

# Certificate of Test

March 2005

## PRIME ELECTRONICS & SATELLITICS INC.

Product Type : Wireless LAN USB Adapter

Model Number : WU233P

Test Report Number : GTK-0502099

Date of Test : March 02, 2005- March 22, 2005

This Product was tested to the following standards at the laboratory of Global EMC Standard Tech. Corp., and found Compliance.

**Standards:**

FCC Part 15 Subpart C Paragraph 15.247

ANSI C63.4: 2001

<http://www.gestek.com.tw>



Sharon Chang, President

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Date: March 25, 2005



1082  
ILAC MRA





**Test Report  
Application for  
Declaration of Conformity  
On Behalf Of**

**PRIME ELECTRONICS & SATELLITICS INC.**

**EUT:  
Wireless LAN USB Adapter**

**Model Number:  
WU233P**

**FCC ID:  
PQP-WU233P**

**Prepared for:  
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3. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government.
4. All data in this report are traceable to national standard or international standard.

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# 1. CERTIFICATION

**Applicant : PRIME ELECTRONICS & SATELLITICS INC.**

EUT Description : Wireless LAN USB Adapter  
 Model Number : WU233P  
 Serial Number : N/A  
 Brand Name : PESI  
 FCC ID : PQP-WU233P  
 Tested Power Supply : 120V/60Hz  
 Manufacturer : PRIME ELECTRONICS & SATELLITICS INC.

**MEASUREMENT PROCEDURES USED:**

- CFR 47, Part 15** Radio Frequency Device Subpart C Paragraph 15.247 Intentional Radiators :2003
- ANSI C63.4** Methods of Measurements of Radio-Noise Emissions from Low- Voltage Electrical and Electronic Equipment in the range of 9kHz To 40GHz. 2001

THE MEASUREMENT SHOWN IN THE ATTACHMENT WAS MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE MAXIMUM ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE ABOVE LIMITS APPLICABLE.



Sample Received Date : **March 02, 2005**  
 Final Test Date : **March 22, 2005**

In order to ensure the quality and accuracy of this document, the contents have been thoroughly reviewed by the following qualified personnel from GesTek Lab.

<p><b>Documented By :</b></p> <p><i>Rini Chen</i></p> <hr style="border: 0.5px solid blue;"/> <p>Rini Chen / adm. Dept. Supervisor</p>	<p><b>Test By :</b></p> <p><i>Shine Chang</i></p> <hr style="border: 0.5px solid blue;"/> <p>Shine Chang / eng. Dept. Supervisor</p>
<p><b>Technical Reviewed By :</b></p> <p><i>Shine Chang</i></p> <hr style="border: 0.5px solid blue;"/> <p>Shine Chang / eng. Dept. Supervisor</p>	<p><b>Approved By :</b></p> <p><i>Tonny Lin</i></p> <hr style="border: 0.5px solid blue;"/> <p>Tonny Lin / General Manager</p>

This test data shown below is traceable to National or international standard such as NIST/USA, etc. The laboratory's NVLAP accreditation in no way constitutes or implies product certification, approval, or endorsement by NVLAP or the United States government.

## 2. GENERAL INFORMATION

### 2.1 PRODUCTION DESCRIPTION

**Product Name** : Wireless LAN USB Adapter  
**Model Number** : WU233P  
**Serial Number** : N/A  
**FCC ID** : PQP-WU233P  
**Modulation Type** : DSSS, OFDM  
**Antenna Gain** : 3.4dBi  
**Antenna Type** : Printed on PCB  
**Frequencg Range** : 2412-2462MHz  
**Channel Number** : 11 Channel  
**Data Rate** : 1,2,5.5,11,6,9,12,18,24,36,48.54 Mbps  
**Channel Control** : Control by Software  
**Working Voltage** : DC 5V

#### Frequency of Each Channel:

(1) WLAN :

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		

#### Note:

1. This device is a 2.4GHz Wireless LAN USB Adapter included 802.11b and 802.11g 2.4GH transceiver function.
2. Test of channel was included the lowest 、 middle and highest frequency in highest data rate and to perform the test, then record on this report.
3. The antenna of EUT is Printed on PCB and conform to FCC 15.203.
4. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
5. The device is a transceiver equipment to accordance with Part 15 regulations. The function receiving was under Declaration of Conformity and record of measurment in test report that the report number is 0502099 FCC DOC.

**2.2 OPERATIONAL DESCRIPTION**

The Transmitter of EUT is a Wireless LAN USB Adapter and powered by host equipment. This device have one antenna is Printed on PCB. The other instruction, please look at user manual. This is Digital transmission System(DTS) and have two type of modulation DSSS, OFDM. The data rate are 1,2,5.5,11,6,9,12,18,24,36,48.54 Mbps. The equipment enables high-speed access without wires to network assets. This adapter uses the IEEE 802.11b & 802.11g protocol to enable wireless communications between the host computer and other computers, in the same way that the computer would use an Ethernet adapter.

**2.3 TEST MODES & EUT COMPONENTS DESCRIPTION**

<b>EUT: Wireless LAN USB Adapter, M/N: WU233P</b>		
<b>The EUT tested with Notebook PC.</b>		
<b>Test Mode</b>	<b>Mode 1</b>	<b>Mode 2</b>
	802.11b	802.11g

**2.4 SUMMARY OF TEST PROCEDURE AND TEST RESULTS**

<b>Test Item</b>	<b>Applied Standard Section</b>	<b>Test Result</b>
Conduction Emission	15.207, ANSI C63.4 Section 7	Pass (refer to section 3.7)
Radistion Emission	15.209, ANSI C63.4 Section 8	Pass (refer to section 4.7)
Peak Power Output	15.247(b), ANSI C63.4 Section 13 & Annex I	Pass (refer to section 5.4)
Band Edge	15.247(c) , ANSI C63.4 Section 13 & Annex I	Pass (refer to section 6.6)
Occupied Bandwidth	15.247(a) , ANSI C63.4 Section 13 & Annex I	Pass (refer to section 7.4)
Power Density	15.247(d) , ANSI C63.4 Section 13 & Annex I	Pass (refer to section 8.4)

## 2.5 CONFIGURATION OF THE TESTED SYSTEM

The FCC IDs/Types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards, which have grants) are:


Device	No.	Configuration
Printer	P01-027	Manufacturer : EPSON Model Number : LQ-300+ Serial Number : DCGY050972 BSMI ID : R33126 Data Cable : Shielded, Detachable, 1.2m, Parallel Cable Power Cord : Non-Shielded, undetachable, 2m
USB Mouse	M02-277	Manufacturer : Logitech Model Number : M-U48A BSMI ID : 4882A177 FCC ID : JNZ211360 Data Cable : Shielded, Undetachable, 1.5m
Headset & Earphone	E01-062	Manufacturer : TOKYO Model Number : SX-M1 Serial Number : N/A Data Cable : Non-Shielded, Undetachable, 1.8 m Power Cord : N/A Purchase Date : 2/22/1999
Digital Video Camera Recorder (Digital 8)	V01-002	Manufacturer : SONY CORPORATION Model Number : DCR-TRV120 Serial Number : N/A BSMI ID : N/A AC Power Adaptor : M/N:AC-L10A Input:AC IN:100-240V 50/60Hz 23W Output:DC 8.4V/1.5A Battery Pack(Li-ion) : M/N:NP-F330 Input :DC 7.2V/5.0Wh
Modem	M03-028	Manufacturer : ACEEX Model Number : 1414V Serial Number : 0046183 BSMI ID : N/A FCC ID : IFAXDM1414 Data Cable : T Type:RS232, Shielded, Detachable, 1.2m Power Cord : Non-Shielded, Detachable, 1.5m Line : Type:RJ11(4P2C), Detachable, 1.8m Phone : Type:RJ11(4P2C), Detachable, 1.8m
17" LCD TV	M01-043	Manufacturer : MEDION Model Number : MD2617TL Serial Number : N/A BSMI ID : N/A FCC ID : N/A Adapter Manufacturer :HJC Adapter Model Number : HASU12FB 60W POWER:AC INPUT :100-240V,50/60HZ ,OUTPUT:DC12V,5A Adapter Power Cord : Non-Shielded, Detachable, 3Pin, 1.8m

Device	No.	Configuration
NOTEBOOK	DELL NB 1	Model Number : Latitude D600 PPO5L BSMI ID : R33002 FCC ID : E2K24CLNS Serial Number : 10826163280 C.P.U : Intel Pentium M 1.4G HZ DDR : PC2100 256MB WIRELESS LAN : Manufacturer :INTEL CARD : M/N:WM3A2100 FCC ID: E2K24CLNS F.D.D : N/A H.D.D. : Manufacturer : FUJITSU 30G M/N: MHT2030AT S/N:NN15T421E09C BSMI ID:D33073 DVD-ROM : Manufacturer :DELL M/N:5W299-A01 BATTERY : Manufacturer :DELL Li-ion MODULE : M/N:6Y270 RATING:14.8V 220mAh AC ADAPTOR : Manufacturer :DELL M/N: PA-1650-05D S/N:CN-05U092-48010-39N-227C INPUT:AC 100-240 V~1.5A 50-60HZ Shielded, Undetachable, 2.5m
Far End Network Server	----	Manufacturer : ASUS Model Number : AP160R Power Cord : Non- Shielded, Detachable, 1.8m
Electronic Private Automatic Branch Exchange	----	Manufacturer : Sun Moon Star Model Number : SMS-4 Serial Number : 9708006 FCC ID : N/A Data Cable to EUT : Type:RJ11(4P2C), Detachable, 1.5m Power Cord : Non-Shielded, Detachable, 1.5m



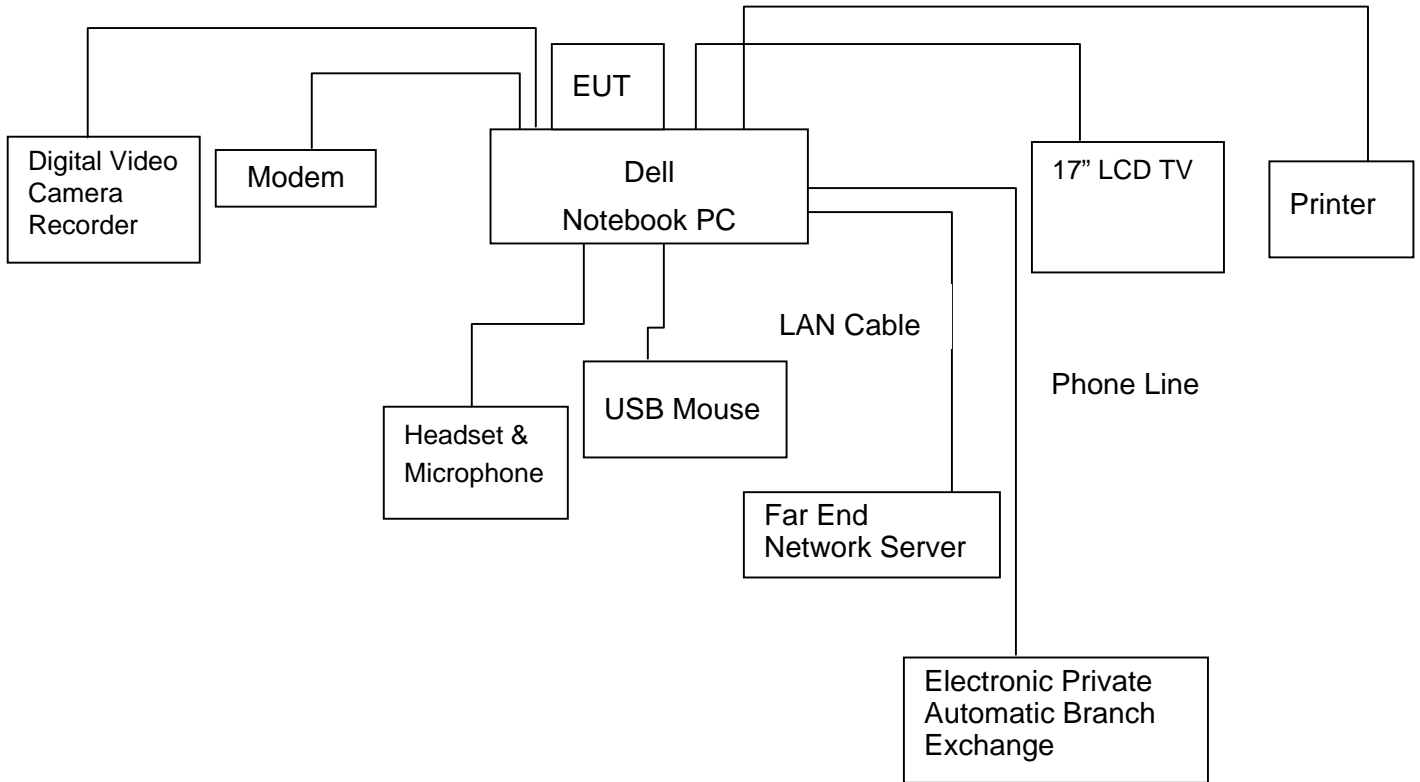
## 2.6 TEST FACILITY

Ambient conditions in the laboratory:

ITEMS	REIQIORED(IEC 68-1)	ACTUAL
TEMPERATURE (°C)	15-35	24-27
HUMIDITY (%RH)	25-75	50-65
BAROMETRIC PRESSURE (mbar)	860-1060	950-1000
<b>FCC SITE DESCRIPTION</b>	Aug. 10, 1995 /Aug. 25, 1998 File on FCC Engineering Laboratory Federal Communication Commission 7435 Oakland Mills Road Columbia, MD 21046 Reference 31040/SIT1300F2	
<b>NVLAP LAB. CODE</b>	200085-0 United States Department of commerce National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program Accreditation on NVLAP effective through Sep. 30,2005 For CISPR 22, FCC Method and AS/NZS CISPR 22 Measurement.	
<b>Chinese National Laboratory Accreditation Certificate R.O.C.</b> 	Recognized by the Council of Chinese National Laboratory Accreditation and confirmed to meet the requirements of ISO/IEC 17025 also has been registered for fifteen items, and meet the requirements of the Article 4 of Measures Governing the Recognition both Approval of Designated Laboratory for Commodities Inspection and has been registered for four items within the field of Electrical Testing. Registration No.: 1082 Registration on CNLA effective through April 30, 2006.	

## 2.7 TEST SETUP

### 2.7.1 BLOCK DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS



## 2.8 EUT OPERATING CONDITIONS

The EUT exercise program used during conducted testing was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below:

1. Setup the EUT and simulators as shown on 2.7.
2. Turn on the power of all equipments.
3. The EUT ping with the wireless LAN card.
4. Repeat the above steps.

### 3. CONDUCTION EMISSION DATA

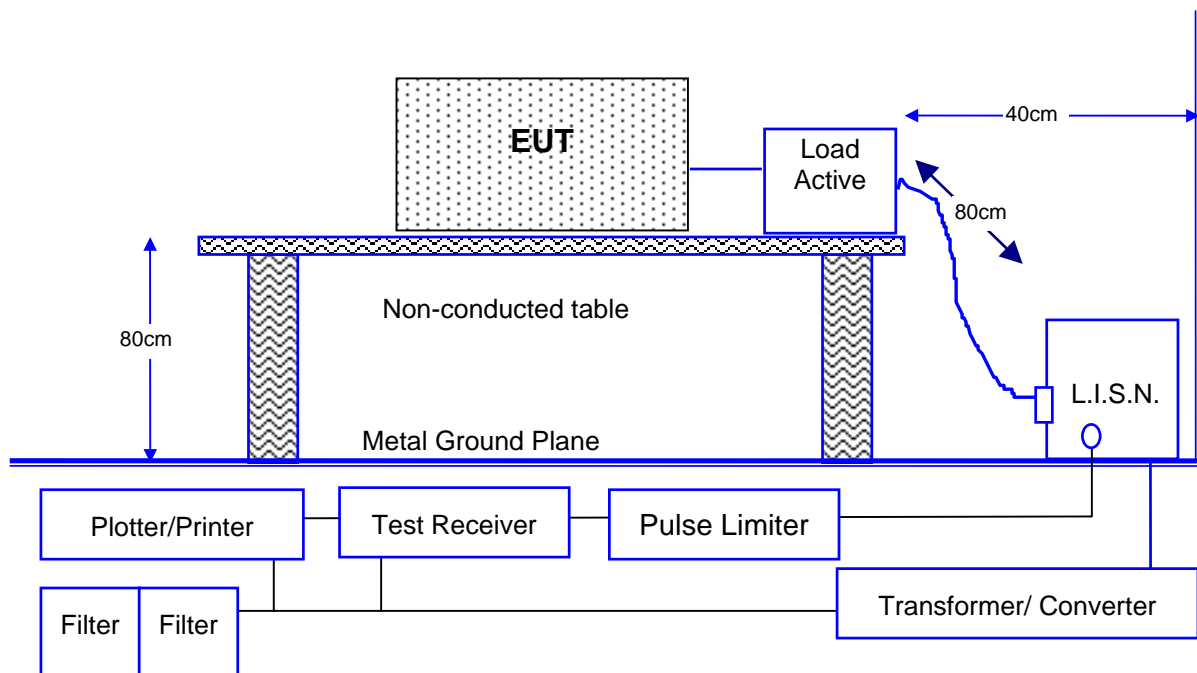
#### 3.1 TEST EQUIPMENTS

The following test equipment are used during the conducted power line tests:

Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Test Receiver	R & S	ESCS30	825022/003	06/26/04
2	L.I.S.N.	KYORITSU	KNW-407	8-1345-10	11/09/04
3	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	357.8810.52	08/06/04
4	RF CABLE	GesTek	N/A	GTK-E-A154-01	12/01/04
5	50 Ohm Terminator	GesTek	N/A	GTK-E-A130-01	10/09/04
6	Shielded Room	GesTek	N/A	B5	N/A

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

#### 3.2 BLOCK DIAGRAM OF TEST SETUP



Note: This is a comprehensive setup diagram for Table-top EUT.  
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.

### 3.3 CONDUCTED EMISSION LIMIT

FCC Limit (15.207)

Frequency MHz	Conducted Limits dB( $\mu$ V)	
	QUASI-PEAK	AVERAGE
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50

Remarks : In the Above Table, the tighter limit applies at the band edges.

### 3.4 OPERATING CONDITION OF EUT

Same as section 2.7.

### 3.5 EUT CONFIGURATION ON MEASUREMENT

The equipment, which is listed 3.1, is installed on Conducted Power Line Test to meet the Commission requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 3.2, was placed on a non-conductive table whose total height equal to 80cm. Powered from one L.I.S.N. which signal output to receiver, and the other peripherals was powered from another L.I.S.N. which signal output was terminated by 50 $\Omega$ .

### 3.6 CONDUCTED EMISSION DATA

The measurement range of conducted emission from [0.15 MHz to 30 MHz](#) was investigated. All readings are quasi-peak and average values with a resolution Bandwidth of 9 KHz. The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes were reported the following data pages.

