

## Test Report

Product Name : 54M Wireless Router  
Model No. : TL-WR340G, TL-WR340GD  
FCC ID : TE7WR340G

Applicant : TP-LINK Technologies Co., Ltd  
Address : Building 7, Section 2, Honghualing Industrial Park,  
Xili, Nanshan District, Shenzhen, P.R.C.

Date of Receipt : 2007/07/03  
Issued Date : 2007/07/26  
Report No. : 077S010-RF-US-P05V01

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by CNLA, NVLAP, NIST or any agency of the Government.

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# Test Report Certification


Issued Date : 2007/07/26


Report No. : 077S010-RF-US-P05V01



Product Name : 54M Wireless Router  
 Applicant : TP-LINK Technologies Co., Ltd  
 Address : Building 7, Section 2, Honghualing Industrial Park, Xili,  
 Nanshan District, Shenzhen, P.R.C.  
 Manufacturer : TP-LINK Technologies Co., Ltd  
 Model No. : TL-WR340G, TL-WR340GD  
 FCC ID : TE7WR340G  
 Rated Voltage : AC 120V/60Hz  
 EUT Voltage : AC 9V, 0.8A  
 Trade Name : TP-LINK  
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2007  
 ANSI C63.4: 2003  
 Test Result : Complied  
 Performed Location : SuZhou EMC laboratory  
 No.99 Hongye Rd., Suzhou Industrial Park Loufeng  
 Hi-Tech Development Zone., SuZhou, China  
 TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098  
 FCC Registration number: 800392

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## Laboratory Information

We , **QuietTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

<b>Taiwan R.O.C.</b>	<b>: BSMI, DGT, CNLA</b>
<b>Germany</b>	<b>: TÜV Rheinland</b>
<b>Norway</b>	<b>: Nemko, DNV</b>
<b>USA</b>	<b>: FCC, NVLAP</b>
<b>Japan</b>	<b>: VCCI</b>

The related certificate for our laboratories about the test site and management system can be downloaded from QuietTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>  
 The address and introduction of QuietTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>  
 If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China  
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## 1. General Information

### 1.1. EUT Description

Product Name	54M Wireless Router
Trade Name	TP-LINK
Model No.	TL-WR340G, TL-WR340GD
FCC ID	TE7WR340G
Working Voltage	AC 9V, 0.8A
Frequency Range	802.11b/g: 2412-2462 MHz
Channel Number	802.11b/g: 11
Type of Modulation	802.11b: DSSS 802.11g: OFDM
Channel Control	Auto
Antenna type	Dipole
Antenna Gain	5.0dBi

Note:

The EUT is including two models for different marketing requirement. The only difference is the type of antenna; the antenna of TL-WR340G is fixed, while another is removable, From above two models, TL-WR340G was selected as a representative model for the test and its data was recorded in this report.

Component	
AC Adapter	Manufacturer: Leader Electronic Inc. M/N: A4109080T Input: AC 120V, 60Hz Output: AC 9V, 800mA, 7.2VA (E) Cable Out: Non-Shielded, 1.8m
Power Cord	Non-Shielded, 1.8m

802.11b/g Antenna List

No.	Manufacturer	W.Y.P/No.	Peak Gain
1	WHA YU INDUSTRIAL CO., LTD	C636-510050-A	5.0dBi for 2.4G
2	WHA YU INDUSTRIAL CO., LTD	C636-510064-A	5.0dBi for 2.4G

802.11b/g Working Frequency of Each Channel:

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

**1.2. Mode of Operation**

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g

Note:

1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 077S010-RF-US-P01V02, certified under Declaration of Conformity.



**1.3. Tested System Details**

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
N/A	N/A	N/A	N/A	N/A	N/A

**1.4. Configuration of Tested System**

Connection Diagram	
	
Signal Cable Type	
N/A	N/A
Signal cable Description	
N/A	

**1.5. EUT Exercise Software**

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power for the equipments.
3	EUT works on transmitting operation using control software.

**2. Technical Test**

**2.1. Summary of Test Result**

- No deviations from the test standards
- Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.209	Yes	No
Peak Output Power	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(b)(3)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(2)	Yes	No
Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.215(c), 15.247(d)	Yes	No
Peak Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(e)	Yes	No

**2.2. Test Environment**

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	25
Humidity (%RH)	25-75	48
Barometric pressure (mbar)	860-1060	950-1000

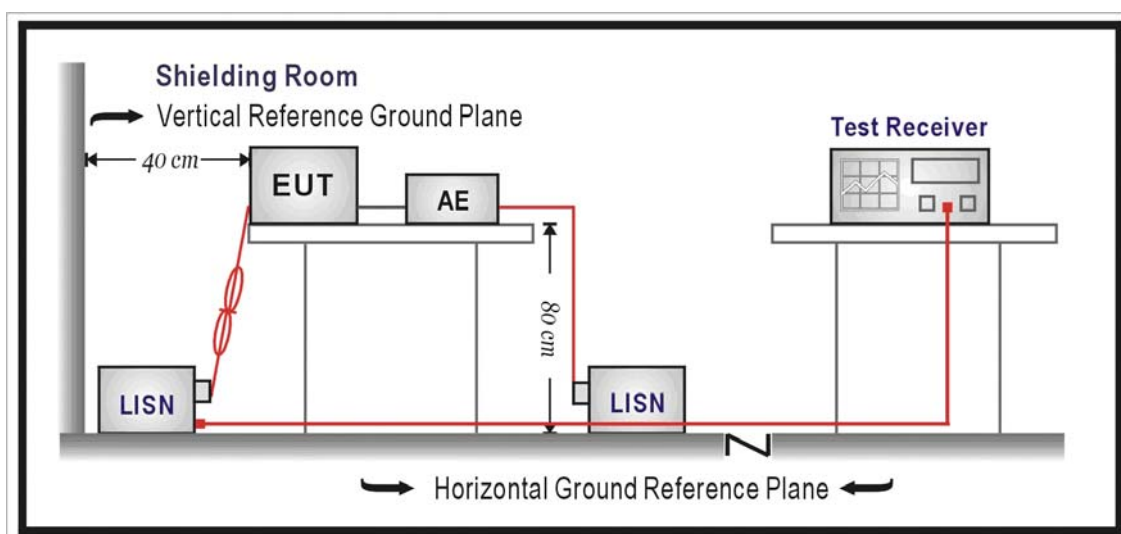
### 3. Conducted Emission

#### 3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2006/11/22
Two-Line V-Network	R&S	ENV216	100013	2006/11/20
Two-Line V-Network	R&S	ENV216	100014	2006/11/20
50ohm Coaxial Switch	ANRITSU	MP59B	6200464462	2006/11/25
50ohm Termination	SHX	50ohml	QT-IM001	2007/03/20
Coaxial Cable	Luthi	RG214	519358	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2007/03/31

#### 3.2. Test Setup



### 3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

### 3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

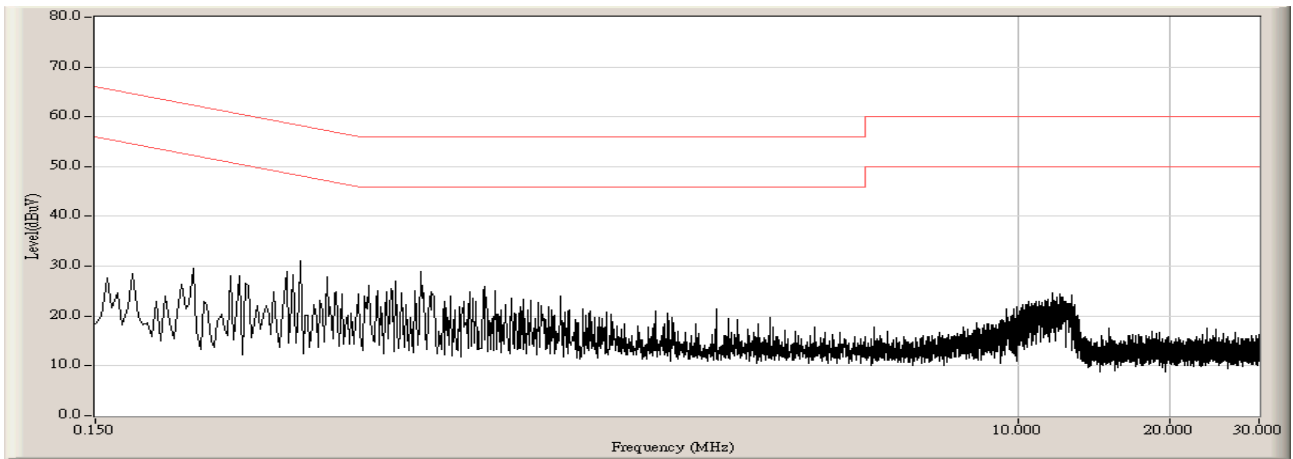
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

### 3.5. Uncertainty

The measurement uncertainty is defined as  $\pm 2.02$  dB

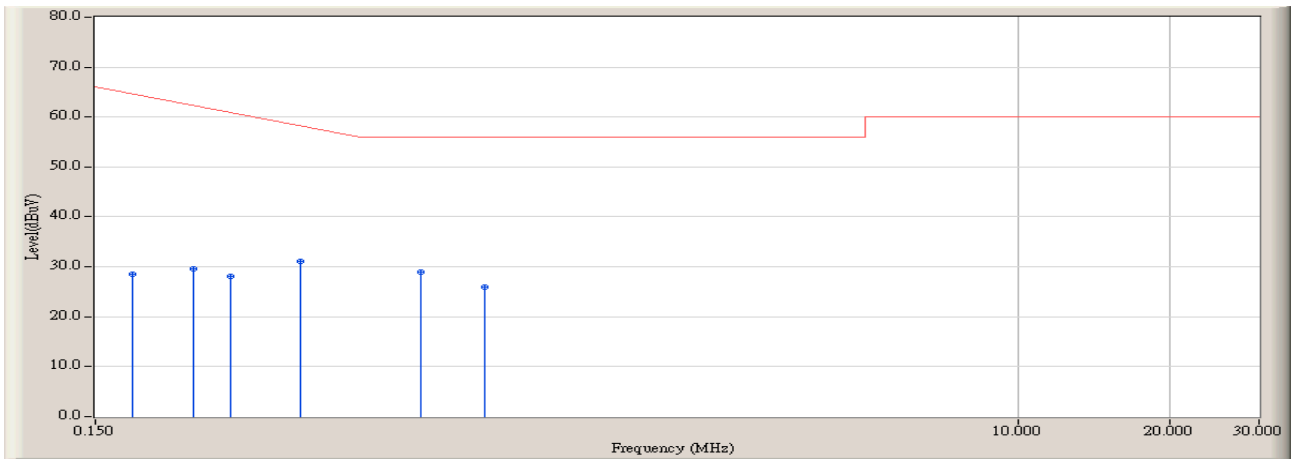
**3.6. Test Result**

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:27
Limit : FCC_PartC15.207_QP	Margin : 10
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)





Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:28
Limit : FCC_PartC15.207_QP	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

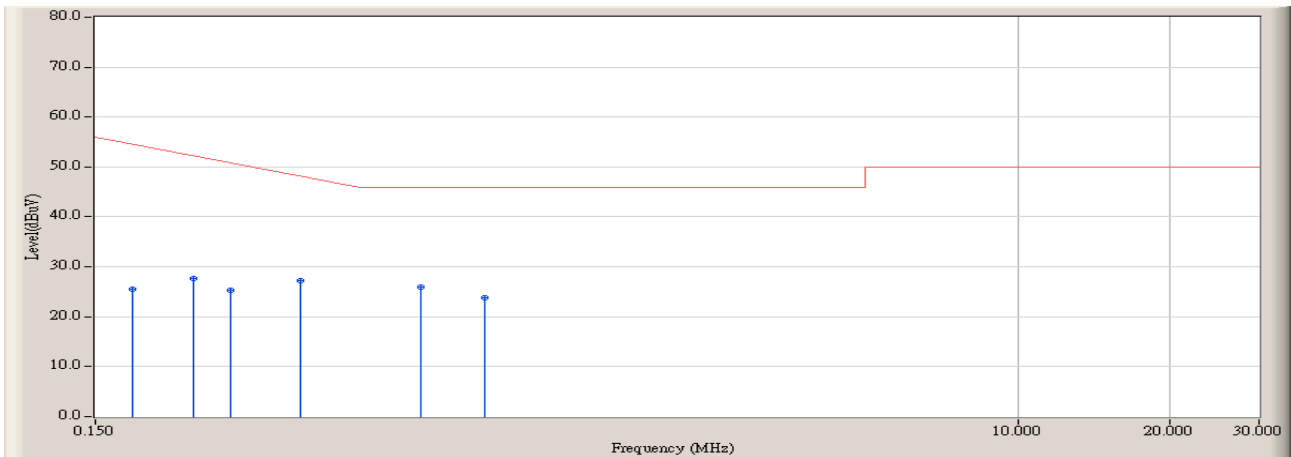


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.178	9.772	18.752	28.524	-36.676	65.200	QUASIPeAK
2		0.234	9.320	20.249	29.569	-34.031	63.600	QUASIPeAK
3		0.278	9.379	18.743	28.122	-34.221	62.343	QUASIPeAK
4		0.382	9.489	21.521	31.011	-28.360	59.371	QUASIPeAK
5	*	0.662	9.680	19.312	28.991	-27.009	56.000	QUASIPeAK
6		0.886	9.658	16.379	26.037	-29.963	56.000	QUASIPeAK

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:28
Limit : FCC_PartC15.207_AV	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

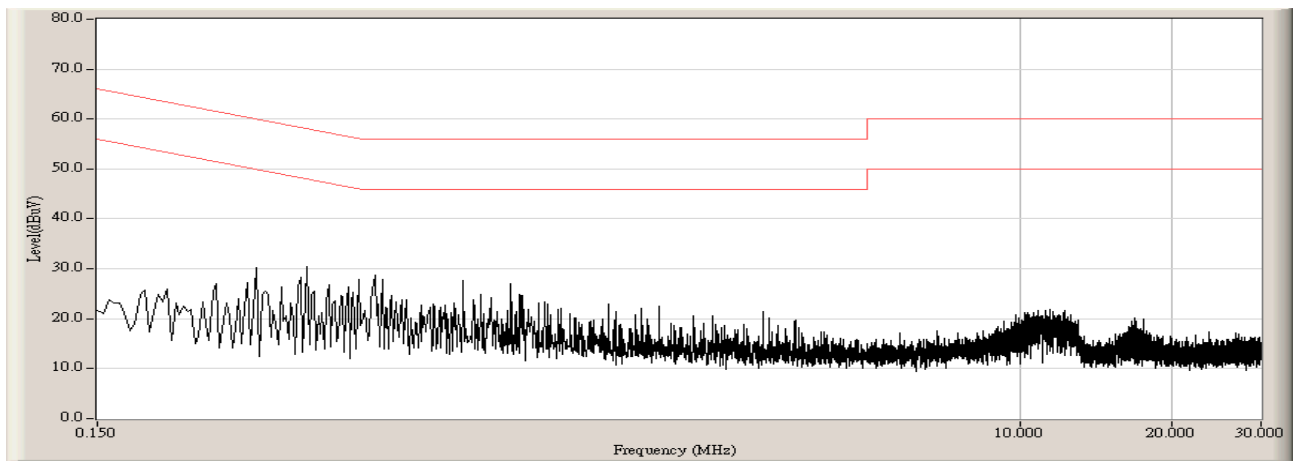


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.178	9.772	15.800	25.572	-29.628	55.200	AVERAGE
2		0.234	9.320	18.400	27.720	-25.880	53.600	AVERAGE
3		0.278	9.379	15.900	25.279	-27.064	52.343	AVERAGE
4		0.382	9.489	17.800	27.290	-22.081	49.371	AVERAGE
5	*	0.662	9.680	16.300	25.979	-20.021	46.000	AVERAGE
6		0.886	9.658	14.200	23.858	-22.142	46.000	AVERAGE

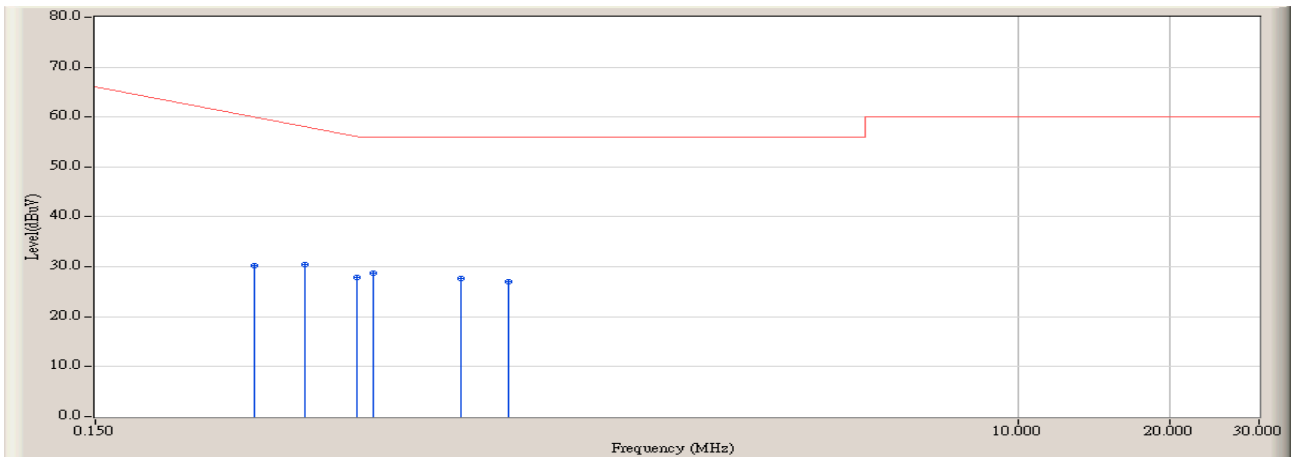
**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:30
Limit : FCC_PartC15.207_QP	Margin : 10
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:31
Limit : FCC_PartC15.207_QP	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

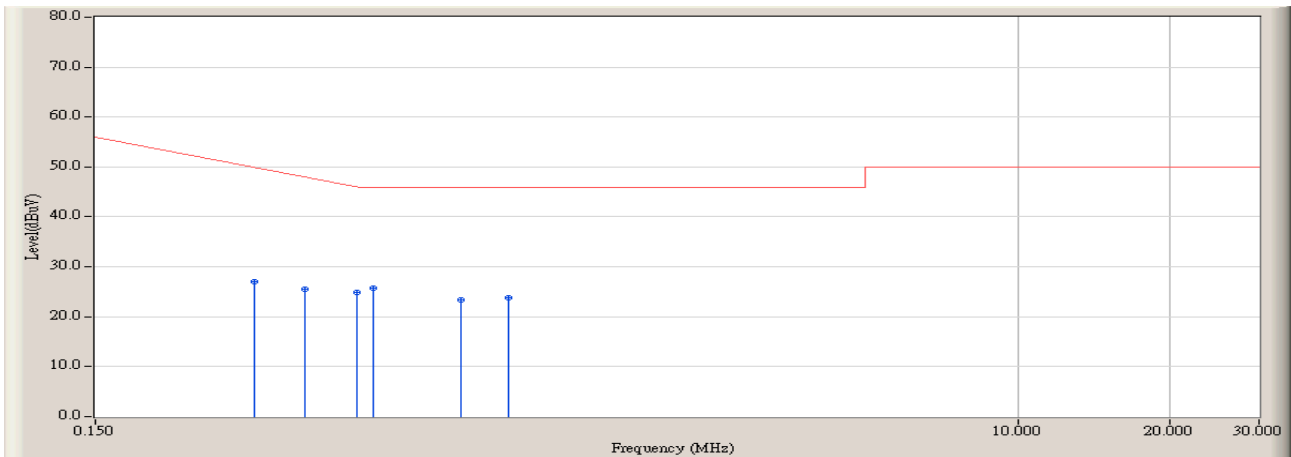


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.310	9.531	20.708	30.239	-31.190	61.429	QUASPEAK
2		0.390	9.601	20.898	30.499	-28.644	59.143	QUASPEAK
3		0.494	9.705	18.204	27.909	-28.262	56.171	QUASPEAK
4	*	0.530	9.706	19.119	28.825	-27.175	56.000	QUASPEAK
5		0.794	9.678	17.888	27.565	-28.435	56.000	QUASPEAK
6		0.986	9.736	17.273	27.009	-28.991	56.000	QUASPEAK

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:31
Limit : FCC_PartC15.207_AV	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

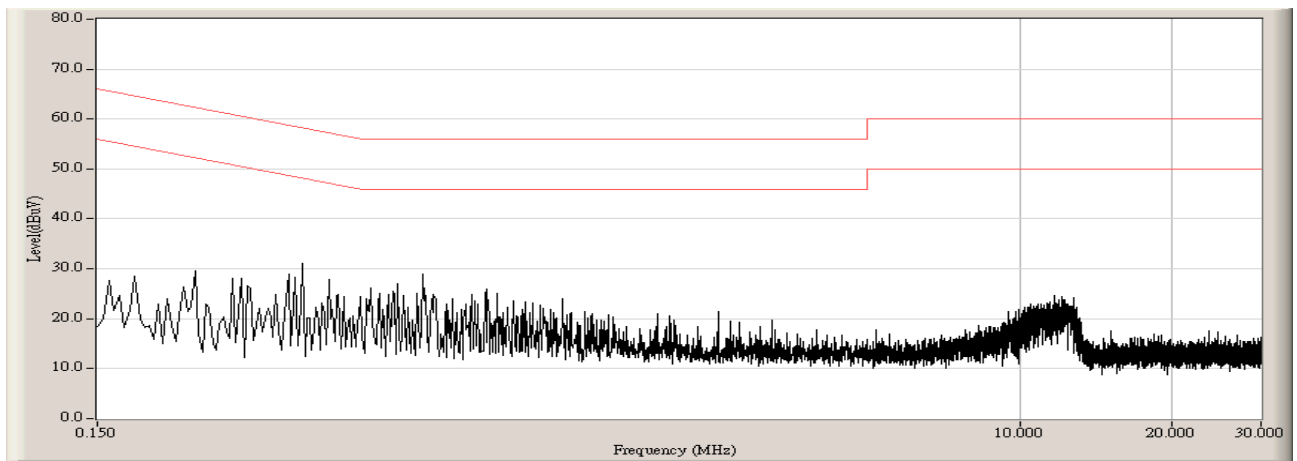


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.310	9.531	17.600	27.131	-24.298	51.429	AVERAGE
2		0.390	9.601	15.900	25.501	-23.642	49.143	AVERAGE
3		0.494	9.705	15.200	24.905	-21.266	46.171	AVERAGE
4	*	0.530	9.706	16.100	25.806	-20.194	46.000	AVERAGE
5		0.794	9.678	13.800	23.477	-22.523	46.000	AVERAGE
6		0.986	9.736	14.100	23.836	-22.164	46.000	AVERAGE

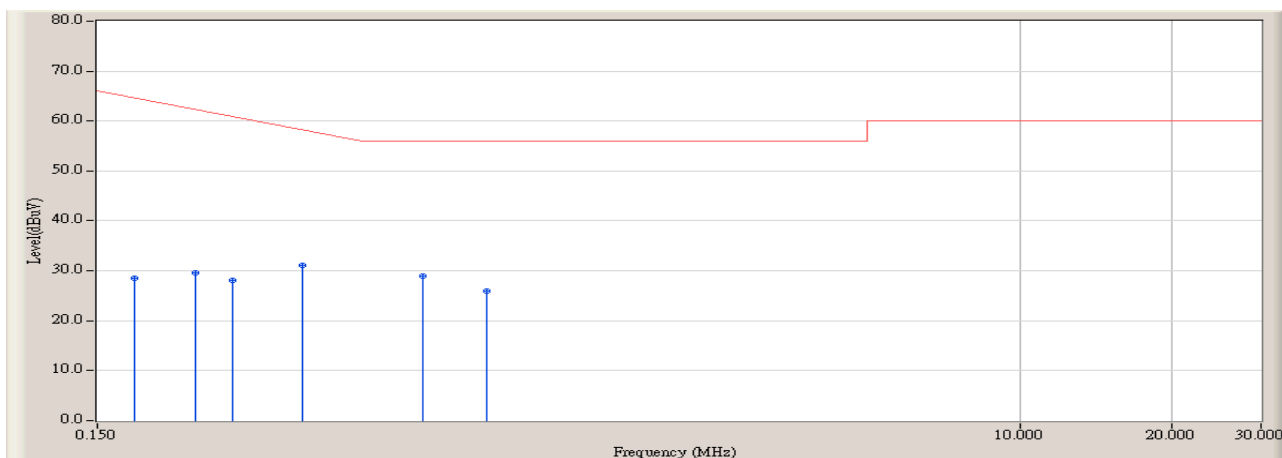
**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:32
Limit : FCC_PartC15.207_QP	Margin : 10
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:33
Limit : FCC_PartC15.207_QP	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

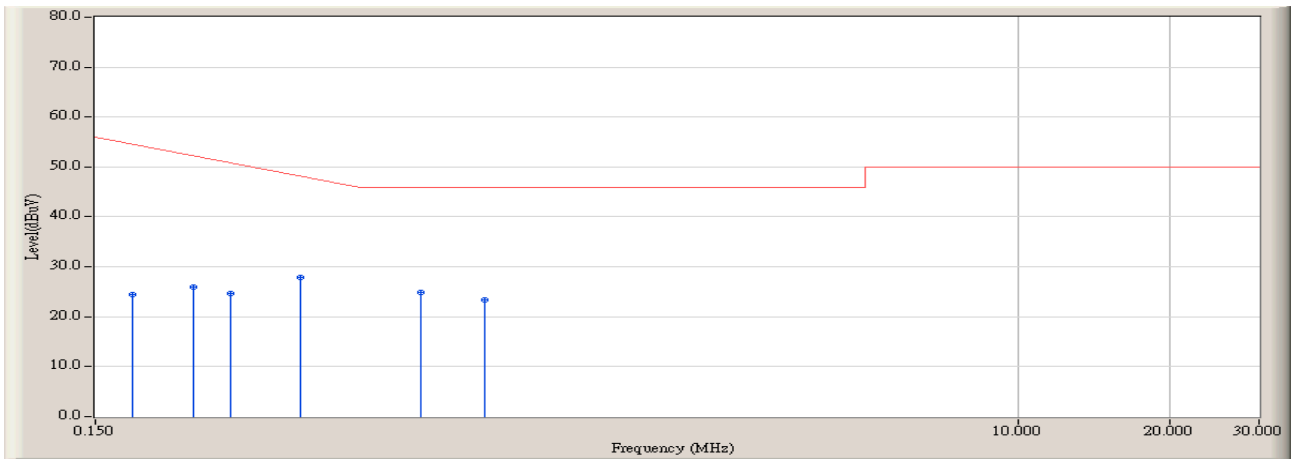


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.178	9.772	18.752	28.524	-36.676	65.200	QUASIPeAK
2		0.234	9.320	20.249	29.569	-34.031	63.600	QUASIPeAK
3		0.278	9.379	18.743	28.122	-34.221	62.343	QUASIPeAK
4		0.382	9.489	21.521	31.011	-28.360	59.371	QUASIPeAK
5	*	0.662	9.680	19.312	28.991	-27.009	56.000	QUASIPeAK
6		0.886	9.658	16.379	26.037	-29.963	56.000	QUASIPeAK

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:33
Limit : FCC_PartC15.207_AV	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



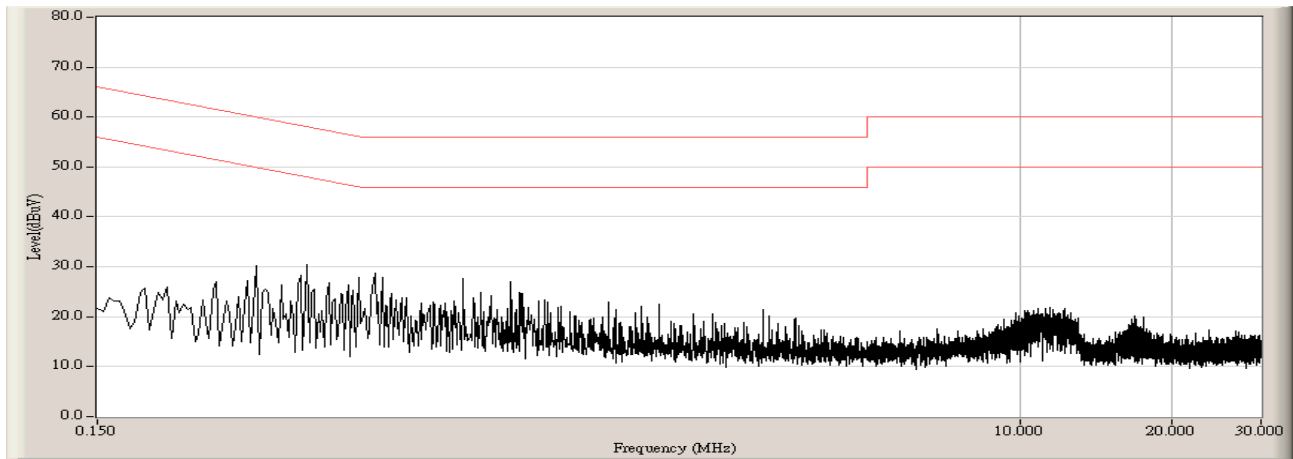
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.178	9.772	14.600	24.372	-30.828	55.200	AVERAGE
2		0.234	9.320	16.700	26.020	-27.580	53.600	AVERAGE
3		0.278	9.379	15.300	24.679	-27.664	52.343	AVERAGE
4		0.382	9.489	18.400	27.890	-21.481	49.371	AVERAGE
5	*	0.662	9.680	15.200	24.879	-21.121	46.000	AVERAGE
6		0.886	9.658	13.700	23.358	-22.642	46.000	AVERAGE

**Note:**

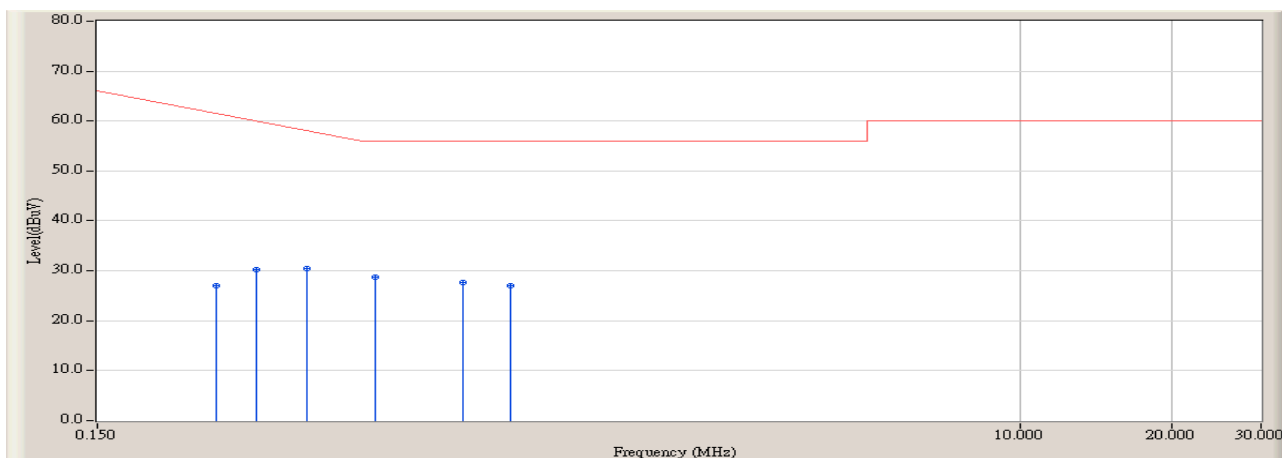
1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:34
Limit : FCC_PartC15.207_QP	Margin : 10
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:35
Limit : FCC_PartC15.207_QP	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

