

# FC

## Test Report

Product Name	G2 Personal Portable Radio
Model No	MS-5616, 90260007-0001 (4GB), 90260008-001 (8GB)
FCC ID.	V2F2FP2

Applicant	Slacker Inc.
Address	16935 W. Bernardo Dr. Suite 270 San Diego, CA 92127

Date of Receipt	July 15, 2008
Issue Date	Aug. 01, 2008
Report No.	087283R-RFUSP05V01
Version	V1.0

The test results relate only to the samples tested.

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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

# Test Report Certification

Issue Date: Aug. 01, 2008

Report No.: 087283R-RFUSP05V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

Product Name	G2 Personal Portable Radio
Applicant	Slacker Inc.
Address	16935 W. Bernardo Dr. Suite 270 San Diego, CA 92127
Manufacturer	MICRO-STAR INT'L Co., LTD.
Model No.	MS-5616, 90260007-0001 (4GB), 90260008-001 (8GB)
Rated Voltage	AC 120V/60Hz
Working Voltage	DC 5V
Trade Name	SLACKER
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007 ANSI C63.4: 2003
Test Result	Complied



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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	G2 Personal Portable Radio
Trade Name	SLACKER
Model No.	MS-5616, 90260007-0001 (4GB), 90260008-001 (8GB)
FCC ID.	V2F2FP2
Frequency Range	2412-2462MHz
Number of Channels	802.11g: 11
Data Speed	802.11g: 6 - 54Mbps
Type of Modulation	802.11g: OFDM BPSK, QPSK, 16QAM, 64QAM
Antenna Type	PIFA
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto
USB Cable	Shielded, 0.6m
Power Adapter	MFR: Ktec, M/N: KSUFB0500100W1US Input: 100-240V, 50/60Hz 0.15A Output: 5.0V-1.0A

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	INPAQ	EAMS03002xxx	PIFA	0.64 dBi in 2.4 GHz

## 802.11g Center Frequency of Each Channel:

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

## Note:

1. The EUT is an G2 Personal Portable Radio with a built-in 2.4GHz WLAN transceiver.
2. The EUT is including three models for different marketing requirement.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11g transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

## 1.2. Operational Description

The EUT is a G2 Personal Portable Radio with 11 channels. This device provided eighth kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps. The device only support IEEE 8002.11g and the RF carrier modulation is OFDM (IEEE 802.11g).

This G2 Personal Portable Radio, compliant with IEEE 802.11g, is a high-efficiency Wireless LAN adapter. It allows your mp3 to connect to a wireless network and to share resources, such as files without being bound to the network wires. The G2 Personal Portable Radio Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11g network.

Test Mode:	Mode 1: Transmitter (802.11g 6Mbps)
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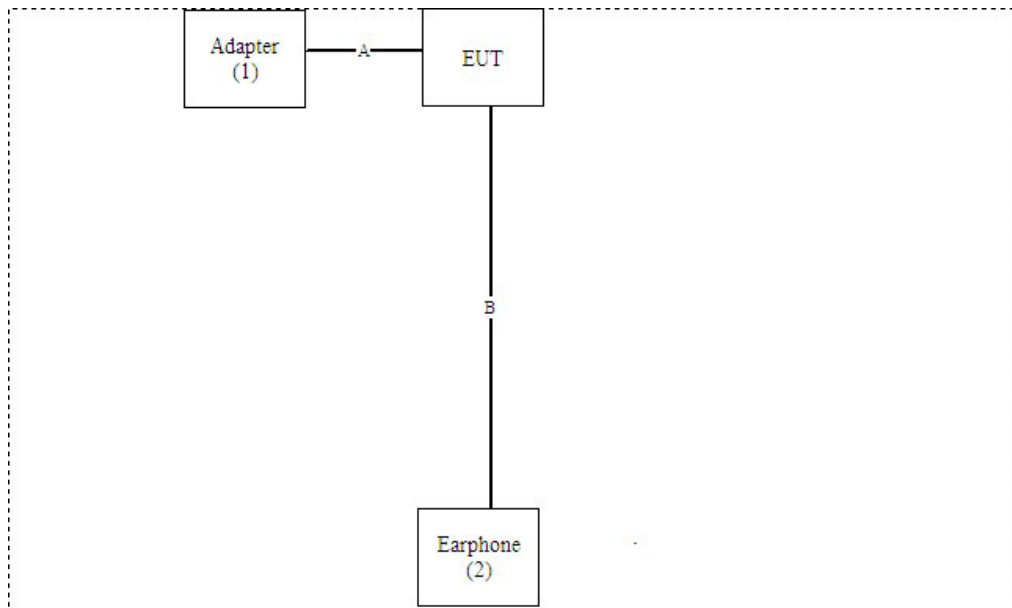
### 1.3. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	Adapter	Ktec	KSUFB0500100W1US	N/A	N/A
(2)	Earphone	MSI	N/A	N/A	N/A

Signal Cable Type	Signal cable Description
A USB Cable	Shielded, 0.6m
B Earphone Cable	Non-Shielded, 1.2m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Open the power of EUT
- (3) According to different buttons on EUT, Can transmit different test frequency
- (4) Verify that the EUT works properly.



## 1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>  
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on  
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FCC Engineering Laboratory  
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Registration Number: 92195



Accreditation on NVLAP  
NVLAP Lab Code: 200533-0



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FCC Accreditation Number: TW1014



## 2. Conducted Emission

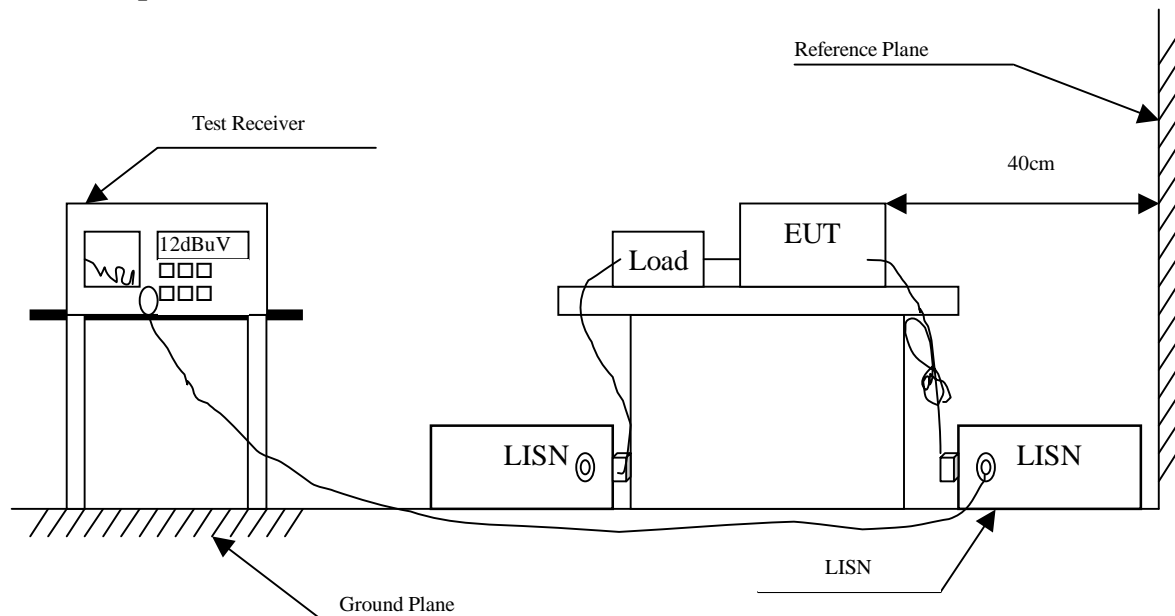
### 2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

