



Test Report

Product Name : Wireless-AG 23dBm Network Mini PCI Adapter

Model No. : IWAVEPORT WLM54AGP23

FCC ID : TK4-07-WLM54AGP23

Applicant : Compex Systems Pte Ltd.

Address : 135 Joo Seng Road, #08-01 PM Industrial Building
Singapore 368363

Date of Receipt : 2007/06/15

Issued Date : 2007/10/26

Report No. : 076S046-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.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : 2007/10/26

Report No. : 076S046-RF-US-P05V01



Product Name : Wireless-AG 23dBm Network Mini PCI Adapter
 Applicant : Compex Systems Pte Ltd.
 Address : 135 Joo Seng Road, #08-01 PM Industrial Building
 Singapore 368363
 Manufacturer : Compex Systems Pte Ltd.
 Model No. : IWAVEPORT WLM54AGP23
 FCC ID : TK4-07-WLM54AGP23
 Rated Voltage : AC 120V/60Hz
 EUT Voltage : DC 3.3V
 Trade Name : Compex
 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

Documented By : 
 (Any Liu)

Reviewed By : 
 (Dream Cao)

Approved By : 
 (Murphy Wang)

Laboratory Information

We , **Quietek 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:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

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/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.

TEL:+886-3-592-8858 / FAX:+886-3-592-8859

E-Mail : service@quietek.com



LinKou Testing Laboratory :

No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.

TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789

E-Mail : service@quietek.com



Suzhou Testing 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

E-Mail : service@quietek.com



TABLE OF CONTENTS

Description	Page
1. General Information	6
1.1. EUT Description.....	6
1.2. Mode of Operation	8
1.3. Tested System Details	9
1.4. Configuration of Tested System	10
1.5. EUT Exercise Software	11
2. Technical Test	12
2.1. Summary of Test Result.....	12
2.2. Test Environment	13
3. Conducted Emission	14
3.1. Test Equipment	14
3.2. Test Setup.....	14
3.3. Limit... ..	15
3.4. Test Procedure	15
3.5. Uncertainty	15
3.6. Test Result.....	16
4. Radiated Emission.....	28
4.1. Test Equipment	28
4.2. Test Setup.....	28
4.3. Limit.... ..	29
4.4. Test Procedure	30
4.5. Uncertainty	30
4.6. Test Result.....	31
5. Peak Power Output.....	67
5.1. Test Equipment	67
5.2. Test Setup.....	67
5.3. Limit.... ..	67
5.4. Test Procedure	68
5.5. Uncertainty	68
5.6. Test Result.....	69
6. Occupied Bandwidth	73
6.1. Test Equipment	73
6.2. Test Setup.....	73
6.3. Limit.... ..	73
6.4. Test Procedure	74
6.5. Uncertainty	74

6.6.	Test Result.....	75
7.	Band Edge	79
7.1.	Test Equipment.....	79
7.2.	Test Setup.....	79
7.3.	Limit... ..	80
7.4.	Test Procedure	80
7.5.	Uncertainty	81
7.6.	Test Result.....	82
8.	Peak Power Spectral Density.....	102
8.1.	Test Equipment.....	102
8.2.	Test Setup.....	102
8.3.	Limit... ..	102
8.4.	Test Procedure	103
8.5.	Uncertainty	103
8.6.	Test Result.....	104

1. General Information

1.1. EUT Description

Product Name	Wireless-AG 23dBm Network Mini PCI Adapter
Trade Name	Compex
Model No.	IWAVEPORT WLM54AGP23
FCC ID	TK4-07-WLM54AGP23
Working Voltage	DC 3.3V
Frequency Range	802.11b/g: 2412-2462 MHz
Channel Number	802.11b/g: 11
Type of Modulation	802.11b: DSSS 802.11g: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps
Channel Control	Auto
Antenna type	Dipole
Antenna Gain	2.0dBi

802.11b/g Antenna List

No.	Manufacturer	Model No.	Peak Gain
1	Baohua	A5-FCS-003A1	2.0dBi of 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 076S046-RF-US-P01V02, certified under Declaration of Conformity.

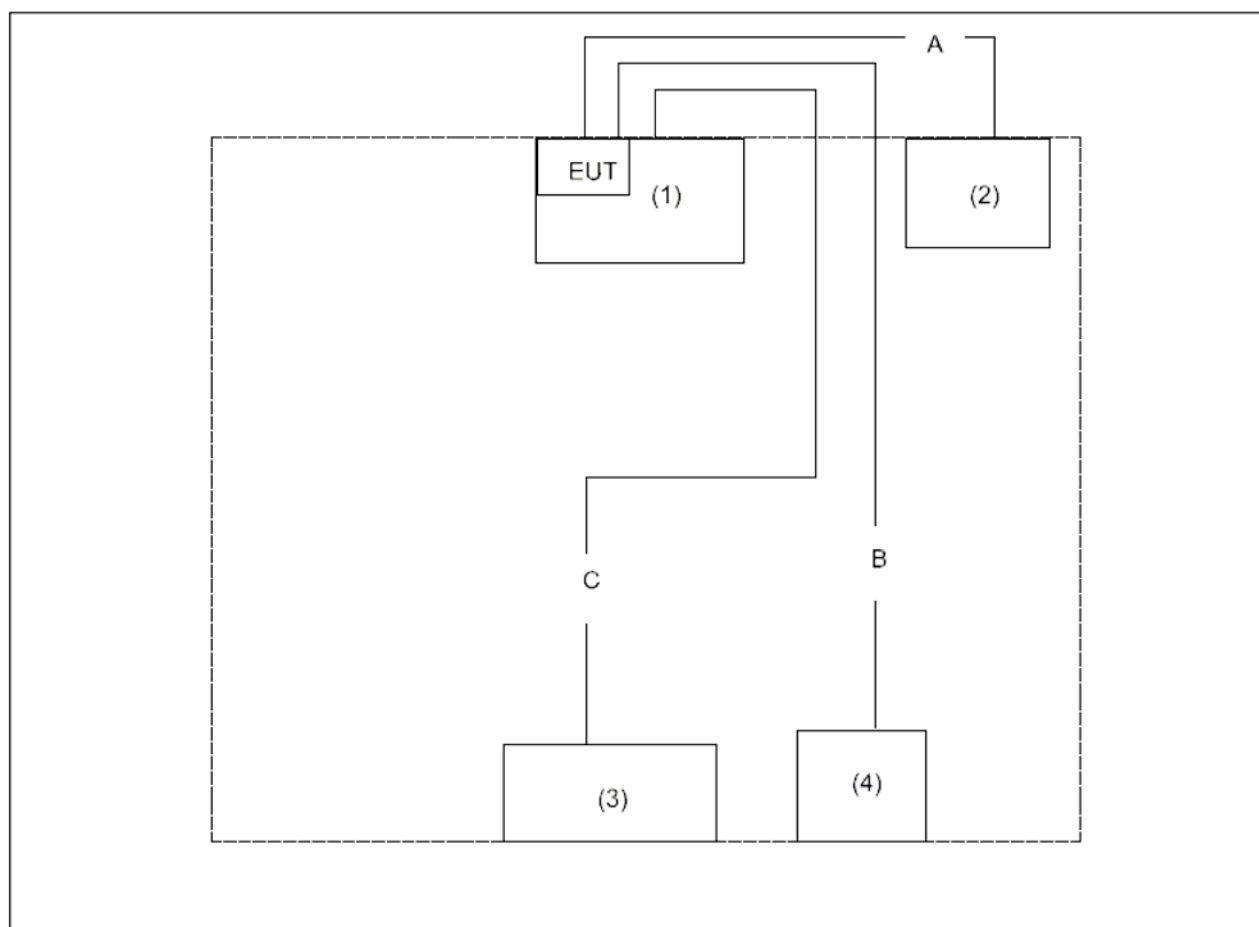
1.3. Tested System Details

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
1	PC	Lenovo	KaiTian M200	2726578	Non-Shielded, 1.8m
2	LCD Monitor	CHI MEI	A170E1-03	36C112338M20707	Power by adaptor
3	USB Keyboard	DELL	L100	CN0RH6566589071C0304	Power by PC
4	USB Mouse	HP	M-UV96	N/A	Power by PC

1.4. Configuration of Tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	D-Sub Cable	Shielded, 1.5m, with two ferrite cores bonded
B	USB Cable	Shielded, 1.8m
C	USB Cable	Shielded, 1.8m, with one ferrite core bonded

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power for the equipments.
3	Run the control software to set the wireless PCI card working at continues transmission modes.

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

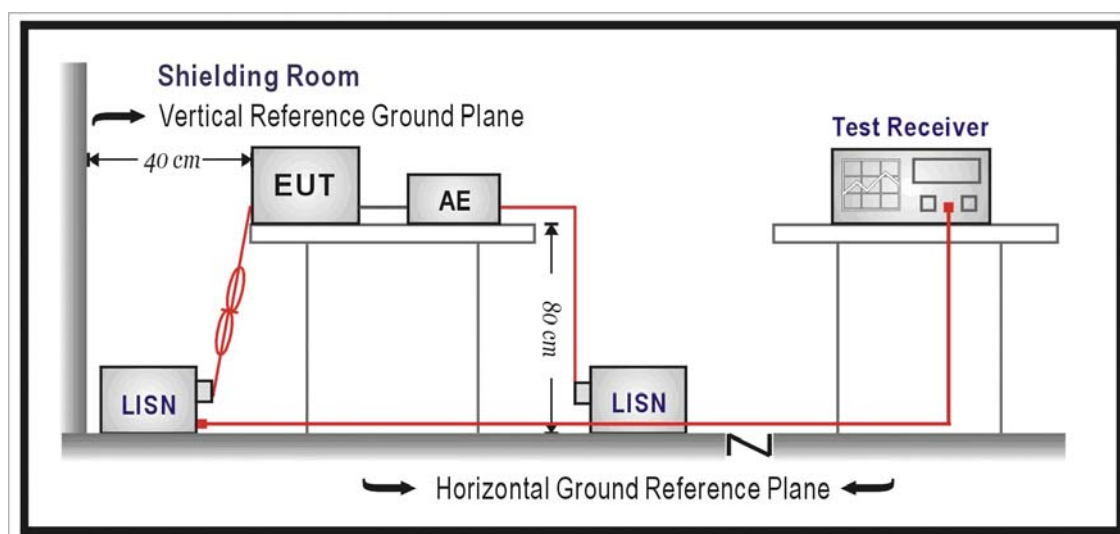
3. Conducted Emission

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.

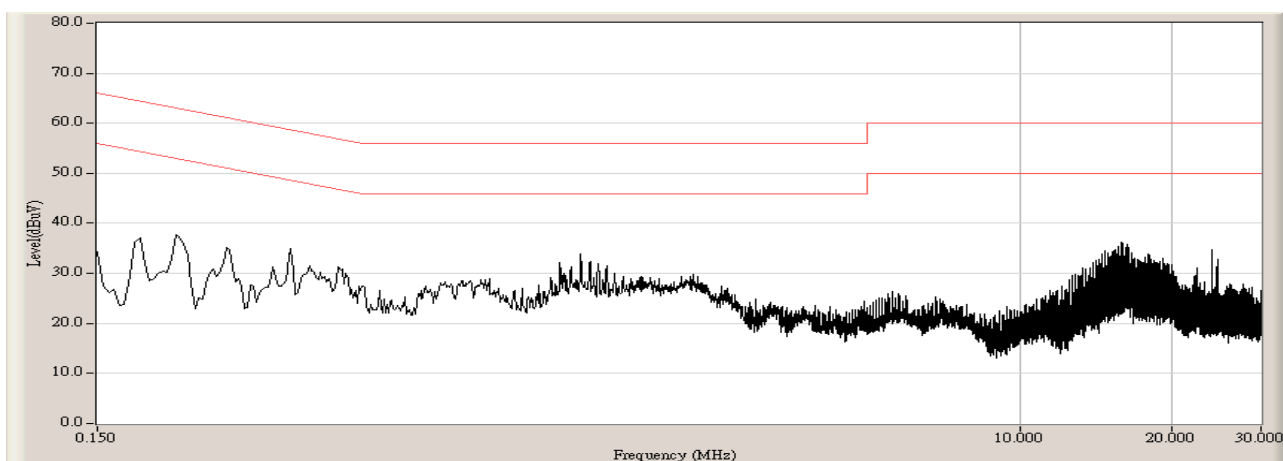
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

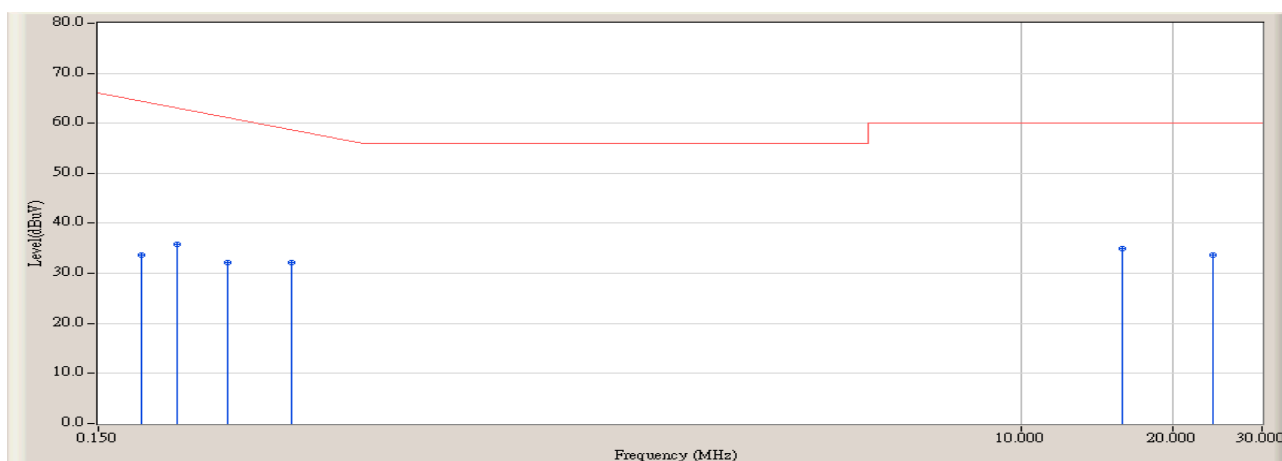
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/10/08 - 19:33
Limit : FCC_Part15.207_QP	Margin : 10
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/10/08 - 19:35
Limit : FCC_Part15.207_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

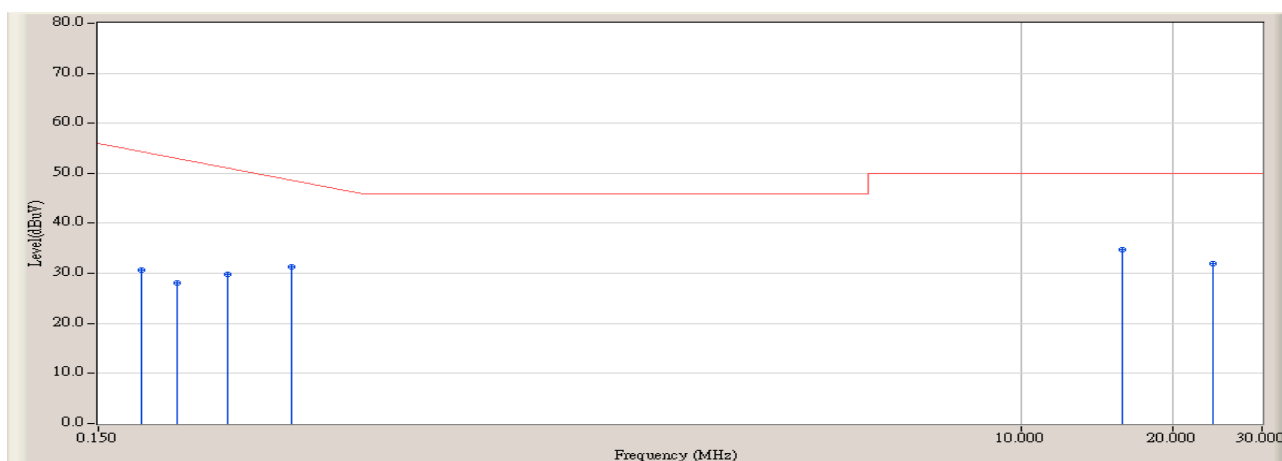


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.768	24.000	33.768	-31.318	65.086	QUASIPeAK
2		0.214	9.416	26.300	35.715	-28.456	64.171	QUASIPeAK
3		0.270	9.437	22.700	32.137	-30.434	62.571	QUASIPeAK
4		0.362	9.538	22.700	32.238	-27.705	59.943	QUASIPeAK
5	*	15.846	10.058	25.000	35.058	-24.942	60.000	QUASIPeAK
6		23.950	10.269	23.300	33.569	-26.431	60.000	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 : 2007/10/08 - 19:35
Limit : FCC_Part15.207_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

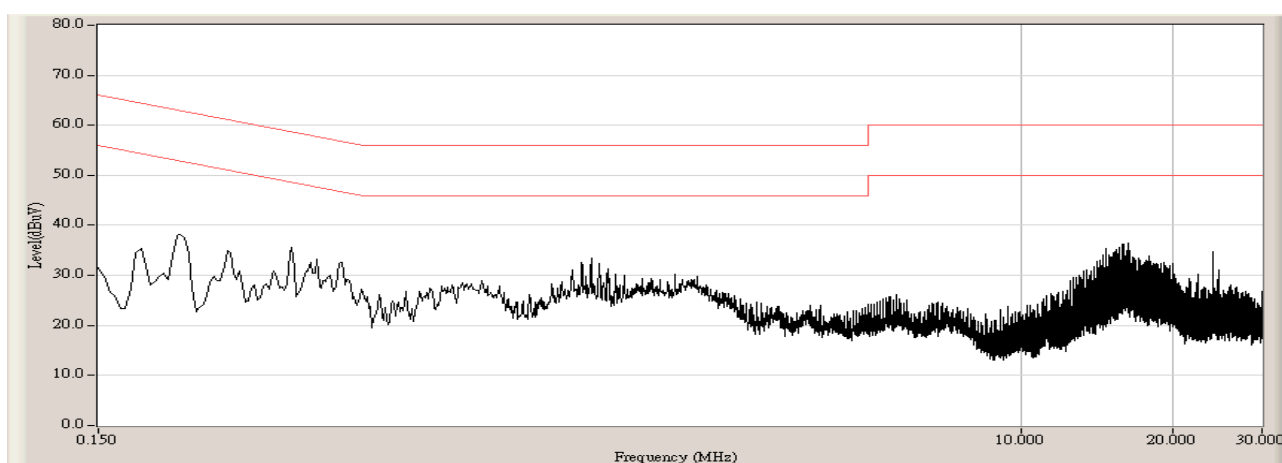


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.768	21.000	30.768	-24.318	55.086	AVERAGE
2		0.214	9.416	18.600	28.015	-26.156	54.171	AVERAGE
3		0.270	9.437	20.300	29.737	-22.834	52.571	AVERAGE
4		0.362	9.538	21.700	31.238	-18.705	49.943	AVERAGE
5	*	15.846	10.058	24.600	34.658	-15.342	50.000	AVERAGE
6		23.950	10.269	21.700	31.969	-18.031	50.000	AVERAGE

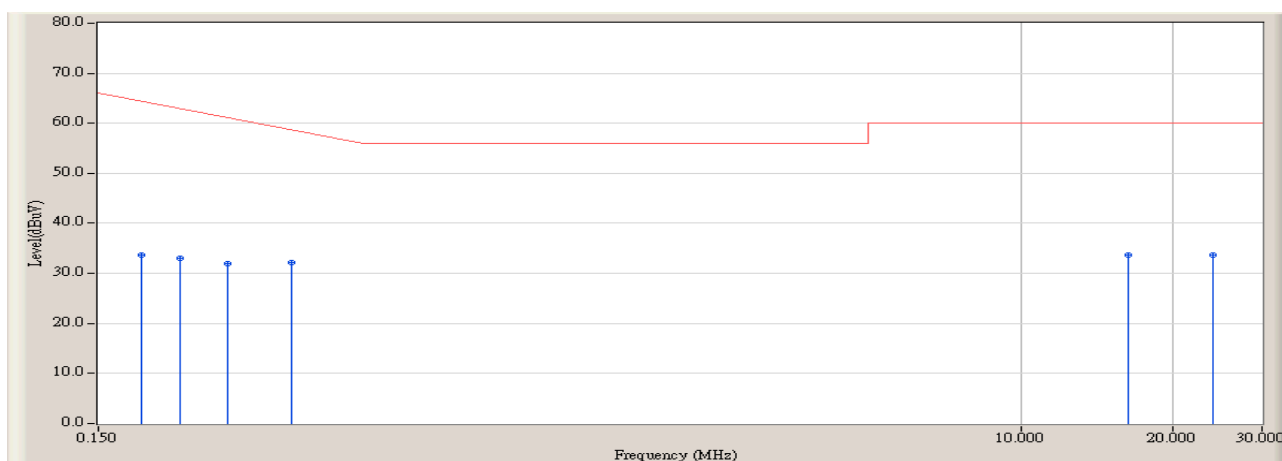
Note:

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 : 2007/10/08 - 19:39
Limit : FCC_Part15.207_QP	Margin : 10
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/10/08 - 19:40
Limit : FCC_Part15.207_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

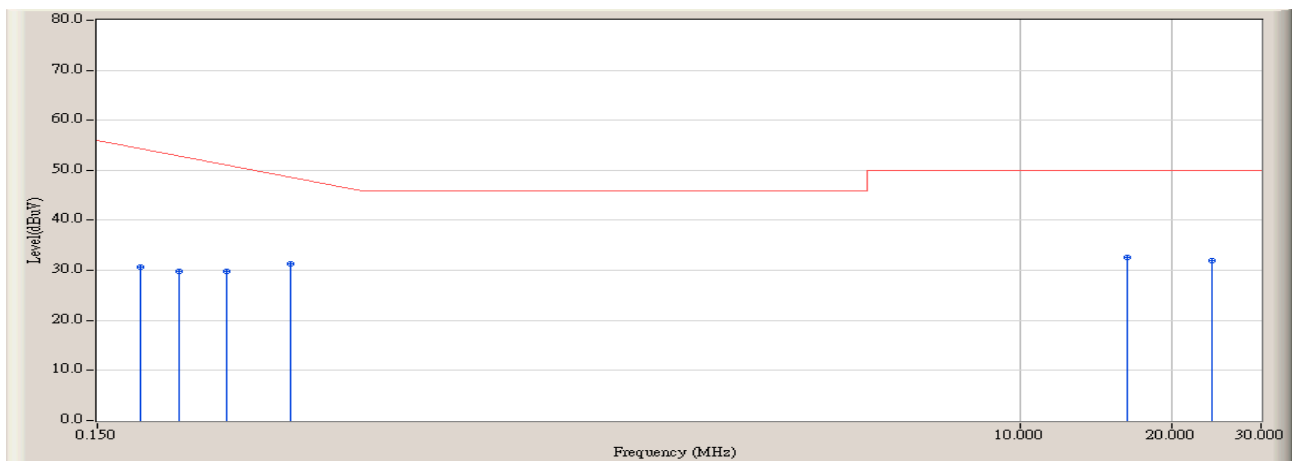


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.602	24.000	33.602	-31.484	65.086	QUASIPeAK
2		0.218	9.509	23.600	33.109	-30.948	64.057	QUASIPeAK
3		0.270	9.557	22.500	32.057	-30.514	62.571	QUASIPeAK
4		0.362	9.648	22.600	32.248	-27.695	59.943	QUASIPeAK
5	*	16.298	10.112	23.500	33.612	-26.388	60.000	QUASIPeAK
6		23.950	10.299	23.300	33.599	-26.401	60.000	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 : 2007/10/08 - 19:40
Limit : FCC_Part15.207_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

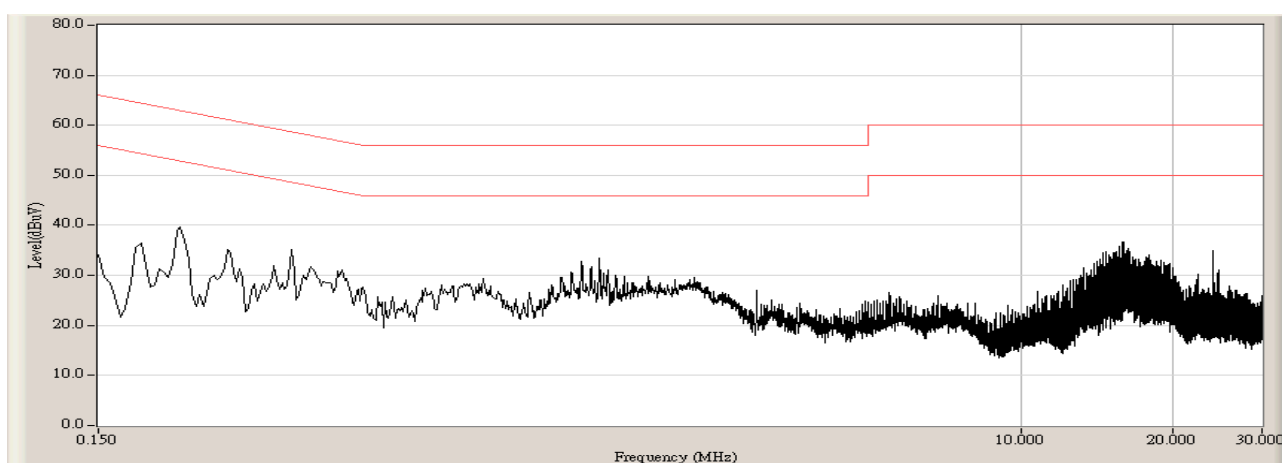


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.602	21.000	30.602	-24.484	55.086	AVERAGE
2		0.218	9.509	20.300	29.809	-24.248	54.057	AVERAGE
3		0.270	9.557	20.300	29.857	-22.714	52.571	AVERAGE
4		0.362	9.648	21.700	31.348	-18.595	49.943	AVERAGE
5	*	16.298	10.112	22.400	32.512	-17.488	50.000	AVERAGE
6		23.950	10.299	21.700	31.999	-18.001	50.000	AVERAGE

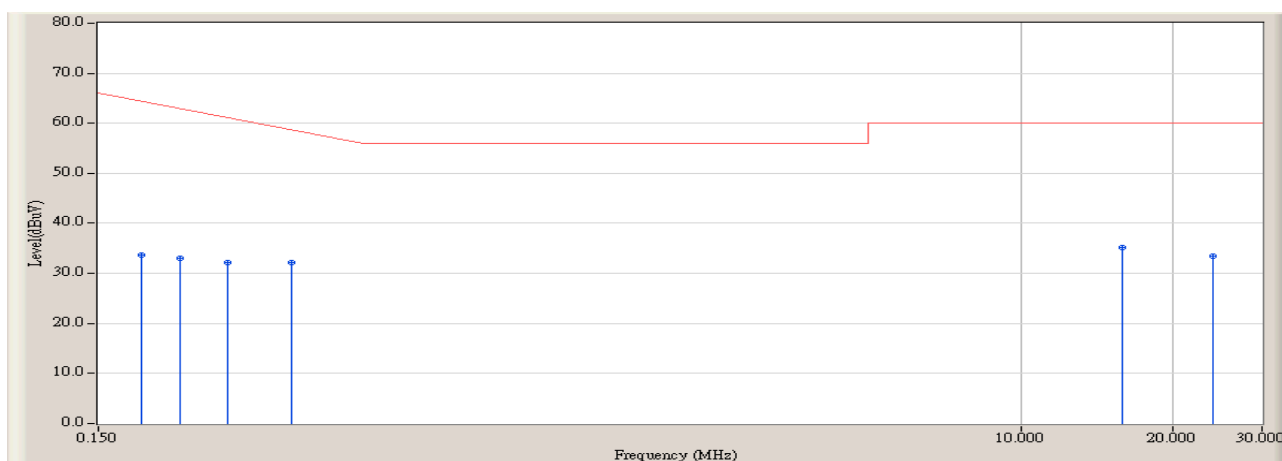
Note:

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 : 2007/10/08 - 19:44
Limit : FCC_Part15.207_QP	Margin : 10
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/10/08 - 19:46
Limit : FCC_Part15.207_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

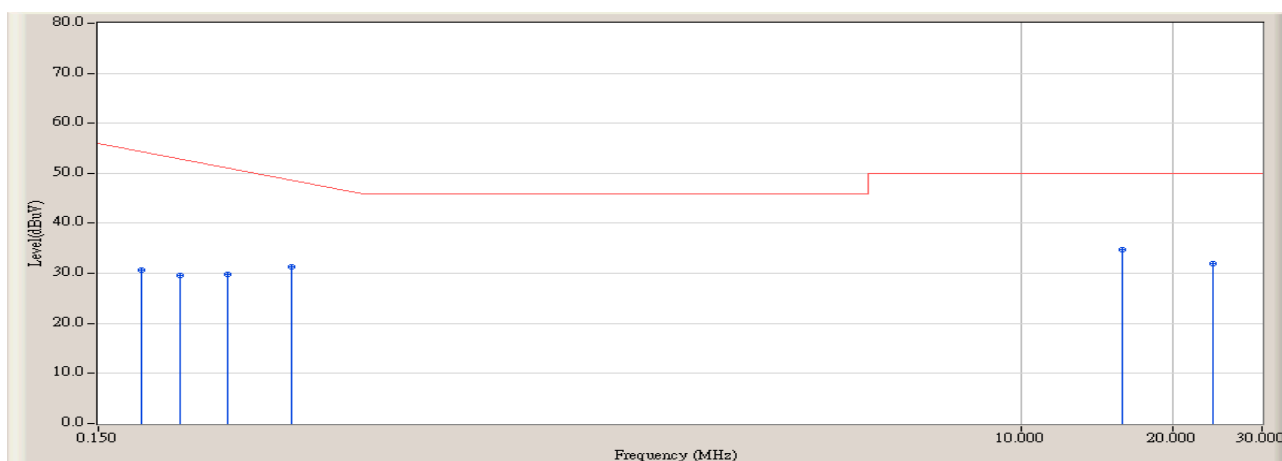


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.768	24.000	33.768	-31.318	65.086	QUASIPeAK
2		0.218	9.384	23.600	32.985	-31.072	64.057	QUASIPeAK
3		0.270	9.437	22.700	32.137	-30.434	62.571	QUASIPeAK
4		0.362	9.538	22.700	32.238	-27.705	59.943	QUASIPeAK
5	*	15.846	10.058	25.100	35.158	-24.842	60.000	QUASIPeAK
6		23.950	10.269	23.100	33.369	-26.631	60.000	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 : 2007/10/08 - 19:46
Limit : FCC_Part15.207_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line1
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

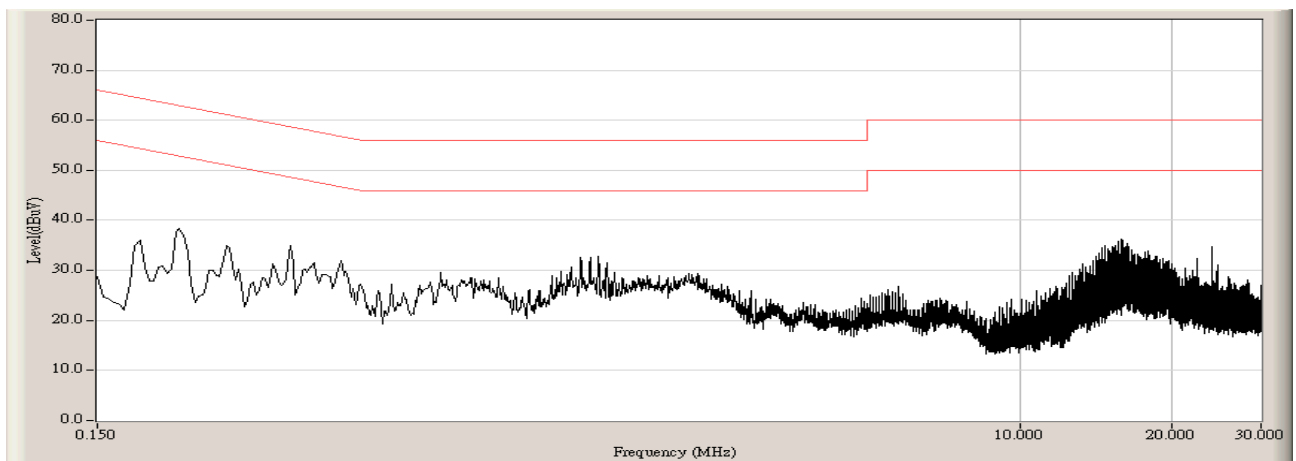


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.768	21.000	30.768	-24.318	55.086	AVERAGE
2		0.218	9.384	20.300	29.685	-24.372	54.057	AVERAGE
3		0.270	9.437	20.300	29.737	-22.834	52.571	AVERAGE
4		0.362	9.538	21.700	31.238	-18.705	49.943	AVERAGE
5	*	15.846	10.058	24.700	34.758	-15.242	50.000	AVERAGE
6		23.950	10.269	21.600	31.869	-18.131	50.000	AVERAGE

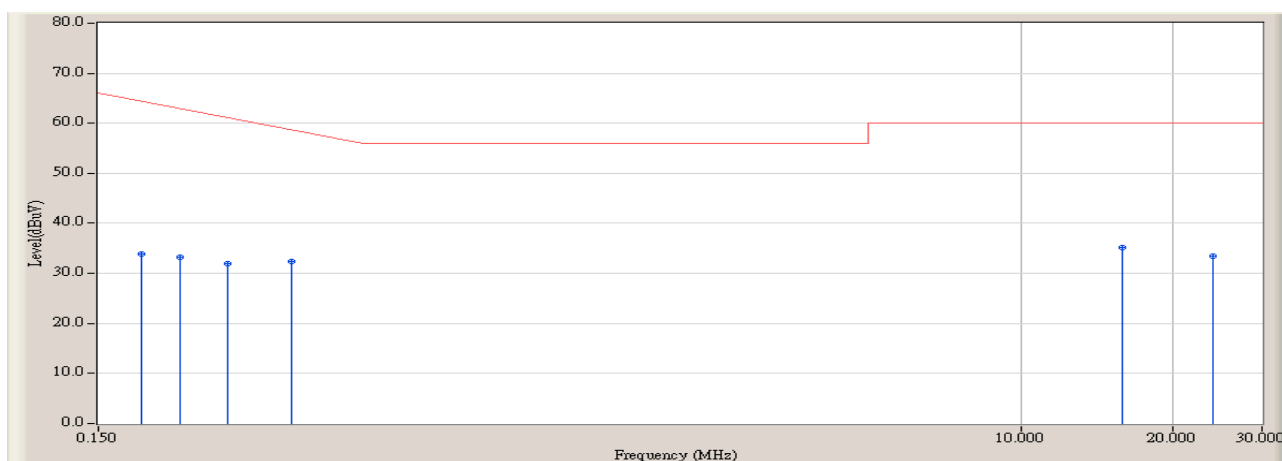
Note:

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 : 2007/10/08 - 19:49
Limit : FCC_Part15.207_QP	Margin : 10
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)



Engineer : Marlin	
Site : SR-1 (Conducted Emission)	Time : 2007/10/08 - 19:51
Limit : FCC_Part15.207_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : ENV216 - Line2
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

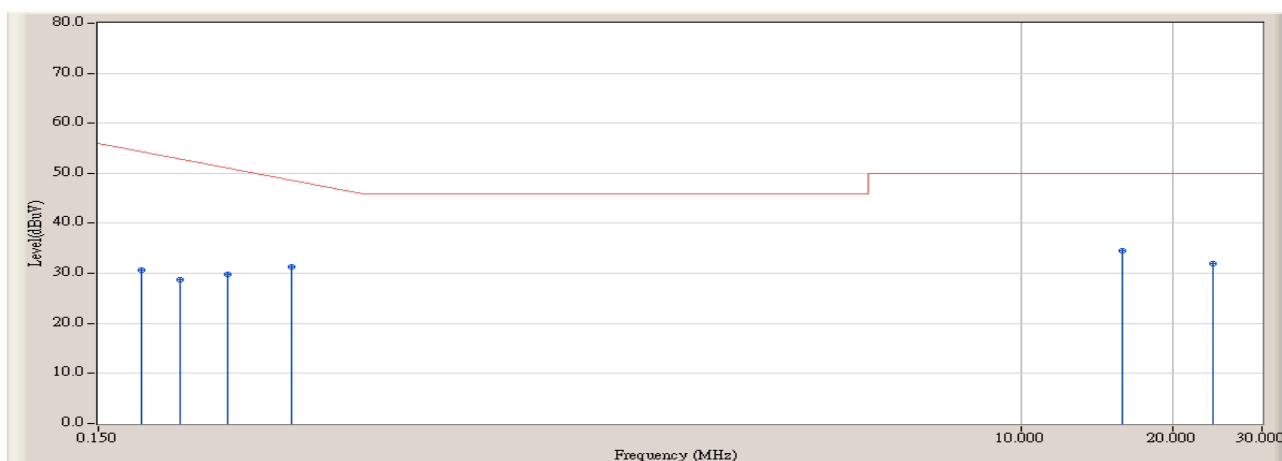


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.182	9.602	24.200	33.802	-31.284	65.086	QUASIPeAK
2		0.218	9.509	23.700	33.209	-30.848	64.057	QUASIPeAK
3		0.270	9.557	22.500	32.057	-30.514	62.571	QUASIPeAK
4		0.362	9.648	22.800	32.448	-27.495	59.943	QUASIPeAK
5	*	15.846	10.118	25.000	35.118	-24.882	60.000	QUASIPeAK
6		23.950	10.299	23.200	33.499	-26.501	60.000	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 : 2007/10/08 - 19:51
Limit : FCC_Part15.207_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	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		0.182	9.602	21.100	30.702	-24.384	55.086	AVERAGE
2		0.218	9.509	19.200	28.709	-25.348	54.057	AVERAGE
3		0.270	9.557	20.300	29.857	-22.714	52.571	AVERAGE
4		0.362	9.648	21.700	31.348	-18.595	49.943	AVERAGE
5	*	15.846	10.118	24.500	34.618	-15.382	50.000	AVERAGE
6		23.950	10.299	21.600	31.899	-18.101	50.000	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

4. Radiated Emission

4.1. Test Equipment

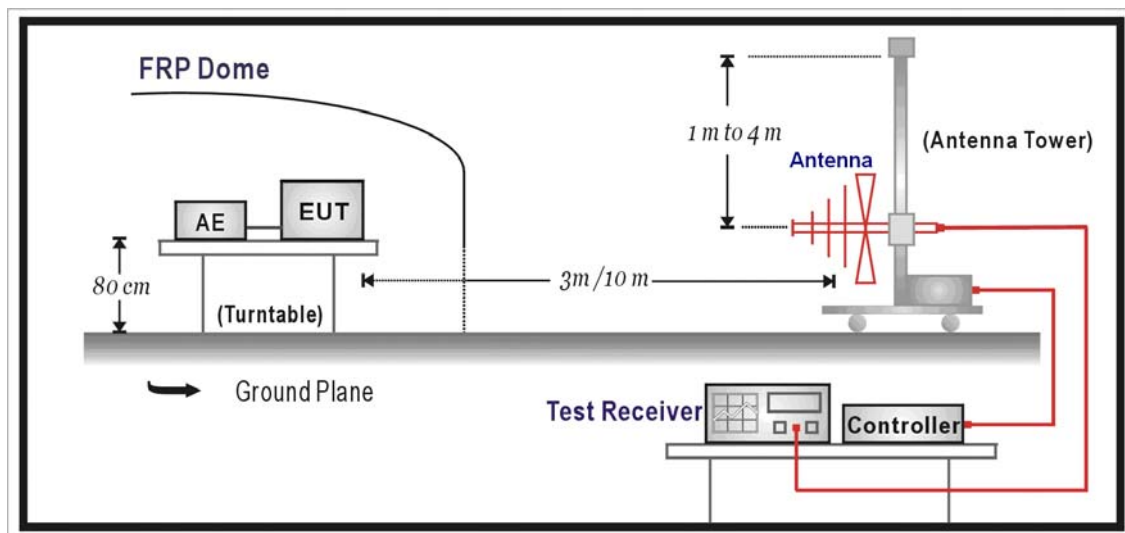
Radiated Emission / AC-2

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

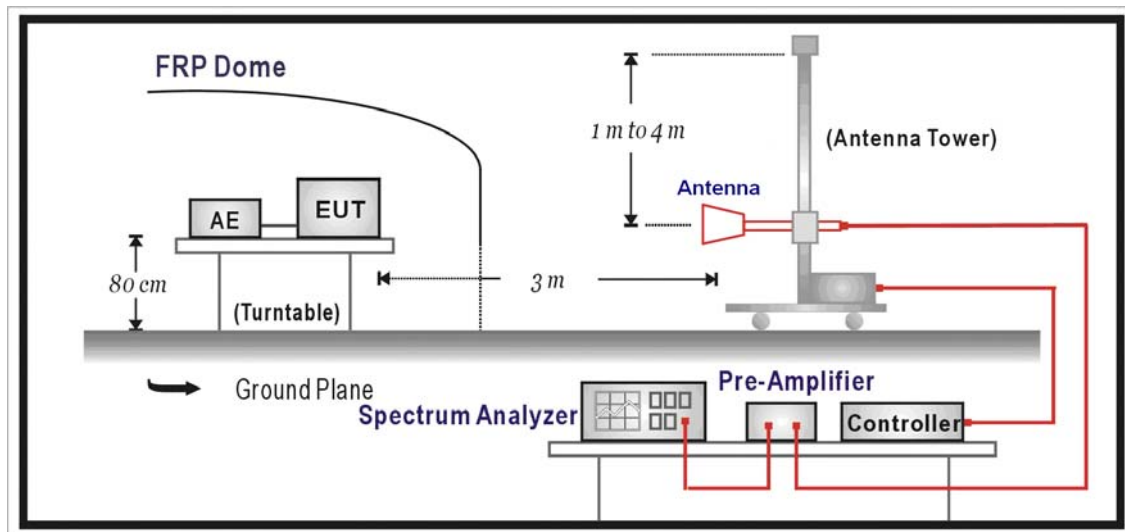
Note: "*" means the test device calibration period for two years.

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. $RF \text{ Voltage (dBuV/m)} = 20 \log RF \text{ Voltage (uV/m)}$

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.

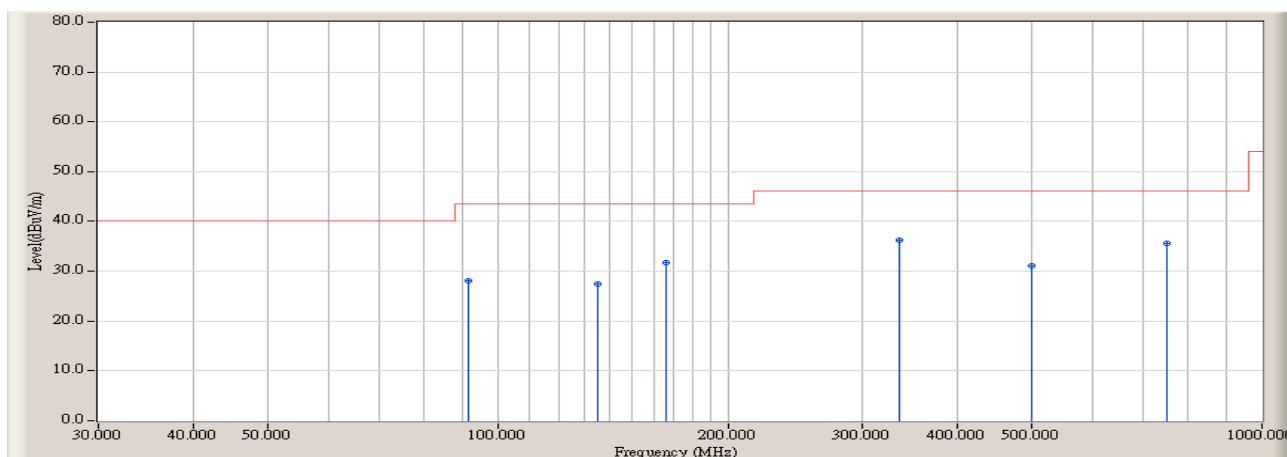
4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

under 1G is defined as ± 3.8 dB

4.6. Test Result

Engineer : Marlin	
Site : AC-2(Radiated Emission)	Time : 2007/10/08 - 14:32
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

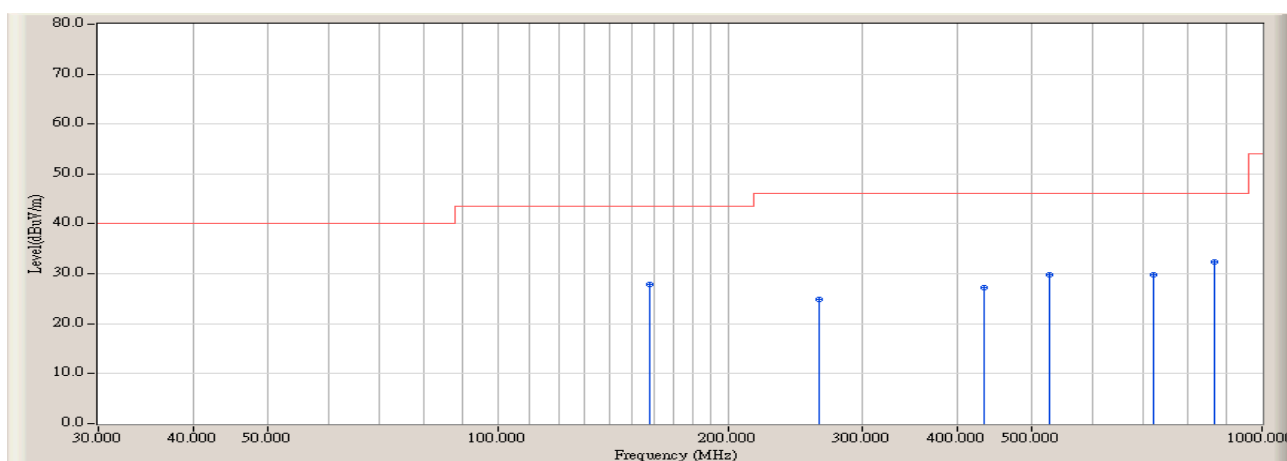


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		91.433	-15.001	43.168	28.167	-15.353	43.520	QUASIPeAK
2		135.083	-11.900	39.253	27.353	-16.167	43.520	QUASIPeAK
3		165.800	-12.739	44.432	31.693	-11.827	43.520	QUASIPeAK
4	*	335.550	-8.735	44.970	36.235	-9.785	46.020	QUASIPeAK
5		498.833	-5.520	36.723	31.203	-14.817	46.020	QUASIPeAK
6		751.033	-0.503	36.161	35.658	-10.362	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 : 2007/10/08 - 14:38
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

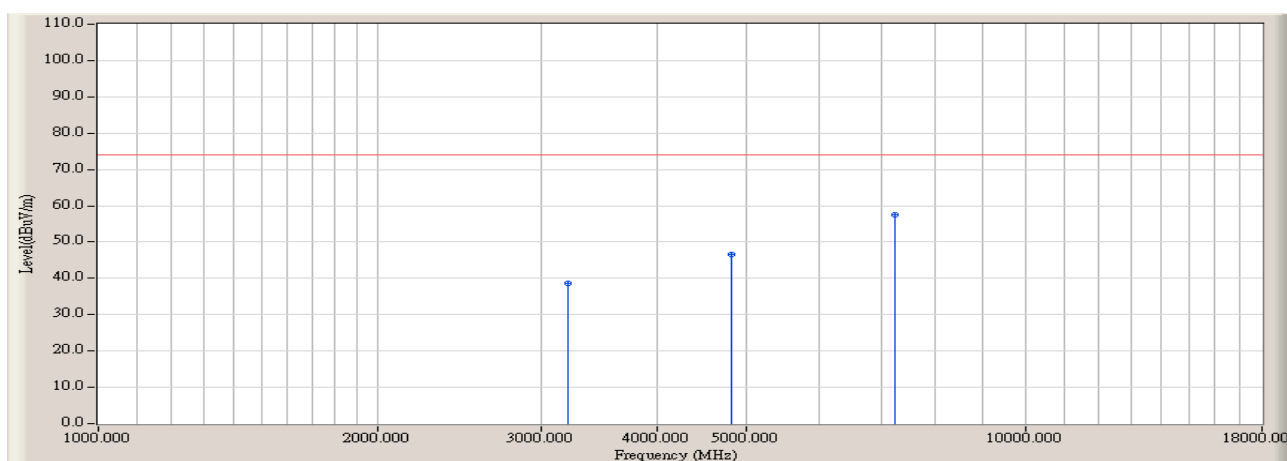


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		157.717	-12.172	40.134	27.963	-15.557	43.520	QUASIPeAK
2		262.800	-10.860	35.703	24.843	-21.177	46.020	QUASIPeAK
3		432.550	-6.920	34.262	27.342	-18.678	46.020	QUASIPeAK
4		527.933	-5.337	35.186	29.849	-16.171	46.020	QUASIPeAK
5		720.317	-1.152	30.872	29.720	-16.300	46.020	QUASIPeAK
6	*	865.817	0.189	32.247	32.435	-13.585	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(3m Radiated Emission)	Time : 2007/10/04 - 09:42
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

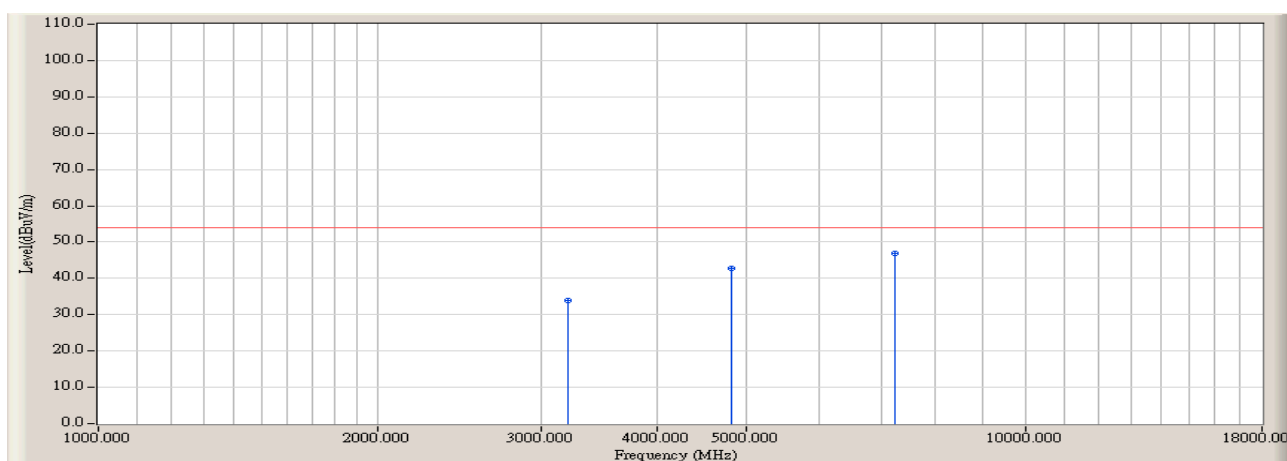


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	38.852	38.662	-35.308	73.970	PEAK
2		4825.000	4.900	41.802	46.702	-27.268	73.970	PEAK
3	*	7233.333	15.403	41.974	57.377	-16.593	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 09:43
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

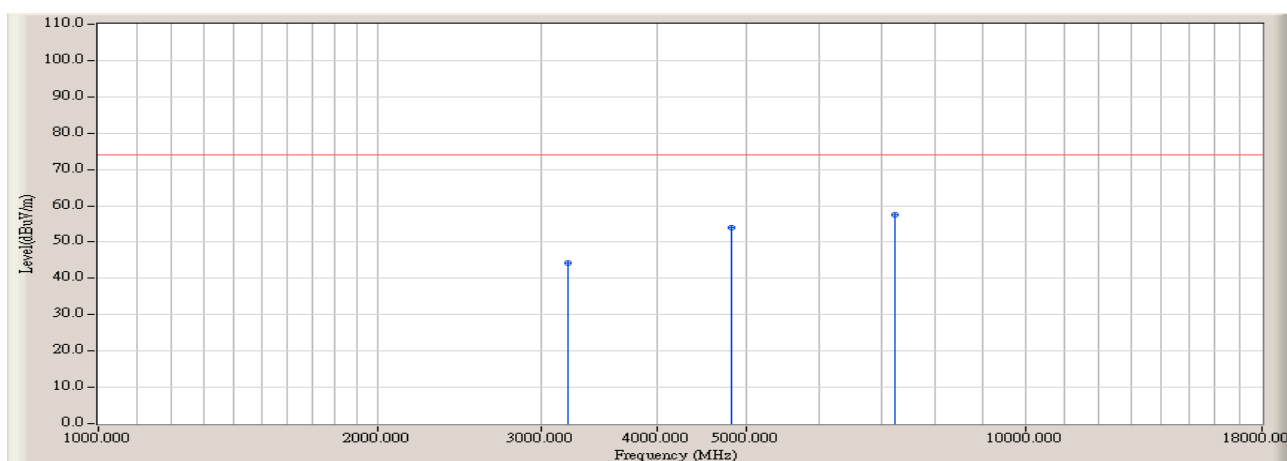


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	34.100	33.910	-20.060	53.970	AVERAGE
2		4825.000	4.900	37.900	42.800	-11.170	53.970	AVERAGE
3	*	7233.333	15.403	31.600	47.003	-6.967	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 09:46
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

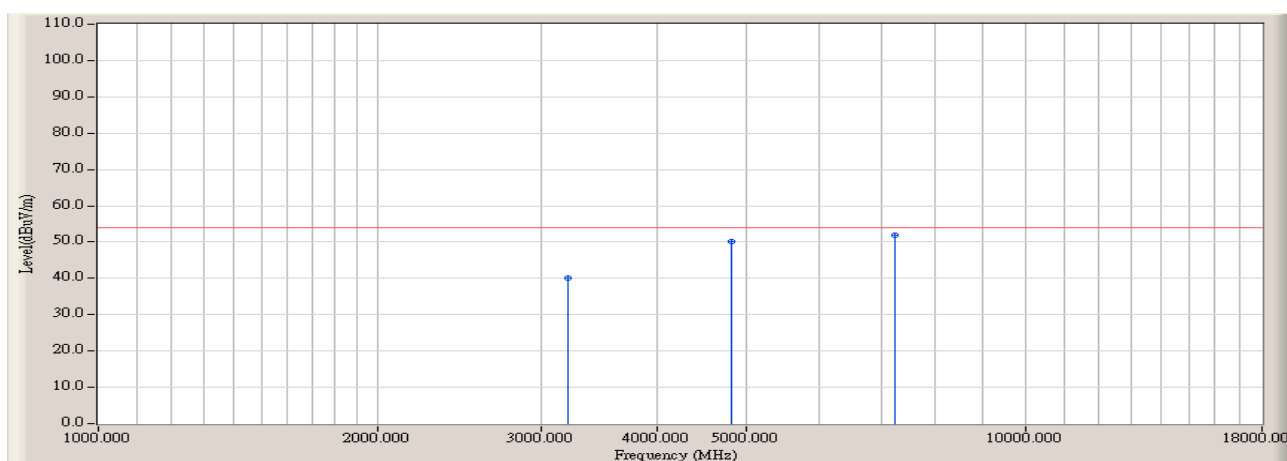


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	44.298	44.108	-29.862	73.970	PEAK
2		4825.000	4.900	48.985	53.885	-20.085	73.970	PEAK
3	*	7233.333	15.403	42.233	57.636	-16.334	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 09:46
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2412MHz)