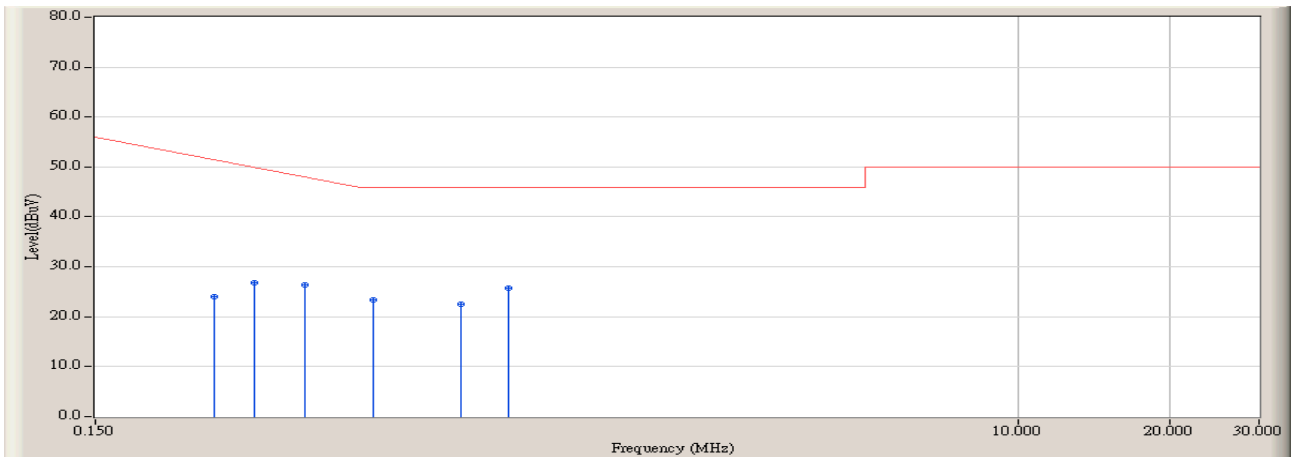


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.258	9.475	17.528	27.003	-35.911	62.914	QUASPEAK
2		0.310	9.531	20.708	30.239	-31.190	61.429	QUASPEAK
3		0.390	9.601	20.898	30.499	-28.644	59.143	QUASPEAK
4	*	0.530	9.706	19.119	28.825	-27.175	56.000	QUASPEAK
5		0.794	9.678	17.888	27.565	-28.435	56.000	QUASPEAK
6		0.986	9.736	17.273	27.009	-28.991	56.000	QUASPEAK

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/07/16 - 13:35
Limit : FCC_PartC15.207_AV	Margin : 0
EUT : 54M Wireless Router	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.258	9.475	14.600	24.075	-28.839	52.914	AVERAGE
2		0.310	9.531	17.200	26.731	-24.698	51.429	AVERAGE
3		0.390	9.601	16.800	26.401	-22.742	49.143	AVERAGE
4		0.530	9.706	13.700	23.406	-22.594	46.000	AVERAGE
5		0.794	9.678	12.900	22.577	-23.423	46.000	AVERAGE
6	*	0.986	9.736	16.000	25.736	-20.264	46.000	AVERAGE

**Note:**

1. All Reading Levels are Quasi-Peak and average value.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3.7. Test Photograph

Test Mode: Mode 1: Transmit by 802.11b

Description: Front View of Conduction Test



Test Mode: Mode 1: Transmit by 802.11b

Description: Back View of Conduction Test



Test Mode: Mode 2: Transmit by 802.11g

Description: Front View of Conduction Test



Test Mode: Mode 2: Transmit by 802.11g

Description: Back View of Conduction Test



## 4. Radiated Emission

### 4.1. Test Equipment

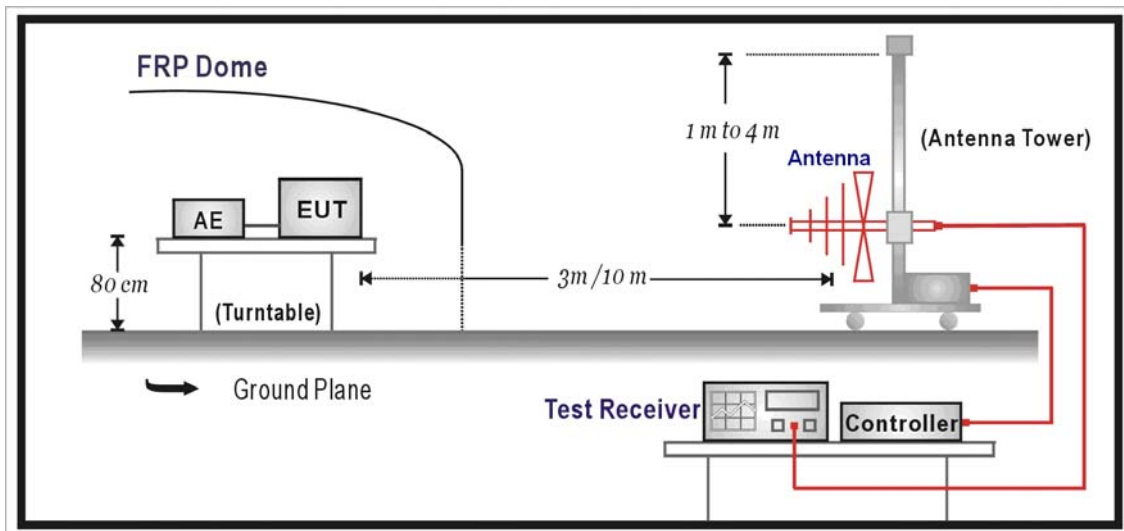
Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2006/11/20
EMI Test Receiver	R&S	ESCI	100573	2007/05/23
Preamplifier	Quietek	AP-025C	QT-AP003	2006/11/25
Preamplifier	Quietek	AP-180C	CHM-0602013	2006/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2006/11/22
*Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2005/11/25
50ohm Coaxial Switch	ANRITSU	MP59B	6200447304	2006/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2007/03/30

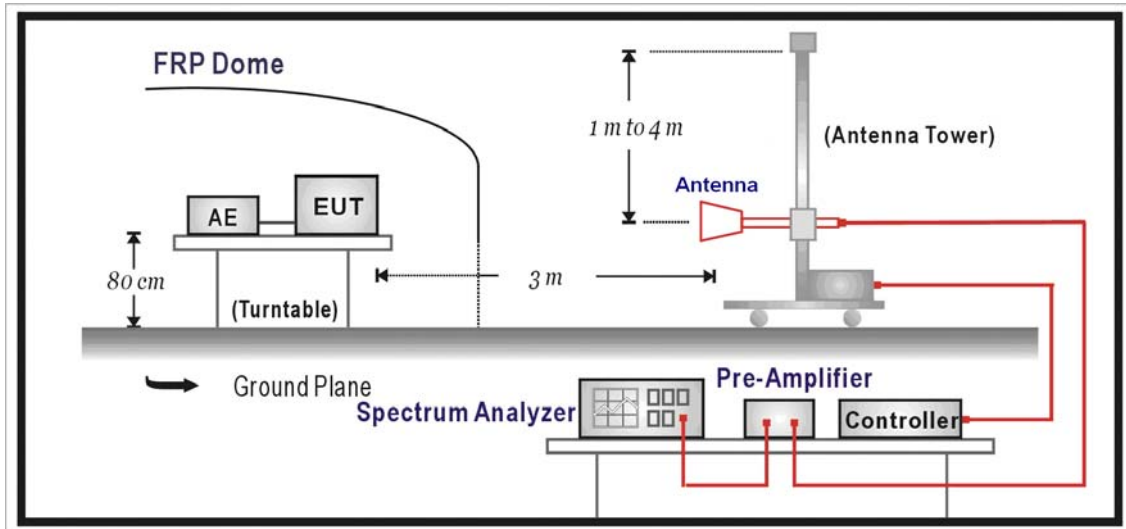
Note: "\*" means the test device calibration period for two years.

### 4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209 Limits (dBuV/m)		
Frequency (MHz)	Distance (m)	dBuV/m
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3.  $RF\ Voltage\ (dBuV/m) = 20\ \log\ RF\ Voltage\ (\mu V/m)$

#### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCI) is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

#### 4.5. Uncertainty

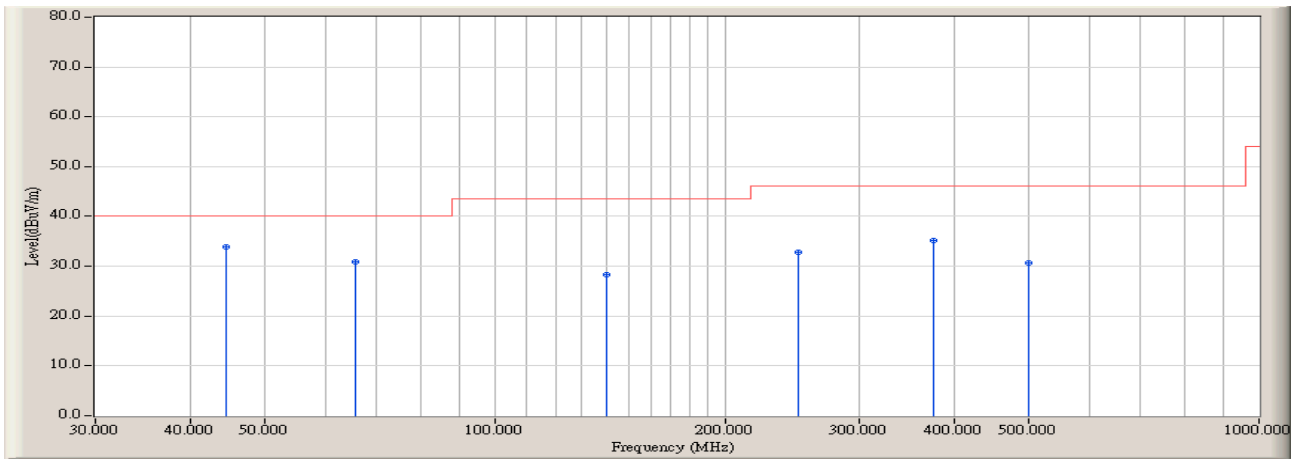
The measurement uncertainty above 1G is defined as  $\pm 3.9$  dB

under 1G is defined as  $\pm 3.8$  dB



4.6. Test Result

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:01
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)

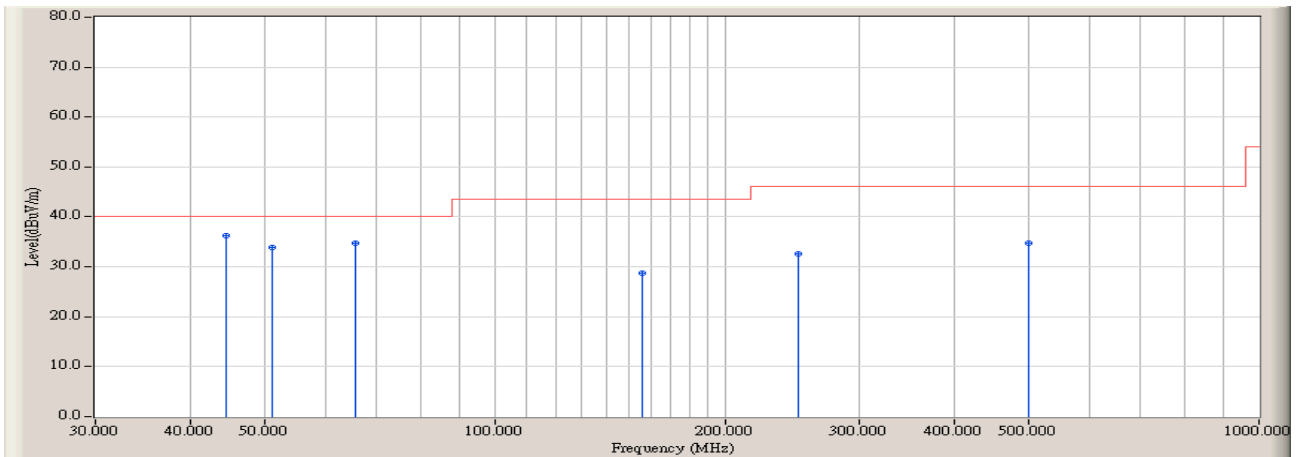


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	42.429	33.984	-6.016	40.000	QUASIPeAK
2		65.567	-16.689	47.543	30.853	-9.147	40.000	QUASIPeAK
3		139.933	-11.780	39.997	28.217	-15.303	43.520	QUASIPeAK
4		249.867	-11.089	43.988	32.899	-13.121	46.020	QUASIPeAK
5		374.350	-8.090	43.324	35.234	-10.786	46.020	QUASIPeAK
6		500.450	-5.504	36.215	30.711	-15.309	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:02
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)

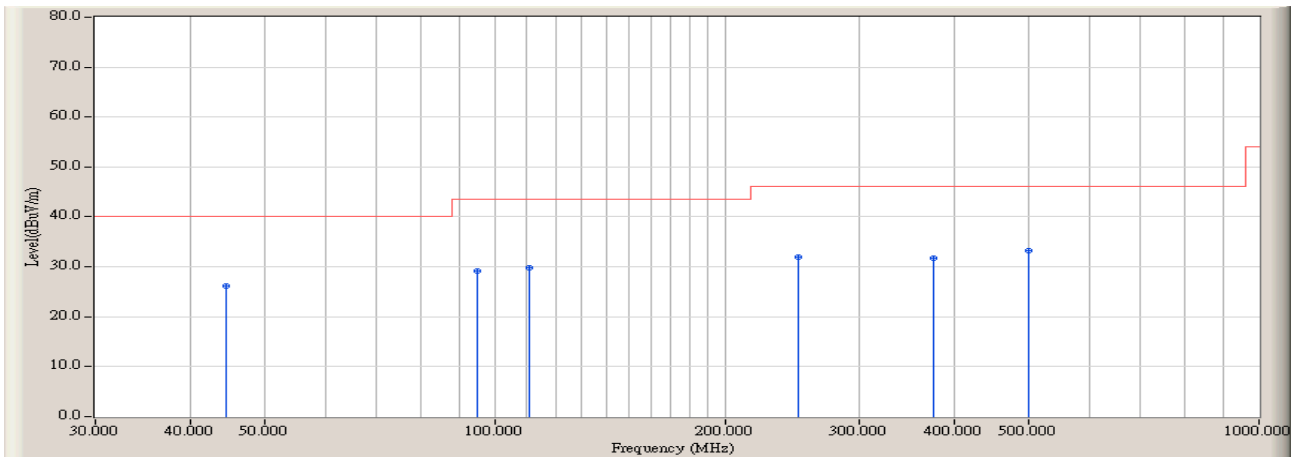


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	44.674	36.229	-3.771	40.000	QUASPEAK
2		51.017	-11.575	45.539	33.964	-6.036	40.000	QUASPEAK
3		65.567	-16.689	51.335	34.645	-5.355	40.000	QUASPEAK
4		156.100	-12.091	40.849	28.758	-14.762	43.520	QUASPEAK
5		249.867	-11.089	43.725	32.636	-13.384	46.020	QUASPEAK
6		500.450	-5.504	40.167	34.663	-11.357	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:13
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

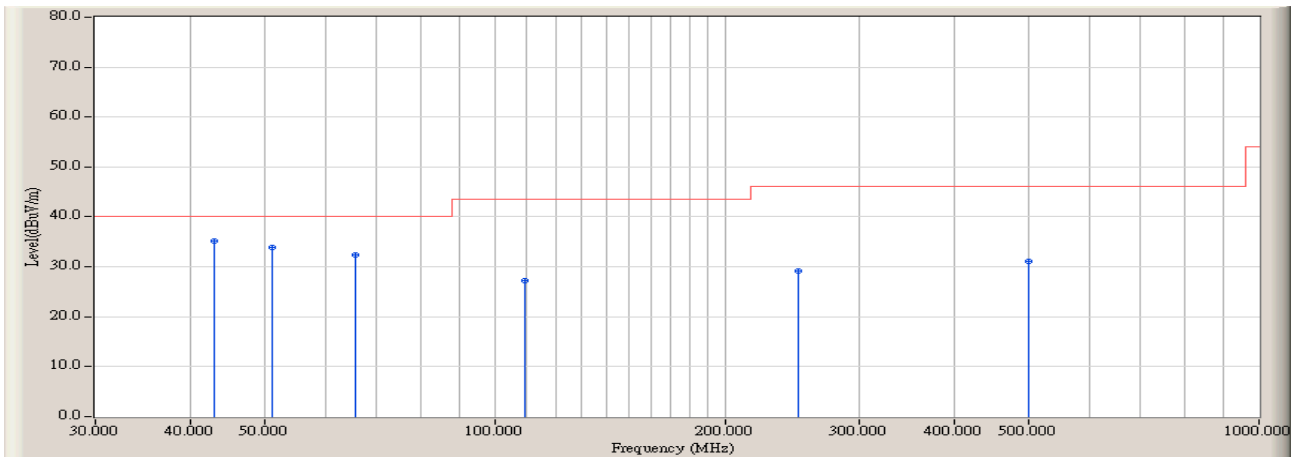


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		44.550	-8.445	34.627	26.182	-13.818	40.000	QUASPEAK
2		94.667	-14.731	43.858	29.127	-14.393	43.520	QUASPEAK
3		110.833	-13.100	42.969	29.869	-13.651	43.520	QUASPEAK
4		249.867	-11.089	43.079	31.990	-14.030	46.020	QUASPEAK
5		374.350	-8.090	39.801	31.711	-14.309	46.020	QUASPEAK
6	*	500.450	-5.504	38.775	33.271	-12.749	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:14
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

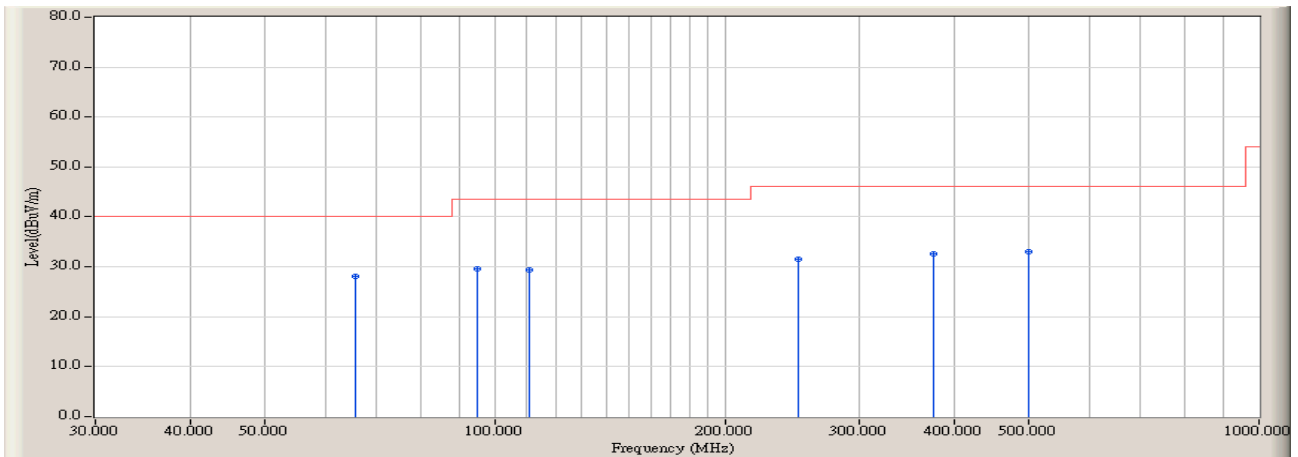


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	42.933	-7.677	42.826	35.149	-4.851	40.000	QUASPEAK
2		51.017	-11.575	45.374	33.799	-6.201	40.000	QUASPEAK
3		65.567	-16.689	49.032	32.342	-7.658	40.000	QUASPEAK
4		109.217	-13.240	40.464	27.224	-16.296	43.520	QUASPEAK
5		249.867	-11.089	40.158	29.069	-16.951	46.020	QUASPEAK
6		500.450	-5.504	36.571	31.067	-14.953	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:16
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)

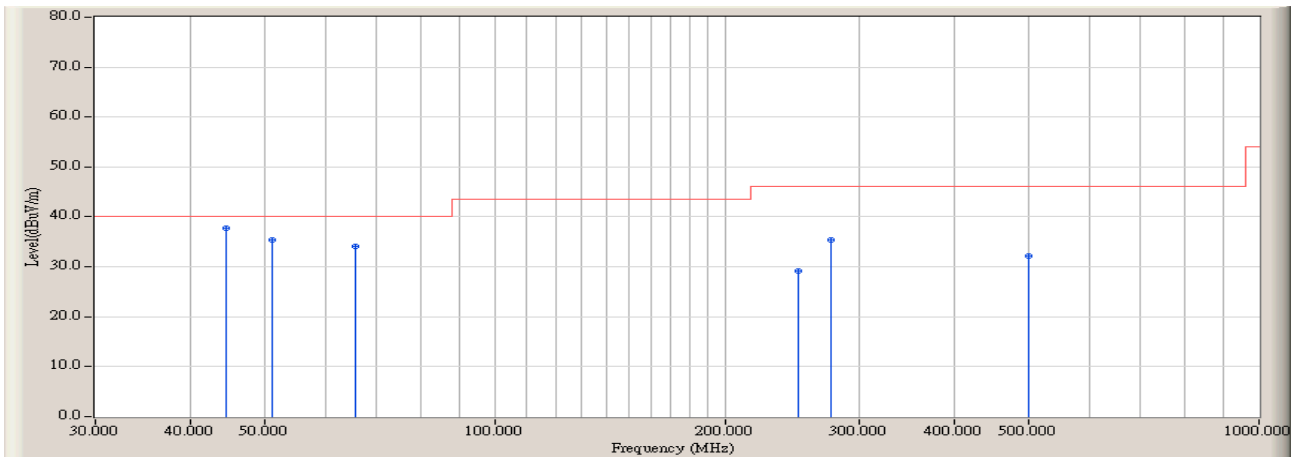


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	65.567	-16.689	44.854	28.164	-11.836	40.000	QUASIPeAK
2		94.667	-14.731	44.309	29.578	-13.942	43.520	QUASIPeAK
3		110.833	-13.100	42.530	29.430	-14.090	43.520	QUASIPeAK
4		249.867	-11.089	42.694	31.605	-14.415	46.020	QUASIPeAK
5		374.350	-8.090	40.715	32.625	-13.395	46.020	QUASIPeAK
6		500.450	-5.504	38.568	33.064	-12.956	46.020	QUASIPeAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:17
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)

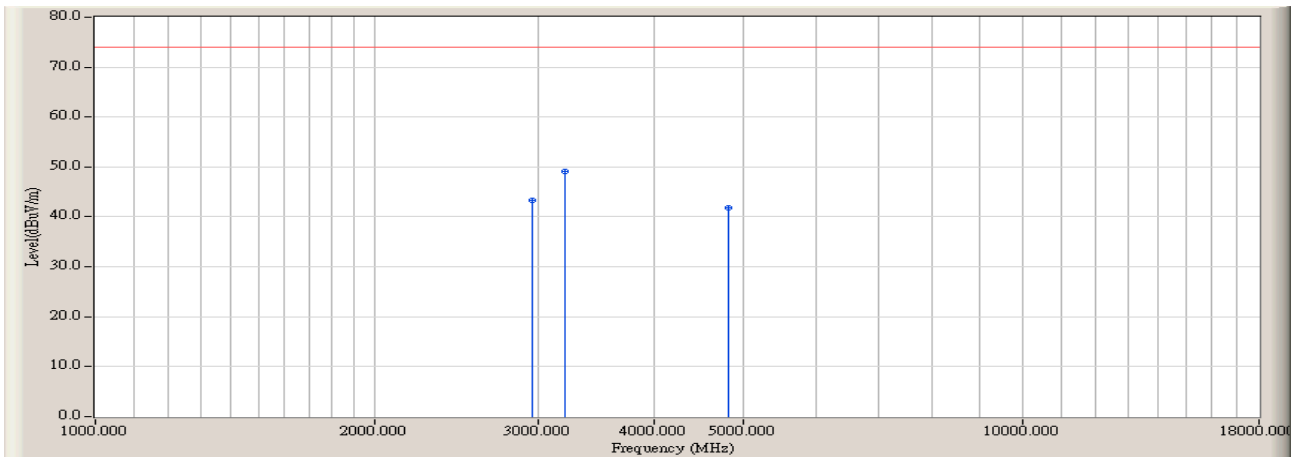


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	46.140	37.695	-2.305	40.000	QUASIPeAK
2		51.017	-11.575	47.037	35.462	-4.538	40.000	QUASIPeAK
3		65.567	-16.689	50.698	34.008	-5.992	40.000	QUASIPeAK
4		249.867	-11.089	40.207	29.118	-16.902	46.020	QUASIPeAK
5		275.733	-10.854	46.262	35.408	-10.612	46.020	QUASIPeAK
6		500.450	-5.504	37.640	32.136	-13.884	46.020	QUASIPeAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:44
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)

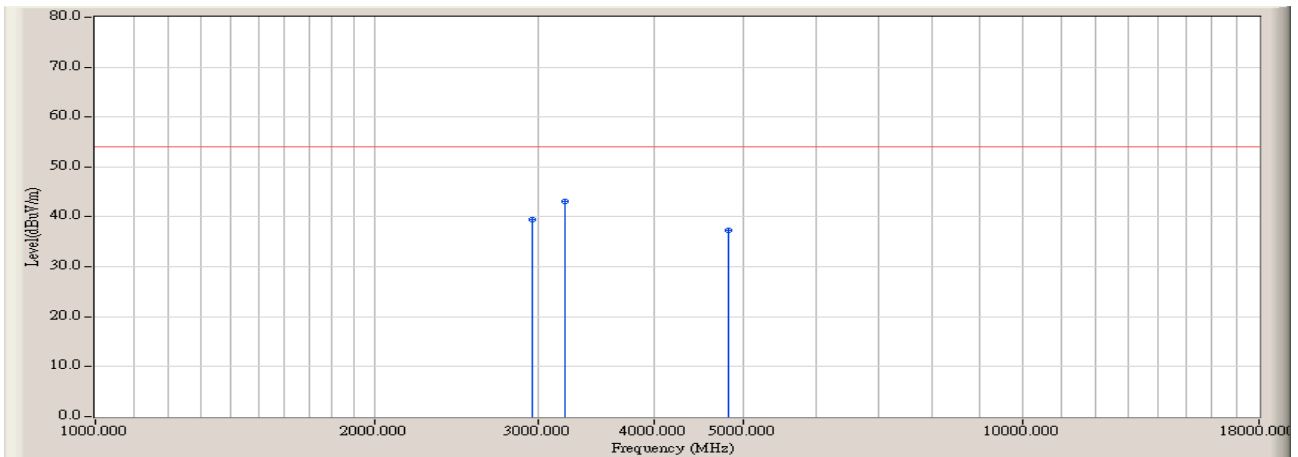


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	43.892	43.232	-30.738	73.970	PEAK
2	*	3210.000	-0.190	49.321	49.131	-24.839	73.970	PEAK
3		4825.000	4.900	36.828	41.728	-32.242	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:44
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)



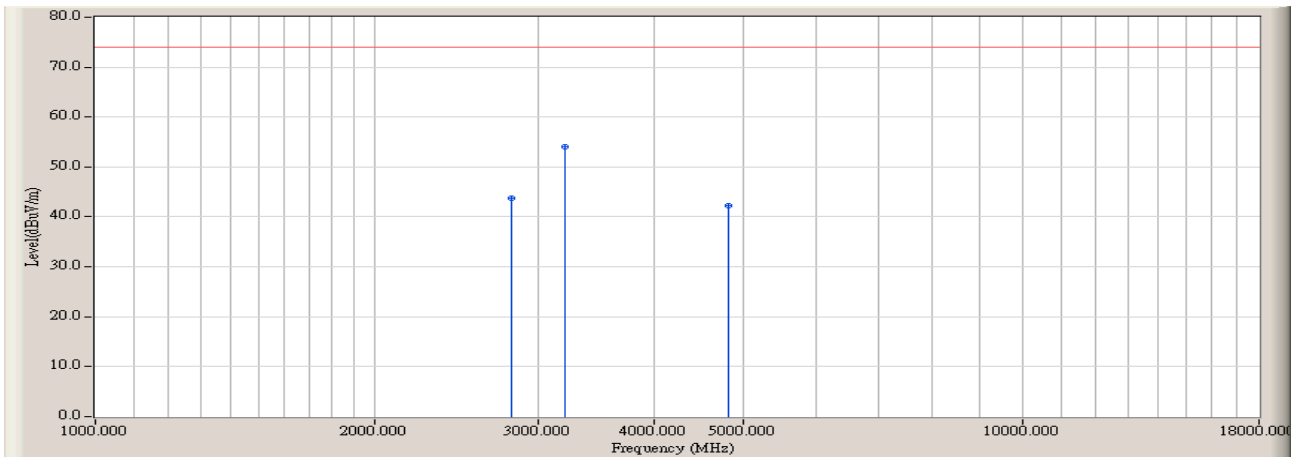
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	40.100	39.440	-14.530	53.970	AVERAGE
2	*	3210.000	-0.190	43.200	43.010	-10.960	53.970	AVERAGE
3		4825.000	4.900	32.400	37.300	-16.670	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:45
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)

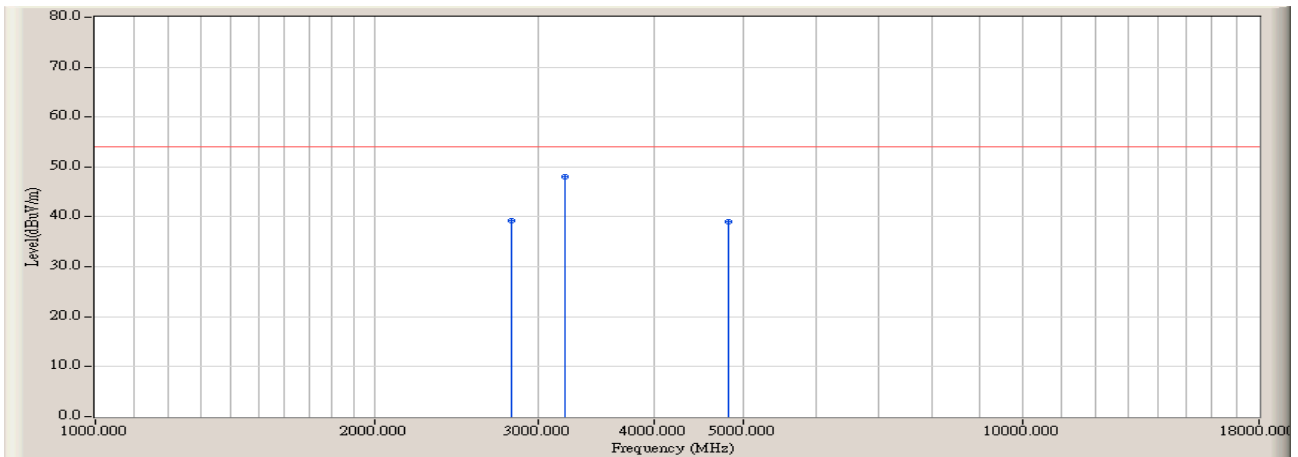


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2813.333	-1.001	44.841	43.841	-30.129	73.970	PEAK
2	*	3210.000	-0.190	54.305	54.115	-19.855	73.970	PEAK
3		4825.000	4.900	37.435	42.335	-31.635	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:45
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2412MHz)