### 3.7 CONDUCTED EMISSIONS MEASUREMENT RESULTS

Date of Test	March 18, 2005	Temperature	20
EUT	Wireless LAN USB Adapter	Humidity	63 %
Test Mode	TX Mode	Display Pattern	H Pattern

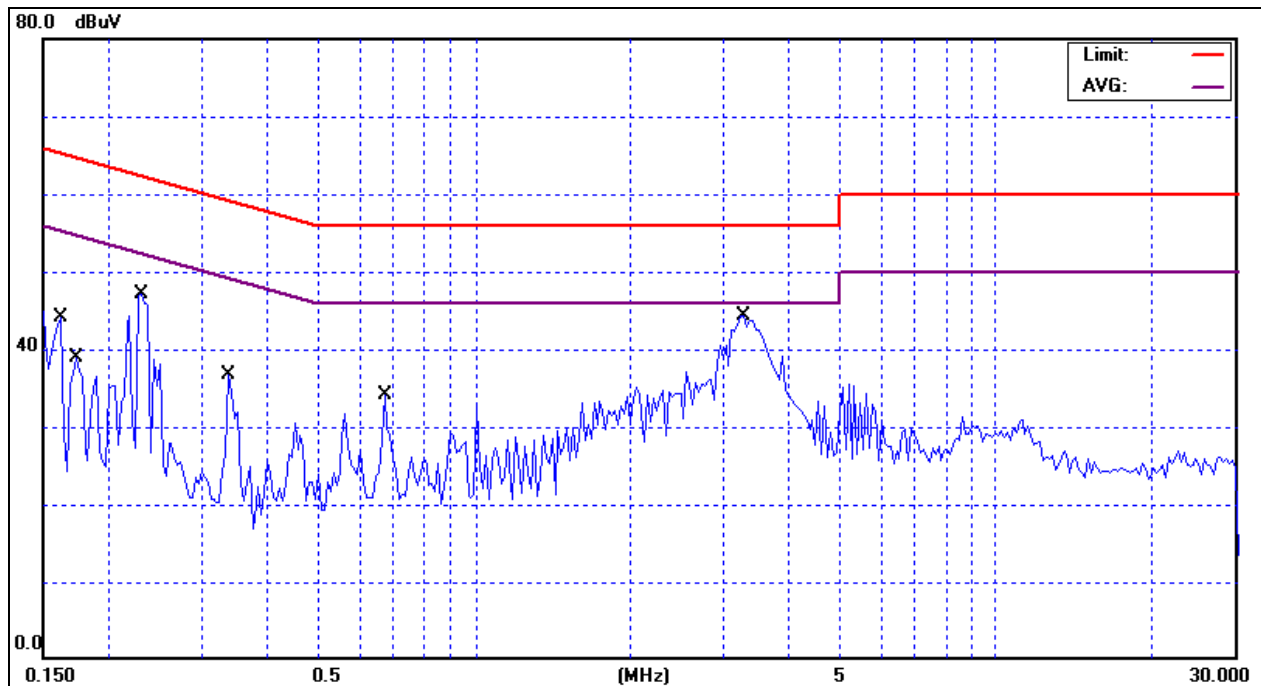
Line

No.	Frequency MHz	Reading Level dB $\mu$ V	Factor dB	Measurement dB $\mu$ V	Limit dB $\mu$ V	Over Limit dB	Detector
1	0.1609	29.48	10.04	39.52	65.42	-25.9	QP
2	0.1609	19.17	10.04	29.21	55.42	-26.21	AVG
3	0.1719	27.42	10.05	37.47	64.87	-27.4	QP
4	0.1719	16.71	10.05	26.76	54.87	-28.11	AVG
5	0.2294	35.21	10.07	45.28	62.47	-17.19	QP
6	0.2294	22.46	10.07	32.53	52.47	-19.94	AVG
7	0.3431	25.5	10.11	35.61	59.13	-23.52	QP
8	0.3431	20.23	10.11	30.34	49.13	-18.79	AVG
9	0.676	22.68	10.14	32.82	56	-23.18	QP
10	0.676	20.38	10.14	30.52	46	-15.48	AVG
11	3.2714	33.02	10.2	43.22	56	-12.78	QP
12	3.2714	31.58	10.2	41.78	46	-4.22	AVG

Remarks :

- 1 All readings are Quasi-peak and Average values.
- 2 " " means that this data is the worse case emission level.

Line



Date of Test	March 18, 2005	Temperature	20
EUT	Wireless LAN USB Adapter	Humidity	63 %
Test Mode	TX Mode	Display Pattern	H Pattern

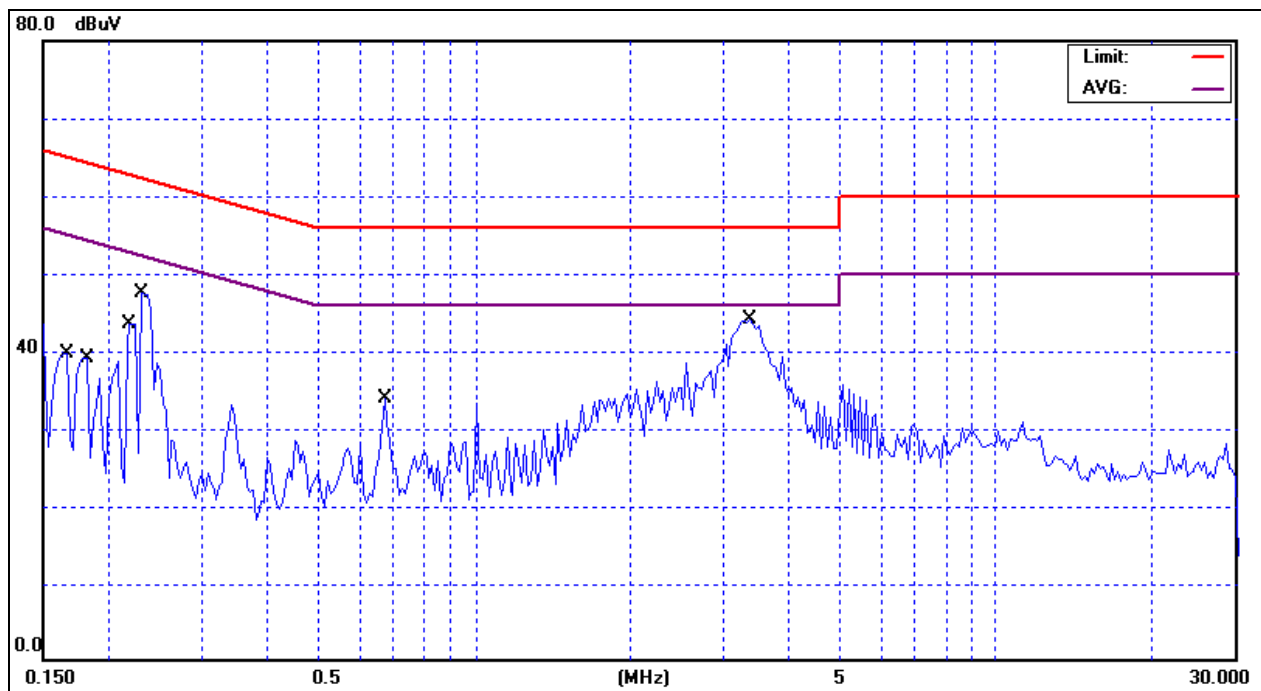
Neutral

No.	Frequency MHz	Reading Level dB $\mu$ V	Factor dB	Measurement dB $\mu$ V	Limit dB $\mu$ V	Over Limit dB	Detector
1	0.1629	26.36	10.04	36.4	65.31	-28.91	QP
2	0.1629	13.6	10.04	23.64	55.31	-31.67	AVG
3	0.178	23.8	10.05	33.85	64.58	-30.73	QP
4	0.178	10.5	10.05	20.55	54.58	-34.03	AVG
5	0.2206	34.48	10.06	44.54	62.8	-18.26	QP
6	0.2206	21.97	10.06	32.03	52.8	-20.77	AVG
7	0.2313	36.77	10.07	46.84	62.4	-15.56	QP
8	0.2313	26.54	10.07	36.61	52.4	-15.79	AVG
9	0.6757	22.92	10.14	33.06	56	-22.94	QP
10	0.6757	20.8	10.14	30.94	46	-15.06	AVG
11	3.3706	33.2	10.21	43.41	56	-12.59	QP
12	3.3706	31.95	10.21	42.16	46	-3.84	AVG

Remarks :

- 1 All readings are Quasi-peak and Average values.
- 2 " " means that this data is the worse case emission level.

Neutral



## 4. RADIATION EMISSION DATA

### 4.1 TEST EQUIPMENT

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

Radiated test was performed on:  Site #1  Site #2  Site #3  Site #4

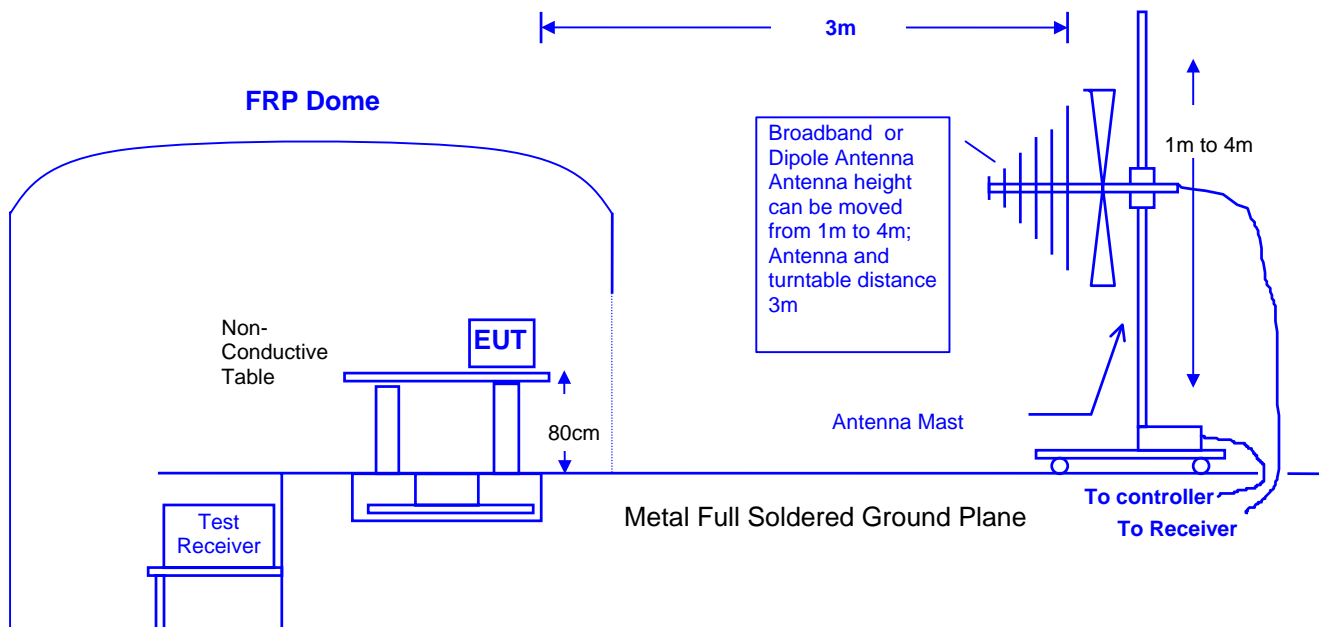
Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Test Receiver	R & S	ESCS30	825022/003	06/26/04
2	Spectrum Analyzer	HP	8595E	3911A04441	12/16/04
3	Spectrum Analyzer	HP	E4407B	39240339	07/28/04
4	Power Meter	Rohde & Schwarz	NRVS	100666	04/29/04
5	Peak Power Sensor	Rohde & Schwarz	NRV-Z32	8360191058	04/29/04
6	Pre-Amplifier	HP	8449B	3008A01264	06/01/04
7	BILOG ANTENNA	SCHAFFNER	CBL6112B	2620	11/30/04
8	Horn Antenna	Schwarzbeck	BBHA 9120	D243	12/22/04
9	RF Cable	GesTek	N/A	GTK-E-A151-01	02/14/05
10	Open Site	GesTek	N/A	B1	11/23/04
11	Test Program Software	GesTek	N/A	GTK-E-S001-01	N/A

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

### 4.2 OPEN TEST SITE SETUP DIAGRAM

Note: This is a representative setup diagram for Table-top EUT.

For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



### 4.3 RADIATED EMISSION LIMIT

#### ☒ FCC Class C Limit at 3m

Frequency	Distance	Field Strength	
		$\mu\text{V}/\text{M}$	$\text{dB}\mu\text{V}/\text{M}$
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0

Note: The frequencies above 1000MHz, as measured using instrumentation with a peak detector function was corresponding to 20dB above the maximum permitted average limit.

### 4.4 EUT CONFIGURATION

The equipment, which is listed on 4.1 was, installed on radiated emission test to meet the commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

The device under test, installed in a representative system as described in section 4.2, was placed on a non-conductive table whose total height equaled 80 cm. This table can be rotated 360 degree. The measurement antenna was mounted to a non-conductive mast capable of moving the antenna vertically. Antenna height was varied from 1 meter to 4 meters and the system under test was rotated from 0 degree through 360 degrees relative to the antenna position and polarization (Horizontal and Vertical). Also the I/O cable position was investigated to find the maximum emission condition.

### 4.5 OPERATING CONDITION OF EUT

Same as section 2.7.

### 4.6 RADIATED EMISSION DATA

The measurement range of radiated emissions from **30 MHz to 10 Harmonics** was investigated. All readings below 1GHz are quasi-peak values with a resolution bandwidth of 120 KHz. Above 1GHz are peak and avg. values with a resolution bandwidth of 1MHz. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement. Then the worst modes were reported the following data pages..



### 4.7 RADIATED EMISSIONS MEASUREMENT RESULTS

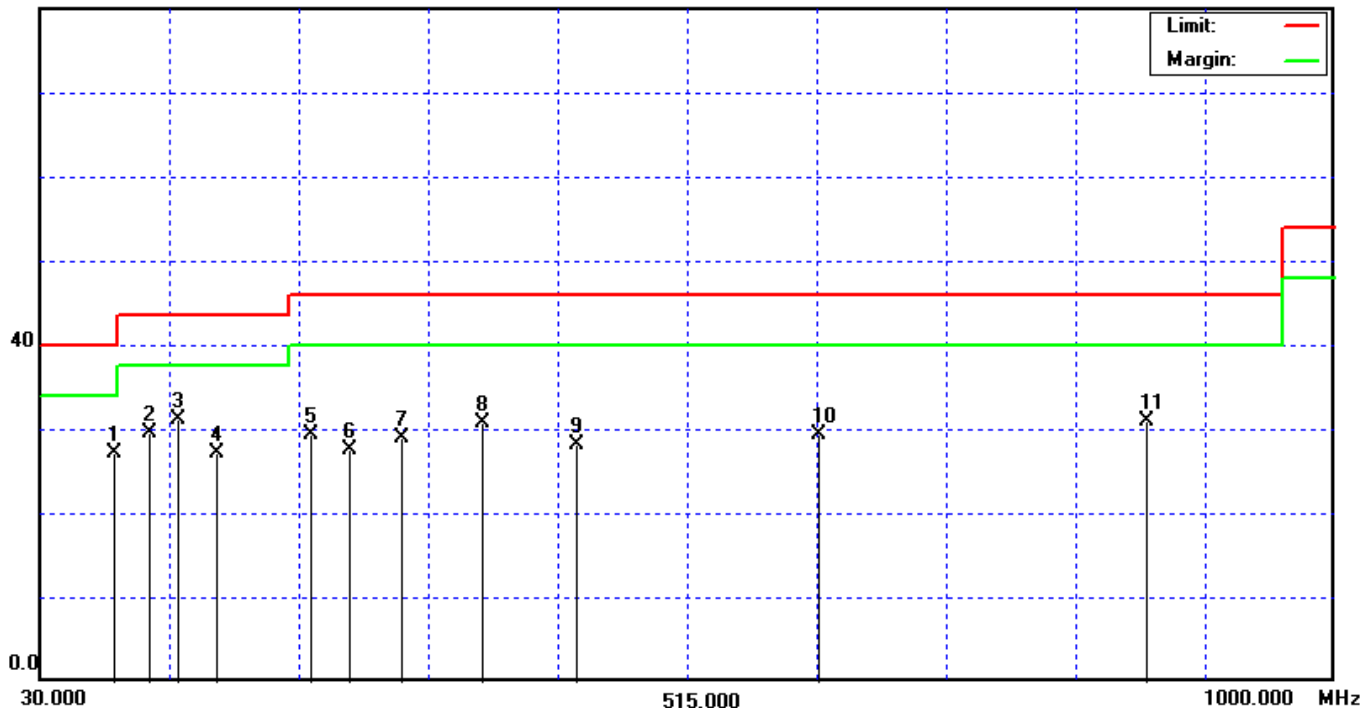
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 1 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	84.03	42.9	-15.73	27.17	40	-12.83	QP
2	112.0324	41.2	-11.7	29.5	43.5	-14	QP
3	133.301	42.4	-11.26	31.14	43.5	-12.36	QP
4	160.9826	39.8	-12.79	27.01	43.5	-16.49	QP
5	233.497	40.6	-11.27	29.33	46	-16.67	QP
6	261.0732	37.5	-9.93	27.57	46	-18.43	QP
7	299.9962	37.48	-8.54	28.94	46	-17.06	QP
8	359.9977	37.5	-6.87	30.63	46	-15.37	QP
9	432.0842	33.6	-5.48	28.12	46	-17.88	QP
10	613.98	31.2	-1.97	29.23	46	-16.77	QP
11	857.9616	28.5	2.33	30.83	46	-15.17	QP

**Remarks:**

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



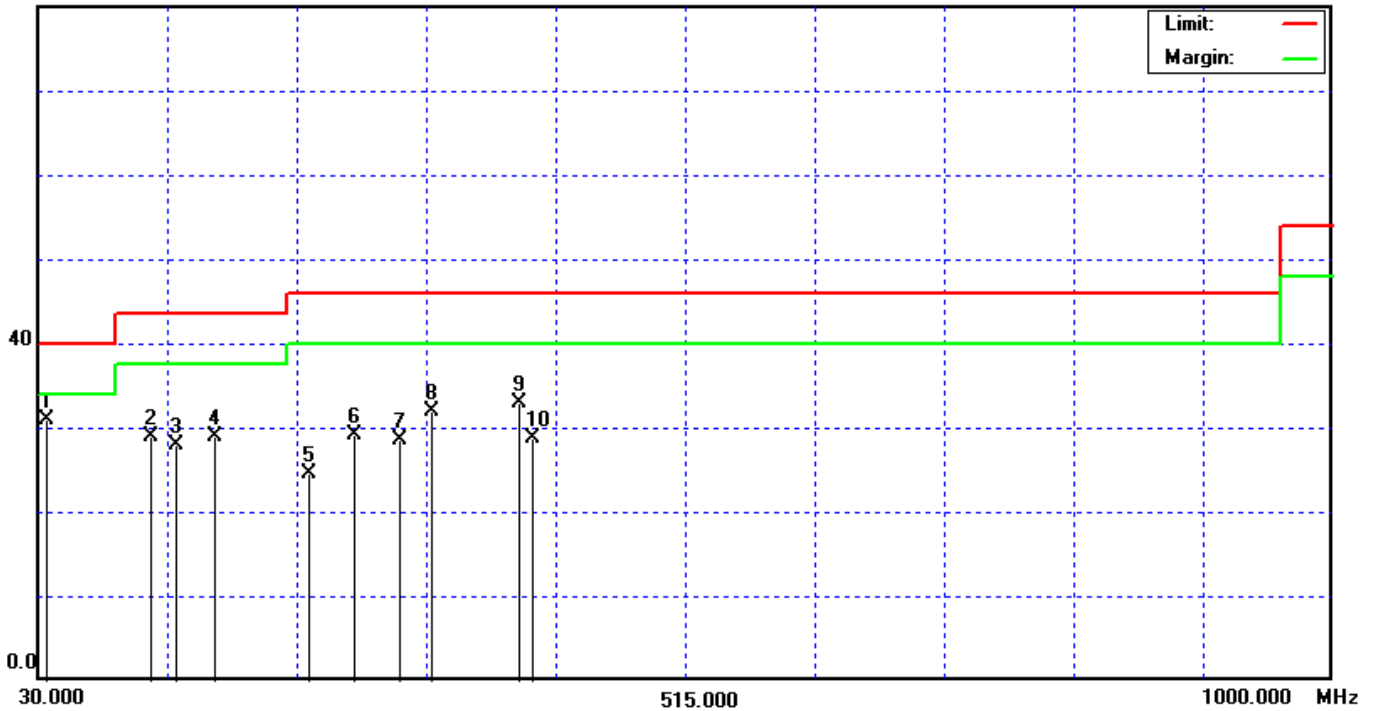
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 1 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	35.38	38.9	-7.98	30.92	40	-9.08	QP
2	112.485	40.6	-11.64	28.96	43.5	-14.54	QP
3	133.21	39.2	-11.26	27.94	43.5	-15.56	QP
4	160.9812	41.7	-12.79	28.91	43.5	-14.59	QP
5	233.497	35.78	-11.27	24.51	46	-21.49	QP
6	267.2747	38.54	-9.49	29.05	46	-16.95	QP
7	300.8558	36.98	-8.5	28.48	46	-17.52	QP
8	324.8405	39.7	-7.81	31.89	46	-14.11	QP
9	389.812	39.2	-6.24	32.96	46	-13.04	QP
10	400.0337	34.6	-5.91	28.69	46	-17.31	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