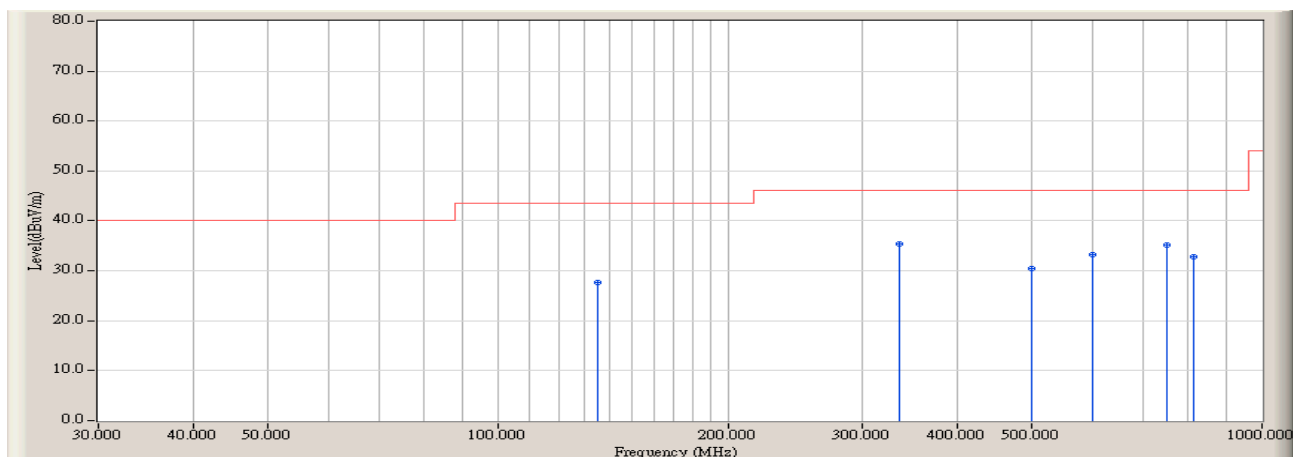


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	40.300	40.110	-13.860	53.970	AVERAGE
2		4825.000	4.900	45.100	50.000	-3.970	53.970	AVERAGE
3	*	7233.333	15.403	36.400	51.803	-2.167	53.970	AVERAGE

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 : 2007/10/08 - 14:44
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

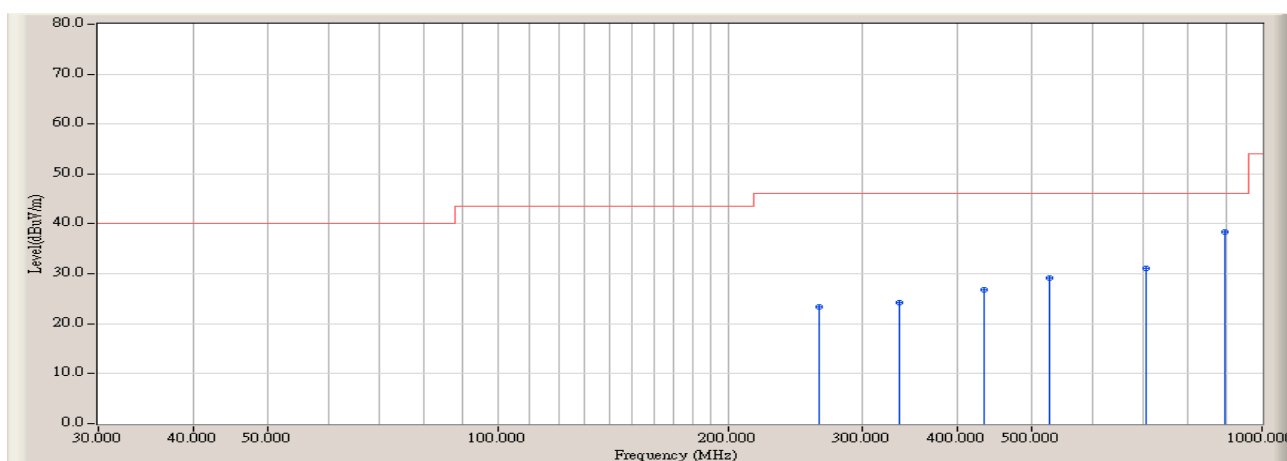


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		135.083	-11.900	39.497	27.597	-15.923	43.520	QUASIPeak
2	*	335.550	-8.735	44.203	35.468	-10.552	46.020	QUASIPeak
3		498.833	-5.520	36.056	30.536	-15.484	46.020	QUASIPeak
4		600.683	-3.789	36.984	33.194	-12.826	46.020	QUASIPeak
5		751.033	-0.503	35.702	35.199	-10.821	46.020	QUASIPeak
6		814.083	-0.469	33.238	32.769	-13.251	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 : 2007/10/08 - 14:49
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

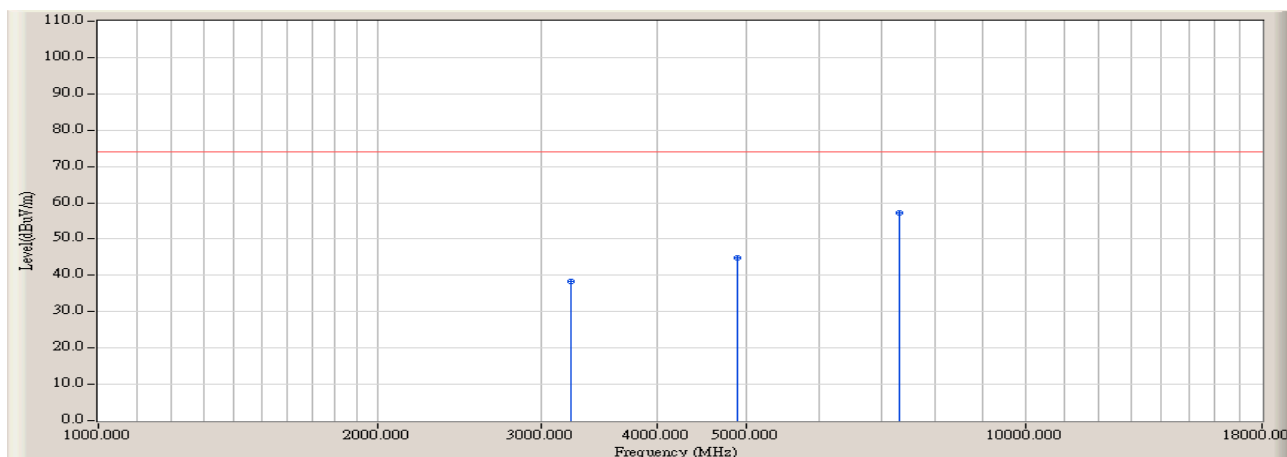


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		262.800	-10.860	34.135	23.275	-22.745	46.020	QUASIPeAK
2		335.550	-8.735	33.017	24.282	-21.738	46.020	QUASIPeAK
3		432.550	-6.920	33.802	26.882	-19.138	46.020	QUASIPeAK
4		527.933	-5.337	34.612	29.275	-16.745	46.020	QUASIPeAK
5		705.767	-1.539	32.565	31.026	-14.994	46.020	QUASIPeAK
6	*	893.300	0.132	38.227	38.359	-7.661	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(3m Radiated Emission)	Time : 2007/10/04 - 09:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

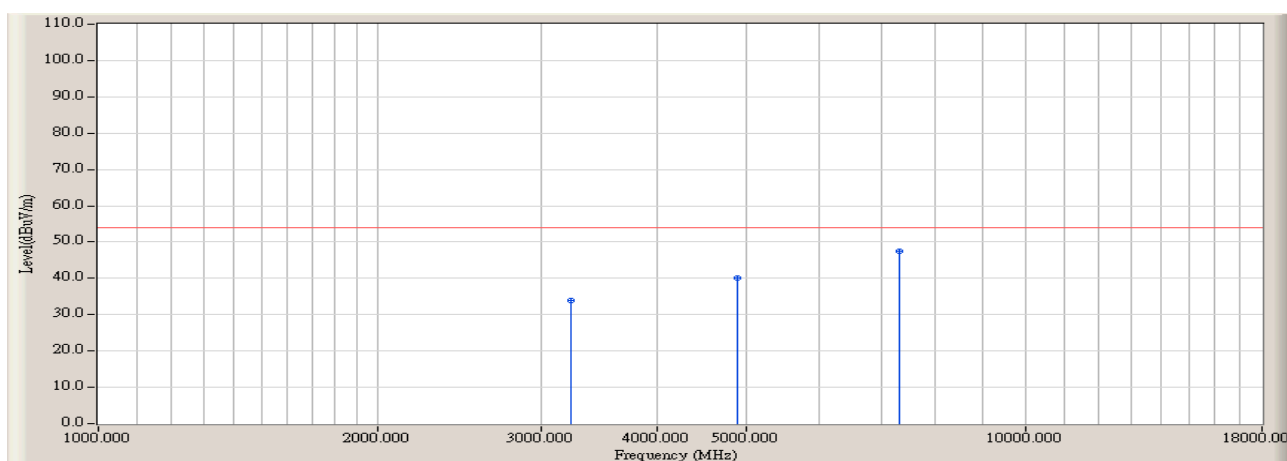


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	38.673	38.423	-35.547	73.970	PEAK
2		4881.667	5.034	39.853	44.886	-29.084	73.970	PEAK
3	*	7318.333	15.313	41.909	57.222	-16.748	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 09:49
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

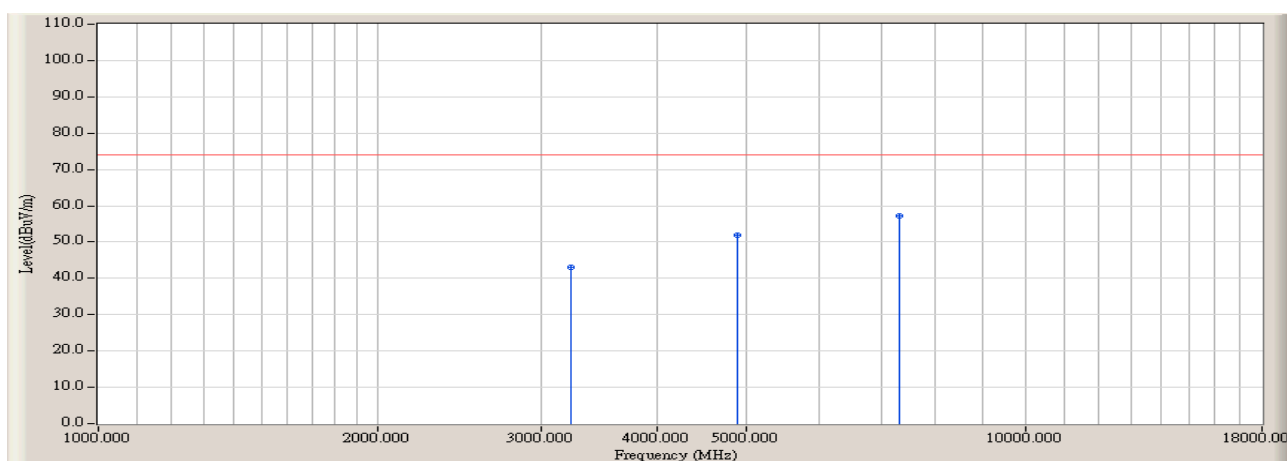


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	34.100	33.850	-20.120	53.970	AVERAGE
2		4881.667	5.034	35.200	40.233	-13.737	53.970	AVERAGE
3	*	7318.333	15.313	32.200	47.513	-6.457	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 09:52
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

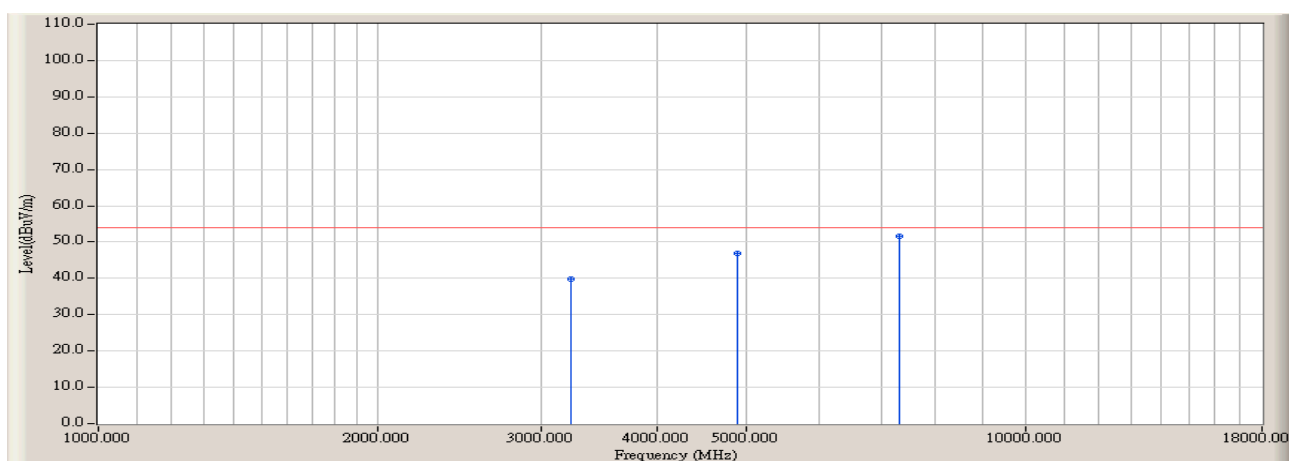


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	43.299	43.049	-30.921	73.970	PEAK
2		4881.667	5.034	46.736	51.769	-22.201	73.970	PEAK
3	*	7318.333	15.313	41.924	57.237	-16.733	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 09:52
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2437MHz)

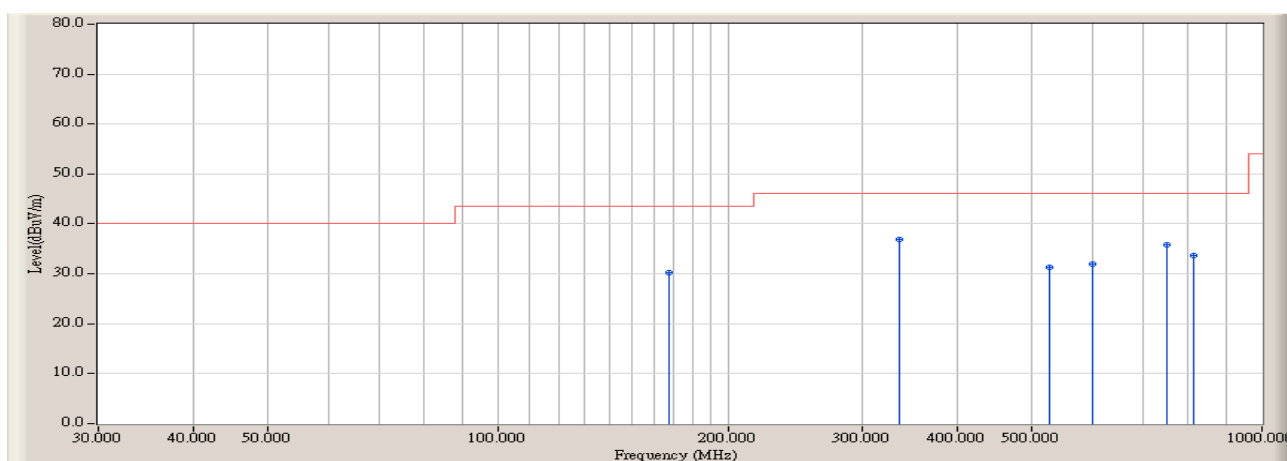


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	40.100	39.850	-14.120	53.970	AVERAGE
2		4881.667	5.034	41.900	46.933	-7.037	53.970	AVERAGE
3	*	7318.333	15.313	36.200	51.513	-2.457	53.970	AVERAGE

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 : 2007/10/08 - 14:53
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

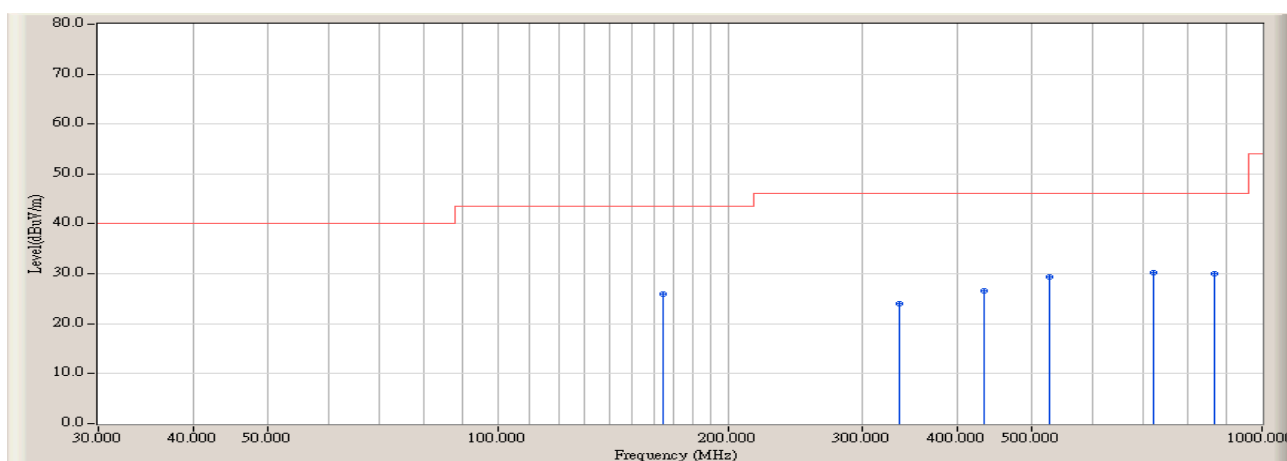


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		167.417	-12.893	43.163	30.270	-13.250	43.520	QUASIPeAK
2	*	335.550	-8.735	45.598	36.863	-9.157	46.020	QUASIPeAK
3		527.933	-5.337	36.715	31.378	-14.642	46.020	QUASIPeAK
4		600.683	-3.789	35.854	32.064	-13.956	46.020	QUASIPeAK
5		751.033	-0.503	36.366	35.863	-10.157	46.020	QUASIPeAK
6		814.083	-0.469	34.096	33.627	-12.393	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 : 2007/10/08 - 14:57
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

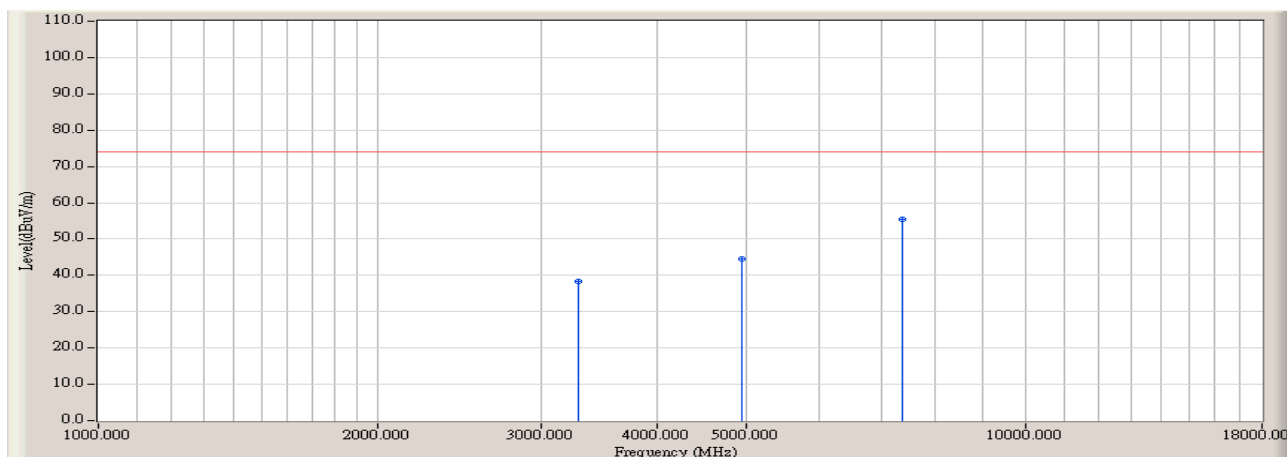


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		164.183	-12.616	38.581	25.965	-17.555	43.520	QUASIPeAK
2		335.550	-8.735	32.650	23.915	-22.105	46.020	QUASIPeAK
3		432.550	-6.920	33.524	26.604	-19.416	46.020	QUASIPeAK
4		527.933	-5.337	34.823	29.486	-16.534	46.020	QUASIPeAK
5	*	720.317	-1.152	31.375	30.223	-15.797	46.020	QUASIPeAK
6		865.817	0.189	29.770	29.958	-16.062	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(3m Radiated Emission)	Time : 2007/10/04 - 09:56
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

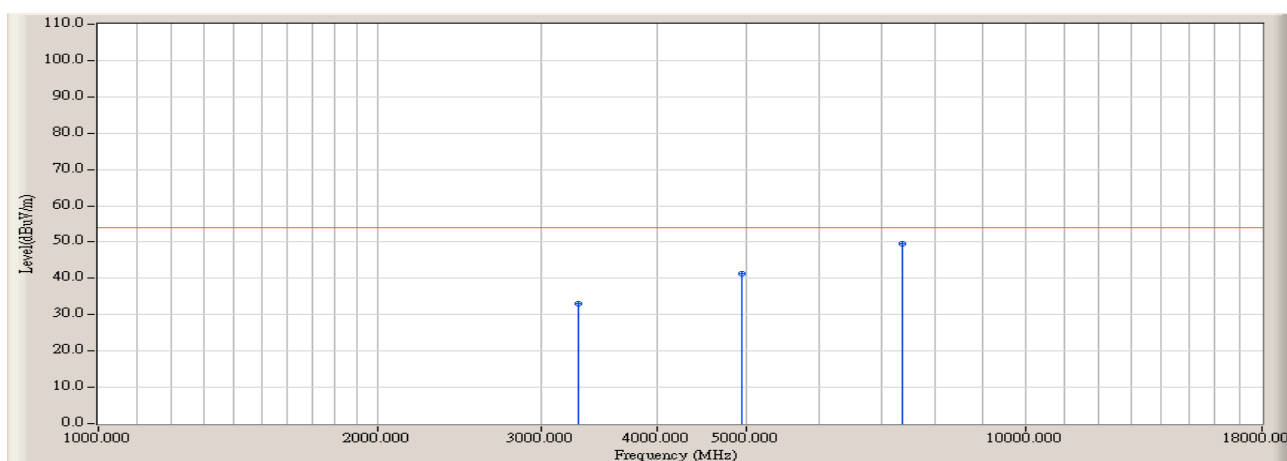


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	38.832	38.472	-35.498	73.970	PEAK
2		4938.333	5.169	39.270	44.440	-29.530	73.970	PEAK
3	*	7375.000	15.250	40.056	55.306	-18.664	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 09:56
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

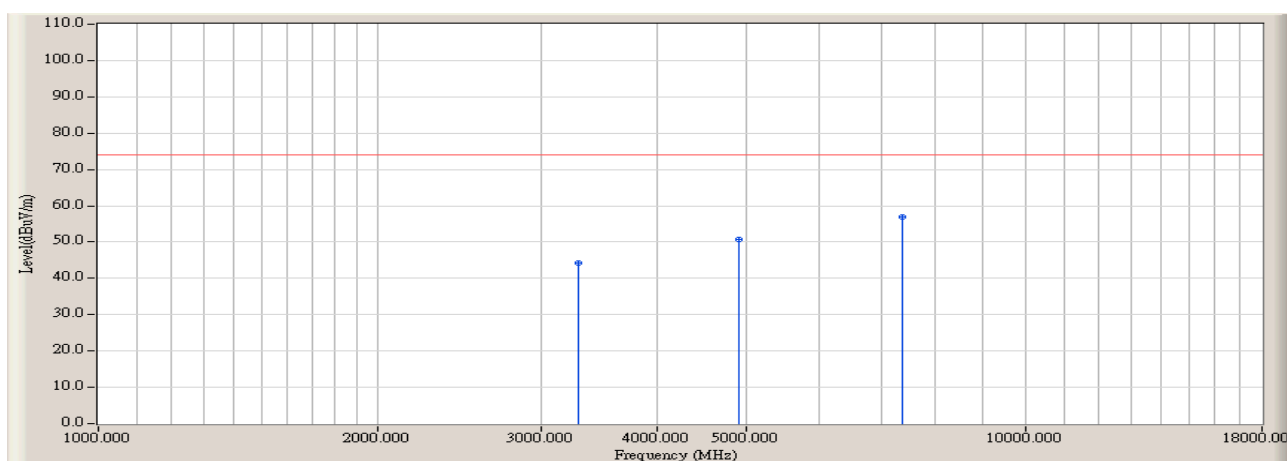


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	33.500	33.140	-20.830	53.970	AVERAGE
2		4938.333	5.169	36.200	41.370	-12.600	53.970	AVERAGE
3	*	7375.000	15.250	34.200	49.450	-4.520	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 10:02
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

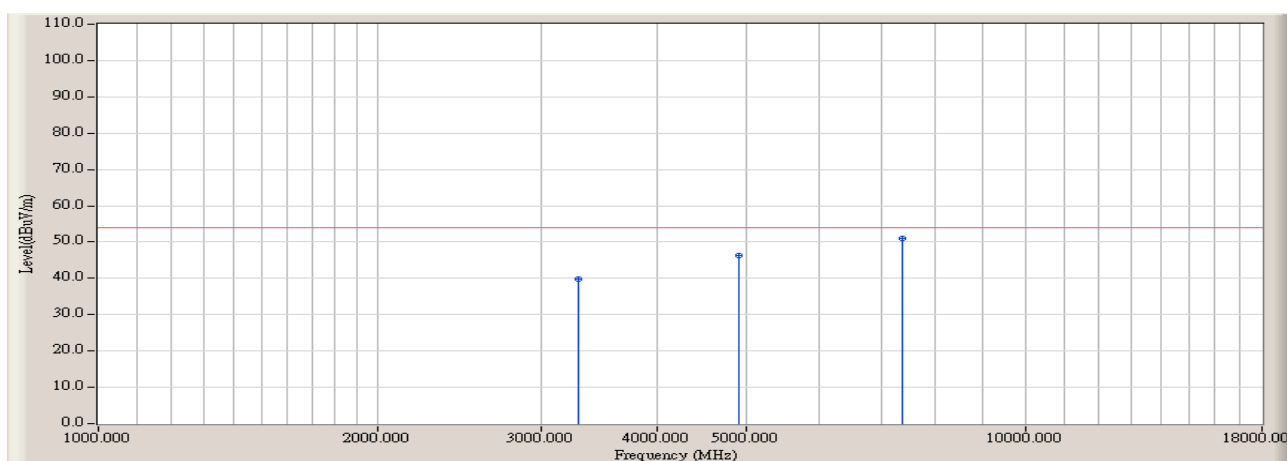


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	44.616	44.256	-29.714	73.970	PEAK
2		4910.000	5.100	45.691	50.791	-23.179	73.970	PEAK
3	*	7375.000	15.250	41.655	56.905	-17.065	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:02
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 1: Transmit by 802.11b (2462MHz)

