



## Test Report

Product Name	Wireless-N USB Adapter
Model No	EW-7622UMn
FCC ID.	NDD9576220908

Applicant	EDIMAX TECHNOLOGY CO., LTD.
Address	No.3, Wu Chuan 3rd Road, Wu-Ku Industrial Park.Taipei Hsien, Taiwan

Date of Receipt	Jun. 16, 2009
Issue Date	Jul. 02, 2009
Report No.	096246R-RFUSP42V01
Report 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: Jul. 02, 2009

Report No.: 096246R-RFUSP42V01



**Accredited by NIST (NVLAP)**  
NVLAP Lab Code: 200533-0

Product Name	Wireless-N USB Adapter
Applicant	EDIMAX TECHNOLOGY CO., LTD.
Address	No.3, Wu Chuan 3rd Road, Wu-Ku Industrial Park. Taipei Hsien, Taiwan
Manufacturer	DATAMAX ELECTRONICS(DONG GUAN)CO., LTD.
Model No.	EW-7622UMn
Rated Voltage	AC 120V/60Hz
Working Voltage	DC 5V
Trade Name	EDIMAX
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2008 ANSI C63.4: 2003
Test Result	Complied



NVLAP Lab Code: 200533-0

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Documented By :

(Senior Adm. Specialist / Genie Chang)



Tested By :

(Engineer / Eason Hung)

Approved By :

(Manager / Vincent Lin)



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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Wireless-N USB Adapter
Trade Name	EDIMAX
Model No.	EW-7622UMn
FCC ID.	NDD9576220908
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 14.4-300Mbps
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11g/n:OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna Type	Printed on PCB
Antenna Gain	Refer to the table “Antenna List”
Channel Control	Auto

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Wha Yu	NE-8071	Printed on PCB	2.0dBi in 2.4 GHz

## 802.11b/g/n-20MHz 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		

## 802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2422 MHz	Channel 02:	2427 MHz	Channel 03:	2432 MHz	Channel 04:	2437 MHz
Channel 05:	2442 MHz	Channel 06:	2447 MHz	Channel 07:	2452 MHz		

## Note:

1. The EUT is a Wireless-N USB Adapter with a built-in 2.4GHz WLAN transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.  
(802.11b is 1Mbps 、 802.11g is 6Mbps 、 802.11n(20M-BW) is 14.4Mbps and 、 802.11n(40M-BW) is 30Mbps)
4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n 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 Wireless-N USB Adapter with 11 channels. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

The device provided of eight kinds of transmitting speed 14.4、28.8、43.4、57.8、86.6、115.6、130 and 144.4Mbps in 802.11n(20M-BW) mode and 30、60、90、120、180、240、270 and 300 Mbps(40M-BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n), The IEEE 802.11n is Multiple In Multiple out (MIMO) Technology, and three antennas to support 2(Transmit) \* 2(Receive) MIMO technology.

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function.

This Wireless-N USB Adapter, compliant with IEEE 802.11b and IEEE 802.11g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the Wireless-N USB Adapter Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g/n network.

Test Mode:	Mode 1: Transmitter (802.11b 1Mbps)
	Mode 2: Transmitter (802.11g 6Mbps)
	Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW)
	Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW)

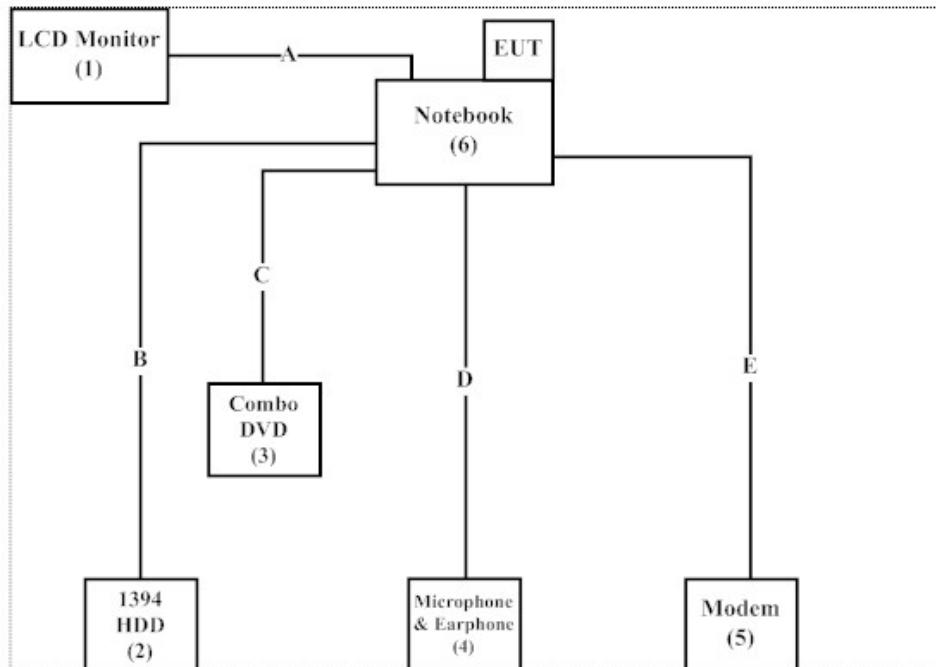
### 1.3. Tested System Details

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)	LCD Monitor	CMV	CT-730D	FNC122F57CA1067	Non-Shielded, 1.8m
(2)	COMBO HDD	TeraSys	F12-UF	A0100215-64b0013	Non-Shielded, 1.8m
(3)	Combo DVD	DELL	PD-01S	N/A	Non-Shielded, 2.0m
(4)	Microphone & Earphone	PCHOME	N/A	N/A	N/A
(5)	Modem	ACEEX	DM-1414	0102027537	Non-Shielded, 1.8m
(6)	Notebook PC	DELL	PPT	N/A	Non-Shielded, 1.2m

Signal Cable Type		Signal cable Description
A	VGA Cable	Shielded, 1.8m with two ferrite cores bonded.
B	1394 Cable	Non-Shielded, 1.2m
C	DVD Cable	Non-Shielded, 0.6m
D	Microphone & Earphone Cable	Non-Shielded, 1.2m
E	RS-232 Cable	Non-Shielded, 1.5m

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute “MP Diagnostic” Program Ver 0.0016.0113.2009 on the EUT.
- (3) Configure the test mode, the test channel, and the data rate to start the continuous transmit
- (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  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046  
Registration Number: 92195



Accreditation on NVLAP  
NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation  
Site Address: 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](mailto:service@quietek.com)

FCC Accreditation Number: TW1014



## 2. Conducted Emission

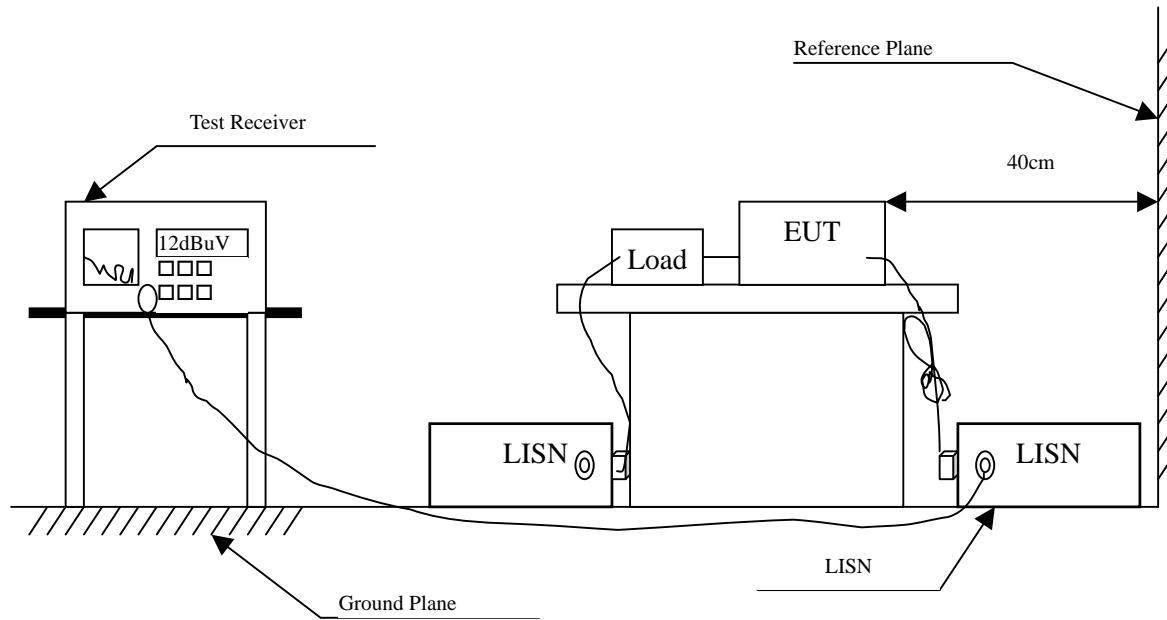
### 2.1. Test Equipment

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, 2009	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2009	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2009	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2009	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

### 2.2. Test Setup



### 2.3. Limits

<b>FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit</b>		
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 : Wireless-N USB Adapter  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
<b>Line 1</b>					
<b>Quasi-Peak</b>					
0.205	9.703	46.480	56.183	-8.246	64.429
0.267	9.665	40.150	49.815	-12.842	62.657
0.338	9.650	35.580	45.230	-15.399	60.629
0.470	9.640	31.730	41.370	-15.487	56.857
0.880	9.670	31.130	40.800	-15.200	56.000
1.224	9.670	24.700	34.370	-21.630	56.000
<b>Average</b>					
0.205	9.703	35.080	44.783	-9.646	54.429
0.267	9.665	24.960	34.625	-18.032	52.657
0.338	9.650	23.770	33.420	-17.209	50.629
0.470	9.640	18.420	28.060	-18.797	46.857
0.880	9.670	17.590	27.260	-18.740	46.000
1.224	9.670	13.090	22.760	-23.240	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 : Wireless-N USB Adapter  
 Test Item : Conducted Emission Test  
 Power Line : Line 2  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2437MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
<b>Line 2</b>					
<b>Quasi-Peak</b>					
0.173	9.739	44.530	54.269	-11.074	65.343
0.212	9.708	37.120	46.828	-17.401	64.229
0.244	9.689	35.570	45.259	-18.055	63.314
0.302	9.660	30.450	40.110	-21.547	61.657
0.447	9.644	25.270	34.914	-22.600	57.514
1.072	9.670	22.800	32.470	-23.530	56.000
<b>Average</b>					
0.173	9.739	32.490	42.229	-13.114	55.343
0.212	9.708	22.720	32.428	-21.801	54.229
0.244	9.689	21.890	31.579	-21.735	53.314
0.302	9.660	16.140	25.800	-25.857	51.657
0.447	9.644	14.440	24.084	-23.430	47.514
1.072	9.670	13.080	22.750	-23.250	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

