



Test Report

Product Name : USB Dongle
Model No. : N747RX, N745RX
FCC ID. : O62N747RX

pplicant : Darfon Electronics Corp.
Address : 6, Feng-Shu Tsuen, Gueishan, Taoyuan 333, Taiwan, R.O.C.

Date of Receipt : Oct. 16, 2006
Issued Date : Oct. 19, 2006
Report No. : 06AL100-RF-US-P07V01

The Test Results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: Oct. 19, 2006

Report No.: 06AL100-RF-US-P07V01



Product Name : USB Dongle

Applicant : Darfon Electronics Corp.

Address : 6, Feng-Shu Tsuen, Gueishan, Taoyuan 333, Taiwan, R.O.C.

Manufacturer : Darfon Electronics (Suzhou) Co., Ltd.

Model No. : N747RX, N745RX

Rated Voltage : AC 120V/60Hz

Working Voltage : DC 5V (via USB)

Trade Name : Darfon for N747RX, BenQ for N745RX

Applicable Standard : FCC Part 15 Subpart C Paragraph 15.249: 2005

ANSI C63.4: 2003

Test Result : Complied



The Test Results relate only to the samples tested.

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

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

Documented By : Rita Huang
(Rita Huang)

Tested By : Tom Hsieh
(Tom Hsieh)

Approved By : George Chen
(George Chen)



TABLE OF CONTENTS

Description	Page
1. GENERAL INFORMATION	4
1.1. EUT Description	4
1.2. Operation Description	6
1.3. Tested System Details	6
1.4. Configuration of Tested System	6
1.5. EUT Exercise Software	7
1.6. Test Facility	8
2. Conducted Emission	9
2.1. Test Equipment	9
2.2. Test Setup	9
2.3. Limits	9
2.4. Test Procedure	10
2.5. Uncertainty	10
2.6. Test Result of Conducted Emission	11
3. Radiated Emission	13
3.1. Test Equipment	13
3.2. Test Setup	13
3.3. Limits	14
3.4. Test Procedure	15
3.5. Uncertainty	15
3.6. Test Result of Radiated Emission	16
4. Band Edge	21
4.1. Test Equipment	21
4.2. Test Setup	21
4.3. Limit	22
4.4. Test Procedure	22
4.5. Uncertainty	22
4.6. Test Result of Band Edge	23
5. EMI Reduction Method During Compliance Testing	30
Attachment 1: EUT Test Photographs	
Attachment 2: EUT Detailed Photographs	

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	: USB Dongle
Trade Name	: Darfon for N747RX, BenQ for N745RX
FCC ID.	: O62N747RX
Model No.	: N747RX, N745RX
Frequency Range	: 2404 – 2480MHz
Number of Channels	: 77
Channel Separation	: 1MHz
Channel Control	: Manual
Type of Modulation	: DSSS / GFSK
Antenna Type	: Printed on the PCB
Antenna Gain	: -0.03dBi

Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2404 MHz	Channel 21:	2424 MHz	Channel 41:	2444 MHz	Channel 61:	2464 MHz
Channel 02:	2405 MHz	Channel 22:	2425 MHz	Channel 42:	2445 MHz	Channel 62:	2465 MHz
Channel 03:	2406 MHz	Channel 23:	2426 MHz	Channel 43:	2446 MHz	Channel 63:	2466 MHz
Channel 04:	2407 MHz	Channel 24:	2427 MHz	Channel 44:	2447 MHz	Channel 64:	2467 MHz
Channel 05:	2408 MHz	Channel 25:	2428 MHz	Channel 45:	2448 MHz	Channel 65:	2468 MHz
Channel 06:	2409 MHz	Channel 26:	2429 MHz	Channel 46:	2449 MHz	Channel 66:	2469 MHz
Channel 07:	2410 MHz	Channel 27:	2430 MHz	Channel 47:	2450 MHz	Channel 67:	2470 MHz
Channel 08:	2411 MHz	Channel 28:	2431 MHz	Channel 48:	2451 MHz	Channel 68:	2471 MHz
Channel 09:	2412 MHz	Channel 29:	2432 MHz	Channel 49:	2452 MHz	Channel 69:	2472 MHz
Channel 10:	2413 MHz	Channel 30:	2433 MHz	Channel 50:	2453 MHz	Channel 70:	2473 MHz
Channel 11:	2414 MHz	Channel 31:	2434 MHz	Channel 51:	2454 MHz	Channel 71:	2474 MHz
Channel 12:	2415 MHz	Channel 32:	2435 MHz	Channel 52:	2455 MHz	Channel 72:	2475 MHz
Channel 13:	2416 MHz	Channel 33:	2436 MHz	Channel 53:	2456 MHz	Channel 73:	2476 MHz
Channel 14:	2417 MHz	Channel 34:	2437 MHz	Channel 54:	2457 MHz	Channel 74:	2477 MHz
Channel 15:	2418 MHz	Channel 35:	2438 MHz	Channel 55:	2458 MHz	Channel 75:	2478 MHz
Channel 16:	2419 MHz	Channel 36:	2439 MHz	Channel 56:	2459 MHz	Channel 76:	2479 MHz
Channel 17:	2420 MHz	Channel 37:	2440 MHz	Channel 57:	2460 MHz	Channel 77:	2480 MHz
Channel 18:	2421 MHz	Channel 38:	2441 MHz	Channel 58:	2461 MHz		
Channel 19:	2422 MHz	Channel 39:	2442 MHz	Channel 59:	2462 MHz		
Channel 20:	2423 MHz	Channel 40:	2443 MHz	Channel 60:	2463 MHz		

