

FCC Part15 Subpart C Test Report

Product Name : Notebook
Model No. : NS20, NS24
FCC ID : WXC-NOTEBOOKNS

Applicant : FOXCONN INTERNATIONAL INC

Address : 2 TZU YU ST TU-CHENG, TAIPEI HSIEN 236 TAIWAN

Date of Receipt : Nov. 18, 2009
Test Date : Nov. 26, 2009 ~ Nov. 30, 2009
Issued Date : Dec. 07, 2009
Report No. : 09BS078R-RF-US-P05V01
Report Version : V2.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

Issued Date : Dec. 07, 2009

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Quietek

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Applicant : FOXCONN INTERNATIONAL INC
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Manufacturer : FOXCONN INTERNATIONAL INC
Address : 2 TZU YU ST TU-CHENG, TAIPEI HSIEN 236 TAIWAN
Model No. : NS20, NS24
FCC ID : WXC-NOTEBOOKNS
EUT Voltage : 19Vdc
Trade Name : Foxconn
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2008
ANSI C63.4: 2003
Test Result : Complied
Performed Location : SuZhou EMC laboratory
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FCC Registration Number: 800392

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Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

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

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
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1. General Information

1.1. EUT Description

Product Name	Notebook
Trade Name	Foxconn
Model No.	NS20, NS24
EUT Voltage	19Vdc
Frequency Range	802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Tech. of Modulation	802.11b: DSSS 802.11g/n: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 270 Mbps
Channel Control	Auto
Antenna Delivery	1*Tx + 2*Rx
Antenna Type	PIFA
Peak Antenna Gain	1.42dBi for 2.4GHz band
AC Adapter	Manufacturer: Chicony M/N: CPA09-002A Input: 100-240V~50/60Hz 2.5A Output: 19Vdc, 2.1A

Note: NS20, NS24 two models is only a slight difference in the appearance.

Channel List

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

For 802.11b/g/n Antenna List

Antenna	Manufacturer	Model No.	Antenna Gain(dBi)
Main Antenna	Foxconn	WDAN-1BSZV002-1F	1.08dBi
AUX Antenna	Foxconn	WDAN-1BSZV001-1F	1.42dBi

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g
Mode 3: Transmit by 802.11 n (20MHz)
Mode 4: Transmit by 802.11n (40MHz)

Note:

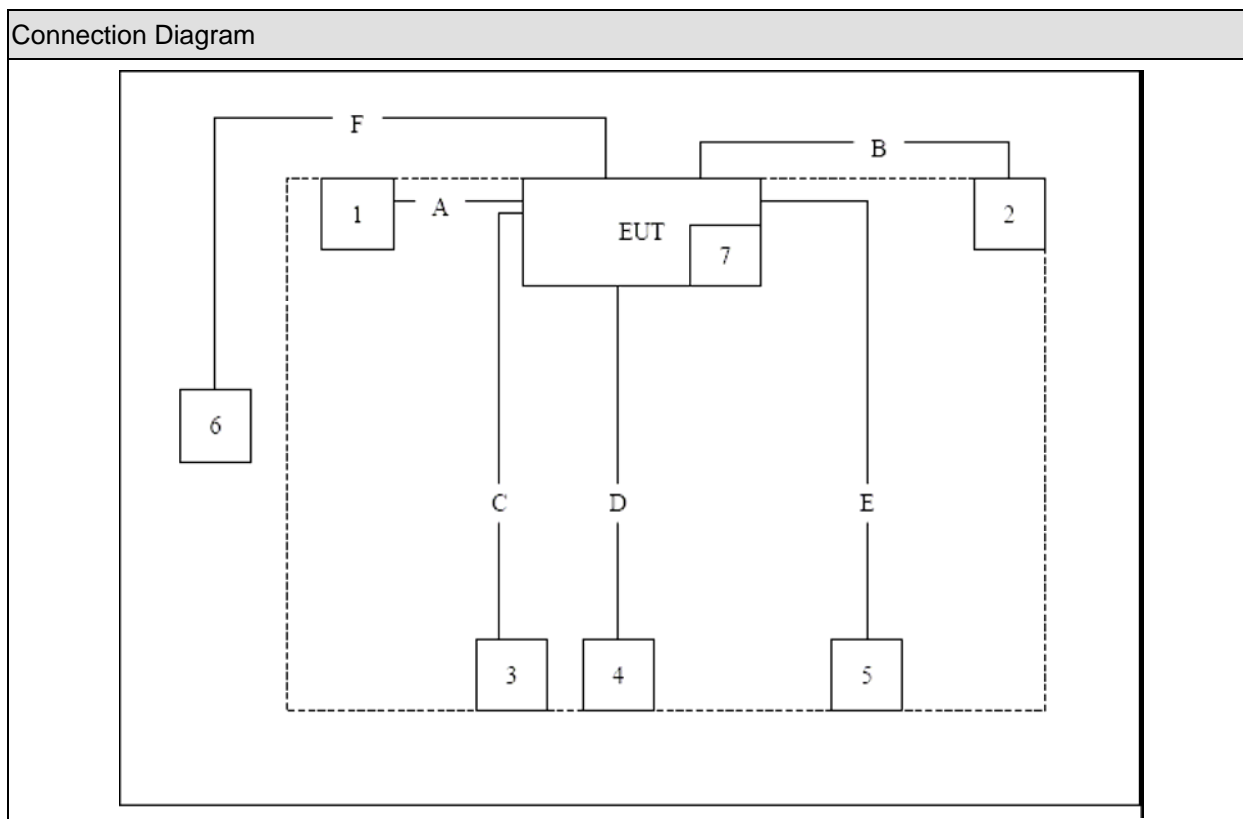
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 09B361R-ITUSP01V02.