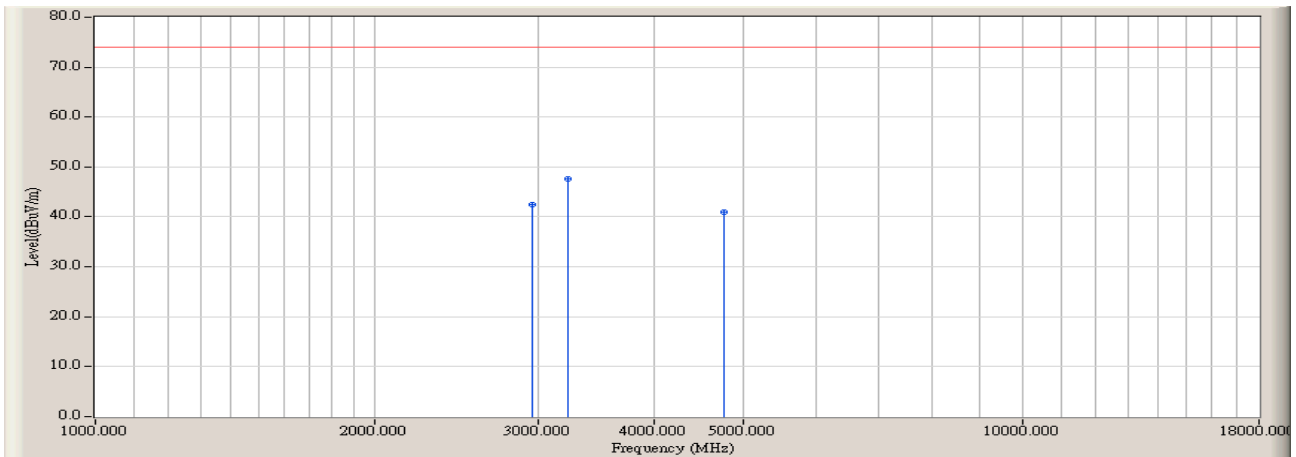


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2813.333	-1.001	40.300	39.300	-14.670	53.970	AVERAGE
2	*	3210.000	-0.190	48.200	48.010	-5.960	53.970	AVERAGE
3		4825.000	4.900	34.100	39.000	-14.970	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

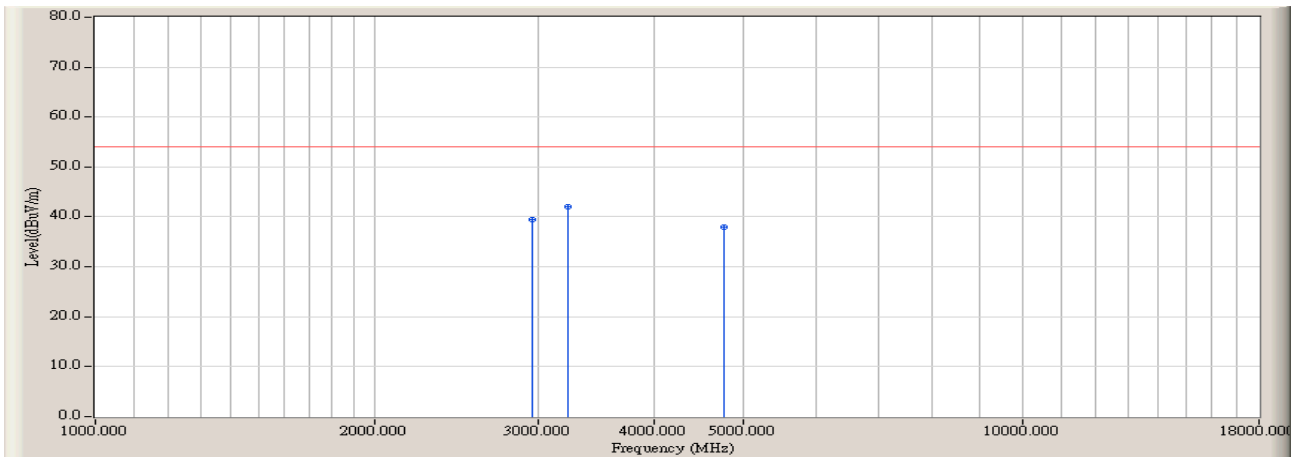


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	43.161	42.501	-31.469	73.970	PEAK
2	*	3238.333	-0.251	47.804	47.554	-26.416	73.970	PEAK
3		4768.333	4.743	36.116	40.859	-33.111	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:49
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

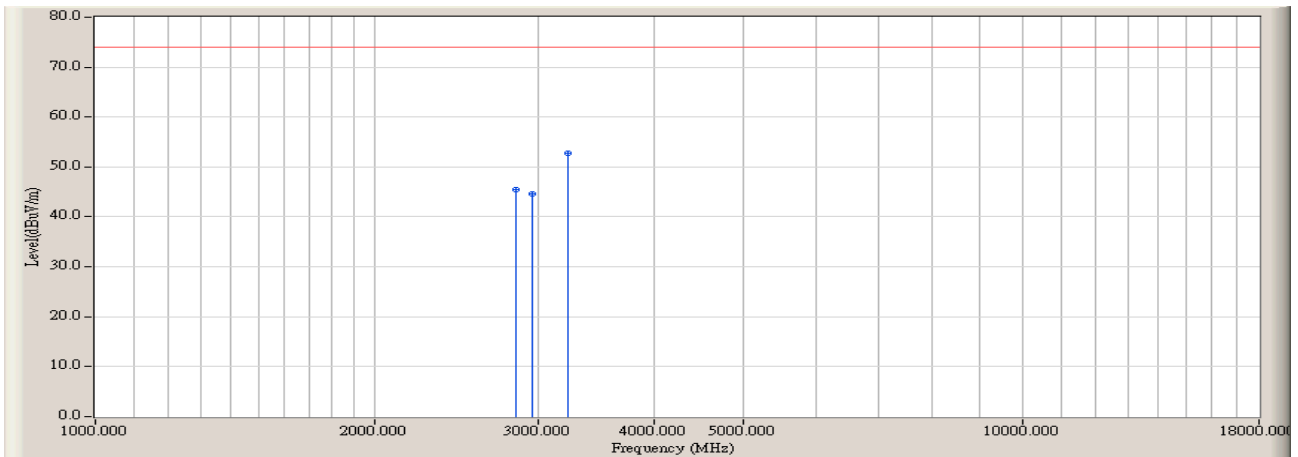


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	40.100	39.440	-14.530	53.970	AVERAGE
2	*	3238.333	-0.251	42.300	42.050	-11.920	53.970	AVERAGE
3		4768.333	4.743	33.300	38.043	-15.927	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:50
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

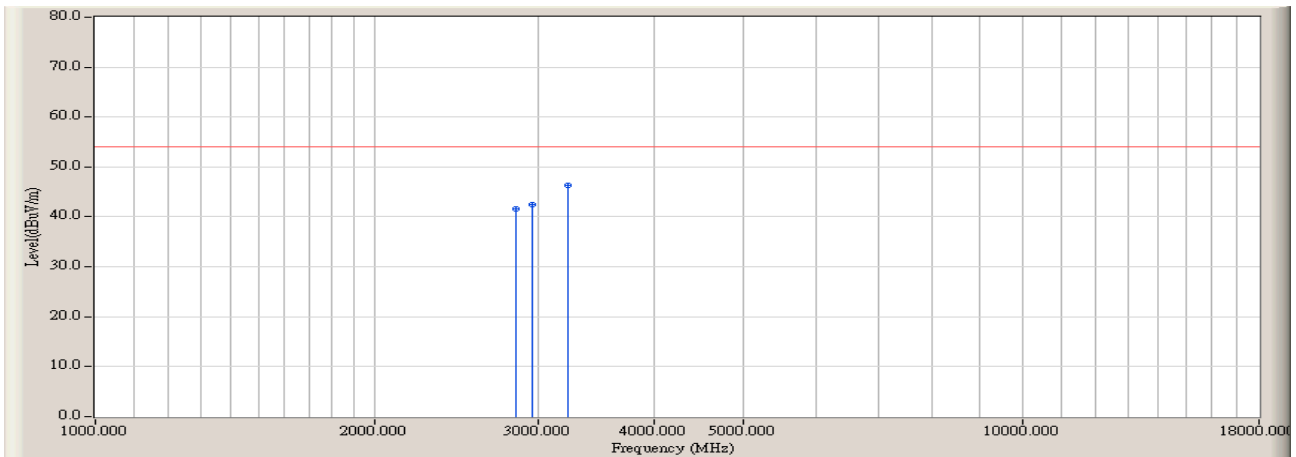


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	46.358	45.418	-28.552	73.970	PEAK
2		2955.000	-0.660	45.239	44.579	-29.391	73.970	PEAK
3	*	3238.333	-0.251	53.018	52.768	-21.202	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:50
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2437MHz)

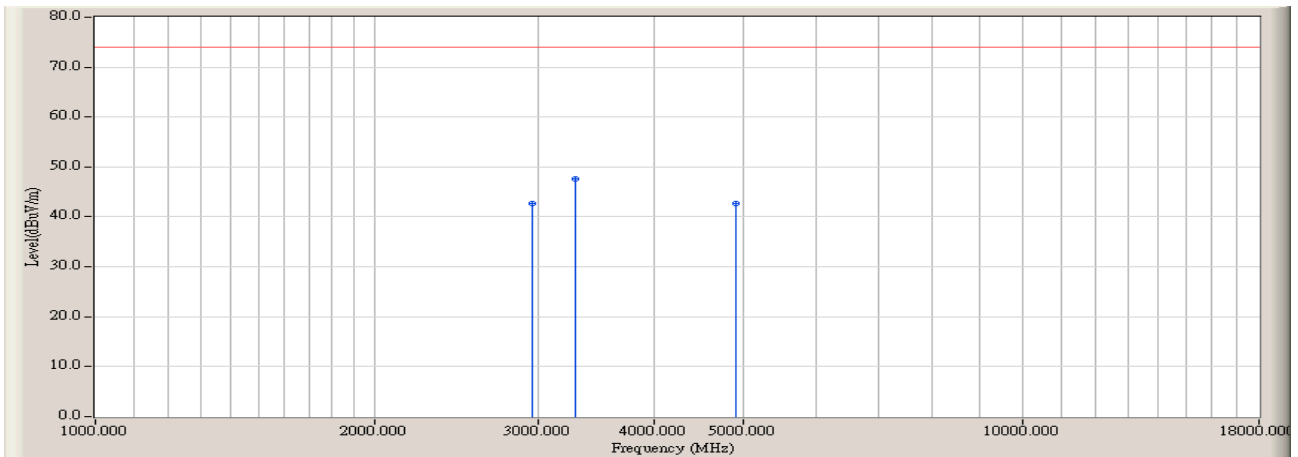


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	42.500	41.560	-12.410	53.970	AVERAGE
2		2955.000	-0.660	43.200	42.540	-11.430	53.970	AVERAGE
3	*	3238.333	-0.251	46.500	46.250	-7.720	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)

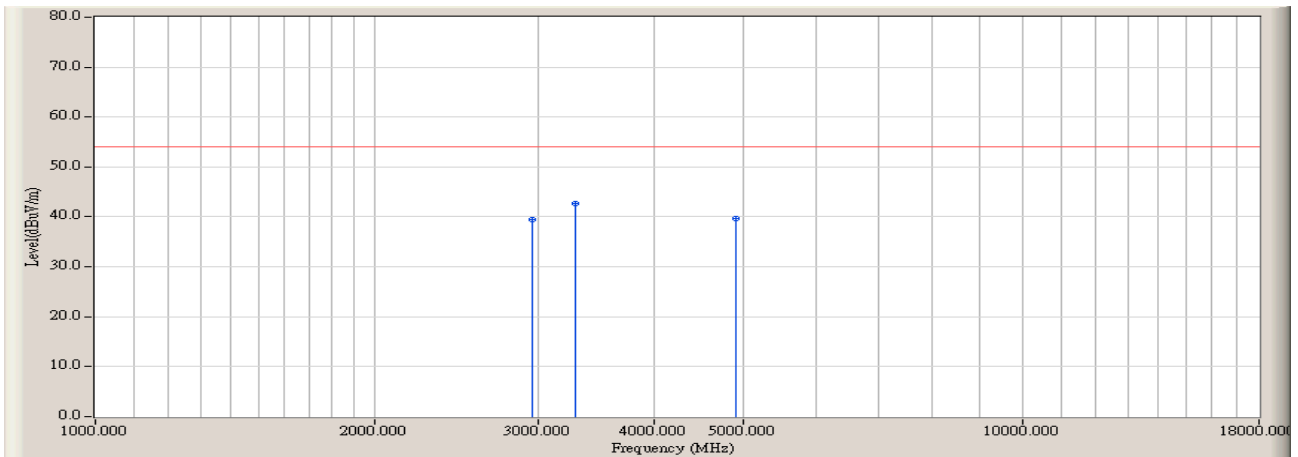


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	43.274	42.614	-31.356	73.970	PEAK
2	*	3295.000	-0.360	47.914	47.554	-26.416	73.970	PEAK
3		4910.000	5.100	37.643	42.743	-31.227	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:53
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)



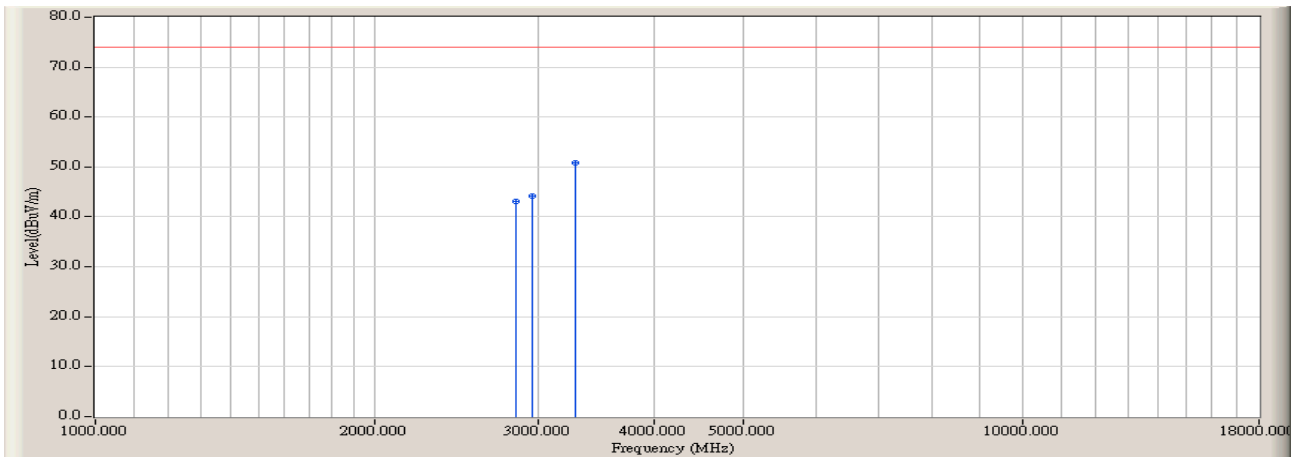
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	40.100	39.440	-14.530	53.970	AVERAGE
2	*	3295.000	-0.360	43.100	42.740	-11.230	53.970	AVERAGE
3		4910.000	5.100	34.600	39.700	-14.270	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:54
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)

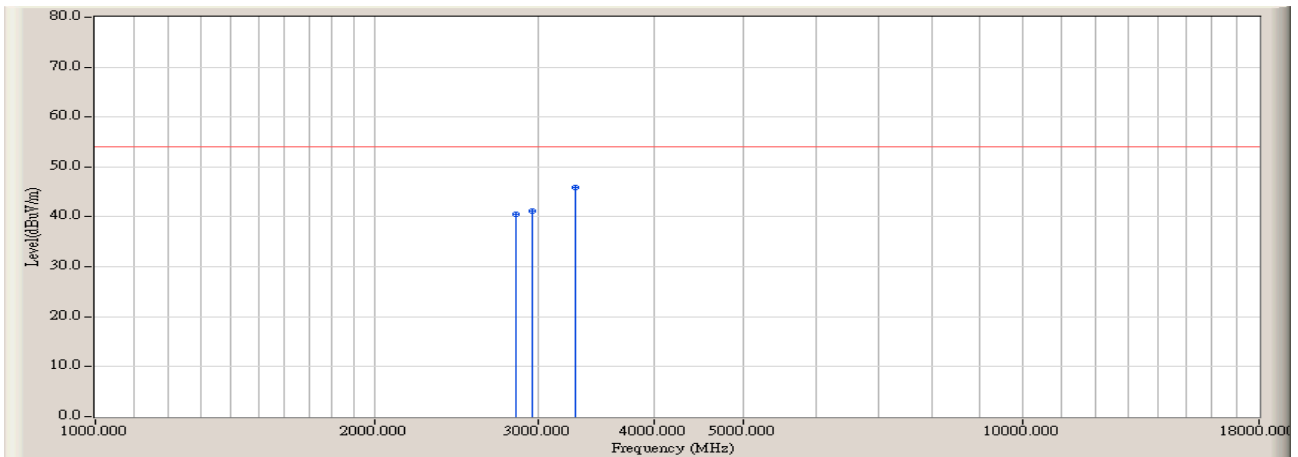


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	44.051	43.111	-30.859	73.970	PEAK
2		2955.000	-0.660	44.888	44.228	-29.742	73.970	PEAK
3	*	3295.000	-0.360	51.234	50.874	-23.096	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:54
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (Channel 2462MHz)

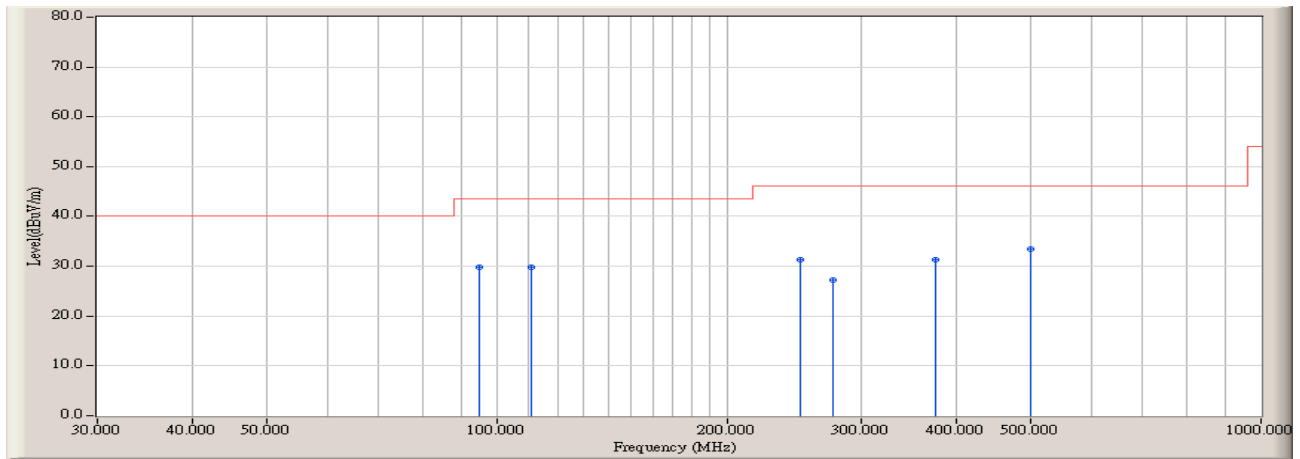


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	41.500	40.560	-13.410	53.970	AVERAGE
2		2955.000	-0.660	41.800	41.140	-12.830	53.970	AVERAGE
3	*	3295.000	-0.360	46.300	45.940	-8.030	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:20
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

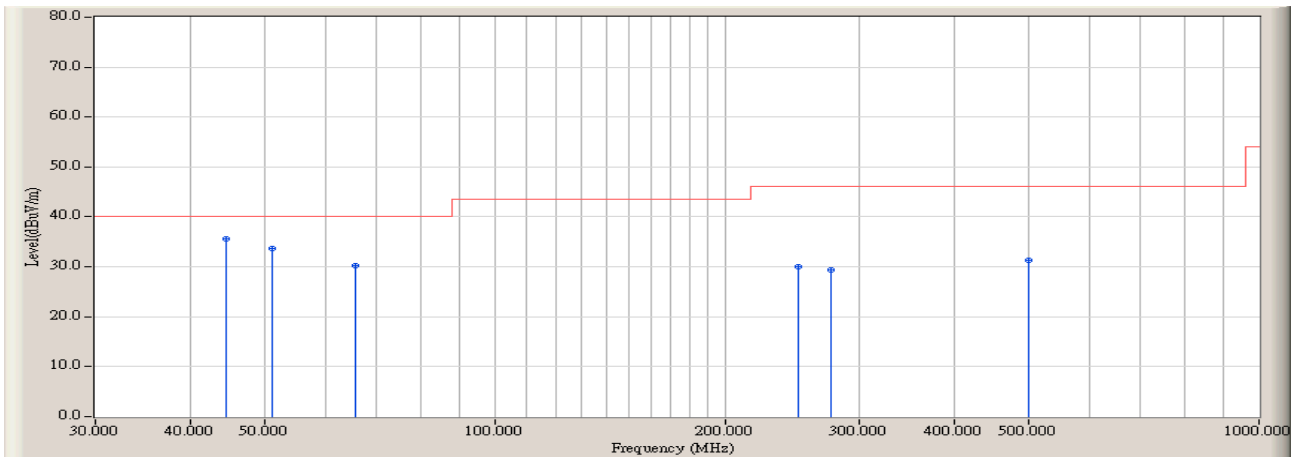


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		94.667	-14.731	44.587	29.856	-13.664	43.520	QUASIPeAK
2		110.833	-13.100	42.830	29.730	-13.790	43.520	QUASIPeAK
3		249.867	-11.089	42.357	31.268	-14.752	46.020	QUASIPeAK
4		275.733	-10.854	38.045	27.191	-18.829	46.020	QUASIPeAK
5		374.350	-8.090	39.324	31.234	-14.786	46.020	QUASIPeAK
6	*	500.450	-5.504	38.881	33.377	-12.643	46.020	QUASIPeAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:21
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

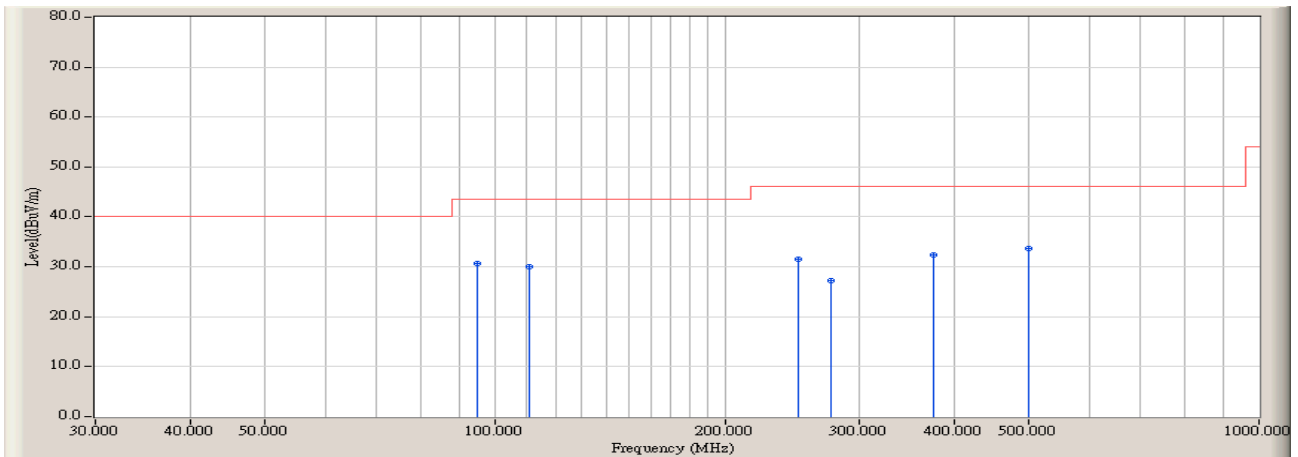


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	44.142	35.697	-4.303	40.000	QUASPEAK
2		51.017	-11.575	45.162	33.587	-6.413	40.000	QUASPEAK
3		65.567	-16.689	46.873	30.183	-9.817	40.000	QUASPEAK
4		249.867	-11.089	41.216	30.127	-15.893	46.020	QUASPEAK
5		275.733	-10.854	40.175	29.321	-16.699	46.020	QUASPEAK
6		500.450	-5.504	36.878	31.374	-14.646	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:23
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)

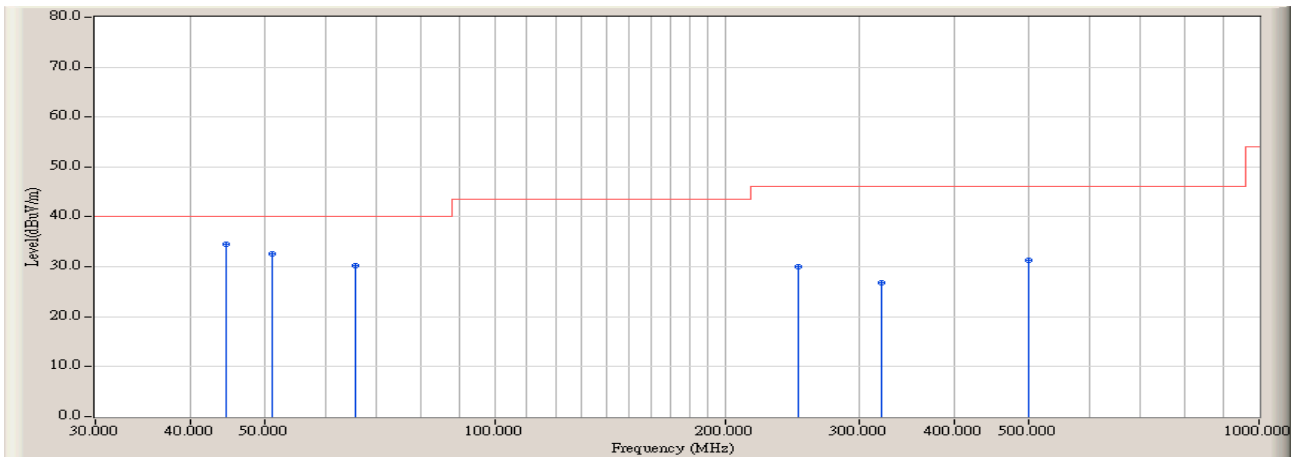


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		94.667	-14.731	45.427	30.696	-12.824	43.520	QUASPEAK
2		110.833	-13.100	43.154	30.054	-13.466	43.520	QUASPEAK
3		249.867	-11.089	42.666	31.577	-14.443	46.020	QUASPEAK
4		275.733	-10.854	38.156	27.302	-18.718	46.020	QUASPEAK
5		374.350	-8.090	40.443	32.353	-13.667	46.020	QUASPEAK
6	*	500.450	-5.504	39.086	33.582	-12.438	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:24
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)

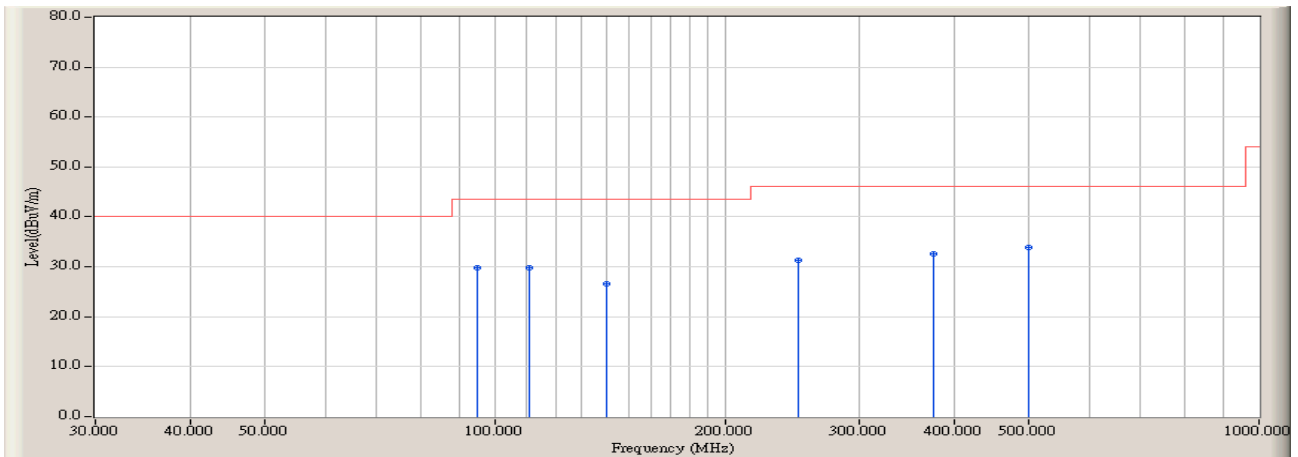


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	42.928	34.483	-5.517	40.000	QUASIPeAK
2		51.017	-11.575	44.172	32.597	-7.403	40.000	QUASIPeAK
3		65.567	-16.689	46.936	30.246	-9.754	40.000	QUASIPeAK
4		249.867	-11.089	41.148	30.059	-15.961	46.020	QUASIPeAK
5		321.000	-9.287	36.092	26.805	-19.215	46.020	QUASIPeAK
6		500.450	-5.504	36.836	31.332	-14.688	46.020	QUASIPeAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:25
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)

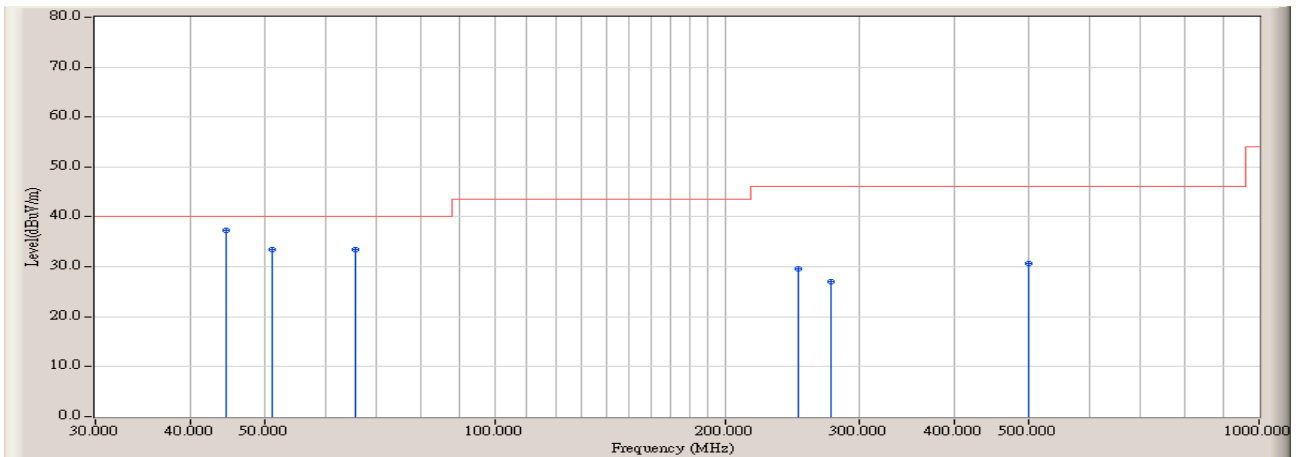


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		94.667	-14.731	44.649	29.918	-13.602	43.520	QUASPEAK
2		110.833	-13.100	42.806	29.706	-13.814	43.520	QUASPEAK
3		139.933	-11.780	38.472	26.692	-16.828	43.520	QUASPEAK
4		249.867	-11.089	42.459	31.370	-14.650	46.020	QUASPEAK
5		374.350	-8.090	40.684	32.594	-13.426	46.020	QUASPEAK
6	*	500.450	-5.504	39.290	33.786	-12.234	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 16:26
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : 54M Wireless Router	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)



