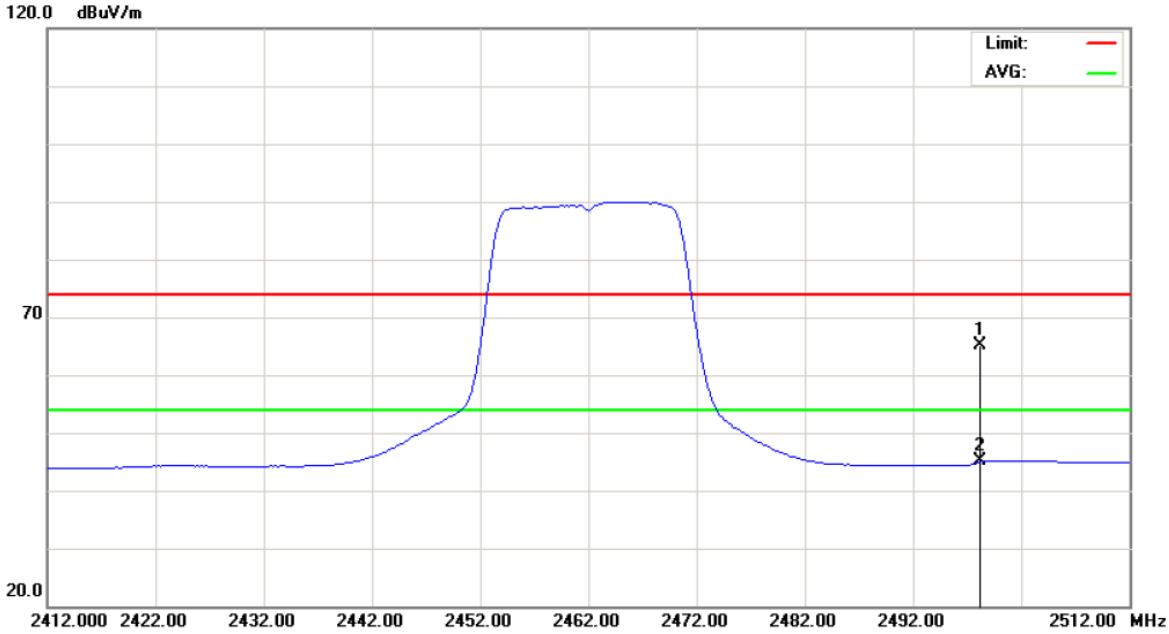
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	22.10	32.15	54.25	74.00	-19.75	peak	
2	*	2390.000	12.50	32.15	44.65	54.00	-9.35	AVG	

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)	Orthogonal Axes:	X
Test Mode ：	802.11g/CH11 (Data rate: 6 Mbps)		
Note：	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2498.100	32.54	32.66	65.20	74.00	-8.80	peak	
2		2498.100	12.39	32.66	45.05	54.00	-8.95	AVG	

5. BANDWITH TEST

5.1 APPLIED PROCEDURES / LIMIT

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

5.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 06, 2012

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

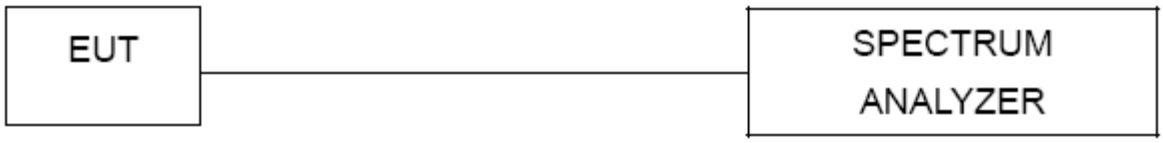
5.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

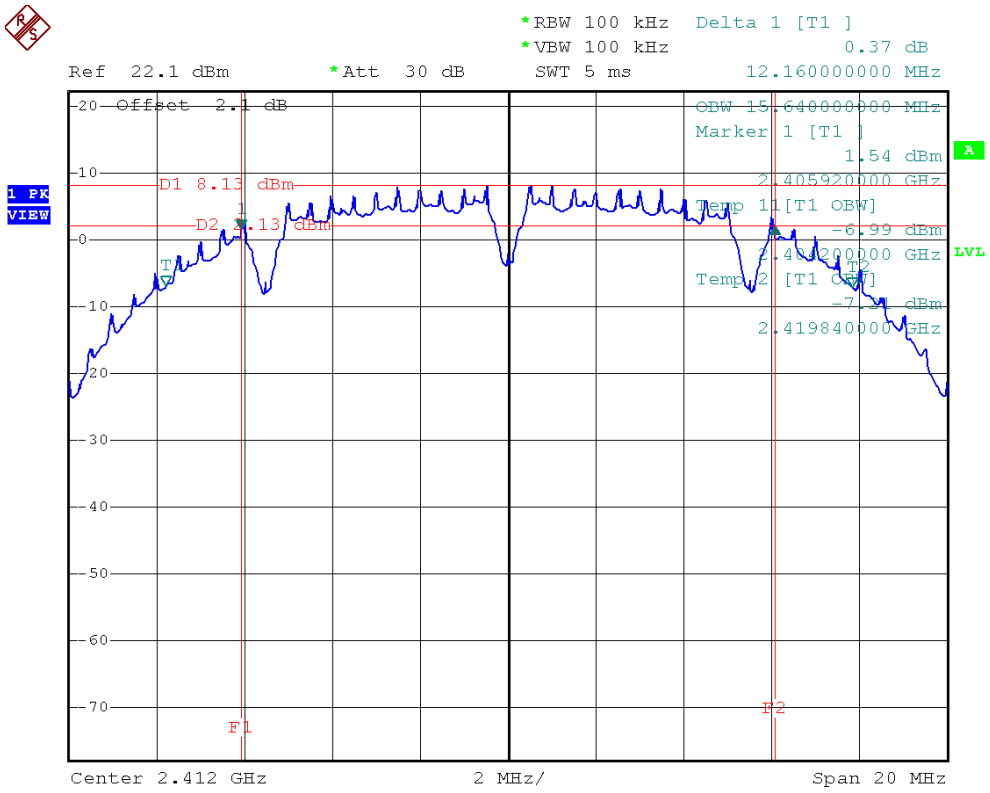
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

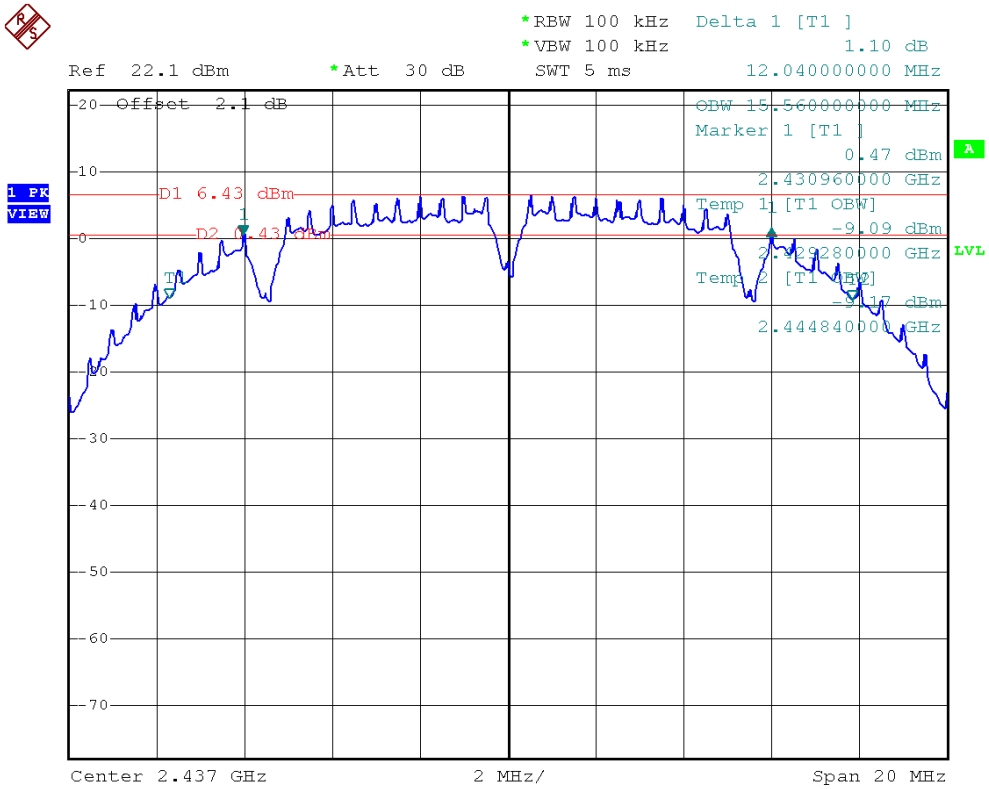
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH01, CH06, CH11 (Data rate: 1Mbps)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	2412	12.16	15.64	>=500KHz
CH06	2437	12.04	15.56	>=500KHz
CH11	2462	12.56	15.52	>=500KHz