Note:

1. The EUT is a USB Dongle with a built-in 2.4GHz transceiver.
2. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. The difference between two models is shown as below:

Model Number	Trade Name
N747RX	Darfon
N745RX	BenQ

EMI Test Mode	Mode 1: Transmitter
---------------	---------------------

1.2. Operation Description

The EUT is a USB Dongle. The operation frequency is 2.404GHz to 2.480GHz. Seventy-seven manually selectable channels are built in the EUT. The signals modulated by DSSS / GFSK are transmitted from the printed antenna on the PCB of the EUT to a mouse. DC 5V (via USB) shall be provided for EUT operation.

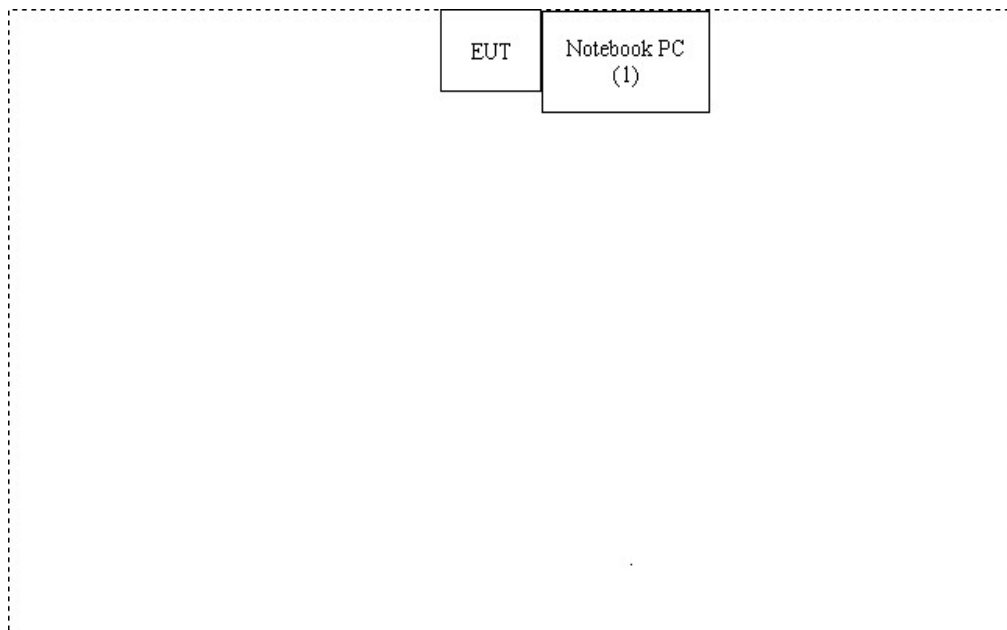
1.3. Tested System Details

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) Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m

Signal Cable Type	Signal cable Description
A. N/A	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Execute WUSB_Test.exe on the notebook.
- (3) Press “Channel +” or “Channel –” to select the test channel.
- (4) Press “Transmit Data” to start the continuous transmission.