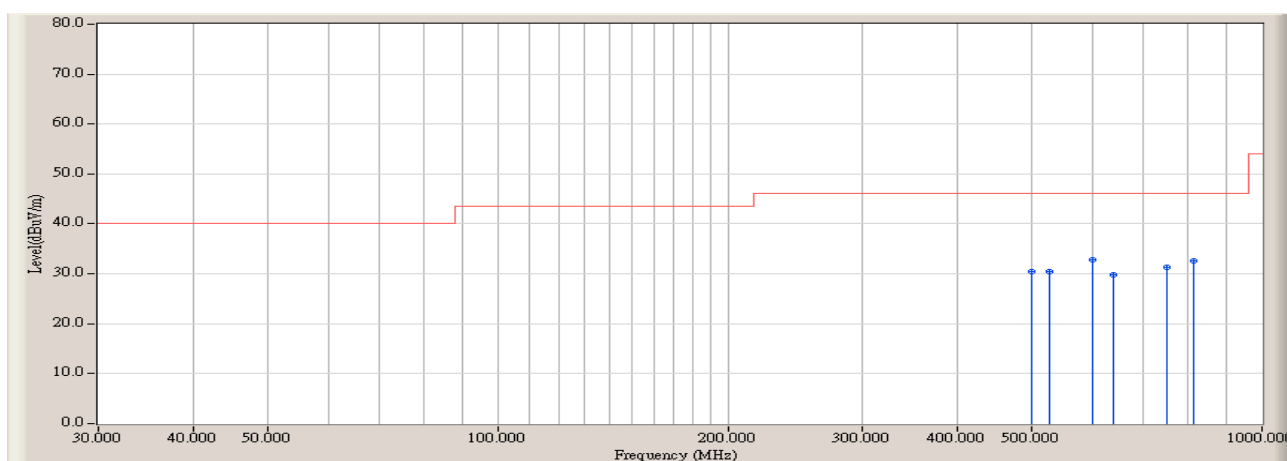


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	40.200	39.840	-14.130	53.970	AVERAGE
2		4910.000	5.100	41.200	46.300	-7.670	53.970	AVERAGE
3	*	7375.000	15.250	35.900	51.150	-2.820	53.970	AVERAGE

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 : 2007/10/08 - 15:01
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

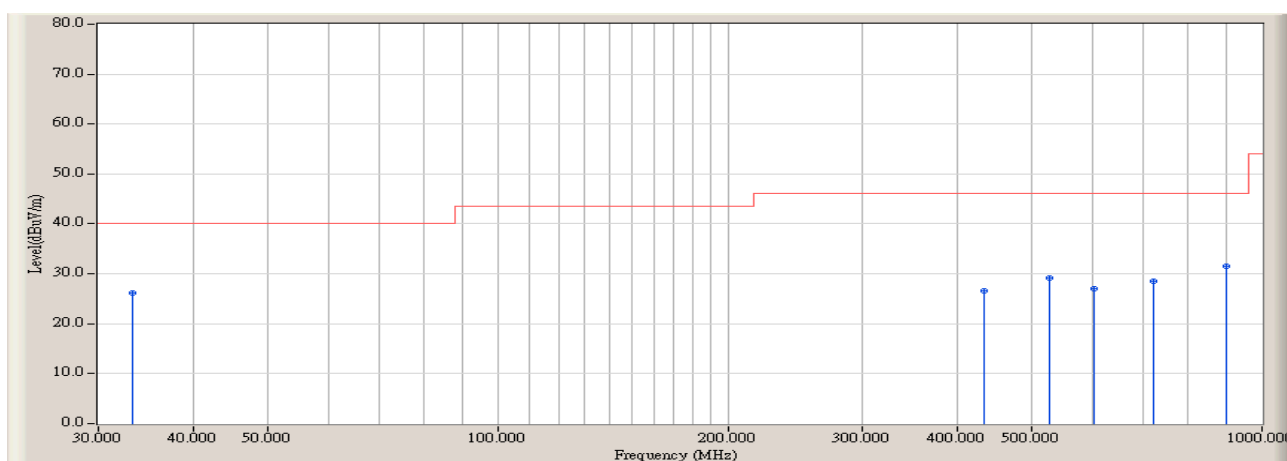


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		498.833	-5.520	35.966	30.446	-15.574	46.020	QUASIPeAK
2		527.933	-5.337	35.893	30.556	-15.464	46.020	QUASIPeAK
3	*	600.683	-3.789	36.654	32.864	-13.156	46.020	QUASIPeAK
4		639.483	-2.513	32.308	29.795	-16.225	46.020	QUASIPeAK
5		751.033	-0.503	31.921	31.418	-14.602	46.020	QUASIPeAK
6		814.083	-0.469	33.174	32.705	-13.315	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 : 2007/10/08 - 15:08
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

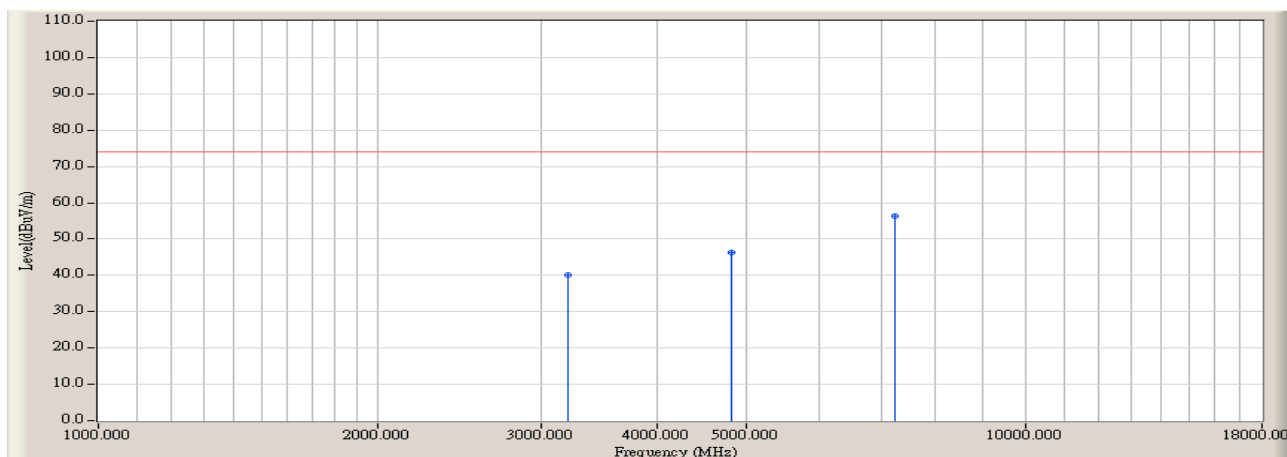


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	33.233	-2.851	29.119	26.269	-13.731	40.000	QUASIPeAK
2		432.550	-6.920	33.621	26.701	-19.319	46.020	QUASIPeAK
3		527.933	-5.337	34.539	29.202	-16.818	46.020	QUASIPeAK
4		603.917	-3.690	30.684	26.994	-19.026	46.020	QUASIPeAK
5		720.317	-1.152	29.782	28.630	-17.390	46.020	QUASIPeAK
6		896.533	0.166	31.447	31.612	-14.408	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(3m Radiated Emission)	Time : 2007/10/04 - 10:13
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

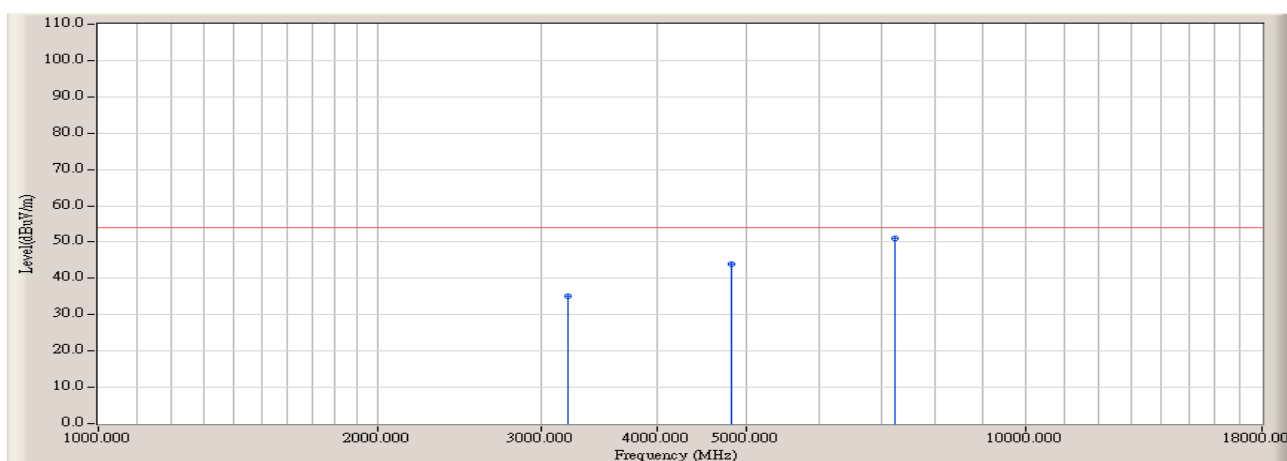


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	40.315	40.125	-33.845	73.970	PEAK
2		4825.000	4.900	41.271	46.171	-27.799	73.970	PEAK
3	*	7233.333	15.403	40.788	56.191	-17.779	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:13
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

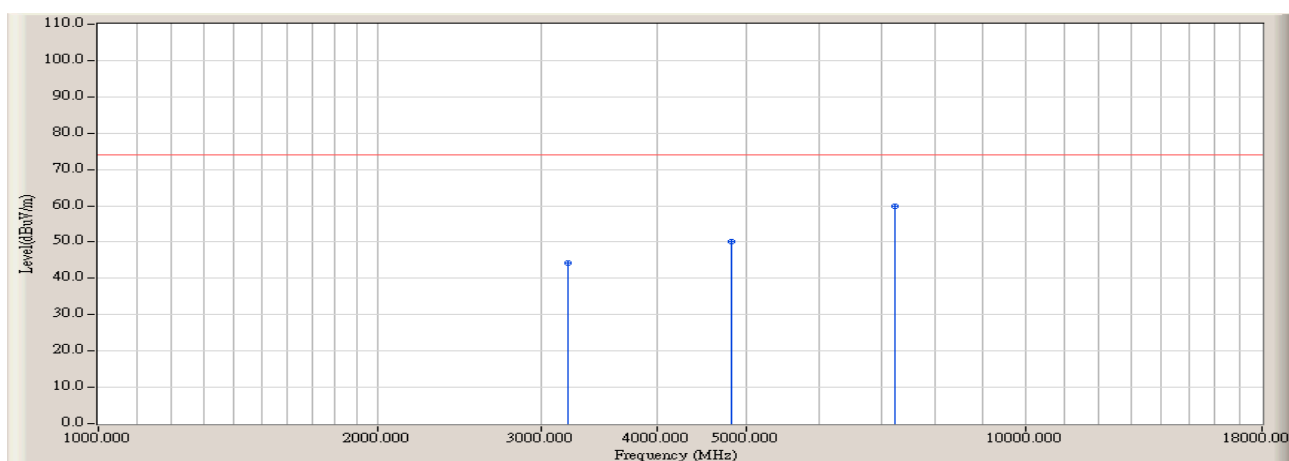


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	35.200	35.010	-18.960	53.970	AVERAGE
2		4825.000	4.900	38.900	43.800	-10.170	53.970	AVERAGE
3	*	7233.333	15.403	35.700	51.103	-2.867	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 10:16
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

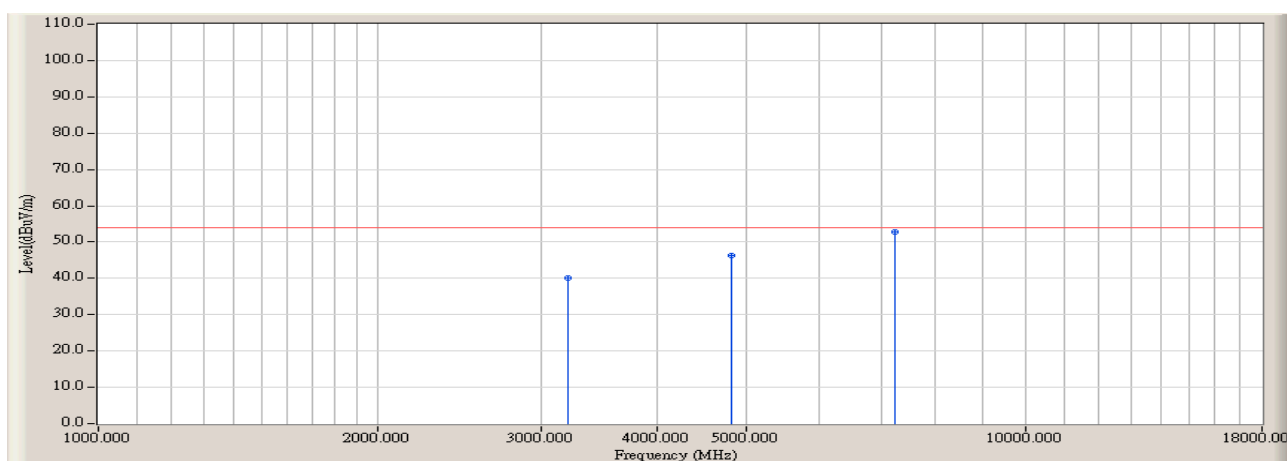


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	44.523	44.333	-29.637	73.970	PEAK
2		4825.000	4.900	45.235	50.135	-23.835	73.970	PEAK
3	*	7233.333	15.403	44.572	59.975	-13.995	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:16
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2412MHz)

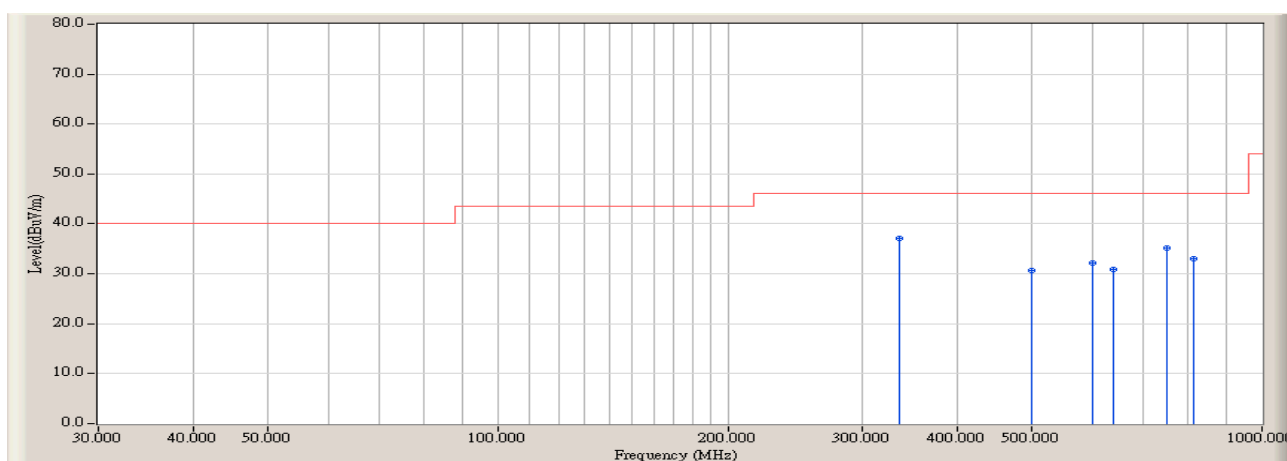


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	40.300	40.110	-13.860	53.970	AVERAGE
2		4825.000	4.900	41.300	46.200	-7.770	53.970	AVERAGE
3	*	7233.333	15.403	37.400	52.803	-1.167	53.970	AVERAGE

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 : 2007/10/08 - 15:13
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

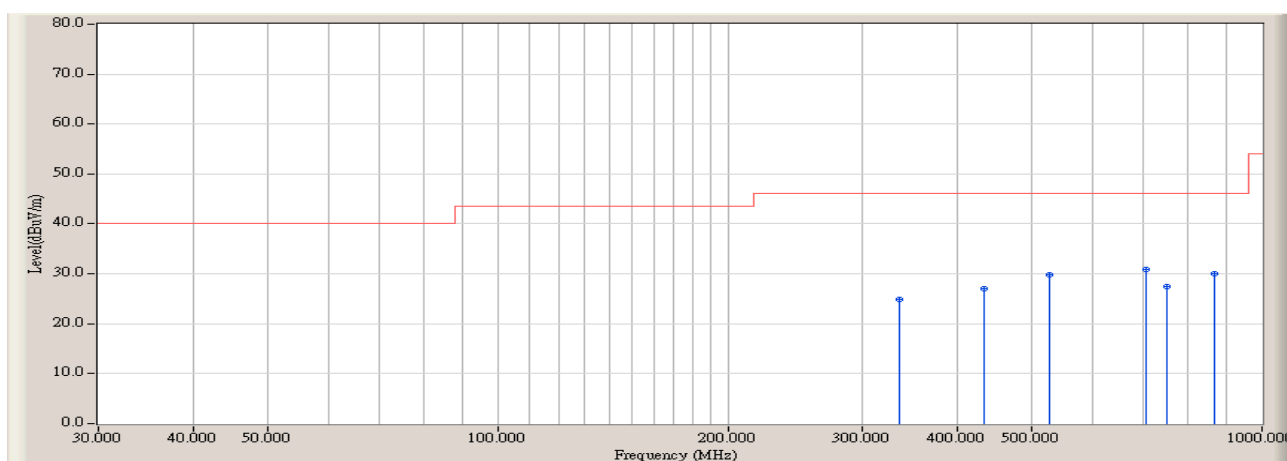


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	335.550	-8.735	45.871	37.136	-8.884	46.020	QUASIPeAK
2		498.833	-5.520	36.194	30.674	-15.346	46.020	QUASIPeAK
3		600.683	-3.789	35.870	32.080	-13.940	46.020	QUASIPeAK
4		639.483	-2.513	33.294	30.781	-15.239	46.020	QUASIPeAK
5		751.033	-0.503	35.641	35.138	-10.882	46.020	QUASIPeAK
6		814.083	-0.469	33.589	33.120	-12.900	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 : 2007/10/08 - 15:17
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

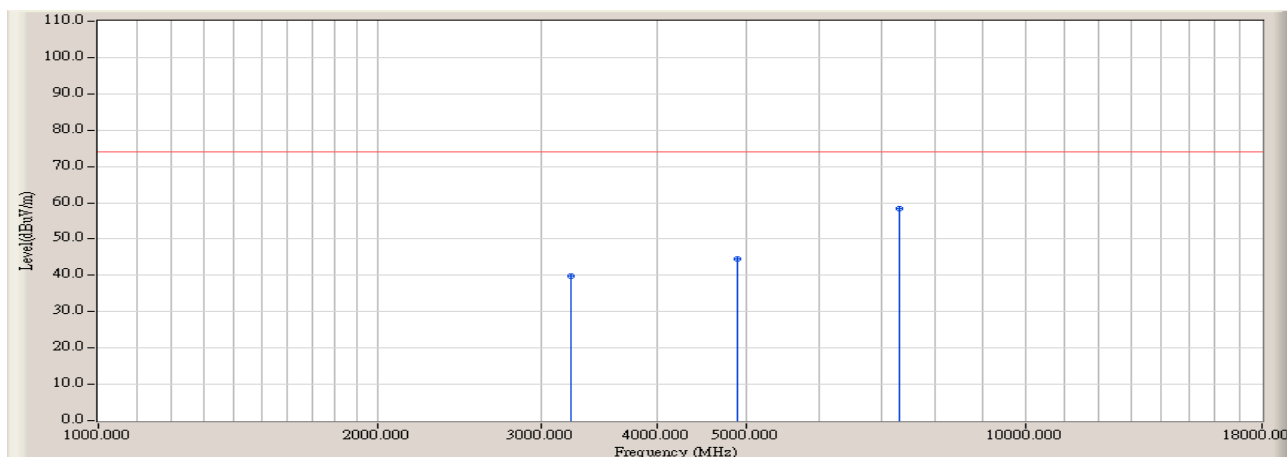


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		335.550	-8.735	33.627	24.892	-21.128	46.020	QUASIPeAK
2		432.550	-6.920	33.853	26.933	-19.087	46.020	QUASIPeAK
3		527.933	-5.337	35.137	29.800	-16.220	46.020	QUASIPeAK
4	*	705.767	-1.539	32.486	30.947	-15.073	46.020	QUASIPeAK
5		751.033	-0.503	27.938	27.435	-18.585	46.020	QUASIPeAK
6		865.817	0.189	29.909	30.097	-15.923	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(3m Radiated Emission)	Time : 2007/10/04 - 10:23
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

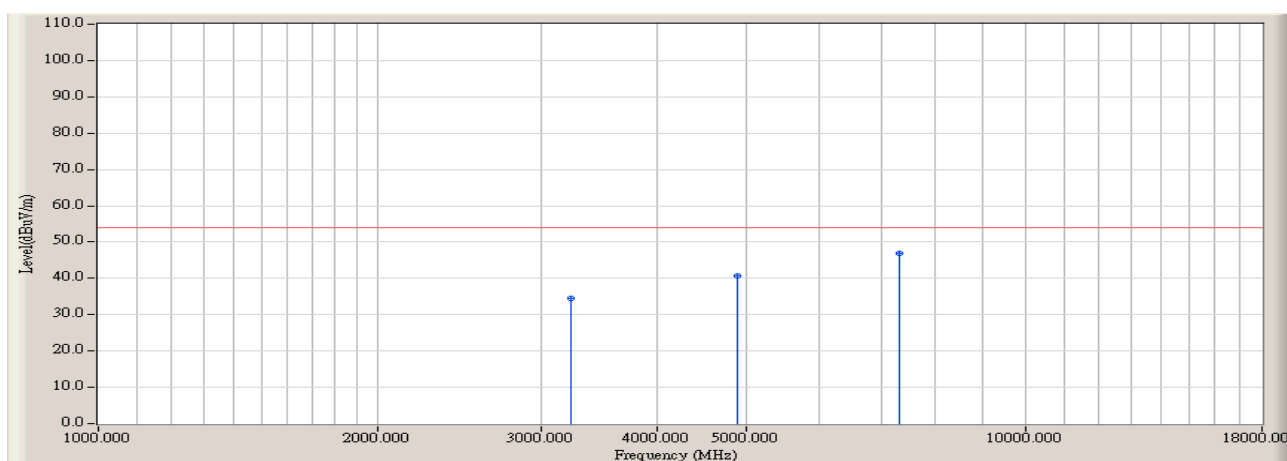


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	40.067	39.817	-34.153	73.970	PEAK
2		4881.667	5.034	39.365	44.398	-29.572	73.970	PEAK
3	*	7318.333	15.313	43.196	58.509	-15.461	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:23
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

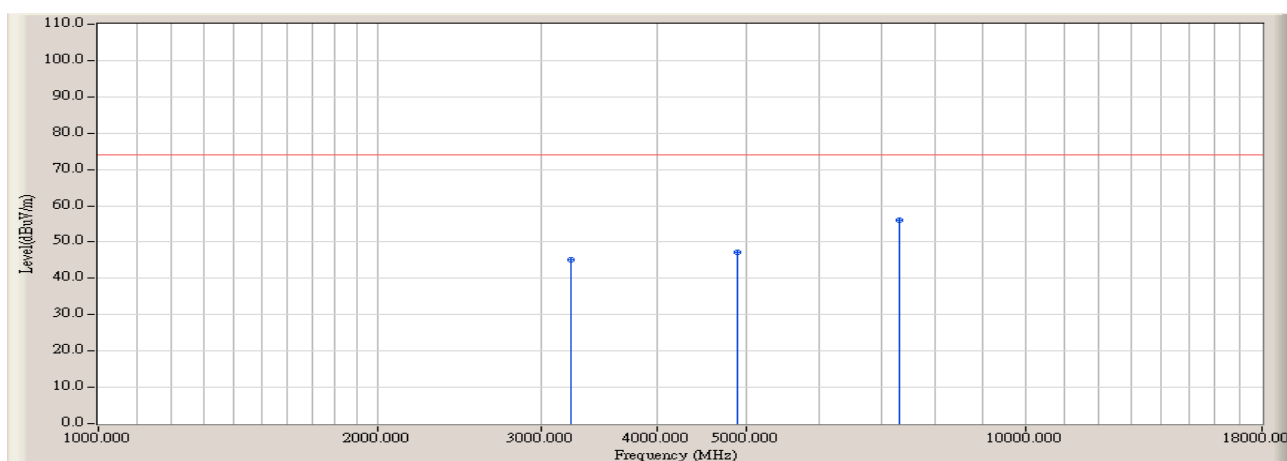


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	34.900	34.650	-19.320	53.970	AVERAGE
2		4881.667	5.034	35.700	40.733	-13.237	53.970	AVERAGE
3	*	7318.333	15.313	31.700	47.013	-6.957	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 10:51
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

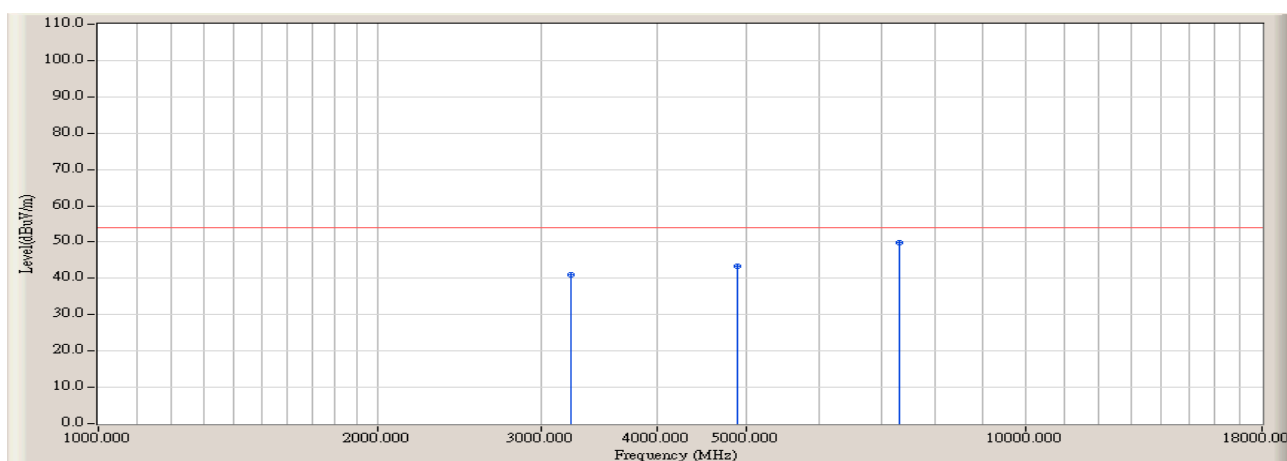


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	45.315	45.065	-28.905	73.970	PEAK
2		4881.667	5.034	42.217	47.250	-26.720	73.970	PEAK
3	*	7318.333	15.313	40.808	56.121	-17.849	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:51
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2437MHz)