1.3. Tested System Details

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

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 LCD Monitor	Lenovo	L2240pwD	9M0337992301042	Non-Shielded, 1.8m
2 Printer	EPSON	B241A	7094256	R33126
3 Microphone & Earphone	SOMIC	SM-510	N/A	N/A
4 iPod	Apple	A1199	6U715UPHVQ5	R33057
5 USB Mouse	DELL	MO56UOA	GOQ02414	R41108
6 Notebook	DELL	PP19L	JH097 A01	Power by adapter
7 SD Card	Kingston	1GB	N/A	N/A

1.4. Configuration of Tested System



Signal Cable Type		Signal cable Description
A	VGA Cable	Shielded, 1.8m, with two ferrite core bonded
B	USB Cable	Shielded, 2.1m, with two ferrite core bonded
C	Earphone & Microphone Cable	Non-Shielded, 2.1m
D	Ipod Cable	Shielded, 1.0m
E	Dell USB Mouse Cable	Shielded, 1.8m
F	LAN Cable	Non-Shielded, >10m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above
2	Turn on the power of equipment.
3	Run control software "ART" provided by applicant.
4	Select test channel and test mode for test.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.209	Yes	No
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2008 15.247(d)	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 15.215(c)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(a)(2)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(b)(3)	Yes	No
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2008 Section 15.247(e)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

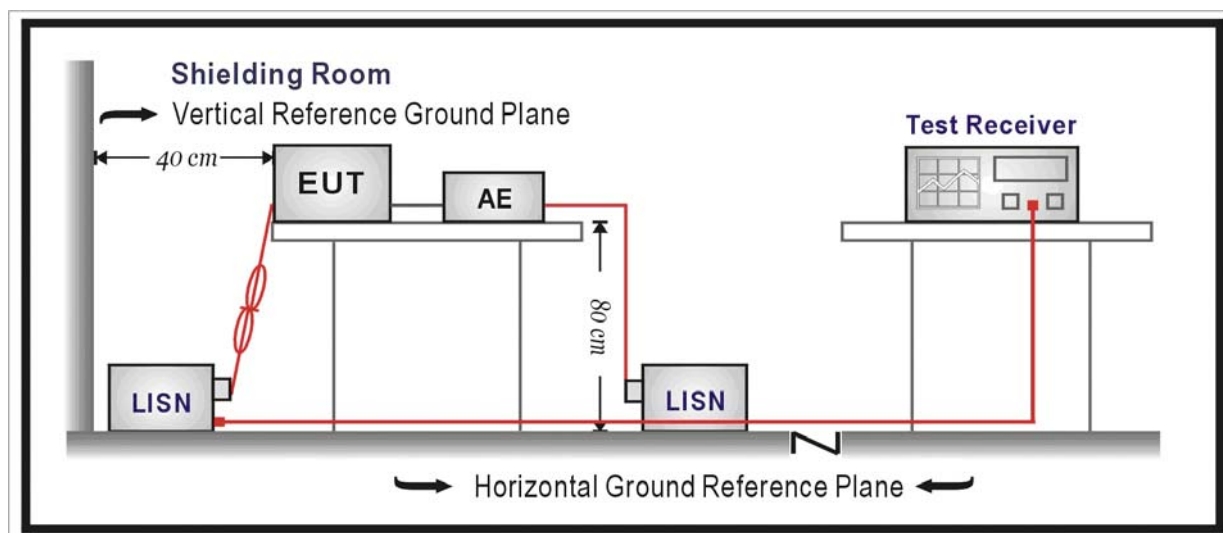
3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
EMI Test Receiver	R&S	ESCI	100726	2009/02/07
Two-Line V-Network	R&S	ENV216	100013	2009/11/15
Two-Line V-Network	R&S	ENV216	100014	2009/11/15
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2009/11/25
50ohm Termination	SHX	TF2	07081401	2009/10/19
Coaxial Cable	Luthi	RG214	519358	2009/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2009/03/31

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

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

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

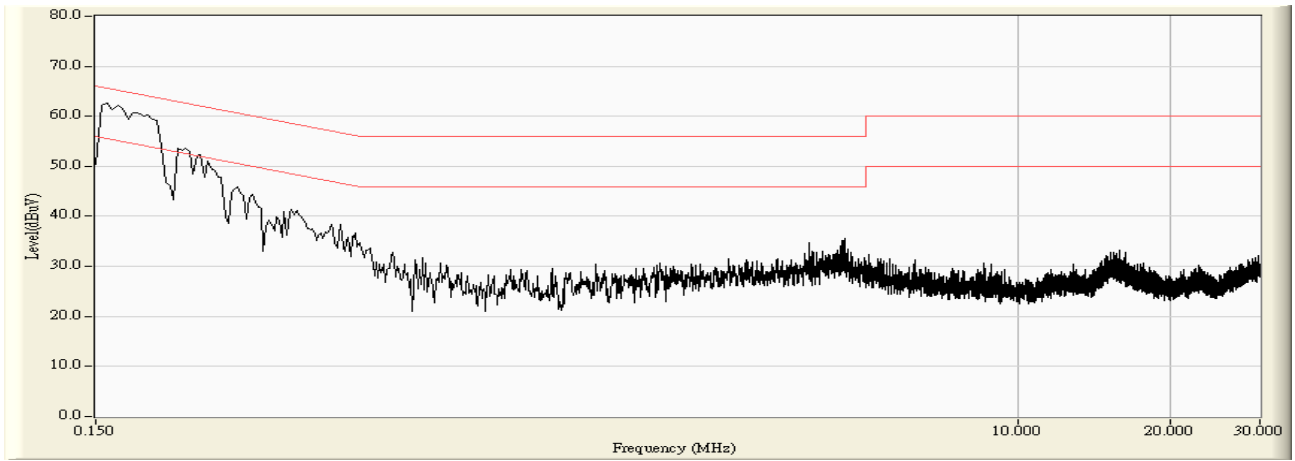
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.5. Uncertainty

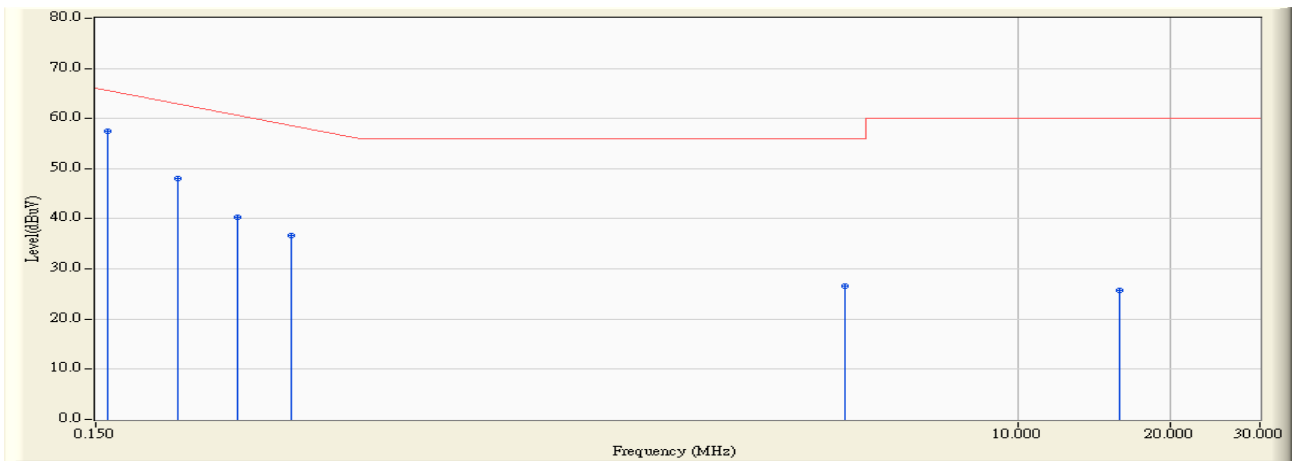
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:17
Limit : FCC_SPartC_15.207_00M_QP	Margin : 10
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1