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

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Reference 31040/SIT1300F2



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



2. Conducted Emission

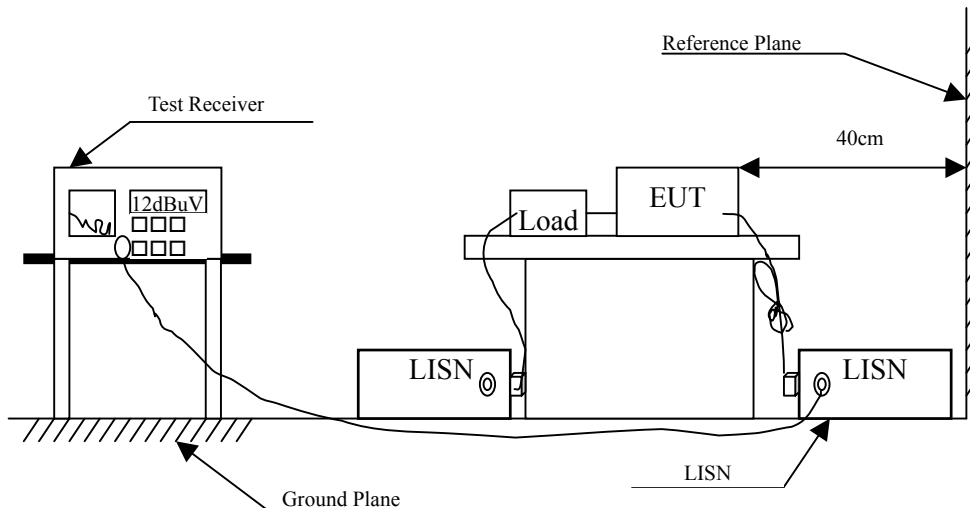
2.1. Test Equipment

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, 2006	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2006	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2006	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2006	
5	No.4 Shielded Room			N/A	

Note: All equipments are calibrated every one year.

2.2. Test Setup



2.3. Limits

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

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

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 : USB Dongle
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmitter (Channel 39)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
Quasi-Peak					
0.150	0.202	48.330	48.532	-17.468	66.000
0.255	0.205	37.870	38.075	-24.925	63.000
0.362	0.214	34.890	35.104	-24.839	59.943
0.733	0.229	34.510	34.739	-21.261	56.000
1.212	0.246	36.670	36.916	-19.084	56.000
1.575	0.260	35.250	35.510	-20.490	56.000
Average					
0.150	0.202	34.320	34.522	-21.478	56.000
0.255	0.205	32.900	33.105	-19.895	53.000
0.362	0.214	30.030	30.244	-19.699	49.943
0.733	0.229	31.580	31.809	-14.191	46.000
1.212	0.246	33.700	33.946	-12.054	46.000
1.575	0.260	29.330	29.590	-16.410	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 : USB Dongle
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmitter(Channel 39)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level		
	dB	dBuV	dBuV	dB	dBuV
Quasi-Peak					
0.158	0.202	41.550	41.752	-24.019	65.771
0.255	0.203	39.270	39.473	-23.527	63.000
0.362	0.214	34.670	34.884	-25.059	59.943
0.477	0.216	33.830	34.046	-22.611	56.657
0.728	0.229	34.830	35.059	-20.941	56.000
1.206	0.246	36.070	36.316	-19.684	56.000
Average					
0.158	0.202	31.580	31.782	-23.989	55.771
0.255	0.203	33.520	33.723	-19.277	53.000
0.362	0.214	29.180	29.394	-20.549	49.943
0.477	0.216	31.870	32.086	-14.571	46.657
0.728	0.229	29.230	29.459	-16.541	46.000
1.206	0.246	30.070	30.316	-15.684	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. Radiated Emission