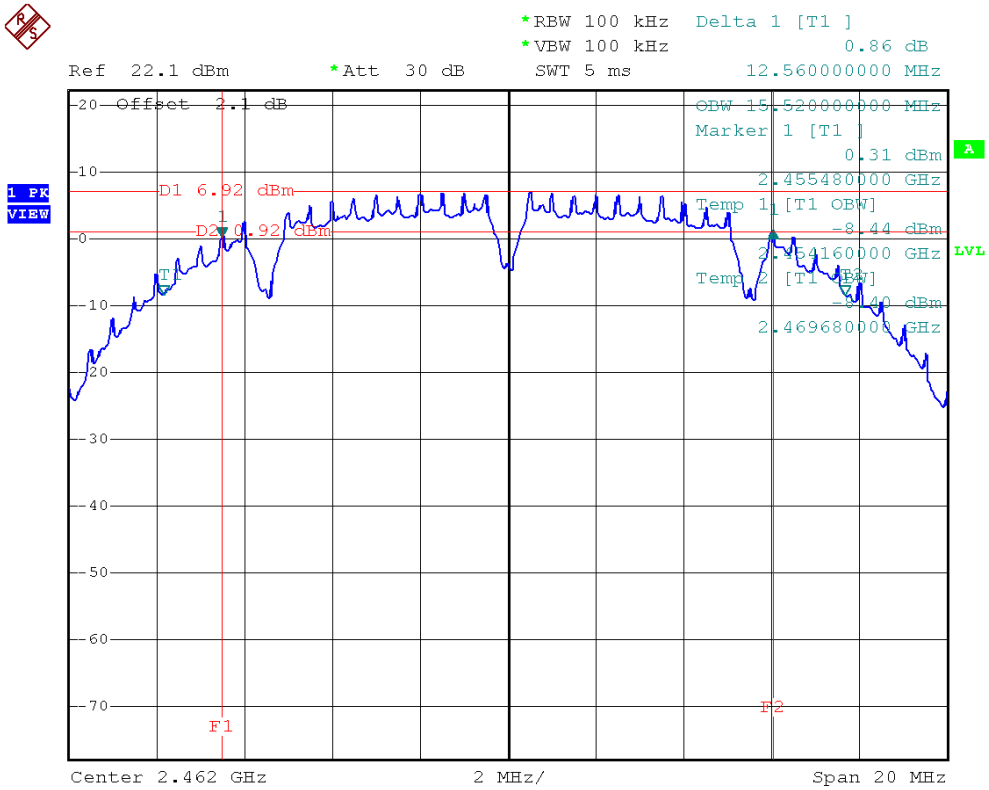
IEEE 802.11b/CH01/2412 MHz



IEEE 802.11b/CH06/2437 MHz



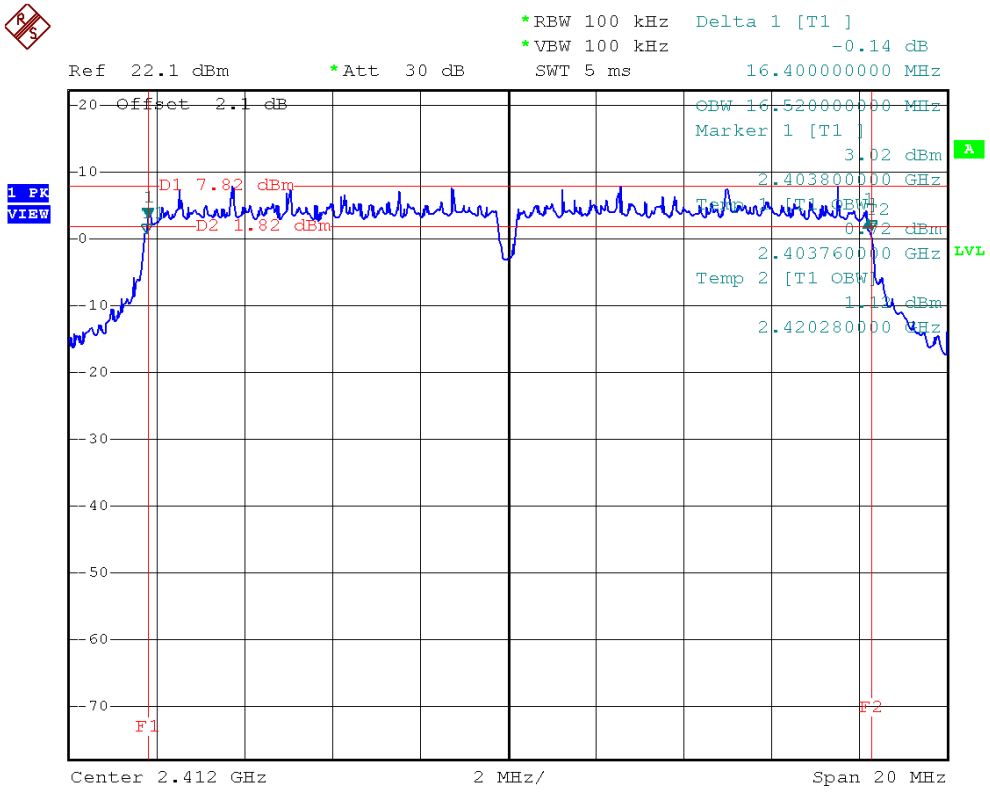
IEEE 802.11b/CH11/2462 MHz



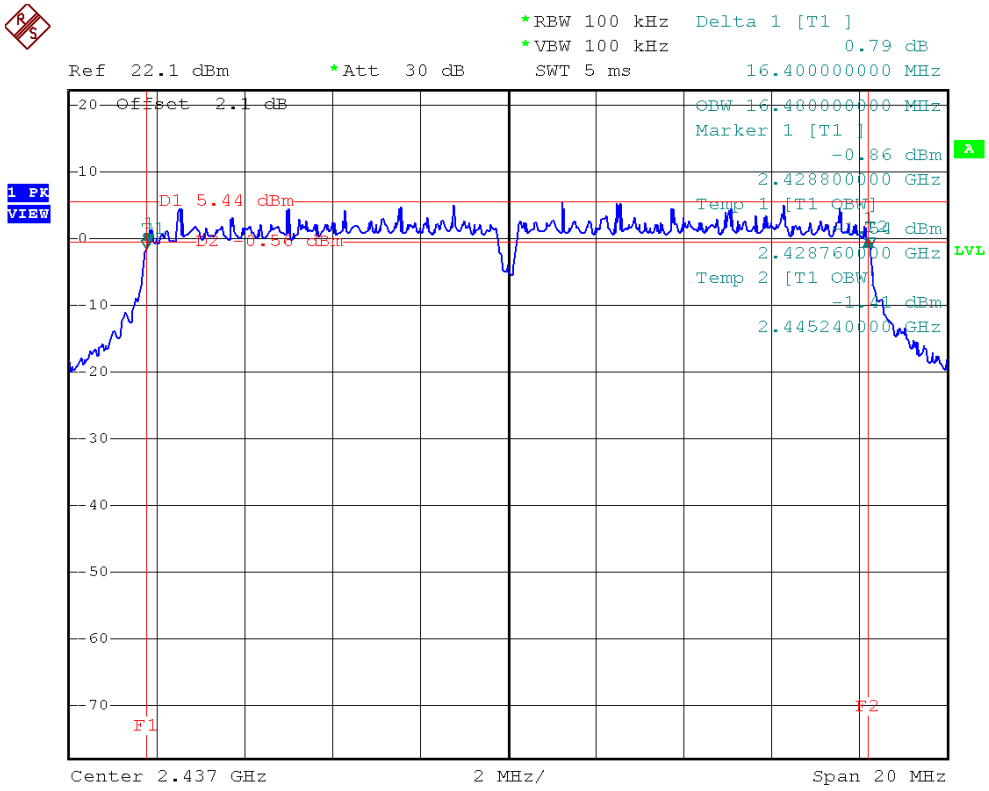
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11g/CH01, CH06, CH11 (Data rate: 6 Mbps)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	2412	16.40	16.52	>=500KHz
CH06	2437	16.40	16.40	>=500KHz
CH11	2462	16.48	16.52	>=500KHz