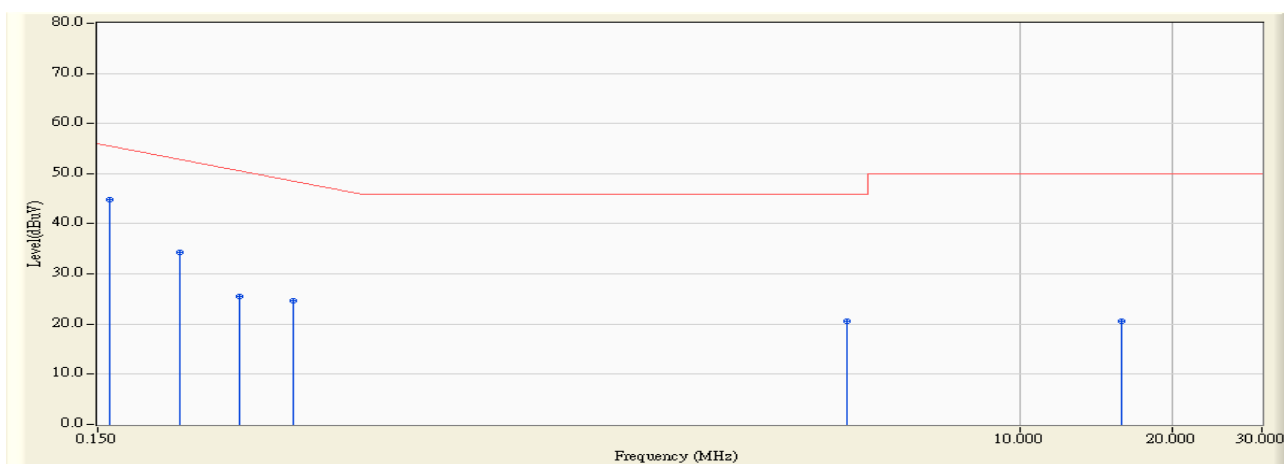


Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:19
Limit : FCC_SPartC_15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1



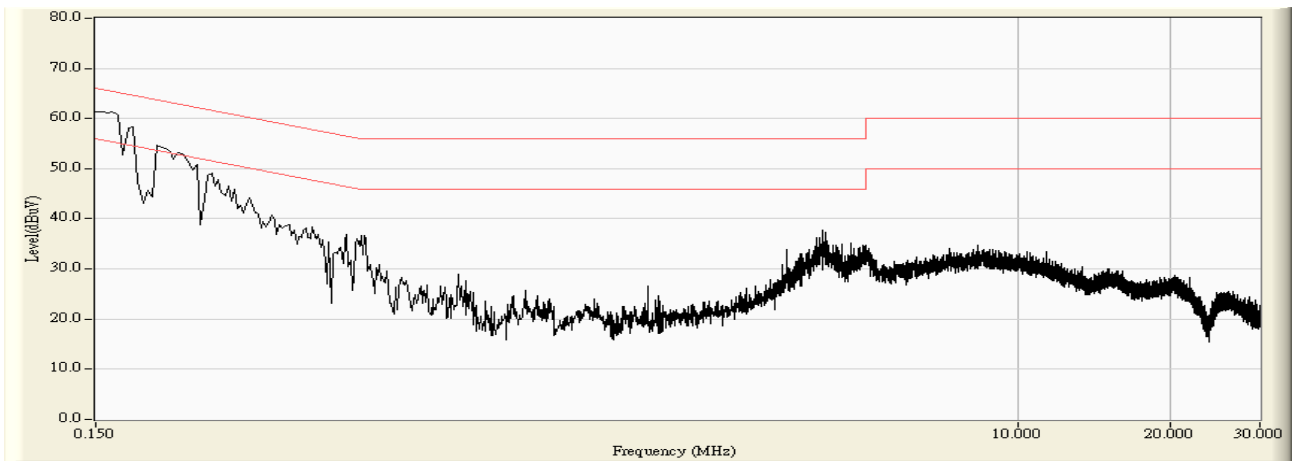
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.158	10.214	47.200	57.414	-8.154	65.568	QUASIPeAK
2		0.218	9.446	38.600	48.046	-14.849	62.895	QUASIPeAK
3		0.286	9.491	30.900	40.390	-20.250	60.640	QUASIPeAK
4		0.366	9.548	27.200	36.748	-21.843	58.591	QUASIPeAK
5		4.542	9.850	16.800	26.650	-29.350	56.000	QUASIPeAK
6		15.790	10.040	15.700	25.740	-34.260	60.000	QUASIPeAK

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:19
Limit : FCC_SPartC_15.207_00M_AV	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1