### 3. Peak Power Output

#### 3.1. Test Equipment

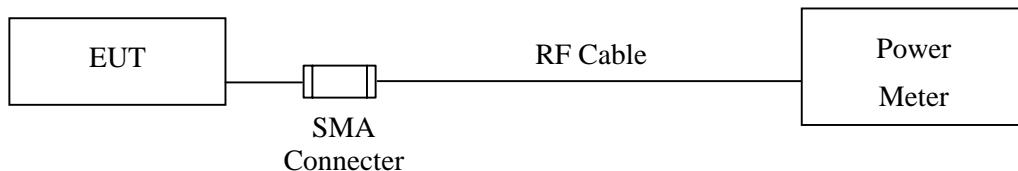
The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Power Meter	Anritsu	ML2495A/6K00003357	May, 2009
X Power Sensor	Anritsu	MA2491A/034457	May, 2009

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 Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

#### 3.5. Uncertainty

± 1.27 dB

### 3.6. Test Result of Peak Power Output

Product : Wireless-N USB Adapter  
Test Item : Peak Power Output Data  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmitter (802.11b 1Mbps)

Cable Loss=0.5dB		Peak Power Output				
Channel No.	Frequency (MHz)	Data Rate				Required Limit
		1	2	5.5	11	
1	2412.00	18.29	--	--	--	1Watt= 30 dBm
6	2437.00	18.28	17.85	17.83	17.8	1Watt= 30 dBm
11	2462.00	18.64	--	--	--	1Watt= 30 dBm

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Product : Wireless-N USB Adapter  
Test Item : Peak Power Output Data  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmitter (802.11g 6Mbps)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		6	9	12	18	24	36	48	54	
1	2412.00	22.81	--	--	--	--	--	--	--	1Watt= 30 dBm
6	2437.00	22.62	22.6	22.58	22.55	22.51	22.48	22.45	22.43	1Watt= 30 dBm
11	2462.00	22.66	--	--	--	--	--	--	--	1Watt= 30 dBm

Note: Peak Power Output Value =Reading value on peak power meter + cable loss

Product : Wireless-N USB Adapter  
Test Item : Peak Power Output Data  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		14.4	28.8	43.4	57.8	86.6	115.6	130	144.4	
1	2412.00	22.81	--	--	--	--	--	--	--	1Watt= 30 dBm
6	2437.00	22.71	22.68	22.65	22.63	22.61	22.58	22.55	22.51	1Watt= 30 dBm
11	2462.00	22.69	--	--	--	--	--	--	--	1Watt= 30 dBm

Note: Peak Power Output Value =Ant A + Ant B

Product : Wireless-N USB Adapter  
Test Item : Peak Power Output Data  
Test Site : No.3 OATS  
Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW)

Cable Loss=0.5dB		Peak Power Output								
Channel No.	Frequency (MHz)	Data Rate								Required Limit
		30	60	90	120	180	240	270	300	
1	2422.00	25.08	--	--	--	--	--	--	--	1Watt= 30 dBm
4	2437.00	25.16	25.11	24.88	24.85	24.83	24.81	24.77	24.73	1Watt= 30 dBm
7	2452.00	25.19	--	--	--	--	--	--	--	1Watt= 30 dBm

Note: Peak Power Output Value =Ant A + Ant B

## 4. Radiated Emission

### 4.1. Test Equipment

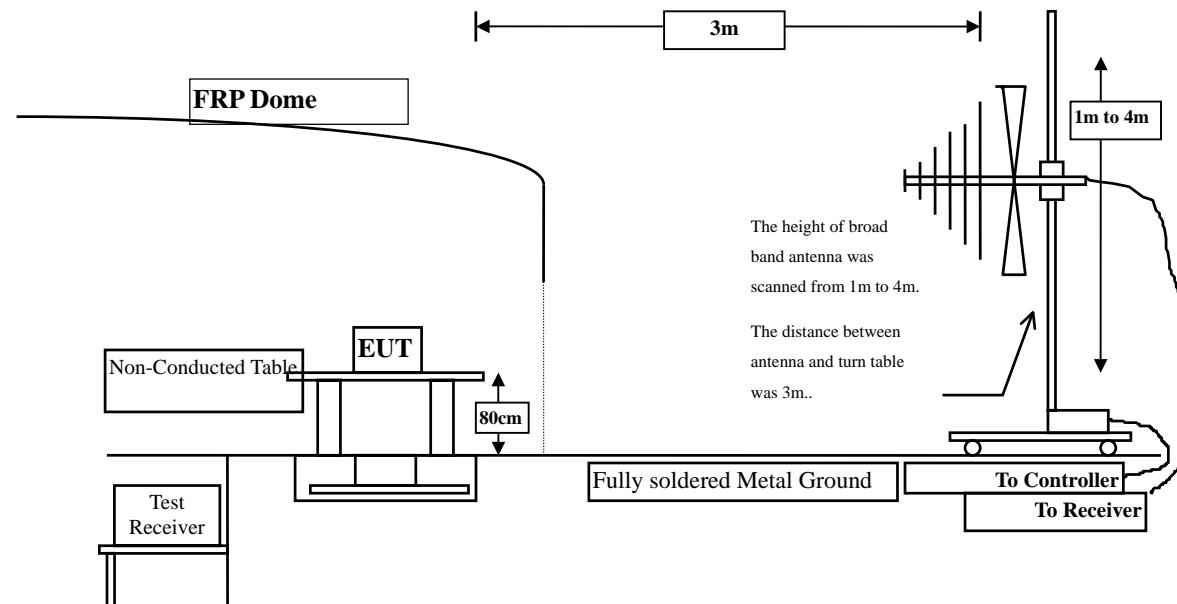
The following test equipment are used during the radiated emission test:

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

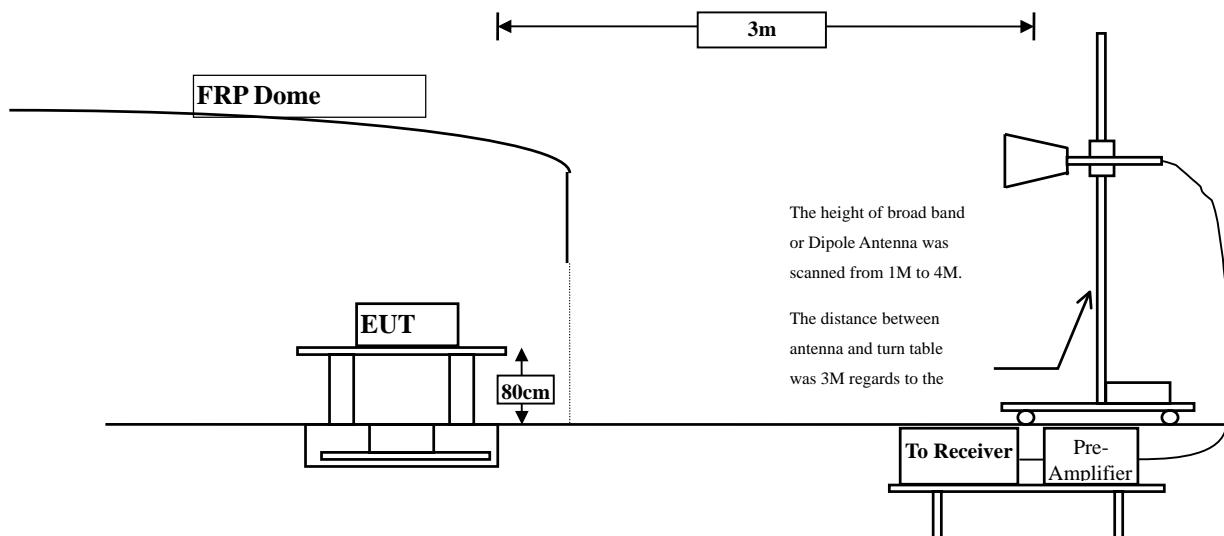
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.  
2. The test instruments marked with "X" are used to measure the final test results.

## 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.

<b>FCC Part 15 Subpart C Paragraph 15.209(a) Limits</b>		
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 Mar. 2005 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 measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

#### **4.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (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	9.577	40.820	50.397	-23.603	74.000
7236.000	14.401	35.800	50.200	-23.800	74.000
9648.000	19.795	35.640	55.435	-18.565	74.000
<b>Average</b>					
<b>Detector:</b>					
9648.000	19.795	22.630	42.425	-11.575	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4824.000	8.463	40.210	48.673	-25.327	74.000
7236.000	15.412	35.570	50.981	-23.019	74.000
9648.000	19.003	36.590	55.593	-18.407	74.000
<b>Average</b>					
<b>Detector:</b>					
9648.000	19.003	22.690	41.693	-12.307	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 : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	9.471	43.740	53.211	-20.789	74.000
7311.000	14.540	34.440	48.980	-25.020	74.000
9748.000	20.023	36.530	56.553	-17.447	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	20.023	23.090	43.113	-10.887	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	8.878	42.190	51.068	-22.932	74.000
7311.000	15.282	34.740	50.021	-23.979	74.000
9748.000	19.229	36.440	55.670	-18.330	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	19.229	22.820	42.050	-11.950	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m

**Horizontal**
**Peak Detector:**

4924.000	9.483	42.790	52.272	-21.728	74.000
7386.000	14.798	34.450	49.248	-24.752	74.000
9848.000	20.005	36.190	56.196	-17.804	74.000

**Average**
**Detector:**

9848.000	51.172	23.120	43.126	-10.874	54.000
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**Vertical**
**Peak Detector:**

4824.000	8.463	41.240	49.703	-24.297	74.000
7386.000	15.270	35.040	50.310	-23.690	74.000
9848.000	19.187	36.430	55.617	-18.383	74.000

**Average**
**Detector:**

9848.000	19.187	22.730	41.917	-12.083	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m