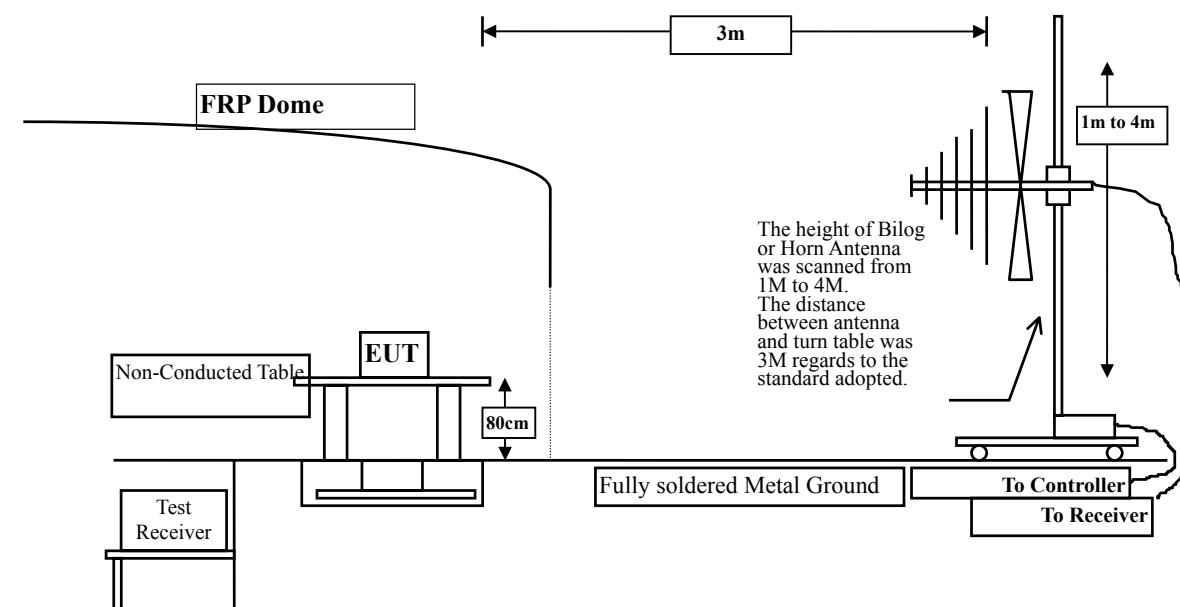
3.1. Test Equipment

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

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2006
	Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2006
	Pre-Amplifier	HP	8447D/3307A01812	May, 2006
	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2006
	Horn Antenna	EM	EM6917 / 103325	May, 2006
Site # 2	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2006
	Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2006
	Pre-Amplifier	HP	8447D/3307A01814	May, 2006
	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2006
	Horn Antenna	EM	EM6917 / 103325	May, 2006
Site # 3	X Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2006
	X Test Receiver	R & S	ESCS 30 / 825442/14	May, 2006
	X Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2006
	X Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2006
	X Horn Antenna	ETS	3115 / 0005-6160	July, 2006
	X Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2006

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

3.2. Test Setup



3.3. Limits

➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart B Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks :

1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

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

Remarks :

1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

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: 2003 on radiated measurement.

Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120kHz. Radiated was performed at an antenna to EUT distance of 3 meters.

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

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : USB Dongle
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmitter

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
Channel 01					
2404.000	-2.210	92.213	90.003	-23.997	114.000
Channel 39					
2442.000	-2.066	90.305	88.239	-25.761	114.000
Channel 77					
2480.000	-1.909	89.134	87.224	-26.776	114.000
Average Detector					
Channel 01					
--					94.000
Channel 39					
--					94.000
Channel 77					
--					94.000
Vertical					
Peak Detector:					
Channel 01					
2404.000	-2.210	94.683	92.473	-21.527	114.000
Channel 39					
2442.000	-2.066	93.738	91.672	-22.328	114.000
Channel 77					
2480.000	-1.909	95.148	93.238	-20.762	114.000
Average Detector					
Channel 01					
--					94.000
Channel 39					
--					94.000
Channel 77					
--					94.000

Note:

1. Emission Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : USB Dongle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2404MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Average Limit dBuV/m
Horizontal					
Peak Detector:					
4808.000	3.746	44.918	48.664	-25.306	74.000
7212.000	10.787	43.620	54.407	-19.563	74.000
9616.000	14.858	37.381	52.239	-21.731	74.000
Average Detector					
7212.000	10.787	38.088	48.875	-5.095	54.000
Vertical					
Peak Detector:					
4808.000	3.746	40.972	44.718	-29.252	74.000
7212.000	10.787	35.640	46.427	-27.543	74.000
9616.000	14.858	34.843	49.701	-24.269	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : USB Dongle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2442MHz)

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

Horizontal

Peak Detector:

4884.000	3.937	37.331	41.268	-32.702	74.000
7326.000	11.645	35.827	47.472	-26.498	74.000
9768.000	13.684	34.809	48.493	-25.477	74.000

Average Detector

--

Vertical

Peak Detector:

4884.000	3.937	39.746	43.683	-30.287	74.000
7326.000	11.645	37.063	48.708	-25.262	74.000
9768.000	13.684	34.659	48.343	-25.627	74.000

Average Detector

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz °
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : USB Dongle
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2480MHz)

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

Horizontal

Peak Detector:

4960.000	4.151	36.361	40.511	-33.459	74.000
7440.000	12.067	36.137	48.203	-25.767	74.000
9920.000	13.472	36.199	49.670	-24.300	74.000

Average Detector

--

Vertical

Peak Detector:

4960.000	4.151	38.890	43.040	-30.930	74.000
7440.000	12.067	37.499	49.565	-24.405	74.000
9920.000	13.472	36.246	49.717	-24.253	74.000

Average Detector

--

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz °
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : USB Dongle
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2442MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
260.100	14.485	9.990	24.474	-21.526	46.000
284.200	13.601	11.700	25.301	-20.699	46.000
330.100	14.124	12.800	26.924	-19.076	46.000
500.600	18.367	15.100	33.468	-12.532	46.000
810.100	21.602	9.700	31.301	-14.699	46.000
960.100	22.907	13.100	36.007	-17.993	54.000
Vertical					
300.100	13.711	12.700	26.411	-19.589	46.000
355.100	15.717	11.300	27.017	-18.983	46.000
400.100	18.153	17.400	35.553	-10.447	46.000
524.100	18.826	14.100	32.926	-13.074	46.000
530.100	19.012	11.270	30.282	-15.718	46.000
900.100	23.649	6.200	29.849	-16.151	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