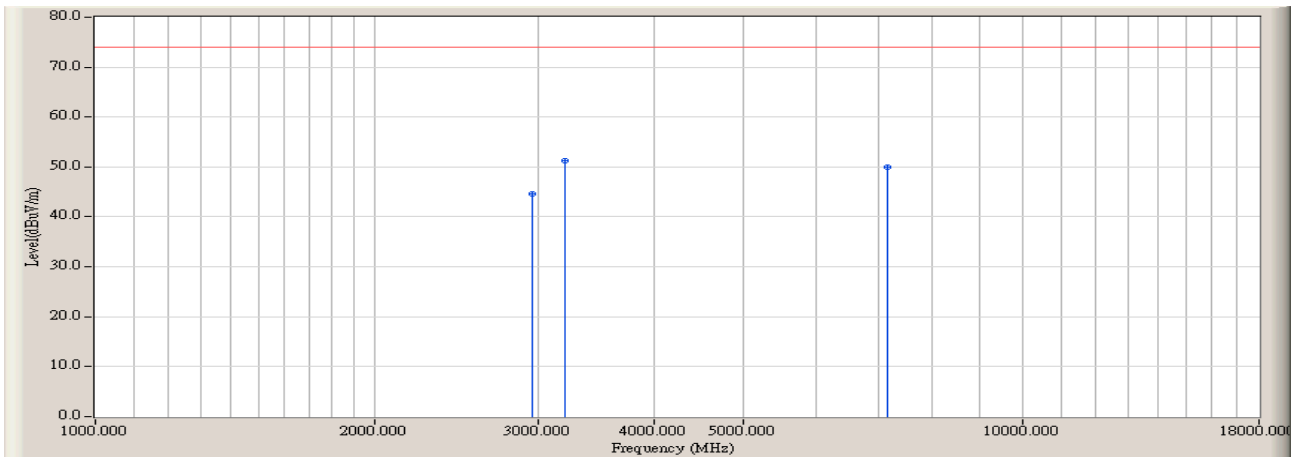
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	44.550	-8.445	45.817	37.372	-2.628	40.000	QUASPEAK
2		51.017	-11.575	45.038	33.463	-6.537	40.000	QUASPEAK
3		65.567	-16.689	50.213	33.523	-6.477	40.000	QUASPEAK
4		249.867	-11.089	40.753	29.664	-16.356	46.020	QUASPEAK
5		275.733	-10.854	37.786	26.932	-19.088	46.020	QUASPEAK
6		500.450	-5.504	36.233	30.729	-15.291	46.020	QUASPEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:58
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

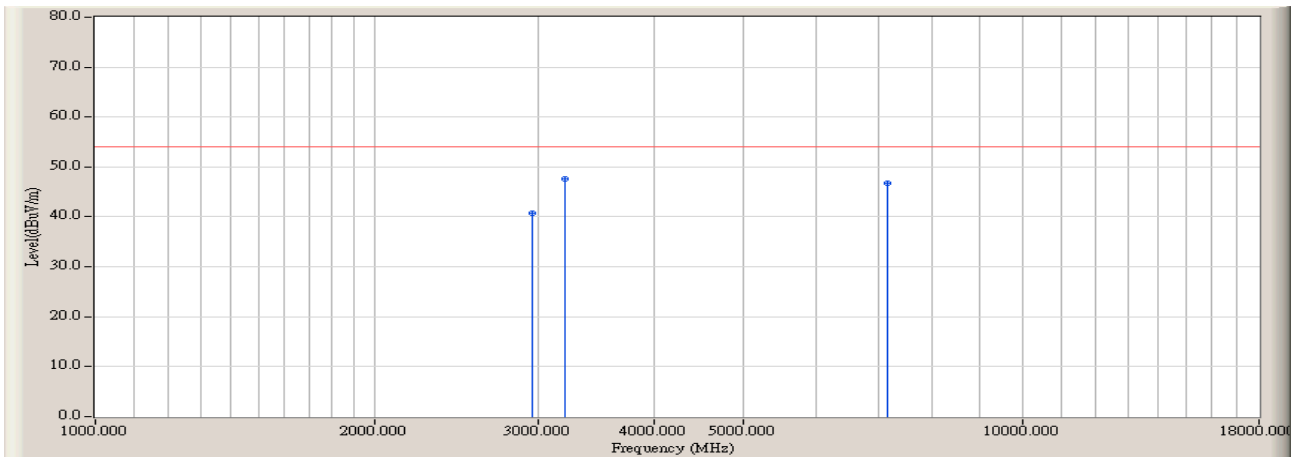


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	45.358	44.698	-29.272	73.970	PEAK
2	*	3210.000	-0.190	51.364	51.174	-22.796	73.970	PEAK
3		7148.333	15.236	34.651	49.888	-24.082	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:58
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

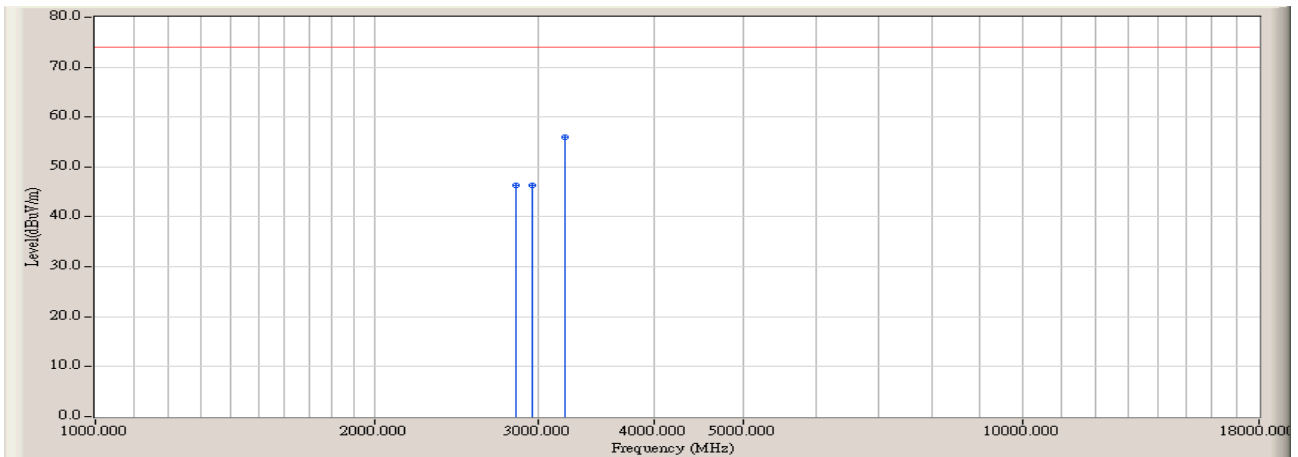


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2955.000	-0.660	41.500	40.840	-13.130	53.970	AVERAGE
2	*	3210.000	-0.190	47.800	47.610	-6.360	53.970	AVERAGE
3		7148.333	15.236	31.600	46.837	-7.133	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:59
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

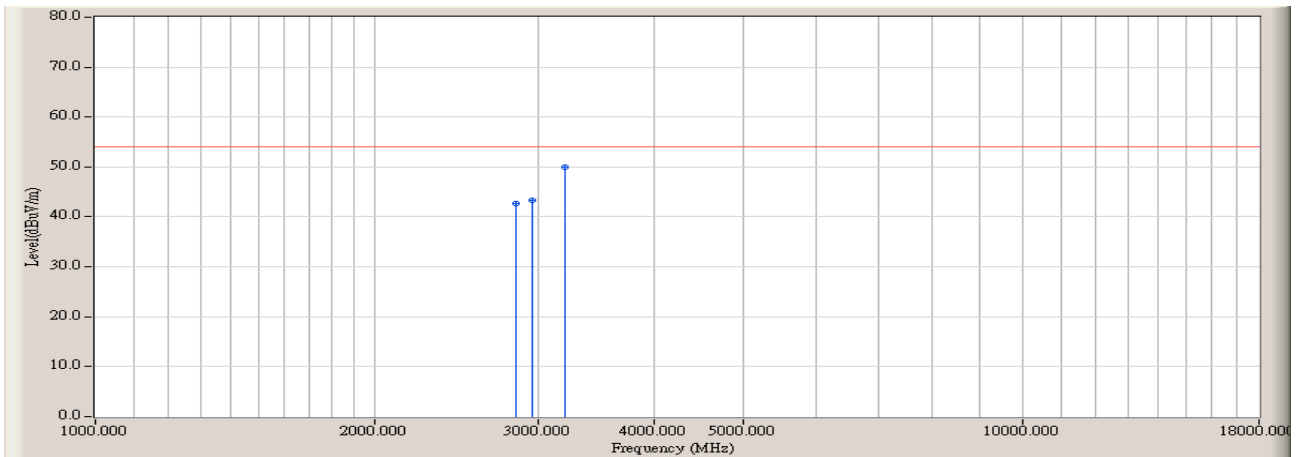


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	47.190	46.250	-27.720	73.970	PEAK
2		2955.000	-0.660	47.054	46.394	-27.576	73.970	PEAK
3	*	3210.000	-0.190	56.160	55.970	-18.000	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 10:59
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2412MHz)

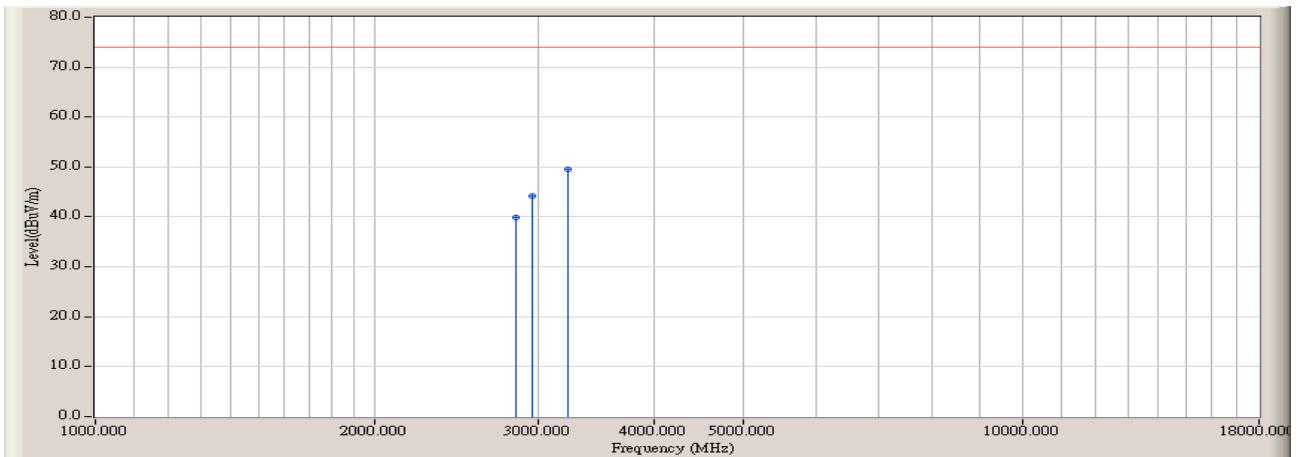


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	43.600	42.660	-11.310	53.970	AVERAGE
2		2955.000	-0.660	43.900	43.240	-10.730	53.970	AVERAGE
3	*	3210.000	-0.190	50.200	50.010	-3.960	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:06
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)

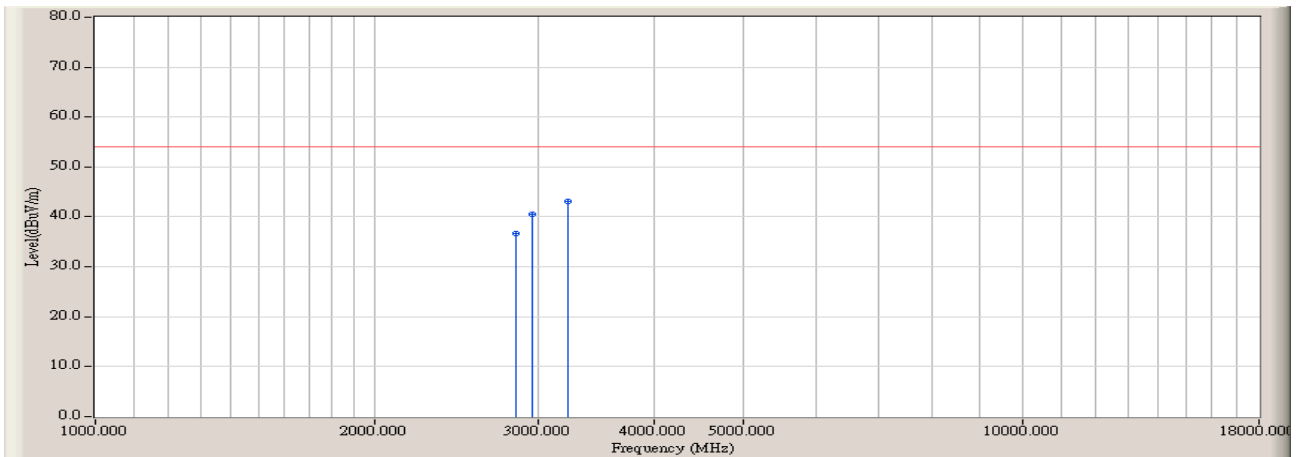


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	40.829	39.889	-34.081	73.970	PEAK
2		2955.000	-0.660	44.941	44.281	-29.689	73.970	PEAK
3	*	3238.333	-0.251	49.800	49.550	-24.420	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:06
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)

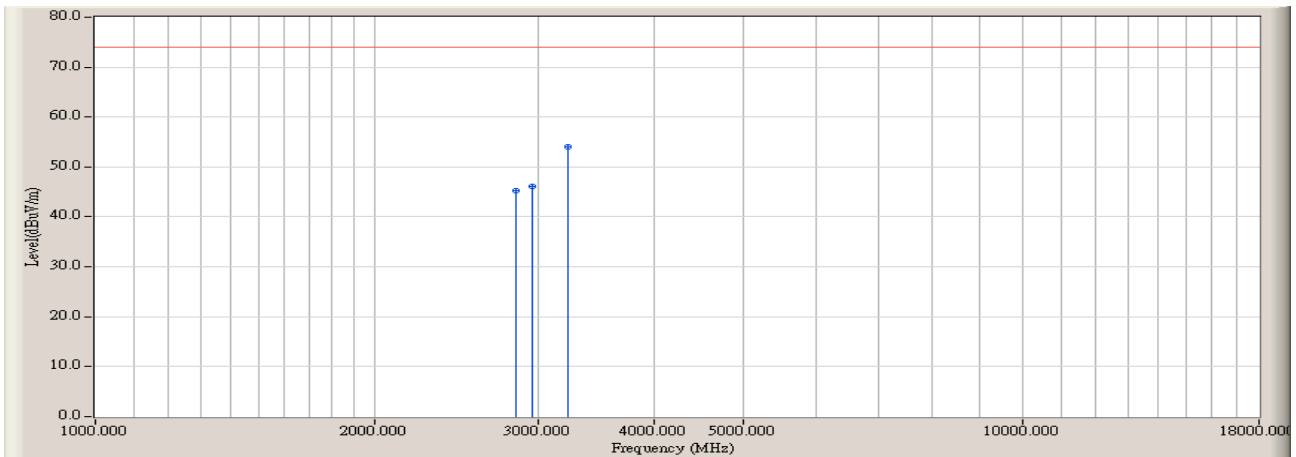


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	37.600	36.660	-17.310	53.970	AVERAGE
2		2955.000	-0.660	41.200	40.540	-13.430	53.970	AVERAGE
3	*	3238.333	-0.251	43.300	43.050	-10.920	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:08
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)

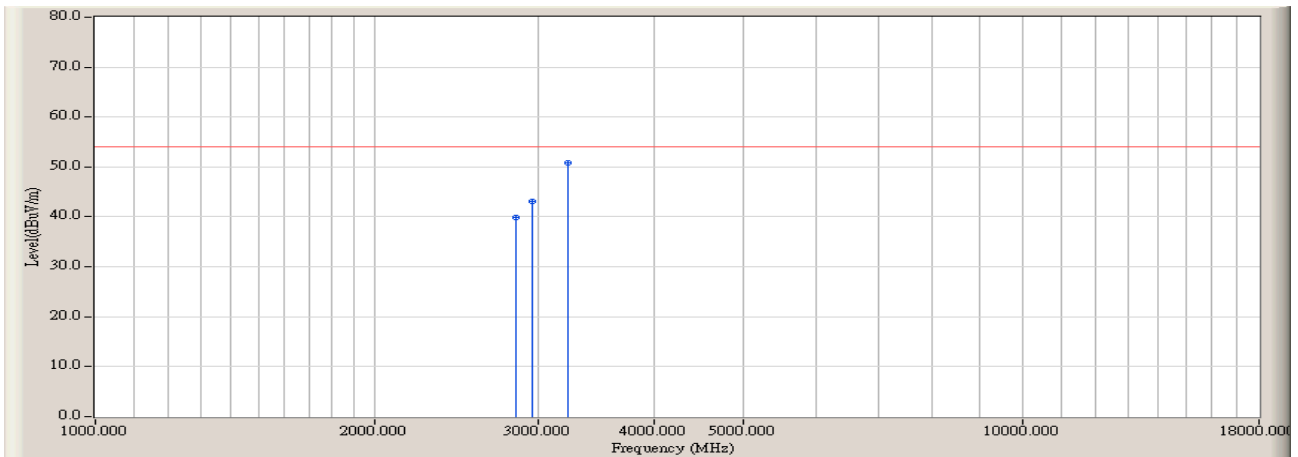


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	46.129	45.189	-28.781	73.970	PEAK
2		2955.000	-0.660	46.719	46.059	-27.911	73.970	PEAK
3	*	3238.333	-0.251	54.351	54.101	-19.869	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:08
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2437MHz)



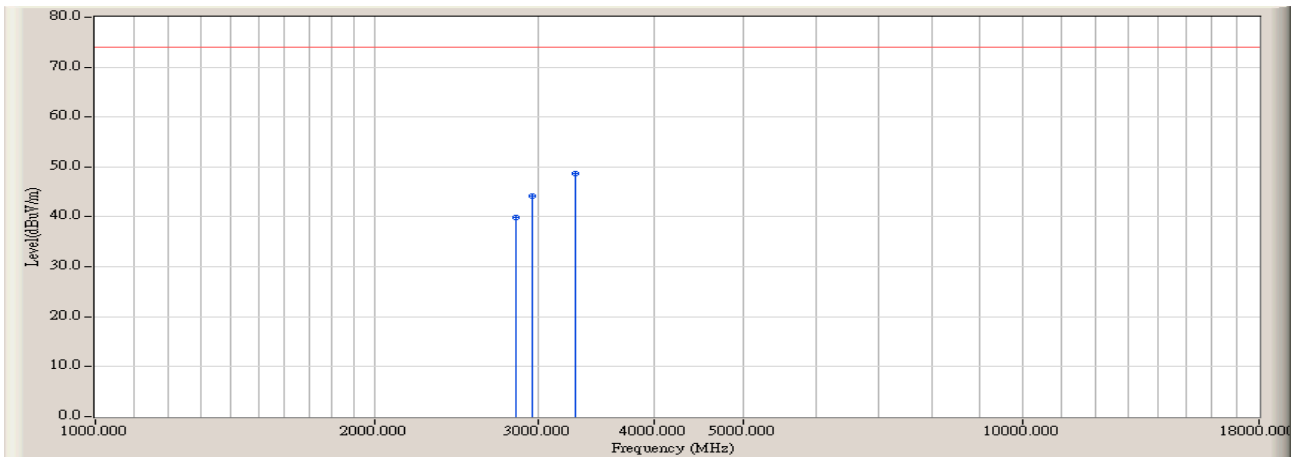
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	40.800	39.860	-14.110	53.970	AVERAGE
2		2955.000	-0.660	43.700	43.040	-10.930	53.970	AVERAGE
3	*	3238.333	-0.251	51.100	50.850	-3.120	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)

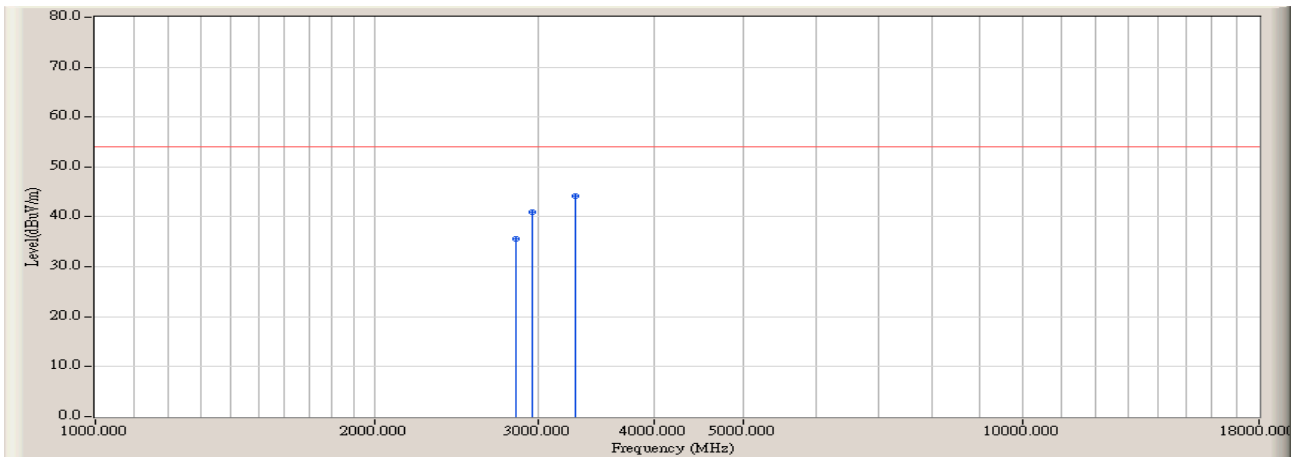


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	40.854	39.914	-34.056	73.970	PEAK
2		2955.000	-0.660	44.756	44.096	-29.874	73.970	PEAK
3	*	3295.000	-0.360	49.134	48.774	-25.196	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)

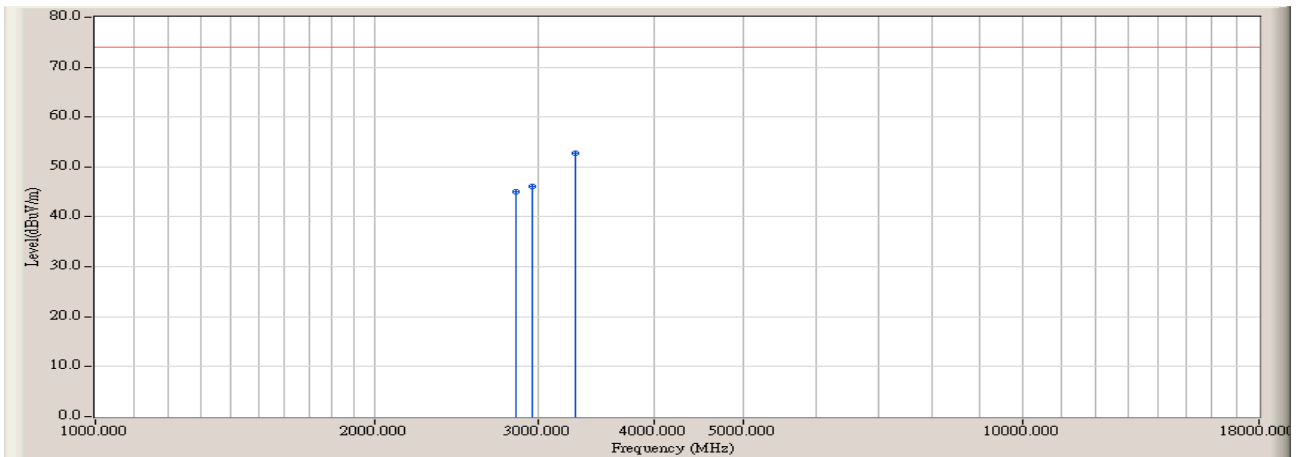


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	36.600	35.660	-18.310	53.970	AVERAGE
2		2955.000	-0.660	41.600	40.940	-13.030	53.970	AVERAGE
3	*	3295.000	-0.360	44.500	44.140	-9.830	53.970	AVERAGE

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:12
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)

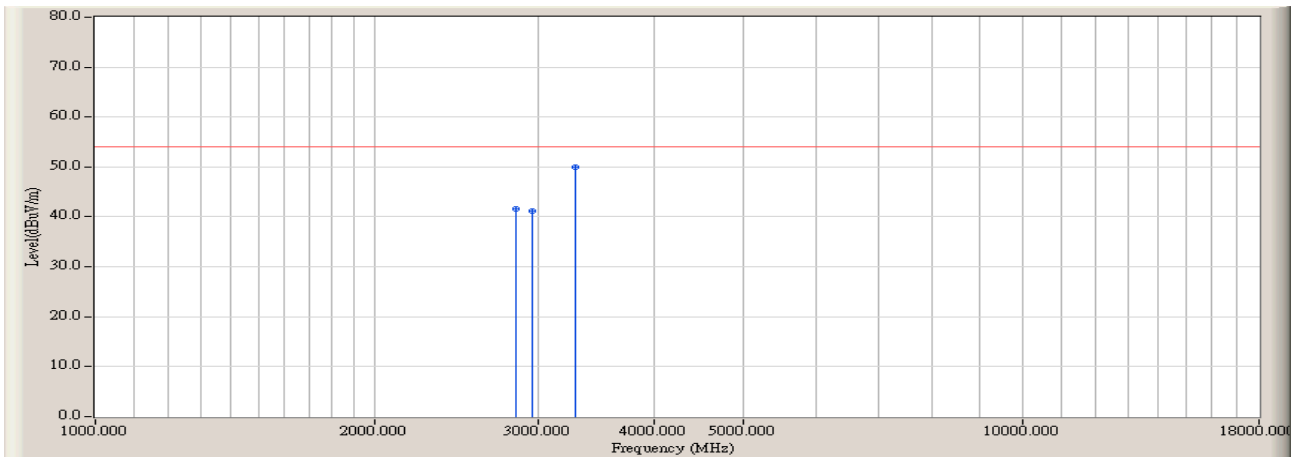


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	46.060	45.120	-28.850	73.970	PEAK
2		2955.000	-0.660	46.758	46.098	-27.872	73.970	PEAK
3	*	3295.000	-0.360	53.096	52.736	-21.234	73.970	PEAK

**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (Radiated Emission)	Time : 2007/07/17 - 11:12
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : 54M Wireless Router	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (Channel 2462MHz)

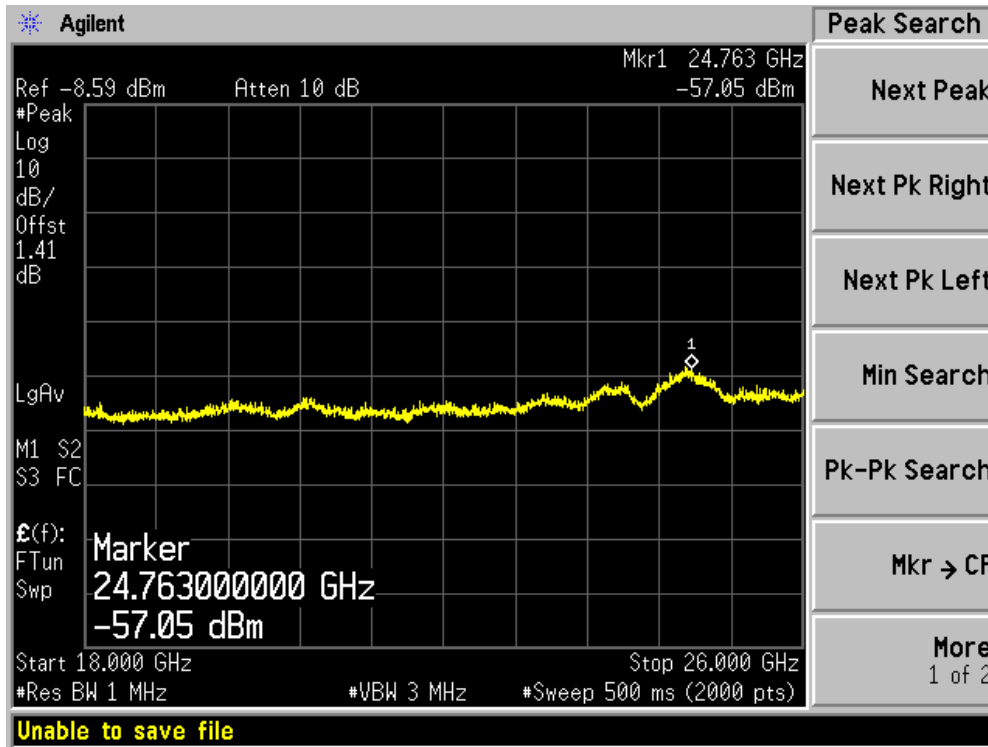


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2841.667	-0.939	42.500	41.560	-12.410	53.970	AVERAGE
2		2955.000	-0.660	41.800	41.140	-12.830	53.970	AVERAGE
3	*	3295.000	-0.360	50.400	50.040	-3.930	53.970	AVERAGE

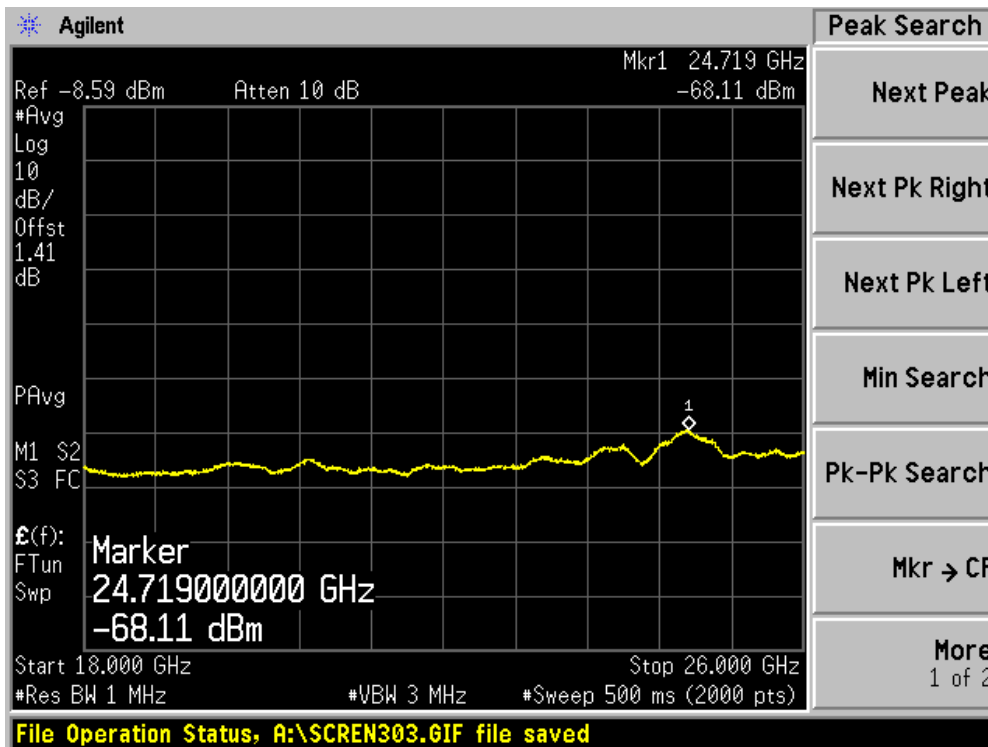
**Note:**

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

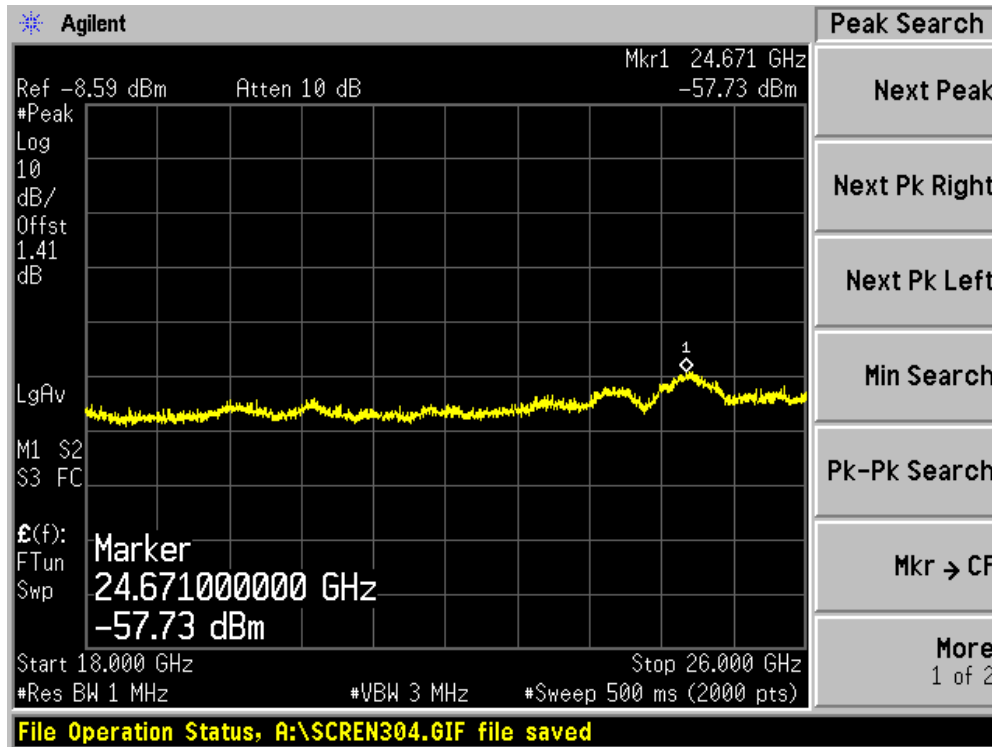
Conducted Spurious - Channel 01 (2412MHz) - 802.11b (Peak)