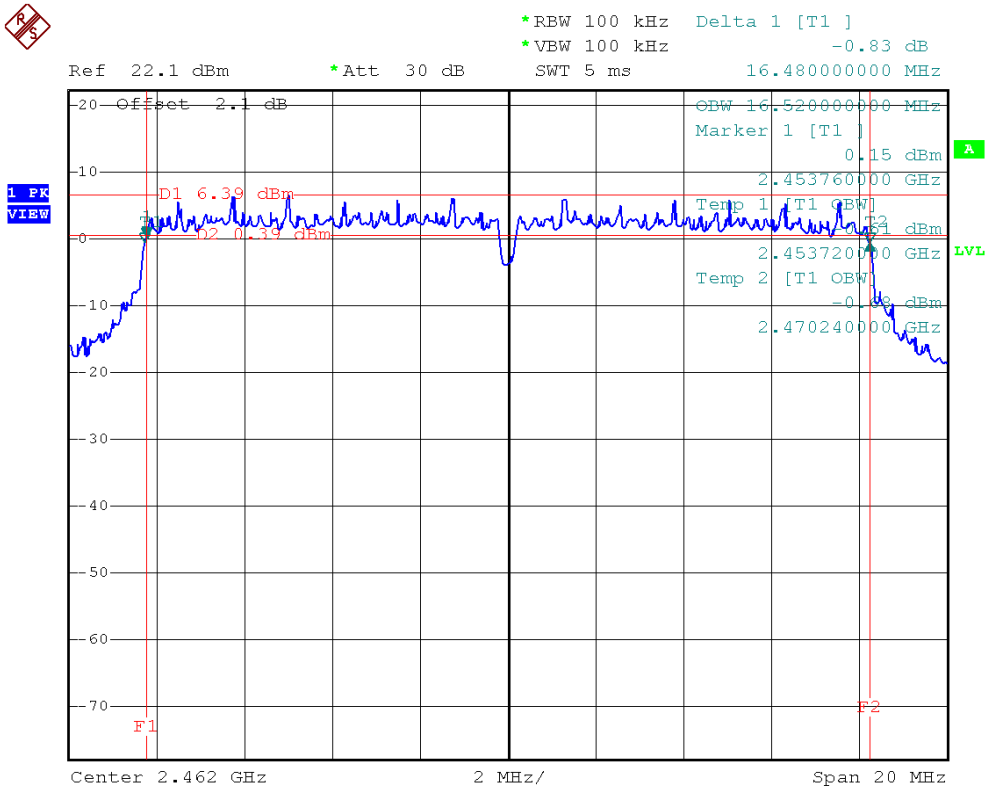
802.11g/CH01/2412 MHz



802.11g/CH06/2437 MHz



802.11g/CH11/2462 MHz



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

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

6.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 17, 2012
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 17, 2012

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

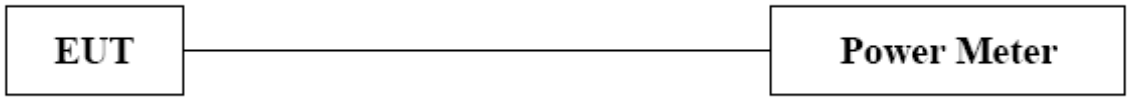
6.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 1MHz, VBW= 1MHz, Sweep time = Auto.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP



6.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.6 TEST RESULTS

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH01, CH06, CH11 (Data rate:1 Mbps)		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	21.53	30	1
CH06	2437	19.38	30	1
CH11	2462	20.17	30	1

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11g/CH01, CH06, CH11 (Data rate: 6 Mbps)		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	29.08	30	1
CH06	2437	25.13	30	1
CH11	2462	28.12	30	1

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	20dB less than the peak value of fundamental frequency	30-25000	PASS

7.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 06, 2012

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

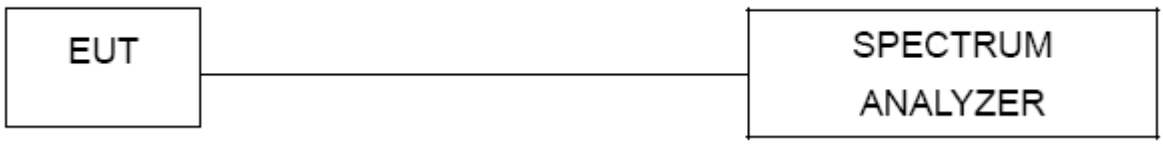
7.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP



7.1.5 EUT OPERATION CONDITIONS

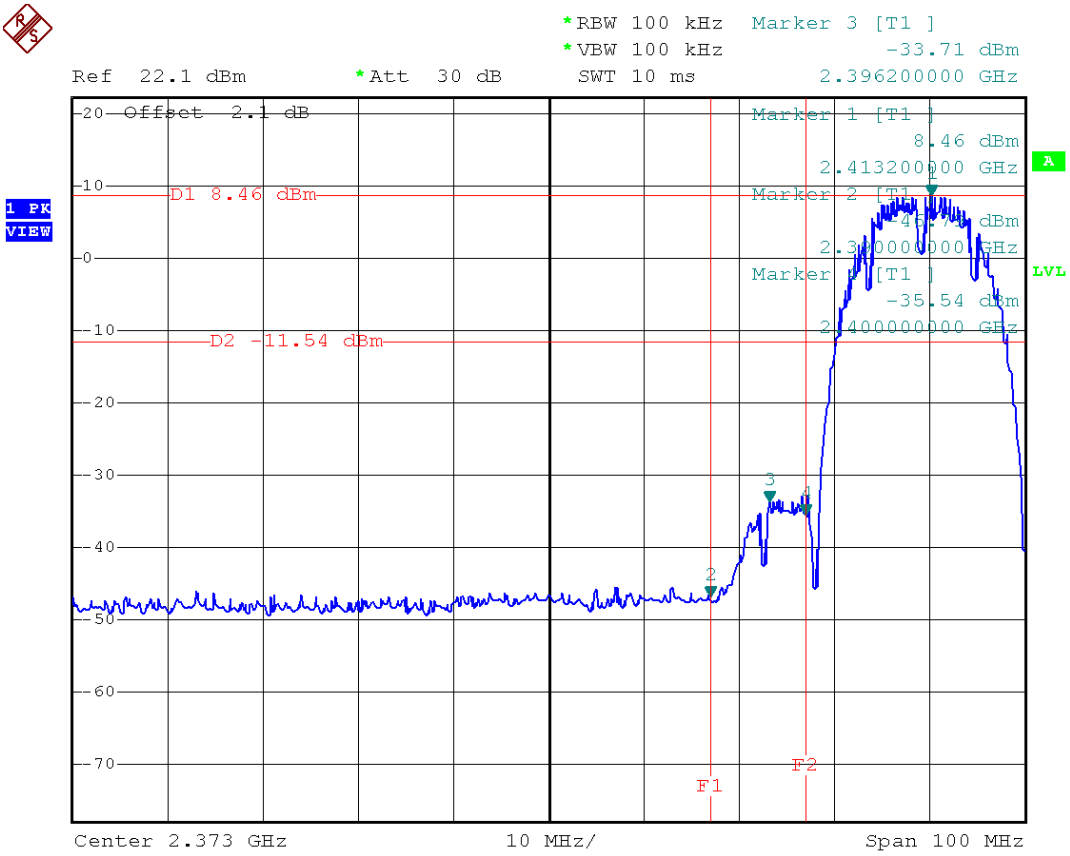
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.6 TEST RESULTS

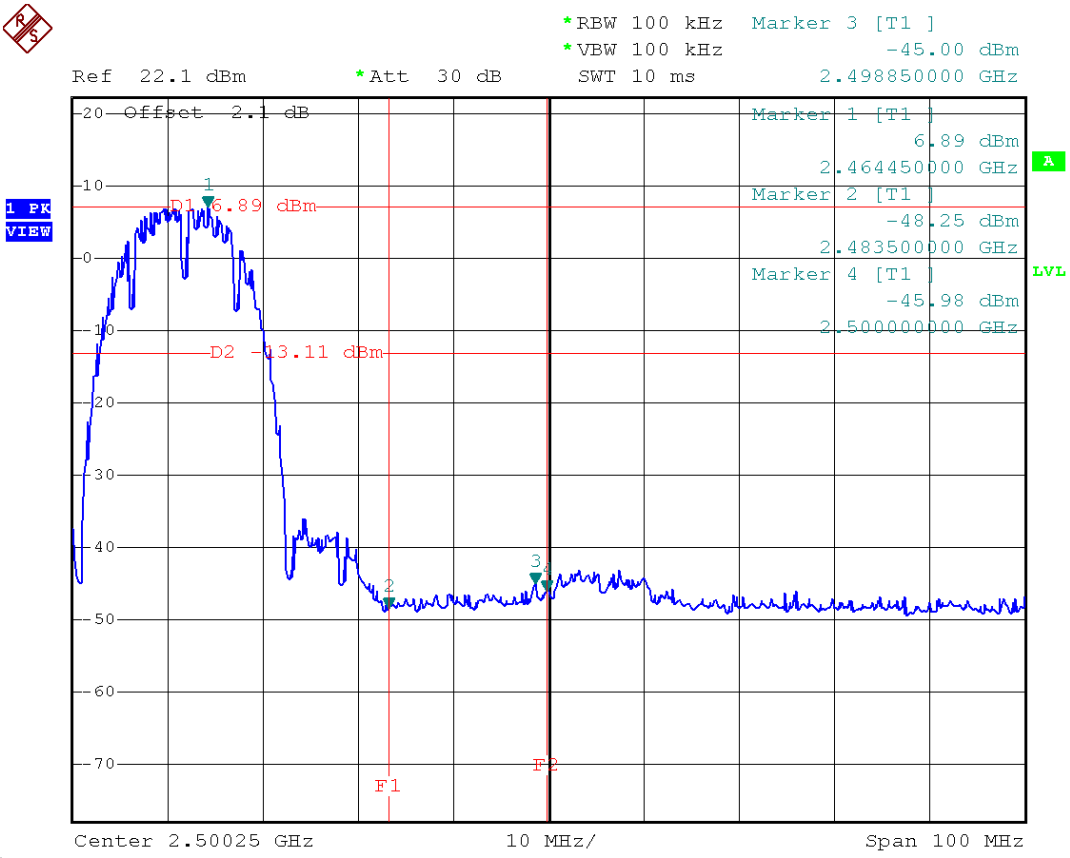
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH01, CH11 (Data rate: 1Mbps)		

Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2396.20	-33.71	2498.85	-45.00
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

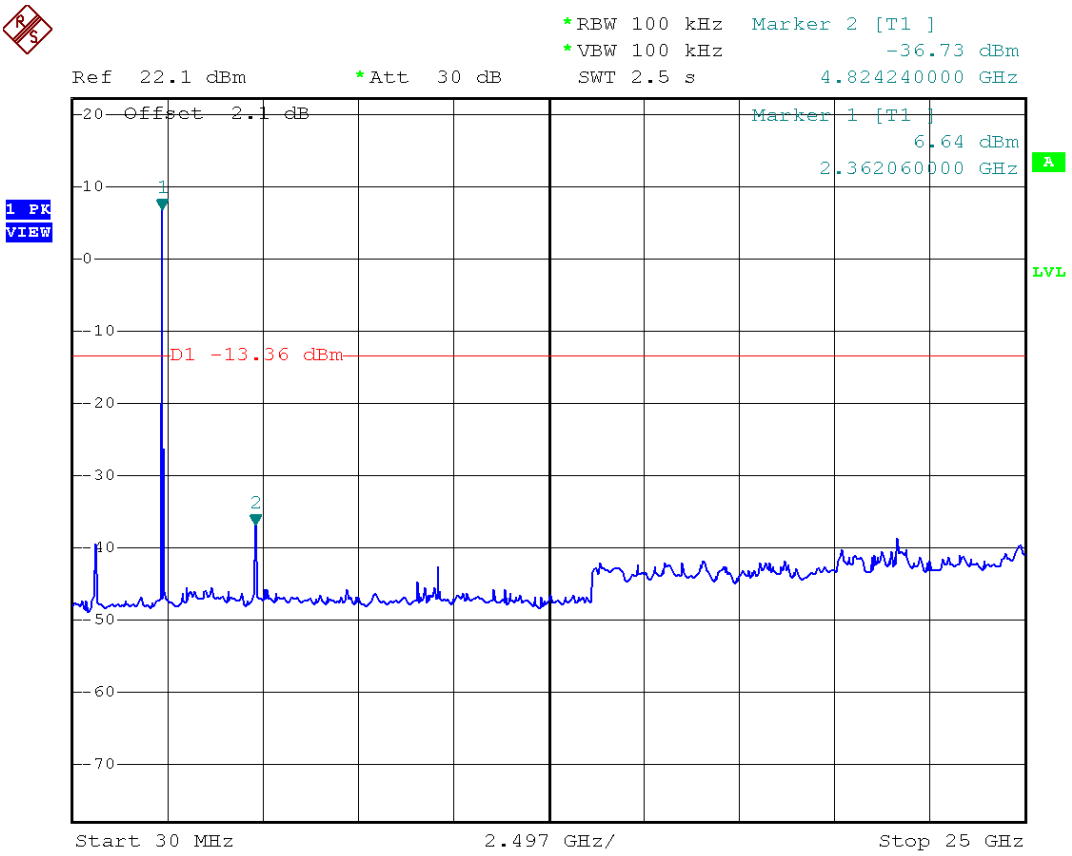
802.11b/2412 MHz/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



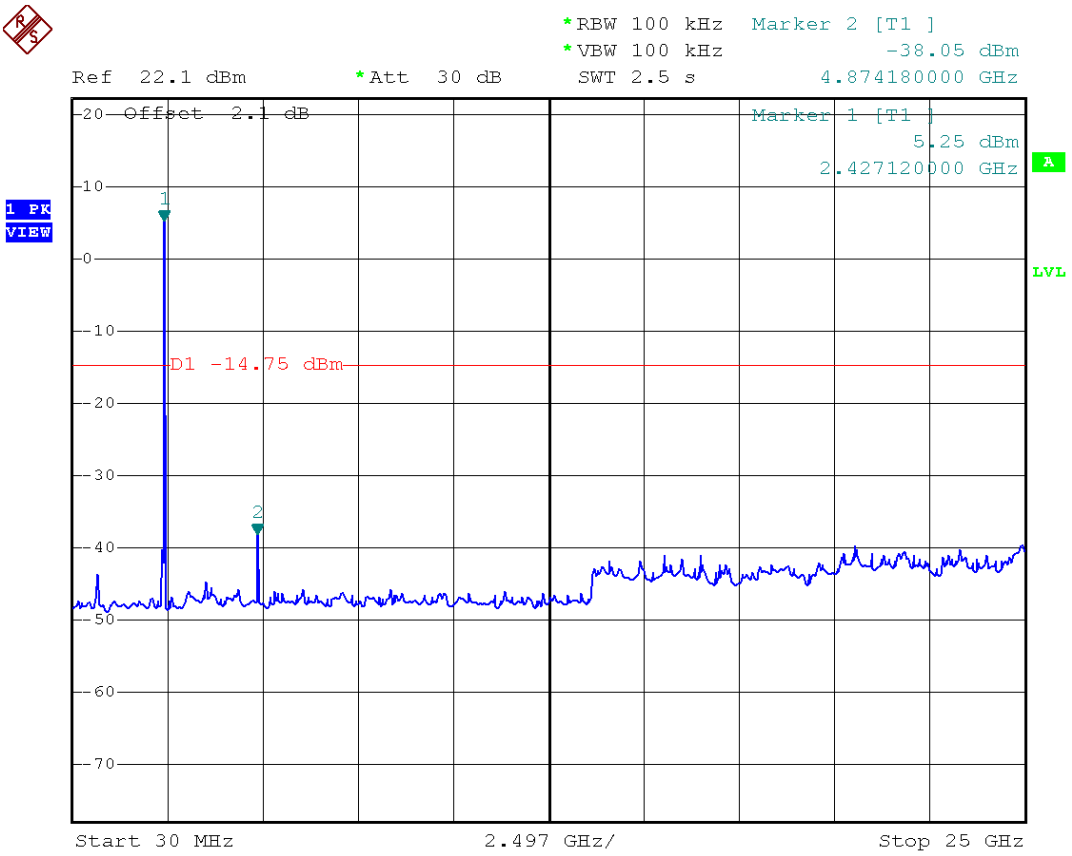
802.11b/2462 MHz/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



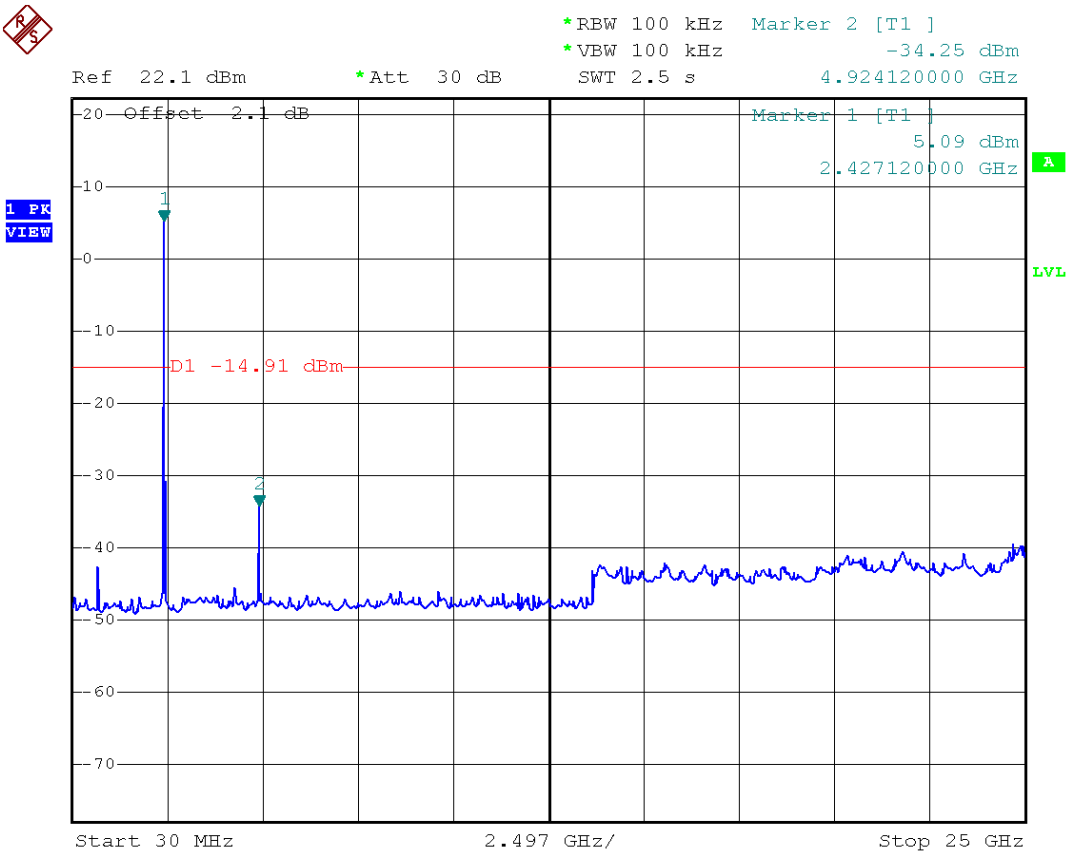
802.11b/2412 MHz/10 Harmonic of the frequency