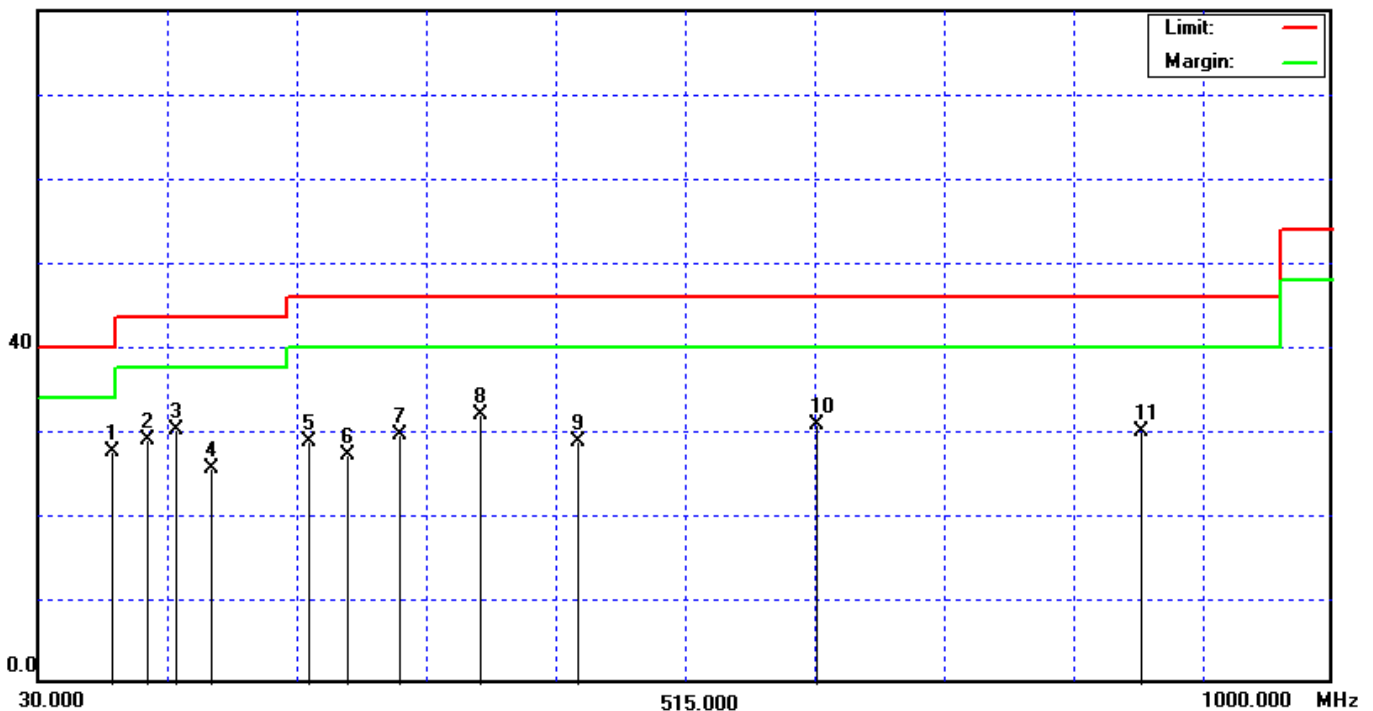
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 6 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	85.678	43.02	-15.47	27.55	40	-12.45	QP
2	112.063	40.65	-11.69	28.96	43.5	-14.54	QP
3	133.259	41.32	-11.26	30.06	43.5	-13.44	QP
4	160.251	38.25	-12.75	25.5	43.5	-18	QP
5	233.65	39.88	-11.27	28.61	46	-17.39	QP
6	262.135	36.98	-9.83	27.15	46	-18.85	QP
7	300.237	37.98	-8.53	29.45	46	-16.55	QP
8	360.87	38.66	-6.84	31.82	46	-14.18	QP
9	433.74	34.21	-5.45	28.76	46	-17.24	QP
10	614.23	32.66	-1.98	30.68	46	-15.32	QP
11	856.12	27.65	2.31	29.96	46	-16.04	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " X " means this data is worst-case Measurement level.

80.0 dBuV/m



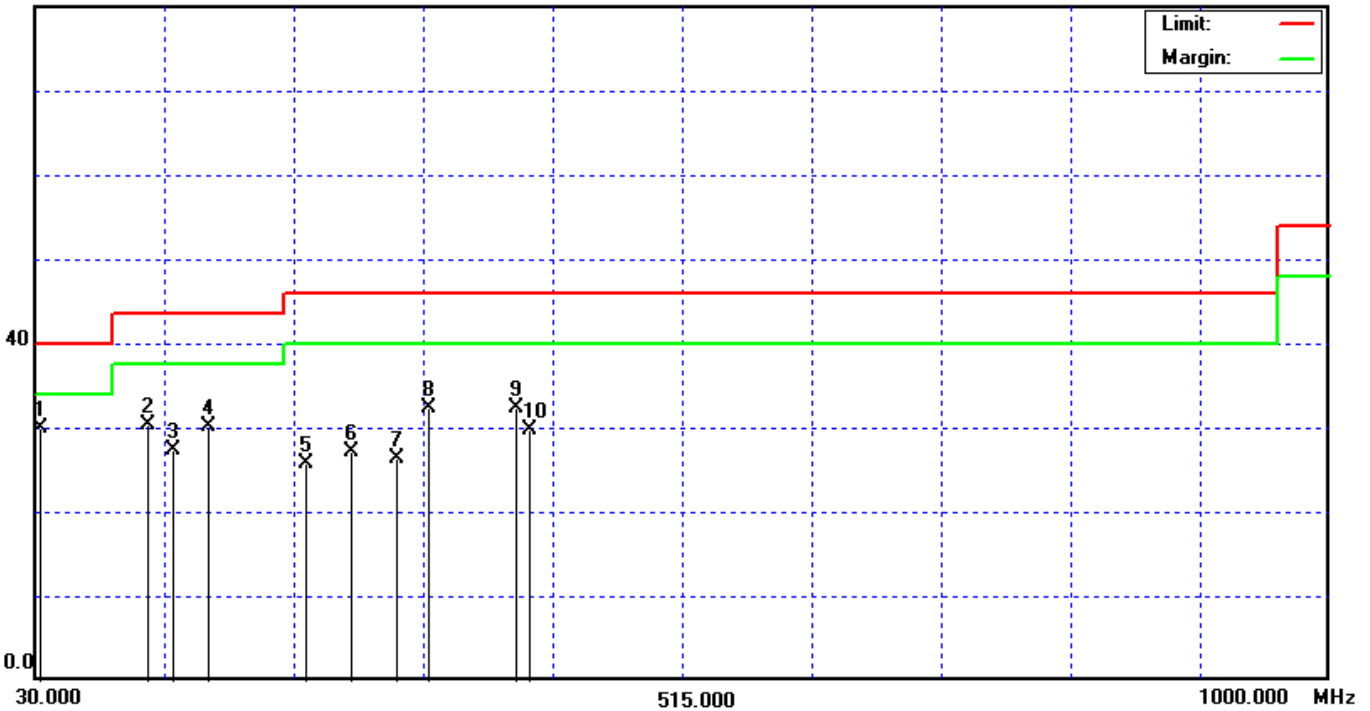
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 6 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	34.58	37.56	-7.73	29.83	40	-10.17	QP
2	112.856	41.87	-11.59	30.28	43.5	-13.22	QP
3	133.25	38.54	-11.26	27.28	43.5	-16.22	QP
4	160.899	42.9	-12.79	30.11	43.5	-13.39	QP
5	233.56	36.98	-11.27	25.71	46	-20.29	QP
6	266.94	36.52	-9.5	27.02	46	-18.98	QP
7	300.985	34.89	-8.5	26.39	46	-19.61	QP
8	324.9056	40.21	-7.81	32.4	46	-13.6	QP
9	390.32	38.59	-6.22	32.37	46	-13.63	QP
10	400.2936	35.58	-5.91	29.67	46	-16.33	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



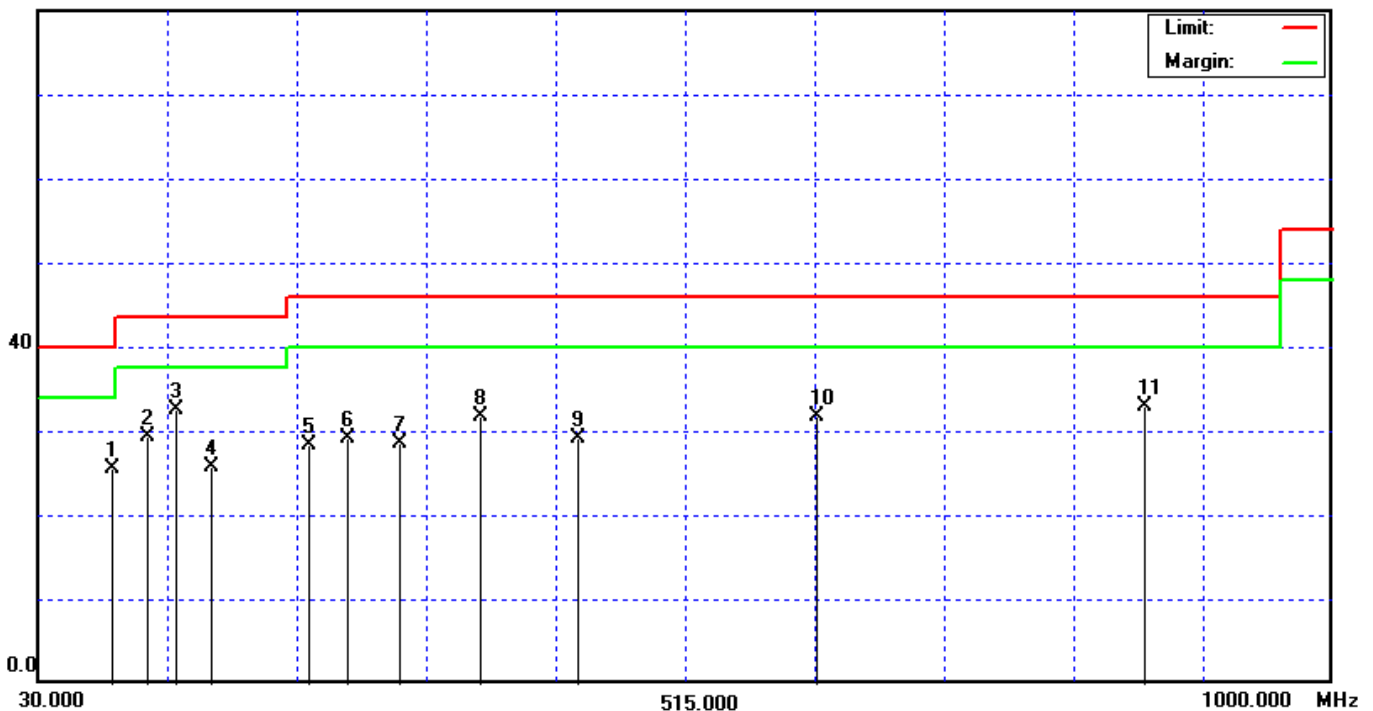
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 11 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV/m	Factor dB	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	83.653	41.28	-15.78	25.5	40	-14.5	QP
2	112.265	40.98	-11.66	29.32	43.5	-14.18	QP
3	133.492	43.82	-11.26	32.56	43.5	-10.94	QP
4	160.842	38.52	-12.78	25.74	43.5	-17.76	QP
5	233.542	39.65	-11.27	28.38	46	-17.62	QP
6	260.983	38.96	-9.94	29.02	46	-16.98	QP
7	300.12	36.98	-8.53	28.45	46	-17.55	QP
8	360.12	38.57	-6.87	31.7	46	-14.3	QP
9	433.523	34.52	-5.45	29.07	46	-16.93	QP
10	612.85	33.67	-1.91	31.76	46	-14.24	QP
11	857.968	30.57	2.33	32.9	46	-13.1	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



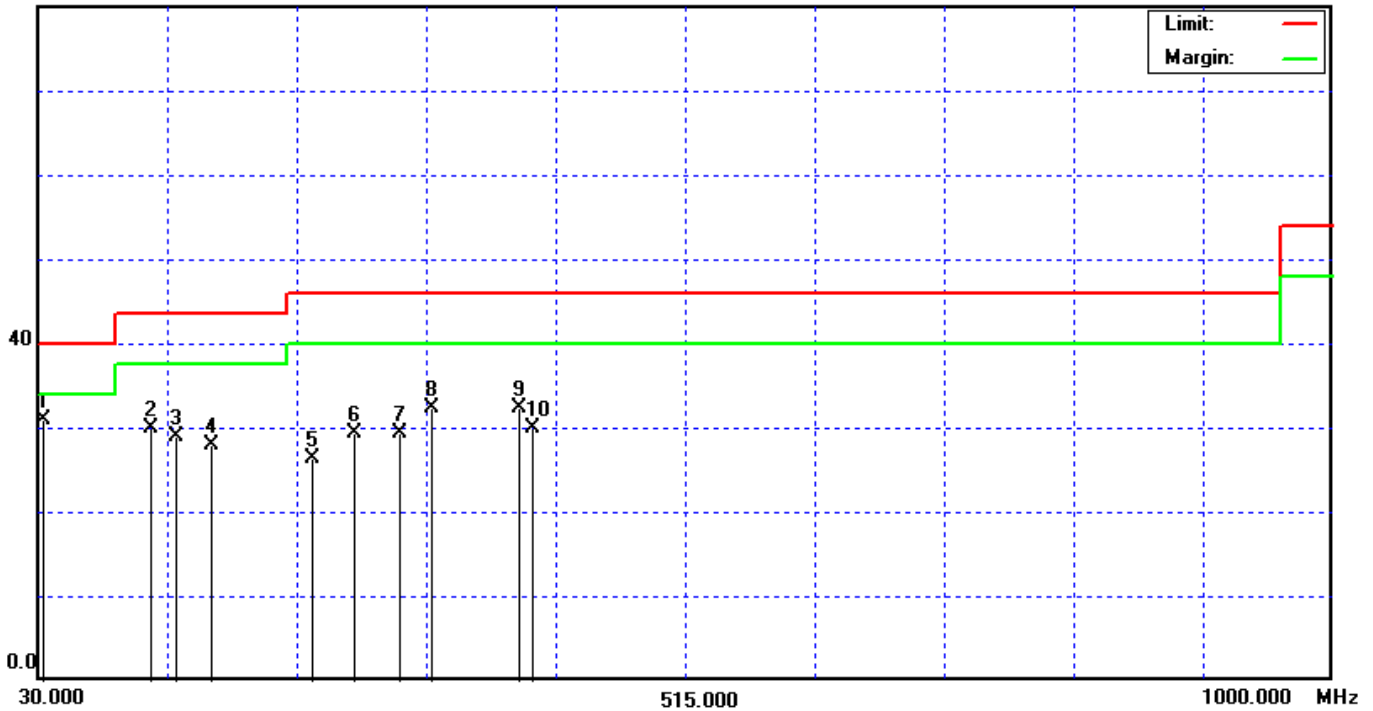
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (Channel 11 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	34.528	38.69	-7.72	30.97	40	-9.03	QP
2	113.69	41.32	-11.48	29.84	43.5	-13.66	QP
3	133.85	40.12	-11.27	28.85	43.5	-14.65	QP
4	160.543	40.58	-12.76	27.82	43.5	-15.68	QP
5	233.854	37.52	-11.26	26.26	46	-19.74	QP
6	266.742	38.75	-9.51	29.24	46	-16.76	QP
7	300.129	37.85	-8.53	29.32	46	-16.68	QP
8	324.28	40.18	-7.82	32.36	46	-13.64	QP
9	389.157	38.52	-6.26	32.26	46	-13.74	QP
10	400.298	35.85	-5.91	29.94	46	-16.06	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



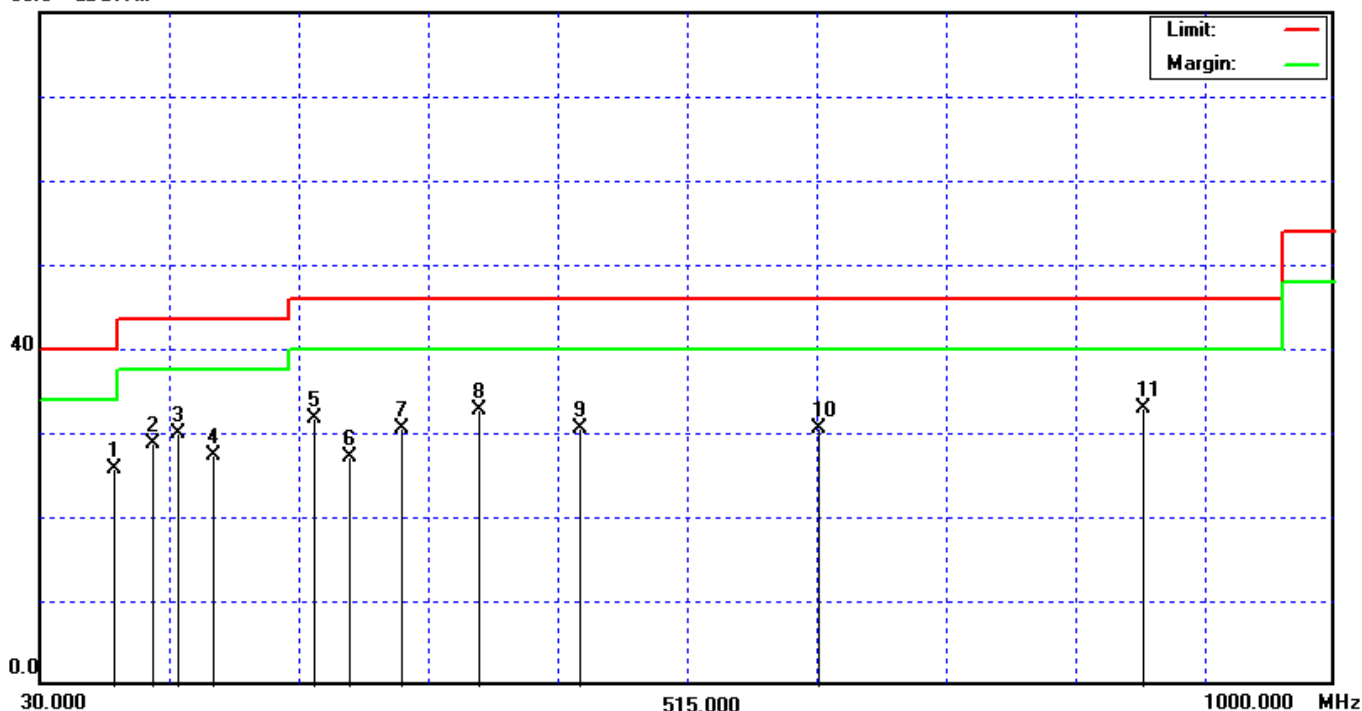
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 1 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	84.698	41.23	-15.62	25.61	40	-14.39	QP
2	112.581	40.28	-11.62	28.66	43.5	-14.84	QP
3	133.328	41.21	-11.26	29.95	43.5	-13.55	QP
4	160.875	40.13	-12.79	27.34	43.5	-16.16	QP
5	233.8941	42.87	-11.26	31.61	46	-14.39	QP
6	260.988	36.98	-9.94	27.04	46	-18.96	QP
7	300.147	38.96	-8.53	30.43	46	-15.57	QP
8	359.63	39.65	-6.89	32.76	46	-13.24	QP
9	433.0287	35.87	-5.46	30.41	46	-15.59	QP
10	612.9832	32.33	-1.91	30.42	46	-15.58	QP
11	856.518	30.57	2.31	32.88	46	-13.12	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " X " means this data is worst-case Measurement level.