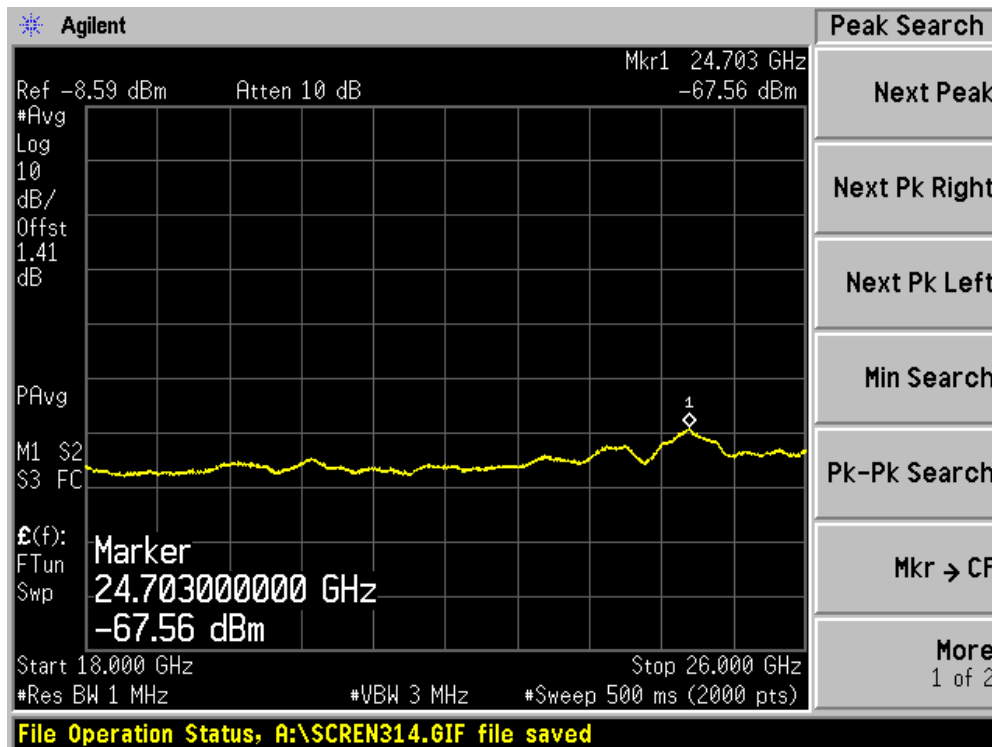
Conducted Spurious - Channel 01 (2412MHz) - 802.11b (Average)



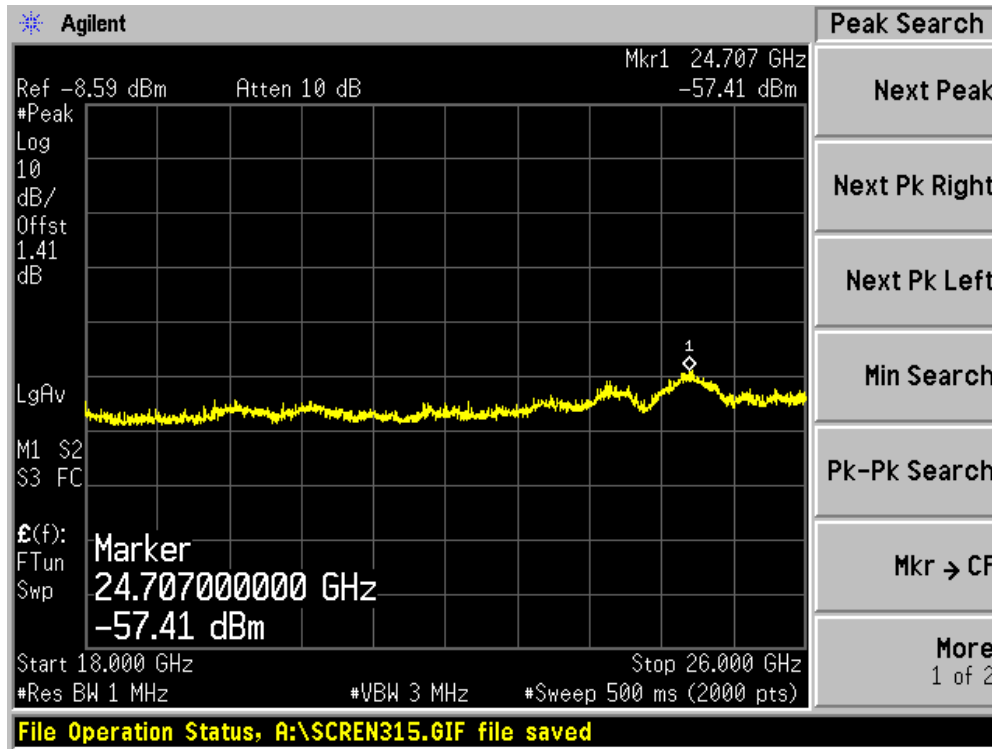
Conducted Spurious - Channel 06 (2437MHz) - 802.11b (Peak)



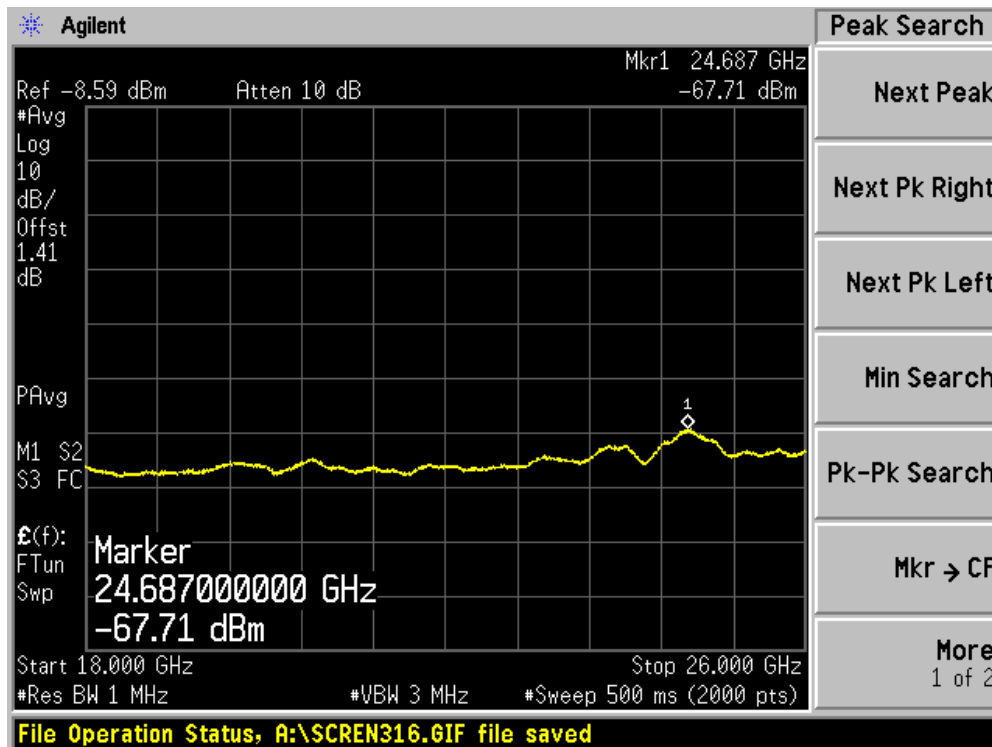
Conducted Spurious - Channel 06 (2437MHz) - 802.11b (Average)



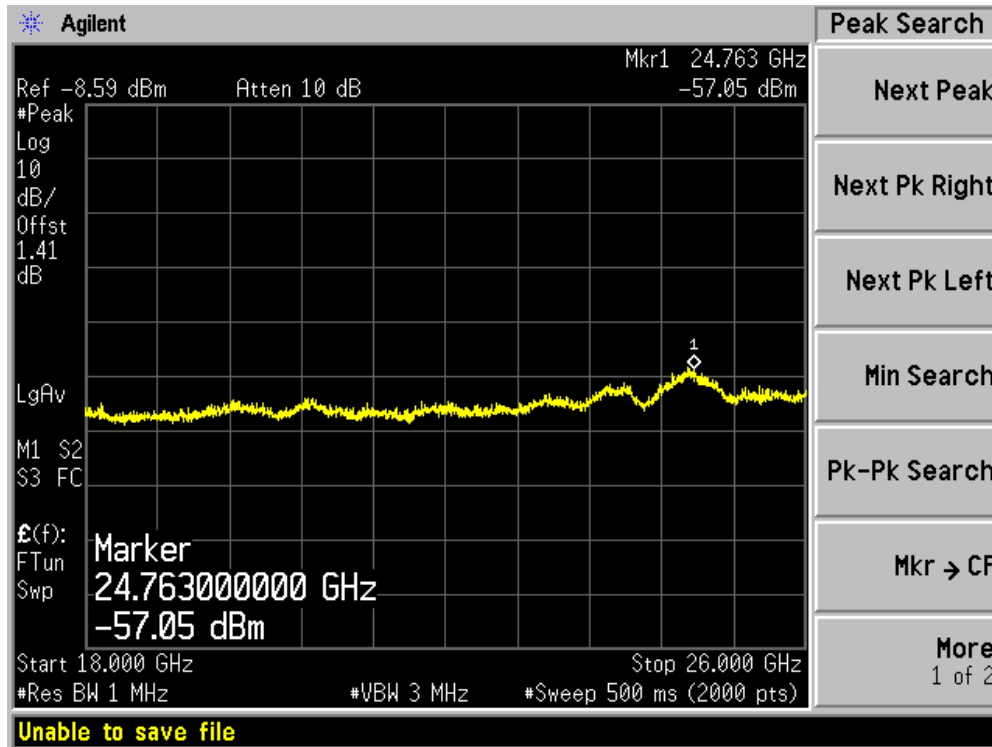
Conducted Spurious - Channel 11 (2462MHz) - 802.11b (Peak)



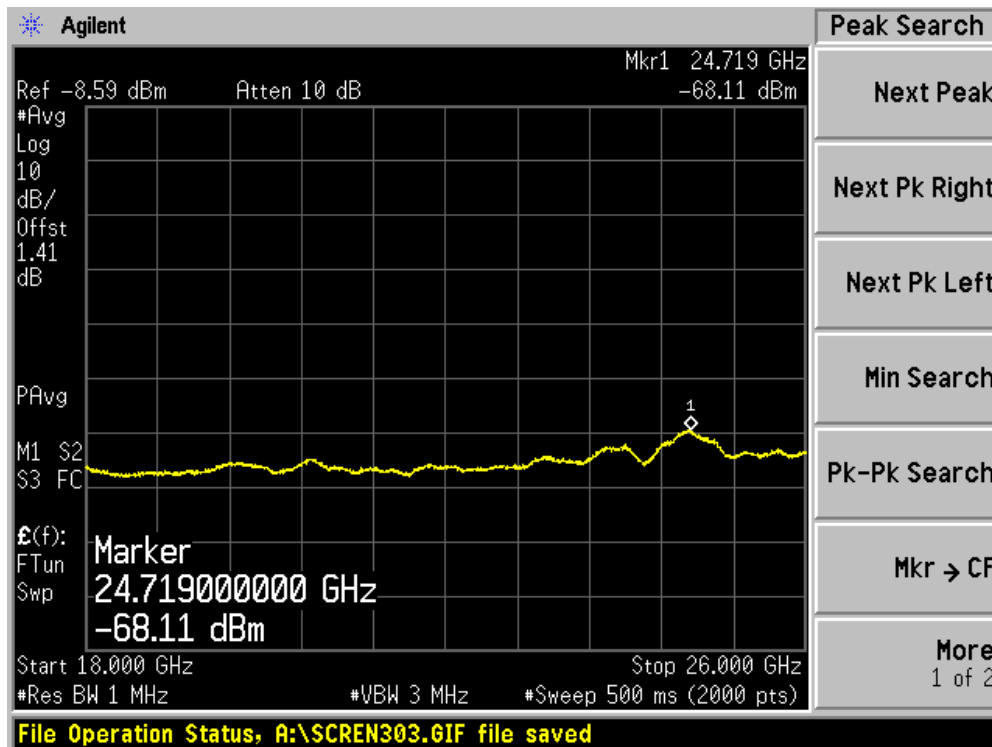
Conducted Spurious - Channel 11 (2462MHz) - 802.11b (Average)



Conducted Spurious - Channel 01 (2412MHz) - 802.11g (Peak)

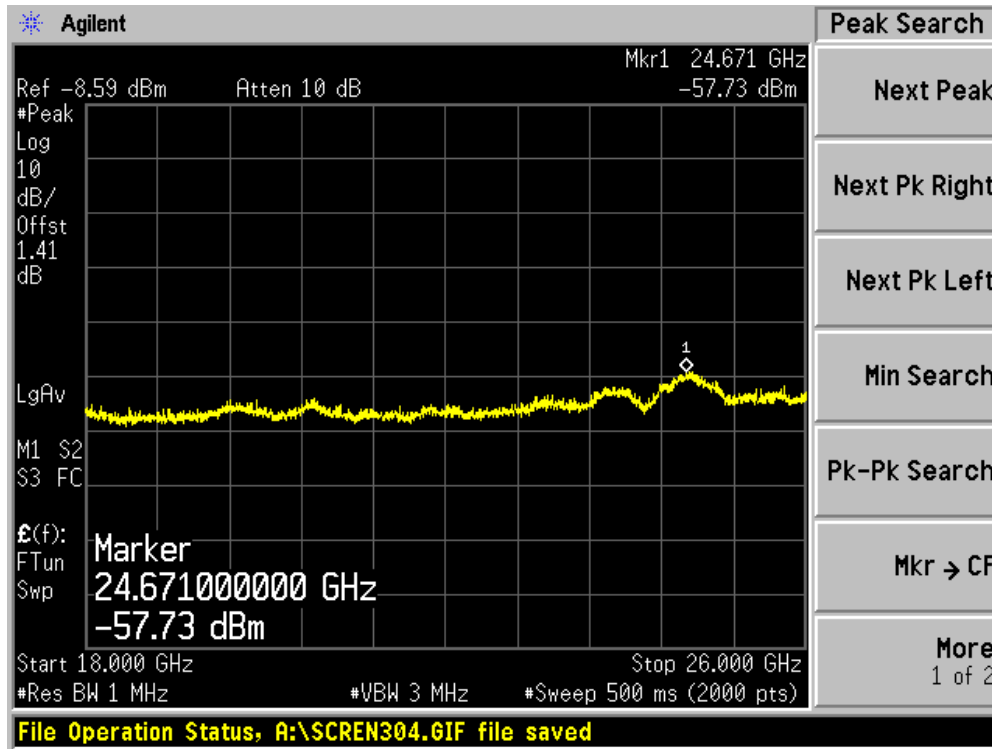


Conducted Spurious - Channel 01 (2412MHz) - 802.11g (Average)

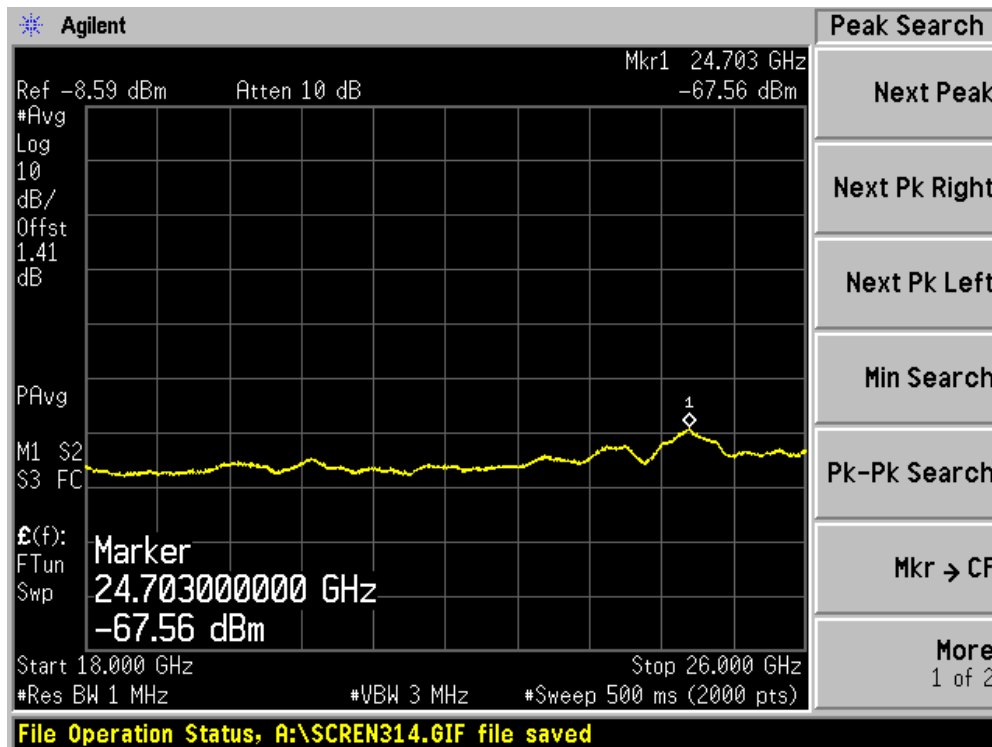




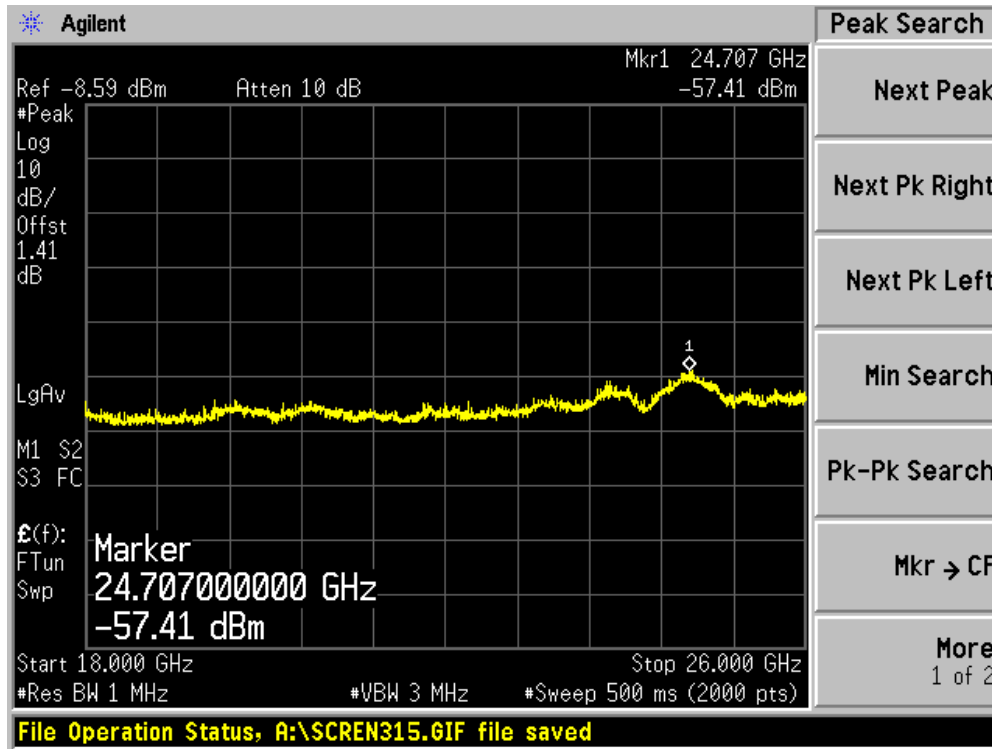
Conducted Spurious - Channel 06 (2437MHz) - 802.11g (Peak)



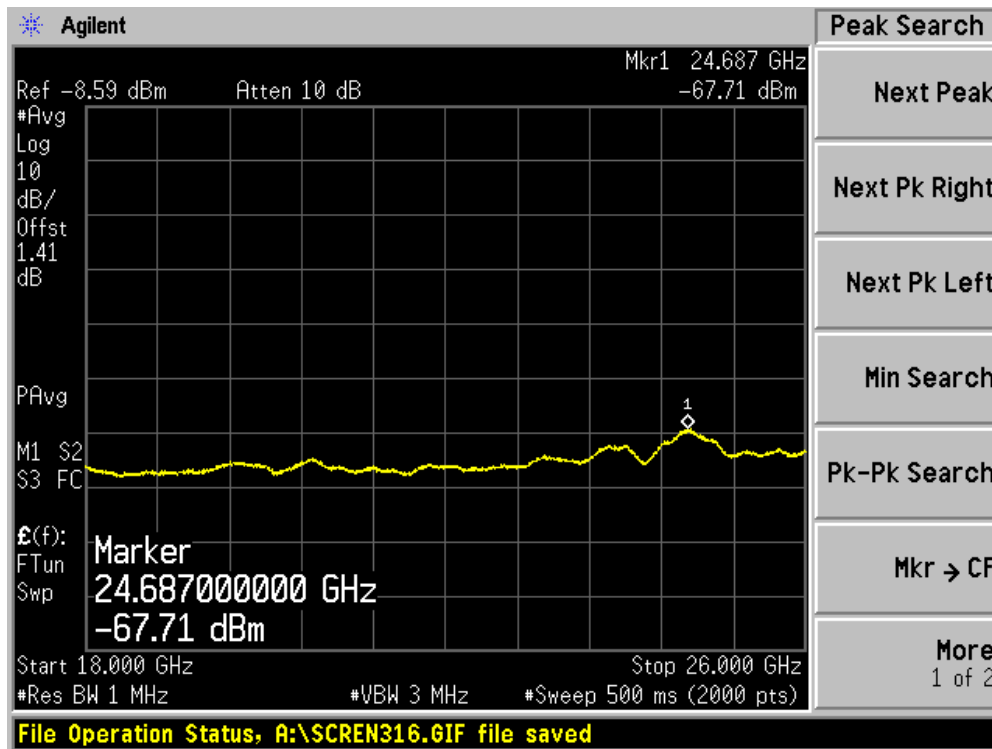
Conducted Spurious - Channel 06 (2437MHz) - 802.11g (Average)



Conducted Spurious - Channel 11 (2462MHz) - 802.11g (Peak)



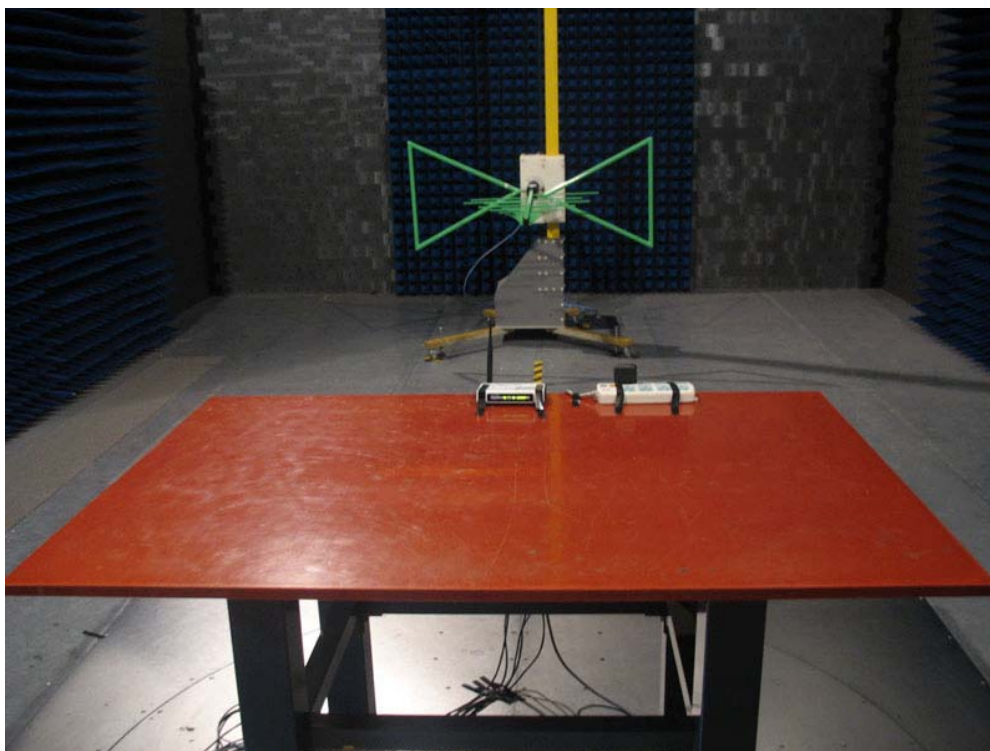
Conducted Spurious - Channel 11 (2462MHz) - 802.11g (Average)



**4.7. Test Photograph**

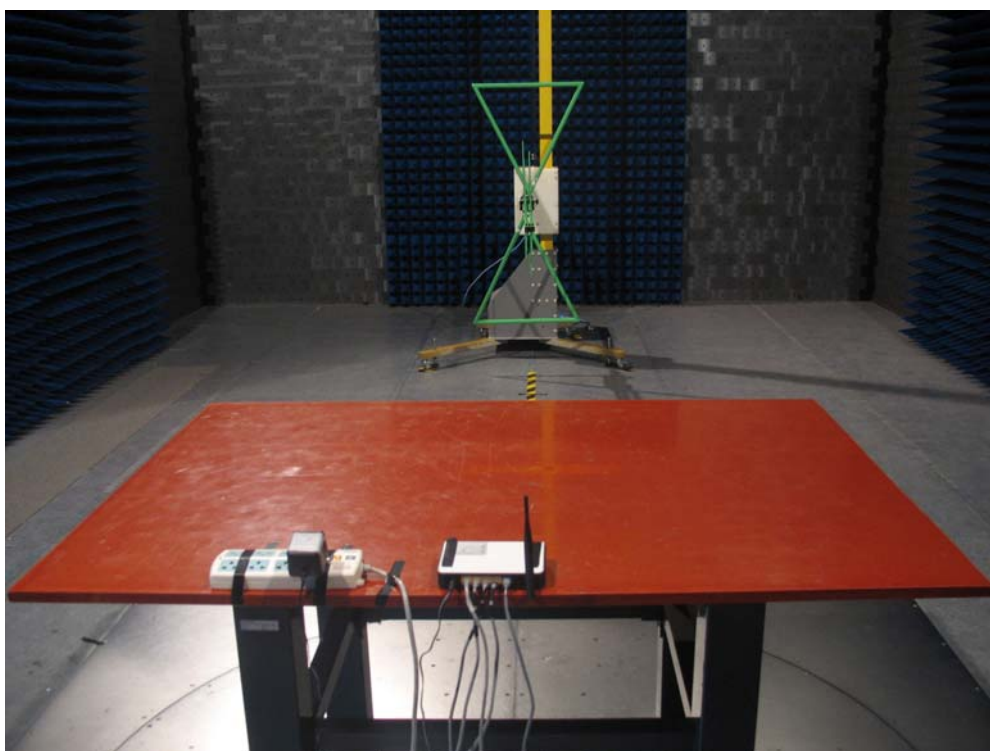
Test Mode: Mode 1: Transmit by 802.11b

Description: Front View of Radiated Test (Under 1GHz)



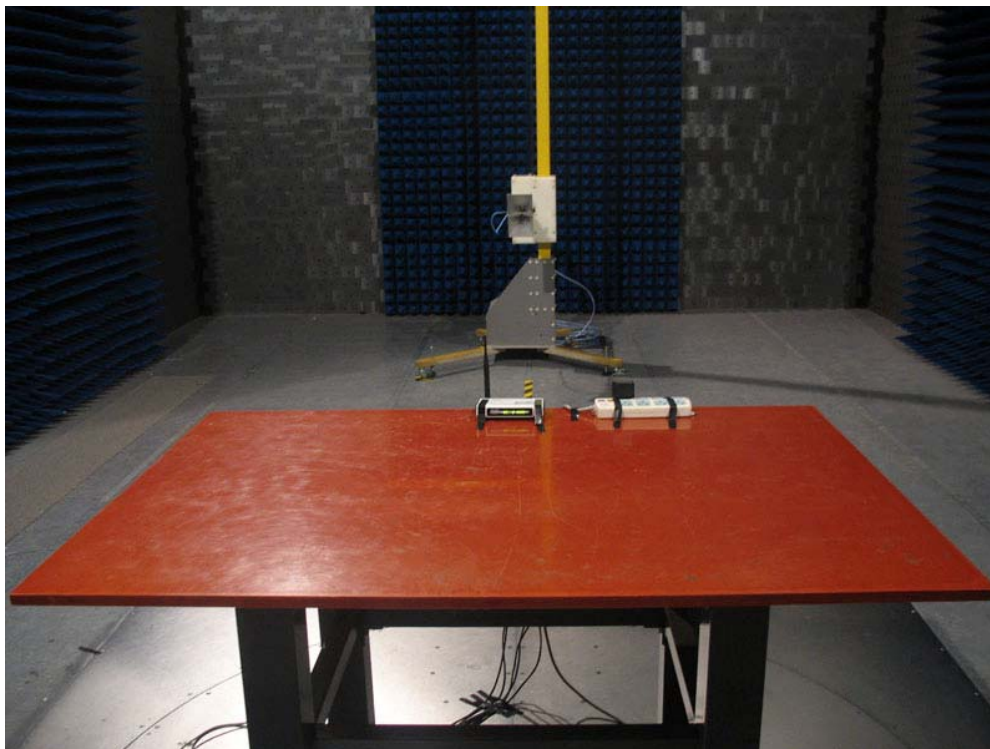
Test Mode: Mode 1: Transmit by 802.11b

Description: Back View of Radiated Test (Under 1GHz)