802.11b/2437 MHz/10 Harmonic of the frequency



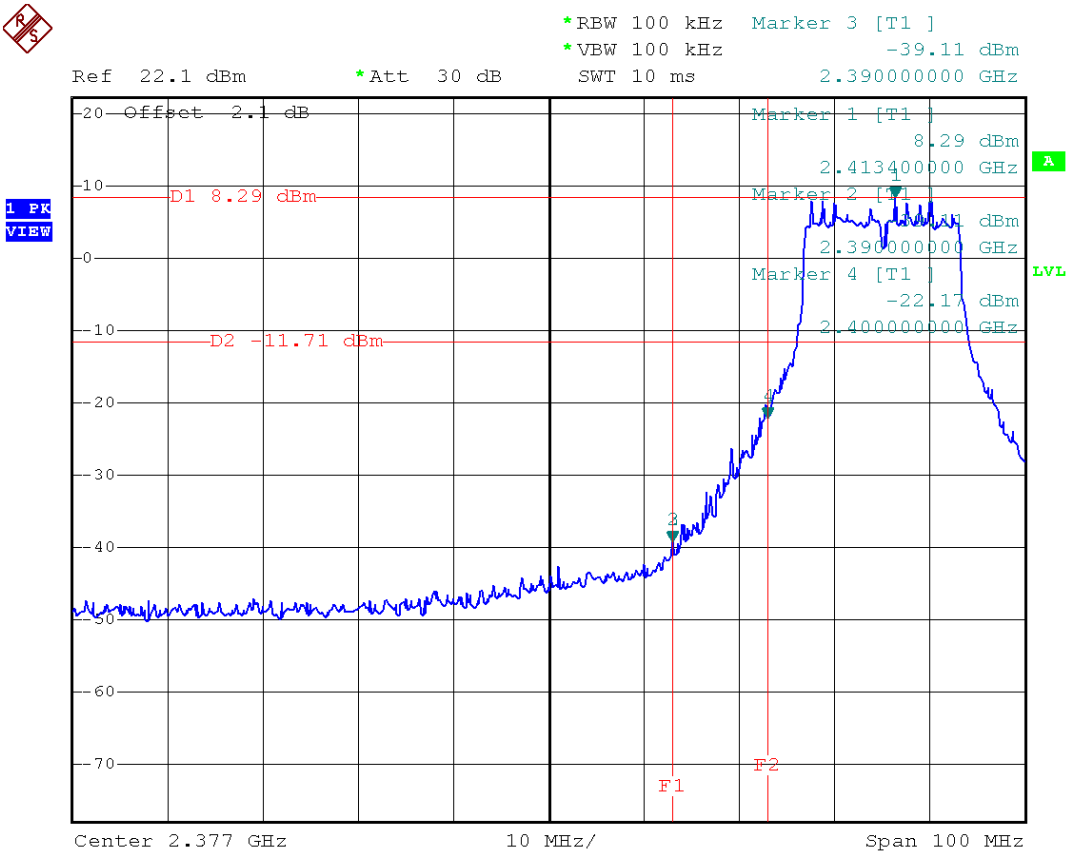
802.11b/2462 MHz/10 Harmonic of the frequency



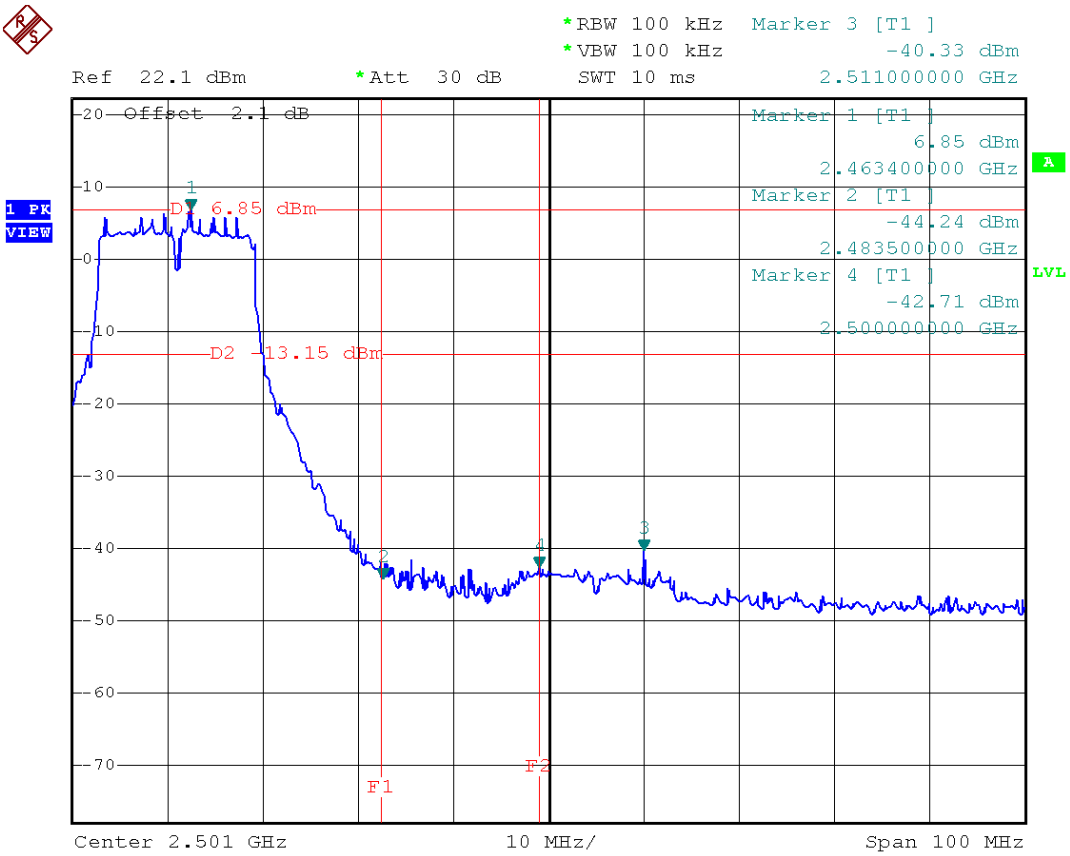
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11g/CH01, CH11 (Data rate: 6 Mbps)		

Channel of Worst Data			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2390.00	-39.11	2511.00	-40.33
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