### 2.2. Test Setup



### 2.3. Limits

FCC Part 15 Subpart B Paragraph 15.107 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AVG
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

### 2.4. 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 according to ANSI C63.4: 2003 on conducted measurement.

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

### 2.5. Uncertainty


± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product : G2 Personal Portable Radio  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.209	9.850	40.280	50.130	-14.184	64.314
0.255	9.848	36.410	46.258	-16.742	63.000
0.298	9.840	28.180	38.020	-23.751	61.771
0.357	9.840	31.130	40.970	-19.116	60.086
0.420	9.833	28.840	38.673	-19.613	58.286
1.494	9.835	24.850	34.685	-21.315	56.000
<b>Average</b>					
0.209	9.850	26.160	36.010	-18.304	54.314
0.255	9.848	22.270	32.118	-20.882	53.000
0.298	9.840	13.230	23.070	-28.701	51.771
0.357	9.840	17.580	27.420	-22.666	50.086
0.420	9.833	13.910	23.743	-24.543	48.286
1.494	9.835	7.330	17.165	-28.835	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : G2 Personal Portable Radio  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.150	9.876	45.470	55.346	-10.654	66.000
0.201	9.860	40.340	50.200	-14.343	64.543
0.267	9.854	33.730	43.584	-19.073	62.657
0.310	9.850	30.010	39.860	-21.569	61.429
0.357	9.844	28.540	38.384	-21.702	60.086
0.455	9.831	25.070	34.901	-22.385	57.286
<b>Average</b>					
0.150	9.876	29.280	39.156	-16.844	56.000
0.201	9.860	23.830	33.690	-20.853	54.543
0.267	9.854	17.490	27.344	-25.313	52.657
0.310	9.850	14.440	24.290	-27.139	51.429
0.357	9.844	14.540	24.384	-25.702	50.086
0.455	9.831	17.170	27.001	-20.285	47.286

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. “ ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

### 3. Peak Power Output

#### 3.1. Test Equipment

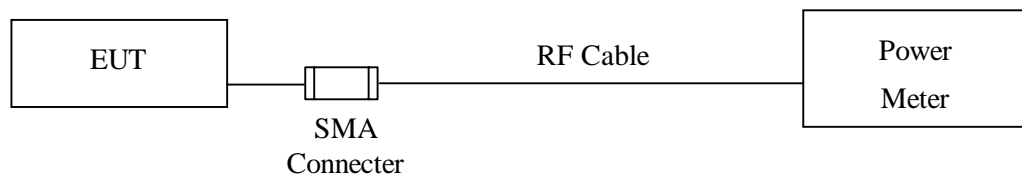
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
X	Power Sensor	Anritsu	MA2491A/034457	May, 2008

Note: 1. All instruments are calibrated every one year.  
2. The test instruments marked by "X" are used to measure the final test results.

#### 3.2. Test Setup

Conducted Measurement



#### 3.3. Limits

The maximum peak power shall be less 1 Watt.

#### 3.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

#### 3.5. Uncertainty

± 1.27 dB

### 3.6. Test Result of Peak Power Output

Product : G2 Personal Portable Radio  
 Test Item : Peak Power Output Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

Peak Power Output										
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		6	9	12	18	24	36	48	54	
1	2412.00	--	--	--	--	--	--	--	22.06	1Watt= 30 dBm
6	2437.00	20.71	20.93	21.09	21.22	21.34	21.51	21.64	21.89	1Watt= 30 dBm
11	2462.00	--	--	--	--	--	--	--	20.99	1Watt= 30 dBm

## 4. Radiated Emission

### 4.1. Test Equipment

The following test equipment are used during the radiated emission test:

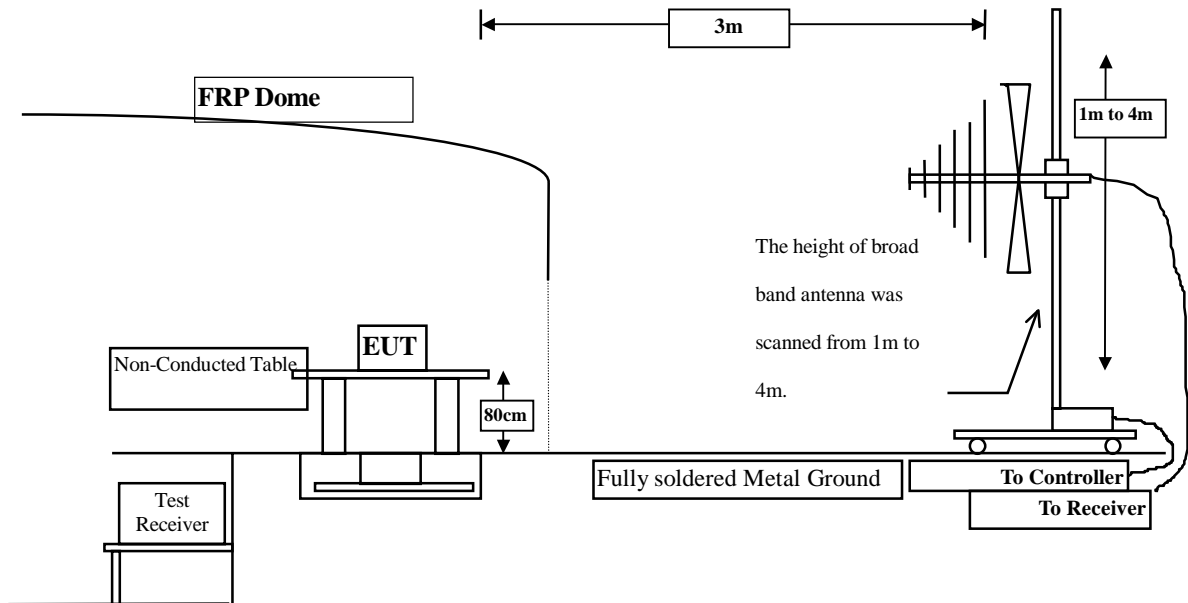
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2007
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2007
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2007
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2008
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
  2. The test instruments marked with “X” are used to measure the final test results.