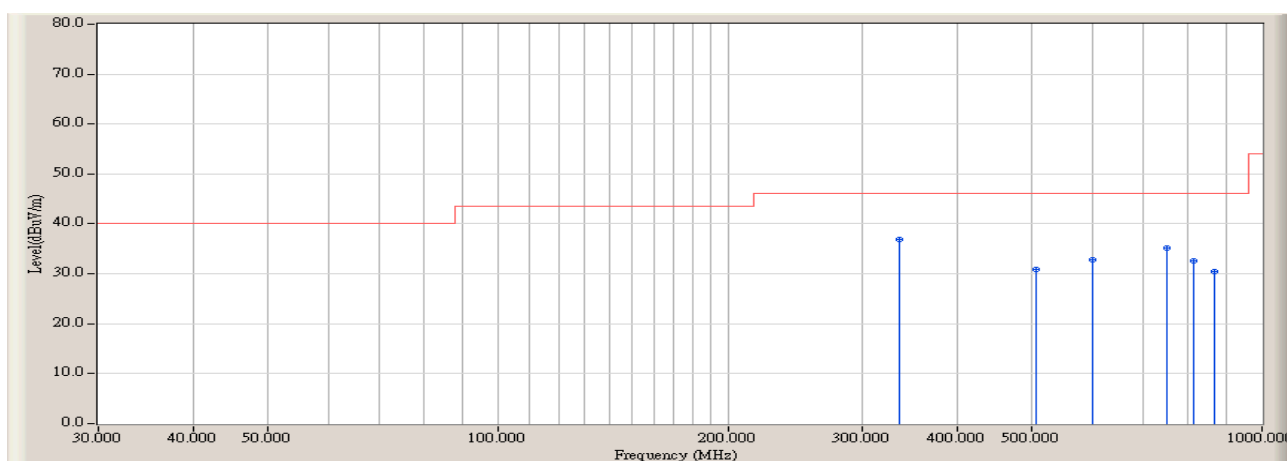


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3238.333	-0.251	41.200	40.950	-13.020	53.970	AVERAGE
2		4881.667	5.034	38.200	43.233	-10.737	53.970	AVERAGE
3	*	7318.333	15.313	34.600	49.913	-4.057	53.970	AVERAGE

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 : 2007/10/08 - 15:22
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

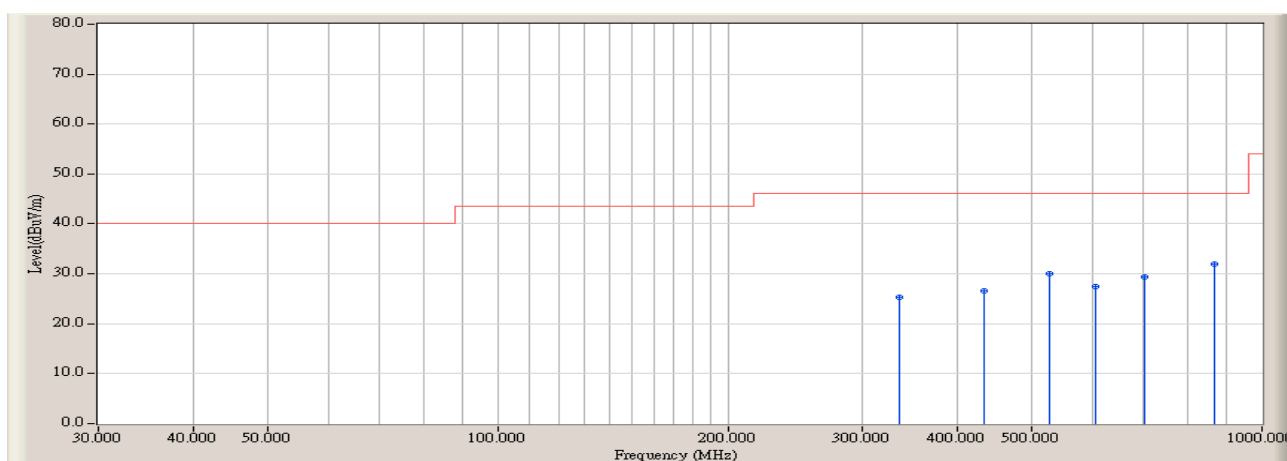


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	335.550	-8.735	45.717	36.982	-9.038	46.020	QUASIPeAK
2		505.300	-5.382	36.160	30.778	-15.242	46.020	QUASIPeAK
3		600.683	-3.789	36.504	32.714	-13.306	46.020	QUASIPeAK
4		751.033	-0.503	35.617	35.114	-10.906	46.020	QUASIPeAK
5		814.083	-0.469	33.169	32.700	-13.320	46.020	QUASIPeAK
6		865.817	0.189	30.308	30.496	-15.524	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 : 2007/10/08 - 15:28
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

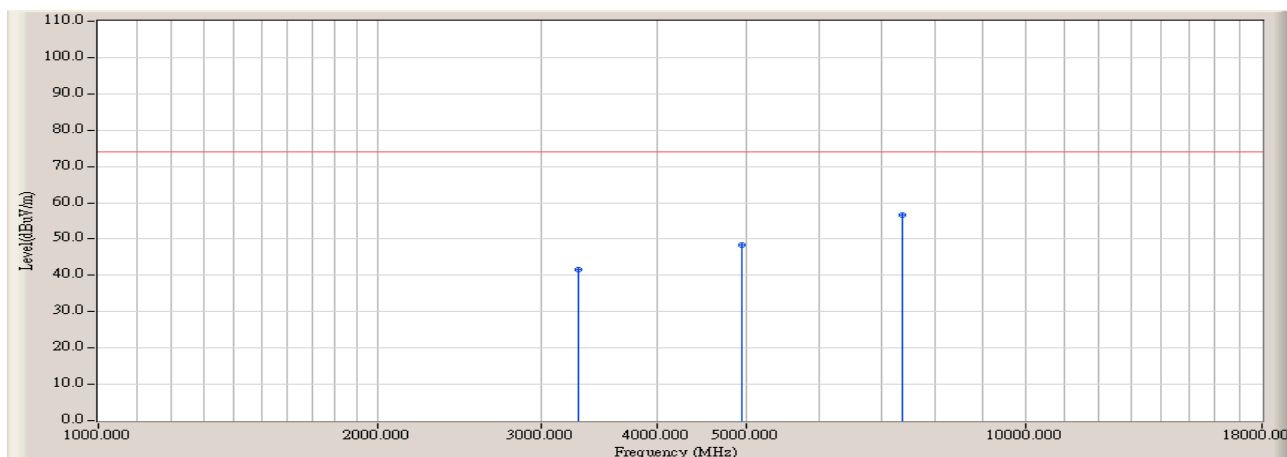


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		335.550	-8.735	33.980	25.245	-20.775	46.020	QUASIPeAK
2		432.550	-6.920	33.598	26.678	-19.342	46.020	QUASIPeAK
3		527.933	-5.337	35.326	29.989	-16.031	46.020	QUASIPeAK
4		605.533	-3.634	31.080	27.446	-18.574	46.020	QUASIPeAK
5		702.533	-1.546	30.934	29.388	-16.632	46.020	QUASIPeAK
6	*	865.817	0.189	31.722	31.910	-14.110	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(3m Radiated Emission)	Time : 2007/10/04 - 10:58
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

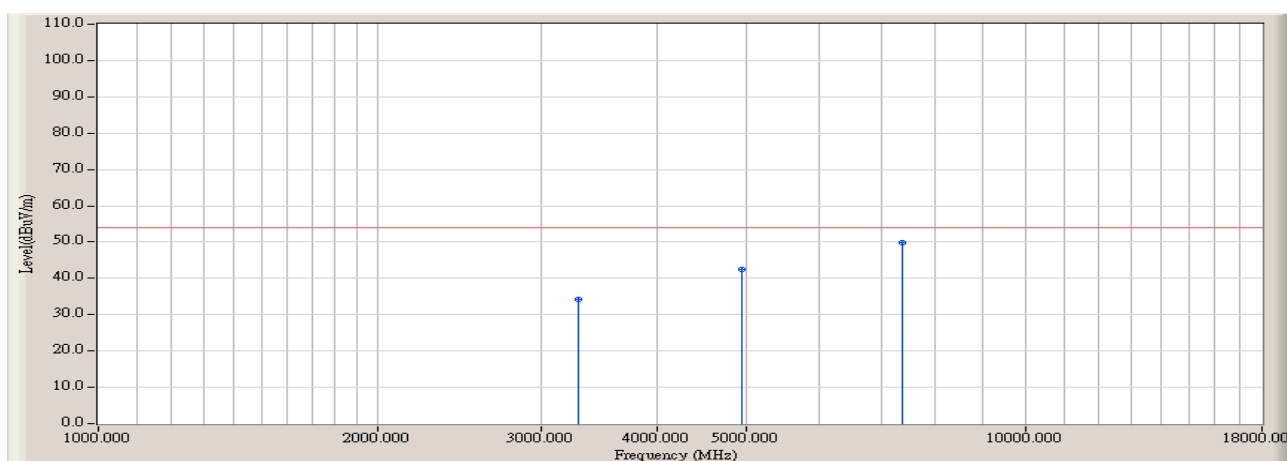


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	42.035	41.675	-32.295	73.970	PEAK
2		4938.333	5.169	43.255	48.425	-25.545	73.970	PEAK
3	*	7375.000	15.250	41.400	56.650	-17.320	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 10:58
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

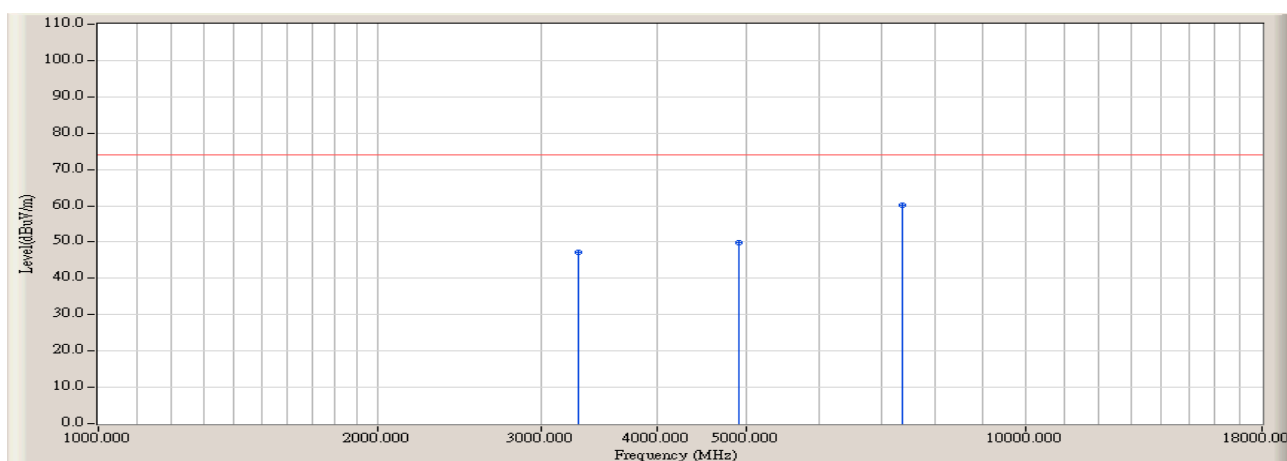


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	34.600	34.240	-19.730	53.970	AVERAGE
2		4938.333	5.169	37.400	42.570	-11.400	53.970	AVERAGE
3	*	7375.000	15.250	34.500	49.750	-4.220	53.970	AVERAGE

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(3m Radiated Emission)	Time : 2007/10/04 - 11:00
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)

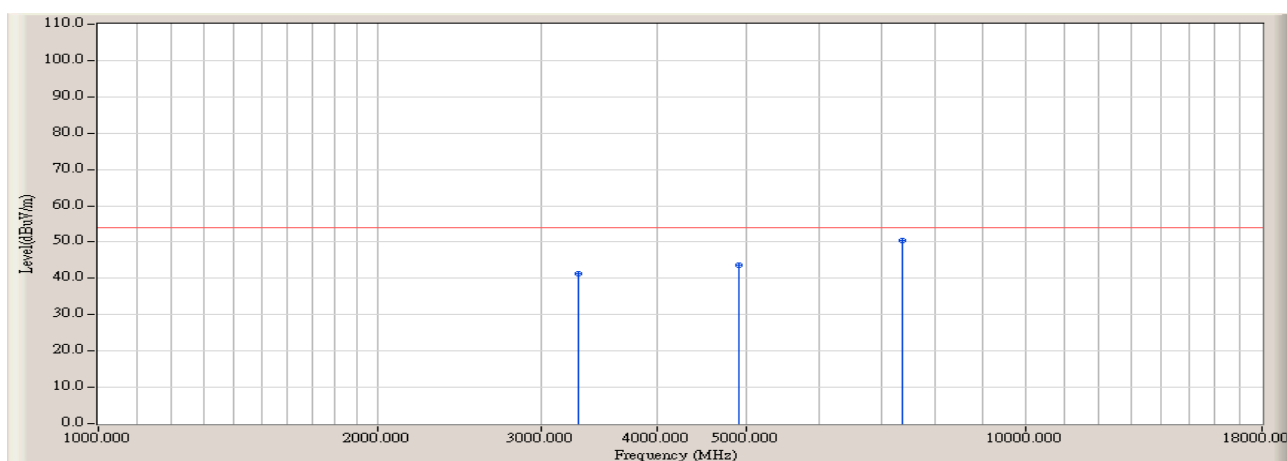


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	47.511	47.151	-26.819	73.970	PEAK
2		4910.000	5.100	44.879	49.979	-23.991	73.970	PEAK
3	*	7375.000	15.250	44.909	60.159	-13.811	73.970	PEAK

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(3m Radiated Emission)	Time : 2007/10/04 - 11:00
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Wireless-AG 23dBm Network Mini PCI Adapter	Probe : 9120D_(1G-18G) - VERTICAL
Power : AC 120V/60Hz	Note : Mode 2: Transmit by 802.11g (2462MHz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	41.600	41.240	-12.730	53.970	AVERAGE
2		4910.000	5.100	38.400	43.500	-10.470	53.970	AVERAGE
3	*	7375.000	15.250	35.200	50.450	-3.520	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

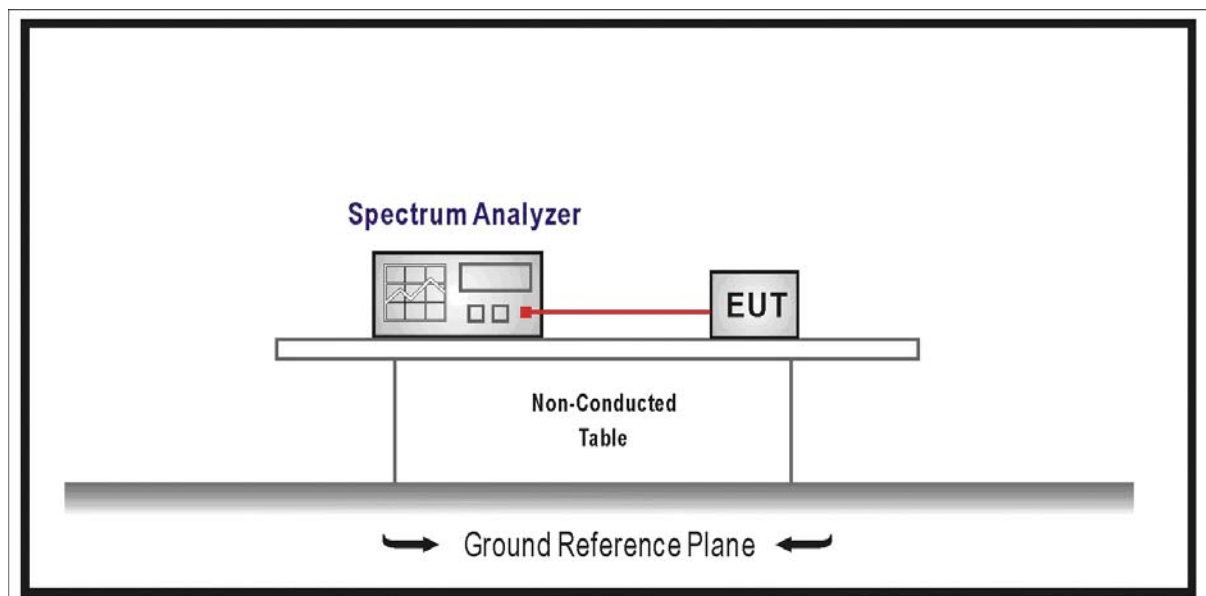
5. Peak Power Output

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

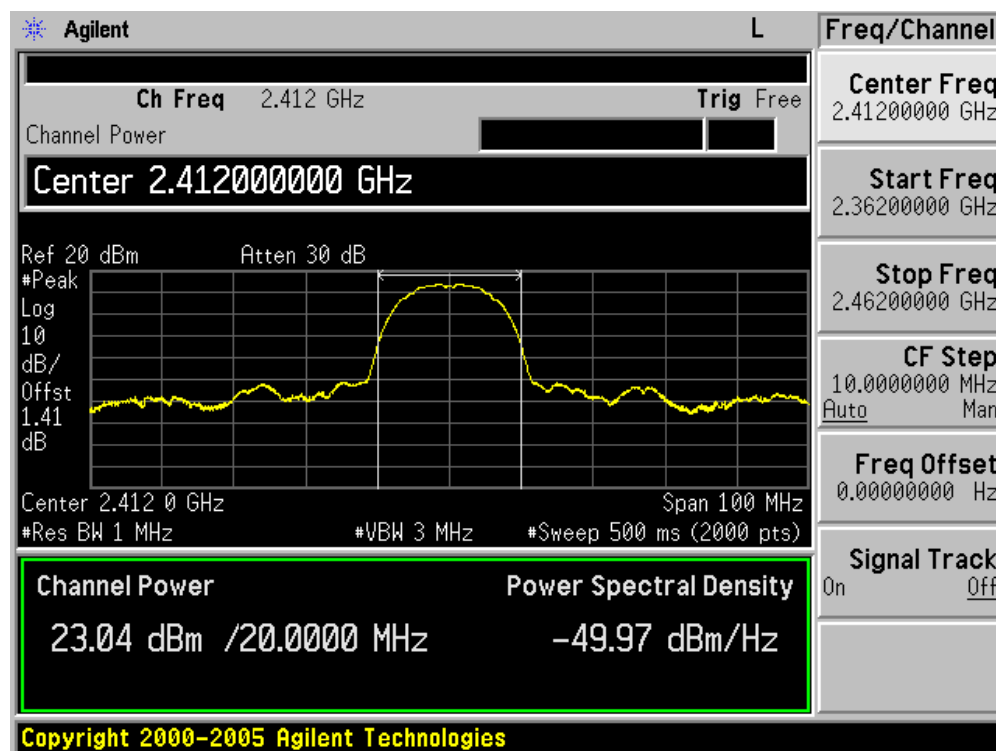
The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

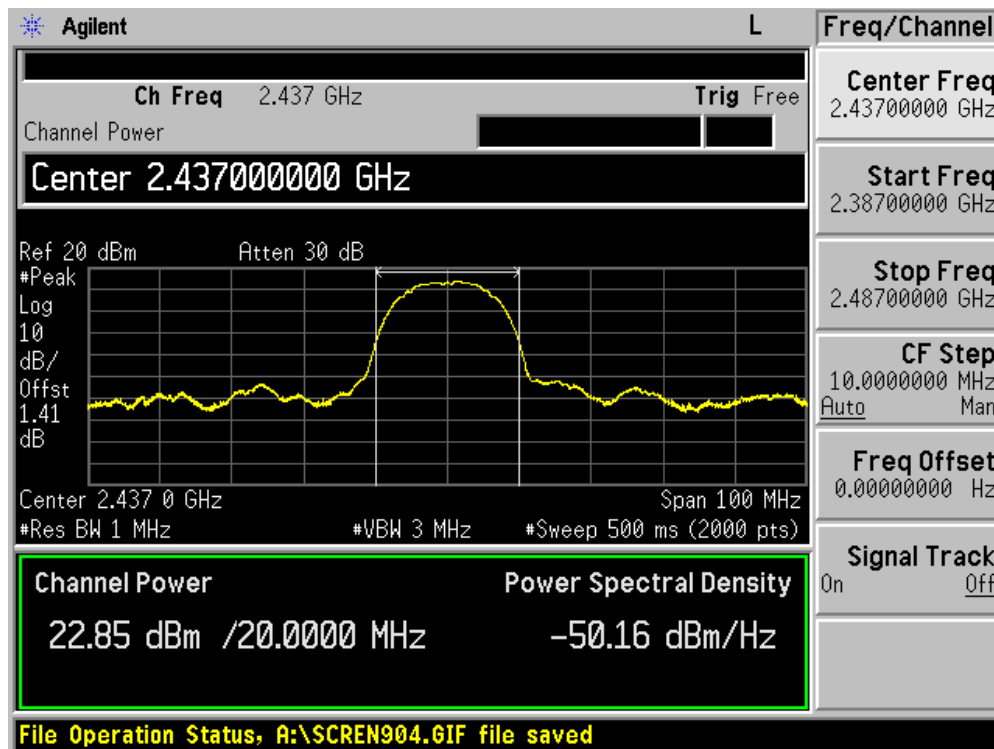
Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Peak Power Output
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
01	2412.00	23.04	30	Pass
06	2437.00	22.85	30	Pass
11	2462.00	22.50	30	Pass

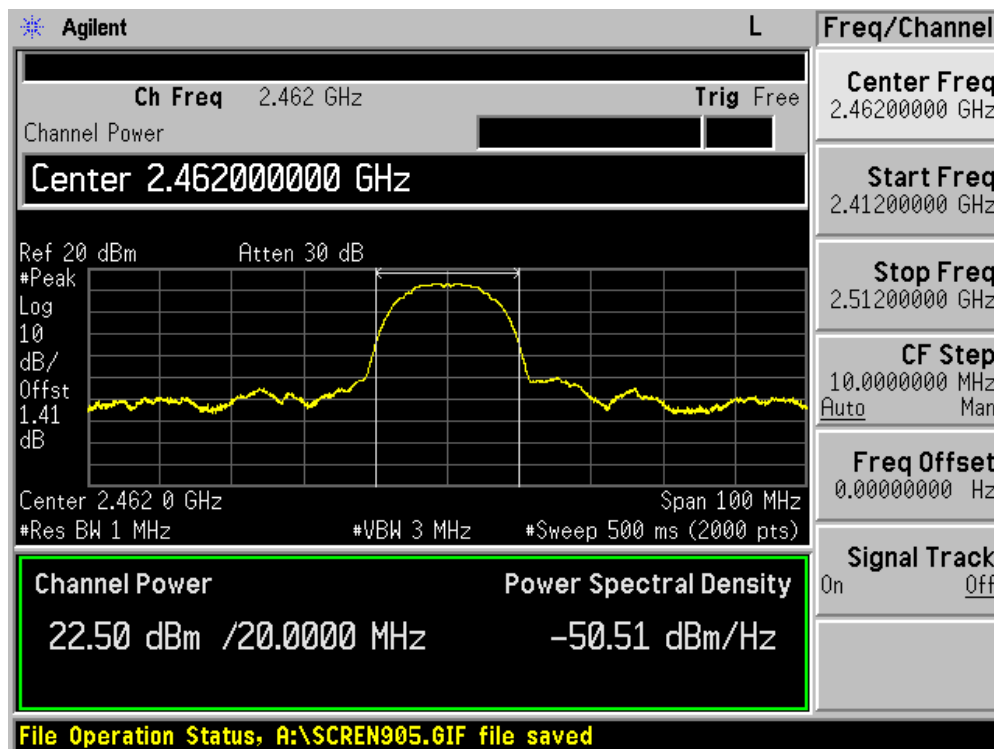
Channel 01 (2412MHz)



Channel 06 (2437MHz)



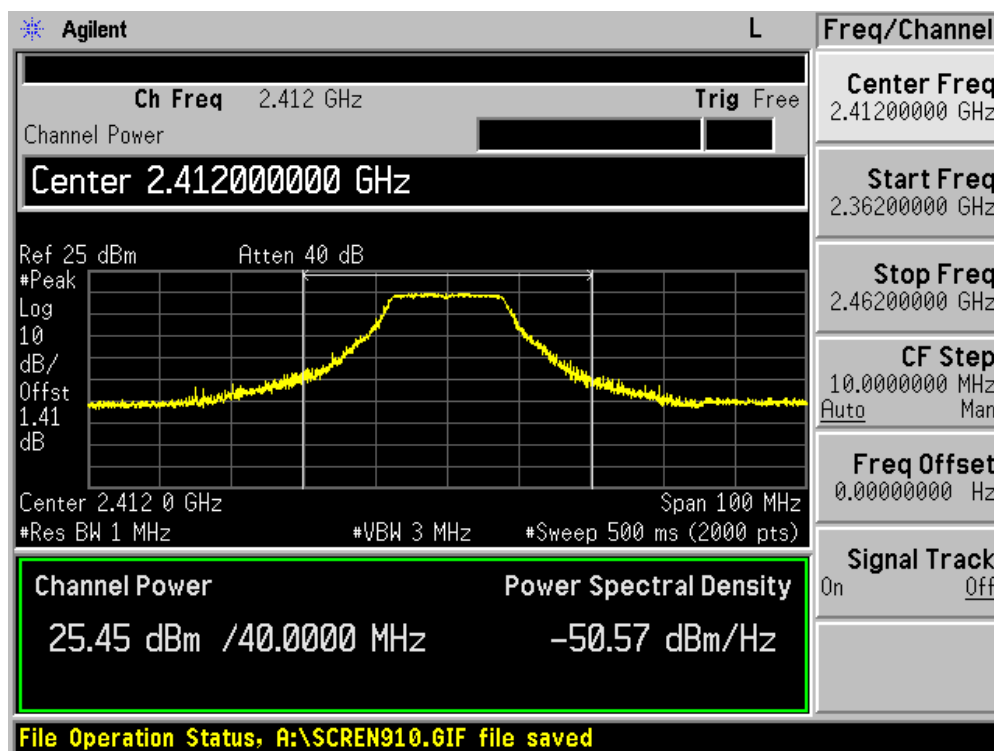
Channel 11 (2462MHz)



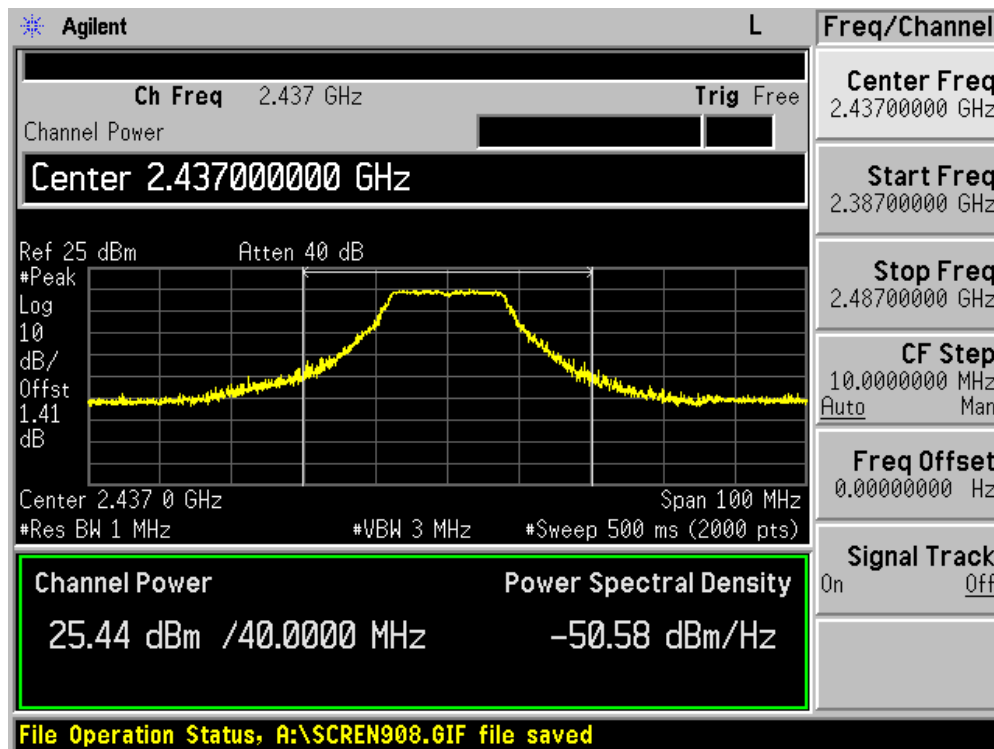
Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Peak Power Output
Test Site	:	AC-3
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
01	2412.00	25.45	30	Pass
06	2437.00	25.44	30	Pass
11	2462.00	25.38	30	Pass