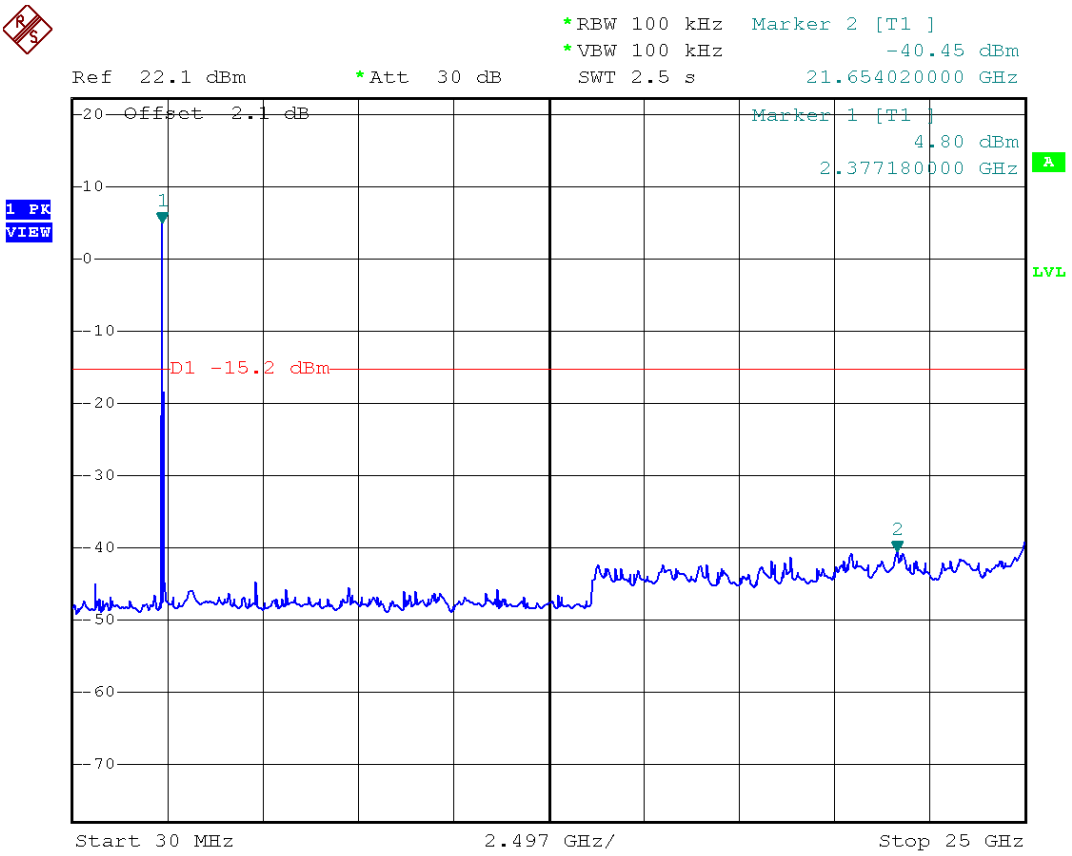
802.11g/2412 MHz/The max. radio frequency power in any 100kHz bandwidth outside the frequency band



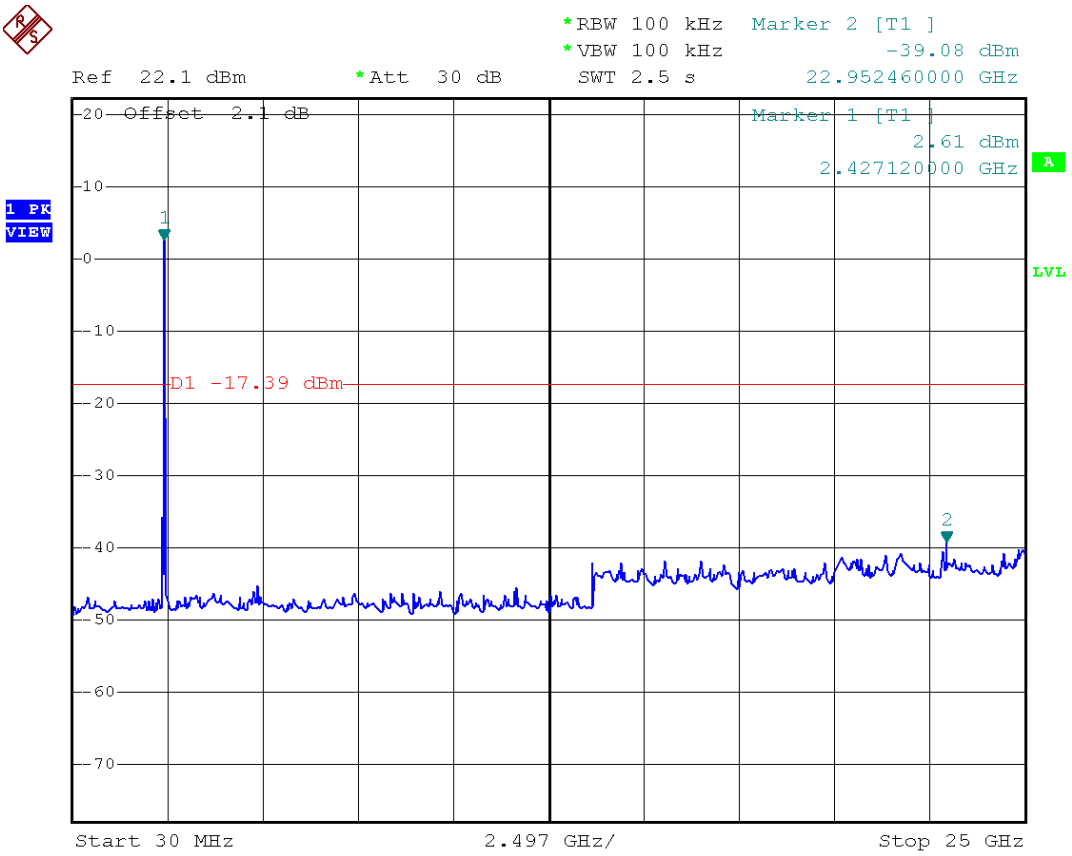
802.11g/2462 MHz/The max. radio frequency power in any 100 kHz bandwidth within the frequency band



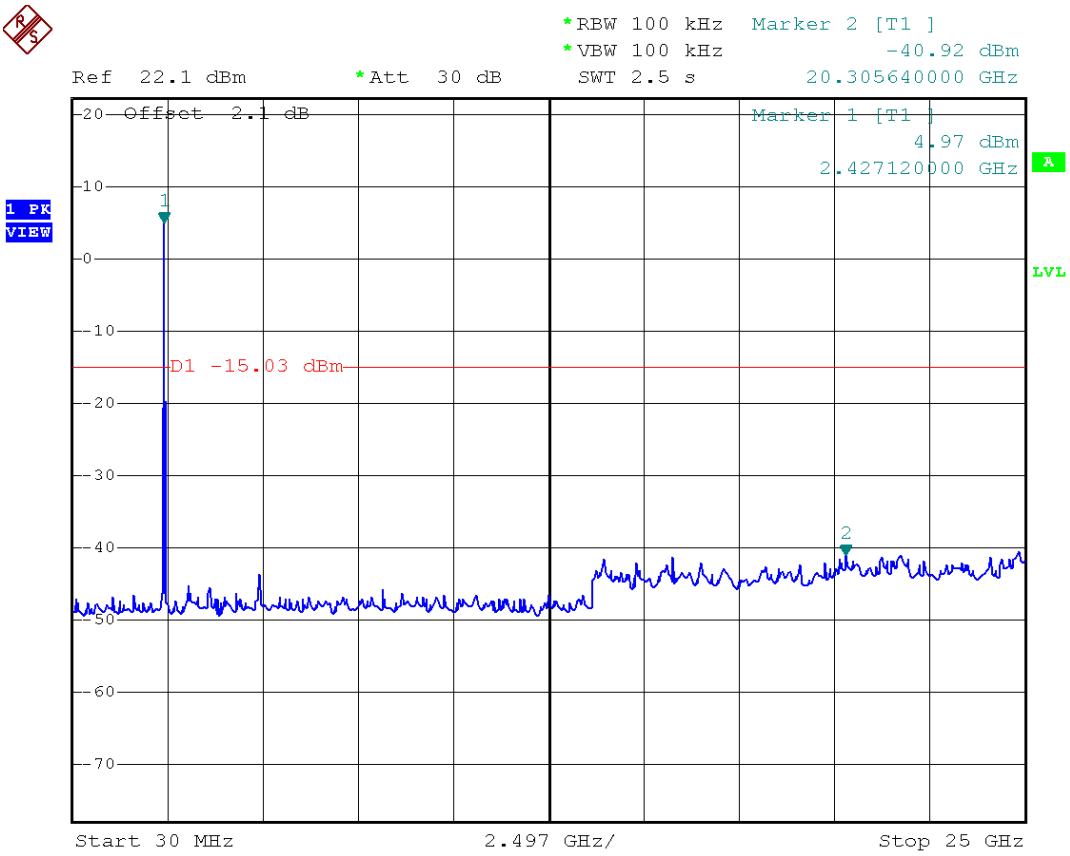
802.11g/2412 MHz/10 Harmonic of the frequency



802.11g/2437 MHz/10 Harmonic of the frequency



802.11g/2462 MHz/10 Harmonic of the frequency



8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

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

8.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 06, 2012

Remark: ” N/A” denotes No Model Name, Serial No. or No Calibration specified.