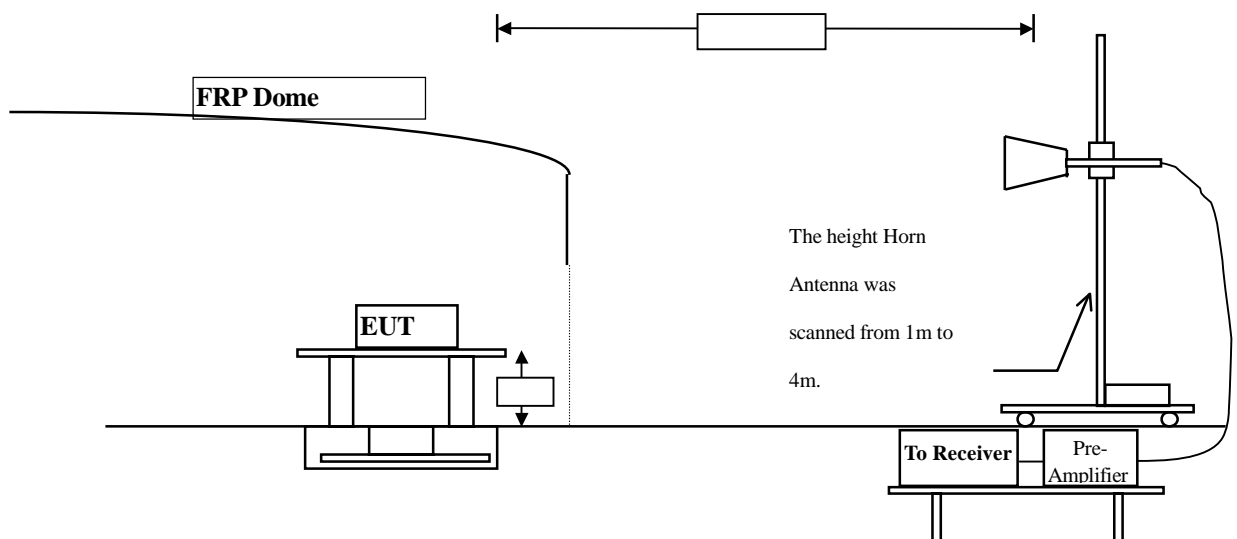


## 4.2. Test Setup

### Radiated Emission Below 1GHz



### Radiated Emission Above 1GHz



### 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

#### **4.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

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

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product : G2 Personal Portable Radio  
Test Item : Harmonic Radiated Emission Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2412MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4824.000	3.723	57.510	61.233	-12.767	74.000
5612.000	4.848	66.550	71.398	-2.602	74.000
7236.000	9.439	36.490	45.929	-28.071	74.000
9648.000	11.829	36.120	47.949	-26.051	74.000
<b>Average</b>					
<b>Detector:</b>					
4824.000	3.723	40.910	44.633	-9.367	54.000
5612.000	4.848	28.570	33.418	-20.582	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	3.723	49.690	53.413	-20.587	74.000
5612.000	4.848	56.530	61.378	-12.622	74.000
7236.000	9.439	36.240	45.679	-28.321	74.000
9648.000	11.829	36.670	48.499	-25.501	74.000
<b>Average</b>					
<b>Detector:</b>					
5612.000	4.848	23.350	28.198	-25.802	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : G2 Personal Portable Radio  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	3.893	53.650	57.542	-16.458	74.000
5651.000	4.915	67.860	72.775	-1.225	74.000
7311.000	9.624	36.410	46.034	-27.966	74.000
9748.000	11.805	36.010	47.816	-26.184	74.000
<b>Average</b>					
<b>Detector:</b>					
4874.000	34.820	43.200	47.092	-6.908	54.000
5612.000	4.848	27.330	32.178	-21.822	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	3.893	49.600	53.492	-20.508	74.000
5651.000	4.915	66.210	71.125	-2.875	74.000
7311.000	9.624	35.270	44.894	-29.106	74.000
9748.000	11.805	35.890	47.696	-26.304	74.000
<b>Average</b>					
<b>Detector:</b>					
5651.000	4.915	27.090	32.005	-21.995	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : G2 Personal Portable Radio  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	4.075	56.460	60.535	-13.465	74.000
5612.000	4.848	66.350	71.198	-2.802	74.000
7386.000	9.812	36.450	46.262	-27.738	74.000
9848.000	11.819	35.790	47.609	-26.391	74.000
<b>Average</b>					
<b>Detector:</b>					
5612.000	4.848	26.700	31.548	-22.452	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	4.075	50.090	54.165	-19.835	74.000
5612.000	4.848	58.150	62.998	-11.002	74.000
7386.000	9.812	36.980	46.792	-27.208	74.000
9848.000	11.819	35.770	47.589	-26.411	74.000
<b>Average</b>					
<b>Detector:</b>					
4924.000	4.075	38.610	42.685	-11.315	54.000
5612.000	4.848	24.940	29.788	-24.212	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : G2 Personal Portable Radio  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
142.520	12.083	10.676	22.759	-20.741	43.500
458.740	18.602	4.433	23.035	-22.965	46.000
547.980	20.368	6.487	26.855	-19.145	46.000
745.860	20.804	6.506	27.310	-18.690	46.000
825.400	21.862	6.469	28.331	-17.669	46.000
930.160	22.928	5.281	28.209	-17.791	46.000
<b>Vertical</b>					
379.200	16.655	5.071	21.726	-24.274	46.000
515.000	18.679	5.557	24.236	-21.764	46.000
689.600	20.441	3.575	24.016	-21.984	46.000
747.800	23.164	2.087	25.251	-20.749	46.000
827.340	21.423	3.762	25.185	-20.815	46.000
967.020	22.939	6.606	29.545	-24.455	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

## 5. RF antenna conducted test

### 5.1. Test Equipment

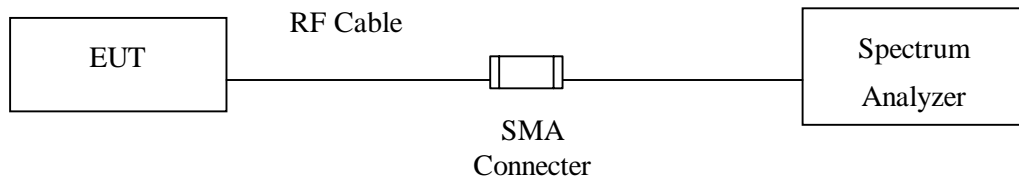
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.  
2. The test instruments marked with “X” are used to measure the final test results.

### 5.2. Test Setup

#### RF antenna Conducted Measurement:



### 5.3. Limits

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)).

### 5.4. Test Procedure

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.