### Horizontal

#### Peak Detector:

4824.000	9.577	38.270	47.847	-26.153	74.000
7236.000	14.401	36.010	50.410	-23.590	74.000
9648.000	19.795	36.510	56.305	-17.695	74.000

### Average

#### Detector:

9648.000	19.795	23.070	42.865	-11.135	54.000
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### Vertical

#### Peak Detector:

4824.000	8.463	37.930	46.393	-27.607	74.000
7236.000	15.412	35.760	51.171	-22.829	74.000
9648.000	19.003	35.910	54.913	-19.087	74.000

### Average

#### Detector:

9648.000	19.003	22.880	41.883	-12.117	54.000
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### 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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2437 MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV/m	Margin Db	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	9.471	40.740	50.211	-23.789	74.000
7311.000	14.540	34.730	49.270	-24.730	74.000
9748.000	20.023	35.960	55.983	-18.017	74.000
<b>Average Detector:</b>					
9748.000	20.023	22.970	42.993	-11.007	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	8.878	39.640	48.518	-25.482	74.000
7311.000	15.282	34.850	50.131	-23.869	74.000
9748.000	19.229	35.930	55.160	-18.840	74.000
<b>Average Detector:</b>					
9748.000	19.229	23.090	42.320	-11.680	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462 MHz)

Frequency MHz	Correct Factor Db	Reading Level dBuV	Measurement Level dBuV/m	Margin Db	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	9.483	38.900	48.382	-25.618	74.000
7386.000	14.798	34.250	49.048	-24.952	74.000
9848.000	20.005	35.470	55.476	-18.524	74.000
<b>Average Detector:</b>					
9848.000	20.005	23.100	43.106	-10.894	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	9.411	40.070	49.481	-24.519	74.000
7386.000	15.270	34.560	49.830	-24.170	74.000
9848.000	19.187	35.610	54.797	-19.203	74.000
<b>Average Detector:</b>					
9848.000	19.187	22.940	42.127	-11.873	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m

### Horizontal

#### Peak Detector:

4824.000	9.577	37.800	47.377	-26.623	74.000
7236.000	14.401	35.260	49.660	-24.340	74.000
9648.000	19.795	36.460	56.255	-17.745	74.000

### Average

#### Detector:

9648.000	19.795	22.180	41.975	-12.025	54.000
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### Vertical

#### Peak Detector:

4824.000	8.463	29.240	37.703	-36.297	74.000
7236.000	15.412	35.290	50.701	-23.299	74.000
9648.000	19.003	35.510	54.513	-19.487	74.000

### Average

#### Detector:

9648.000	19.003	22.840	41.843	-12.157	54.000
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### 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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	9.471	38.910	48.381	-25.619	74.000
7311.000	14.540	34.540	49.080	-24.920	74.000
9748.000	20.023	35.770	55.793	-18.207	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	20.023	23.160	43.183	-10.817	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	8.878	38.180	47.058	-26.942	74.000
7311.000	15.282	34.570	49.851	-24.149	74.000
9748.000	19.229	35.800	55.030	-18.970	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	19.229	22.860	42.090	-11.910	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2462 MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV/m	Margin Db	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4924.000	9.483	40.840	50.322	-23.678	74.000
7386.000	14.798	34.410	49.208	-24.792	74.000
9848.000	20.005	35.770	55.776	-18.224	74.000
<b>Average Detector:</b>					
9848.000	20.005	22.980	42.986	-11.014	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4924.000	9.411	41.840	51.251	-22.749	74.000
7386.000	15.270	34.680	49.950	-24.050	74.000
9848.000	19.187	35.690	54.877	-19.123	74.000
<b>Average Detector:</b>					
9848.000	19.187	22.770	41.957	-12.043	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2422MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	Db	dBuV	dBuV/m	Db	dBuV/m

### Horizontal

#### Peak Detector:

4844.000	9.535	37.290	46.825	-27.175	74.000
7266.000	14.458	35.710	50.168	-23.832	74.000
9688.000	19.845	36.420	56.264	-17.736	74.000

### Average

#### Detector:

9688.000	19.053	23.100	42.152	-11.848	54.000
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### Vertical

#### Peak Detector:

4844.000	8.629	37.730	46.359	-27.641	74.000
7266.000	15.361	35.100	50.461	-23.539	74.000
9688.000	19.053	36.010	55.062	-18.938	74.000

### Average

#### Detector:

9688.000	19.053	23.030	42.082	-11.918	54.000
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### 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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4874.000	9.471	37.270	46.741	-27.259	74.000
7311.000	14.540	35.850	50.390	-23.610	74.000
9748.000	20.023	36.020	56.043	-17.957	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	20.023	22.830	42.853	-11.147	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4874.000	8.878	37.460	46.338	-27.662	74.000
7311.000	15.282	35.220	50.501	-23.499	74.000
9748.000	19.229	35.640	54.870	-19.130	74.000
<b>Average</b>					
<b>Detector:</b>					
9748.000	19.229	23.050	42.280	-11.720	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : Harmonic Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2452 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
<b>Horizontal</b>					
<b>Peak Detector:</b>					
4904.000	9.514	37.910	47.424	-26.576	74.000
7356.000	14.736	33.790	48.526	-25.474	74.000
9808.000	20.065	36.400	56.465	-17.535	74.000
<b>Average Detector:</b>					
9808.000	20.065	23.170	43.235	-10.765	54.000
<b>Vertical</b>					
<b>Peak Detector:</b>					
4904.000	9.234	37.850	47.083	-26.917	74.000
7356.000	15.316	34.090	49.405	-24.595	74.000
9808.000	19.267	35.560	54.827	-19.173	74.000
<b>Average Detector:</b>					
9808.000	19.267	22.910	42.177	-11.823	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.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Wireless-N USB Adapter  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps)(2437 MHz)

Frequency MHz	Correct Factor	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
	dB	dBuV	dBuV/m		
<b>Horizontal</b>					
241.460	-6.903	38.938	32.035	-13.965	46.000
470.380	0.768	32.533	33.301	-12.699	46.000
660.500	1.611	30.998	32.609	-13.391	46.000
718.700	3.052	31.844	34.896	-11.104	46.000
846.740	5.350	30.444	35.794	-10.206	46.000
934.040	6.116	29.435	35.551	-10.449	46.000
<b>Vertical</b>					
400.540	-5.660	34.752	29.092	-16.908	46.000
718.700	-0.798	32.731	31.933	-14.067	46.000
782.720	2.616	30.942	33.559	-12.441	46.000
846.740	2.210	30.978	33.188	-12.812	46.000
912.700	1.290	29.737	31.027	-14.973	46.000
961.200	6.724	29.290	36.014	-17.986	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 : Wireless-N USB Adapter  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
470.380	0.768	32.669	33.437	-12.563	46.000
660.500	1.611	31.397	33.008	-12.992	46.000
718.700	3.052	32.731	35.783	-10.217	46.000
782.720	3.906	30.942	34.849	-11.151	46.000
846.740	5.350	30.978	36.328	-9.672	46.000
934.040	6.116	29.570	35.686	-10.314	46.000
<b>Vertical</b>					
460.680	-3.679	32.708	29.029	-16.971	46.000
528.580	-0.986	28.795	27.809	-18.191	46.000
662.440	-2.506	31.761	29.255	-16.745	46.000
718.700	-0.798	32.731	31.933	-14.067	46.000
782.720	2.616	30.942	33.559	-12.441	46.000
961.200	6.724	29.290	36.014	-17.986	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 : Wireless-N USB Adapter  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
460.680	1.131	32.708	33.839	-12.161	46.000
602.300	3.768	27.743	31.511	-14.489	46.000
718.700	3.052	32.731	35.783	-10.217	46.000
782.720	3.906	31.354	35.261	-10.739	46.000
846.740	5.350	30.978	36.328	-9.672	46.000
961.200	5.914	29.290	35.204	-18.796	54.000
<b>Vertical</b>					
379.200	-2.108	35.949	33.841	-12.159	46.000
528.580	-0.986	32.035	31.049	-14.951	46.000
668.260	-2.157	36.358	34.201	-11.799	46.000
782.720	2.616	31.763	34.380	-11.620	46.000
846.740	2.210	30.978	33.188	-12.812	46.000
961.200	6.724	29.290	36.014	-17.986	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 : Wireless-N USB Adapter  
 Test Item : General Radiated Emission Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW)(2437 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
<b>Horizontal</b>					
379.200	-2.108	35.949	33.841	-12.159	46.000
528.580	-0.986	32.035	31.049	-14.951	46.000
668.260	-2.157	36.358	34.201	-11.799	46.000
782.720	2.616	31.763	34.380	-11.620	46.000
846.740	2.210	30.978	33.188	-12.812	46.000
961.200	6.724	29.290	36.014	-17.986	54.000
<b>Vertical</b>					
379.200	-2.108	35.949	33.841	-12.159	46.000
528.580	-0.986	32.035	31.049	-14.951	46.000
668.260	-2.157	36.358	34.201	-11.799	46.000
782.720	2.616	31.763	34.380	-11.620	46.000
846.740	2.210	30.978	33.188	-12.812	46.000
928.220	5.720	29.484	35.204	-10.796	46.000

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. Band Edge

### 5.1. Test Equipment

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

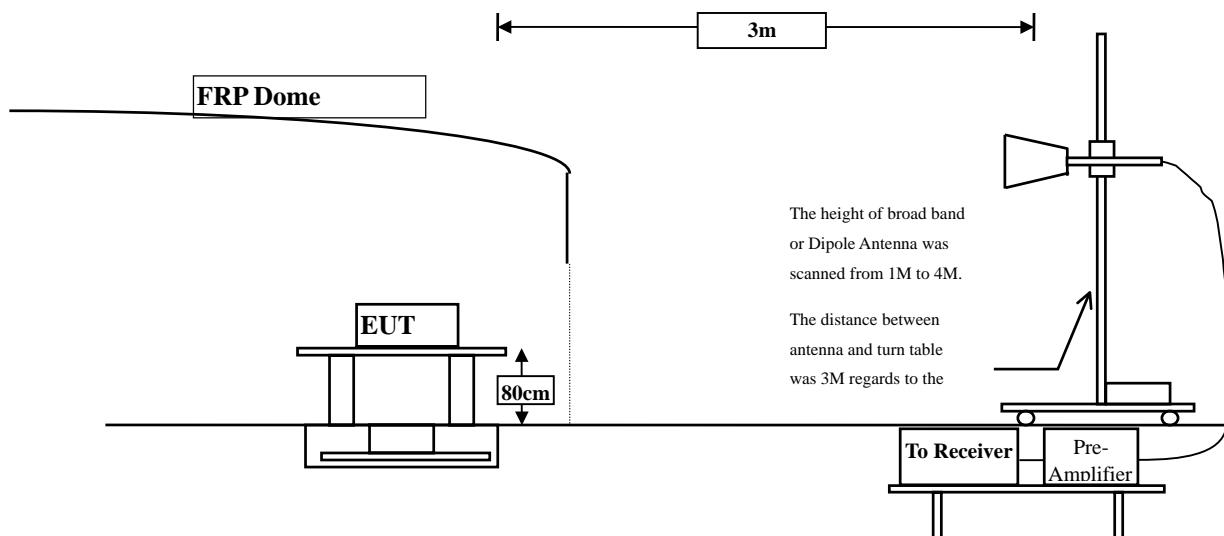
Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2009
		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuietTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuietTek	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.