4. Band Edge

4.1. Test Equipment

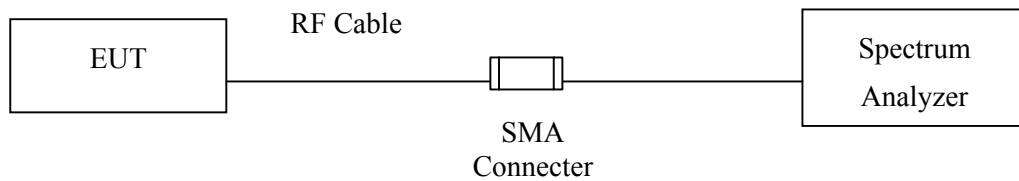
The following test equipments are used during the band edge tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2006
X Test Receiver	R & S	ESCS 30 / 825442/14	May, 2006
X Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2006
X Pre-Amplifier	HP	8447D/3307A01812	May, 2006
X Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2006
X Horn Antenna	EM	EM6917 / 103325	May, 2006

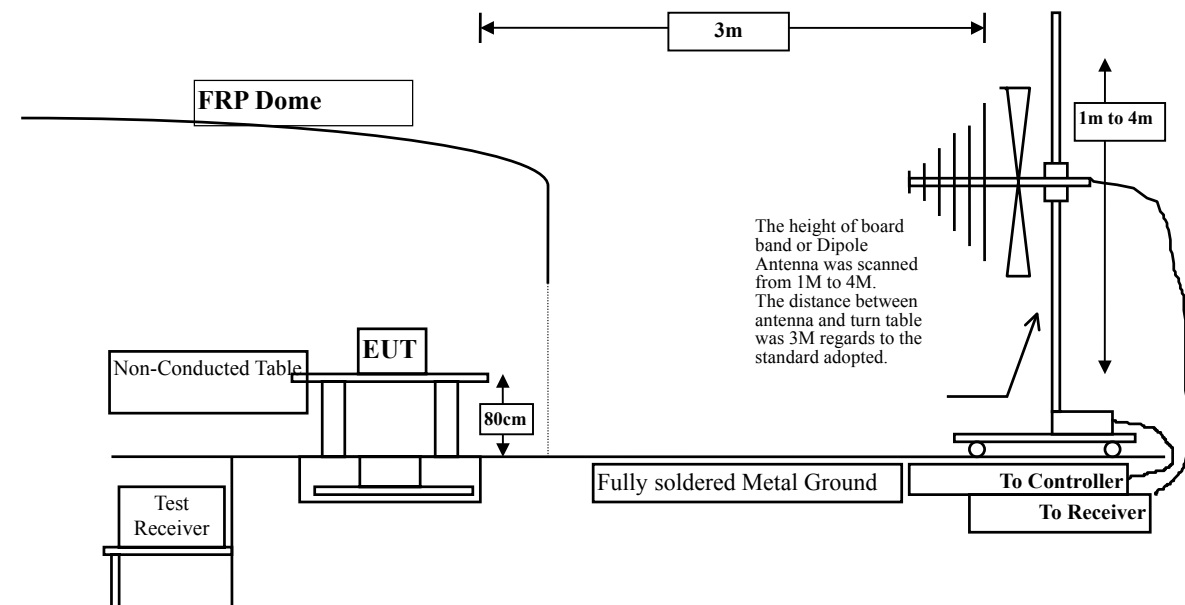
Note: 1. All equipments are calibrated every one year.
2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



4.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. 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 C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz, above 1GHz are 1 MHz.

4.5. Uncertainty

Conducted is ± 1 MHz

Radiated is ± 3.9 dB.

4.6. Test Result of Band Edge

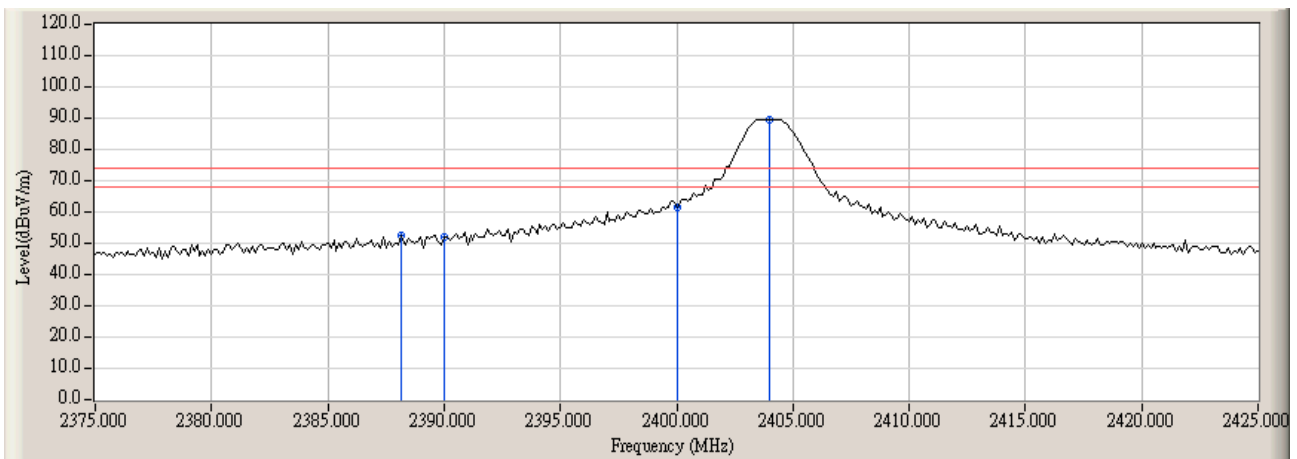
Product : USB Dongle
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2404MHz)