## 5.5. Uncertainty

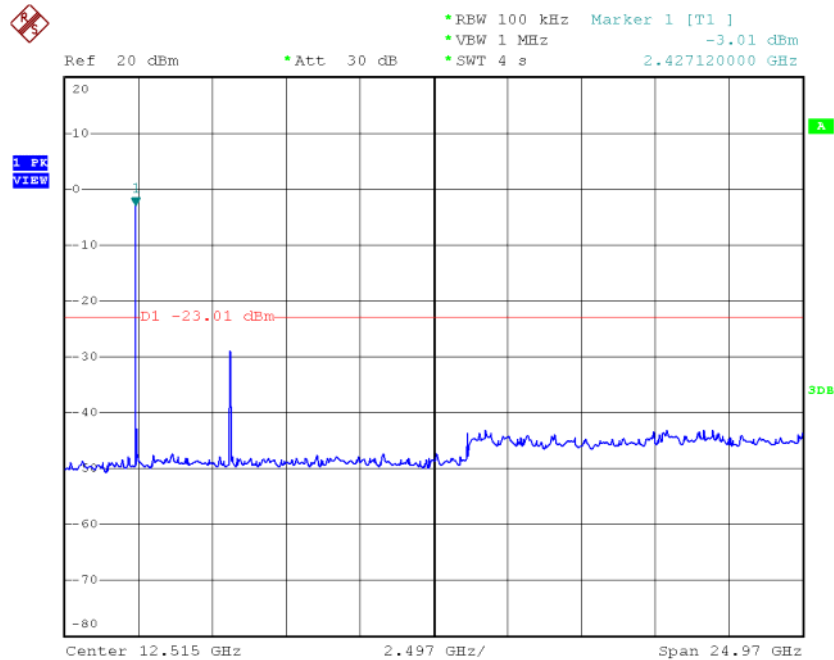
The measurement uncertainty

Conducted is defined as  $\pm 1.27\text{dB}$

## 5.6. Test Result of RF antenna conducted test

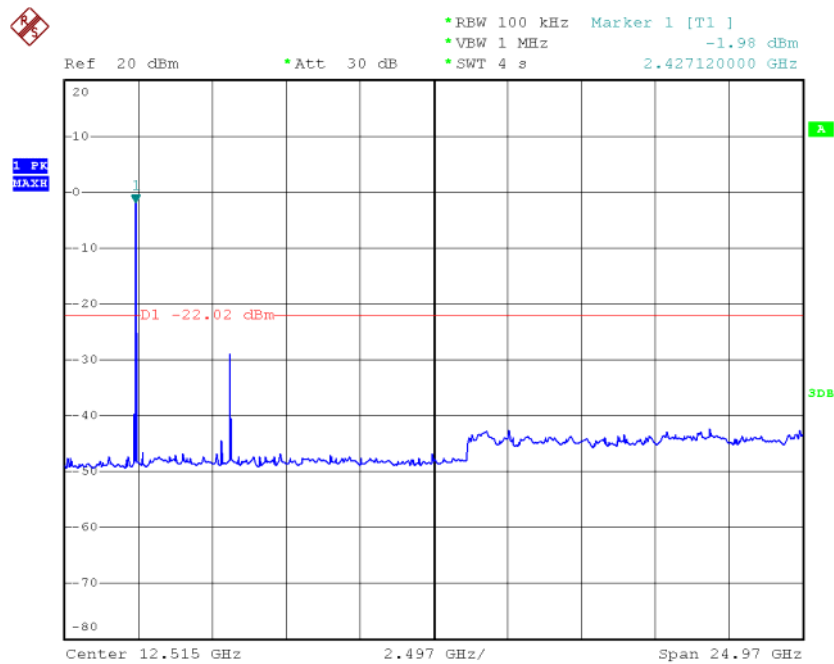
Product : G2 Personal Portable Radio  
 Test Item : RF Antenna Conducted Spurious  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

### Channel 01 (2412MHz) 30-25GHz



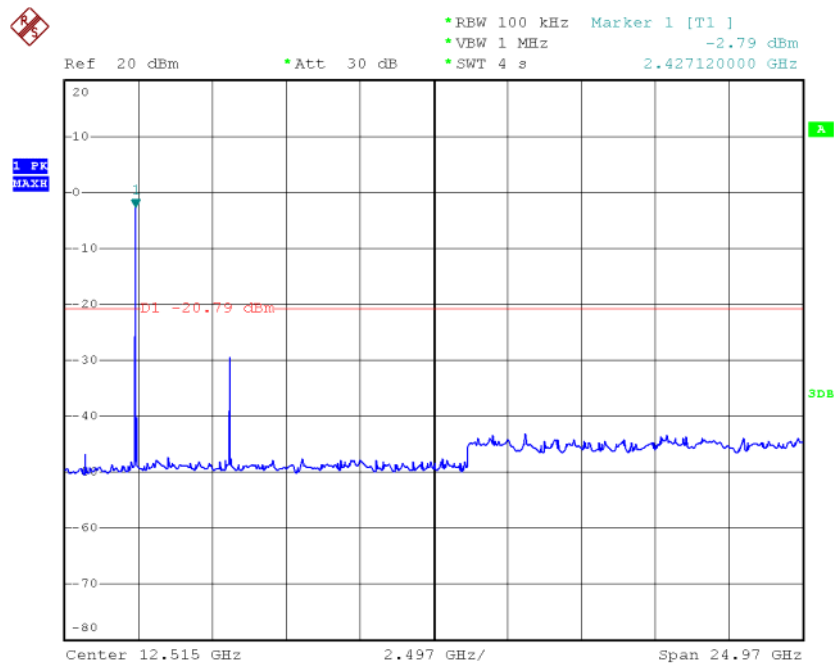
Date: 1.AUG.2008 09:58:34

### Channel 06 (2437MHz) 30-25GHz



Date: 1.AUG.2008 09:56:20

### Channel 11 (2462MHz) 30-25GHz



Date: 1.AUG.2008 09:57:14

## 6. Band Edge

### 6.1. Test Equipment

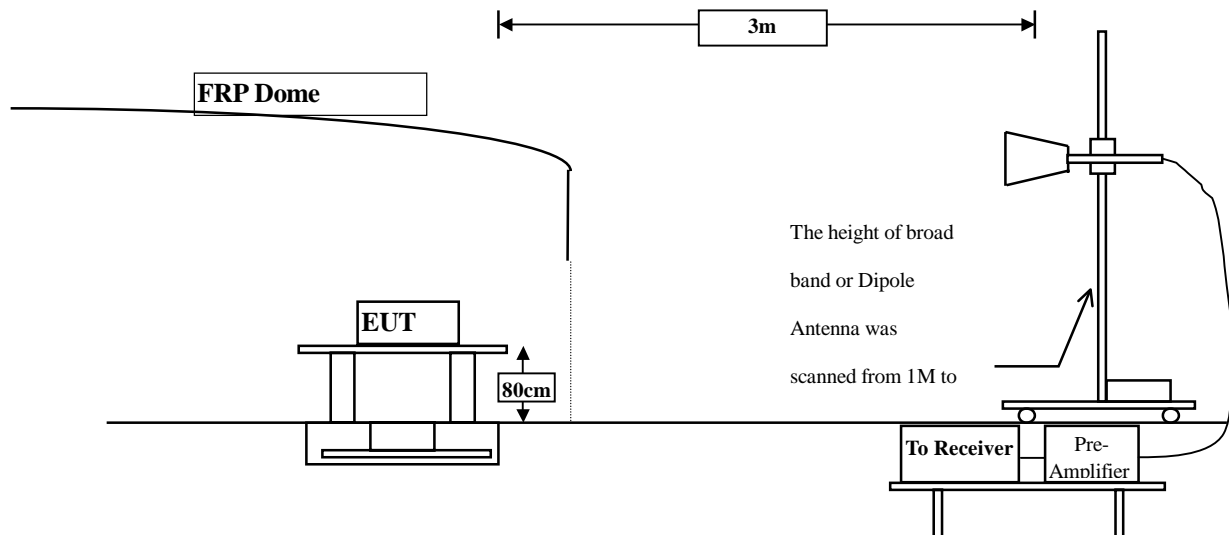
The following test equipments are used during the band edge tests:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2007
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2007
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2007
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2008
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All instruments are calibrated every one year.
  2. The test instruments marked by "X" are used to measure the final test results.