### 5.2. Test Setup

#### RF Radiated Measurement:



### **5.3. 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.

### **5.4. Test Procedure**

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 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.

### **5.5. Uncertainty**

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

## 5.6. Test Result of Band Edge

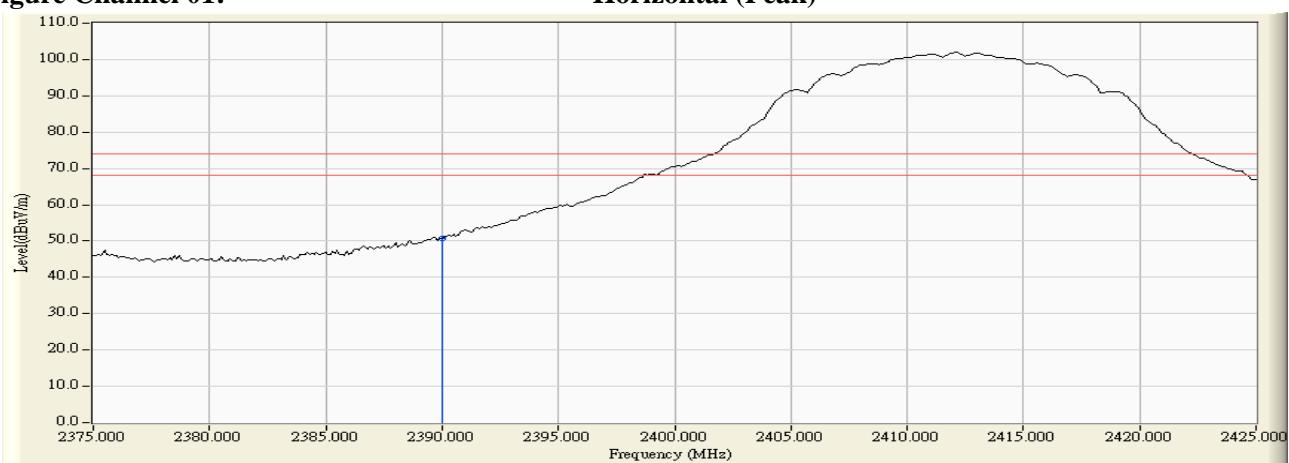
Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

### 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)	2390.000	2.937	47.891	50.828	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.

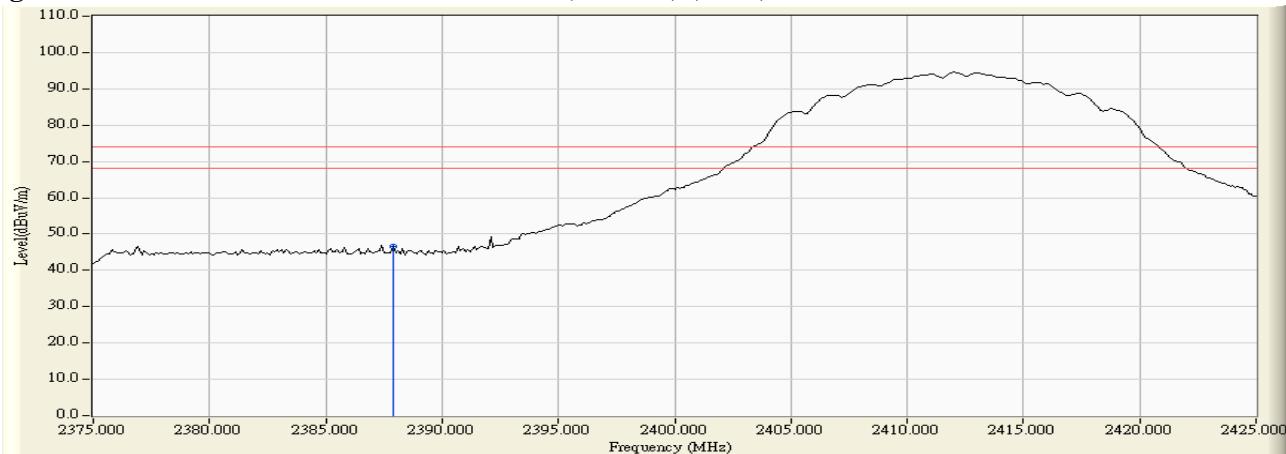
Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

**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)	2387.900	1.933	44.597	46.530	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.

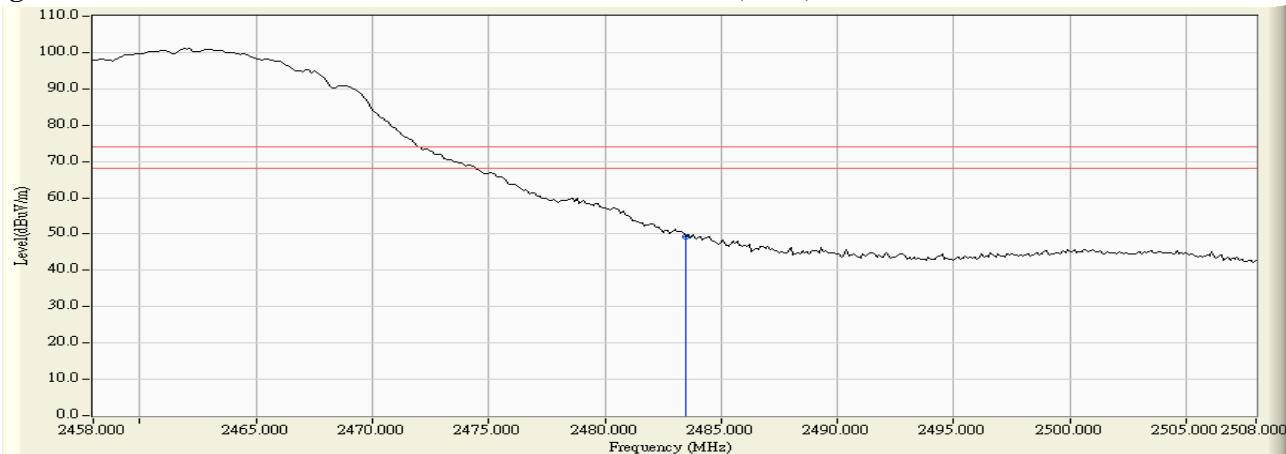
Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

**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	3.076	46.211	49.287	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.

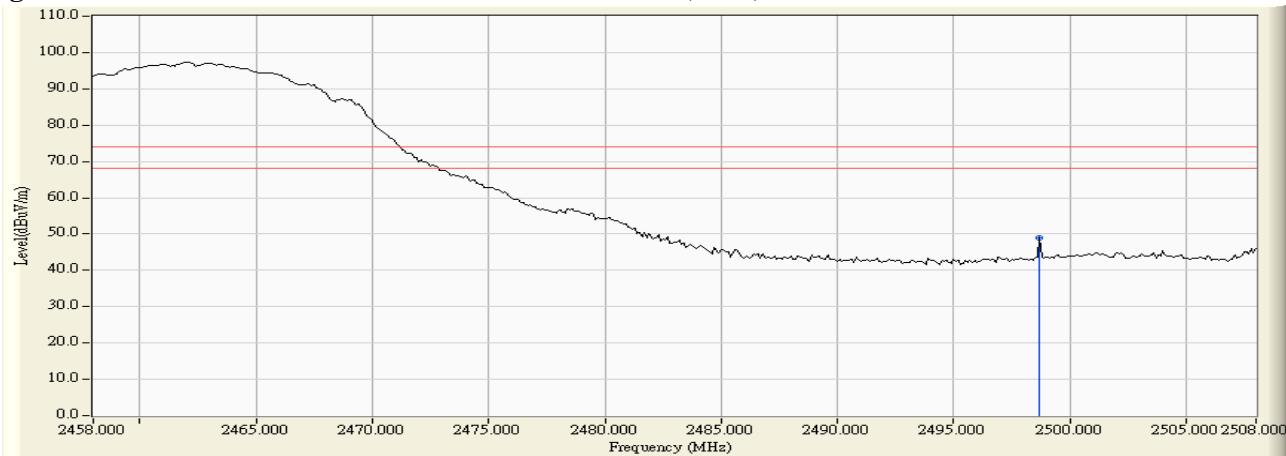
Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

#### 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)	2498.700	2.655	46.400	49.055	74.00	54.00	Pass
11(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 11:

Vertical (Peak)