80.0 dBuV/m



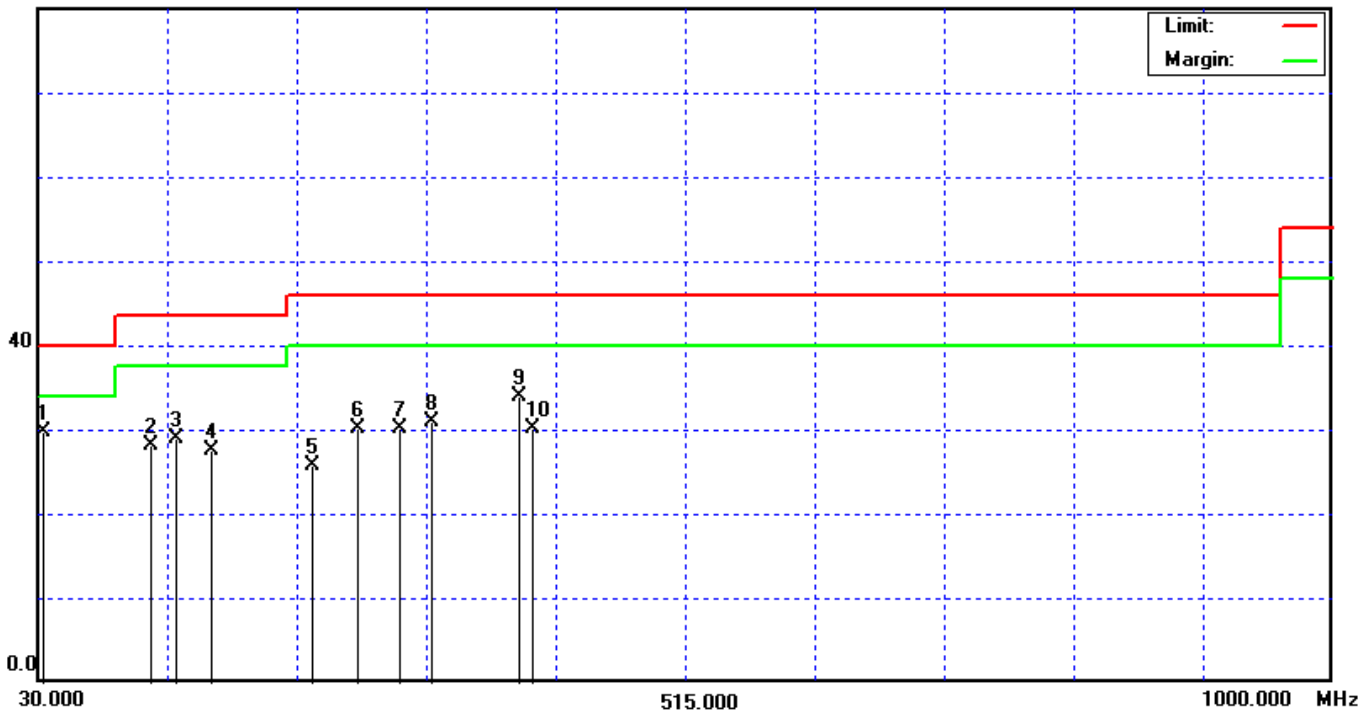
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 1 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	34.658	37.54	-7.75	29.79	40	-10.21	QP
2	113.21	39.65	-11.54	28.11	43.5	-15.39	QP
3	133.652	40.25	-11.27	28.98	43.5	-14.52	QP
4	160.857	40.23	-12.78	27.45	43.5	-16.05	QP
5	233.857	36.95	-11.26	25.69	46	-20.31	QP
6	267.857	39.65	-9.47	30.18	46	-15.82	QP
7	300.857	38.56	-8.5	30.06	46	-15.94	QP
8	323.987	38.65	-7.82	30.83	46	-15.17	QP
9	389.657	40.13	-6.25	33.88	46	-12.12	QP
10	400.562	35.98	-5.9	30.08	46	-15.92	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m





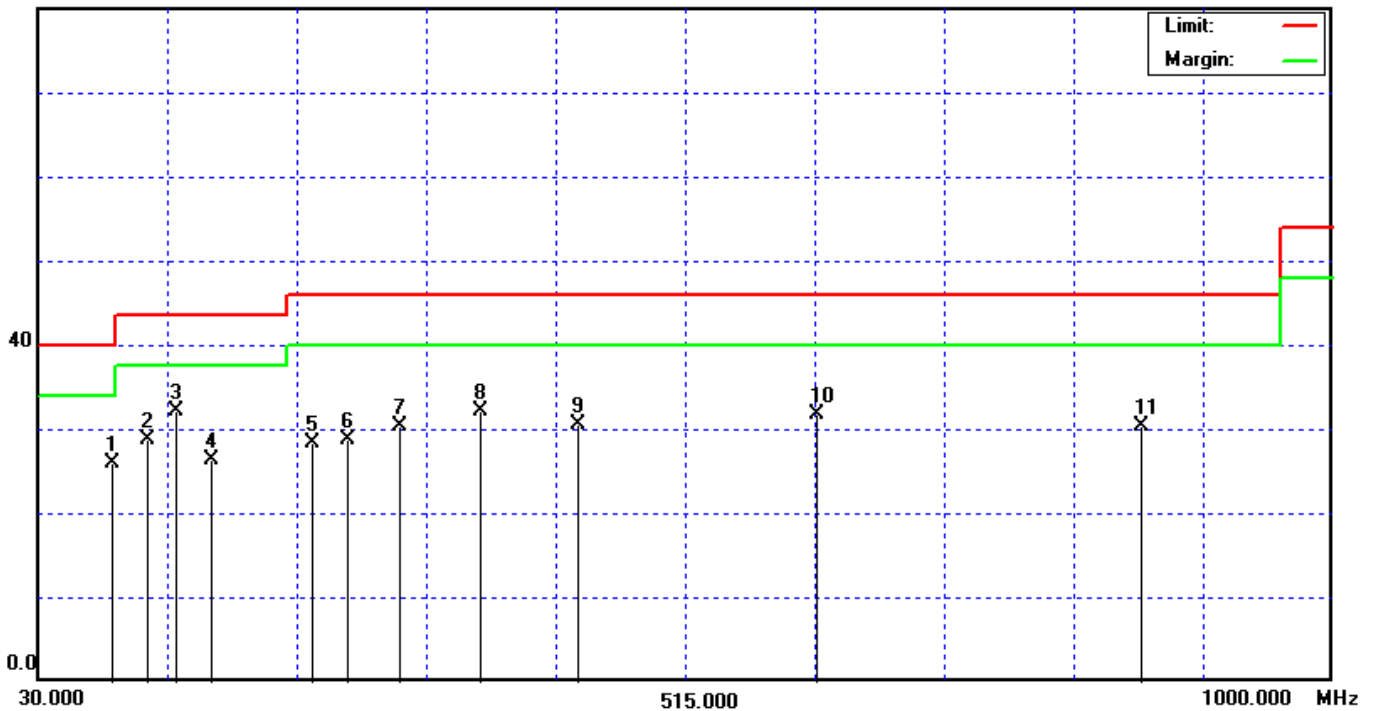
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 6 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	85.647	41.35	-15.48	25.87	40	-14.13	QP
2	112.054	40.32	-11.69	28.63	43.5	-14.87	QP
3	133.258	43.28	-11.26	32.02	43.5	-11.48	QP
4	160.2517	38.96	-12.75	26.21	43.5	-17.29	QP
5	233.8769	39.65	-11.26	28.39	46	-17.61	QP
6	260.967	38.65	-9.94	28.71	46	-17.29	QP
7	299.258	38.96	-8.57	30.39	46	-15.61	QP
8	359.8214	38.99	-6.88	32.11	46	-13.89	QP
9	433.6578	35.98	-5.45	30.53	46	-15.47	QP
10	612.9572	33.65	-1.91	31.74	46	-14.26	QP
11	856.412	27.99	2.31	30.3	46	-15.7	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



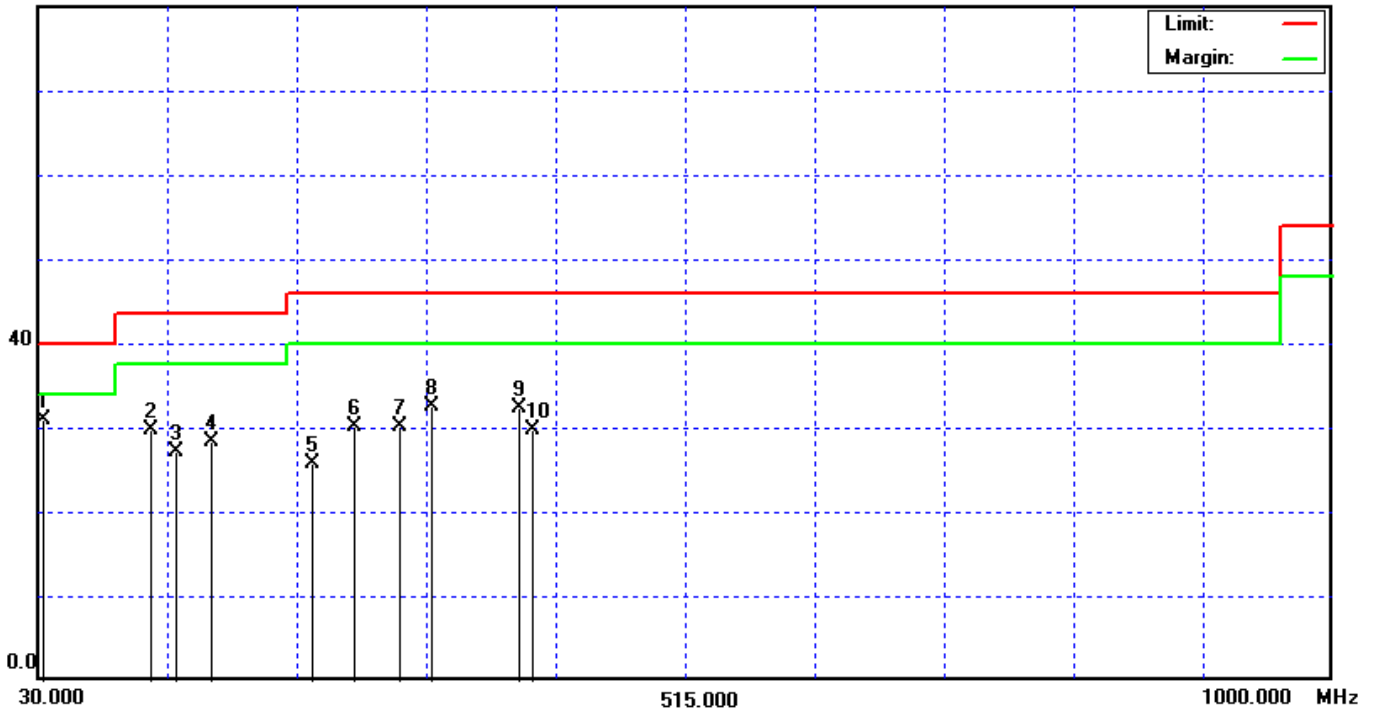
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 6 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	34.33	38.65	-7.67	30.98	40	-9.02	QP
2	112.875	41.33	-11.58	29.75	43.5	-13.75	QP
3	133.2314	38.45	-11.26	27.19	43.5	-16.31	QP
4	160.2547	40.99	-12.75	28.24	43.5	-15.26	QP
5	233.9587	36.95	-11.26	25.69	46	-20.31	QP
6	266.945	39.66	-9.5	30.16	46	-15.84	QP
7	299.872	38.65	-8.54	30.11	46	-15.89	QP
8	324.214	40.32	-7.82	32.5	46	-13.5	QP
9	389.325	38.66	-6.26	32.4	46	-13.6	QP
10	400.129	35.66	-5.91	29.75	46	-16.25	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



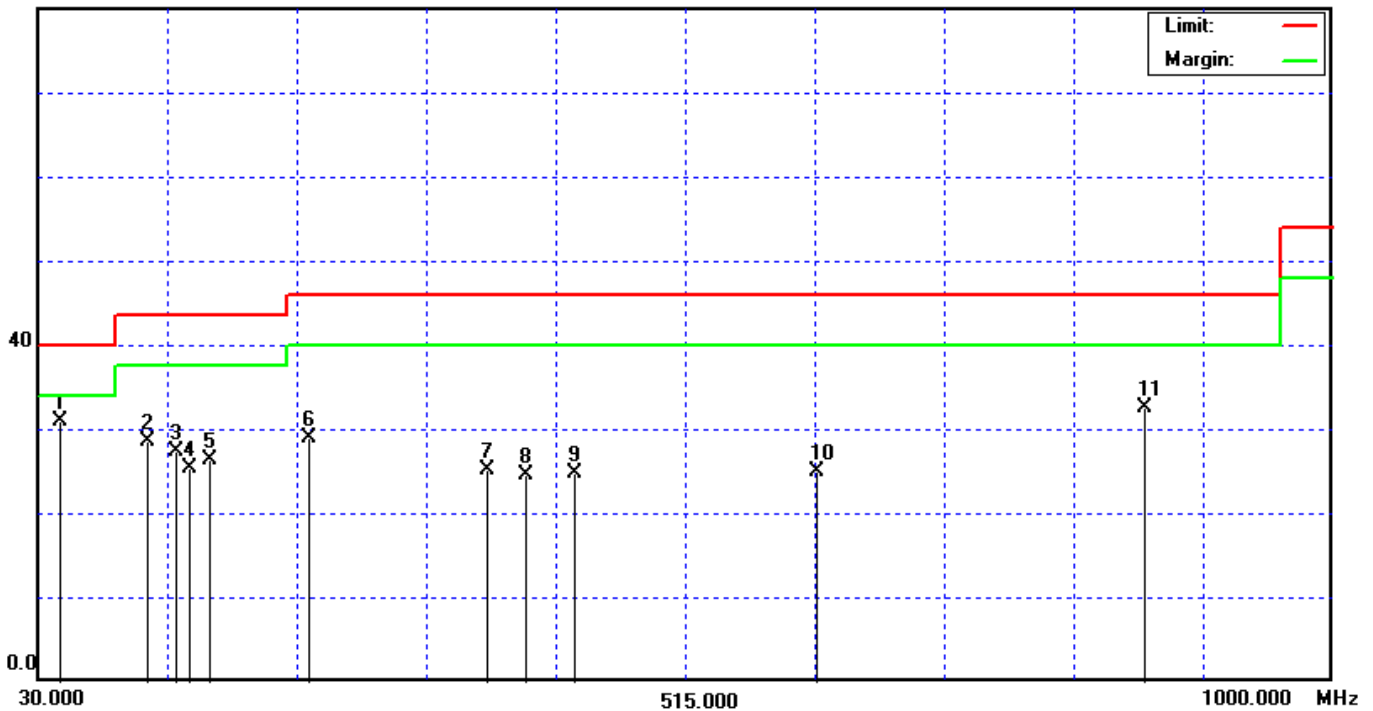
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 11 )	Display Pattern	H Pattern
Antenna distance	3m at Horizontal	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV/m	Factor dB	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	45.852	44.28	-13.38	30.9	40	-9.1	QP
2	111.25	40.23	-11.8	28.43	43.5	-15.07	QP
3	133.258	38.65	-11.26	27.39	43.5	-16.11	QP
4	142.987	36.85	-11.6	25.25	43.5	-18.25	QP
5	157.65	38.96	-12.58	26.38	43.5	-17.12	QP
6	233.5891	40.21	-11.27	28.94	46	-17.06	QP
7	366.251	31.68	-6.67	25.01	46	-20.99	QP
8	393.984	30.54	-6.1	24.44	46	-21.56	QP
9	432.368	30.21	-5.47	24.74	46	-21.26	QP
10	614.234	26.98	-1.98	25	46	-21	QP
11	857.963	30.21	2.33	32.54	46	-13.46	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



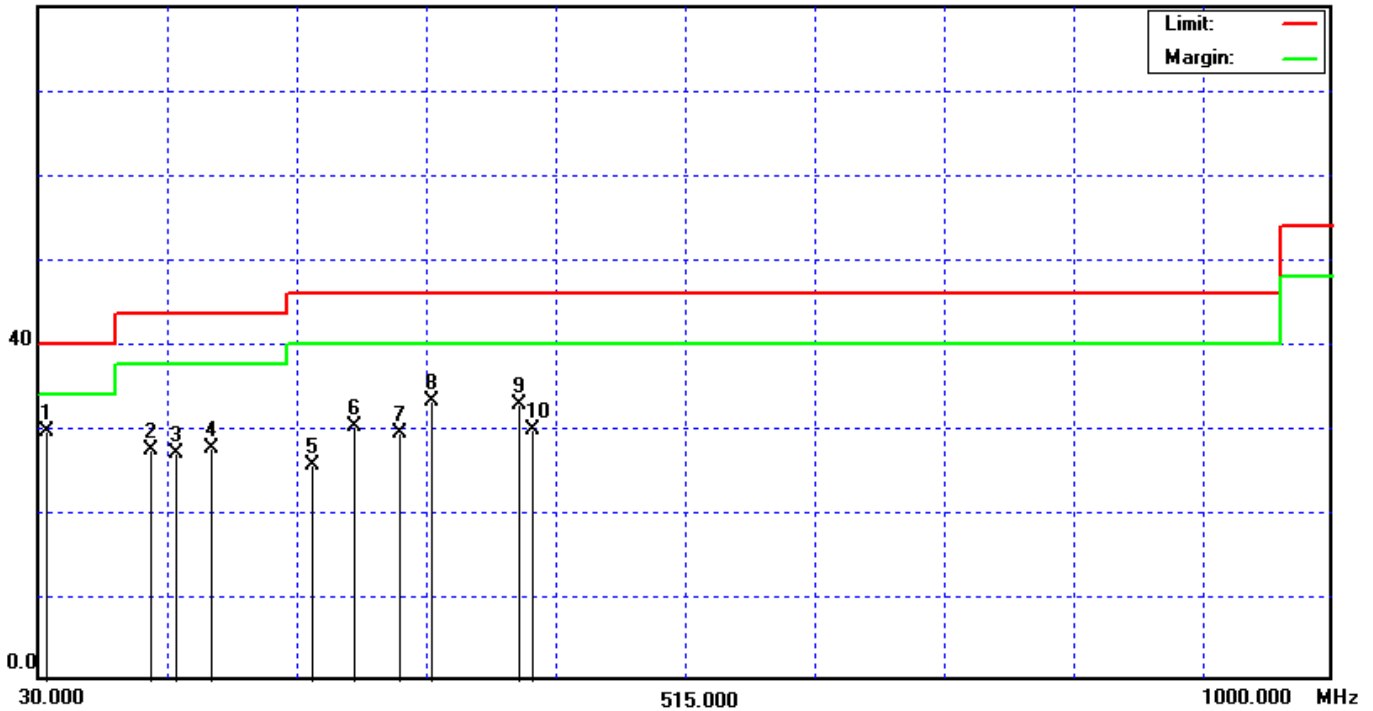
Date of Test	March 22, 2005	Temperature	19 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (Channel 11 )	Display Pattern	H Pattern
Antenna distance	3m at Vertical	Frequency Range	30-1000MHz

No.	Frequency MHz	Reading Level dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over Limit dB	Detector
1	36.542	37.98	-8.38	29.6	40	-10.4	QP
2	113.027	38.96	-11.56	27.4	43.5	-16.1	QP
3	133.582	38.25	-11.27	26.98	43.5	-16.52	QP
4	160.782	40.32	-12.78	27.54	43.5	-15.96	QP
5	233.875	36.85	-11.26	25.59	46	-20.41	QP
6	266.7426	39.65	-9.51	30.14	46	-15.86	QP
7	300.32	37.89	-8.52	29.37	46	-16.63	QP
8	324.1272	40.99	-7.82	33.17	46	-12.83	QP
9	389.6522	38.94	-6.25	32.69	46	-13.31	QP
10	400.0965	35.66	-5.91	29.75	46	-16.25	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Emission Level= Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. The " " means this data is worst-case Measurement level.

80.0 dBuV/m



Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 1	Data Rate	11Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4824.00	48.13	-1.33	46.80	74.00	-27.20
2	7236.00	44.58	7.69	< 52.27	74.00	-21.73
3	9648.00	45.70	12.85	< 58.55	74.00	-15.45
4	12060.00	45.41	15.60	< 61.01	74.00	-12.99

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9648.00	34.42	12.85	< 47.27	54.00	-6.73
2	12060.00	34.12	15.60	< 49.72	54.00	-4.28

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 1	Data Rate	11Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4824.00	45.67	-1.84	43.83	74.00	-30.17
2	7236.00	43.94	7.36	< 51.30	74.00	-22.70
3	9648.00	44.85	13.67	< 58.52	74.00	-15.48

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9648.00	34.25	13.67	< 47.92	54.00	-6.08

## Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 6	Data Rate	11Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

### Peak

No.	Frequency [MHz]	Reading Level [dBμV]	Correction Factor [dB/m]	Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
1	4874.23	47.73	-1.26	46.47	74.00	-27.53
2	7311.00	44.22	7.89	< 52.11	74.00	-21.89
3	9748.00	44.33	12.73	< 57.06	74.00	-16.94
4	12185.00	44.95	15.17	< 60.12	74.00	-13.88

### Average

No.	Frequency [MHz]	Reading Level [dBμV]	Correction Factor [dB/m]	Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
1	9748.00	34.03	12.73	< 46.76	54.00	-7.24
2	12185.00	33.79	15.17	< 48.96	54.00	-5.04

### Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 6	Data Rate	11Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

### Peak

No.	Frequency [MHz]	Reading Level [dBμV]	Correction Factor [dB/m]	Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
1	4873.78	47.40	-1.69	45.71	74.00	-28.29
2	7311.00	44.16	7.79	< 51.95	74.00	-22.05
3	9748.00	44.96	13.51	< 58.47	74.00	-15.53
4	12185.00	45.48	14.87	< 60.35	74.00	-13.65

### Average

No.	Frequency [MHz]	Reading Level [dBμV]	Correction Factor [dB/m]	Emission Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]
1	9748.00	34.30	13.51	< 47.81	54.00	-6.19
2	12185.00	34.32	14.87	< 49.49	54.00	-4.81

### Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.



Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 11	Data Rate	11Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4924.00	46.99	-1.20	45.79	74.00	-28.21
2	7386.00	44.83	8.08	< 52.91	74.00	-21.09
3	9848.00	44.85	12.80	< 57.65	74.00	-16.35
4	12310.00	43.91	14.85	< 58.76	74.00	-15.24

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9848.00	33.76	12.80	< 46.56	54.00	-7.44
2	12310.00	33.16	14.85	< 48.01	54.00	-5.99

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 1 (802.11b) Channel 11	Data Rate	11Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4924.00	44.79	-1.53	43.26	74.00	-30.74
2	7386.00	44.60	8.23	< 52.83	74.00	-21.17
3	9848.00	44.93	13.54	< 58.47	74.00	-15.53

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9848.00	33.59	13.54	< 47.13	54.00	-6.87

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 1	Data Rate	54Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4824.00	45.05	-1.33	43.72	74.00	-30.28
2	7236.00	44.04	7.69	< 51.73	74.00	-22.27
3	9648.00	44.57	12.85	< 57.42	74.00	-16.58

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9648.00	33.42	12.85	< 46.27	54.00	-7.73

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 1	Data Rate	54Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4824.00	44.72	-1.84	42.88	74.00	-31.12
2	7236.00	44.50	7.36	< 51.86	74.00	-22.14
3	9648.00	44.40	13.67	< 58.07	74.00	-15.93

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9648.00	33.82	13.67	< 47.69	54.00	-6.51

## Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 6	Data Rate	54Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4874.00	45.75	-1.26	44.49	74.00	-29.51
2	7311.00	44.86	7.89	< 52.75	74.00	-21.25
3	9748.00	44.46	12.73	< 57.19	74.00	-16.81

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9748.00	33.45	12.73	< 46.18	54.00	-7.82

## Remark

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHZ, Span=100MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
4. Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
6. Margin Value=Emission level-Limit value.
7. The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 6	Data Rate	54Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4874.00	45.66	-1.69	43.97	74.00	-30.03
2	7311.00	44.47	7.79	< 52.26	74.00	-21.74
3	9748.00	44.71	13.51	< 58.22	74.00	-15.78

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9748.00	33.95	13.51	< 47.46	54.00	-6.54

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 11	Data Rate	54Mbps
Antenna distance	3m at Horizontal	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4924.00	45.13	1.20	43.93	74.00	-30.07
2	7386.00	43.57	8.08	< 51.65	74.00	-22.35
3	9848.00	44.52	12.80	< 57.32	74.00	-16.68

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9848.00	33.11	12.80	< 45.91	54.00	-8.09

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHZ, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.

Date of Test	March 02, 2005	Temperature	24 deg/C
EUT	Wireless LAN USB Adapter	Humidity	58 %RH
Working Cond.	Mode 2 (802.11g) Channel 11	Data Rate	54Mbps
Antenna distance	3m at Vertical	Frequency Range	Above 1GHz

## Peak

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	4924.00	44.33	-1.53	42.80	74.00	-31.20
2	7386.00	44.05	8.23	< 52.28	74.00	-21.72
3	9848.00	44.97	13.54	< 58.51	74.00	-15.49

## Average

No.	Frequency [MHz]	Reading Level [dB $\mu$ V]	Correction Factor [dB/m]	Emission Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	9848.00	33.13	13.54	< 46.67	54.00	-7.33

## Remark

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz, Span=100MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=30HZ, Span=20MHz.
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor
- Margin Value=Emission level-Limit value.
- The average measurement was not performed when the peak measured data under the limit of average detection. If the average value is measured, peak measurement should also be supplied.



## 5. PEAK POWER OUTPUT

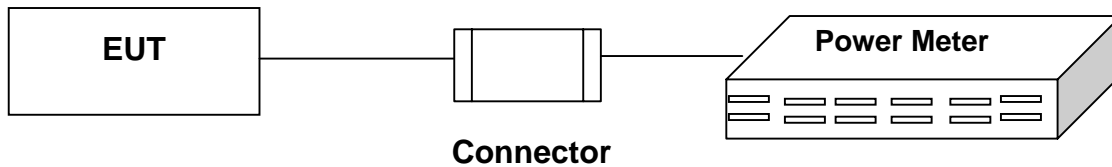
### 5.1 TEST EQUIPMENT

The following test equipments are used during the Conduct tests:

Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Spectrum Analyzer	Advantest	R3272	82420372	07/08/04
	Spectrum Analyzer	HP	E4407B	39240339	07/28/04
2	Power Meter	Rohde & Schwarz	NRVS	100666	04/29/04
3	Peak Power Sensor	Rohde & Schwarz	NRV-Z32	8360191058	04/29/04

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

### 5.2 BLOCK DIAGRAM OF TEST SETUP



### 5.3 PEAK POWER OUTPUT LIMIT

The maximum peak power shall be less 1 Watt.

### 5.4 TEST RESULT

<b>Date of Test</b>	March 10, 2005	<b>Temperature</b>	23.3 deg/C
<b>EUT</b>	Wireless LAN USB Adapter	<b>Humidity</b>	68 %RH
<b>Test Mode</b>	Mode 1 (802.11b)	<b>Data Rate</b>	11Mbps

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
1	2412	9.59	1W(30dBm)	Pass
6	2472	9.36	1W(30dBm)	Pass
11	2462	9.05	1W(30dBm)	Pass

<b>Date of Test</b>	March 10, 2005	<b>Temperature</b>	23.3 deg/C
<b>EUT</b>	Wireless LAN USB Adapter	<b>Humidity</b>	68 %RH
<b>Test Mode</b>	Mode 2 (802.11g)	<b>Data Rate</b>	54Mbps

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
1	2412	8.4	1W(30dBm)	Pass
6	2472	7.57	1W(30dBm)	Pass
11	2462	7.6	1W(30dBm)	Pass

## 6. BAND EDGE

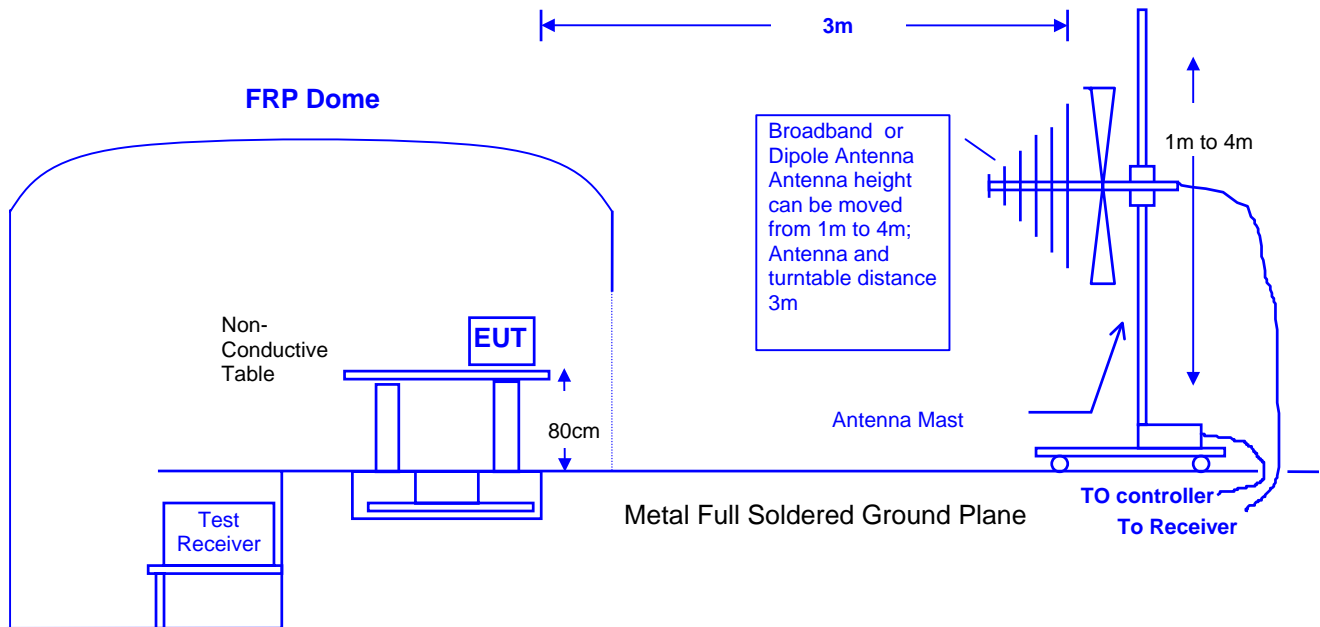
### 6.1 TEST EQUIPMENT

Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Test Receiver	Rohde & Schwarz	ESVS30	829007/014	01/05/05
2	Spectrum Analyzer	Rohde & Schwarz	FSP40	100061	03/16/04
3	Spectrum Analyzer	HP	E4407B	39240339	07/28/04
4	Power Meter	Rohde & Schwarz	NRVS	100666	04/29/04
5	Peak Power Sensor	Rohde & Schwarz	NRV-Z32	8360191058	04/29/04
6	Pre-Amplifier	HP	8449B	3008A01264	06/01/04
7	BILOG ANTENNA	SCHAFFNER	CBL6112B	2620	11/30/04
9	Horn Antenna	Schwarzbeck	BBHA 9120	D243	12/22/04
10	RF Cable	GesTek	N/A	GTK-E-A151-01	02/14/05
11	Open Site	GesTek	N/A	B1	11/23/04
12	Test Program Software	GesTek	N/A	GTK-E-S001-01	N/A

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

### 6.2 BLOCK DIAGRAM OF TEST SETUP

⊙ RF Radiated Measurement: ⊙



### 6.3 BAND EDGE LIMIT

In any 100KHz 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 100KHz 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)).

### 6.4 EUT CONFIGURATION

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. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. 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 according to ANSI C63.4:2000 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120KHz, above 1GHz are 1MHz.

### 6.5 OPERATING CONDITION OF EUT

Same as section 2.7.

## 6.6 TEST RESULT

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps
Antenna distance	3m at <b>Horizontal</b>	Test Band	<b>Lower</b>

### Radiation Emission of Fundamental Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2413	66.32	35.67	101.99

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2413.6	58.75	35.67	94.42

#### Remark:

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

### TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (50.13)dB delta between carry power and maximum emission in restrict band 2390 MHz. The plot for average is appear (56.26)dB delta between carry power and maximum emission in restrict band (2390)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2390 MHz is 101.99 dBuV/m – 50.13 dB = 51.86 dBuV/m which is under 74dBuV/m.

Average field strength of 2390 MHz is 94.42 dBuV/m – 56.26 dB = 38.16 dBuV/m which is under 54dBuV/m

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps
Antenna distance	3m at <b>Vertical</b>	Test Band	<b>Lower</b>

## Radiation Emission of Fundamental Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2413.25	59.66	30.47	90.13

## Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2410.25	52.14	30.48	82.62

### Remark:

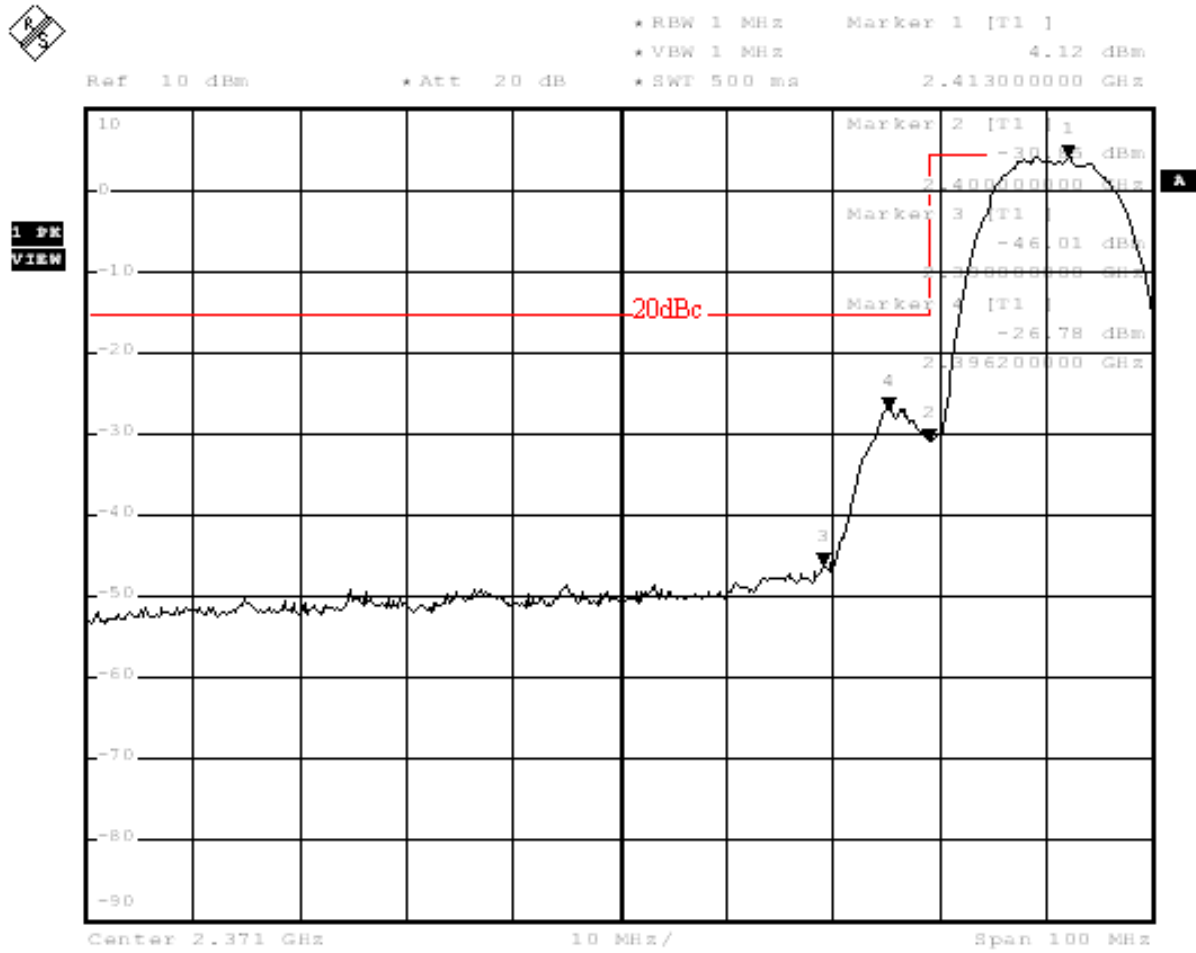
1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

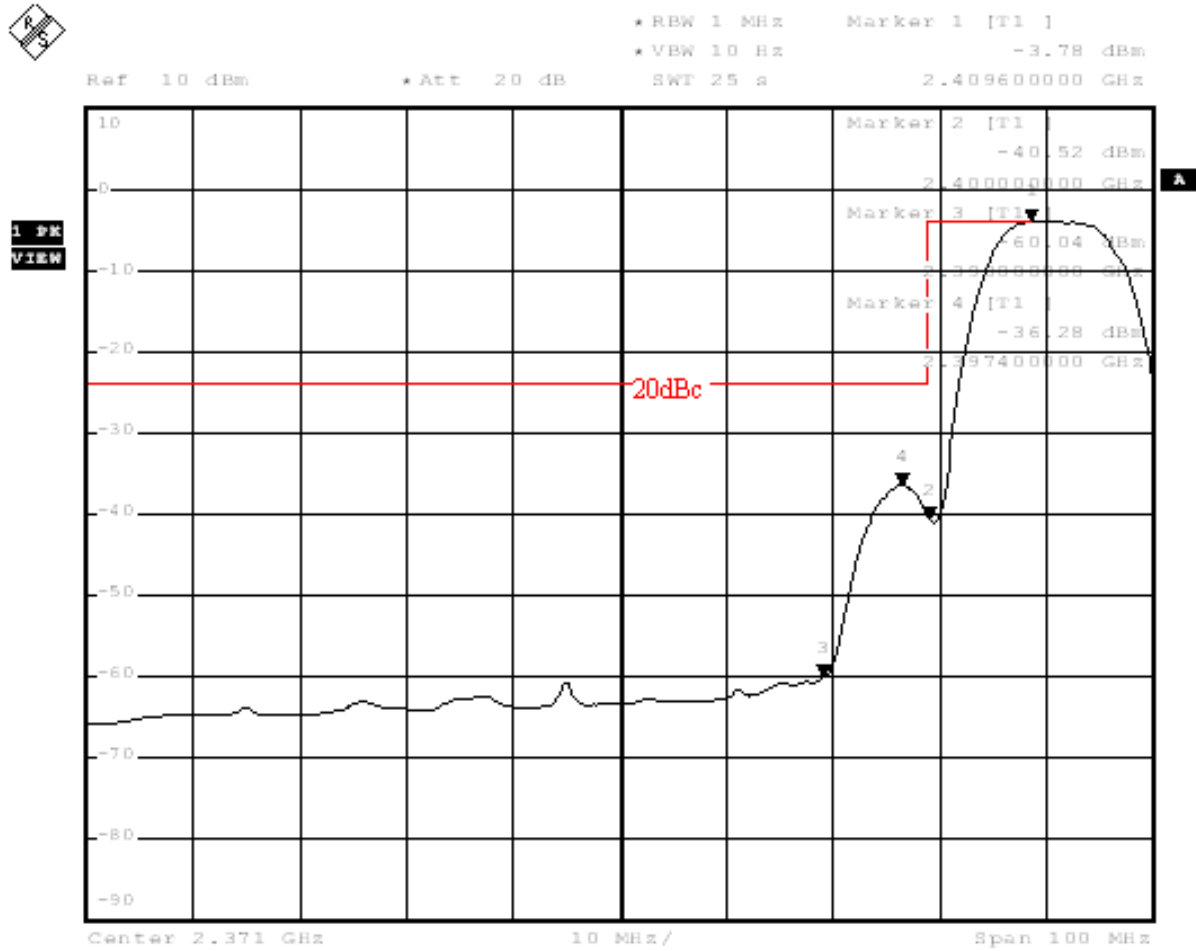
The band edge emission plot on next page are Peak and Average. The plot for peak is appear (50.13)dB delta between carry power and maximum emission in restrict band 2390 MHz. The plot for average is appear (56.26)dB delta between carry power and maximum emission in restrict band (2390)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2390 MHz is 90.13 dBuV/m – 50.13 dB = 40 dBuV/m which is under 74dBuV/m.

Average field strength of 2390 MHz is 82.62 dBuV/m – 56.26 dB = 26.36 dBuV/m which is under 54dBuV/m



Date: 10.MAR.2005 13:34:09



Date: 10.MAR.2005 13:37:21



Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps
Antenna distance	3m at <b>Horizontal</b>	Test Band	<b>Higher</b>

## Radiation Emission of Fundamental

### Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2460	68.4	35.93	104.33

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2460	61.32	35.93	97.25

Remark:

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (51.44)dB delta between carry power and maximum emission in restrict band 2483.5 MHz. The plot for average is appear (57.31)dB delta between carry power and maximum emission in restrict band (2483.5)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2483.5 MHz is 104.33 dBuV/m – 51.44 dB = 52.89 dBuV/m which is under 74dBuV/m.