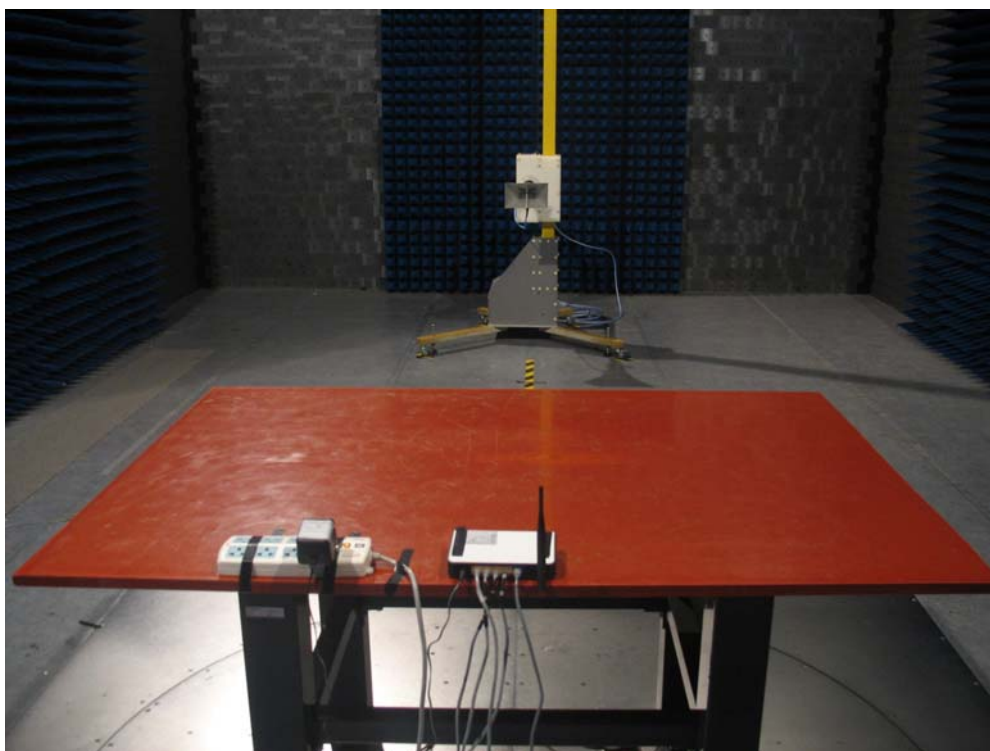
Test Mode: Mode 1: Transmit by 802.11b

Description: Front View of Radiated Test (Above 1GHz)



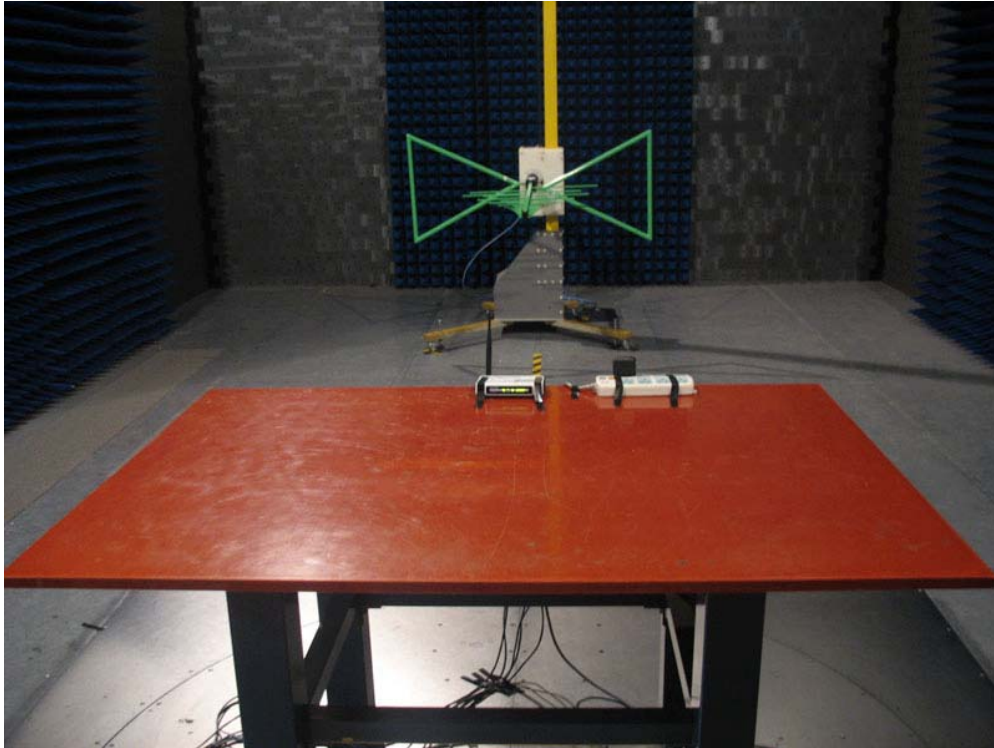
Test Mode: Mode 1: Transmit by 802.11b

Description: Back View of Radiated Test (Above 1GHz)



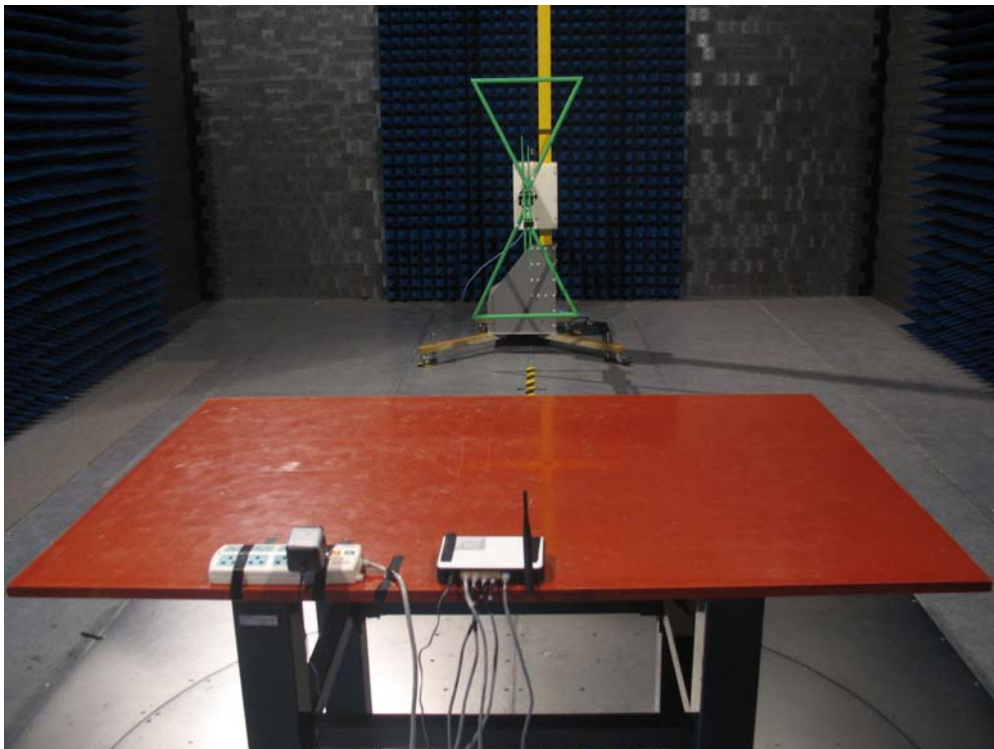
Test Mode: Mode 2: Transmit by 802.11g

Description: Front View of Radiated Test (Under 1GHz)



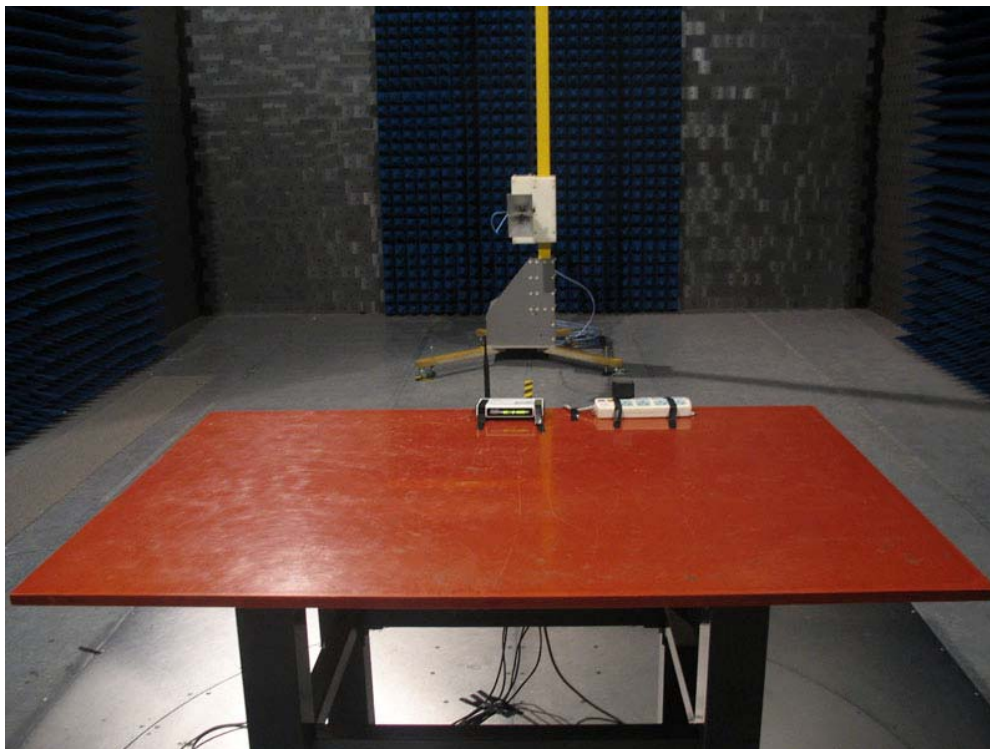
Test Mode: Mode 2: Transmit by 802.11g

Description: Back View of Radiated Test (Under 1GHz)



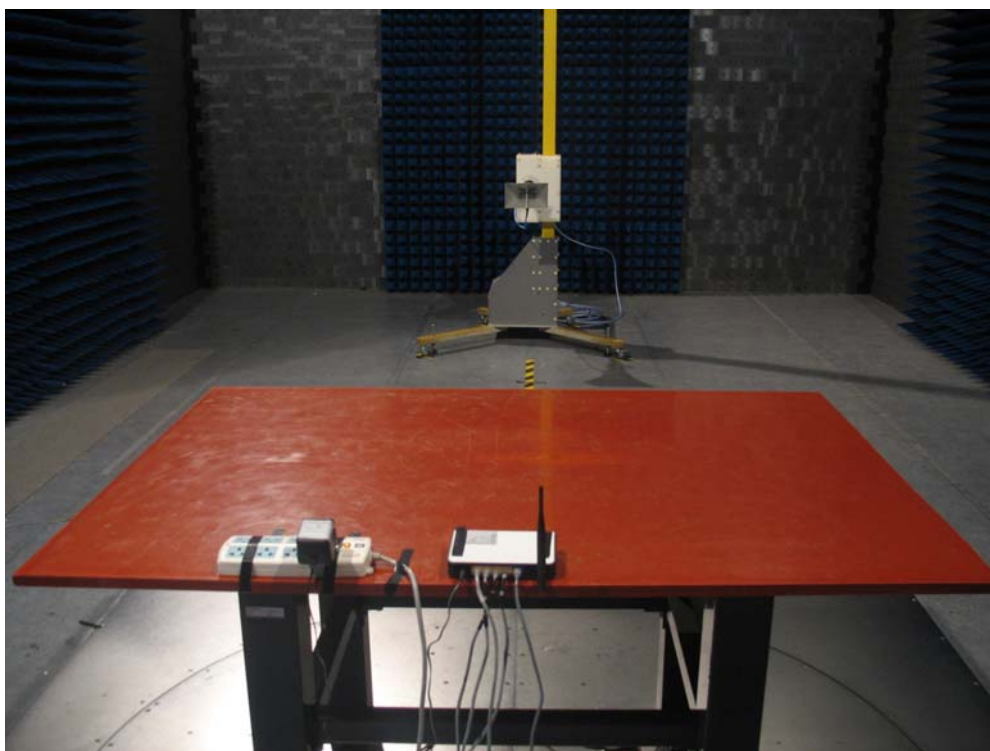
Test Mode: Mode 2: Transmit by 802.11g

Description: Front View of Radiated Test (Above 1GHz)



Test Mode: Mode 2: Transmit by 802.11g

Description: Back View of Radiated Test (Above 1GHz)



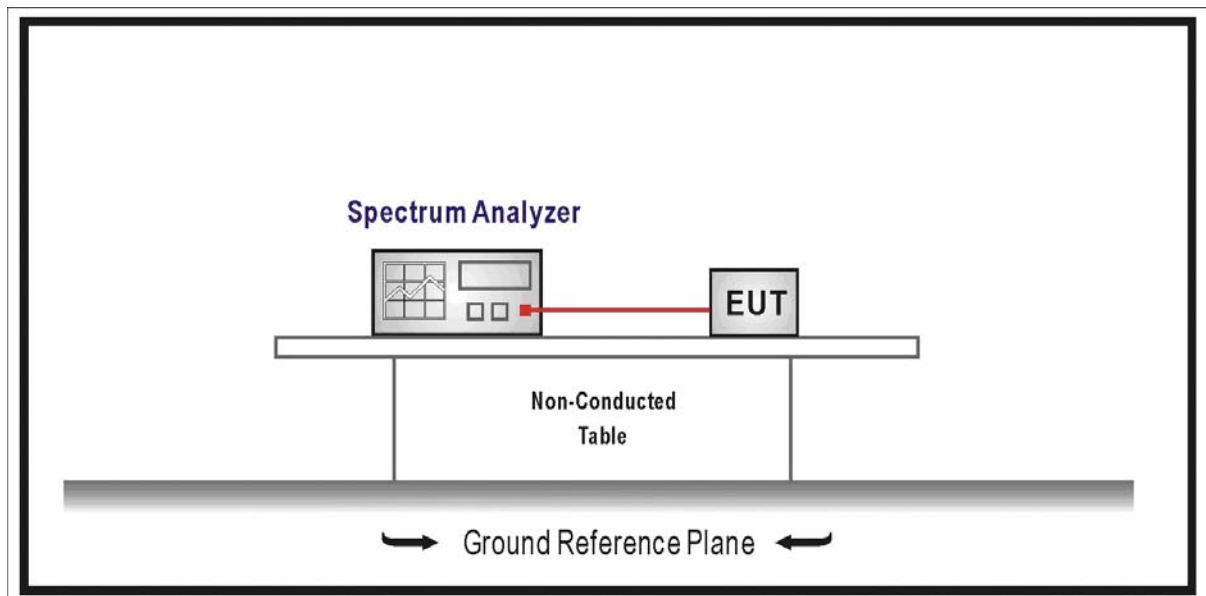
**5. Peak Power Output**

**5.1. Test Equipment**

Peak Power Output / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

**5.2. Test Setup**



**5.3. Limit**

The maximum peak power shall be less 1Watt (30dBm).

The conducted output power limit is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of standard FCC part 15.247, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, by the amount in dB that the directional gain of the antenna exceeds dBi.

**5.4. Test Procedure**

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

**5.5. Uncertainty**

The measurement uncertainty is defined as  $\pm 1.27$  dB

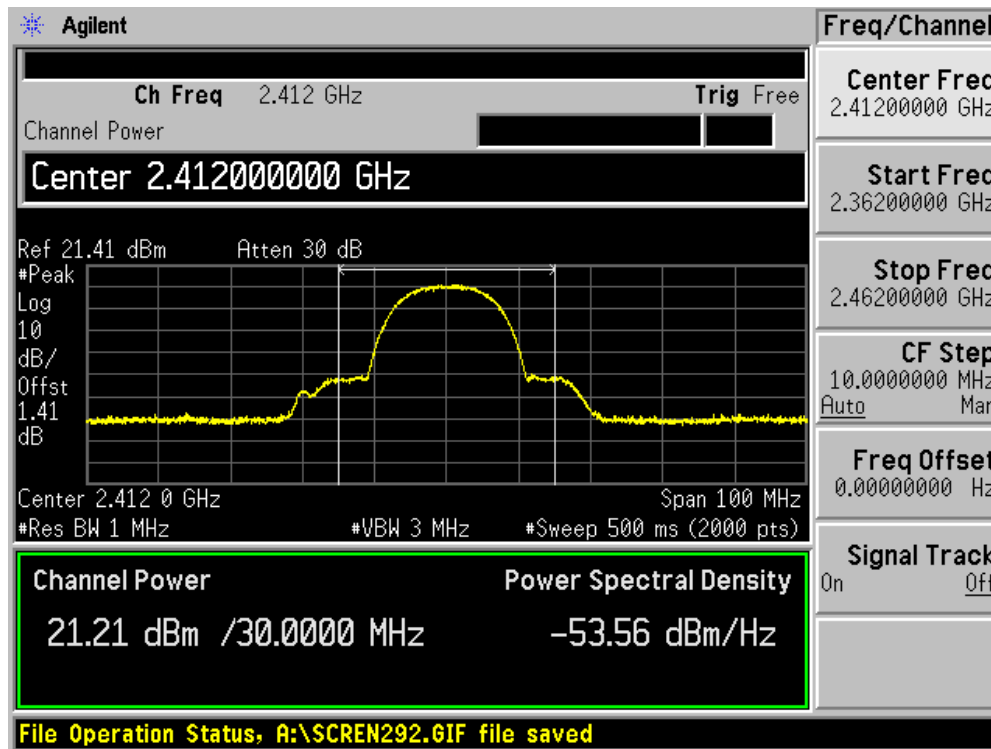


5.6. Test Result

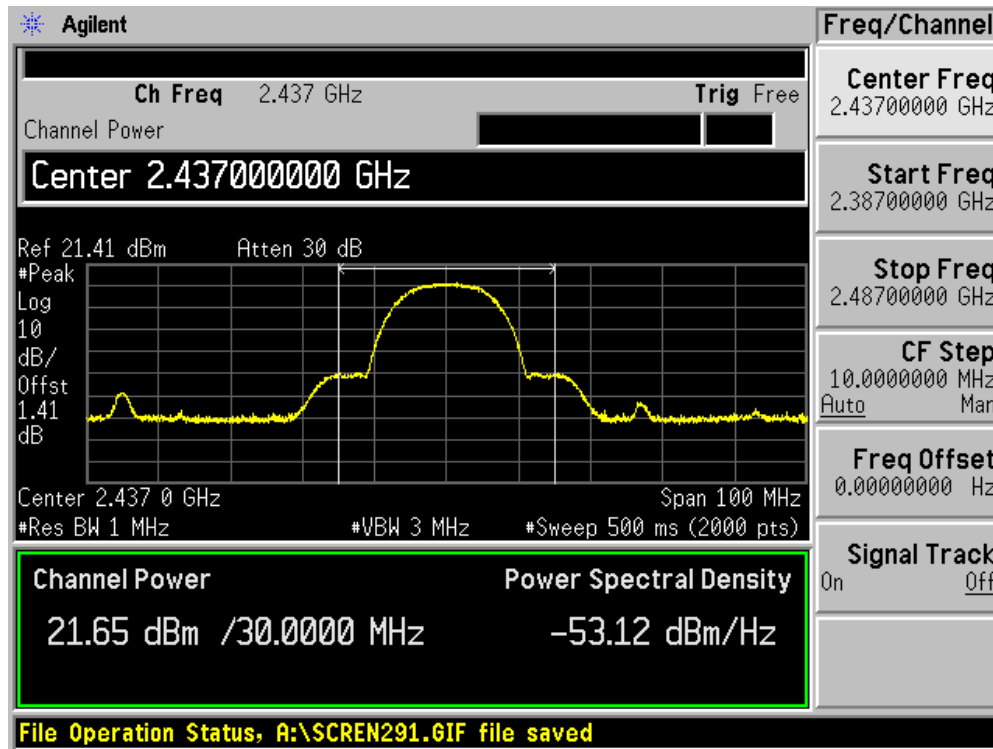
Product	:	54M Wireless Router
Test Item	:	Peak Power Output
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
01	2412.00	21.21	30	Pass
06	2437.00	21.65	30	Pass
11	2462.00	22.61	30	Pass

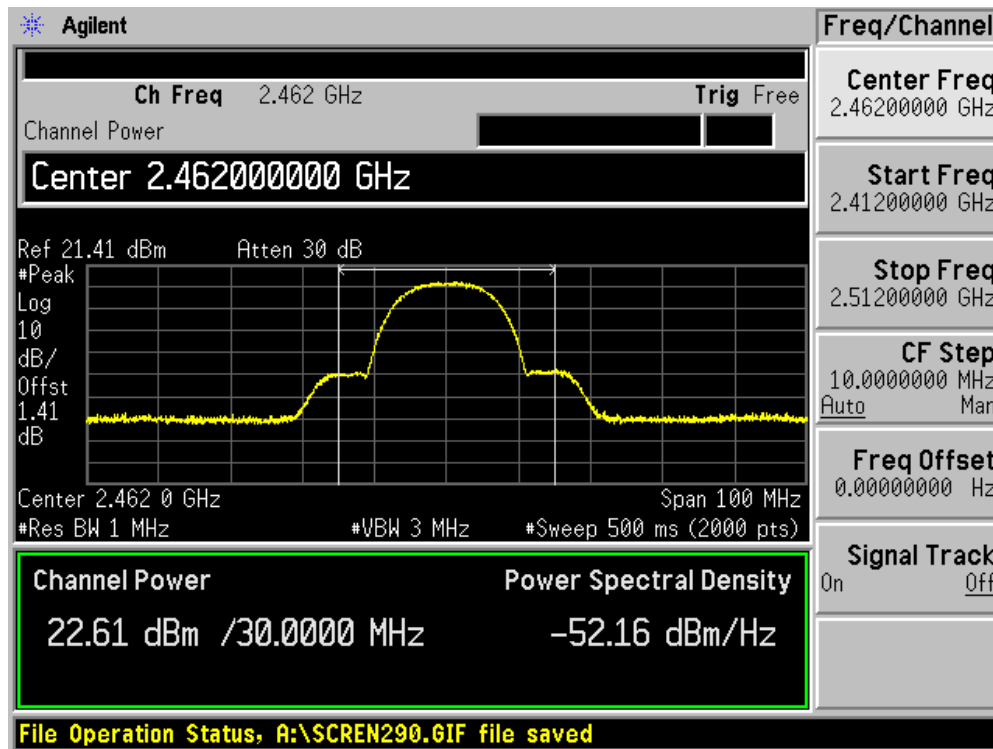
Channel 01 (2412MHz)



Channel 06 (2437MHz)



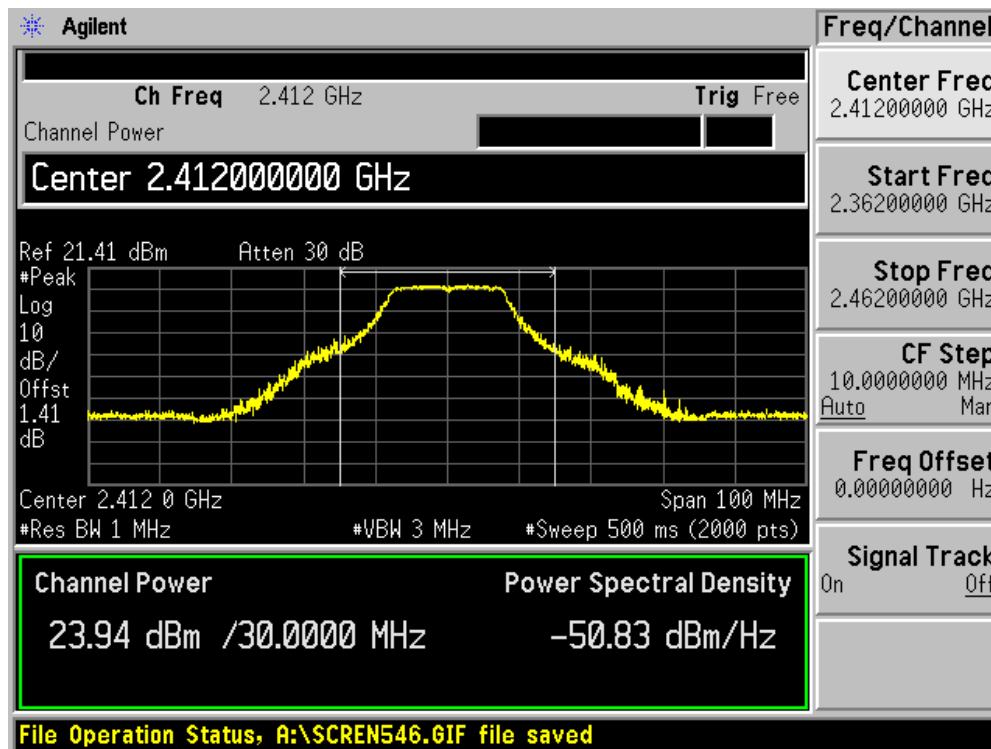
Channel 11 (2462MHz)



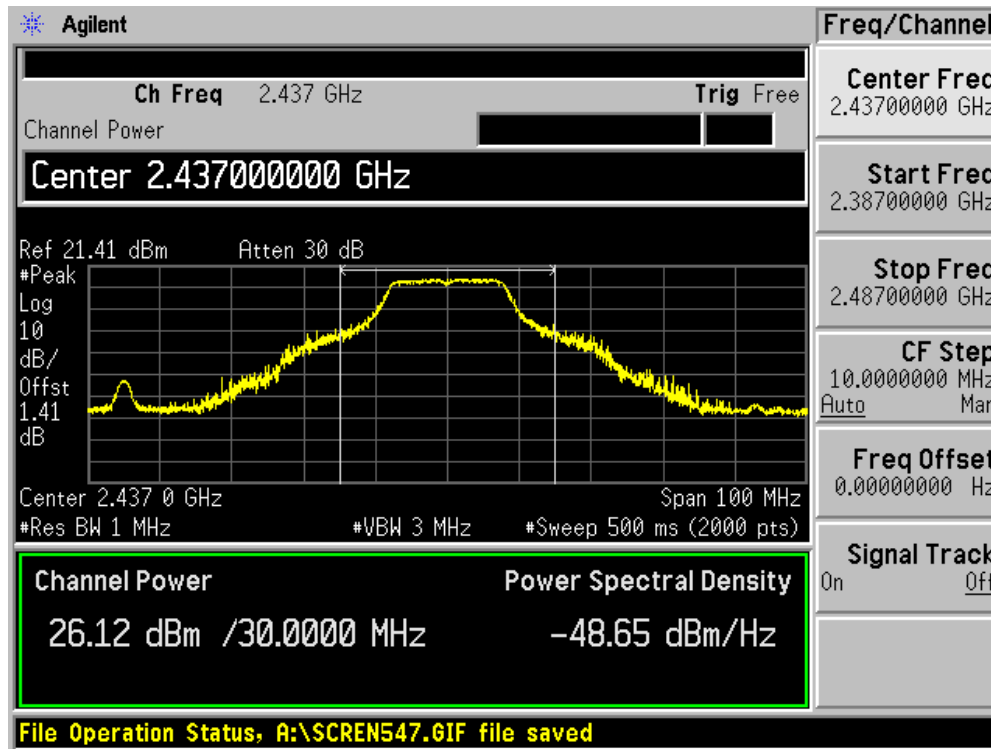
Product	:	54M Wireless Router
Test Item	:	Peak Power Output
Test Site	:	AC-3
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
01	2412.00	23.94	30	Pass
06	2437.00	26.12	30	Pass
11	2462.00	23.83	30	Pass

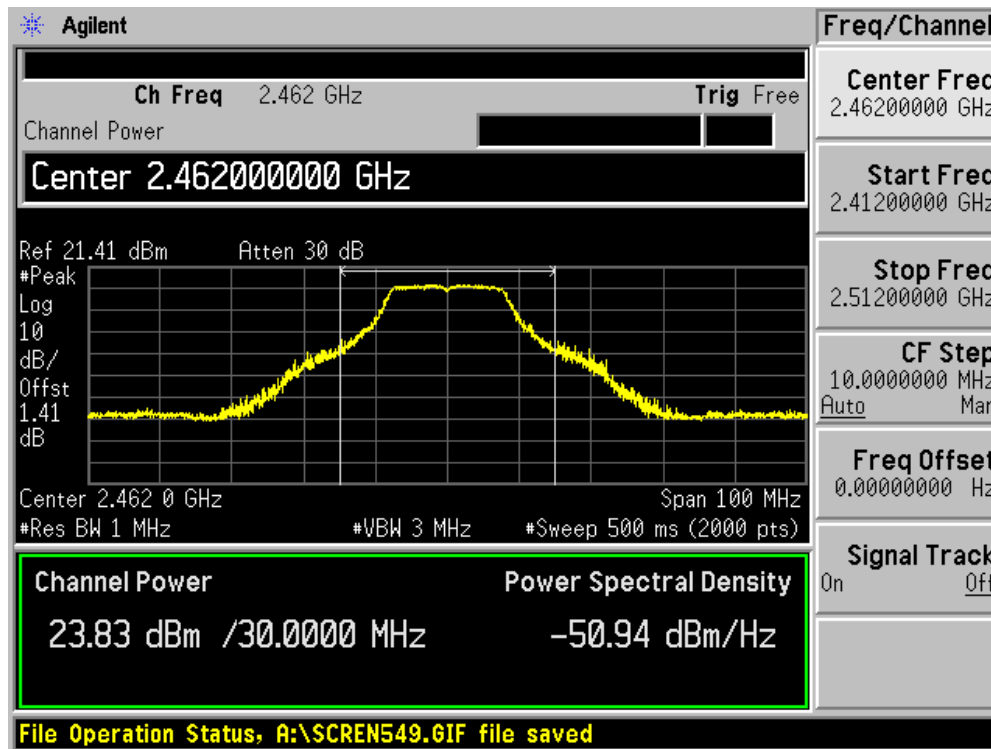
### Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



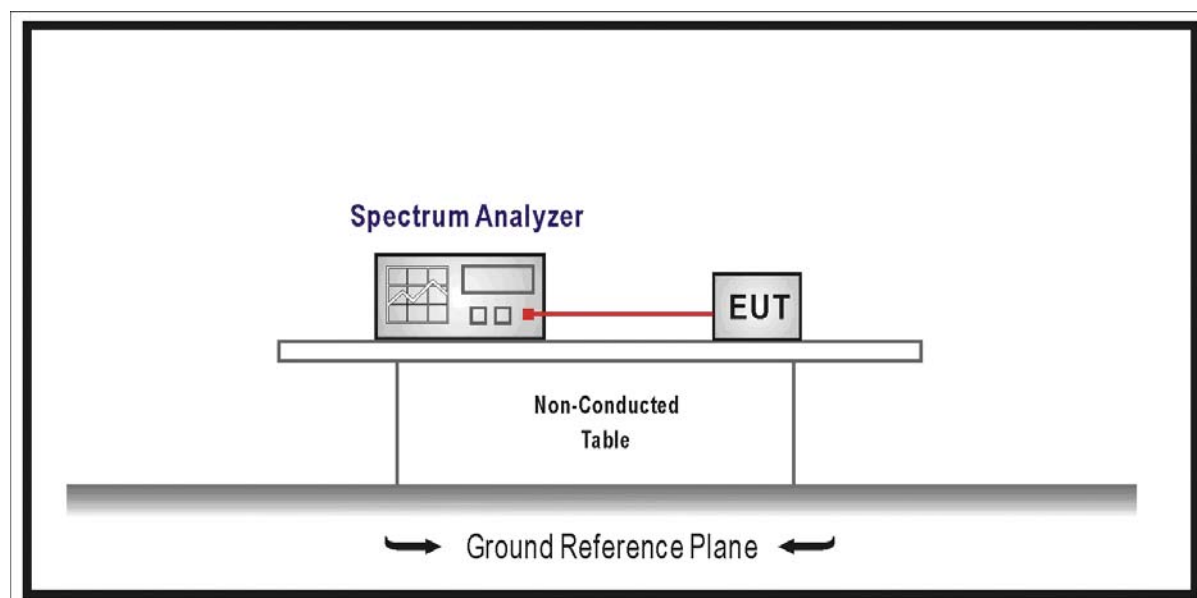
## 6. Occupied Bandwidth

### 6.1. Test Equipment

Occupied Bandwidth / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

### 6.2. Test Setup



### 6.3. Limit

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz band. The minimum 6 dB bandwidth shall be at least 500 kHz.