### 6.2. Test Setup

#### RF Radiated Measurement:



### 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

#### **6.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

#### **6.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

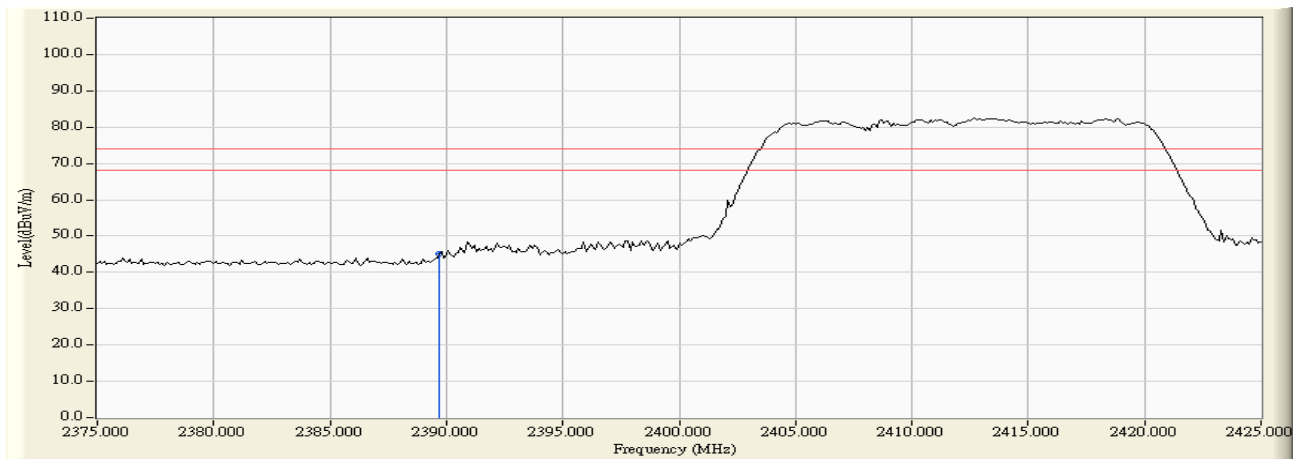
## 6.6. Test Result of Band Edge

Product : G2 Personal Portable Radio  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

### RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2389.700	-2.379	47.541	45.162	74.00	54.00	Pass
01 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 01: Horizontal (Peak)



### Note:

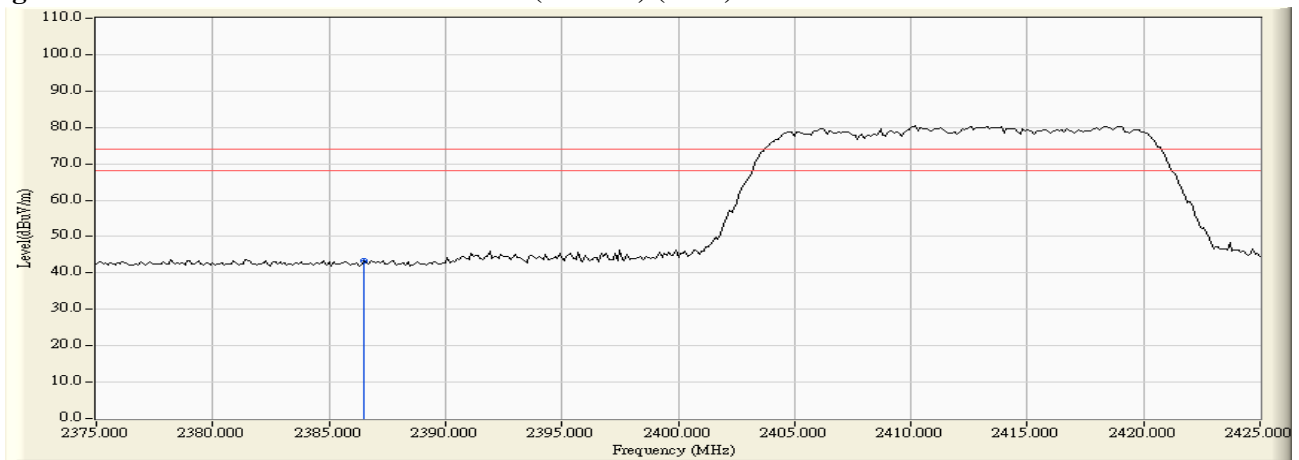
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : G2 Personal Portable Radio  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
01 (Peak)	2386.500	-2.394	45.845	43.451	74.00	54.00	Pass
01 (Average)	--	--	--	--	74.00	54.00	Pass

**Figure Channel 01: (Vertical) (Peak)**



**Note:**

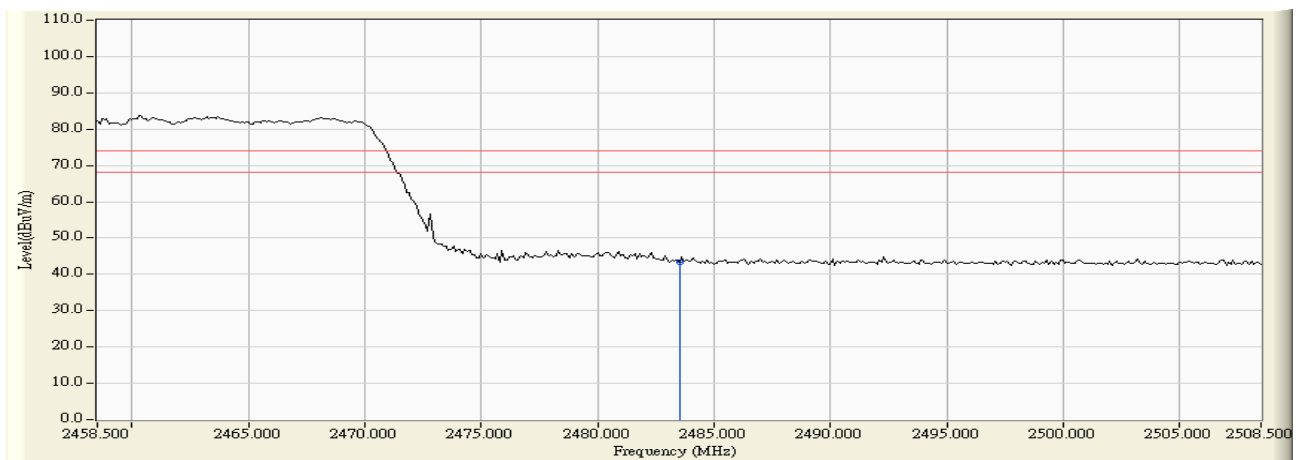
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : G2 Personal Portable Radio  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

**RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2483.500	-1.937	45.319	43.382	74.00	54.00	Pass
11 (Average)	--	--	--	--	74.00	54.00	Pass