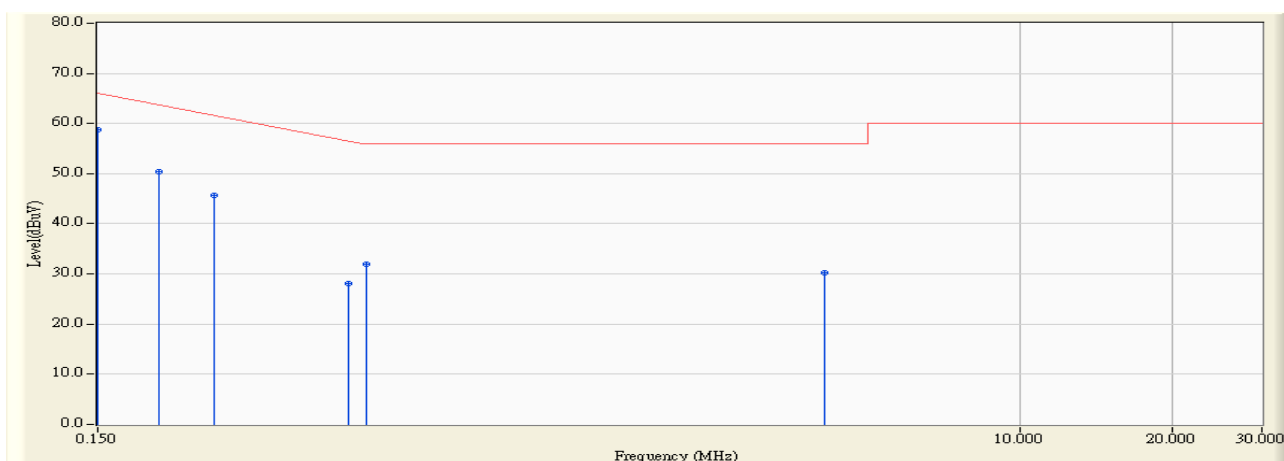


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.158	10.214	34.700	44.914	-10.654	55.568	AVERAGE
2		0.218	9.446	24.800	34.246	-18.649	52.895	AVERAGE
3		0.286	9.491	16.100	25.590	-25.050	50.640	AVERAGE
4		0.366	9.548	15.100	24.648	-23.943	48.591	AVERAGE
5		4.542	9.850	10.700	20.550	-25.450	46.000	AVERAGE
6		15.790	10.040	10.600	20.640	-29.360	50.000	AVERAGE

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:21
Limit : FCC_SPartC_15.207_00M_QP	Margin : 10
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1

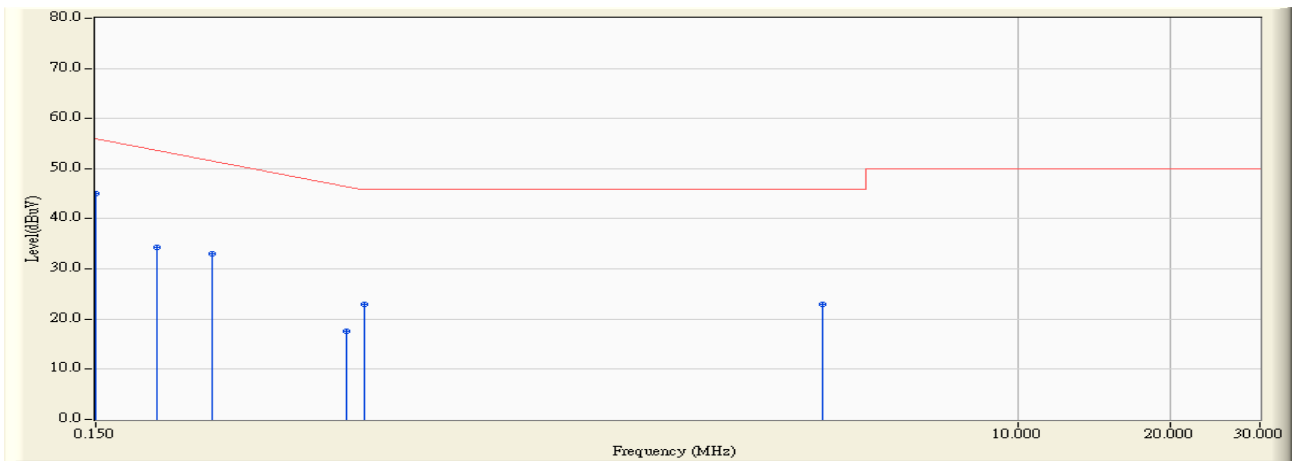


Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:22
Limit : FCC_SPartC_15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	10.006	48.800	58.806	-7.194	66.000	QUASIPeAK
2		0.198	9.664	40.700	50.364	-13.330	63.694	QUASIPeAK
3		0.254	9.582	36.200	45.782	-15.843	61.625	QUASIPeAK
4		0.470	9.620	18.400	28.020	-28.494	56.514	QUASIPeAK
5		0.510	9.627	22.400	32.027	-23.973	56.000	QUASIPeAK
6		4.110	9.710	20.600	30.310	-25.690	56.000	QUASIPeAK

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/12/01 - 09:22
Limit : FCC_SPartC_15.207_00M_AV	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	10.006	35.100	45.106	-10.894	56.000	AVERAGE
2		0.198	9.664	24.700	34.364	-19.330	53.694	AVERAGE
3		0.254	9.582	23.400	32.982	-18.643	51.625	AVERAGE
4		0.470	9.620	7.900	17.520	-28.994	46.514	AVERAGE
5		0.510	9.627	13.300	22.927	-23.073	46.000	AVERAGE
6		4.110	9.710	13.200	22.910	-23.090	46.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

4. Radiated Emission

4.1. Test Equipment

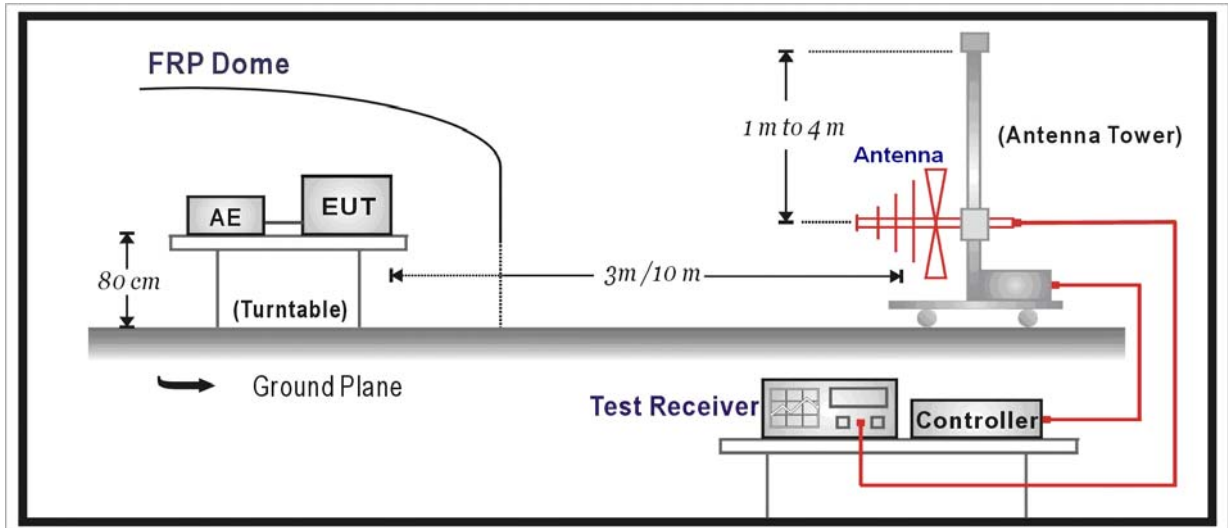
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2009.04.23
EMI Test Receiver	R&S	ESCI	100906	2009.02.16
Preamplifier	Quietek	AP-180C	CHM-0602013	2009.05.25
Preamplifier	Quietek	AP-040G	CHM-0906001	2009.06.18
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2009.02.25
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2009.06.11
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2009.03.03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2009.03.03
Lowpass Filter	Wainwright	WLKS4500-9SS	SN2	2009.03.03
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2009.03.31