**6.4. Test Procedure**

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

**6.5. Uncertainty**

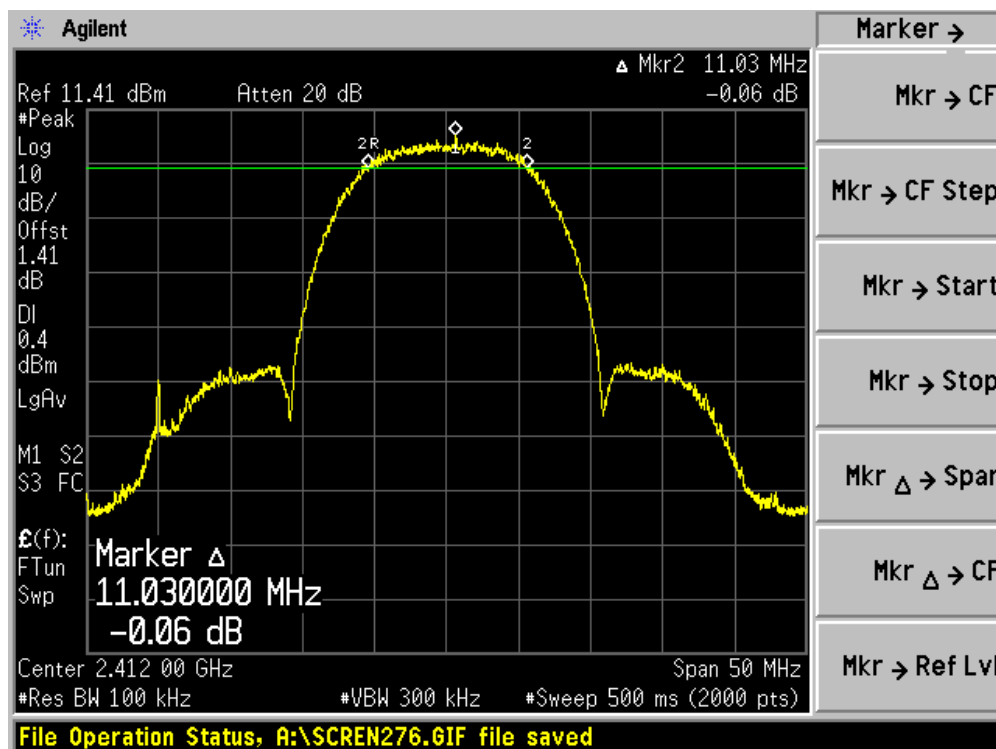
The measurement uncertainty is defined as  $\pm 100$  Hz

6.6. Test Result

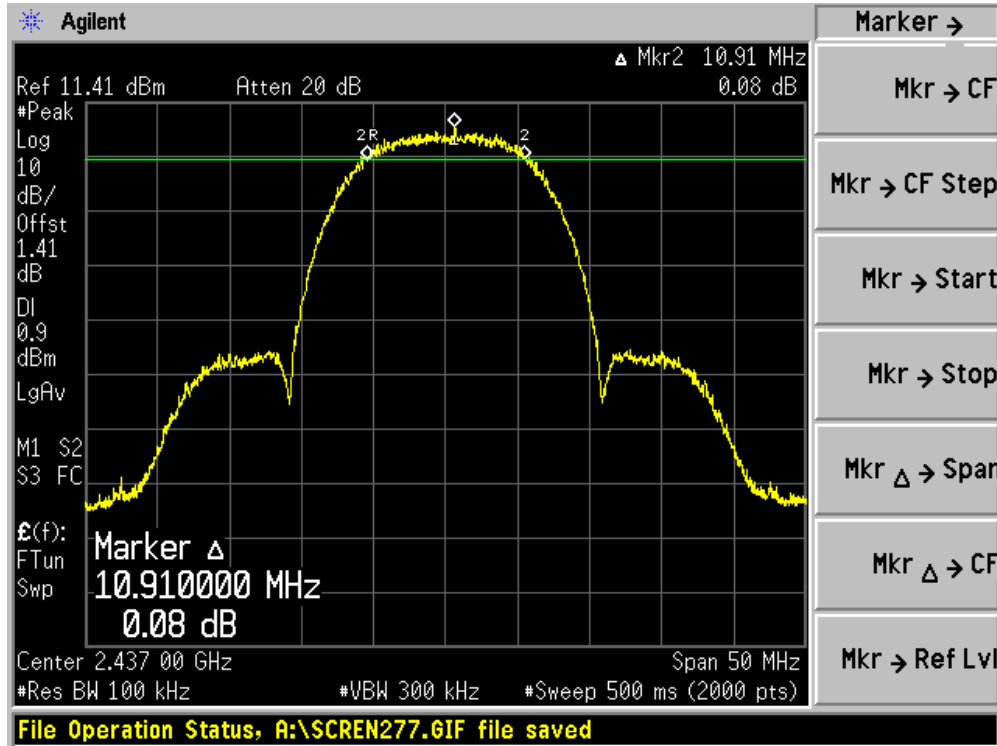
Product	:	54M Wireless Router
Test Item	:	Occupied Bandwidth
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	11030	500	Pass
06	2437	10910	500	Pass
11	2462	10910	500	Pass

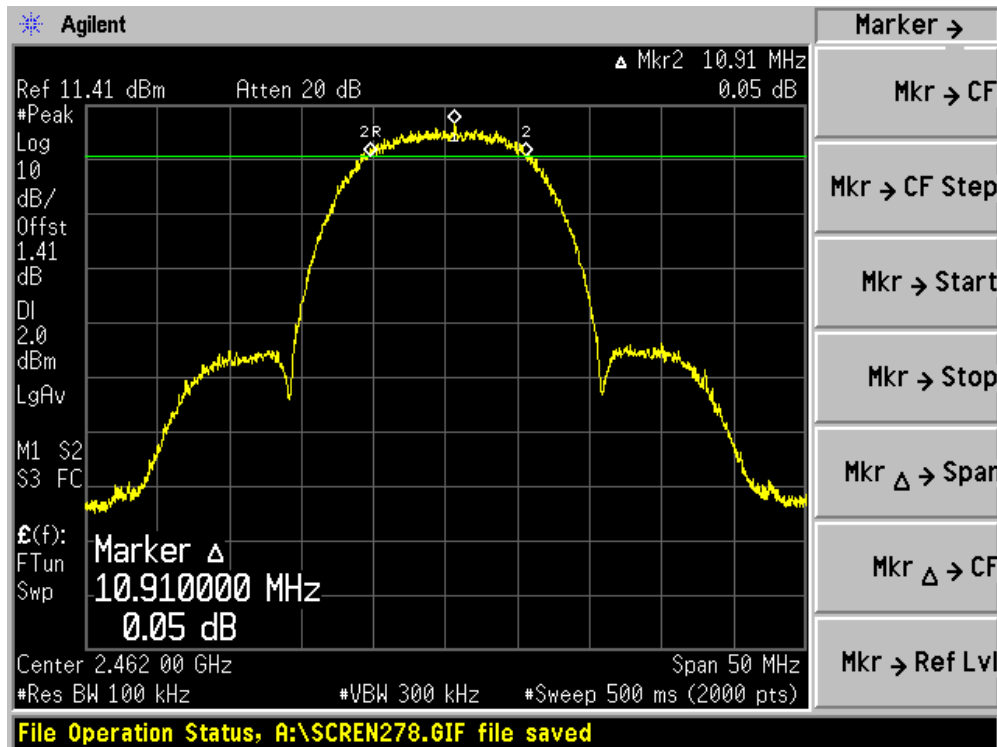
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

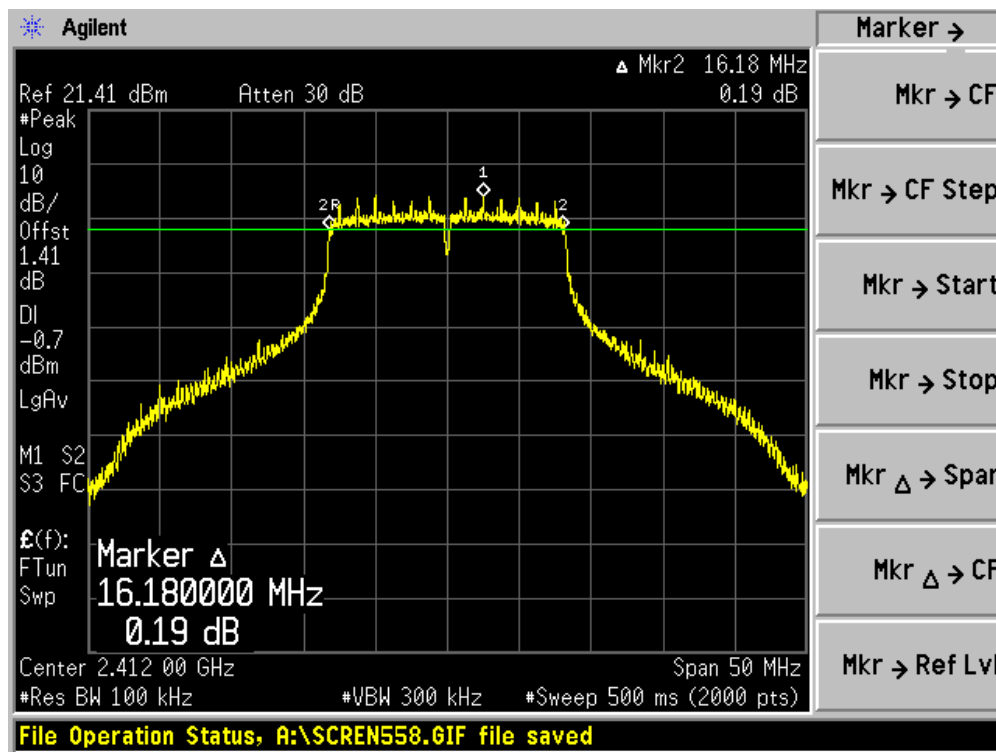




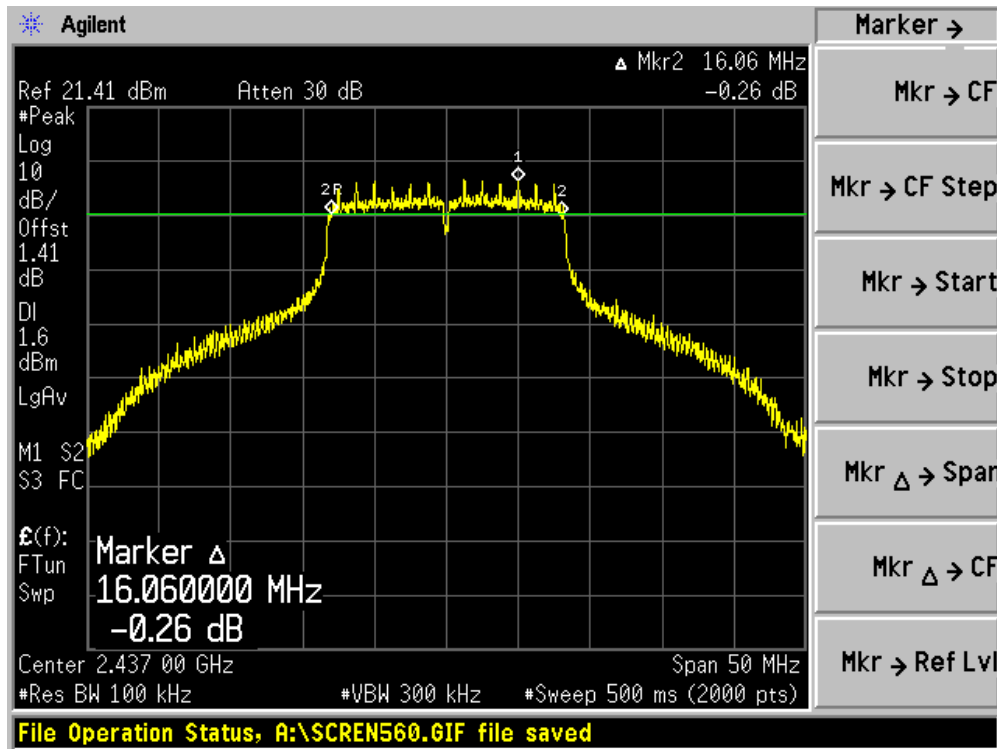
Product	: 54M Wireless Router
Test Item	: Occupied Bandwidth
Test Site	: AC-3
Test Mode	: Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16180	500	Pass
06	2437	16060	500	Pass
11	2462	16180	500	Pass

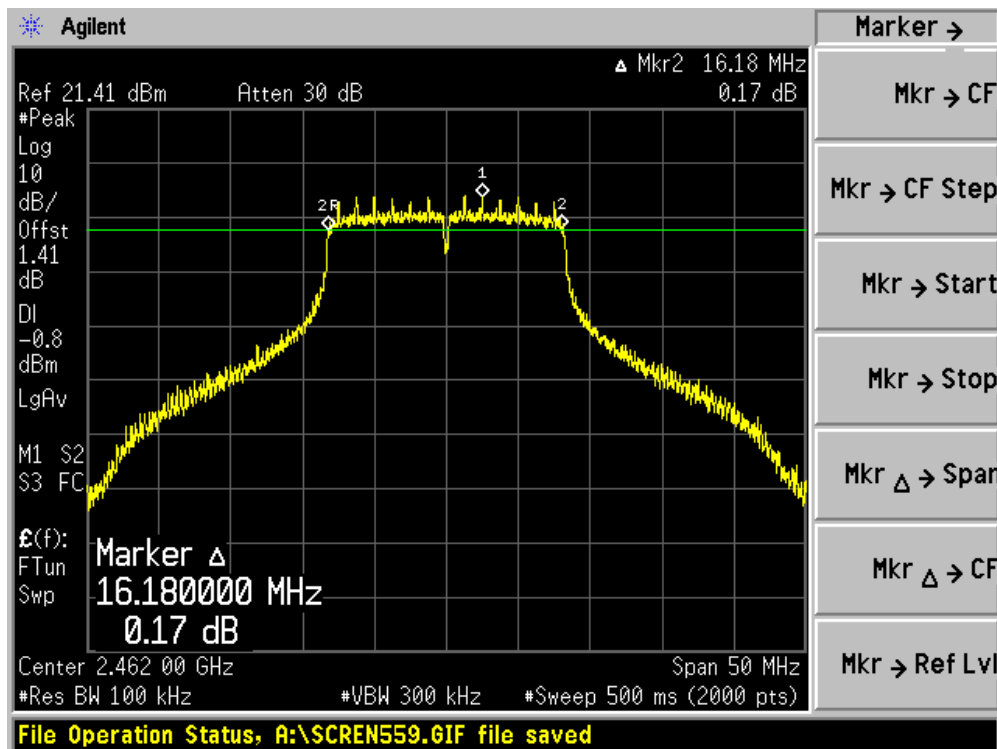
**Channel 01 (2412MHz)**



Channel 06 (2437MHz)



Channel 11 (2462MHz)



## 7. Band Edge

### 7.1. Test Equipment

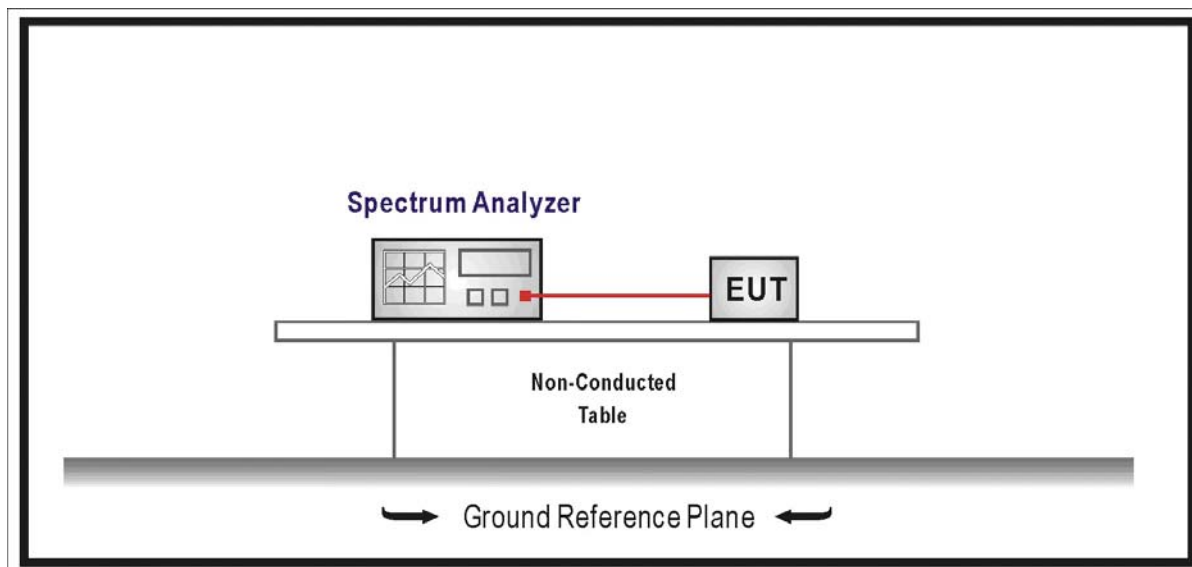
Band Edge / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2006/11/20
Preamplifier	Quietek	AP-180C	CHM-0602013	2006/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2006/11/22
*Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2005/11/25
50ohm Coaxial Switch	ANRITSU	MP59B	6200447304	2006/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2007/03/30

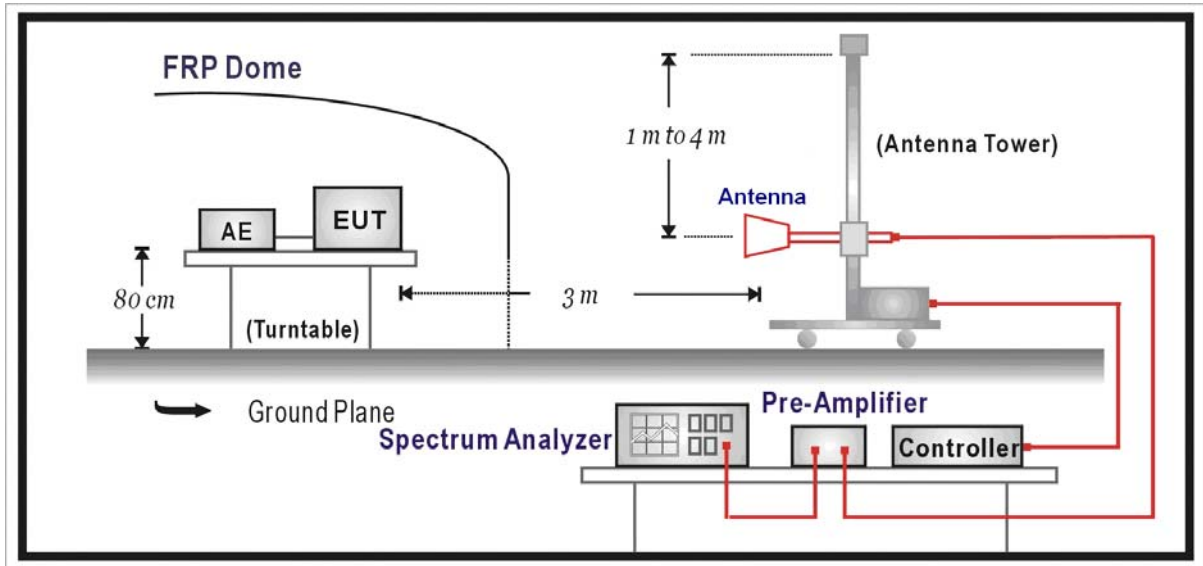
Note: "\*" means the test device calibration period for two years.

### 7.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement



7.3. Limit

**For 15.215(C) requirement:**

Intentional radiators operating under the alternative provisions to the general emission limits as contained in 15.217 through 15.257 and in Subpart E of FCC part 15, must be designed to ensure that 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

**For 15.247(d) requirement:**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

7.4. Test Procedure

**For RF Conducted Measurement:**

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.

c) Add a correction factor to the display, and then test.

**For RF Radiated Measurement:**

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCI) is 120 kHz and above 1GHz is 1MHz.

## 7.5. Uncertainty

**For RF Conducted Measurement:**

The measurement uncertainty is defined as  $\pm 1.27$  dB

**For RF Radiated Measurement:**

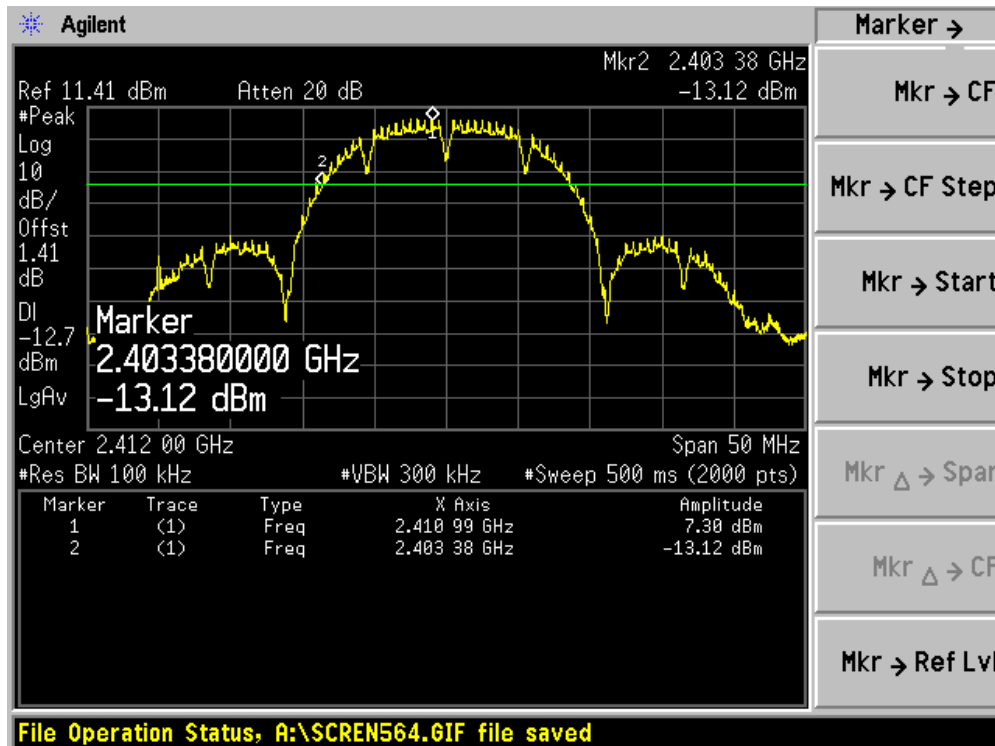
The measurement uncertainty above 1G is defined as  $\pm 3.9$  dB

under 1G is defined as  $\pm 3.8$  dB

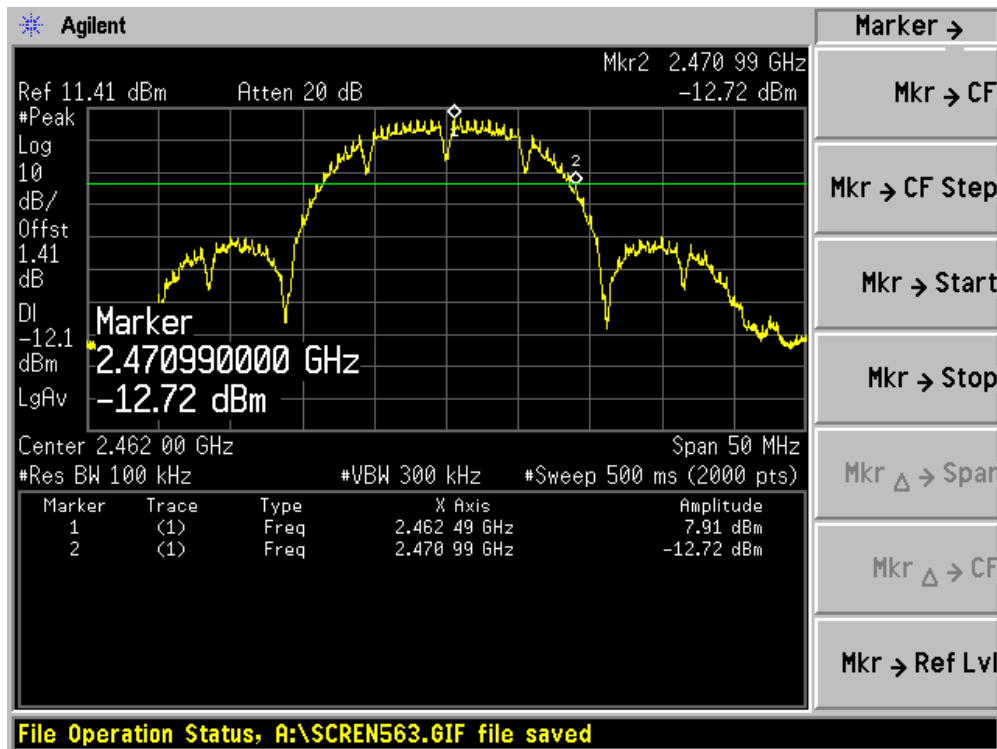
7.6. Test Result

Product	: 54M Wireless Router
Test Item	: Band Edge (20dBc RF Conducted Measurement)
Test Site	: AC-2
Test Mode	: Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)

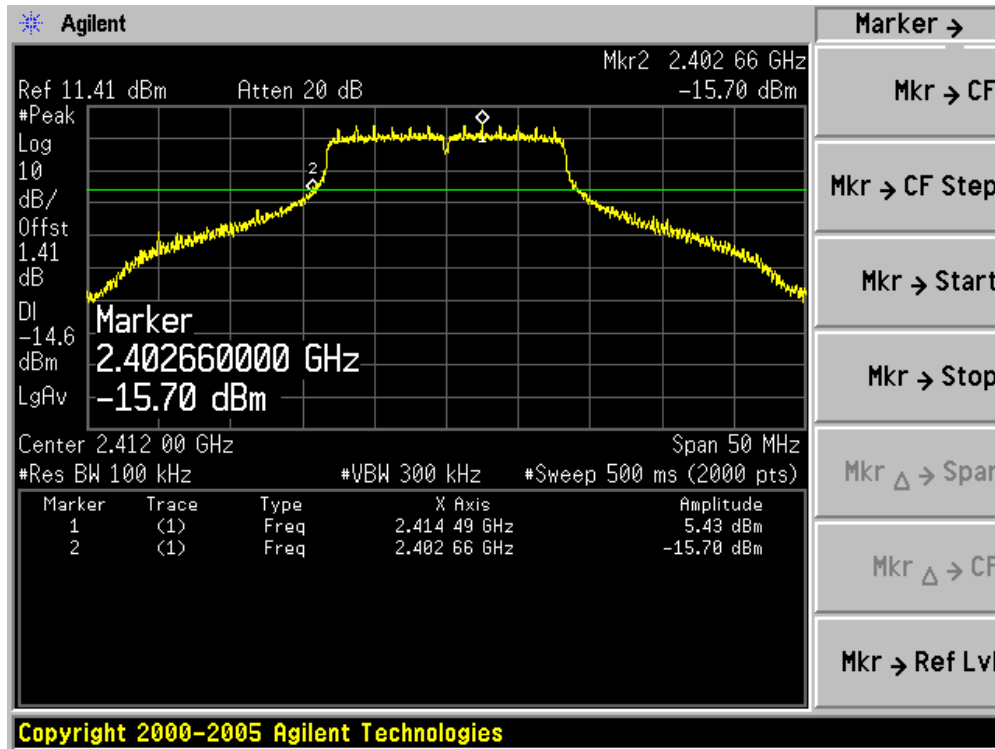


Channel 11 (2462MHz)



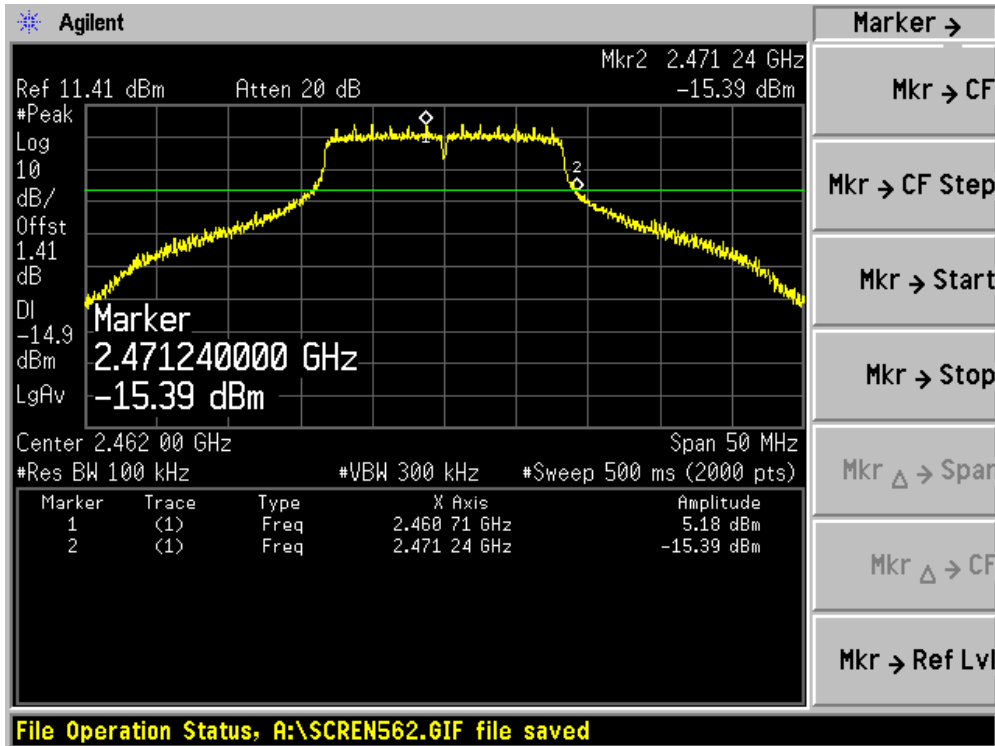
Product	: 54M Wireless Router
Test Item	: Band Edge (20dBc Conducted Measurement)
Test Site	: AC-2
Test Mode	: Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)





Channel 11 (2462MHz)



Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit by 802.11b (2412MHz)

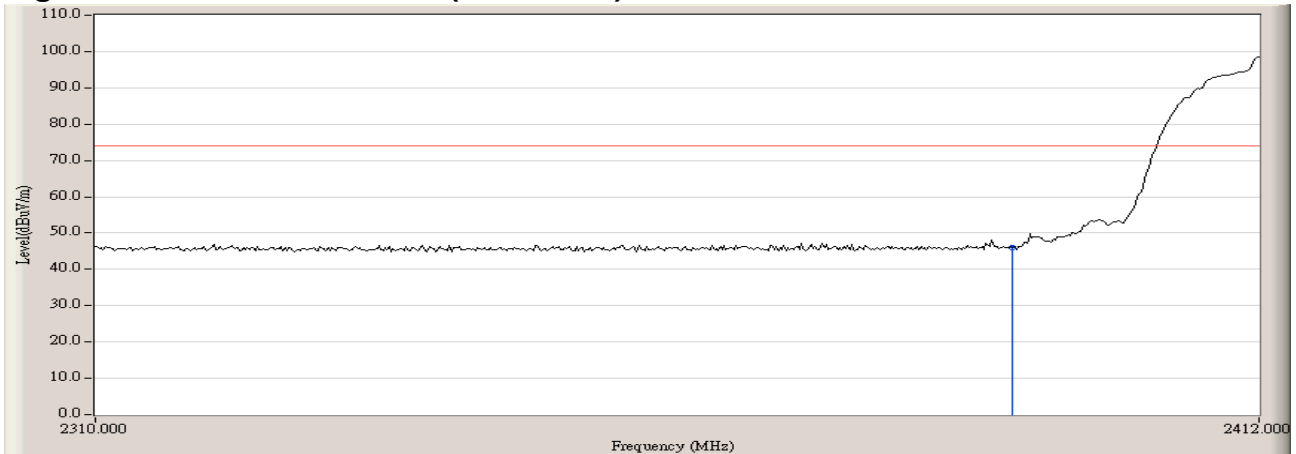
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	47.768	46.103	74.00	--	Pass
01 (Average)	2390.000	36.923	35.258	--	54.00	Pass