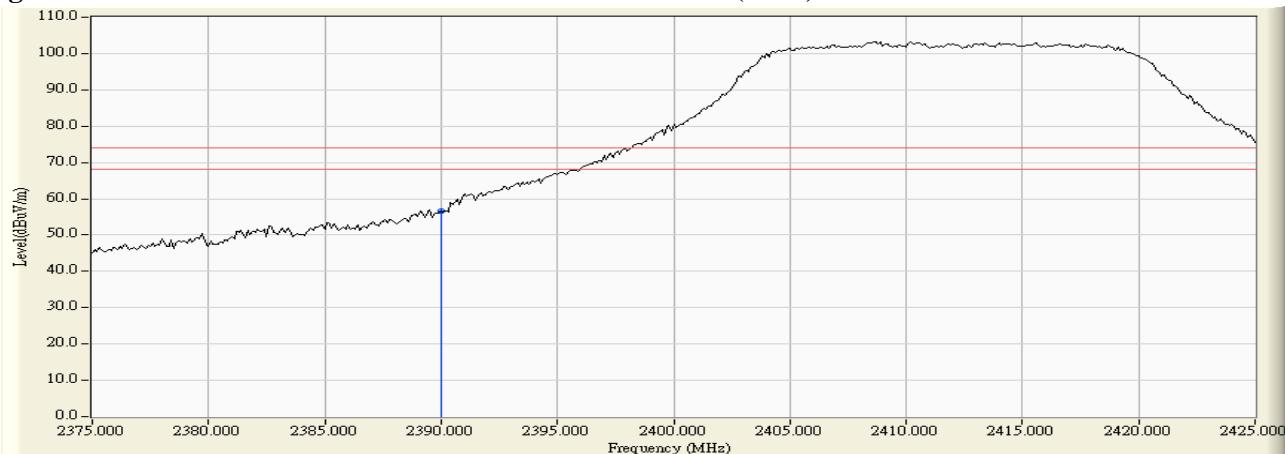
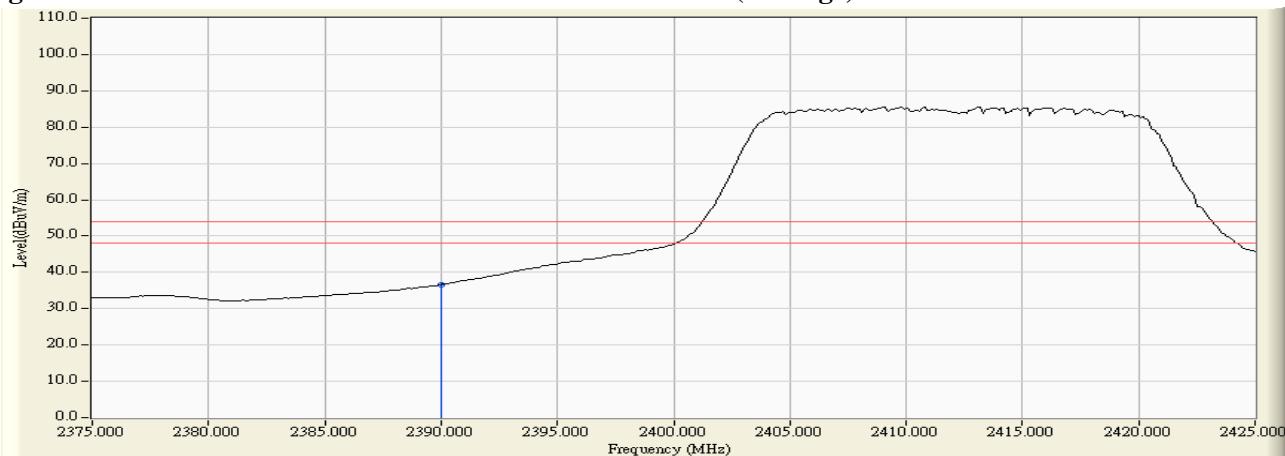
Note:

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.

Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

**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)	2390.000	2.937	53.672	56.609	74.00	54.00	Pass
01 (Average)	2390.000	2.937	33.718	36.655	74.00	54.00	Pass

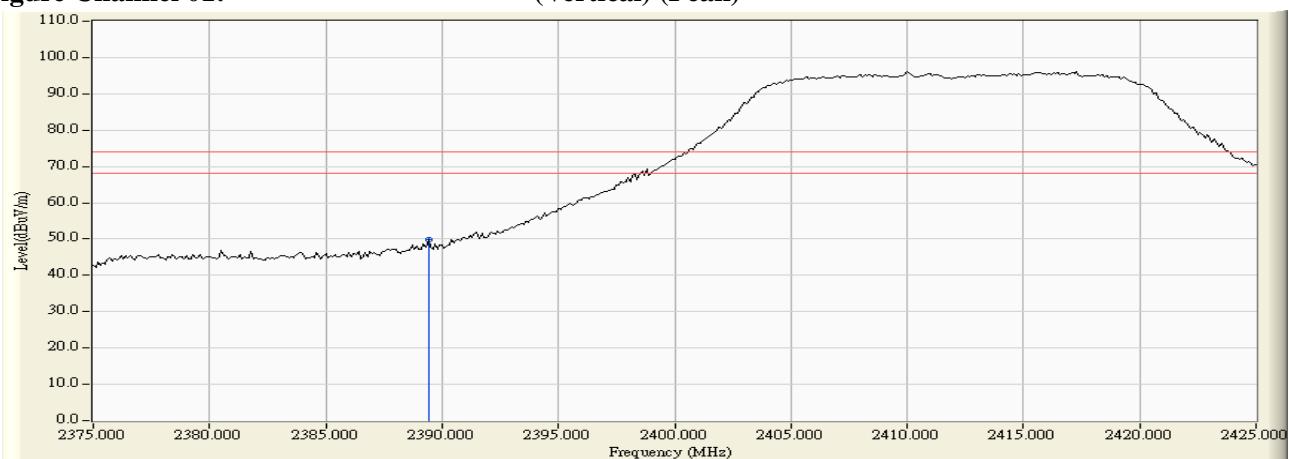
**Figure Channel 01:**
**Horizontal (Peak)**

**Figure Channel 01:**
**Horizontal (Average)**

**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 : Wireless-N USB Adapter  
Test Item : Band Edge Data  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2412MHz)

**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)	2389.400	1.930	47.870	49.800	74.00	54.00	Pass
01 (Average)	--	--	--	--	74.00	54.00	Pass

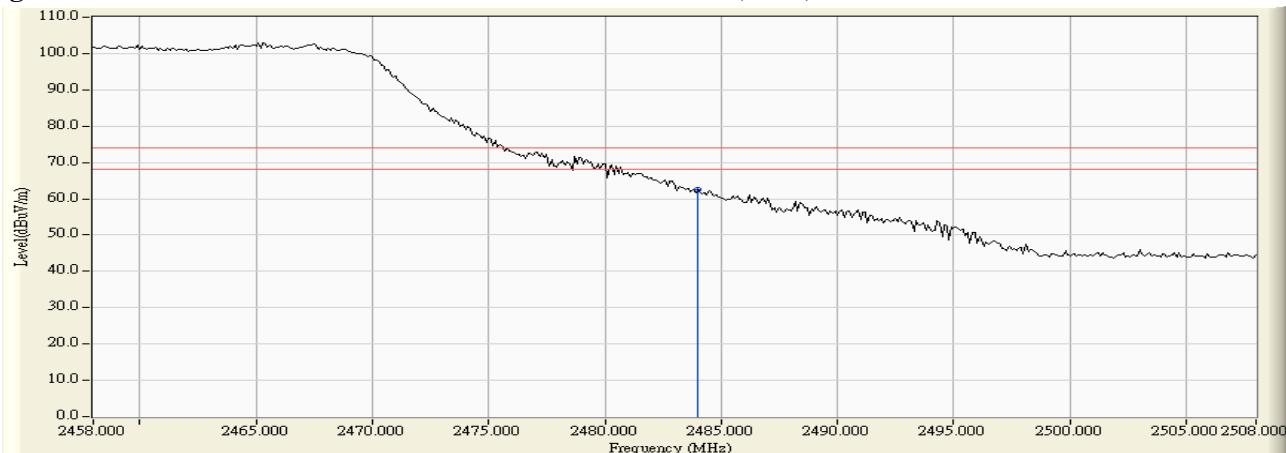
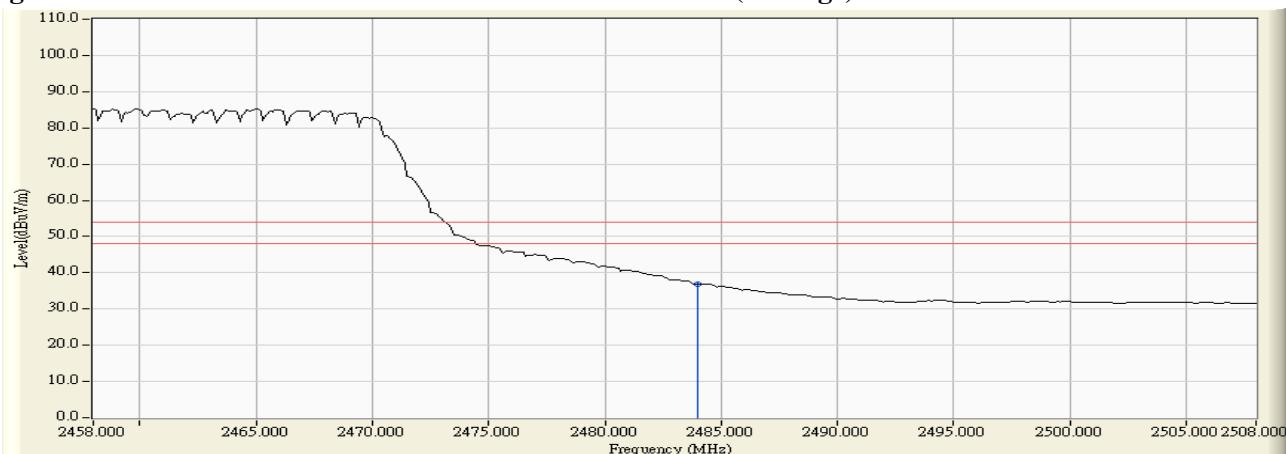
**Figure Channel 01:****(Vertical) (Peak)****Note:**

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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462MHz)

**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)	2484.000	3.075	59.521	62.596	74.00	54.00	Pass
11 (Average)	2484.000	3.075	33.885	36.960	74.00	54.00	Pass

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

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


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.