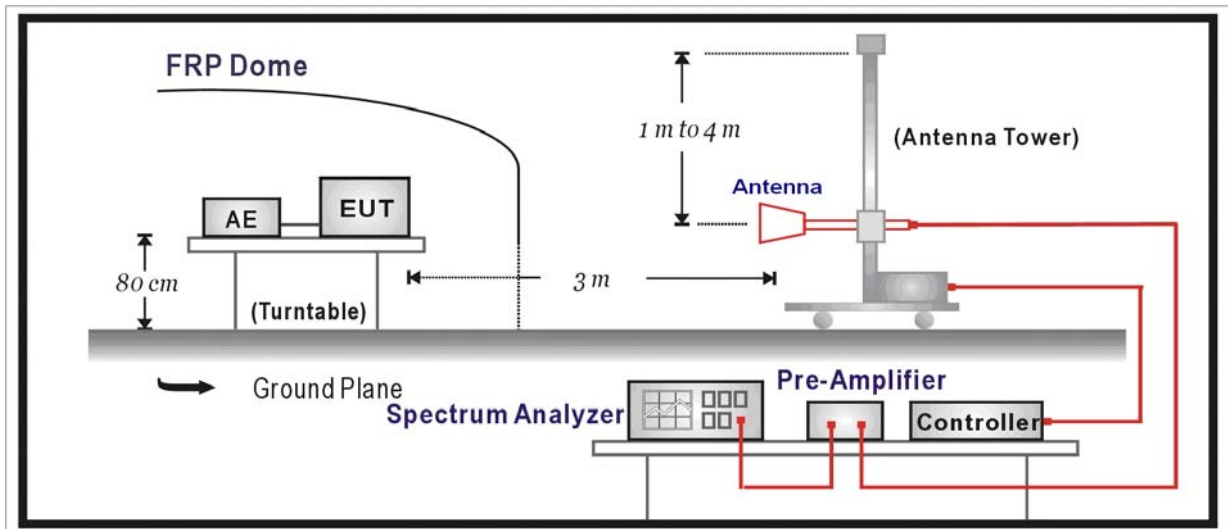
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 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.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

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

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

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

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

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

Note: When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
 below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preampifier Gain

802.11b

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2410.8	65.5	31.2	96.7	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	H	4826.9	50.6	0.7	51.3	54	-2.7	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
6	H	2439.5	66.0	31.2	97.2	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	4997.0	46.3	1.2	47.5	54	-6.5	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
11	H	2463.0	68.6	31.2	99.8	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	4978.0	44.9	1.1	46.0	54	-8.0	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK

802.11g

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2414.9	68.7	31.2	99.9	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
6	H	2434.2	75.6	31.2	106.8	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
11	H	2466.1	75.0	31.2	106.2	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK

802.11n(20MHz)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2412.5	66.4	31.2	97.6	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
6	H	2440.0	75.5	31.2	106.7	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
11	H	2464.2	74.3	31.2	105.5	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK

802.11n(40MHz)

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
3	H	2419.1	61.0	31.2	92.2	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
6	H	2428.7	71.2	31.2	102.4	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK
9	H	2448.9	67.9	31.2	99.1	Fundamental	/	PK
	H	335.9	23.6	15.3	38.9	46	-7.1	QP
	H	527.6	20.1	19.3	39.4	46	-6.6	QP
	V	6542.0	45.2	5.8	51.0	54	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54	-3.8	PK

5. RF Antenna Conducted Spurious

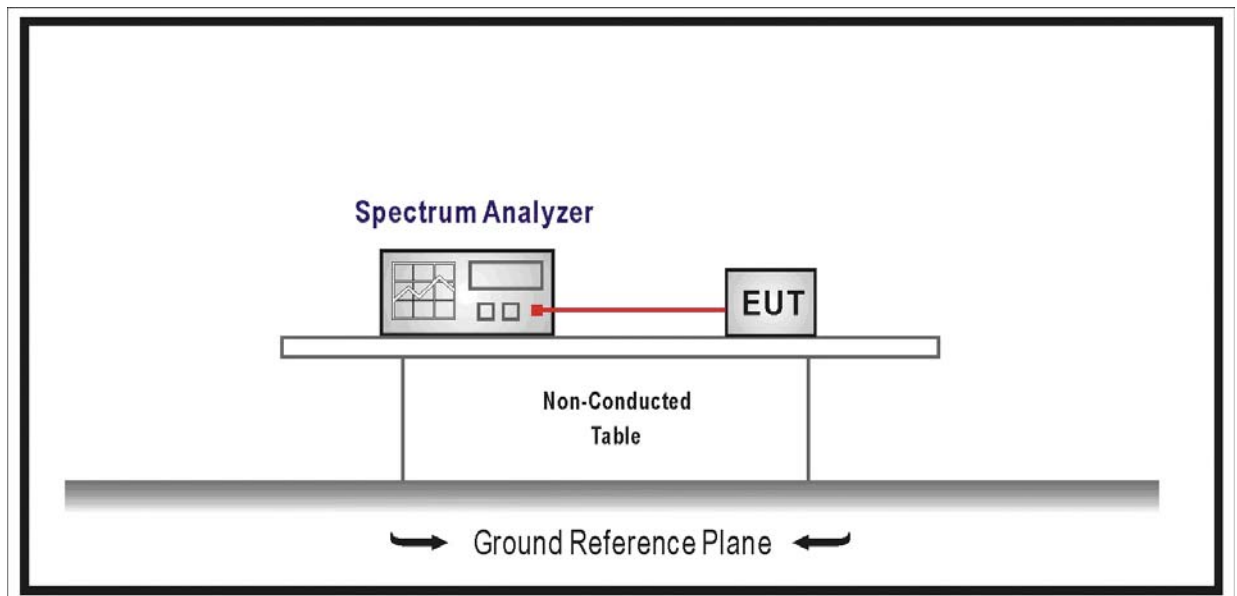
5.1. Test Equipment

RF Antenna Conducted Spurious / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2009/05/06
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.4. Test Procedure