**Figure Channel 01: 2412MHz (Horizontal)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit by 802.11b (2412MHz)

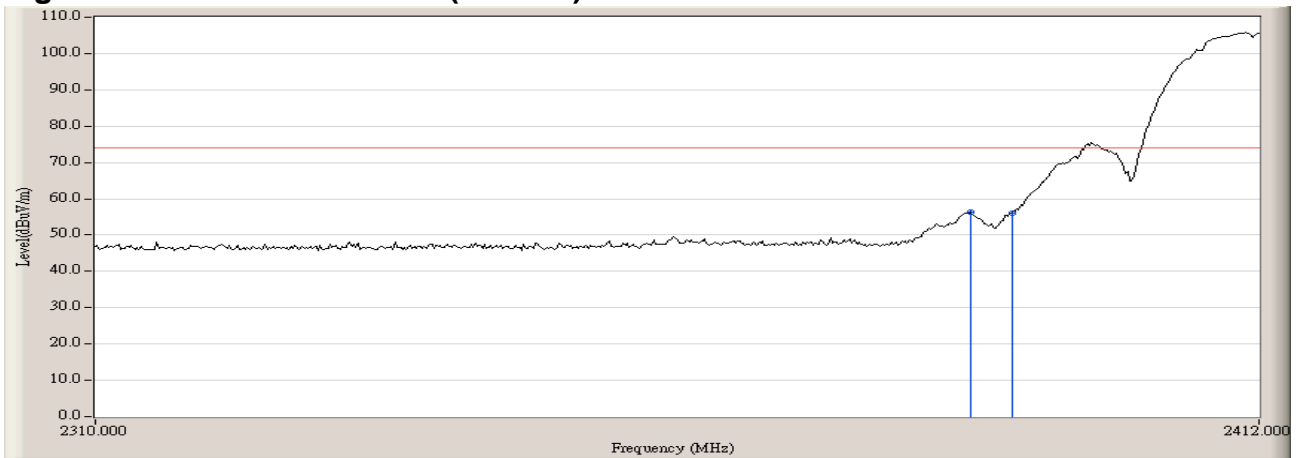
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	57.735	56.070	74.00	--	Pass
00 (Average)	2390.000	48.934	47.269	--	54.00	Pass

**Figure Channel 01: 2412MHz (Vertical)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit by 802.11b (2462MHz)

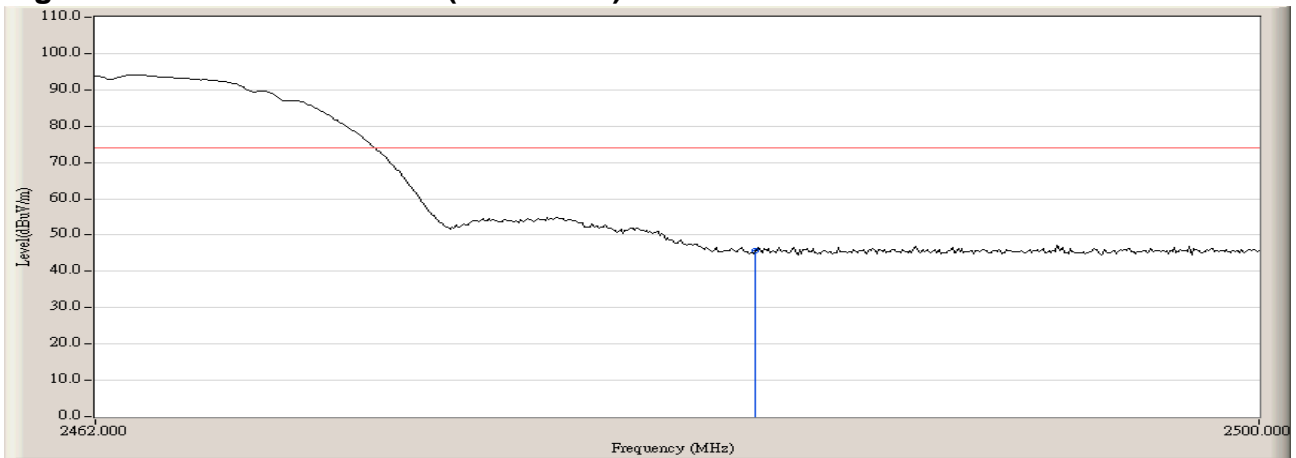
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2483.500	47.301	45.671	74.00	--	Pass
00 (Average)	2483.500	32.708	31.078	--	54.00	Pass

**Figure Channel 11: 2462MHz (Horizontal)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit by 802.11b (2462MHz)

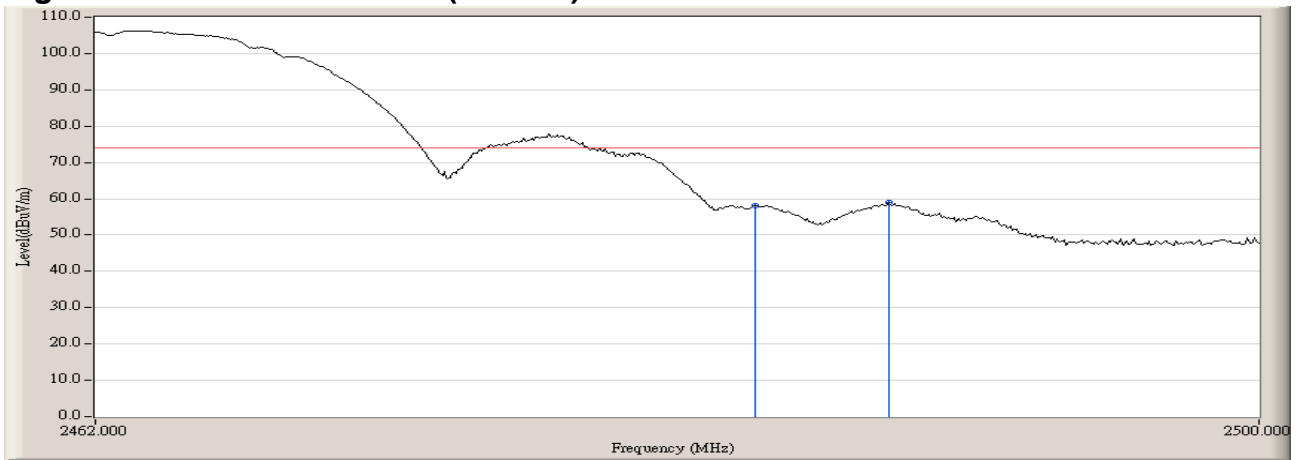
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2483.500	59.638	58.008	74.00	--	Pass
00 (Average)	2483.500	49.806	48.176	--	54.00	Pass

**Figure Channel 11: 2462MHz (Vertical)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 2: Transmit by 802.11g (2412MHz)

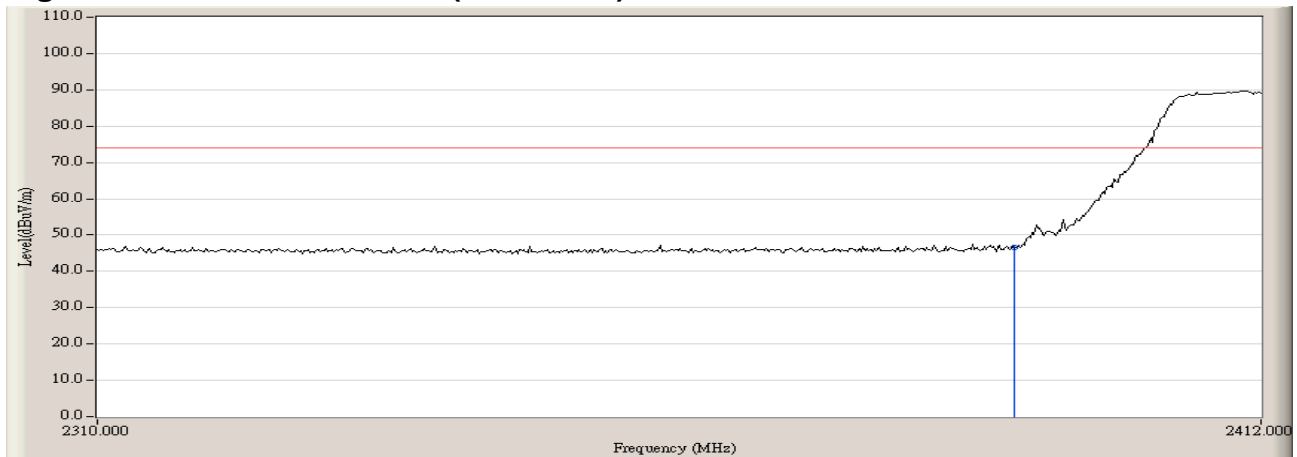
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	48.217	46.552	74.00	--	Pass
00 (Average)	2390.000	37.781	36.116	--	54.00	Pass

**Figure Channel 01: 2412MHz (Horizontal)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 2: Transmit by 802.11g (2412MHz)

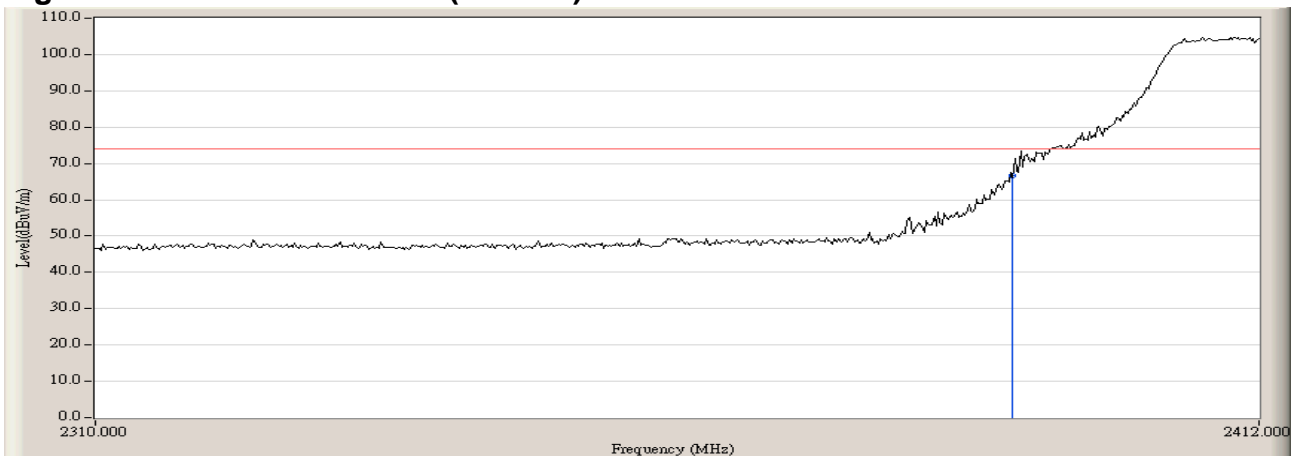
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
01	<2400	>20	Pass

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2390.000	68.361	66.696	74.00	--	Pass
00 (Average)	2390.000	51.355	49.690	--	54.00	Pass

**Figure Channel 01: 2412MHz (Vertical)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 2: Transmit by 802.11g (2462MHz)

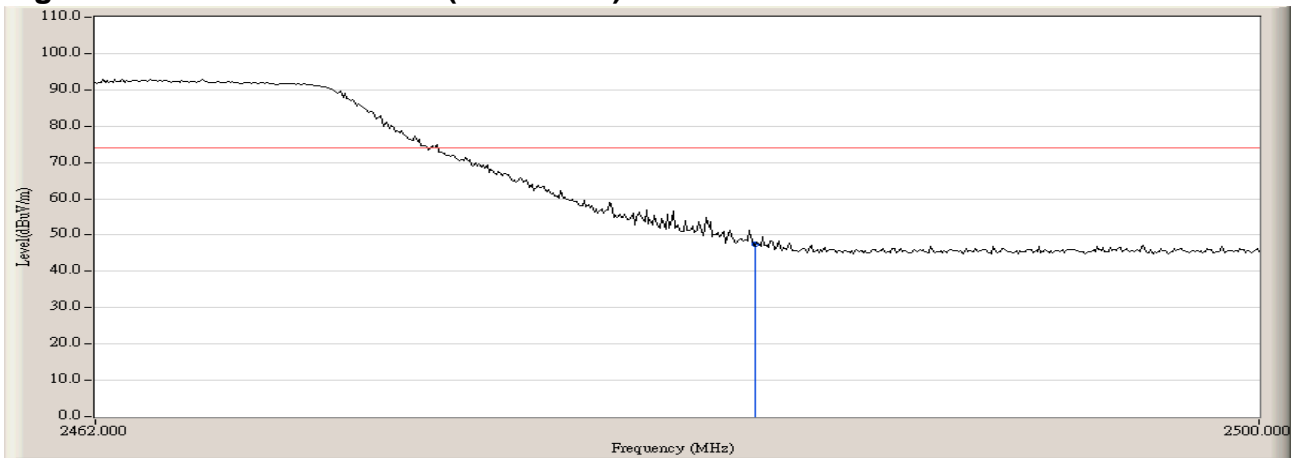
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2483.500	49.080	47.450	74.00	--	Pass
00 (Average)	2483.500	37.722	36.092	--	54.00	Pass

**Figure Channel 11: 2462MHz (Horizontal)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.



Product	:	54M Wireless Router
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 2: Transmit by 802.11g (2462MHz)

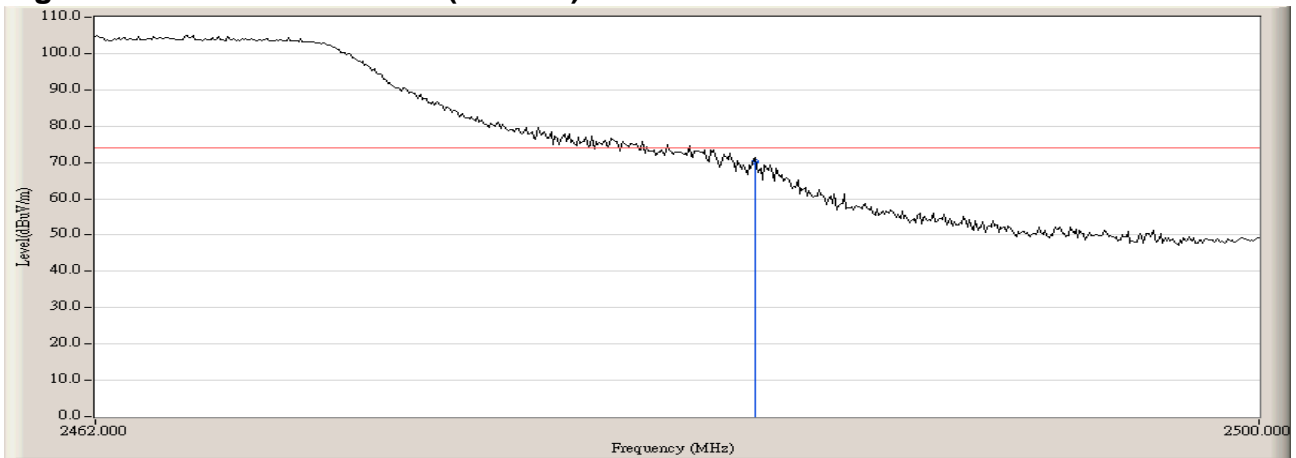
**RF Radiated Measurement:**

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
11	>2483.5	>20	Pass

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2483.500	71.870	70.240	74.00	--	Pass
00 (Average)	2483.500	54.119	52.489	--	54.00	Pass

**Figure Channel 11: 2462MHz (Vertical)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

## 8. Peak Power Spectral Density

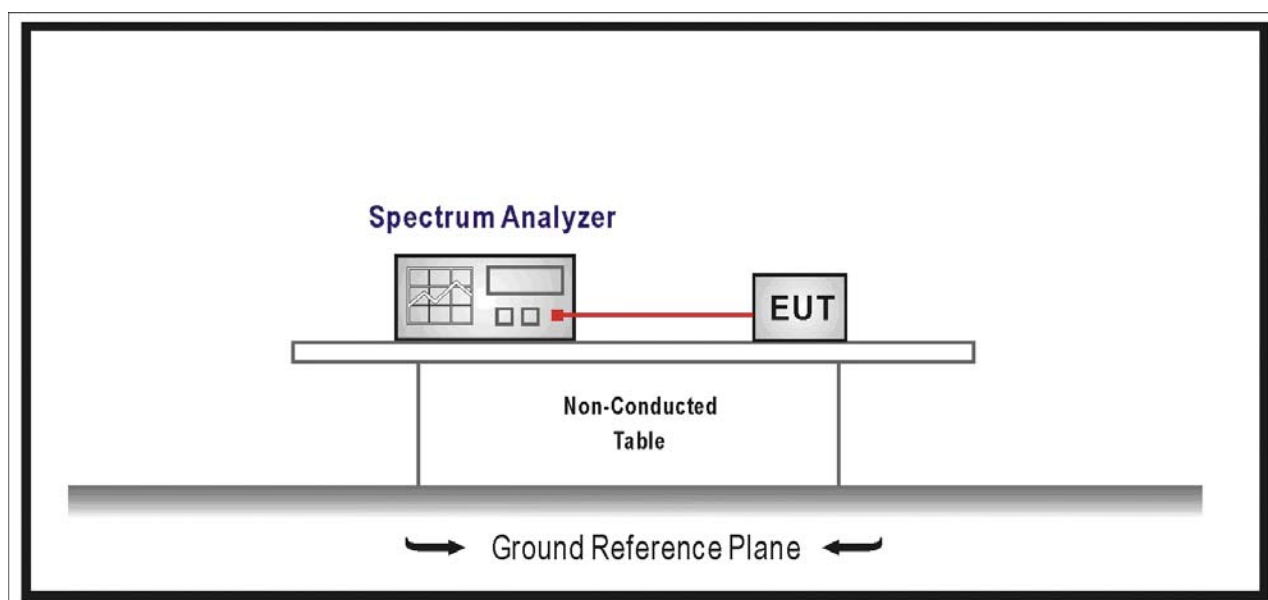
### 8.1. Test Equipment

Peak Power Spectral Density / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

### 8.2. Test Setup

RF Conducted Measurement



### 8.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

**8.4. Test Procedure**

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

**8.5. Uncertainty**

The measurement uncertainty is defined as  $\pm 1.27$  dB

8.6. Test Result

Product	:	54M Wireless Router
Test Item	:	Peak Power Spectral Density
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm /3kHz)	Result
01	2412	-6.50	8	Pass
06	2437	-8.82	8	Pass
11	2462	-4.01	8	Pass

Figure Channel 01 (2412MHz)

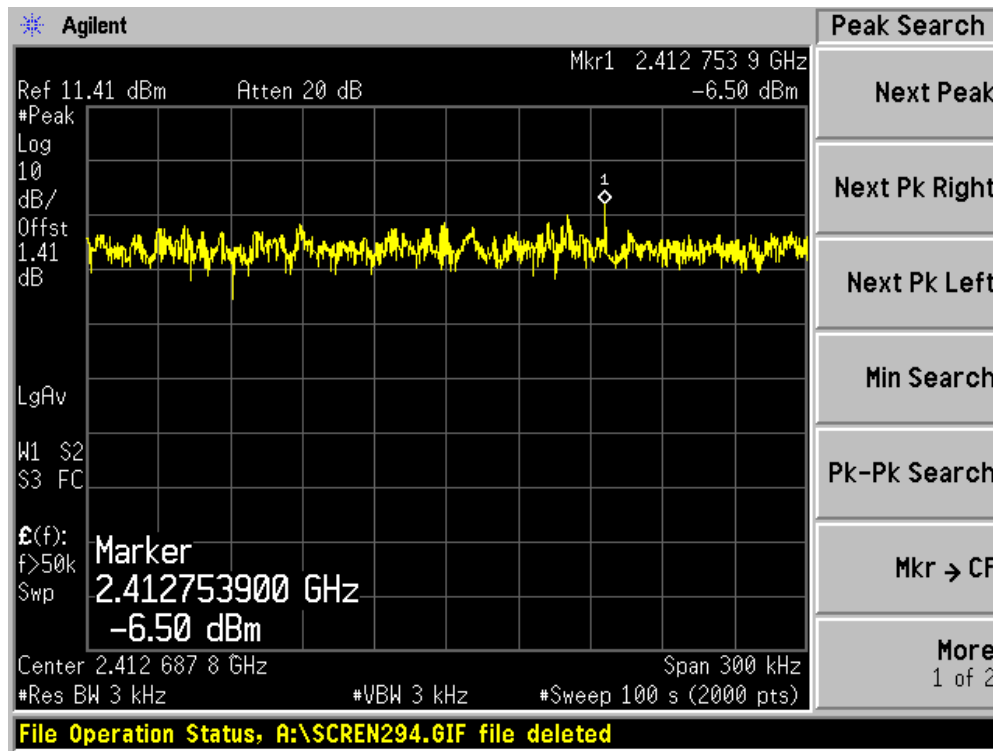


Figure Channel 06 (2437MHz)

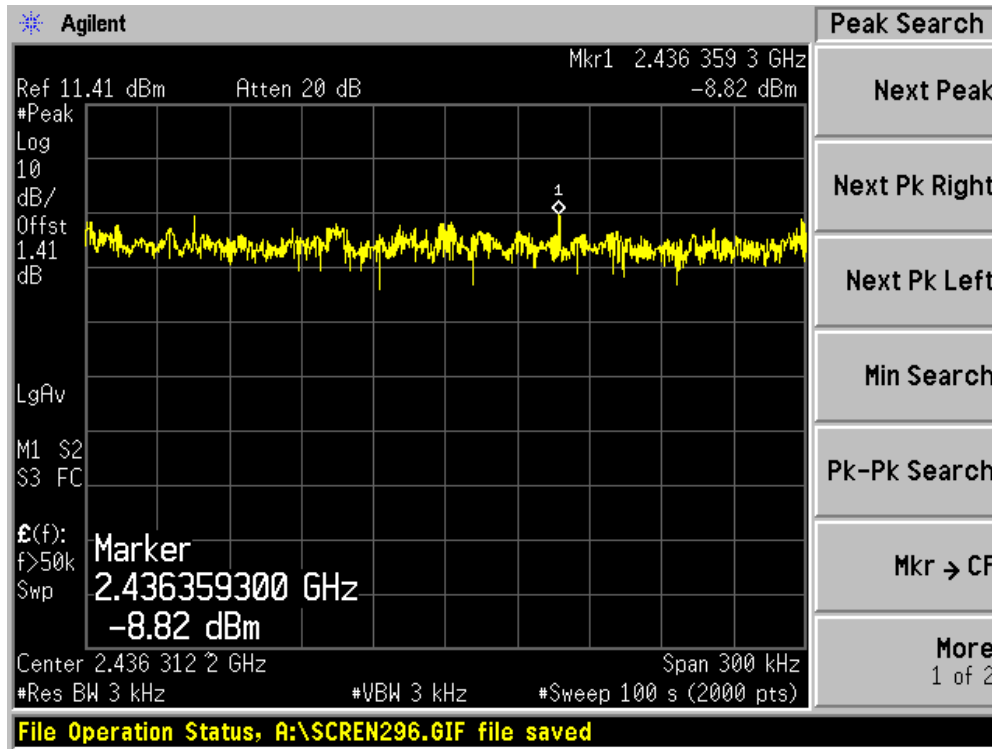
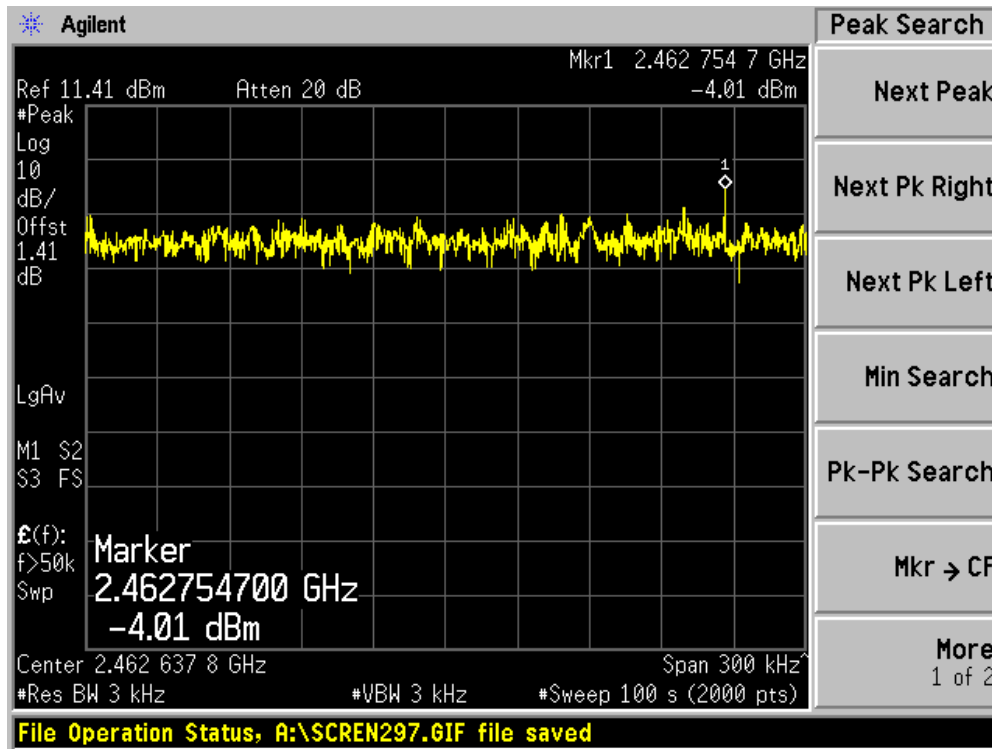


Figure Channel 11 (2462MHz)



Product	:	54M Wireless Router
Test Item	:	Peak Power Spectral Density
Test Site	:	AC-3
Test Mode	:	Mode 2: Transmit by 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm /3kHz)	Result
01	2412	-9.07	8	Pass
06	2437	-6.19	8	Pass
11	2462	-9.14	8	Pass

Figure Channel 01 (2412MHz)

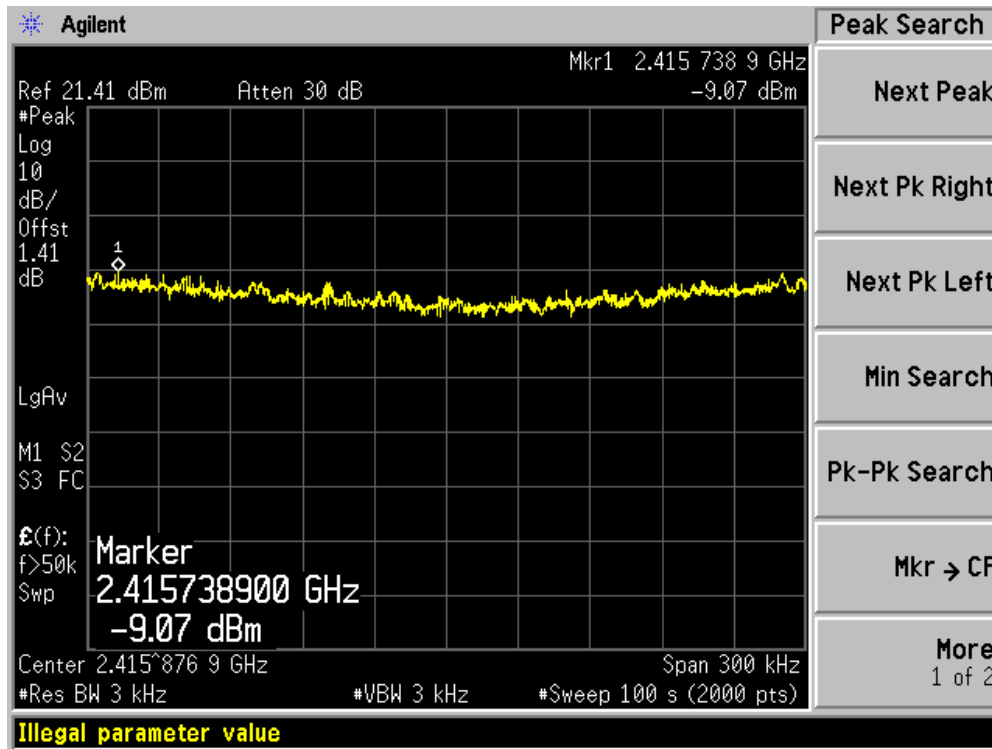


Figure Channel 06 (2437MHz)

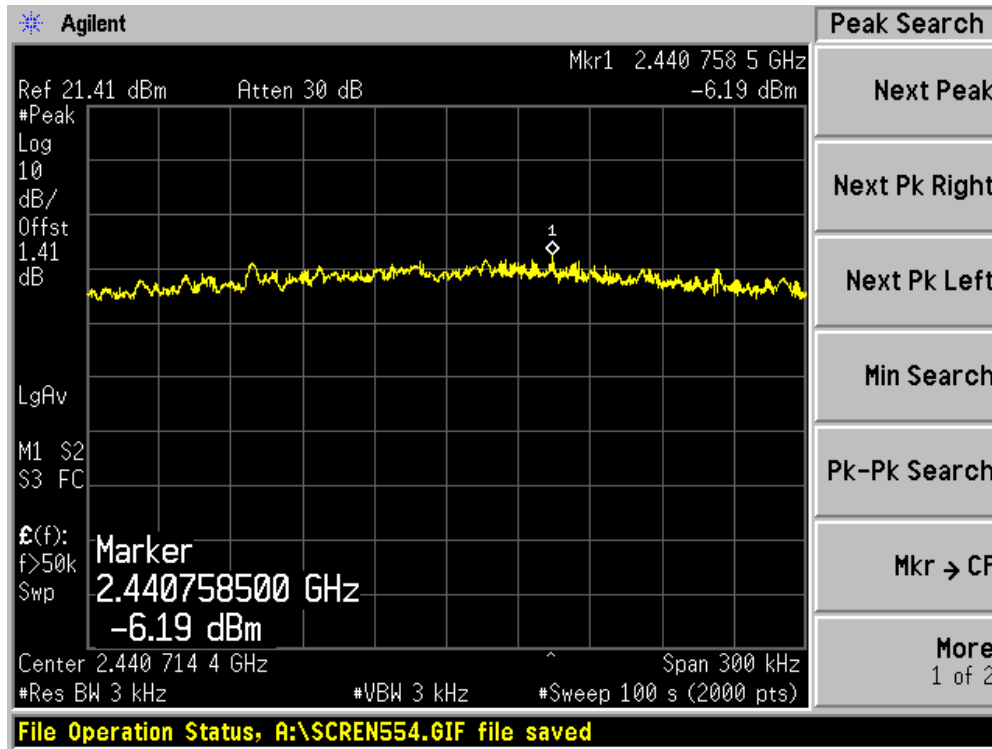


Figure Channel 11 (2462MHz)