**Figure Channel 11: Horizontal (Peak)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

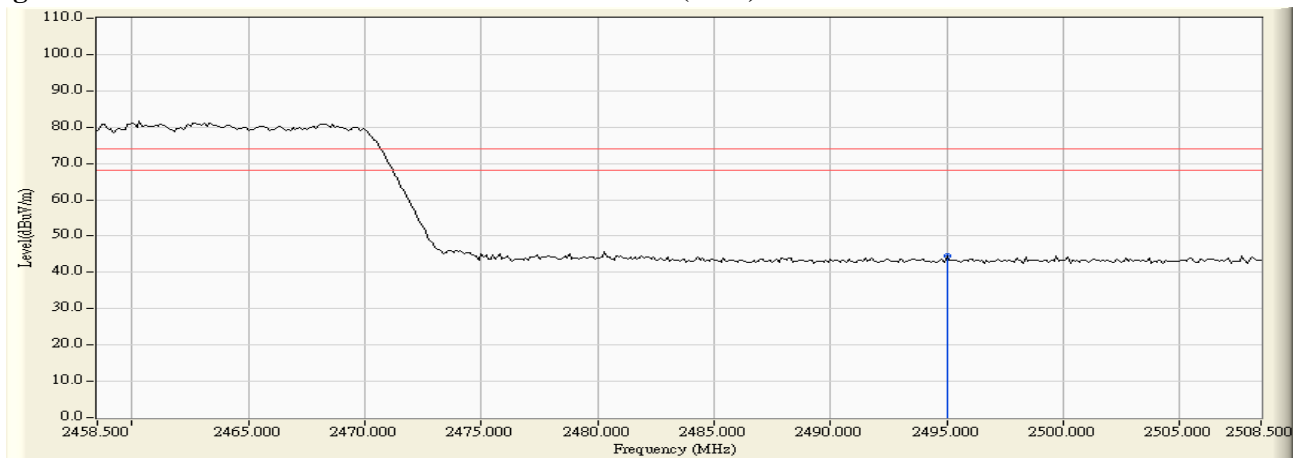


Product : G2 Personal Portable Radio  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps)

**RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2495.000	-1.902	46.306	44.405	74.00	54.00	Pass
11(Average)	--	--	--	--	74.00	54.00	Pass

**Figure Channel 11: Vertical (Peak)**



**Note:**

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ \* ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

## 7. Occupied Bandwidth

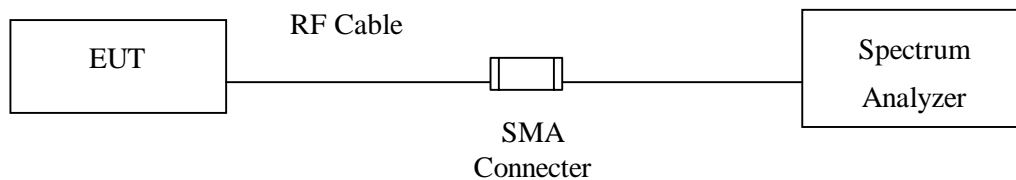
### 7.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All instruments are calibrated every one year.  
2. The test instruments marked by “X” are used to measure the final test results.

### 7.2. Test Setup



### 7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

### 7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Span greater than RBW.

### 7.5. Uncertainty

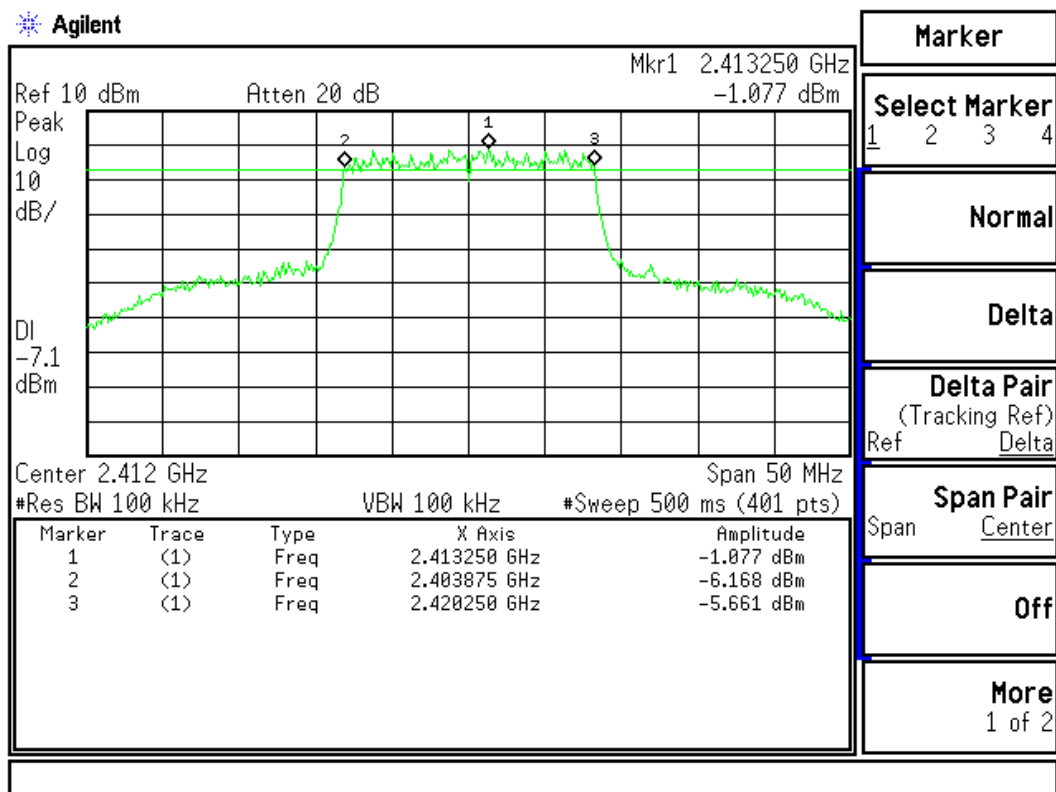
± 150Hz

## 7.6. Test Result of Occupied Bandwidth

Product : G2 Personal Portable Radio  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (54Mbps)	2412.00	16375	>500	Pass