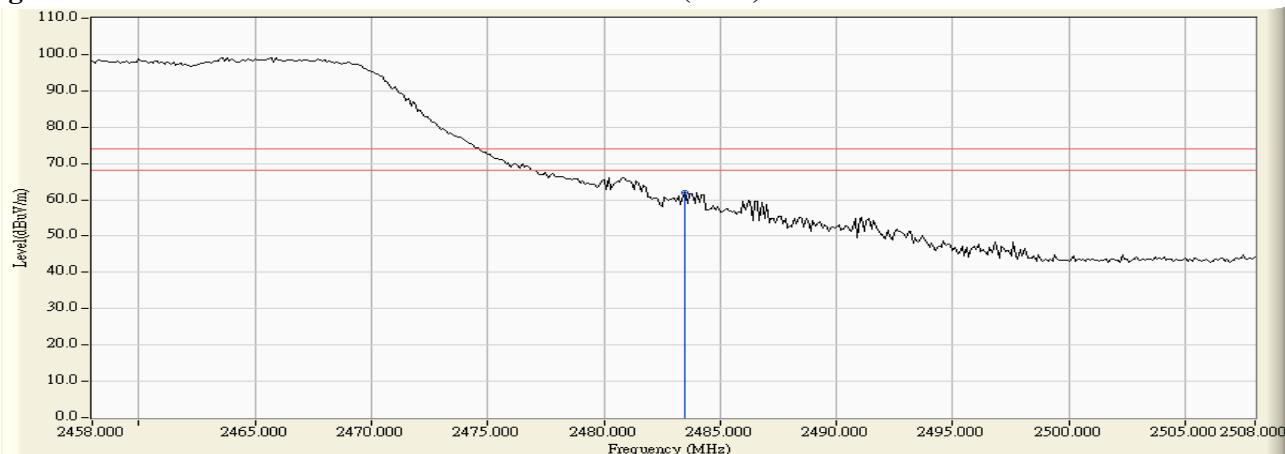
Product : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 2: Transmitter (802.11g 6Mbps) (2462MHz)

**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)	2483.500	2.552	59.366	61.918	74.00	54.00	Pass
11(Average)	2483.500	2.552	34.281	36.833	74.00	54.00	Pass

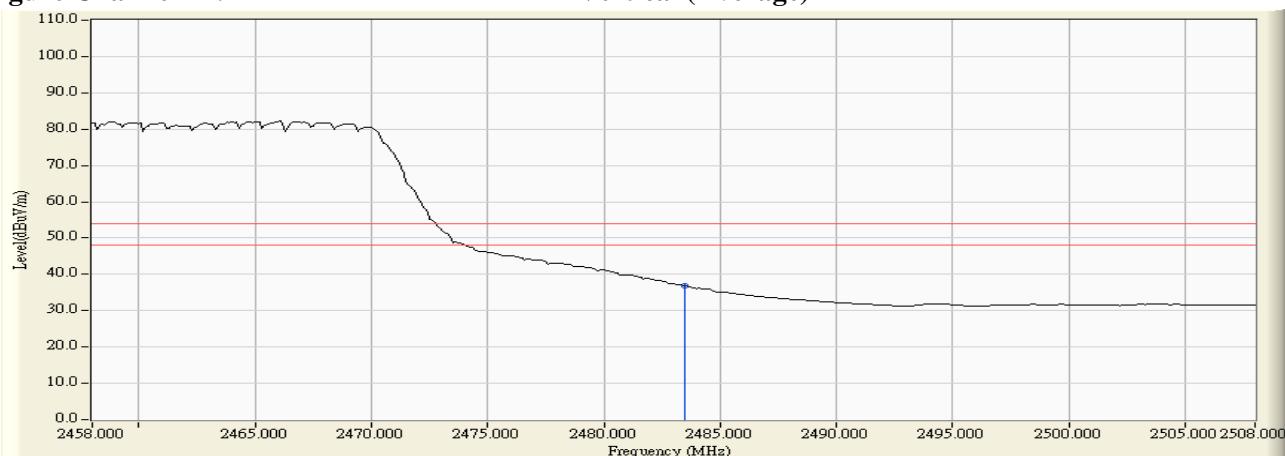
**Figure Channel 11:**

**Vertical (Peak)**



**Figure Channel 11:**

**Vertical (Average)**



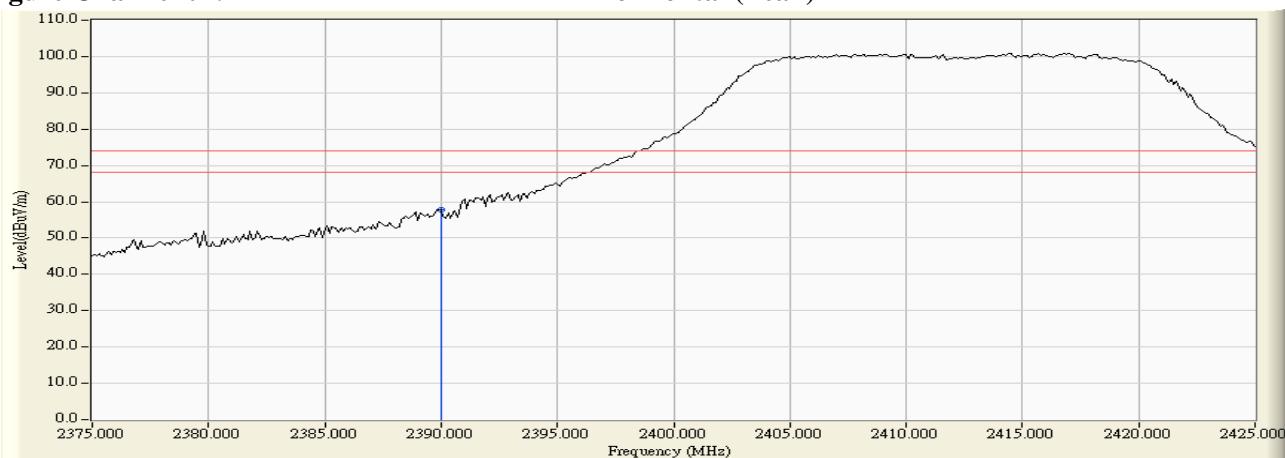
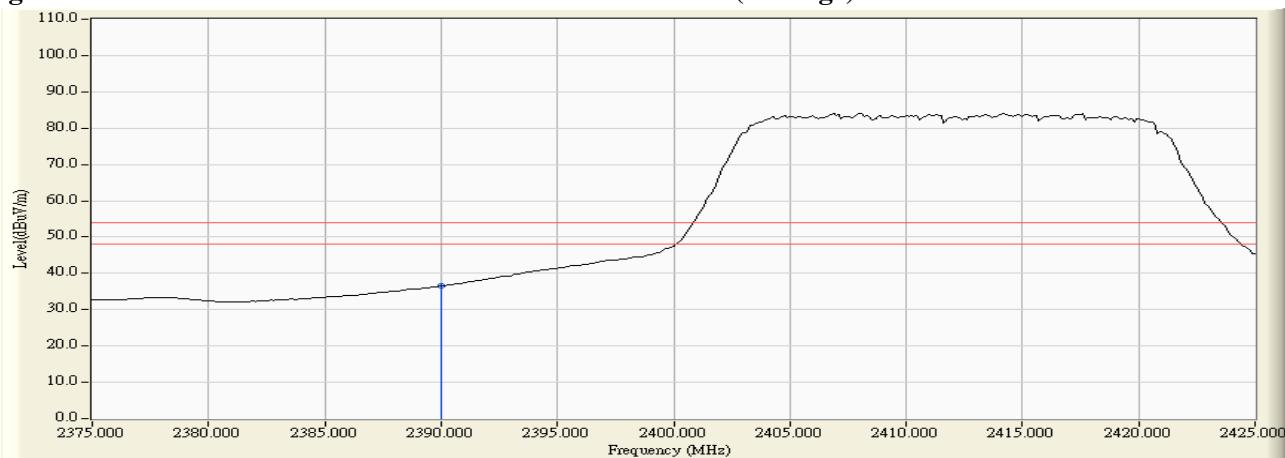
Note:

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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)

**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)	2390.000	2.937	54.988	57.925	74.00	54.00	Pass
01 (Average)	2390.000	2.937	33.587	36.524	74.00	54.00	Pass

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

**Figure Channel 01:**
**Horizontal (Average)**


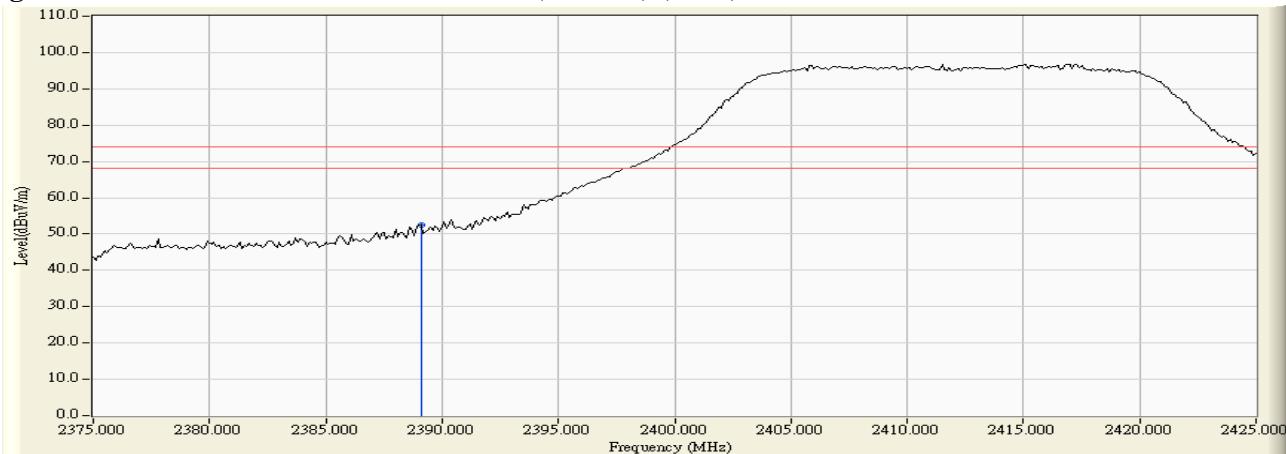
Note:

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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2412MHz)

**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)	2389.100	1.931	50.700	52.631	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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)

#### 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	3.076	59.328	62.404	74.00	54.00	Pass
11 (Average)	2483.500	3.076	33.642	36.718	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)