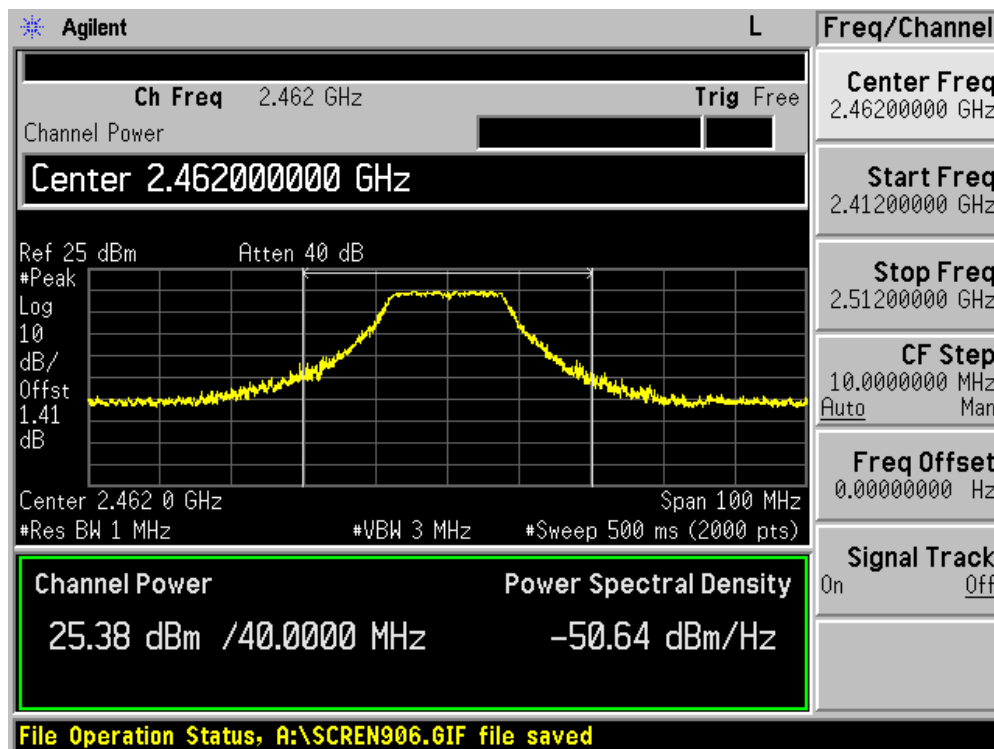
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



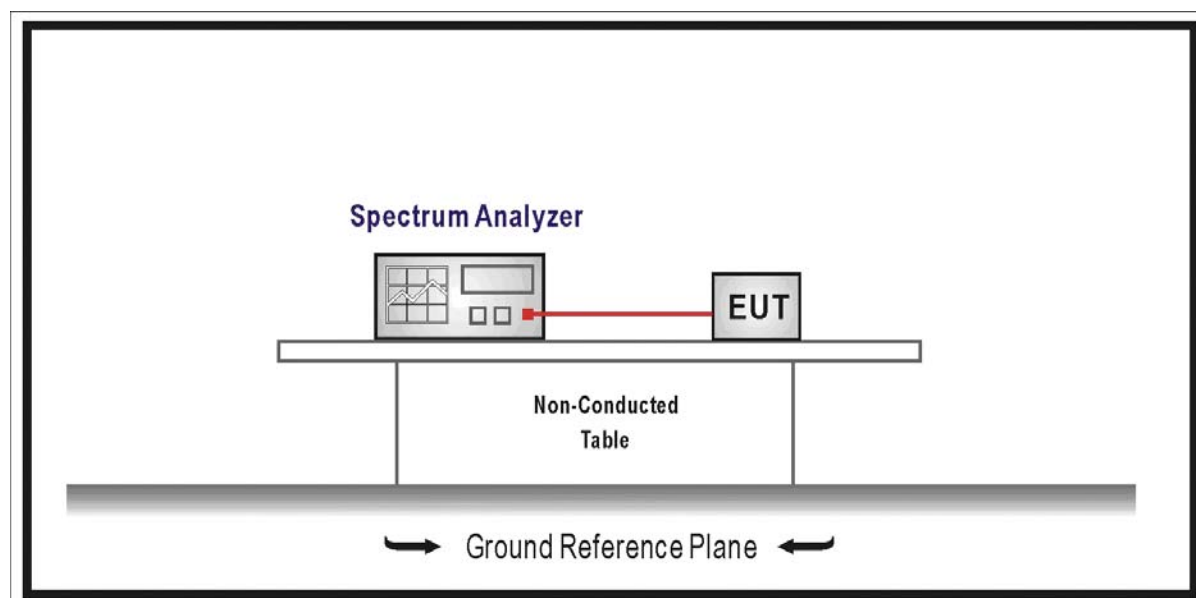
6. Occupied Bandwidth

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

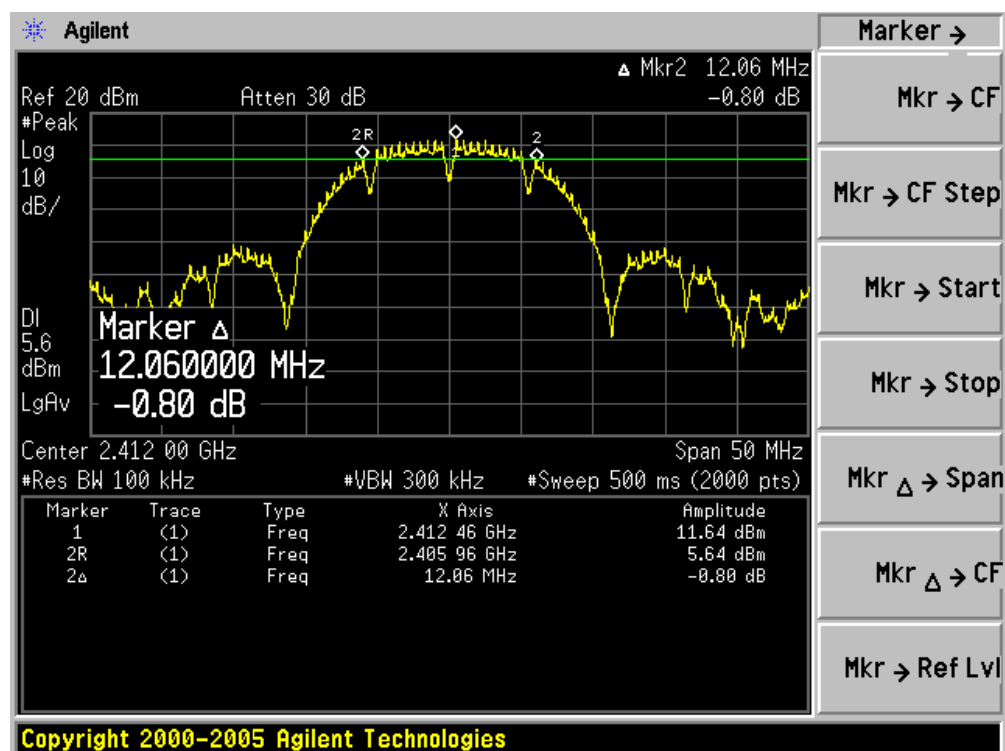
The measurement uncertainty is defined as ± 100 Hz

6.6. Test Result

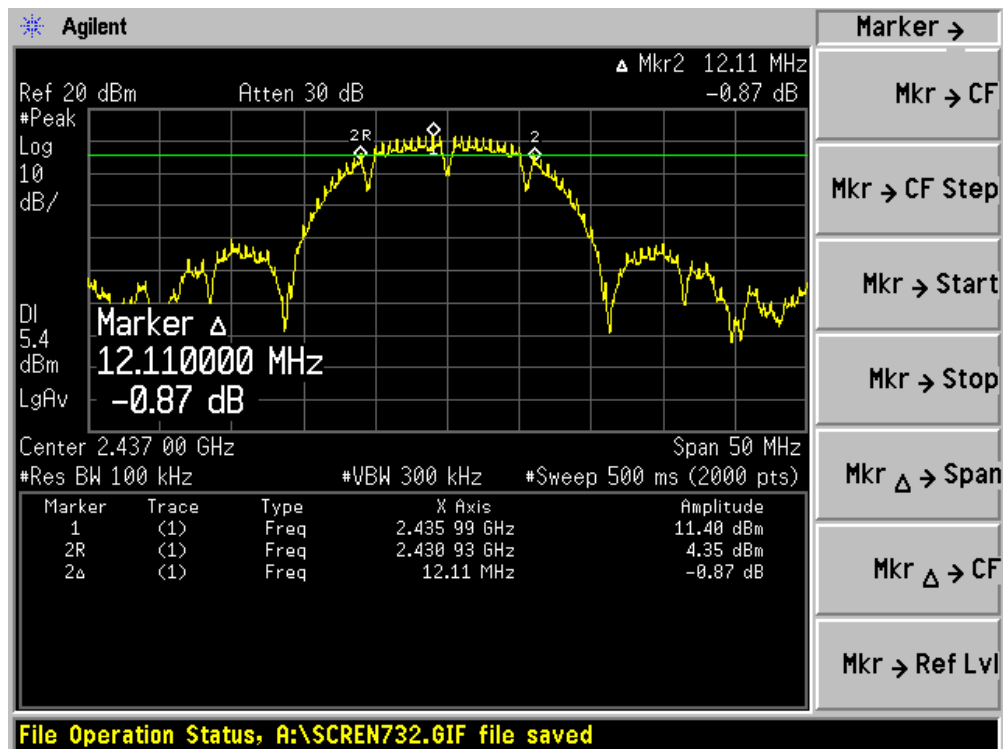
Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Occupied Bandwidth
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	12060	500	Pass
06	2437	12110	500	Pass
11	2462	12020	500	Pass

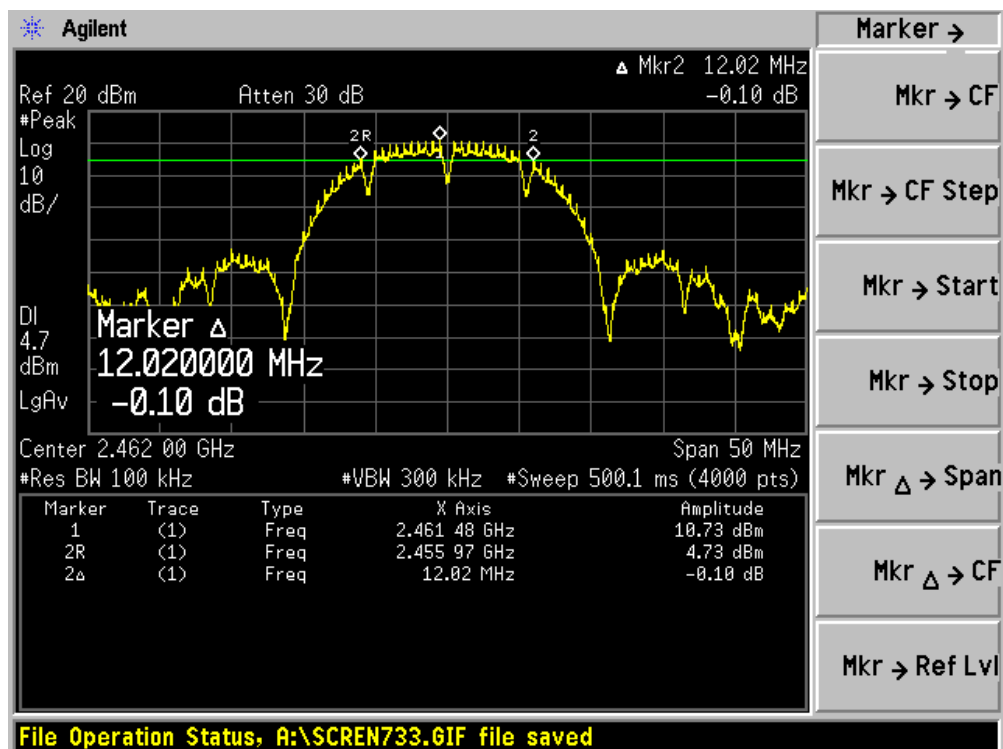
Channel 01 (2412MHz)



Channel 06 (2437MHz)



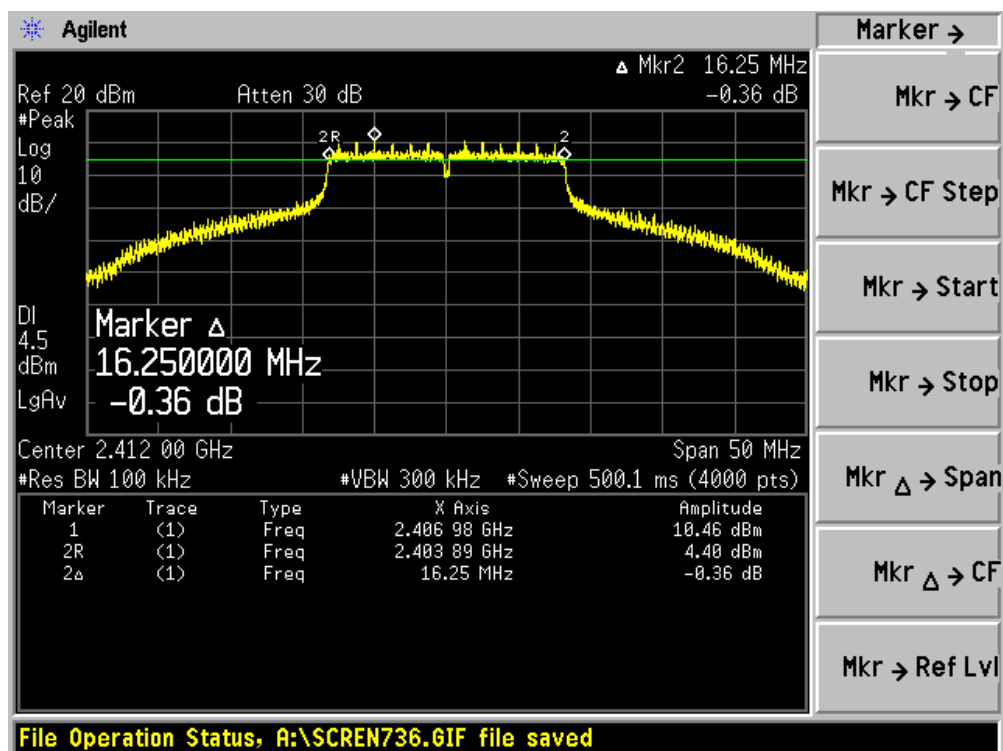
Channel 11 (2462MHz)



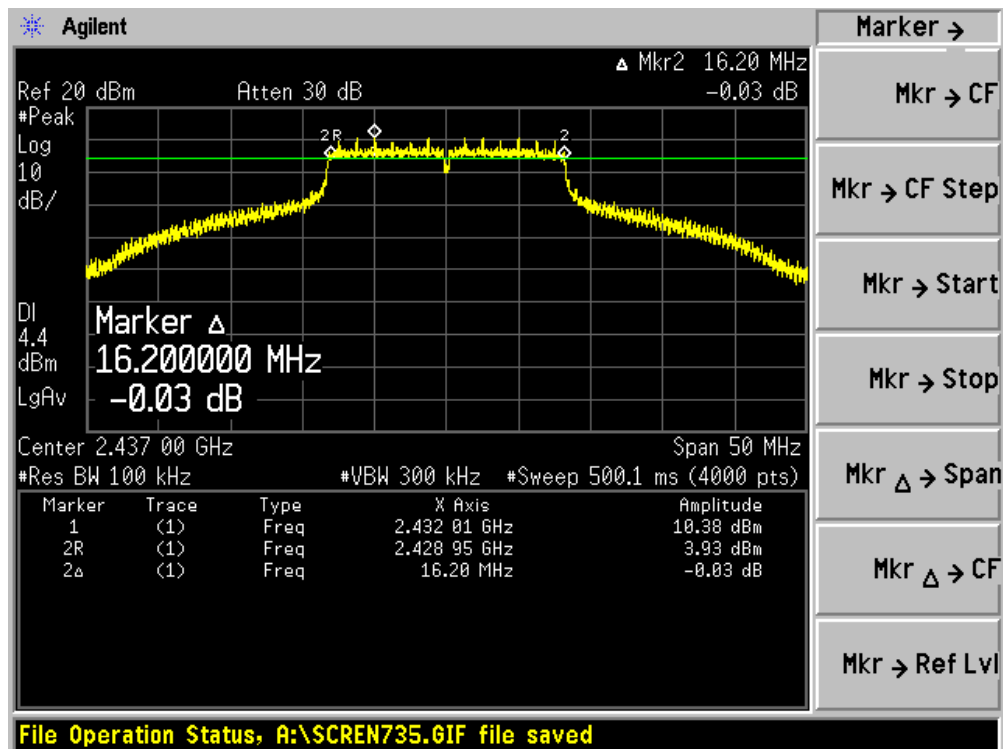
Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Occupied Bandwidth
Test Site	:	AC-3
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	16250	500	Pass
06	2437	16200	500	Pass
11	2462	16350	500	Pass

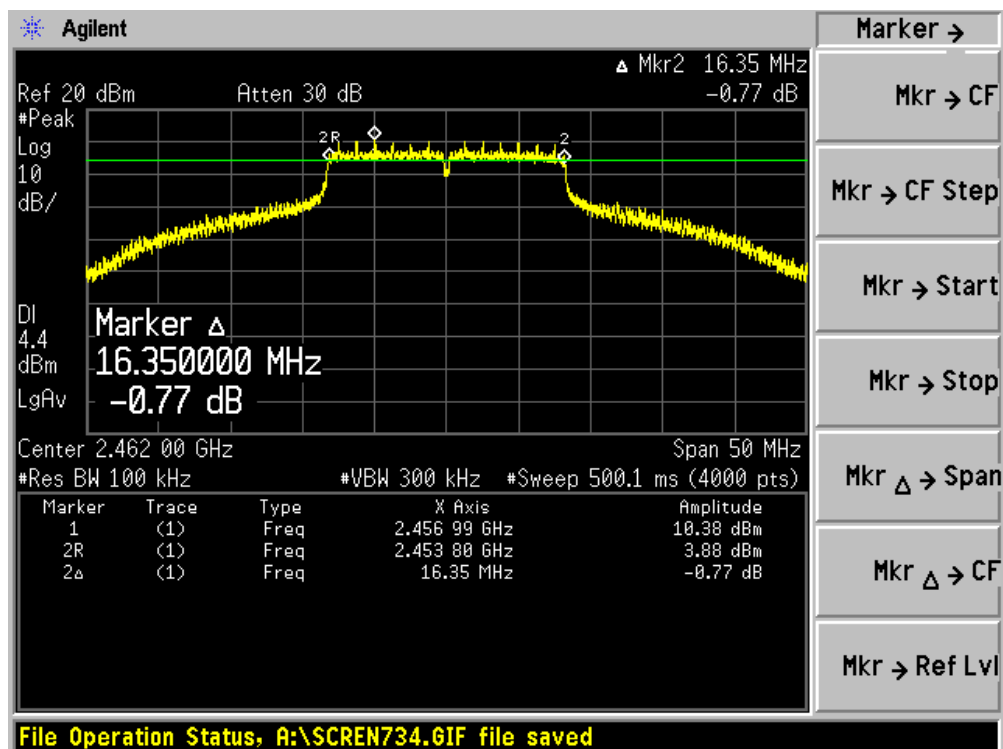
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



7. Band Edge

7.1. Test Equipment

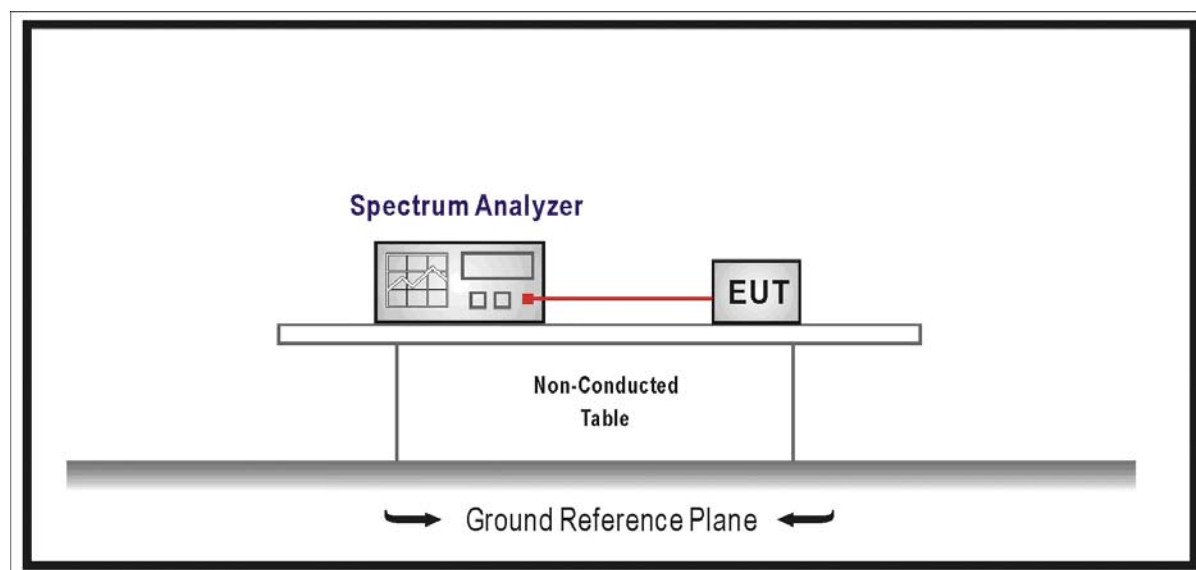
Band Edge / AC-2

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

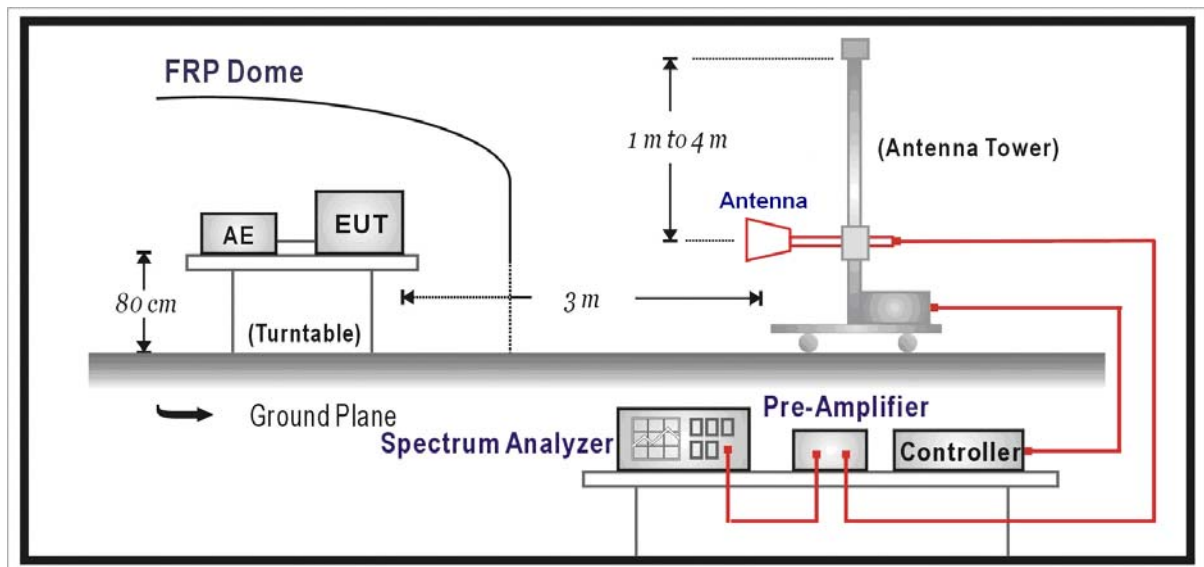
Note: "*" means the test device calibration period for two years.