Average field strength of 2483.5 MHz is 97.25 dBuV/m – 57.31 dB = 39.94 dBuV/m which is under 54dBuV/m

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps
Antenna distance	3m at <b>Vertical</b>	Test Band	<b>Higher</b>

## Radiation Emission of Fundamental

### Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2460	62.37	30.43	92.8

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2459.95	55.24	30.43	85.67

Remark:

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

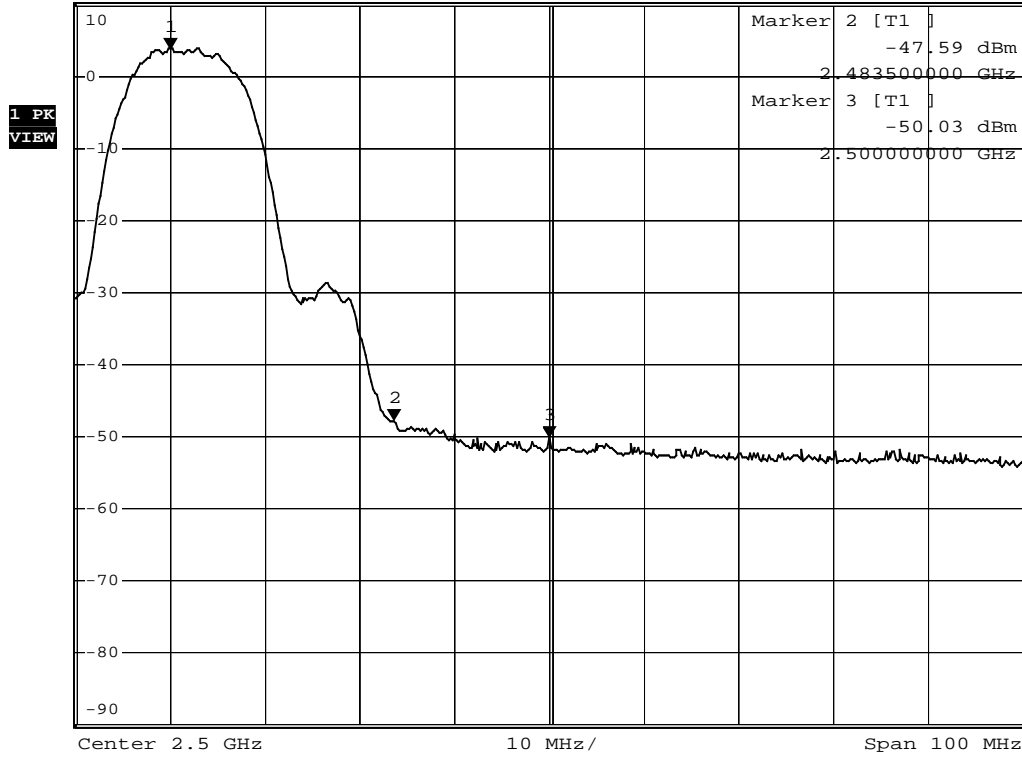
The band edge emission plot on next page are Peak and Average. The plot for peak is appear (51.44)dB delta between carry power and maximum emission in restrict band 2483.5 MHz. The plot for average is appear (57.31)dB delta between carry power and maximum emission in restrict band (2483.5)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2483.5 MHz is 92.8 dBuV/m – 51.44 dB = 41.36 dBuV/m which is under 74dBuV/m.

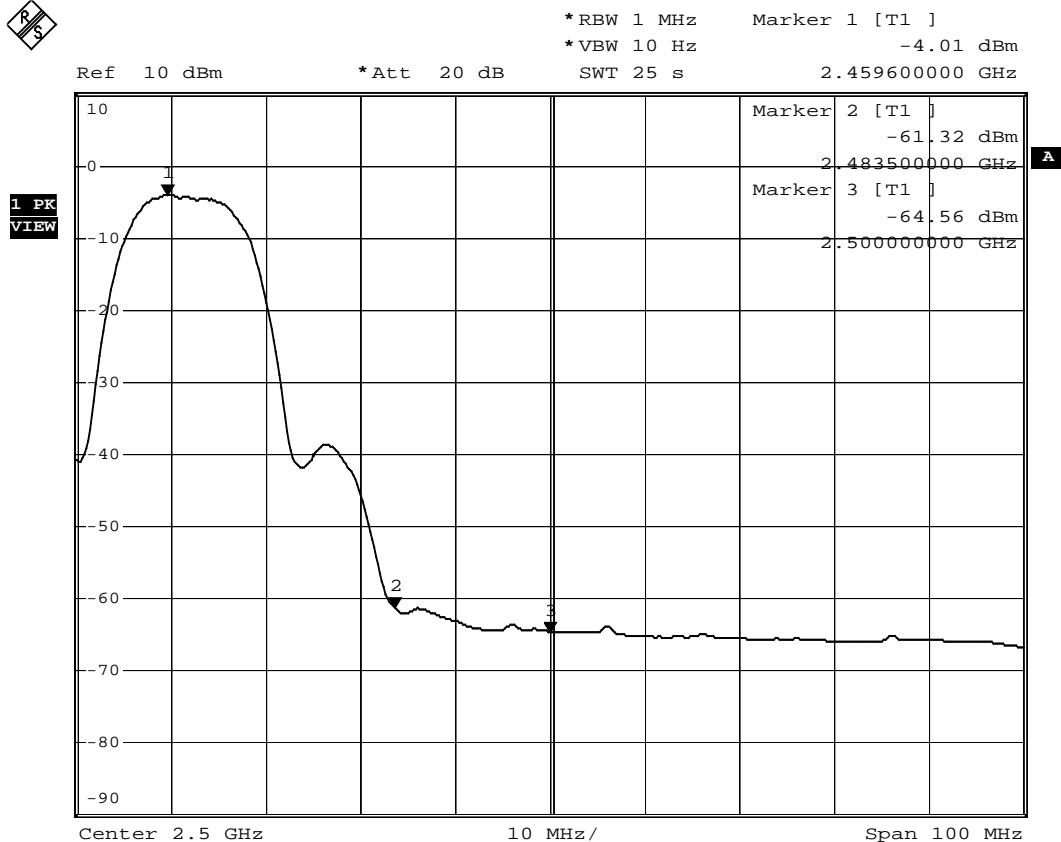
Average field strength of 2483.5 MHz is 85.67 dBuV/m – 57.31 dB = 28.36 dBuV/m which is under 54dBuV/m



Ref 10 dBm      \*Att 20 dB      \*RBW 1 MHz      Marker 1 [T1]      3.85 dBm  
\*VBW 1 MHz      \*SWT 500 ms      2.460000000 GHz



Date: 10.MAR.2005 13:46:27



Date: 10.MAR.2005 13:48:36

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps
Antenna distance	3m at <b>Horizontal</b>	Test Band	<b>Lower</b>

## Radiation Emission of Fundamental

### Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2413.75	62.97	35.67	98.64

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2410.05	53.66	35.65	89.31

#### Remark:

- All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
- Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
- Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10Hz
- Emission Level= Reading + Correction Factor (Could have  $\pm 0.01$  tolerance due to computer automatically round off calculation).
- Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (37.92)dB delta between carry power and maximum emission in restrict band 2389.6 MHz. The plot for average is appear (46.92)dB delta between carry power and maximum emission in restrict band (2390)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2389.6 MHz is 98.64 dBuV/m – 37.92 dB = 60.72 dBuV/m which is under 74dBuV/m.

Average field strength of 2390 MHz is 89.31 dBuV/m – 46.92 dB = 42.39 dBuV/m which is under 54dBuV/m

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps
Antenna distance	3m at Vertical	Test Band	Lower

## Radiation Emission of Fundamental

### Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2413.75	56.57	30.47	87.04

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2415.55	46.67	30.47	77.14

Remark:

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10Hz
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (37.92)dB delta between carry power and maximum emission in restrict band 2389.6 MHz. The plot for average is appear (46.92)dB delta between carry power and maximum emission in restrict band (2390)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2389.6 MHz is 87.04 dBuV/m – 37.92 dB = 49.12dBuV/m which is under 74dBuV/m.

Average field strength of 2390 MHz is 77.14 dBuV/m – 46.92 dB = 30.22 dBuV/m which is under 54dBuV/m







Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps
Antenna distance	3m at <b>Horizontal</b>	Test Band	<b>Higher</b>

## Radiation Emission of Fundamental

### Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2463.75	65.68	35.95	101.63

### Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2455.4	55.86	35.9	91.76

Remark:

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (41.53)dB delta between carry power and maximum emission in restrict band 2484.4 MHz. The plot for average is appear (48.73)dB delta between carry power and maximum emission in restrict band (2483.5)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2484.4 MHz is 101.63 dBuV/m – 41.53 dB = 60.1 dBuV/m which is under 74dBuV/m.

Average field strength of 2483.5 MHz is 91.76 dBuV/m – 48.73 dB = 43.03 dBuV/m which is under 54dBuV/m

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps
Antenna distance	3m at <b>Vertical</b>	Test Band	<b>Higher</b>

## Radiation Emission of Fundamental Peak

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2456.5	59	30.44	89.44

## Average

Frequency [MHz]	Reading Level [dB(uV)]	Correction Factor [dB/m]	Emission Level [dB(uV/m)]
2455.45	50.23	30.44	80.67

### Remark:

1. All Readings below 1GHz are Quasi-Peak and above 1GHz are peak or average.
2. Spectrum Analyzer Setting(Peak Detector): RBW=1MHz, VBW=1MHz.
3. Spectrum Analyzer Setting(AVG Detector): RBW=1MHz, VBW=10HZ
4. Emission Level= Reading + Correction Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
5. Correction Factor= Antenna Factor + Cable Loss – Amplifier Factor

## TEST Result

The band edge emission plot on next page are Peak and Average. The plot for peak is appear (41.53)dB delta between carry power and maximum emission in restrict band 2484.4 MHz. The plot for average is appear (48.73)dB delta between carry power and maximum emission in restrict band (2483.5)MHz. The above tables are list of fundamental emission test result.

Therefore, peak field strength of 2484.4 MHz is 89.44dBuV/m – 41.53 dB = 47.91 dBuV/m which is under 74dBuV/m.

Average field strength of 2483.5 MHz is 80.67 dBuV/m – 48.73 dB = 31.94 dBuV/m which is under 54dBuV/m





## 7. OCCUPIED BANDWIDTH

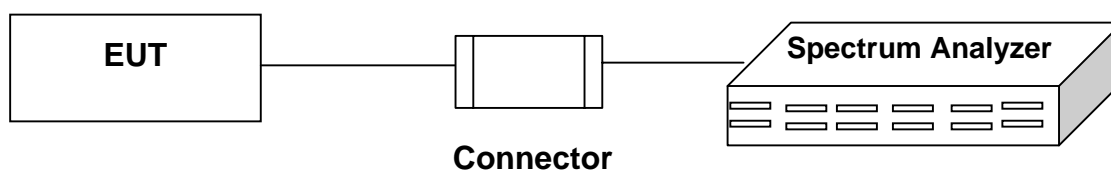
### 7.1 TEST EQUIPMENT

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

Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Spectrum Analyzer	Rohde & Schwarz	FSP40	100061	03/16/04
2	Spectrum Analyzer	HP	E4407B	39240339	07/28/04

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

### 7.2 BLOCK DIAGRAM OF TEST SETUP



### 7.3 LIMIT

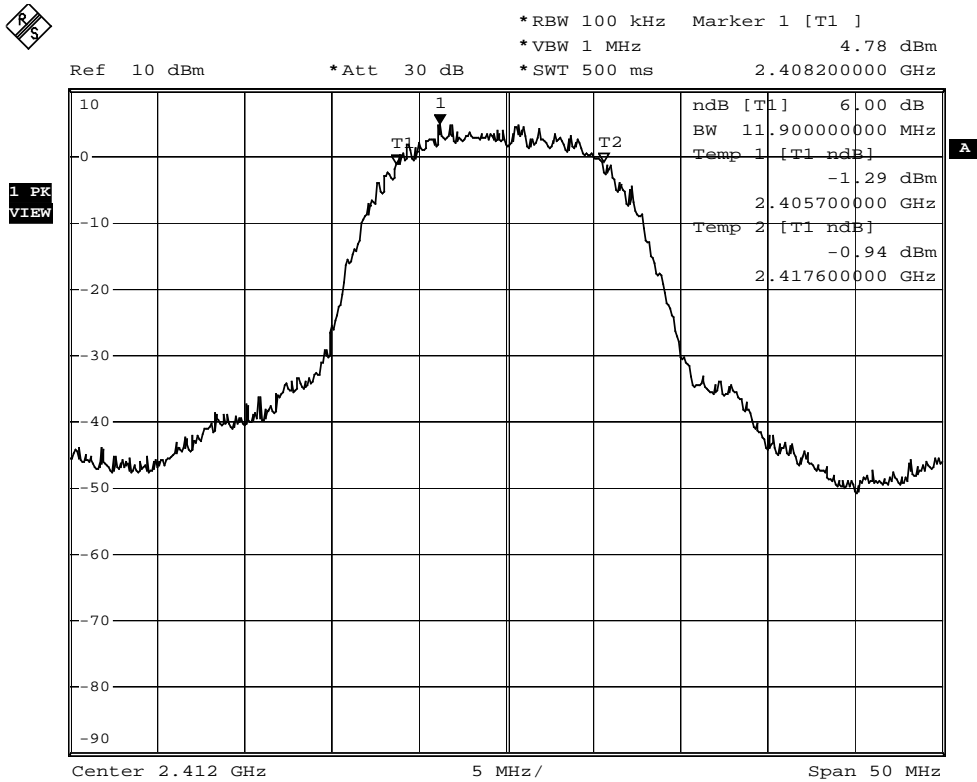
WLAN: The minimum 6dB bandwidth shall be at least 500KHz.

### 7.4 TEST RESULT

Date of Test	March 03, 2005	Temperature	18.4 deg/C
EUT	802.11g WLAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps

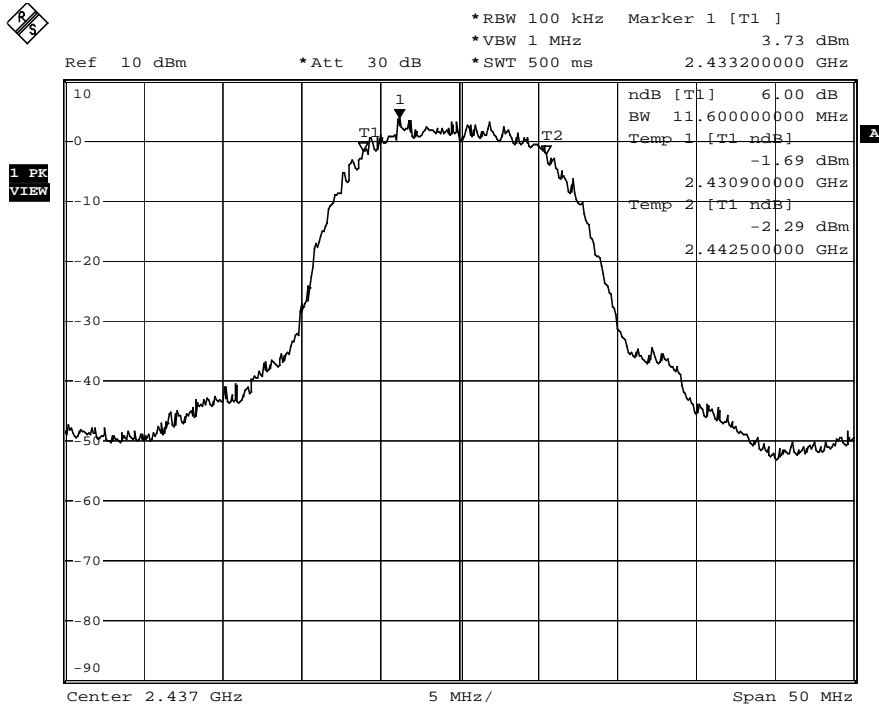
Channel No.	Frequency (MHz)	Bandwidth (MHz)	Required limit (KHz)	Result
1	2412	11.9	>500	Pass
6	2437	11.6	>500	Pass
11	2462	11.7	>500	Pass

Figure Channel 1:



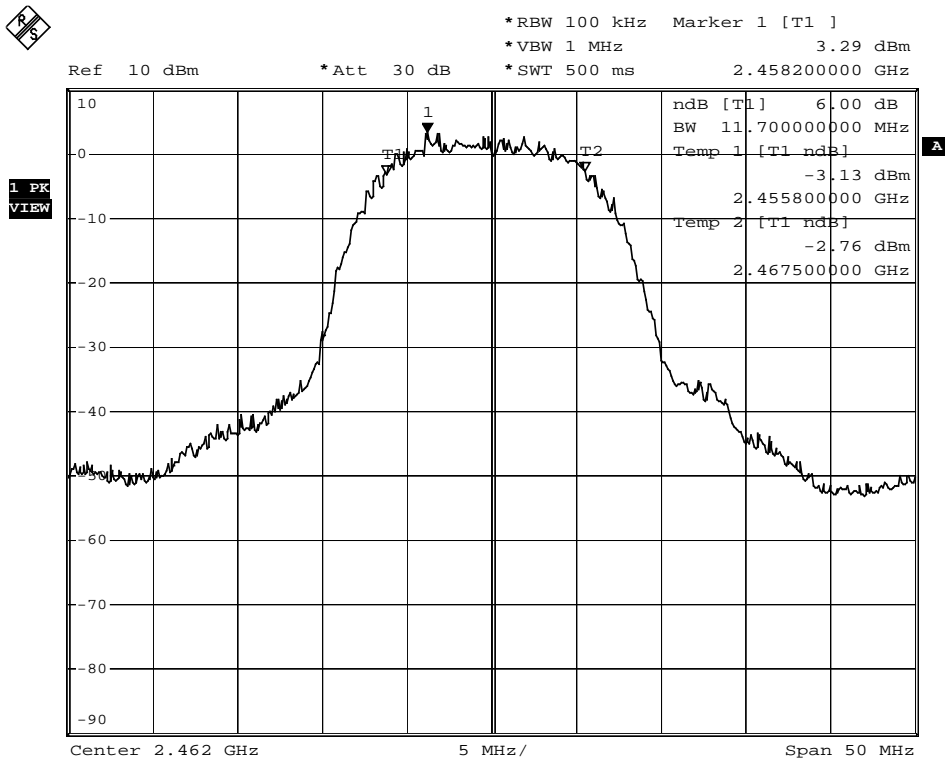
Date: 3.MAR.2005 13:33:44

Figure Channel 6:



Date: 3.MAR.2005 13:36:57

Figure Channel 11:

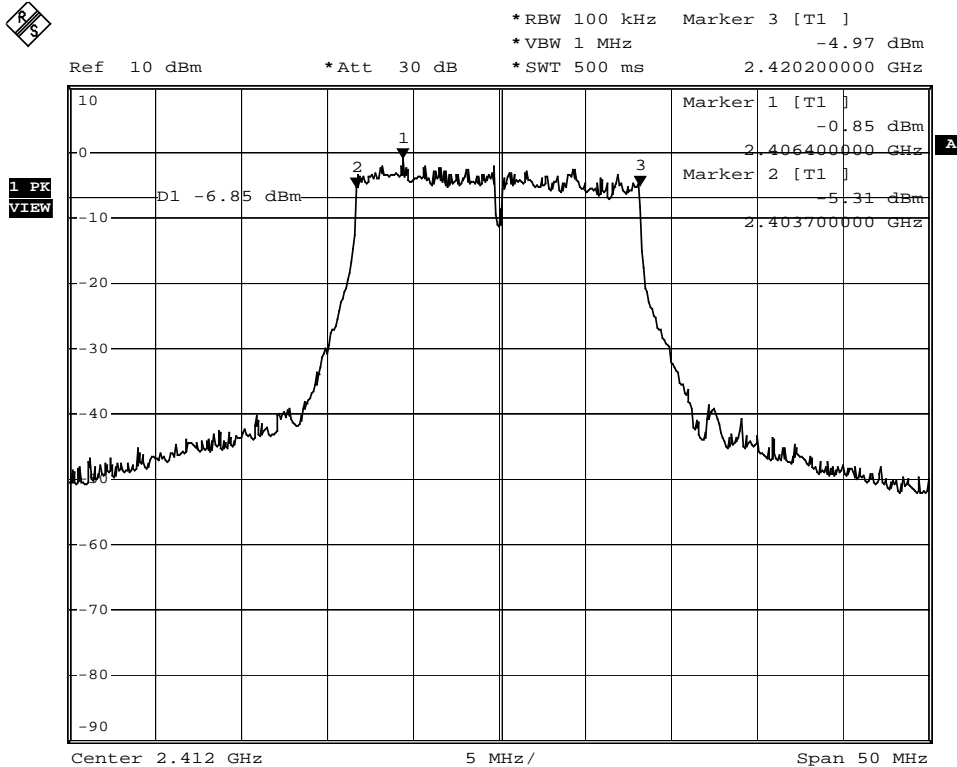


Date: 3.MAR.2005 13:39:12

Date of Test	March 03, 2005	Temperature	18.4 deg/C
EUT	Wireless LAN USB Adapter	Humidity	69 %RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps

Channel No.	Frequency (MHz)	Bandwidth (MHz)	Required limit (KHz)	Result
1	2412	16.5	>500	Pass
6	2437	16.6	>500	Pass
11	2462	16.6	>500	Pass