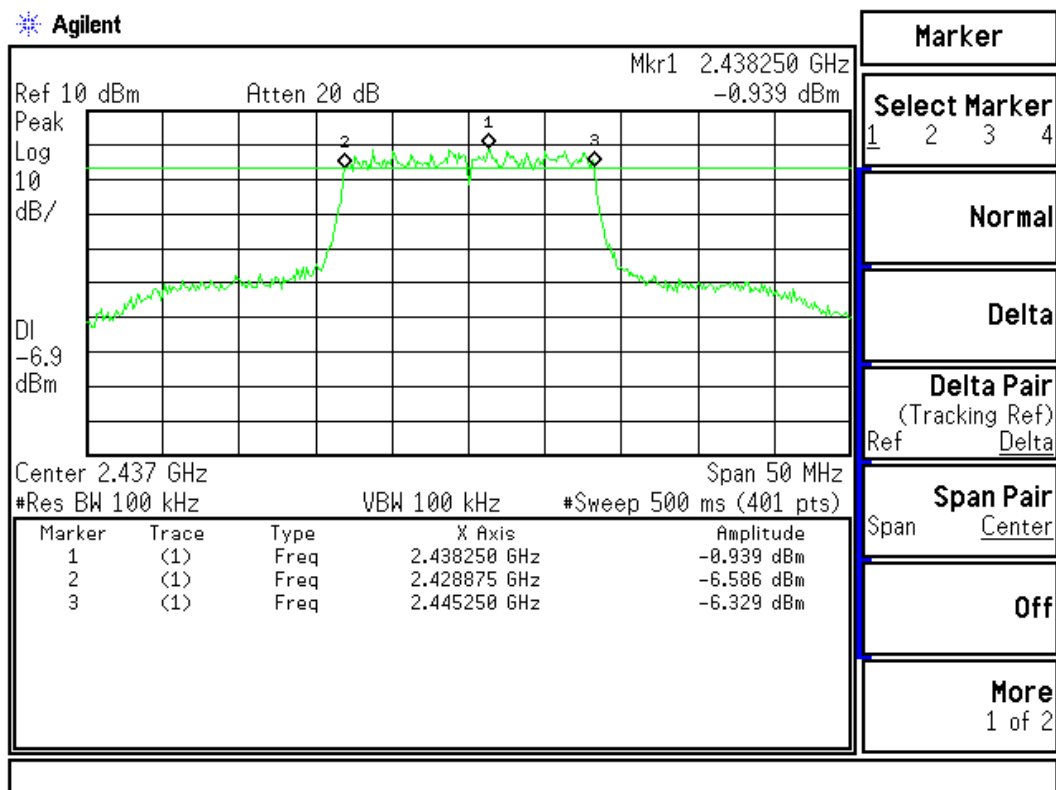
**Figure Channel 1:**



Product : G2 Personal Portable Radio  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (54Mbps)	2437.00	16375	>500	Pass

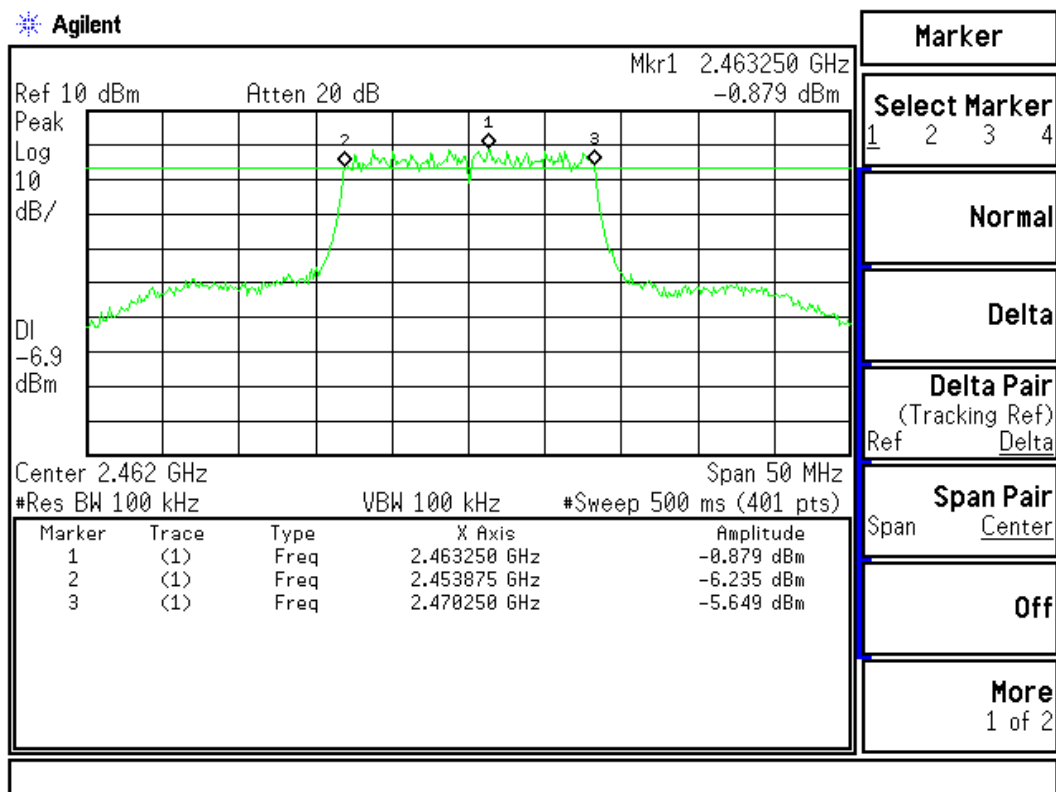
**Figure Channel 6:**



Product : G2 Personal Portable Radio  
 Test Item : Occupied Bandwidth Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (54Mbps)	2462.00	16375	>500	Pass

**Figure Channel 11:**



## 8. Power Density

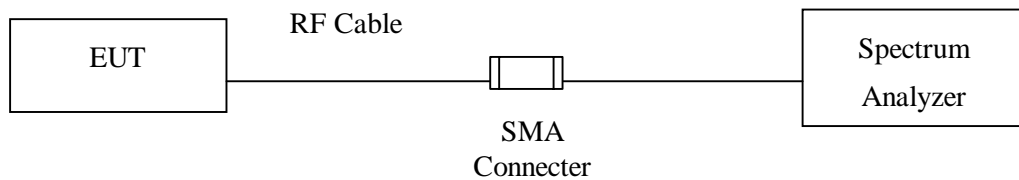
### 8.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All equipments are calibrated every one year.  
2. The test instruments marked by “X” are used to measure the final test results.

### 8.2. Test Setup



### 8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

### 8.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 3 kHz, VBW=10KHz, Sweep time=(SPAN/3KHz), detector=Peak detector