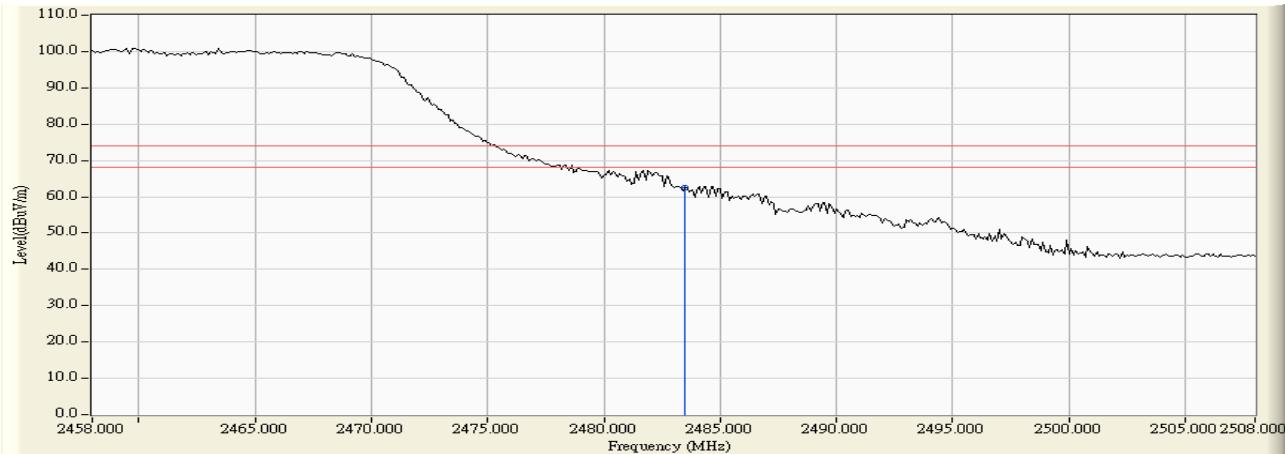
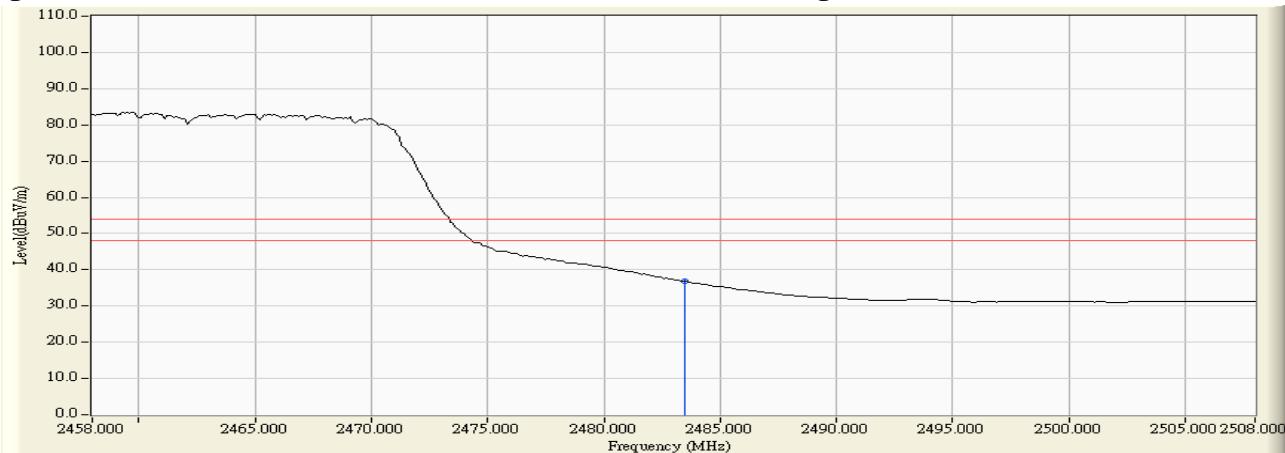


Figure Channel 11:

Horizontal (Average)



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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmitter (802.11n MCS8 14.4Mbps 20M-BW) (2462MHz)

#### 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)	2483.700	2.554	59.674	62.228	74.00	54.00	Pass
11 (Average)	2483.700	2.554	34.657	37.211	74.00	54.00	Pass

Figure Channel 11:

Vertical (Peak)

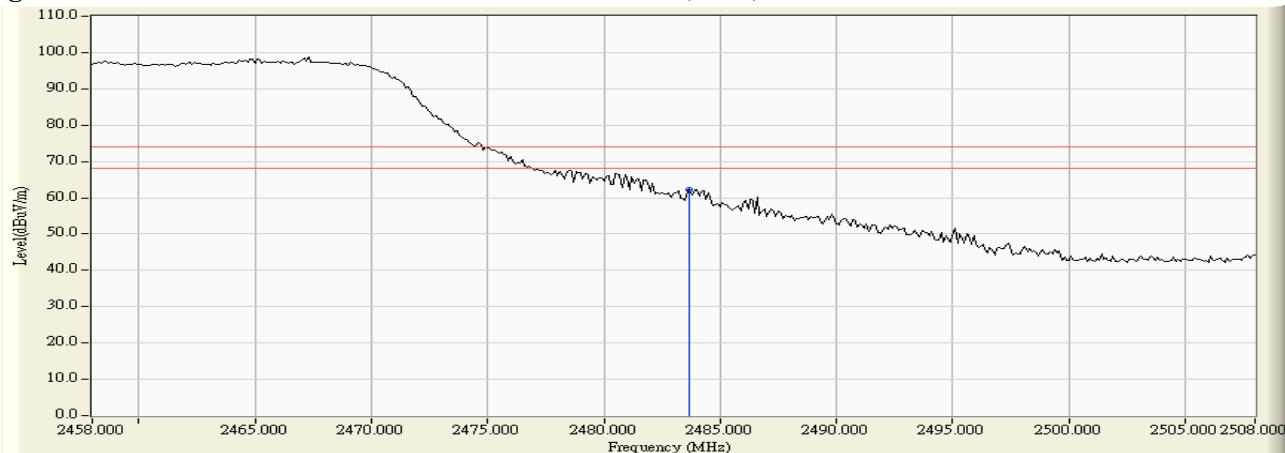
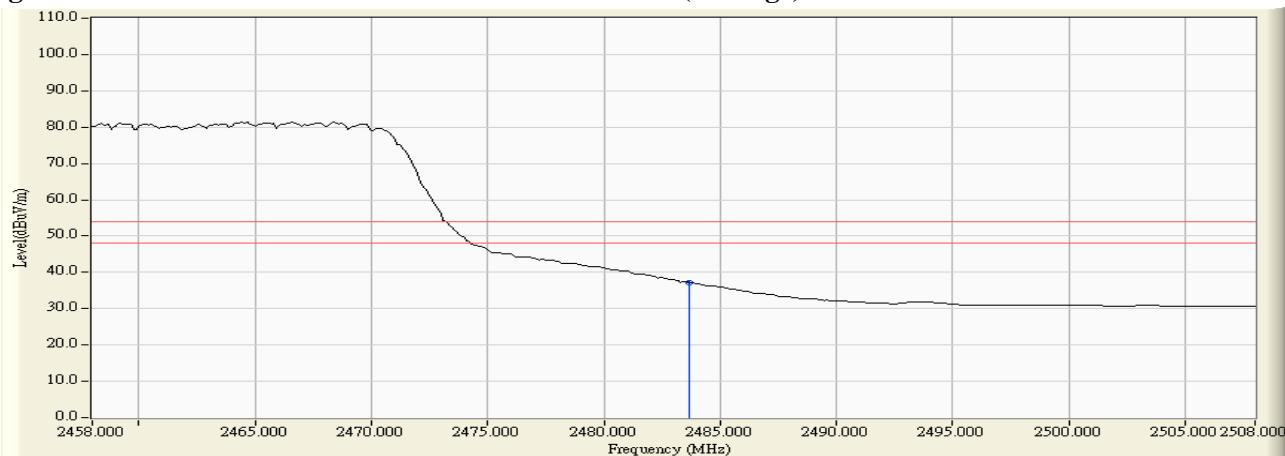


Figure Channel 11:

Vertical (Average)



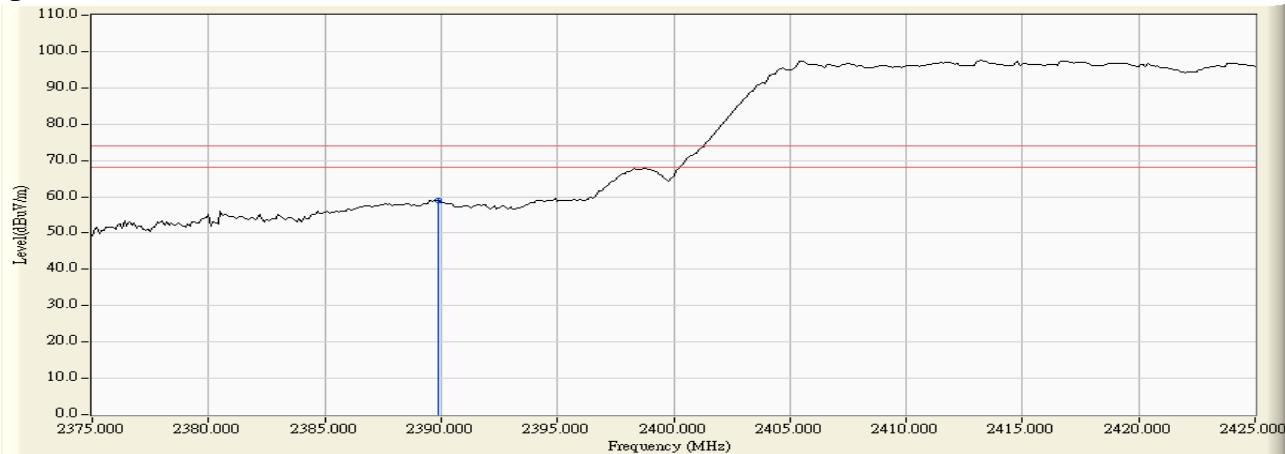
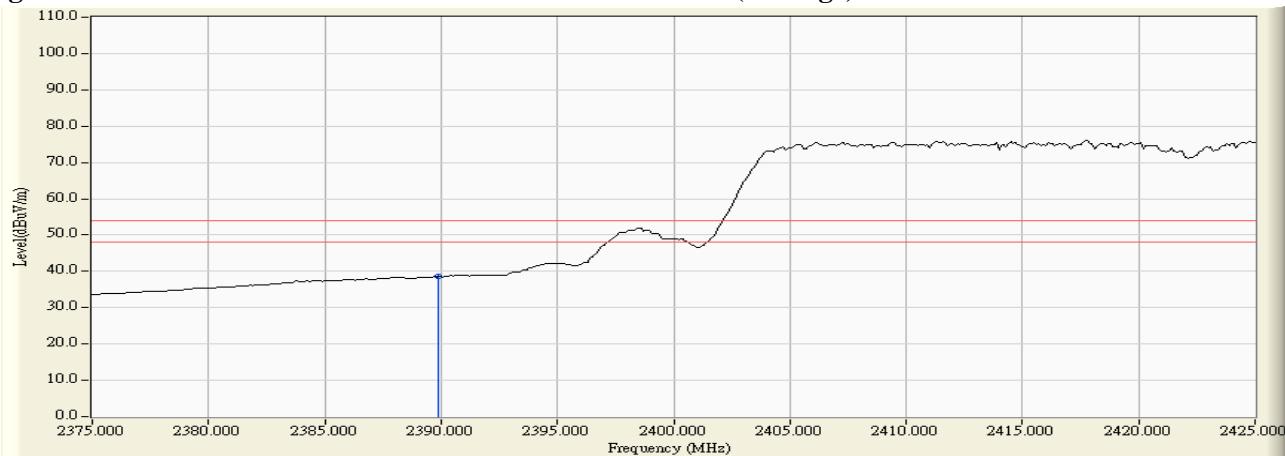
#### Note:

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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2422MHz)

**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
03 (Peak)	2389.900	2.937	56.112	59.049	74.00	54.00	Pass
03 (Average)	2389.900	2.937	35.562	38.499	74.00	54.00	Pass

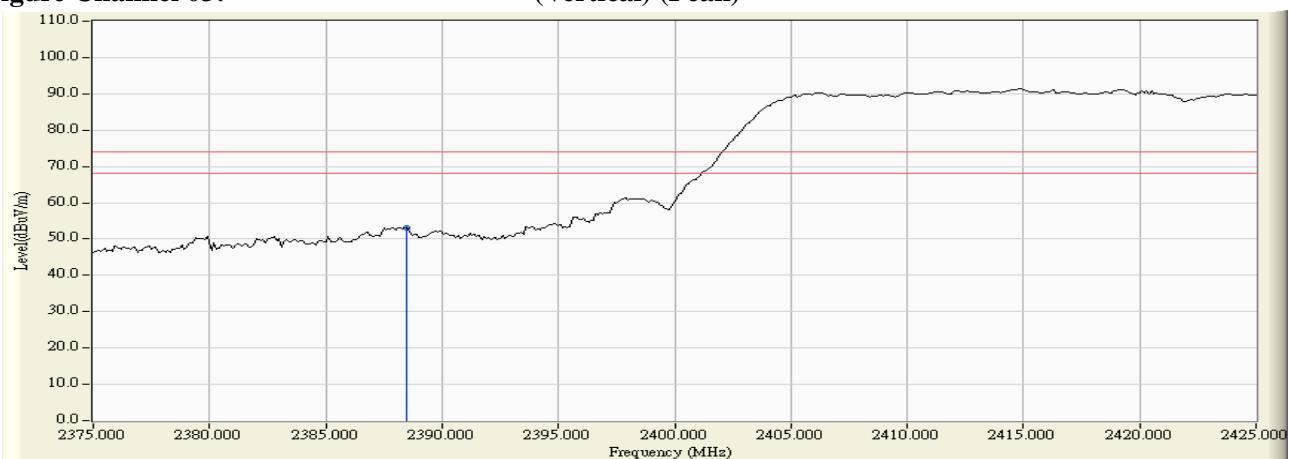
**Figure Channel 03:**
**Horizontal (Peak)**

**Figure Channel 03:**
**Horizontal (Average)**

**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 : Wireless-N USB Adapter  
Test Item : Band Edge Data  
Test Site : No.3 OATS  
Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2422MHz)

**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
03 (Peak)	2388.500	1.932	51.023	52.955	74.00	54.00	Pass
03 (Average)	--	--	--	--	74.00	54.00	Pass

**Figure Channel 03:****(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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2452MHz)

#### 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
09 (Peak)	2488.000	3.074	63.416	66.490	74.00	54.00	Pass
09 (Average)	2488.000	3.074	37.858	40.932	74.00	54.00	Pass

Figure Channel 09:

Horizontal (Peak)

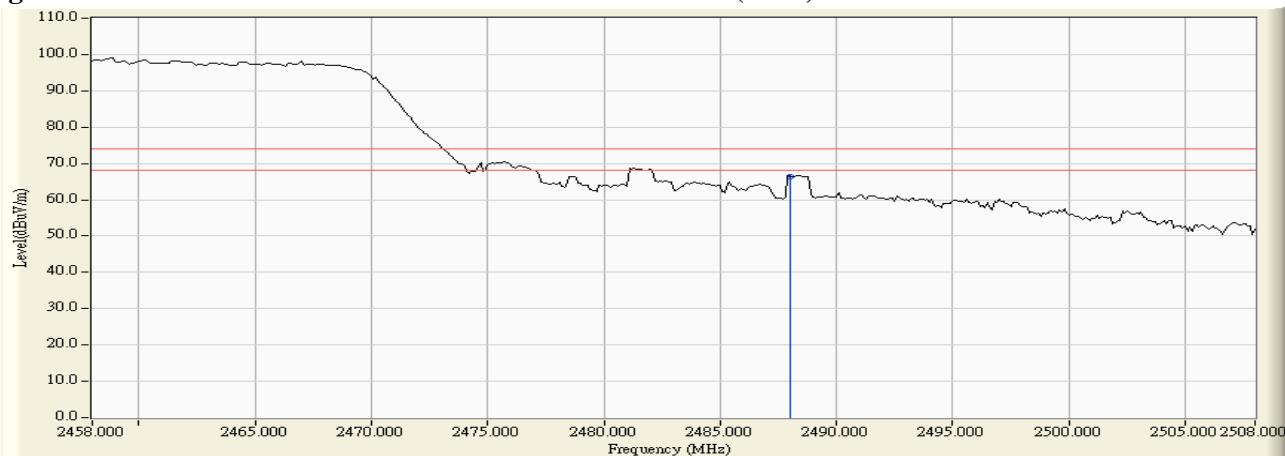
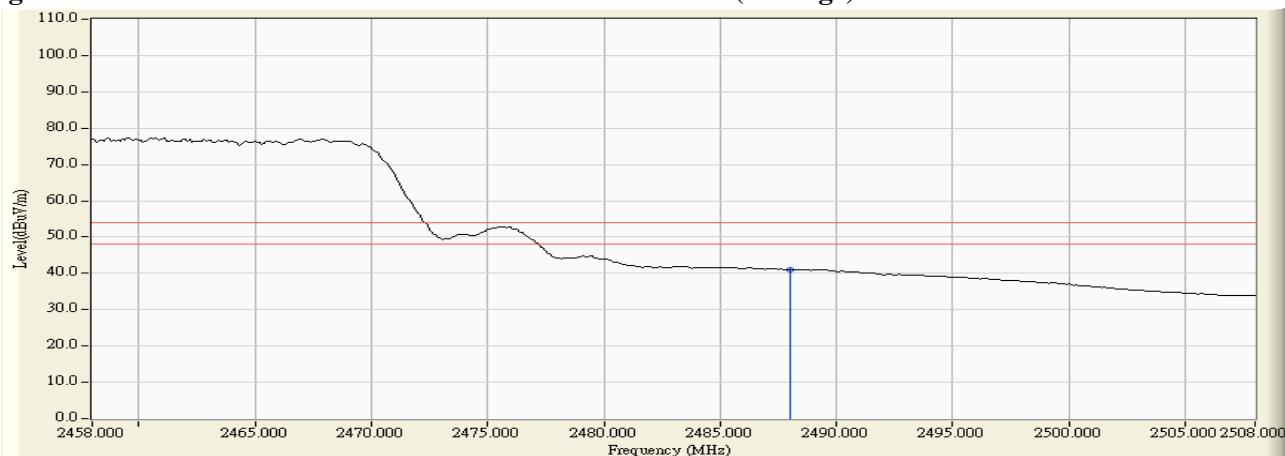


Figure Channel 09:

Horizontal (Average)



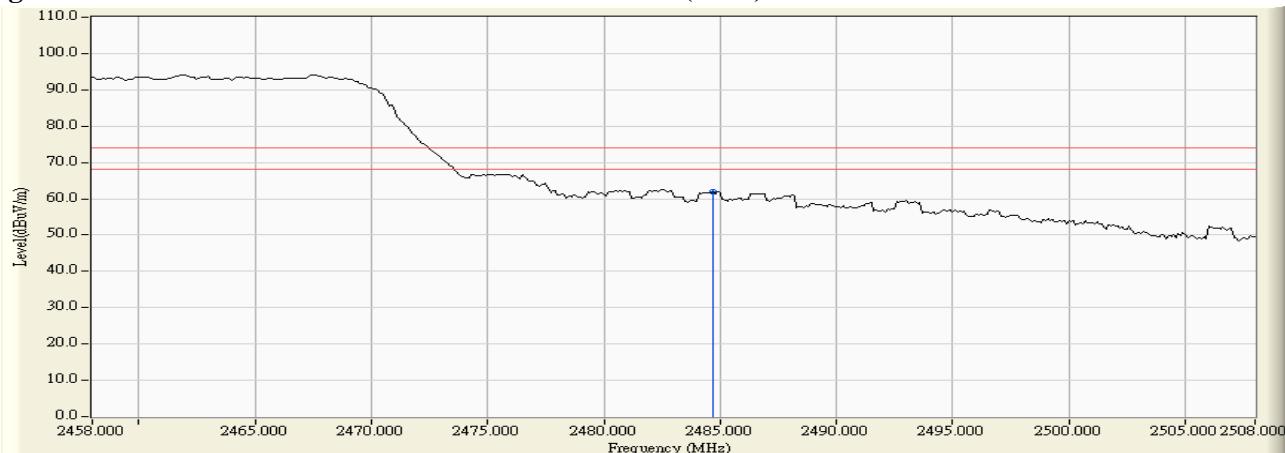
#### Note:

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 : Wireless-N USB Adapter  
 Test Item : Band Edge Data  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmitter (802.11n MCS8 30Mbps 40M-BW) (2452MHz)

**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
09 (Peak)	2484.700	2.559	59.329	61.888	74.00	54.00	Pass
09 (Average)	2484.700	2.559	35.933	38.492	74.00	54.00	Pass

**Figure Channel 09:**
**Vertical (Peak)**

**Figure Channel 09:**
**Vertical (Average)**

**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.

**6. EMI Reduction Method During Compliance Testing**

No modification was made during testing.