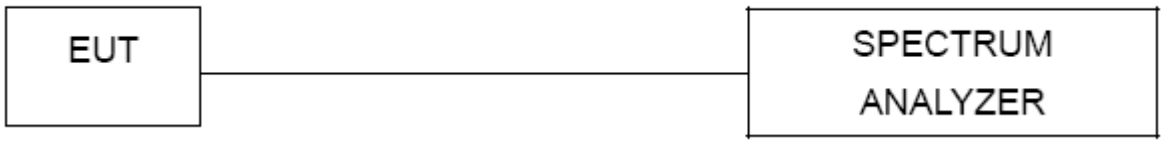
8.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW=3KHz, VBW=30KHz, Sweep time = 500s.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP



8.1.5 EUT OPERATION CONDITIONS

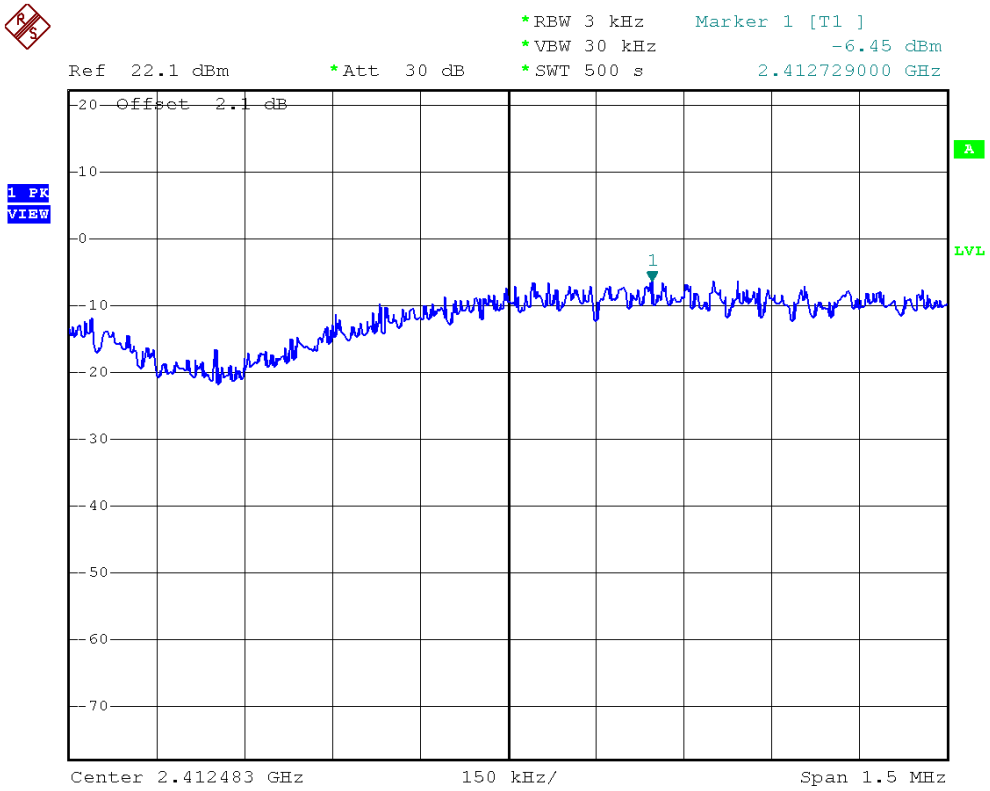
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.6 TEST RESULTS

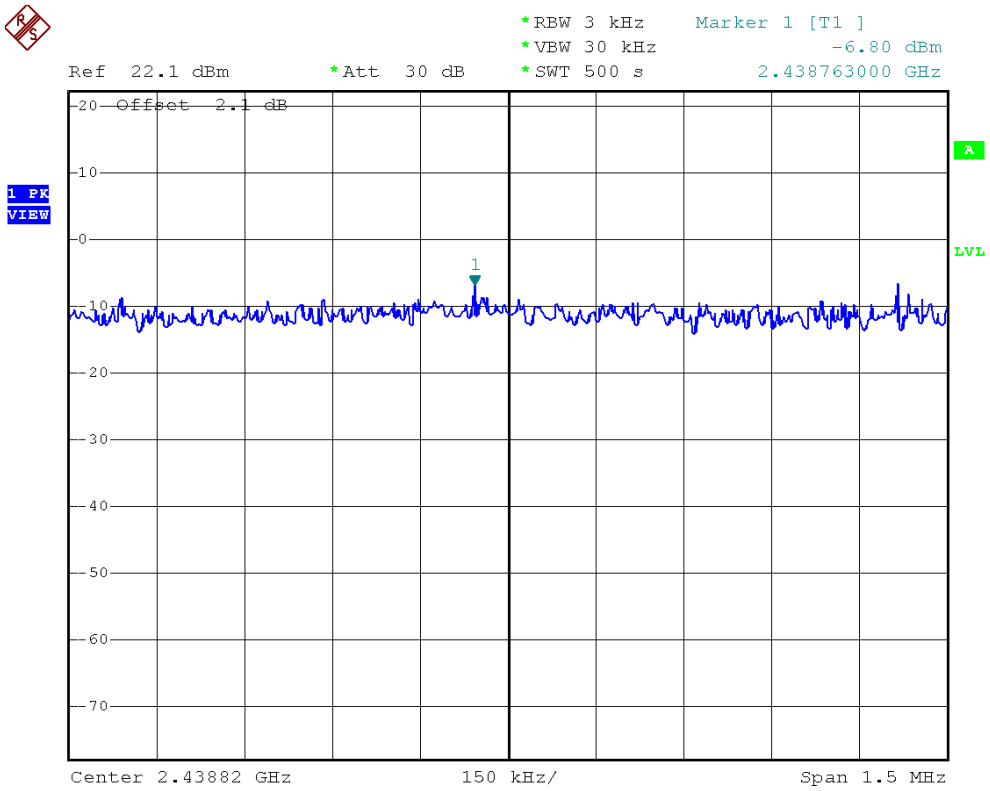
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH01, CH06, CH11 (Data rate: 1Mbps)		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-6.45	8
CH06	2437	-6.80	8
CH11	2462	-6.99	8