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)	2388.125	-2.263	54.653	52.390	74.00	54.00	Pass
01 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 01:

Horizontal



Note:

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

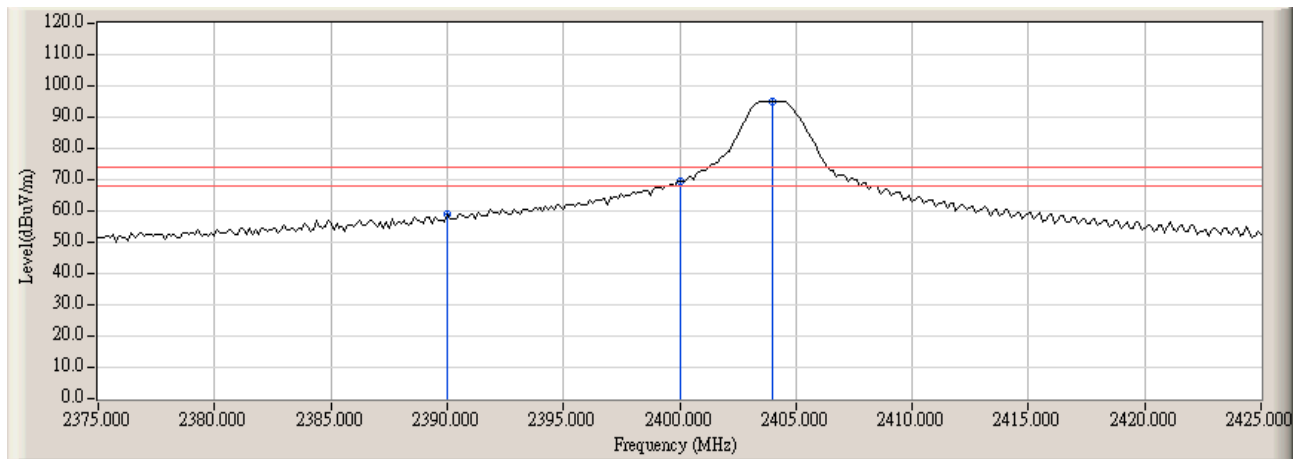
Product : USB Dongle
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2404MHz)

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)	2390.000	-2.257	61.415	59.158	74.00	54.00	Pass
01(Average)	2390.000	-2.257	37.970	35.713	74.00	54.00	Pass

Figure Channel 01:

Vertical (Peak)

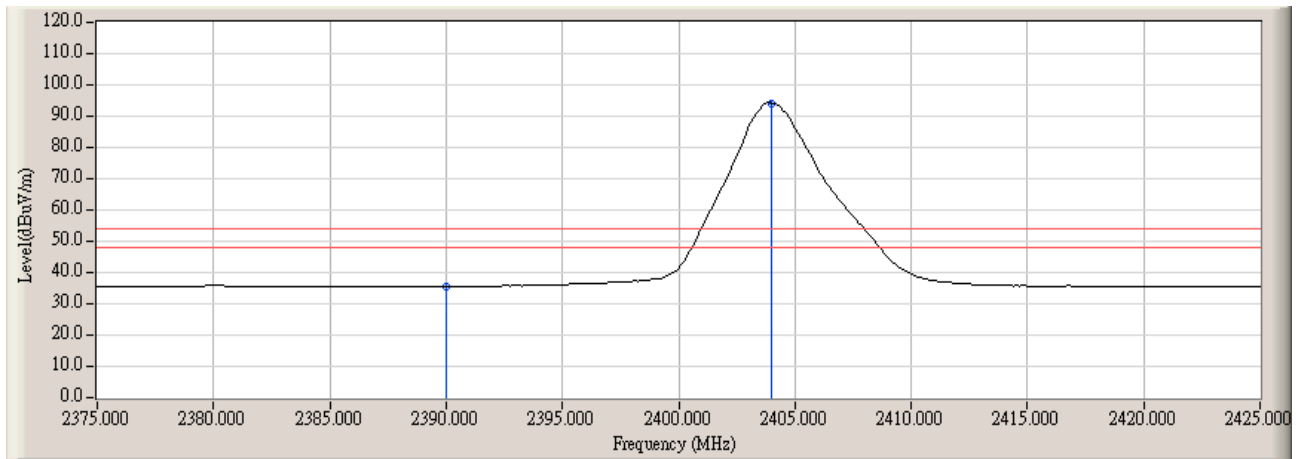


Note:

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

Figure Channel 01:

Vertical (Average)



Note:

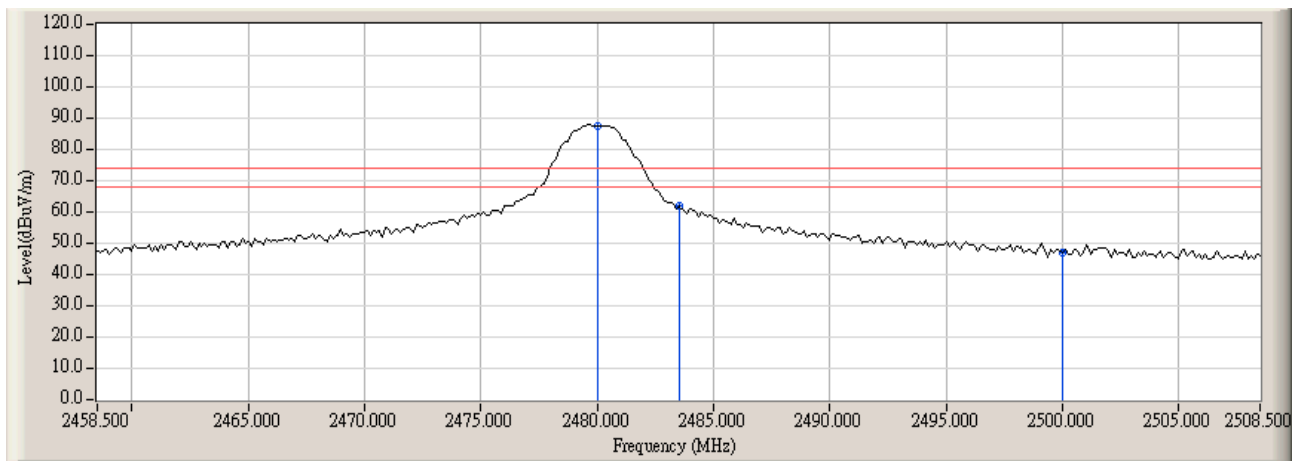
RBW=1MHz, VBW=300Hz, Sweep Time=500ms

Product : USB Dongle
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2480MHz)

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
77(Peak)	2483.500	-1.896	63.706	61.811	74.00	54.00	Pass
77(Average)	2483.500	-1.896	45.926	44.031	74.00	54.00	Pass

Figure Channel 77: Horizontal (Peak)

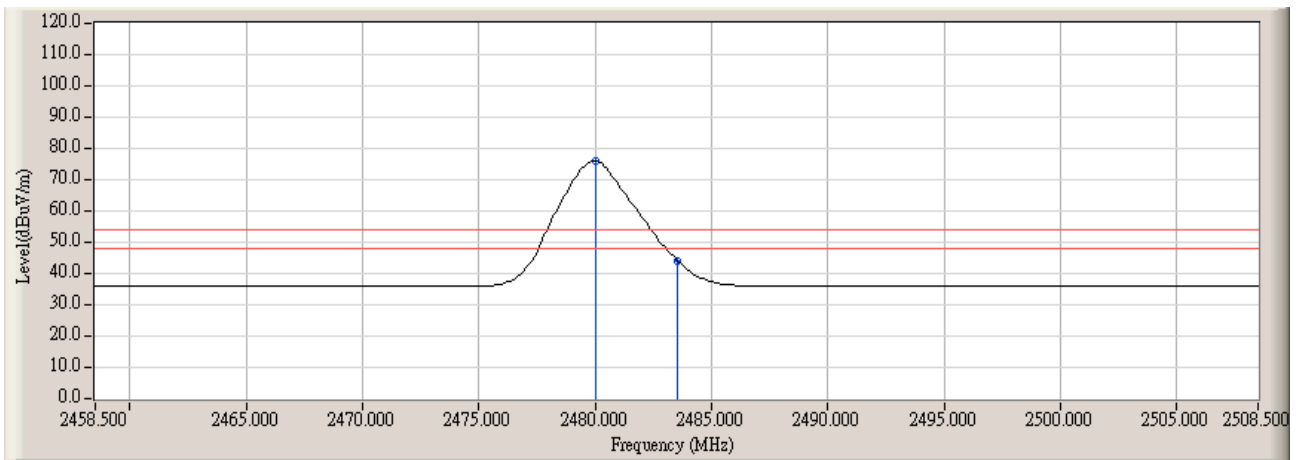


Note:

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

Figure Channel 77:

Horizontal (Average)



Note:

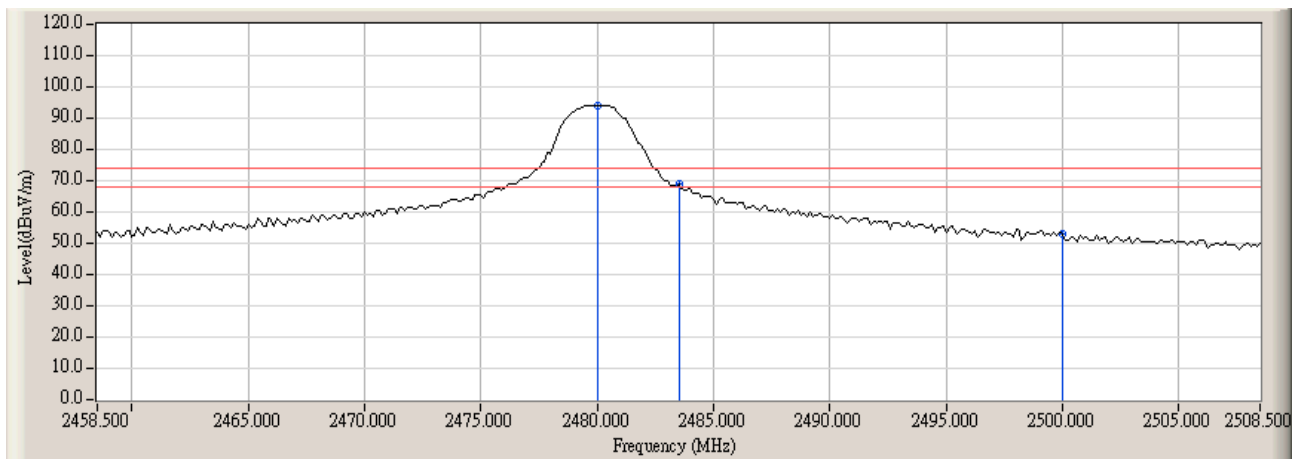
RBW=1MHz, VBW=300Hz, Sweep Time=500ms

Product : USB Dongle
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter 2480MHz

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
77(Peak)	2483.500	-1.896	70.647	68.752	74.00	54.00	Pass
77(Average)	2483.500	-1.896	51.788	49.893	74.00	54.00	Pass

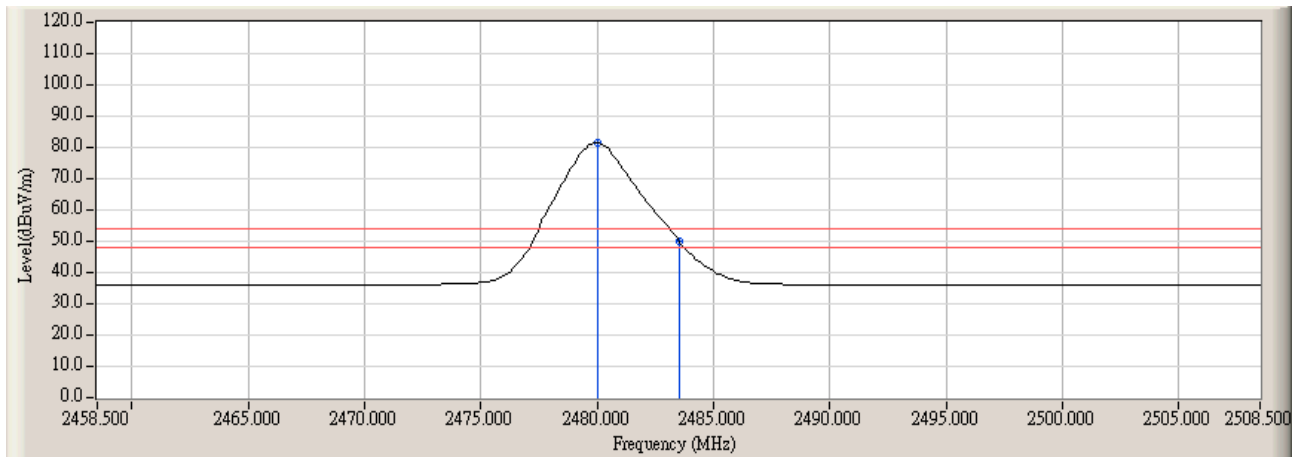
Figure Channel 77: Vertical (Peak)



Note:
 RBW=1MHz, VBW=1MHz, Sweep Time=500ms

Figure Channel 77:

Vertical (Average)



Note:

RBW=1MHz, VBW=300Hz, Sweep Time=500ms

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

5. EMI Reduction Method During Compliance Testing

No modification was made during testing.