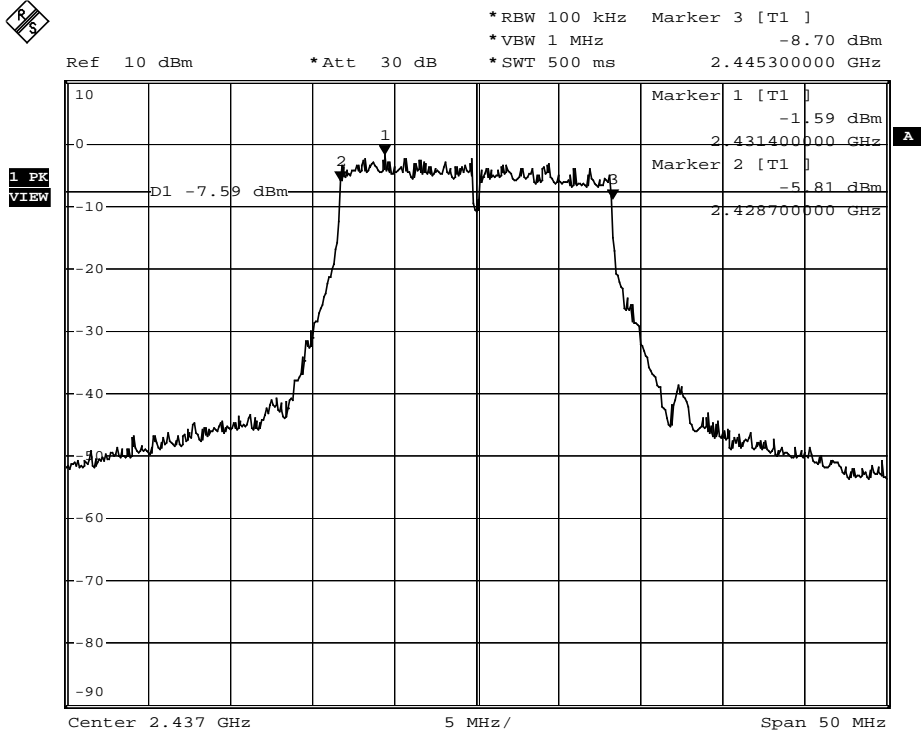
Figure Channel 1:



Date: 3.MAR.2005 13:43:30

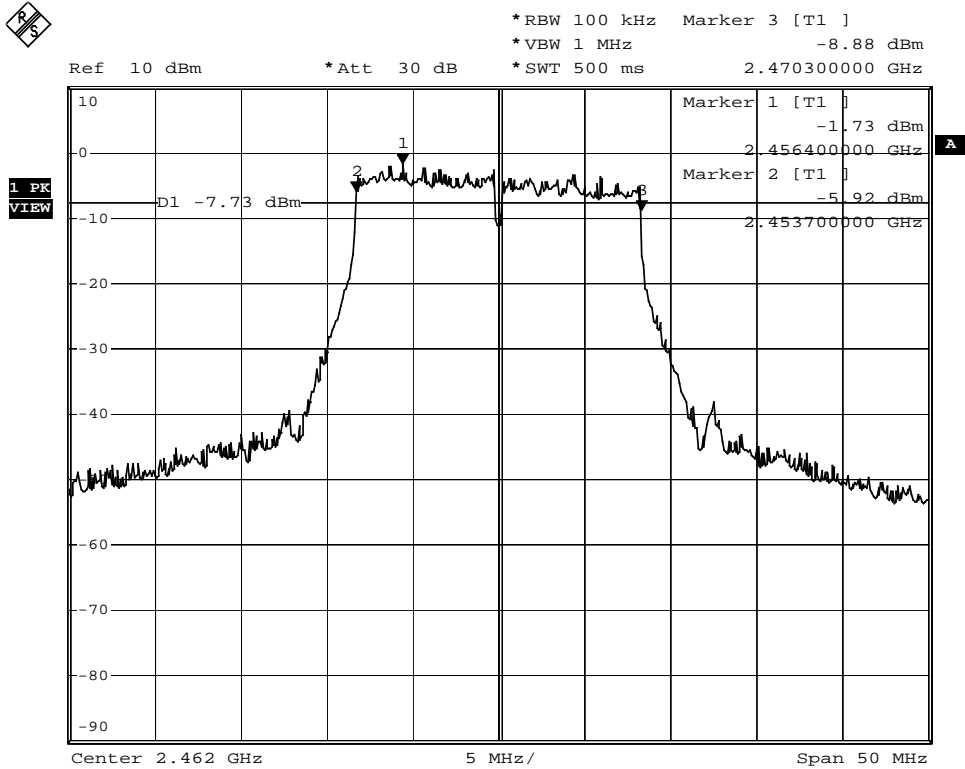


Figure Channel 6:



Date: 3.MAR.2005 13:52:45

Figure Channel 11:



Date: 3.MAR.2005 13:57:05

## 8. POWER DENSITY

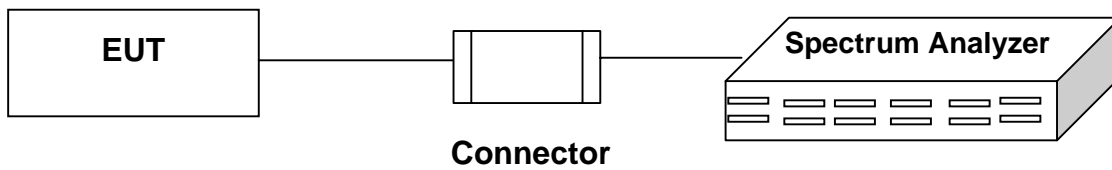
### 8.1 TEST EQUIPMENT

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

Item	Instrument	Manufacturer	Model	Serial No.	Last Cal.
1	Spectrum Analyzer	Rohde & Schwarz	FSP40	100061	03/16/04
2	Spectrum Analyzer	HP	E4407B	39240339	07/28/04

Note: All measurement critical items of test instrumentation were within their calibration period of 1 year.

### 8.2 BLOCK DIAGRAM OF TEST SETUP



### 8.3 LIMIT

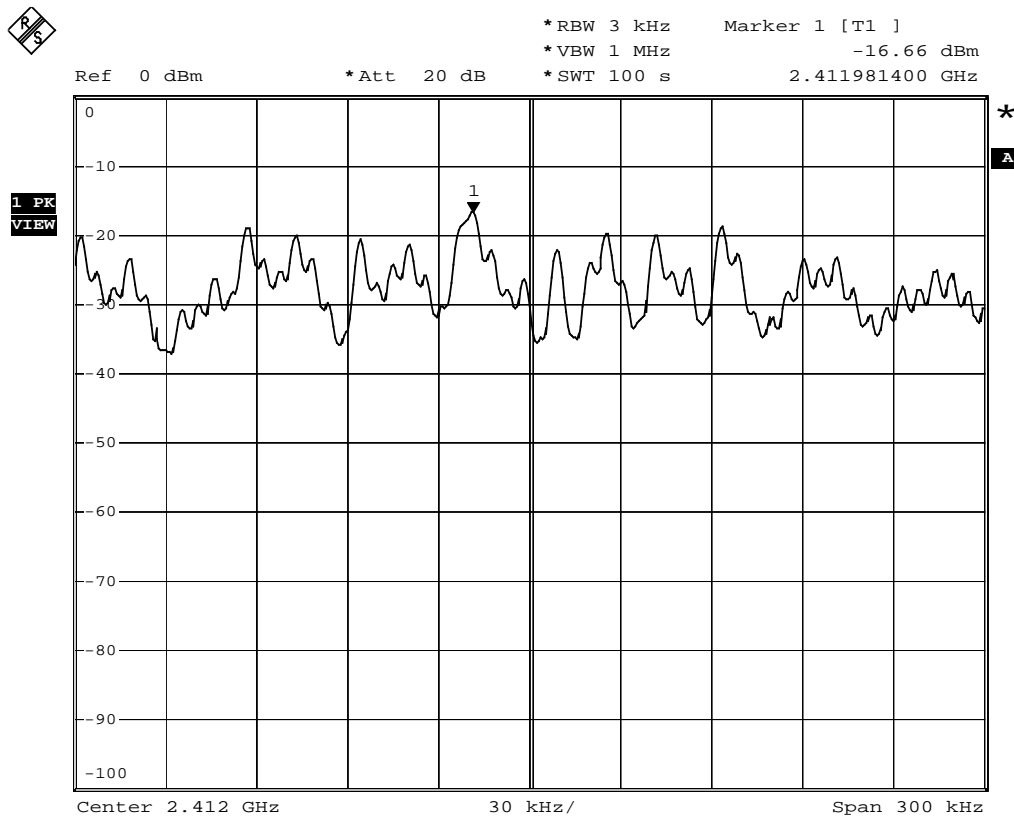
The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3KHz bandwidth.

### 8.4 TEST RESULT

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68 %RH
Working Cond.	Mode 1 (802.11b)	Data Rate	11Mbps

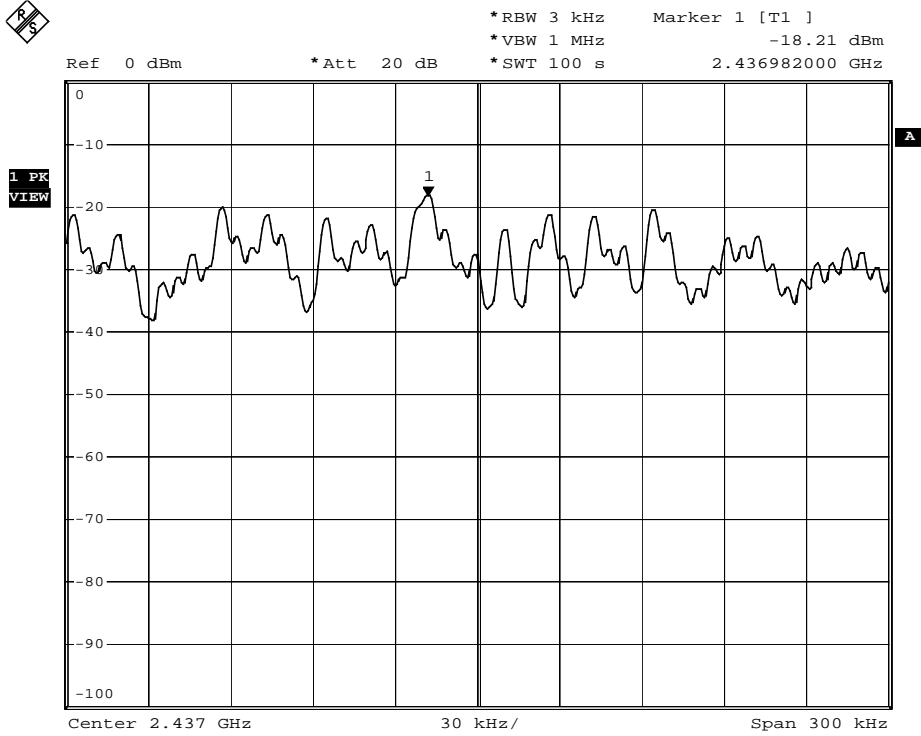
Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required limit (dBm)	Result
1	2412	-16.66	<8dBm	Pass
6	2437	-18.21	<8dBm	Pass
11	2462	-18.00	<8dBm	Pass

Figure Channel 1:



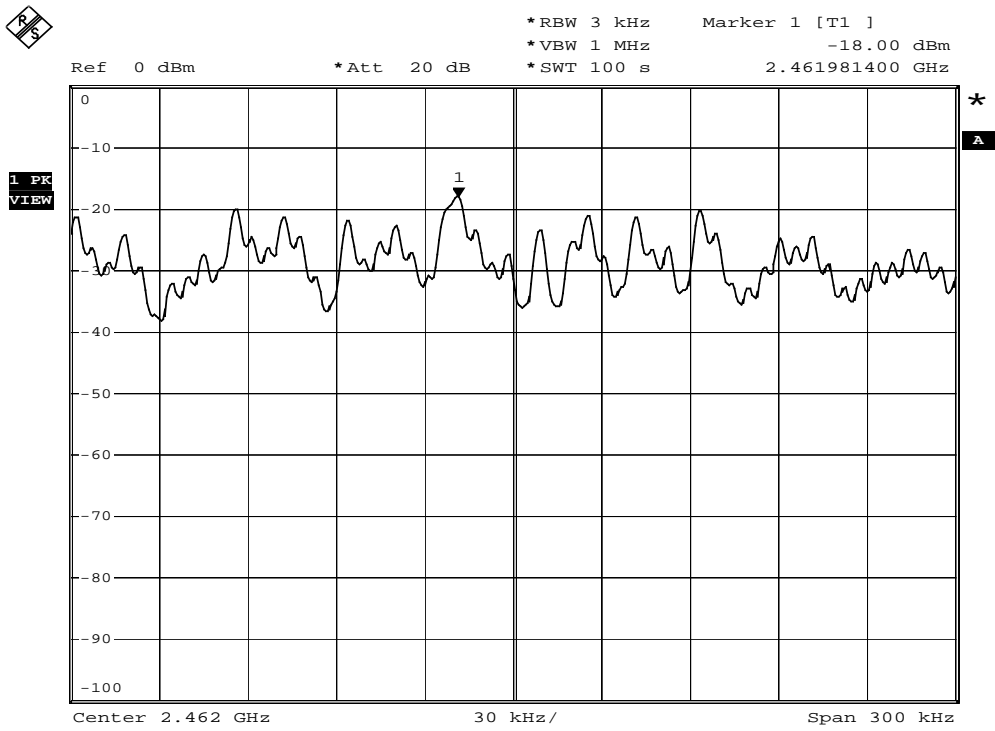
Date: 10.MAR.2005 12:52:18

Figure Channel 6:



Date: 10.MAR.2005 13:26:11

Figure Channel 11:

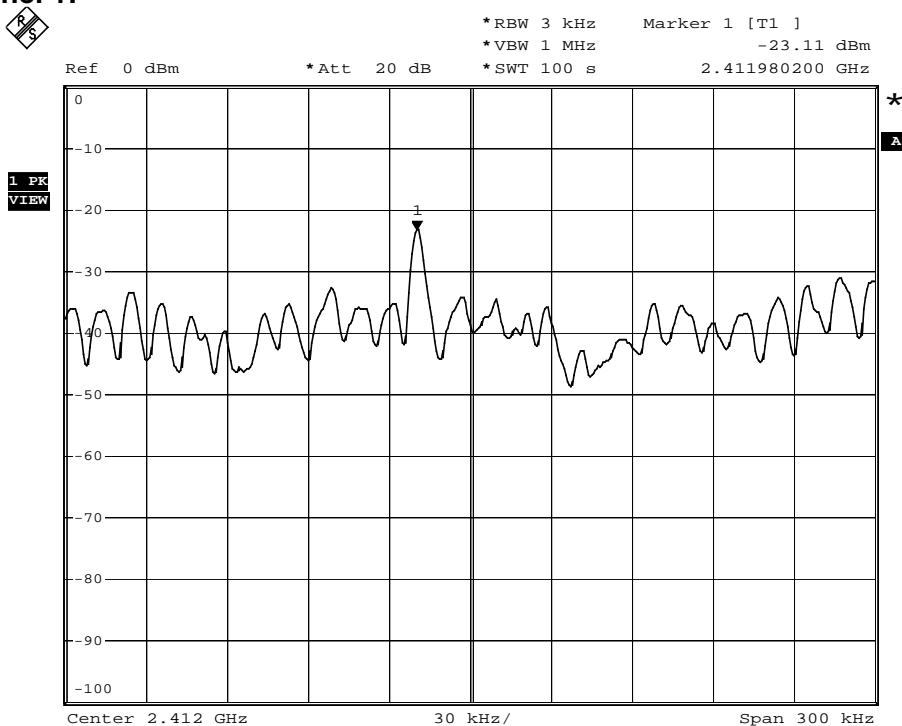


Date: 10.MAR.2005 13:06:27

Date of Test	March 10, 2005	Temperature	23.3 deg/C
EUT	Wireless LAN USB Adapter	Humidity	68%RH
Working Cond.	Mode 2 (802.11g)	Data Rate	54Mbps

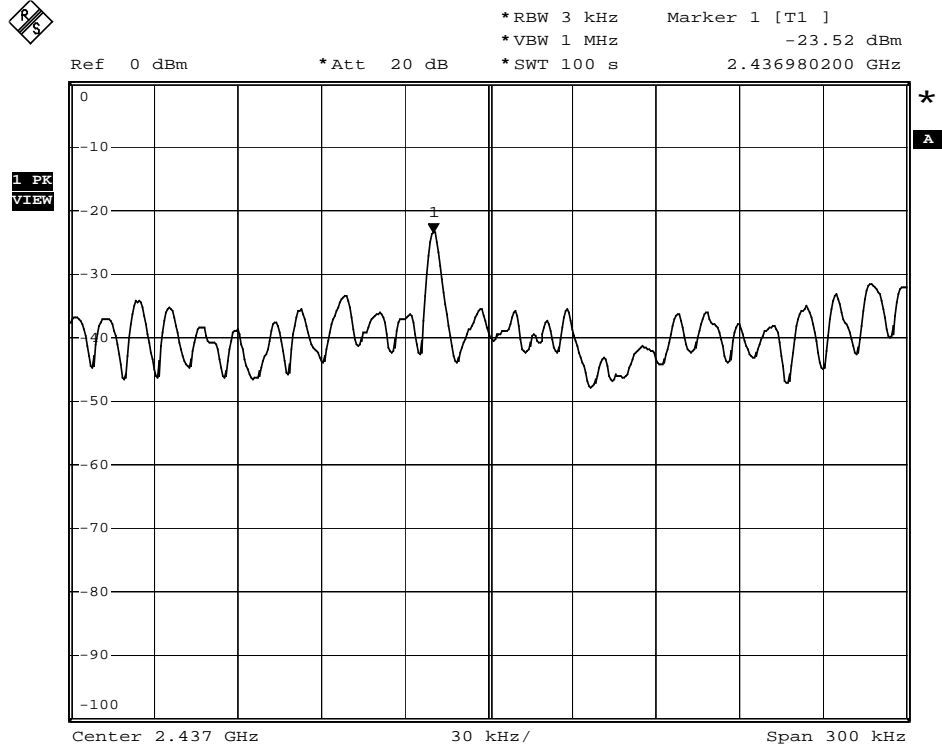
Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required limit (dBm)	Result
1	2412	-23.11	<8dBm	Pass
6	2437	-23.52	<8dBm	Pass
11	2462	-23.39	<8dBm	Pass

Figure Channel 1:



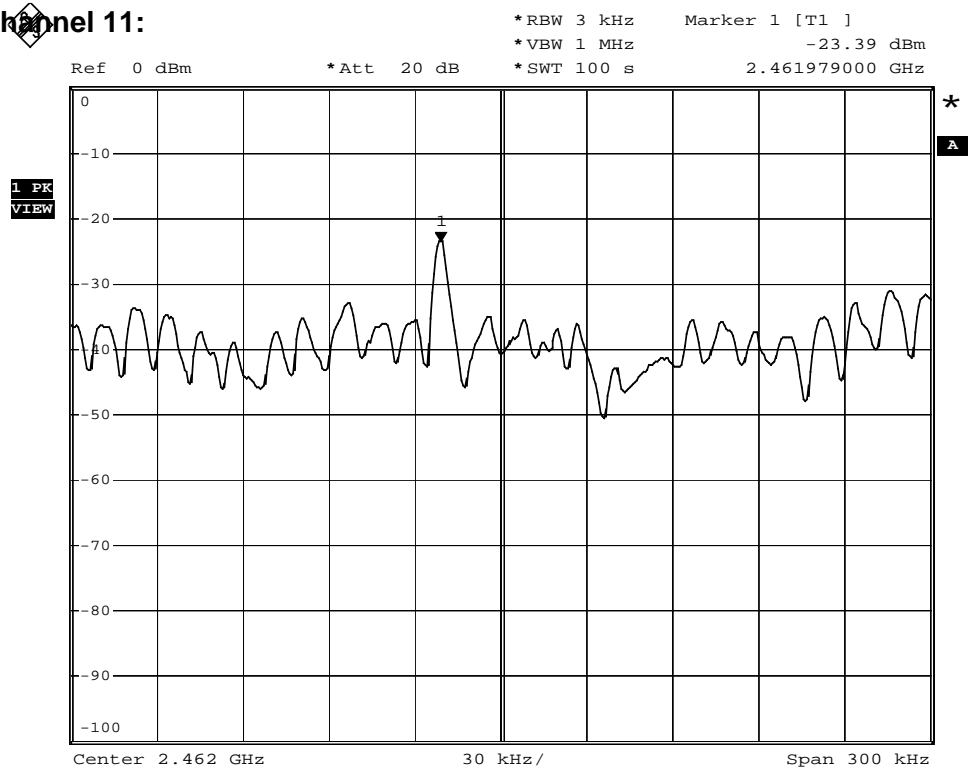
Date: 10.MAR.2005 13:12:36

Figure Channel 6:



Date: 10.MAR.2005 13:15:56

Figure Channel 11:



Date: 10.MAR.2005 13:02:31

## 9.PHOTOGRAPHS FOR TEST

### 9.1 TEST PHOTOGRAPHS FOR CONDUCTION





## 9.2 TEST PHOTOGRAPHS FOR RADIATION

### 30-1000MHz



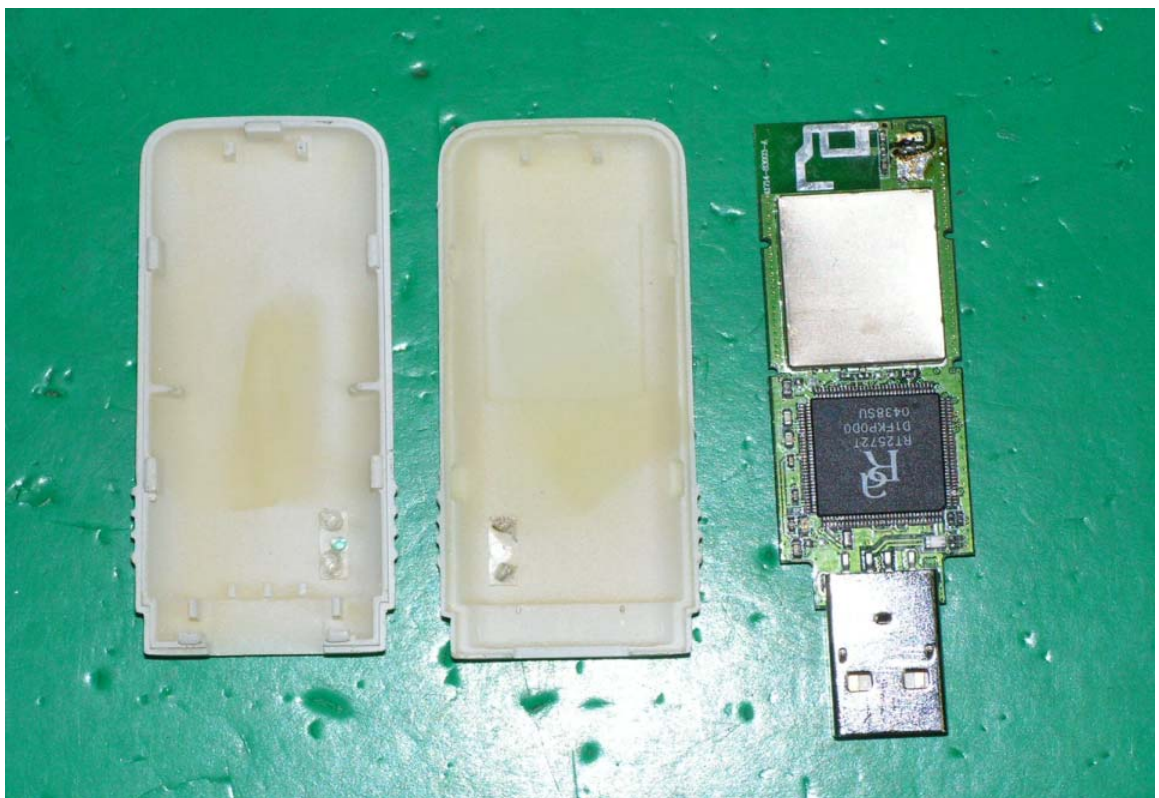


**Above 1GHz**



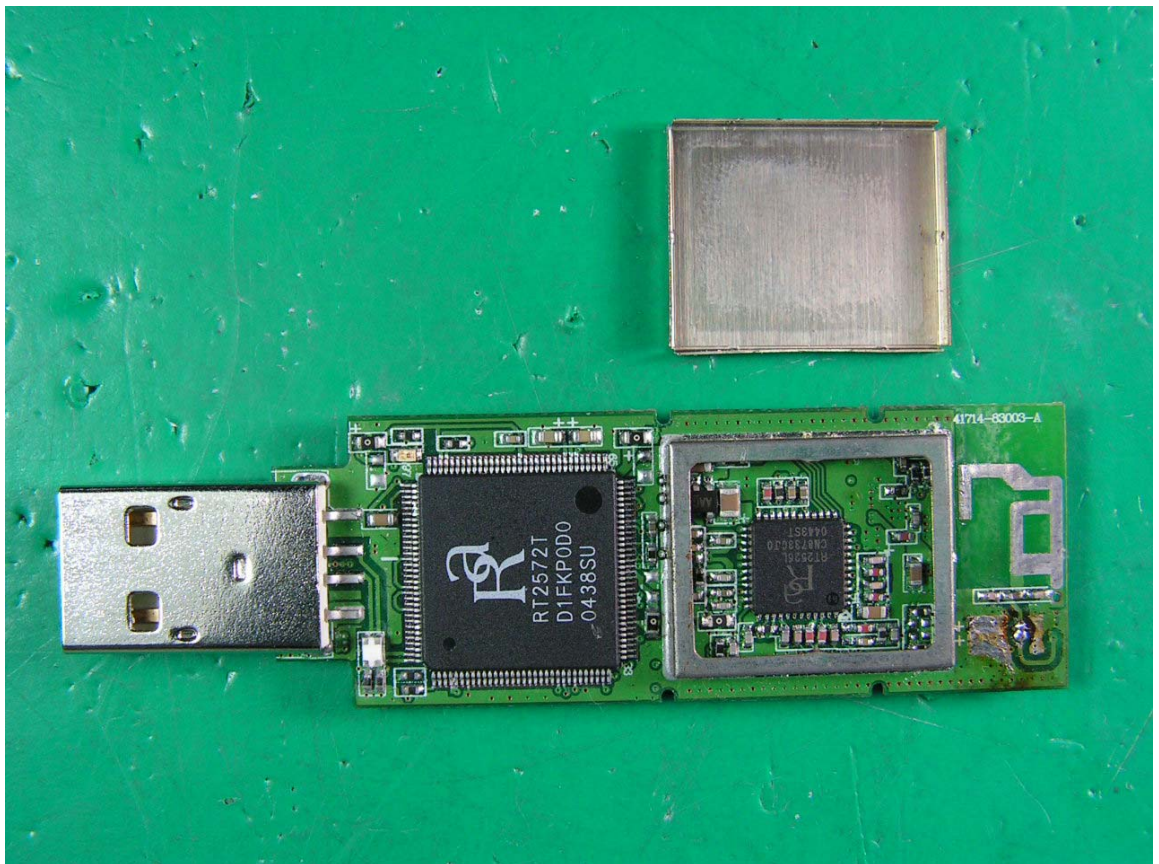
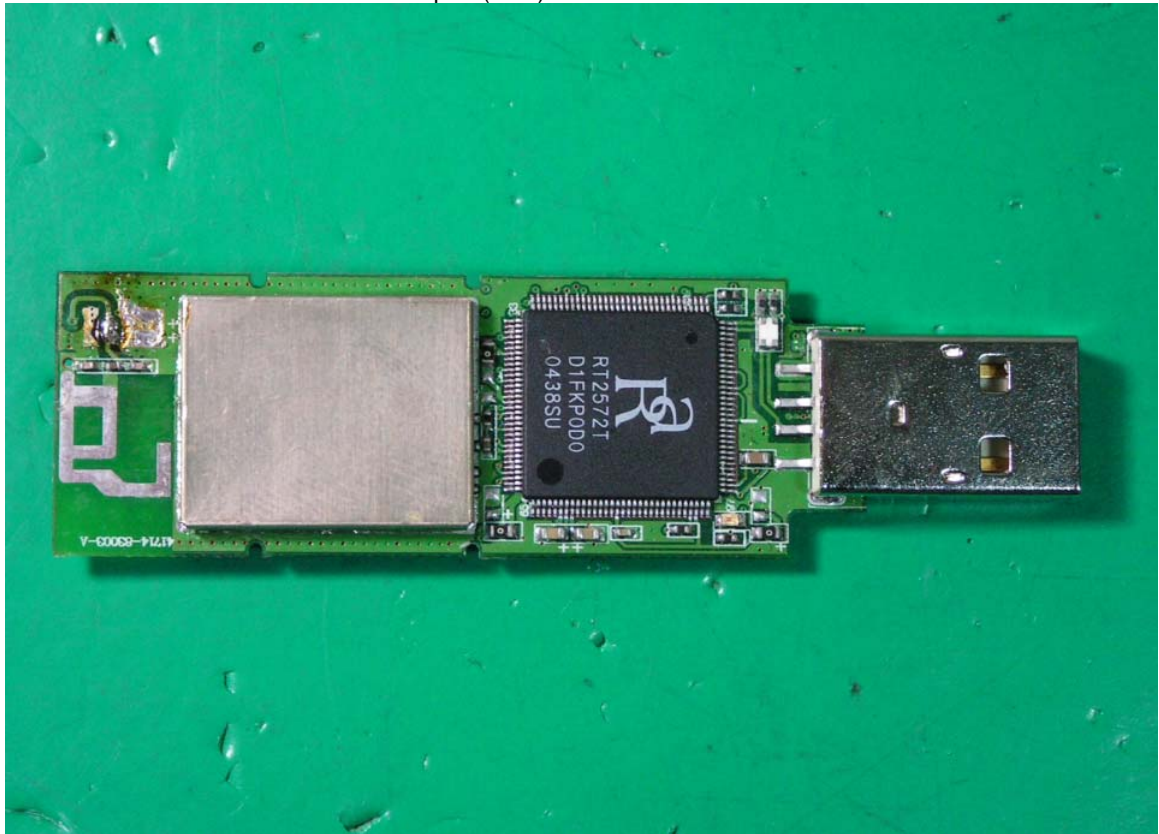
## 10. PHOTOGRAPHS FOR PRODUCT

1. Front View Of Wireless LAN USB Adapter (EUT)
2. Inner View Of Wireless LAN USB Adapter (EUT)



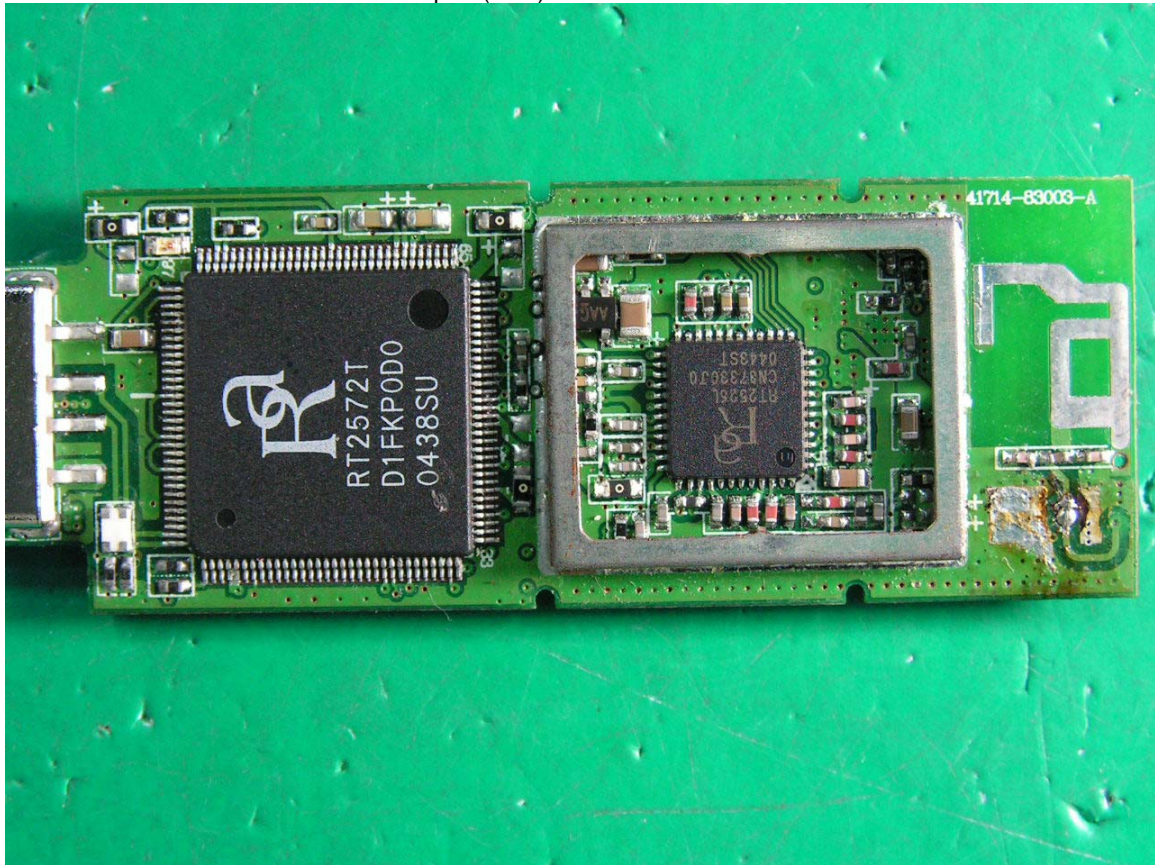


- 3. Inner View Of Wireless LAN USB Adapter (EUT)
- 4. Inner View Of Wireless LAN USB Adapter (EUT)



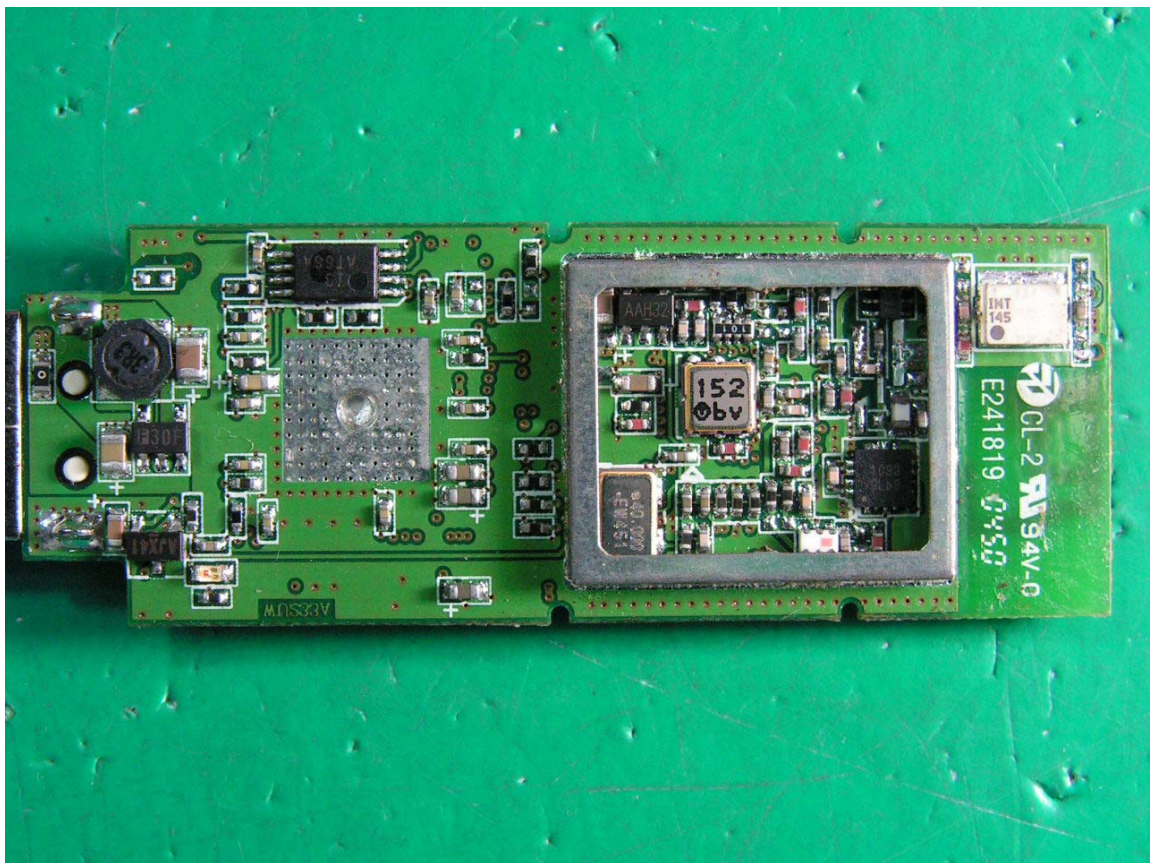
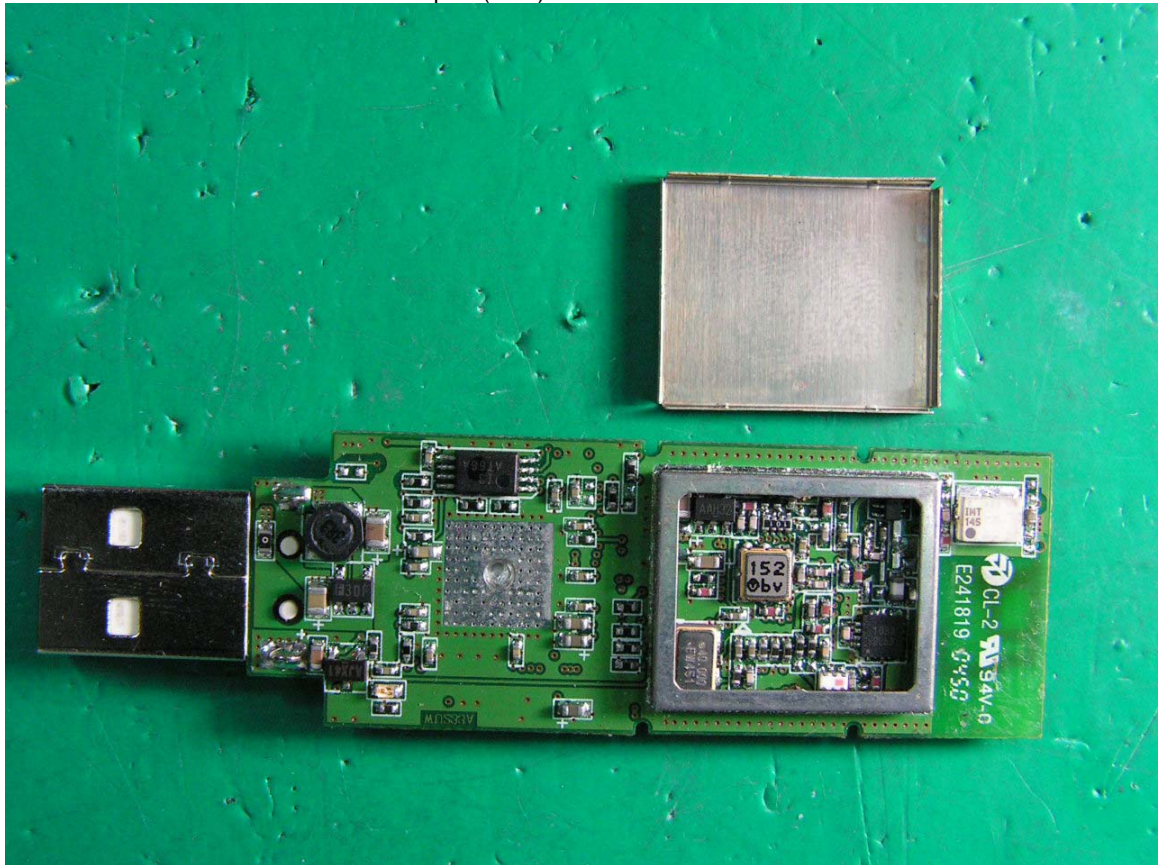


- 5. Inner View Of Wireless LAN USB Adapter (EUT)
- 6. Inner View Of Wireless LAN USB Adapter (EUT)





- 7. Inner View Of Wireless LAN USB Adapter (EUT)
- 8. Inner View Of Wireless LAN USB Adapter (EUT)



9. LABEL HERE



## 11. EMI REDUCTION METHOD DURING COMPLIANCE TESTING

No modification was made during testing.

# Appendix A

## Circuit (Block) Diagram

(Shall be added by Applicant)



# Appendix B

## User Manual

(Shall be added by Applicant)