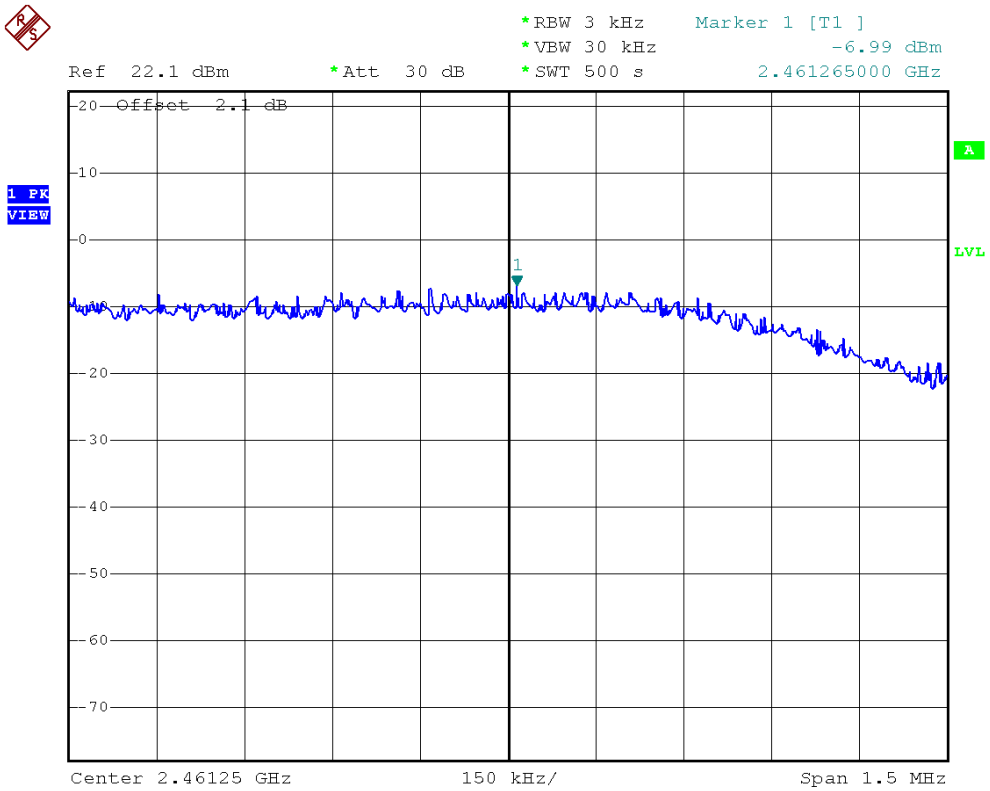
802.11b/2412 MHz



802.11b/2437 MHz



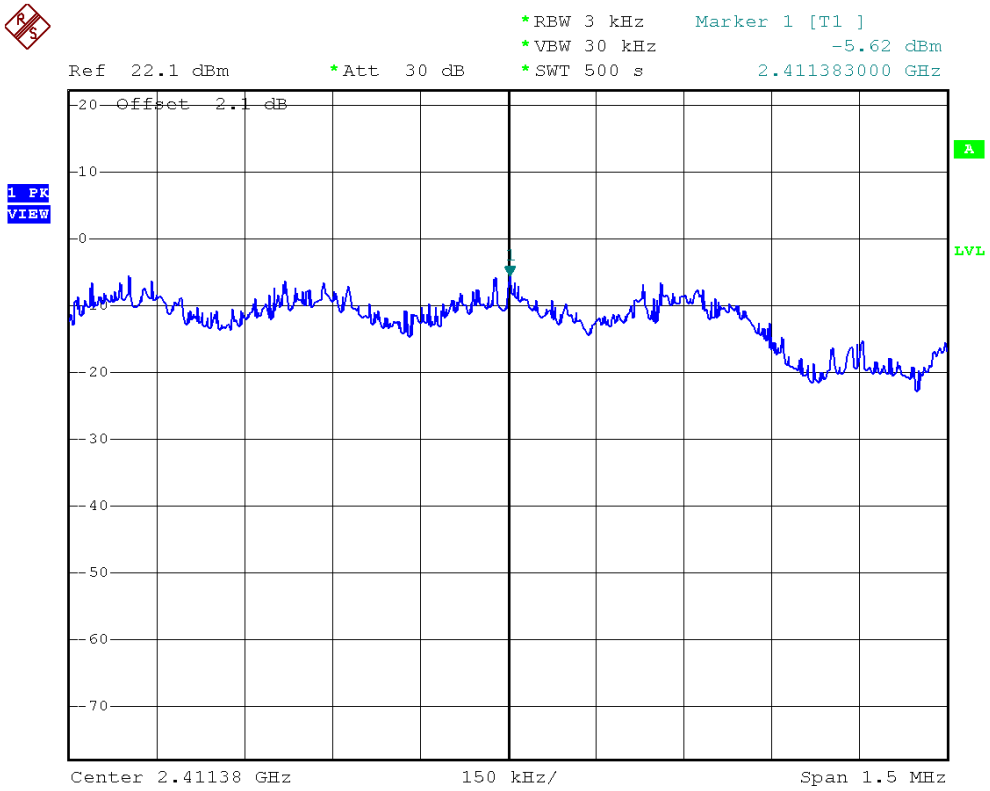
802.11b/2462 MHz



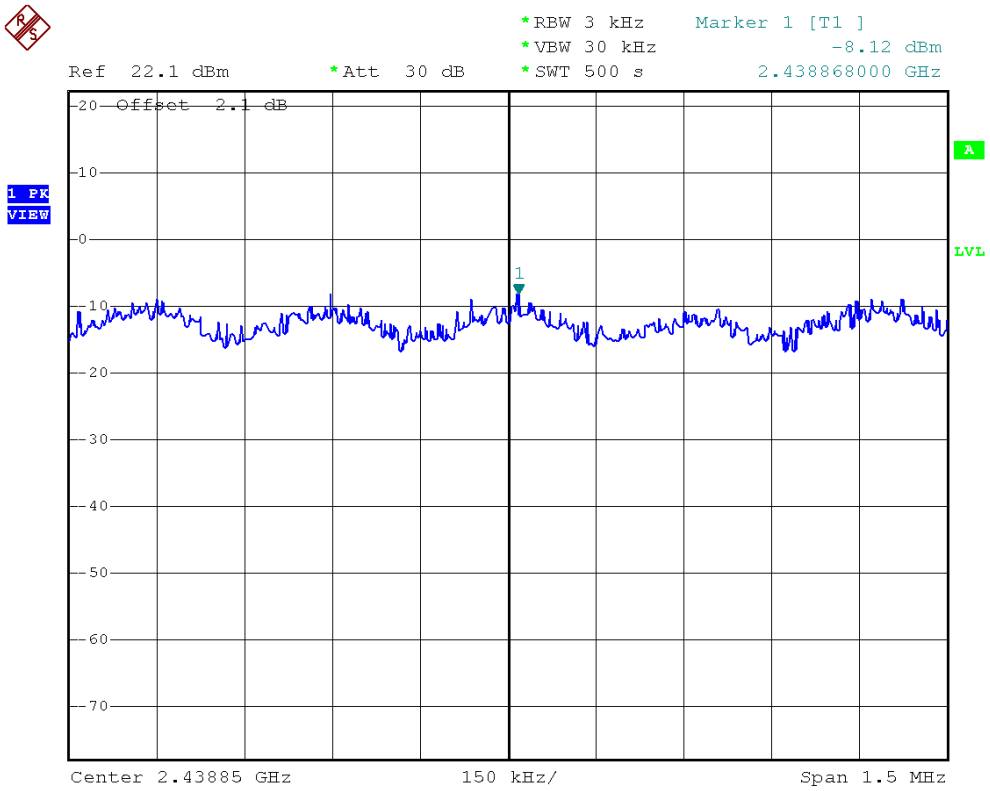
EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11g/CH01, CH06, CH11 (Data rate: 6 Mbps)		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-5.62	8
CH06	2437	-8.12	8
CH11	2462	-6.77	8

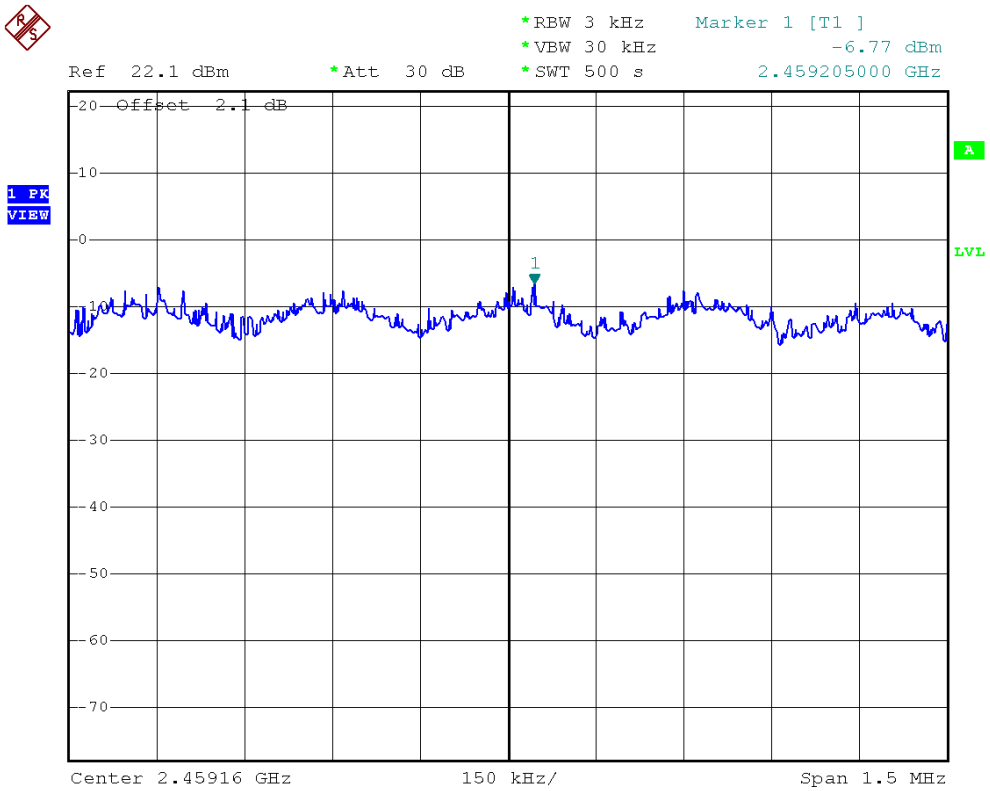
802.11g/2412 MHz



802.11g/2437 MHz



802.11g/2462 MHz



9. RF EXPOSURE TEST

9.1 APPLIED PROCEDURES / LIMIT

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

9.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 17, 2012
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 17, 2012

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

9.1.2 MPE CALCULATION METHOD

E (V/m) $= \frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) $= \frac{E^2}{377}$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

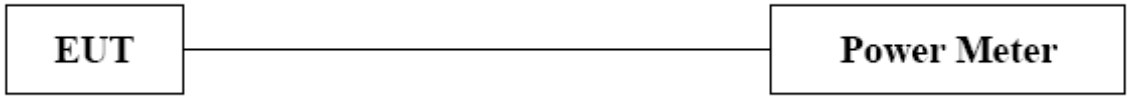
Pd $= \frac{30 \times P \times G}{377 \times d^2}$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP



9.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.1.6 TEST RESULTS

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11b/CH01, CH06, CH11 (Data rate: 1Mbps)		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	5.00	3.1623	21.5300	142.2329	0.089526	1
2437	5.00	3.1623	19.3800	86.6962	0.054570	1
2462	5.00	3.1623	20.1700	103.9920	0.065456	1

EUT：	802.11b/g miniPCI Module	Model Name ：	XC24M
Temperature：	26°C	Relative Humidity：	60%
Test Voltage：	AC 120V/60Hz (System)		
Test Mode ：	802.11g/CH01, CH06, CH11 (Data rate: 6 Mbps)		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	5.00	3.1623	29.0800	809.0959	0.509273	1
2437	5.00	3.1623	25.1300	325.8367	0.205093	1
2462	5.00	3.1623	28.1200	648.6344	0.408273	1