### 8.5. Uncertainty

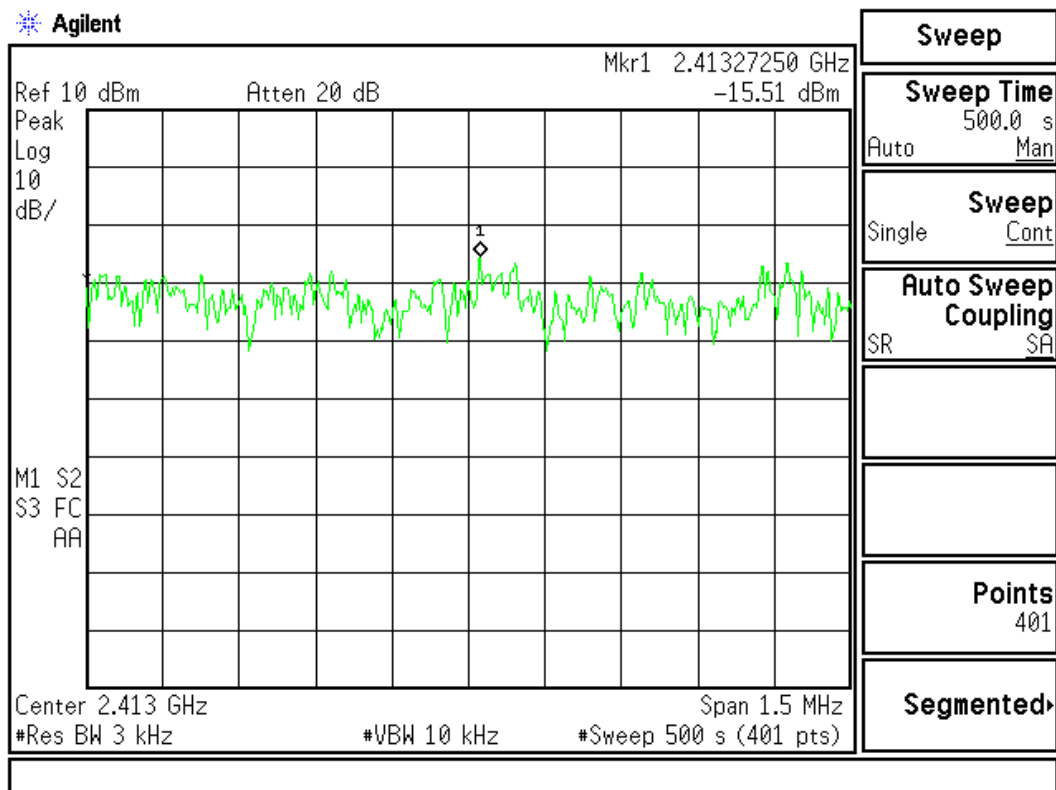
± 1.27 dB

## 8.6. Test Result of Power Density

Product : G2 Personal Portable Radio  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (6Mbps)	2412.00	-15.51	< 8dBm	Pass

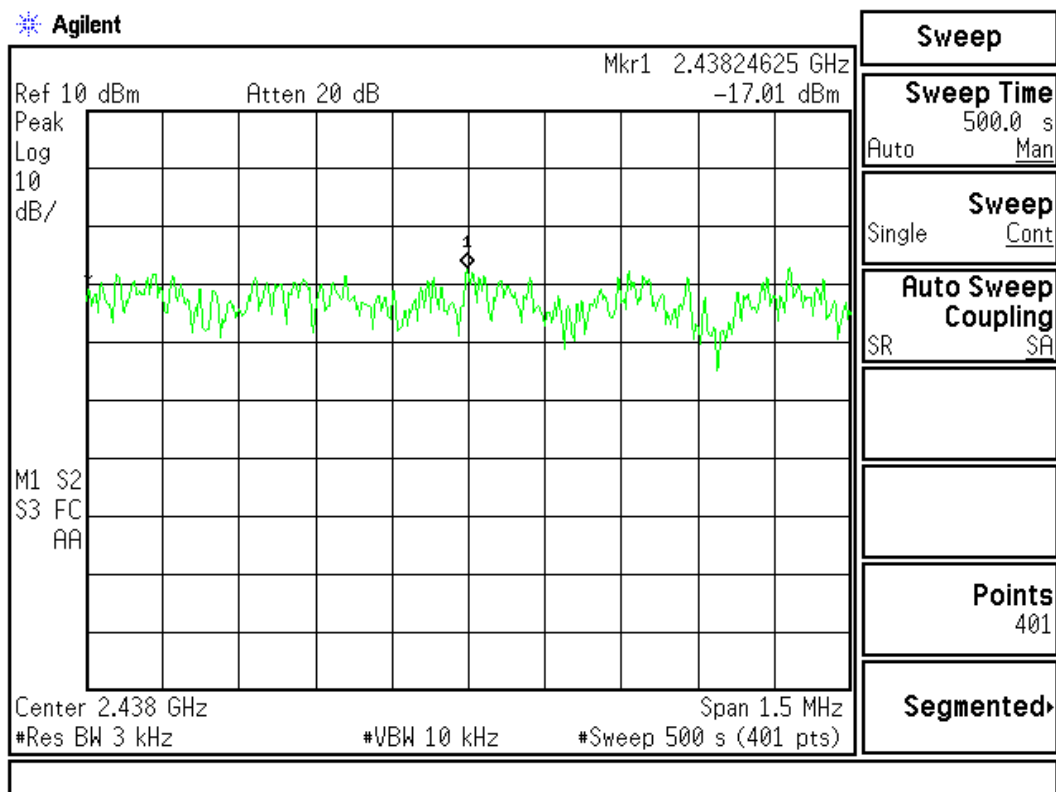
**Figure Channel 1:**



Product : G2 Personal Portable Radio  
 Test Item : Power Density Data  
 Test Site : No.3OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (6Mbps)	2437.000	-17.01	< 8dBm	Pass

**Figure Channel 6:**

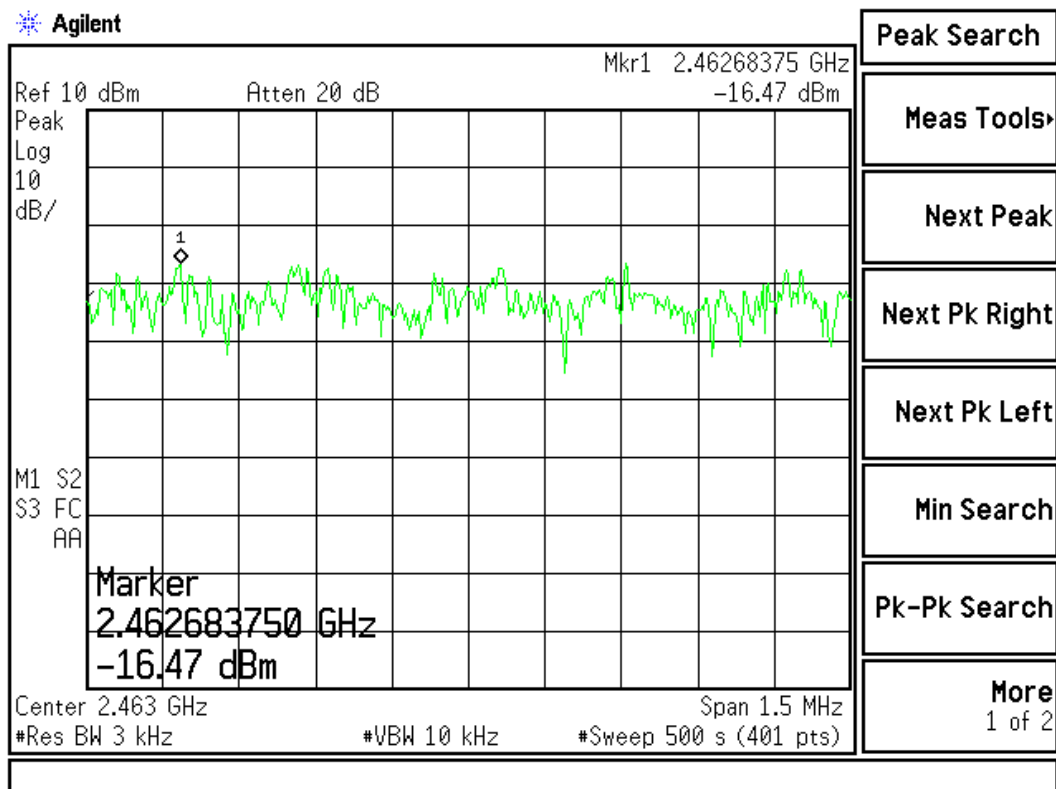




Product : G2 Personal Portable Radio  
 Test Item : Power Density Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (6Mbps)	2462.00	-16.47	< 8dBm	Pass

**Figure Channel 11:**



## **9. EMI Reduction Method During Compliance Testing**

No modification was made during testing.