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:

- Place the EUT on a bench and set it in transmitting mode.
- 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 ± 1.27 dB

For RF Radiated Measurement:

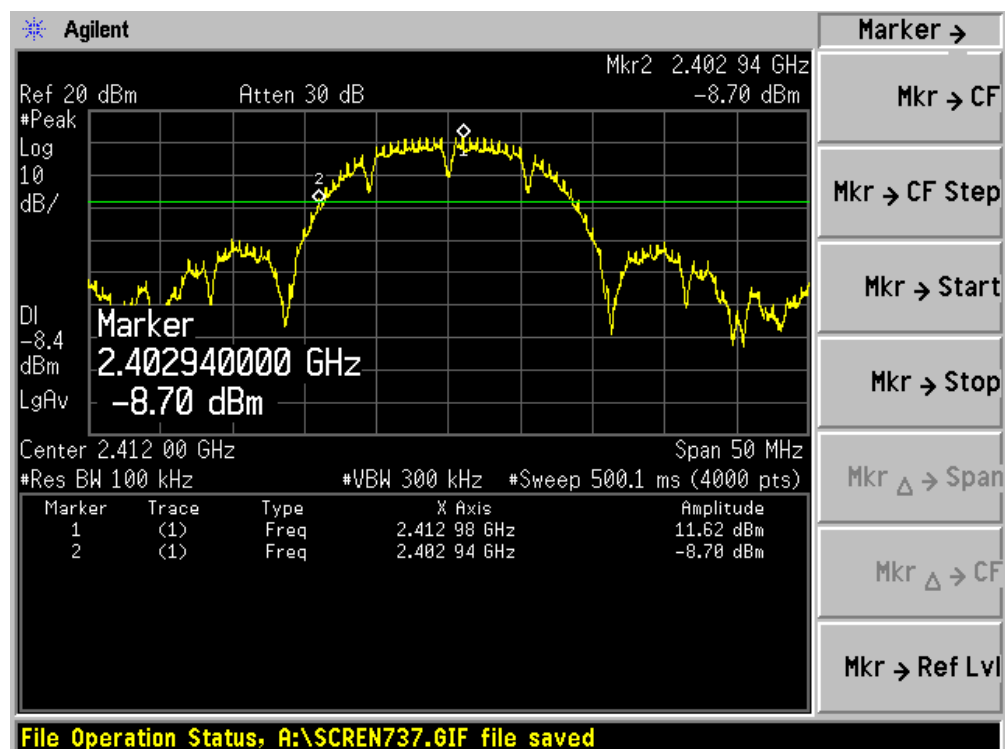
The measurement uncertainty above 1G is defined as ± 3.9 dB

under 1G is defined as ± 3.8 dB

7.6. Test Result

Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Band Edge (20dBc RF Conducted Measurement)
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)



Agilent

Ref 20 dBm Atten 30 dB

Mkr2 2.470 97 GHz
-9.30 dBm

#Peak Log 10 dB/

DI -9.2 dBm LgAv

Marker
2.470970000 GHz
-9.30 dBm

Center 2.462 00 GHz Span 50 MHz

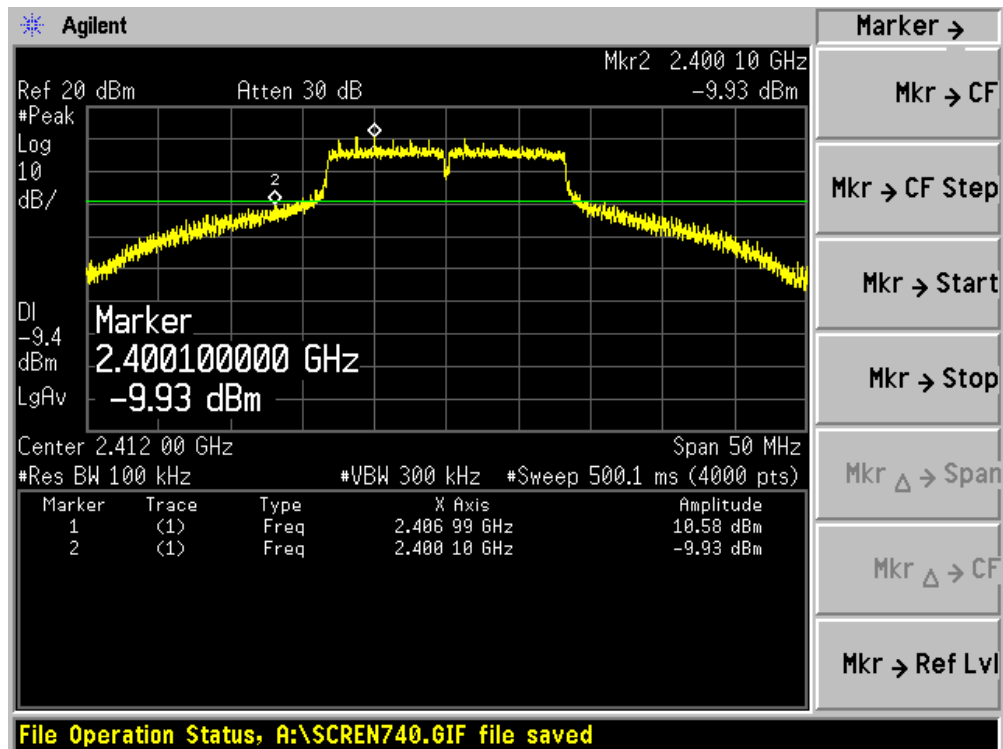
#Res BW 100 kHz #VBW 300 kHz #Sweep 500.1 ms (4000 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.462 98 GHz	10.75 dBm
2	(1)	Freq	2.470 97 GHz	-9.30 dBm

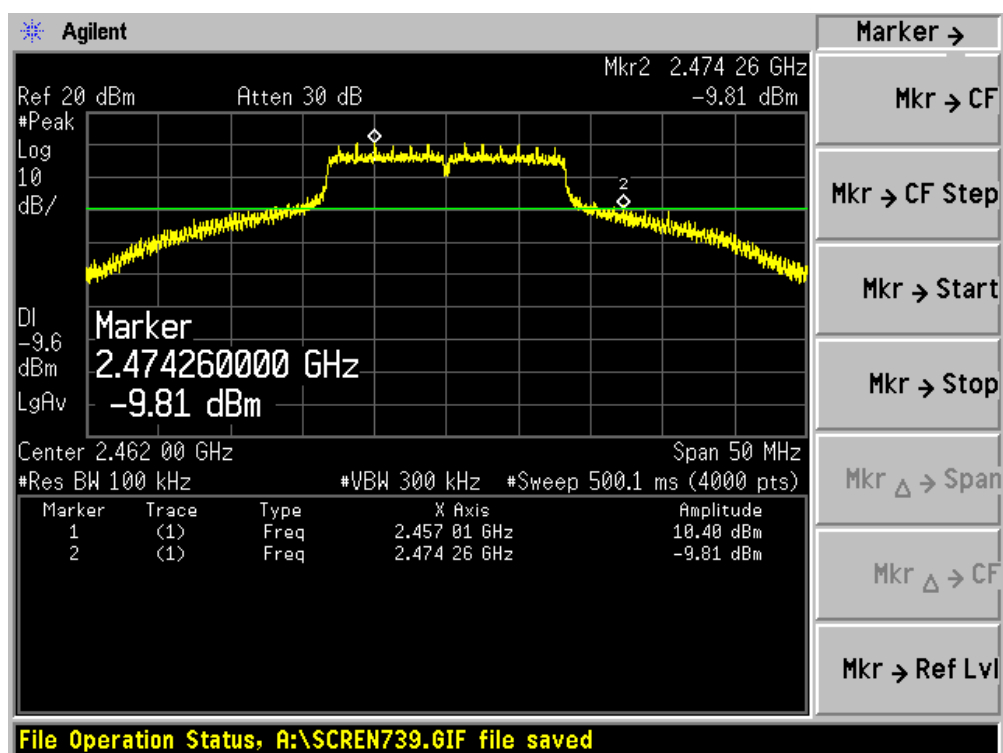
File Operation Status, A:\SCREN738.6IF file saved

Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
Test Item	:	Band Edge (20dBc Conducted Measurement)
Test Site	:	AC-3
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)



Channel 11 (2462MHz)



Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
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)	2386.267	33.183	66.818	74.00	N/A	Pass
01 (Average)	2386.267	18.309	51.944	N/A	54.00	Pass
01 (Peak)	2390.000	30.185	63.817	74.00	N/A	Pass
01 (Average)	2390.000	15.065	48.697	N/A	54.00	Pass
01 (Peak)	2400.000	35.898	69.532	N/A	N/A	N/A
01 (Average)	2400.000	18.898	52.532	N/A	N/A	N/A
01 (Peak)	2411.750	71.837	105.478	N/A	N/A	N/A
01 (Average)	2411.200	64.231	97.871	N/A	N/A	N/A

Figure Channel 01: 2412MHz (Horizontal) - Peak

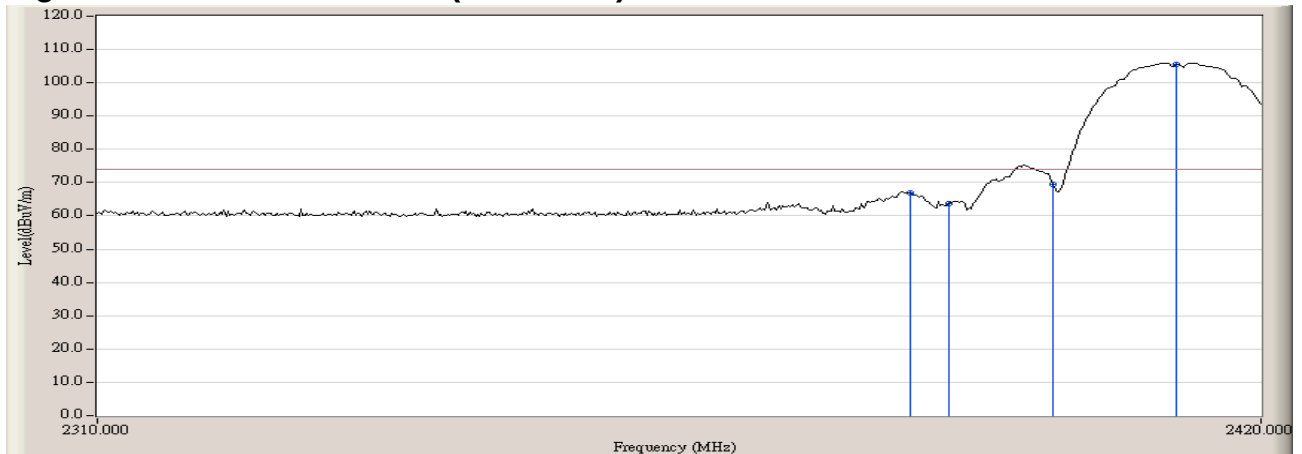
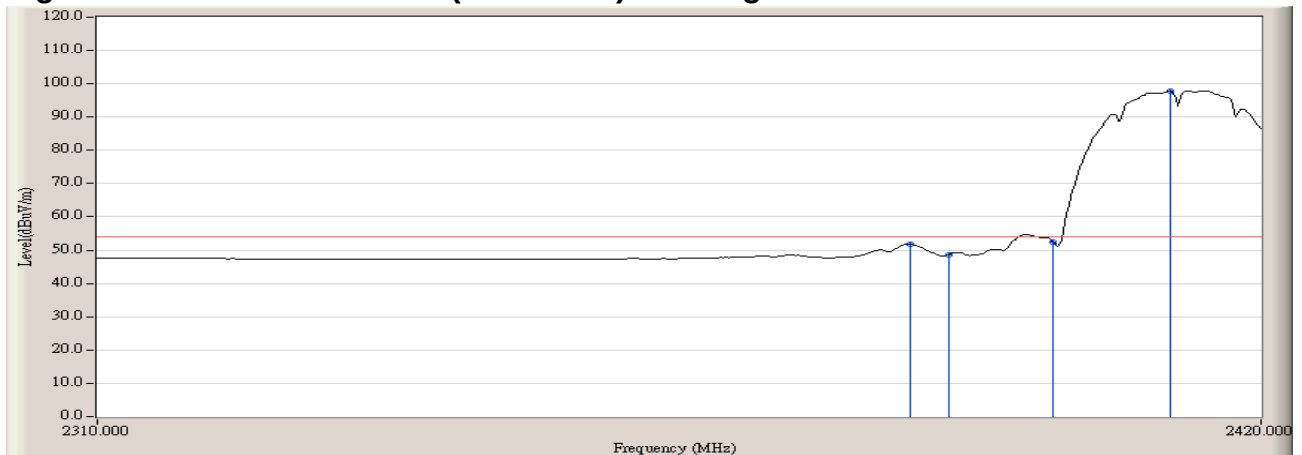


Figure Channel 01: 2412MHz (Horizontal) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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)	2386.083	38.458	72.093	74.00	N/A	Pass
01 (Average)	2386.083	24.115	51.630	N/A	54.00	Pass
01 (Peak)	2390.000	35.168	68.800	74.00	N/A	Pass
01 (Average)	2390.000	17.192	44.704	N/A	54.00	Pass
01 (Peak)	2400.000	39.831	73.465	N/A	N/A	N/A
01 (Average)	2400.000	26.182	53.696	N/A	N/A	N/A
01 (Peak)	2410.833	82.094	115.734	N/A	N/A	N/A
01 (Average)	2410.833	74.219	101.739	N/A	N/A	N/A

Figure Channel 01: 2412MHz (Vertical) - Peak

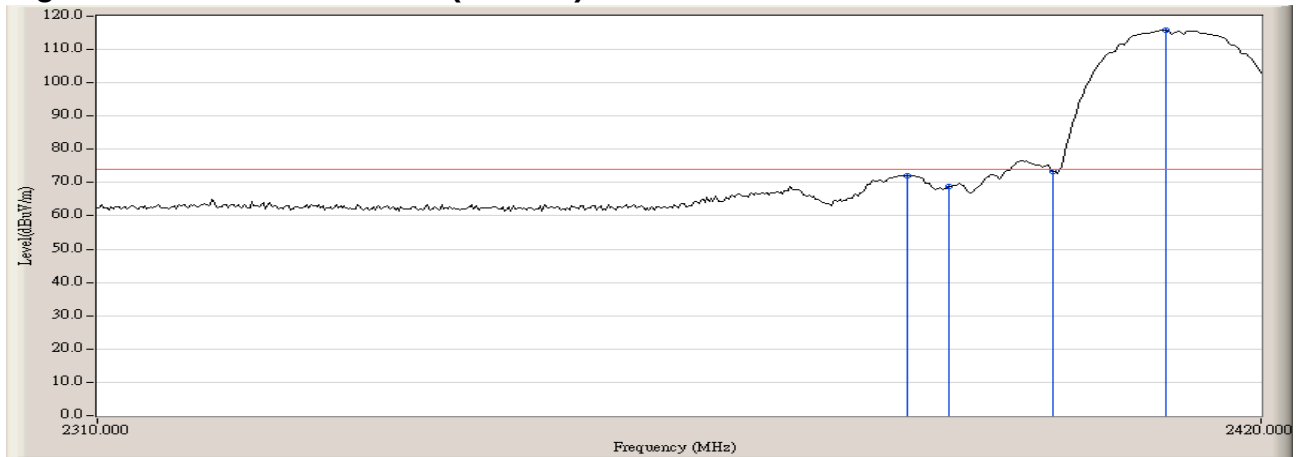
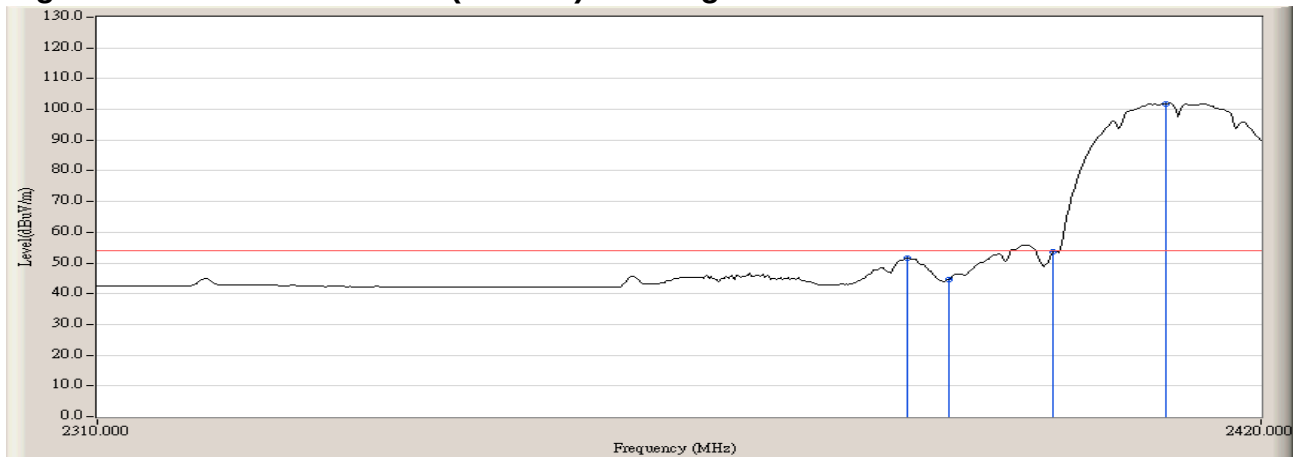


Figure Channel 01: 2412MHz (Vertical) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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
11 (Peak)	2461.360	62.895	90.454	N/A	N/A	N/A
11 (Average)	2461.360	59.888	87.447	N/A	N/A	N/A
11 (Peak)	2483.500	28.597	56.170	74.00	N/A	Pass
11 (Average)	2483.500	13.755	41.328	N/A	54.00	Pass
11 (Peak)	2489.343	26.895	54.471	74.00	N/A	Pass
11 (Average)	2489.343	13.889	41.465	N/A	54.00	Pass

Figure Channel 11: 2462MHz (Horizontal) - Peak

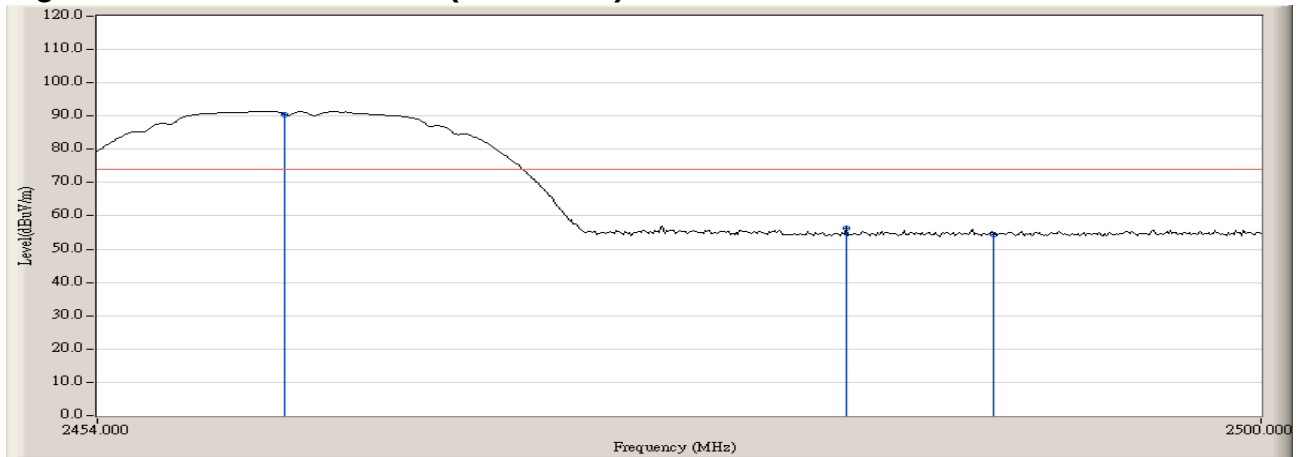
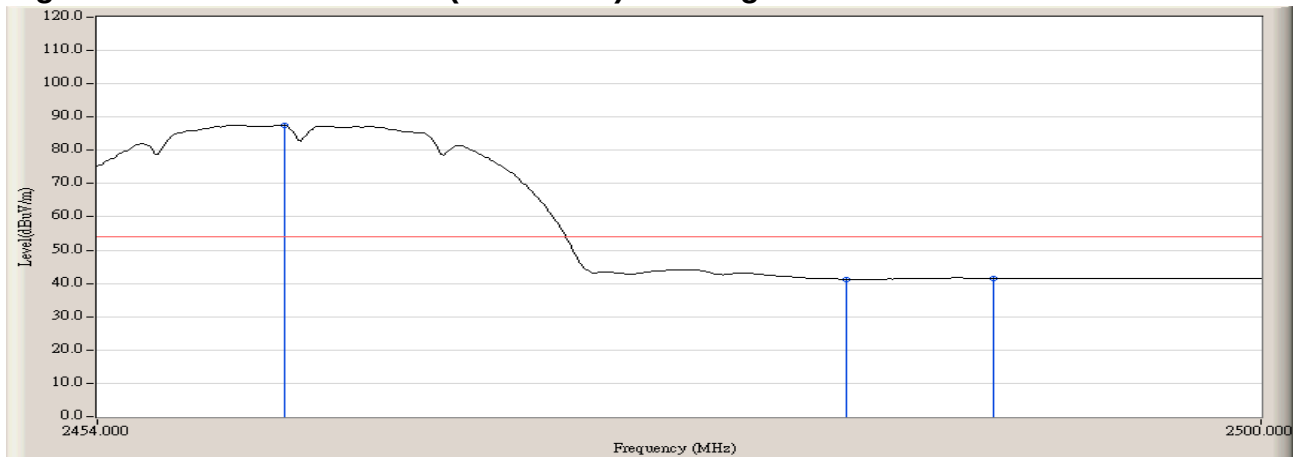


Figure Channel 11: 2462MHz (Horizontal) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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
11 (Peak)	2460.900	76.821	110.510	N/A	N/A	N/A
11 (Average)	2460.900	72.709	106.398	N/A	N/A	N/A
11 (Peak)	2483.500	28.241	61.944	74.00	N/A	Pass
11 (Average)	2483.500	15.281	48.984	N/A	54.00	Pass
11 (Peak)	2489.343	30.704	64.410	74.00	N/A	Pass
11 (Average)	2487.887	18.318	52.023	N/A	54.00	Pass

Figure Channel 11: 2462MHz (Vertical) - Peak

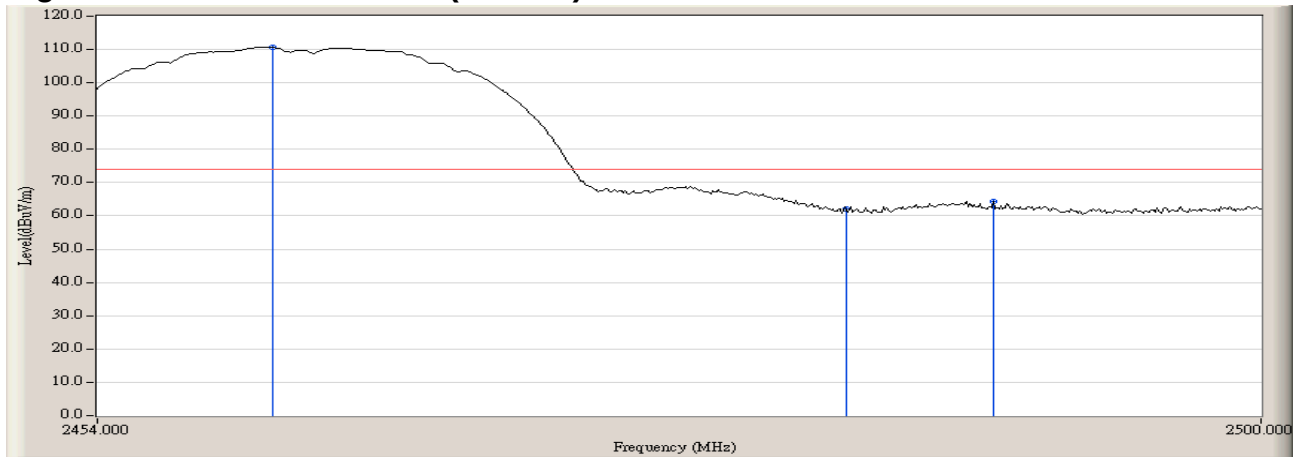
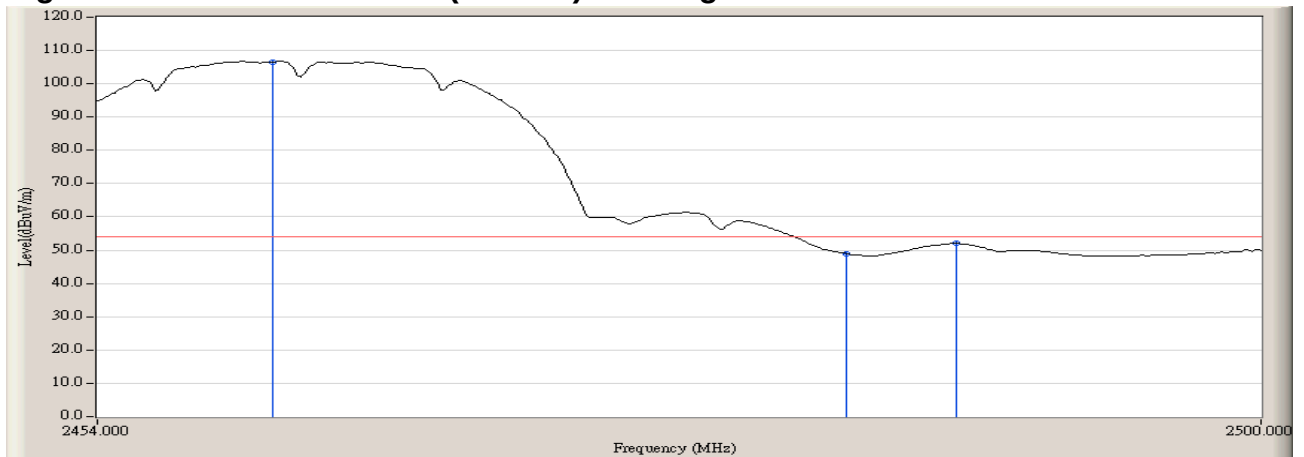


Figure Channel 11: 2462MHz (Vertical) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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)	2381.867	31.496	59.013	74.00	N/A	Pass
01 (Average)	2381.867	14.679	42.196	N/A	54.00	Pass
01 (Peak)	2390.000	33.523	61.035	74.00	N/A	Pass
01 (Average)	2390.000	17.172	44.684	N/A	54.00	Pass
01 (Peak)	2400.000	50.259	77.773	N/A	N/A	N/A
01 (Average)	2400.000	24.691	52.205	N/A	N/A	N/A
01 (Peak)	2413.583	70.891	98.413	N/A	N/A	N/A
01 (Average)	2413.583	57.348	84.870	N/A	N/A	N/A

Figure Channel 01: 2412MHz (Horizontal) - Peak

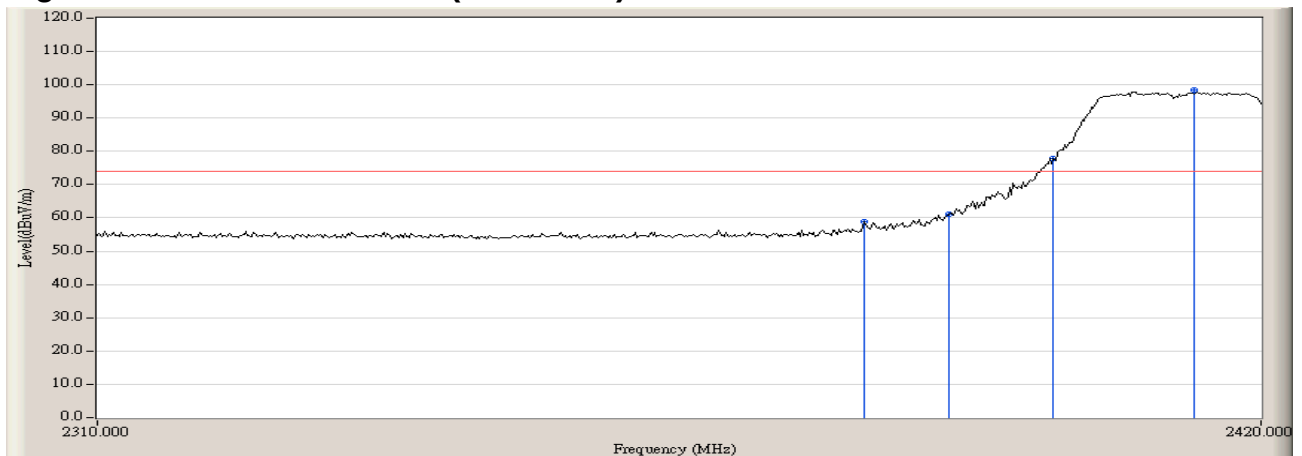
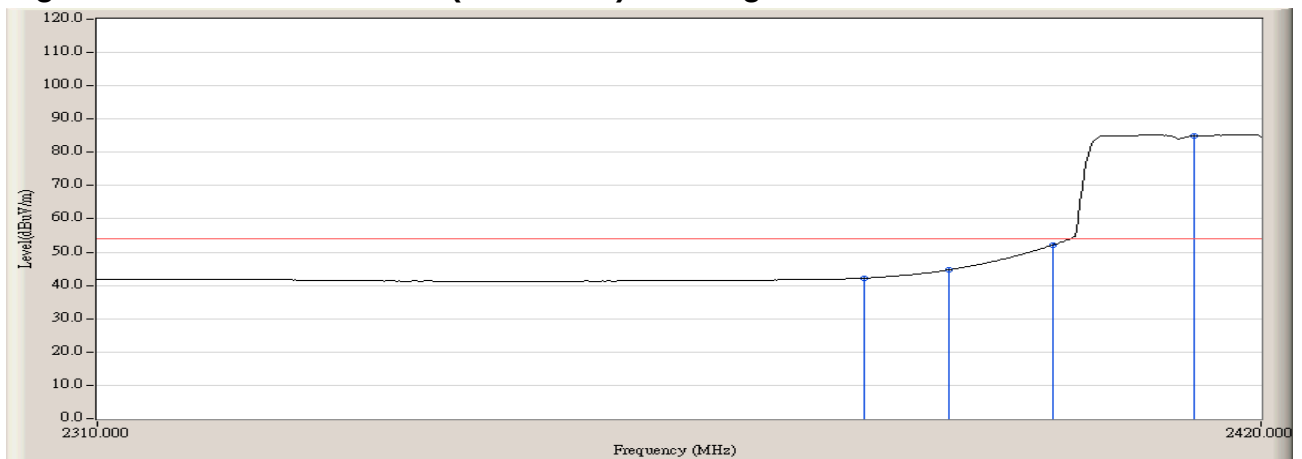


Figure Channel 01: 2412MHz (Horizontal) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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)	2386.633	41.988	69.502	74.00	N/A	Pass
01 (Average)	2386.633	22.870	50.384	N/A	54.00	Pass
01 (Peak)	2390.000	42.104	69.616	74.00	N/A	Pass
01 (Average)	2390.000	25.328	52.840	N/A	54.00	Pass
01 (Peak)	2400.000	62.184	89.698	N/A	N/A	N/A
01 (Average)	2400.000	35.536	63.050	N/A	N/A	N/A
01 (Peak)	2409.733	82.454	109.973	N/A	N/A	N/A
01 (Average)	2409.733	70.166	97.685	N/A	N/A	N/A