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

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

5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 3: Transmit by 802.11n (20MHz)

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



Product	:	Notebook
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz)

Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



6. Radiated Emission Band Edge

6.1. Test Equipment

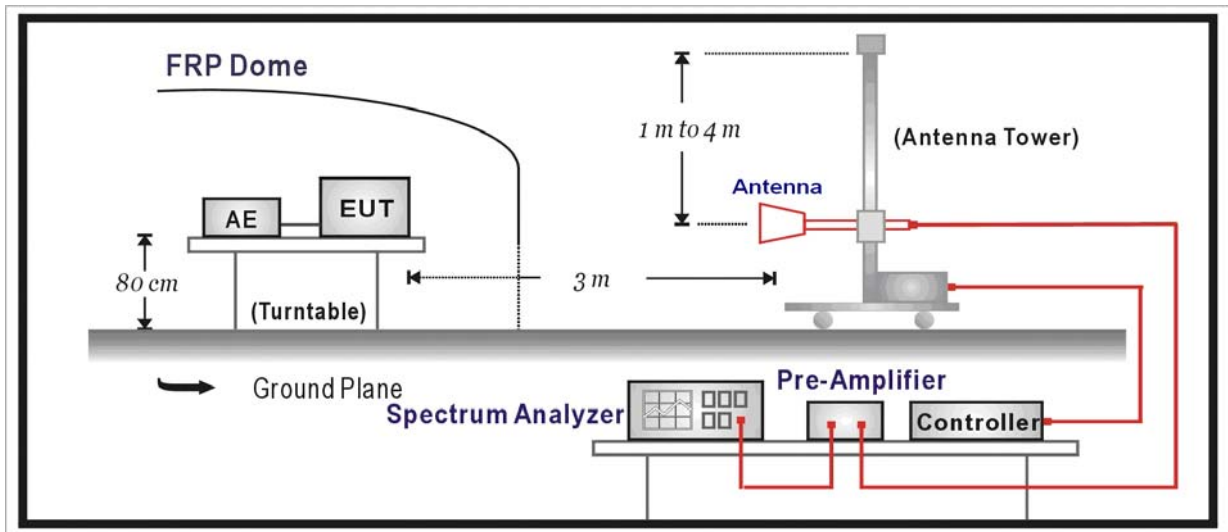
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2009.04.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2009.06.11
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2009.03.31

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Note 2: The test instruments marked with "X" are used to measure the final test results.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

6.5. Uncertainty

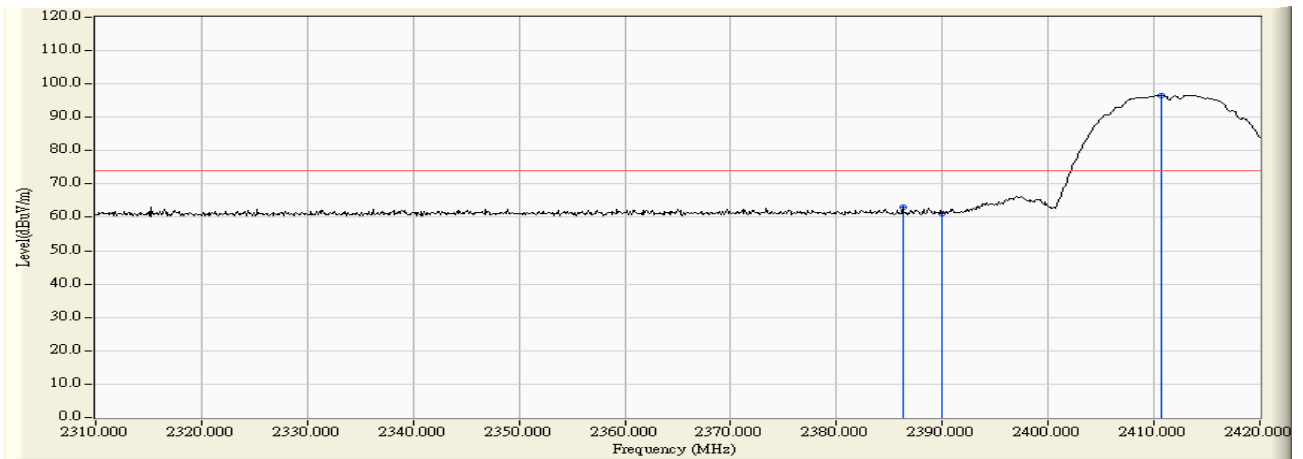
The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

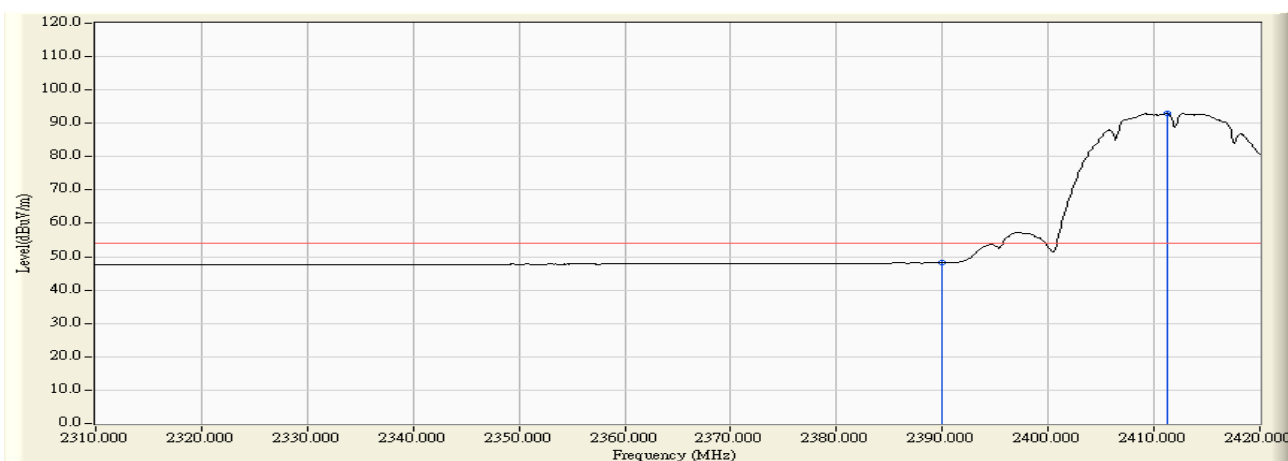
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2412MHz By 802.11b