Figure Channel 01: 2412MHz (Vertical) - Peak

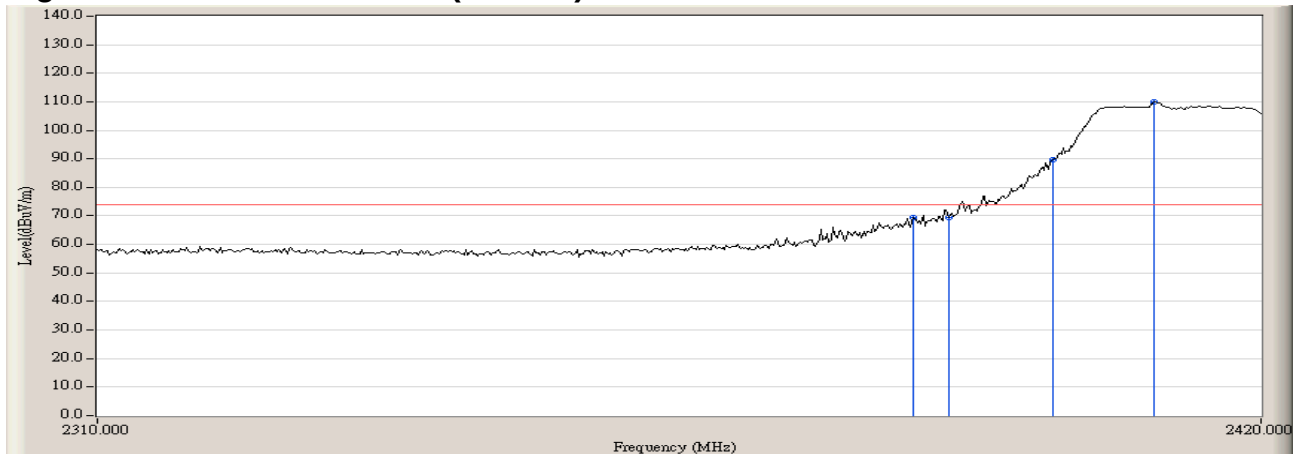
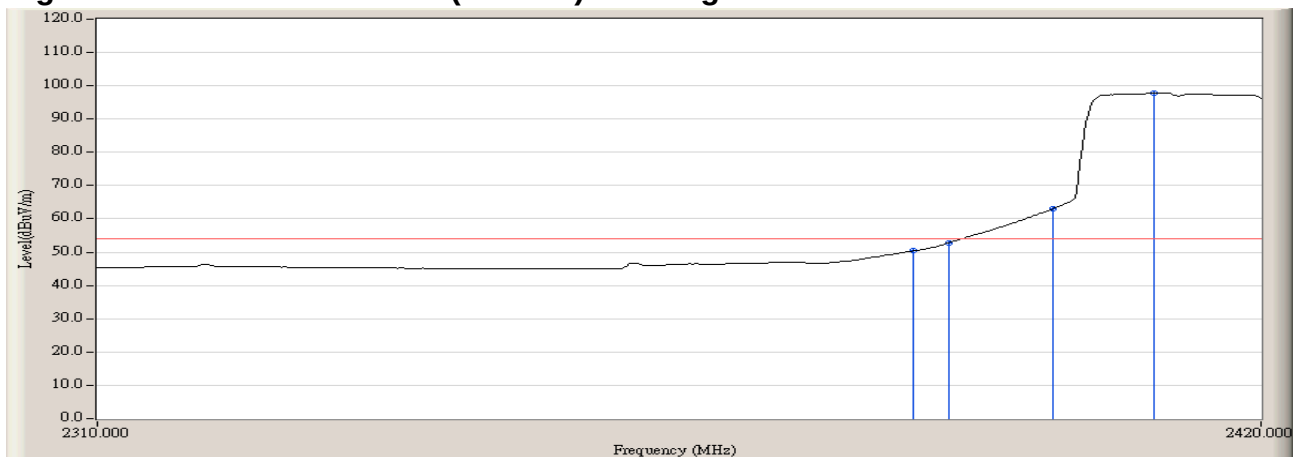


Figure Channel 01: 2412MHz (Vertical) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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
11 (Peak)	2464.043	68.492	102.183	N/A	N/A	N/A
11 (Average)	2464.043	56.665	90.356	N/A	N/A	N/A
11 (Peak)	2483.500	34.212	67.915	74.00	N/A	Pass
11 (Average)	2483.500	15.681	49.384	N/A	54.00	Pass
11 (Peak)	2492.027	29.663	63.371	74.00	N/A	Pass
11 (Average)	2492.027	14.243	47.951	N/A	54.00	Pass

Figure Channel 11: 2462MHz (Horizontal) - Peak

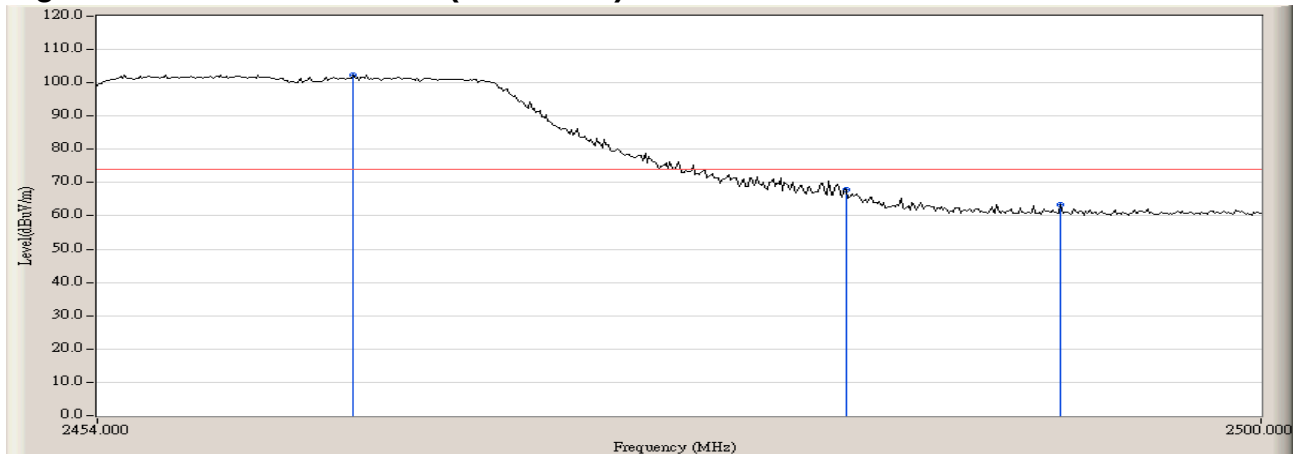
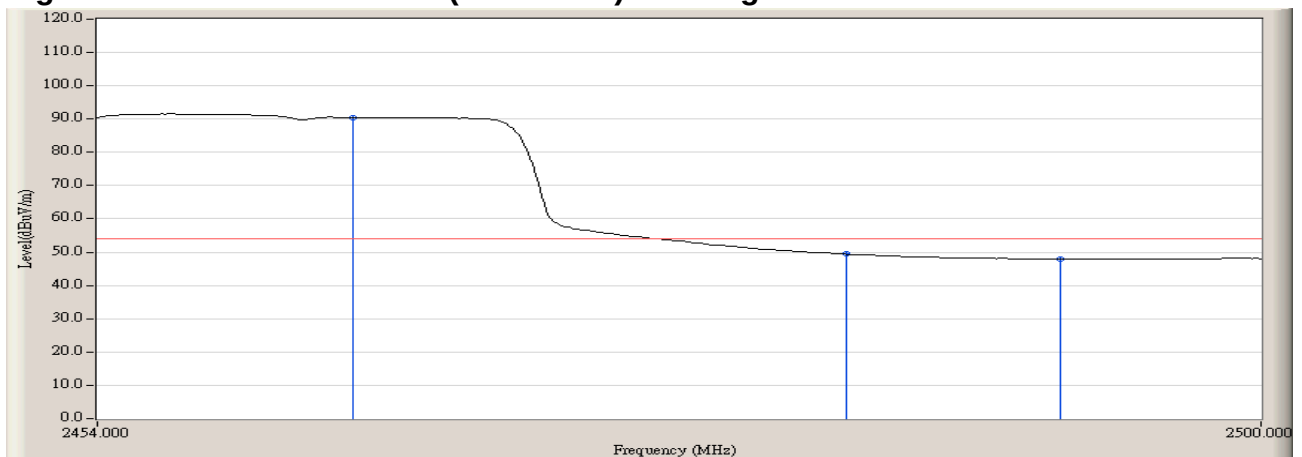


Figure Channel 11: 2462MHz (Horizontal) - Average



Note:

RBW=1MHz, VBW=3MHz, 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	:	Wireless-AG 23dBm Network Mini PCI Adapter
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
11 (Peak)	2459.827	78.190	111.877	N/A	N/A	N/A
11 (Average)	2459.827	67.120	100.807	N/A	N/A	N/A
11 (Peak)	2483.500	34.923	68.626	74.00	N/A	Pass
11 (Average)	2483.500	19.034	52.737	N/A	54.00	Pass
11 (Peak)	2486.890	34.716	68.421	74.00	N/A	Pass
11 (Average)	2486.890	17.704	51.409	N/A	54.00	Pass

Figure Channel 11: 2462MHz (Vertical) - Peak

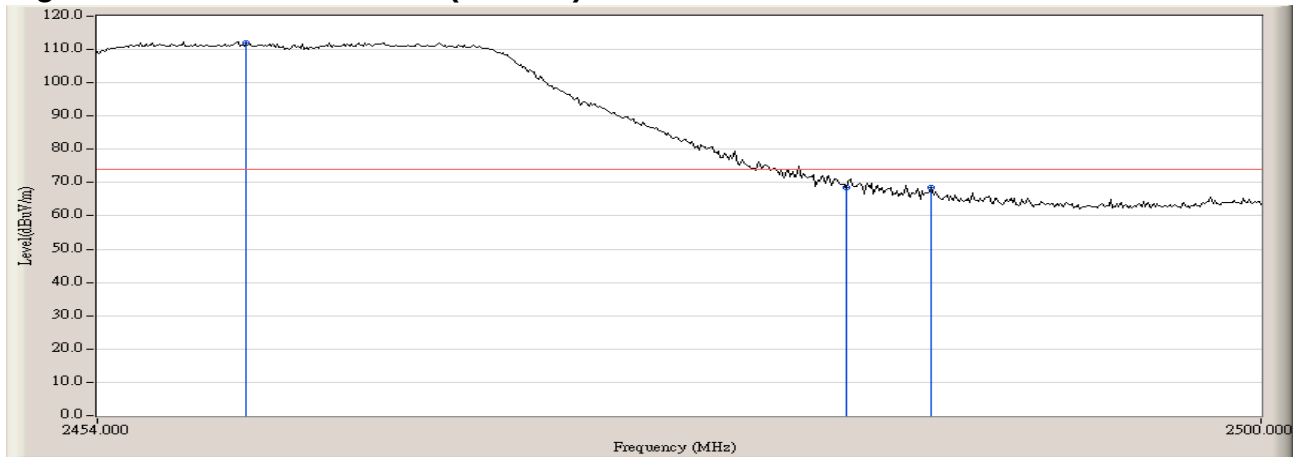
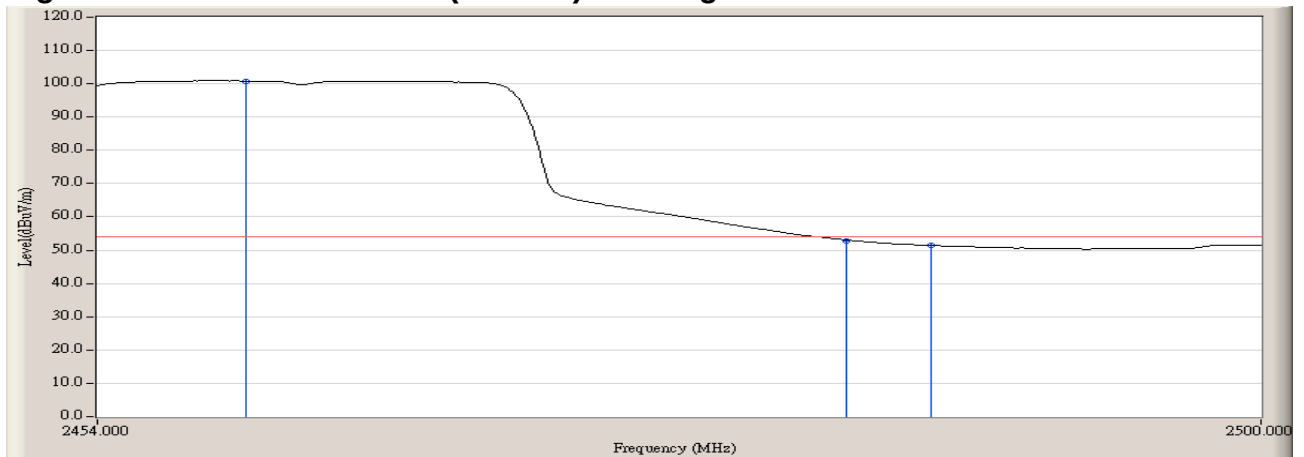


Figure Channel 11: 2462MHz (Vertical) - Average



Note:

RBW=1MHz, VBW=3MHz, 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

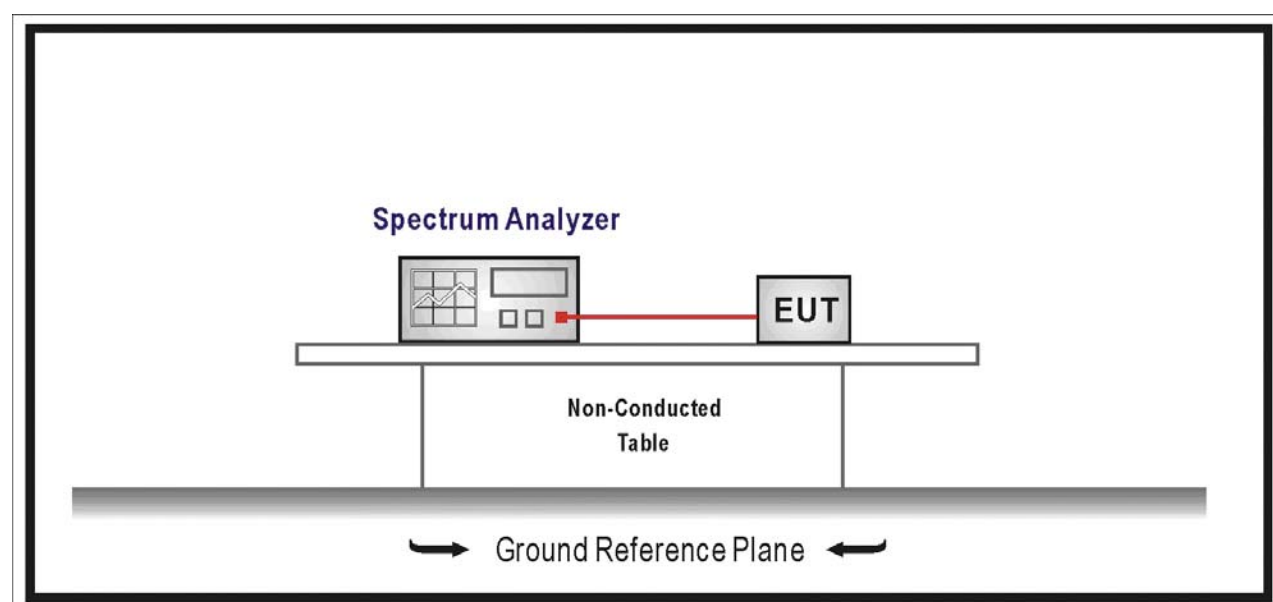
8.1. Test Equipment

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 ± 1.27 dB

8.6. Test Result

Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
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	-3.00	8	Pass
06	2437	-0.90	8	Pass
11	2462	-3.01	8	Pass

Figure Channel 01 (2412MHz)

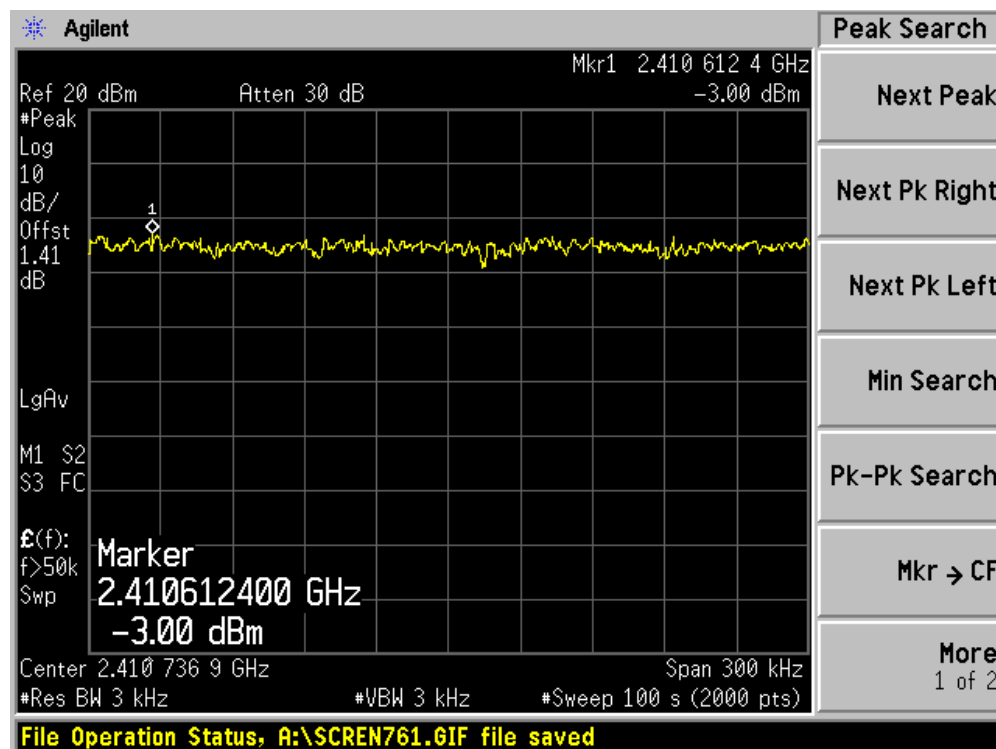


Figure Channel 06 (2437MHz)

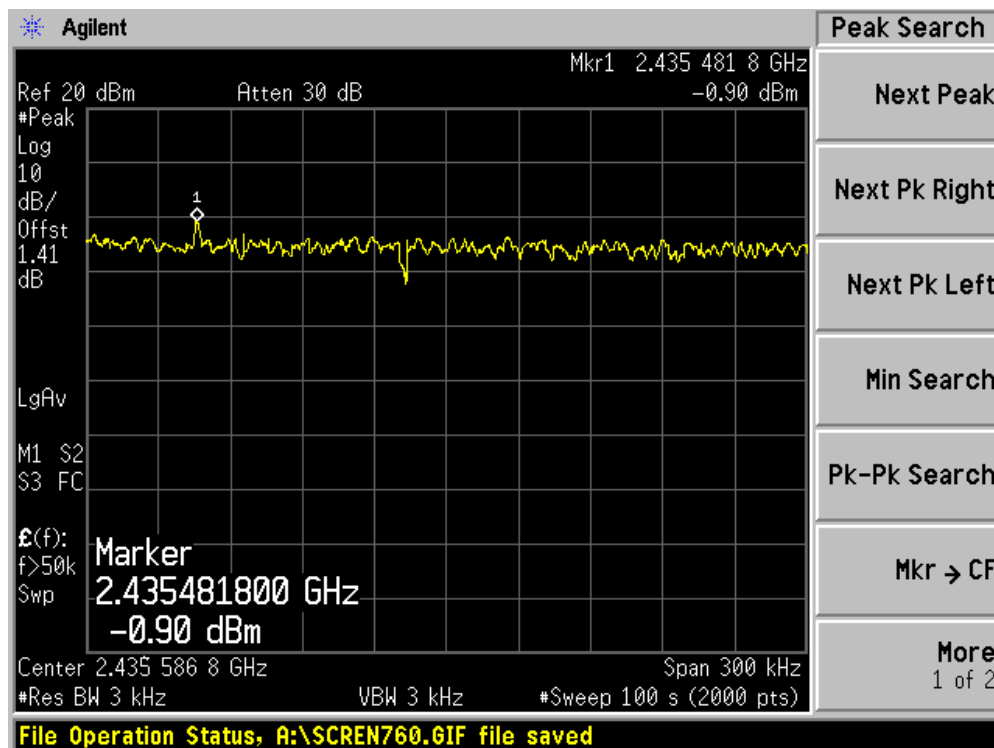
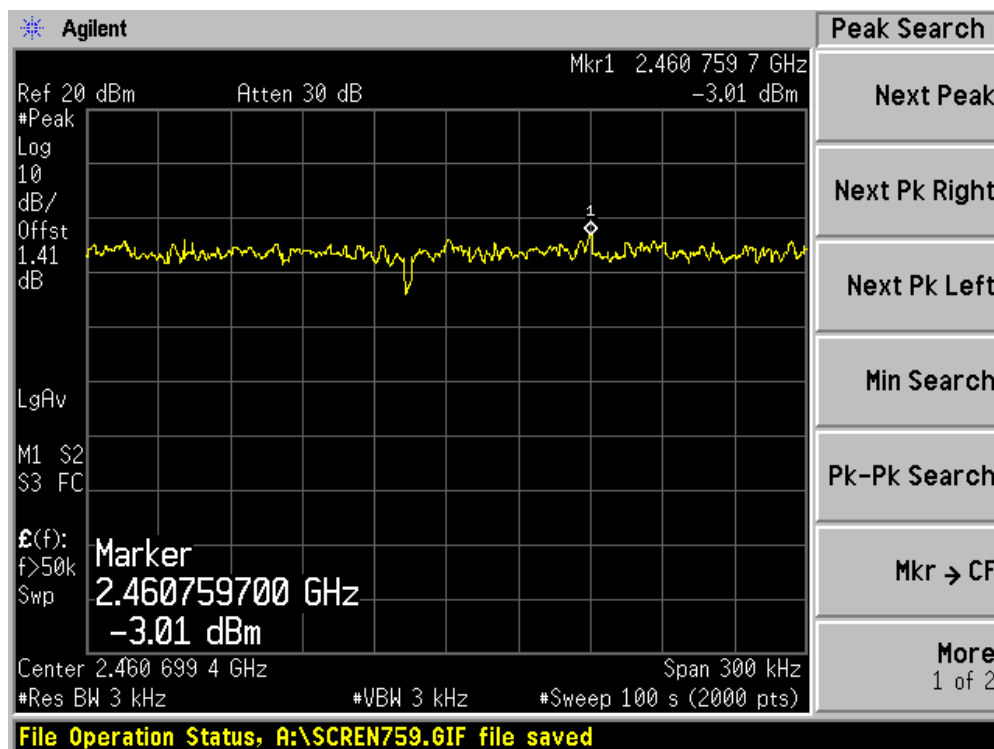


Figure Channel 11 (2462MHz)



Product	:	Wireless-AG 23dBm Network Mini PCI Adapter
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	-2.68	8	Pass
06	2437	-2.76	8	Pass
11	2462	-3.12	8	Pass

Figure Channel 01 (2412MHz)

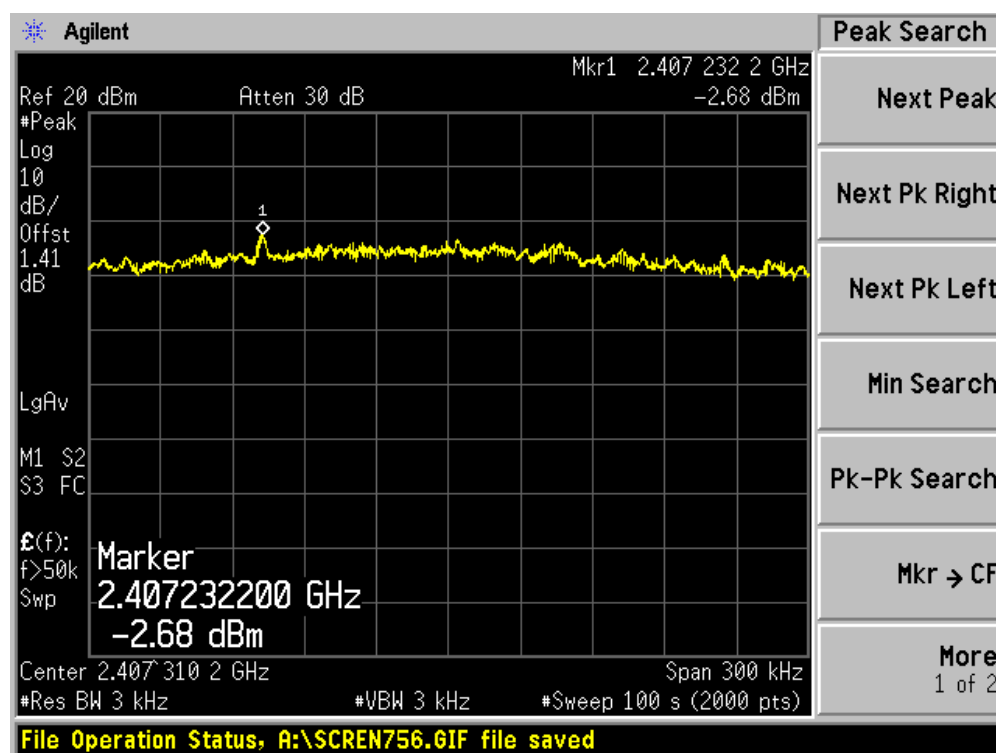


Figure Channel 06 (2437MHz)

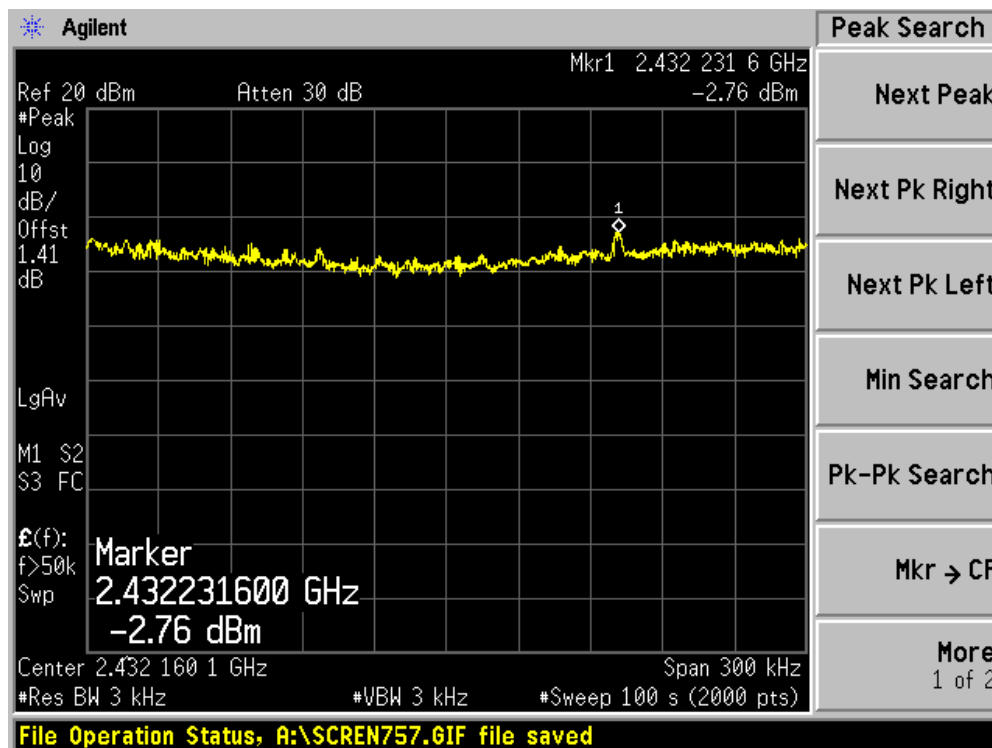


Figure Channel 11 (2462MHz)