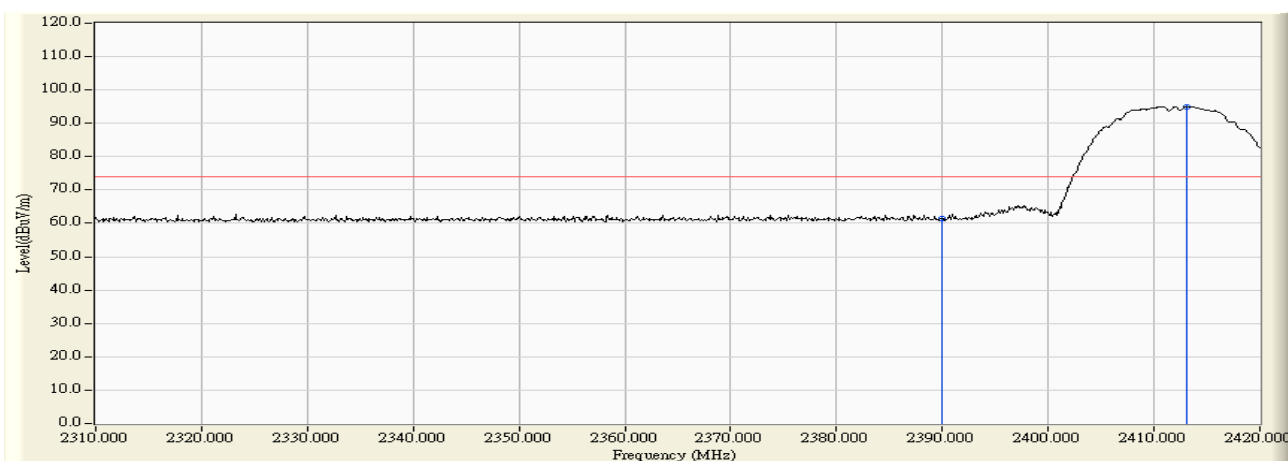
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2386.230	31.189	31.711	62.899	-11.071	73.970	PEAK
2		2390.000	31.184	29.817	61.001	-12.969	73.970	PEAK
3	*	2410.760	31.189	65.479	96.668	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:53
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2412MHz By 802.11b



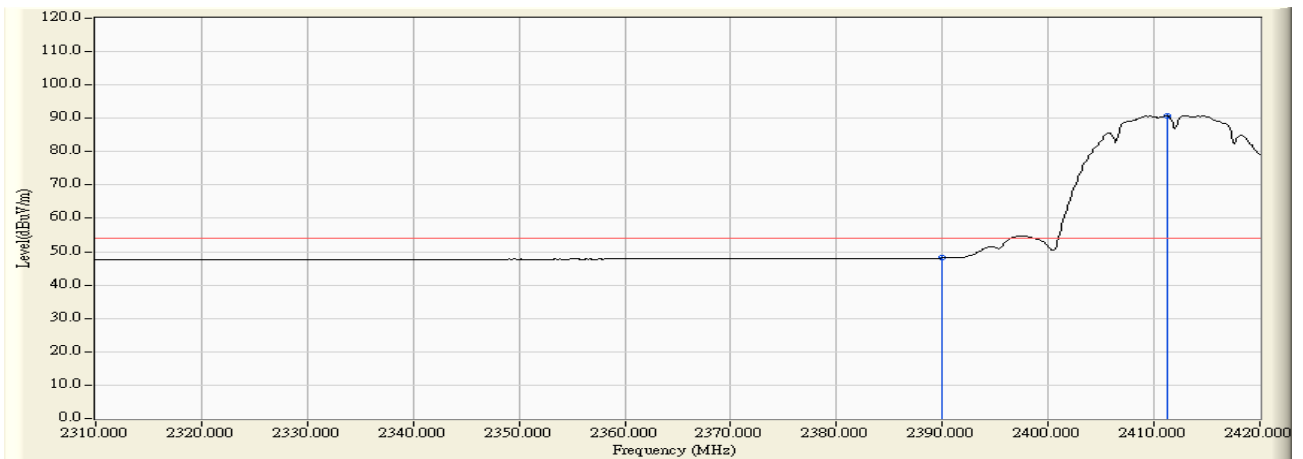
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.082	48.266	-5.704	53.970	AVERAGE
2	*	2411.200	31.190	61.821	93.011	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:49
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2412MHz By 802.11b



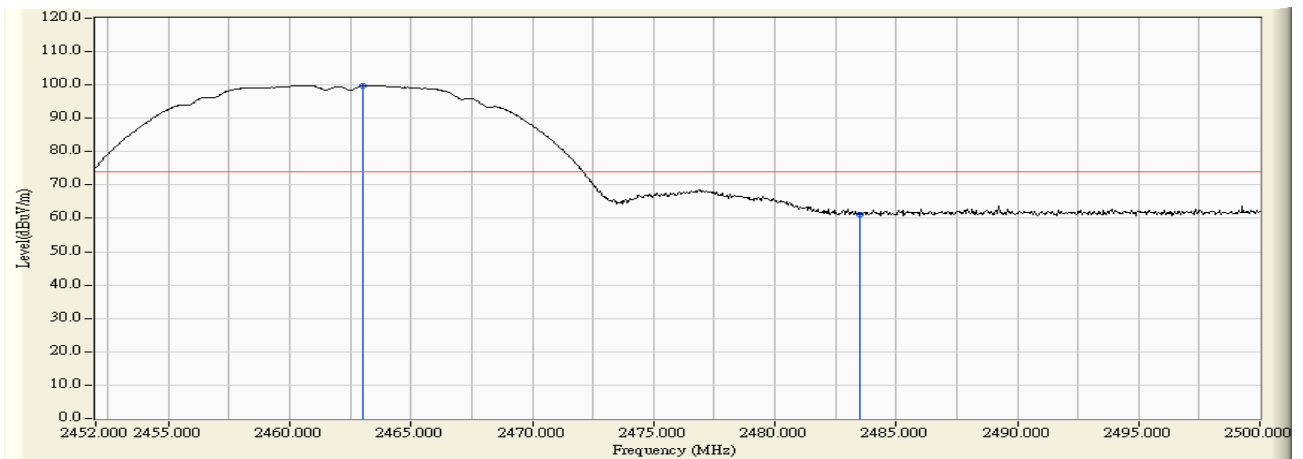
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.266	61.450	-12.520	73.970	PEAK
2	*	2413.070	31.191	63.819	95.010	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:49
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2412MHz By 802.11b



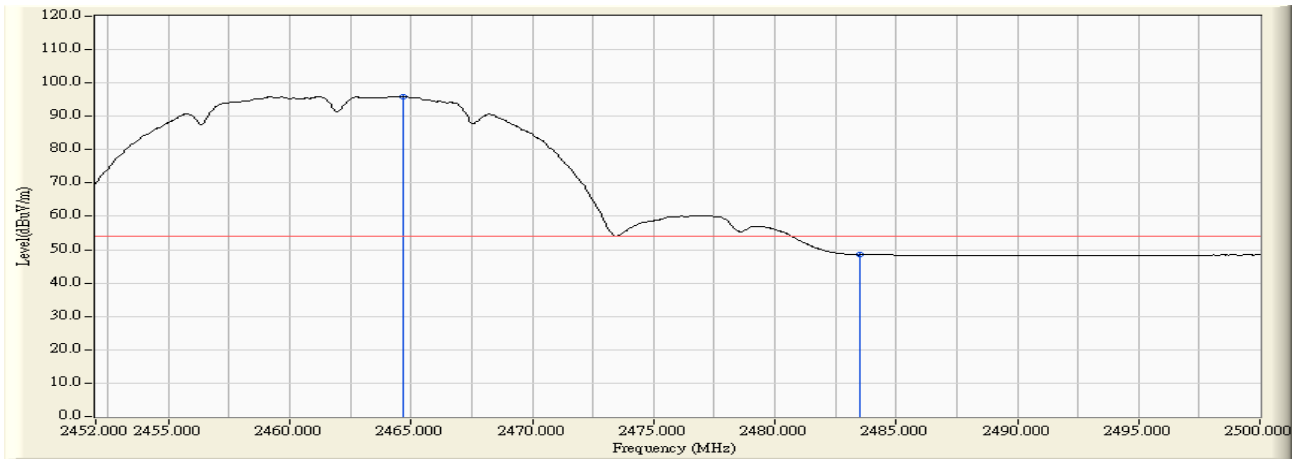
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	16.927	48.111	-5.859	53.970	AVERAGE
2	*	2411.200	31.190	59.682	90.872	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:57
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2462MHz By 802.11b



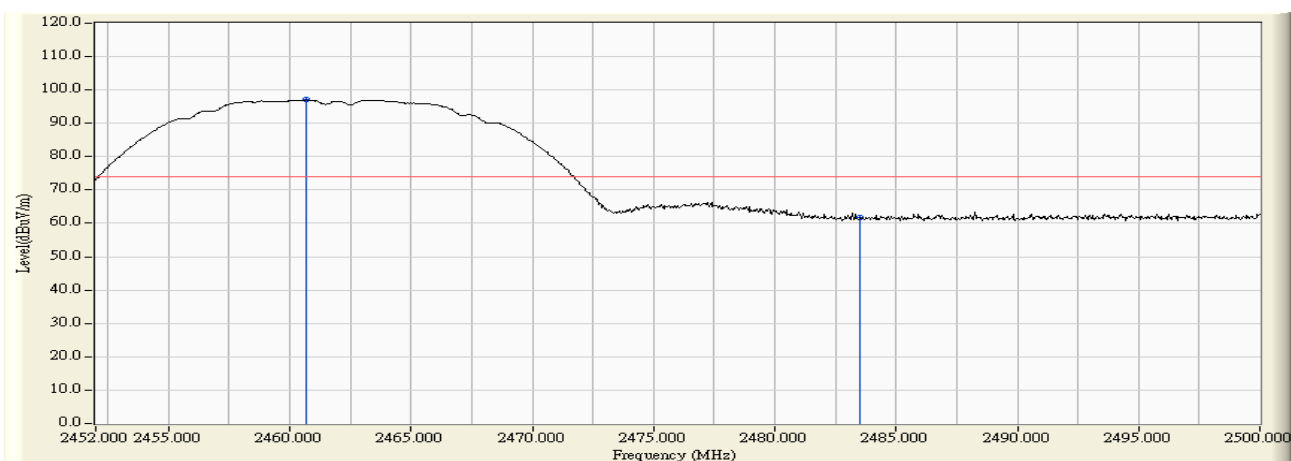
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2462.992	31.224	68.619	99.844	N/A	N/A	PEAK
2		2483.500	31.212	29.852	61.064	-12.906	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 15:58
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2462MHz By 802.11b



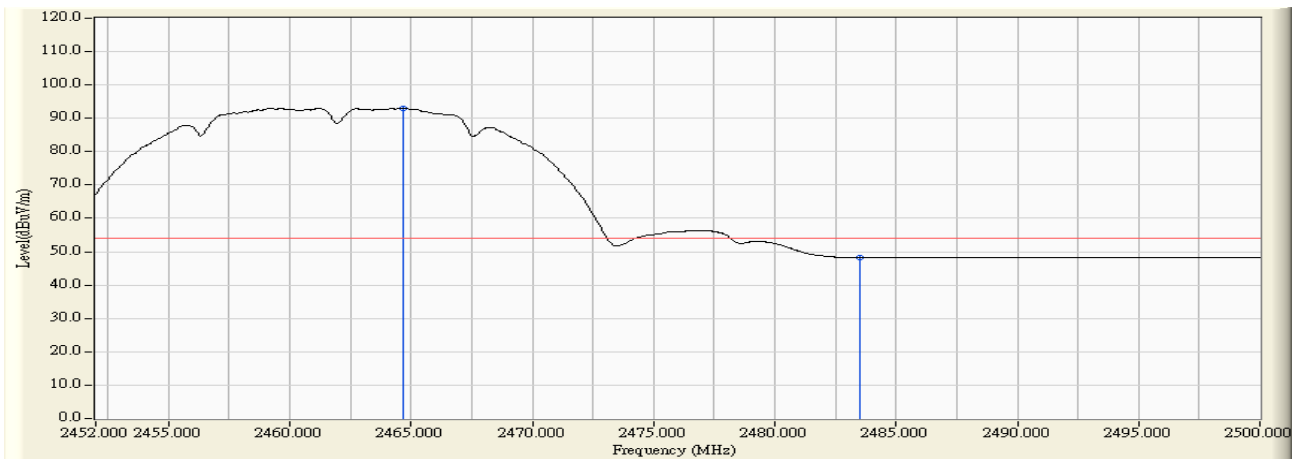
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.672	31.223	64.793	96.017	N/A	N/A	AVERAGE
2		2483.500	31.212	17.220	48.432	-5.538	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:01
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2462MHz By 802.11b



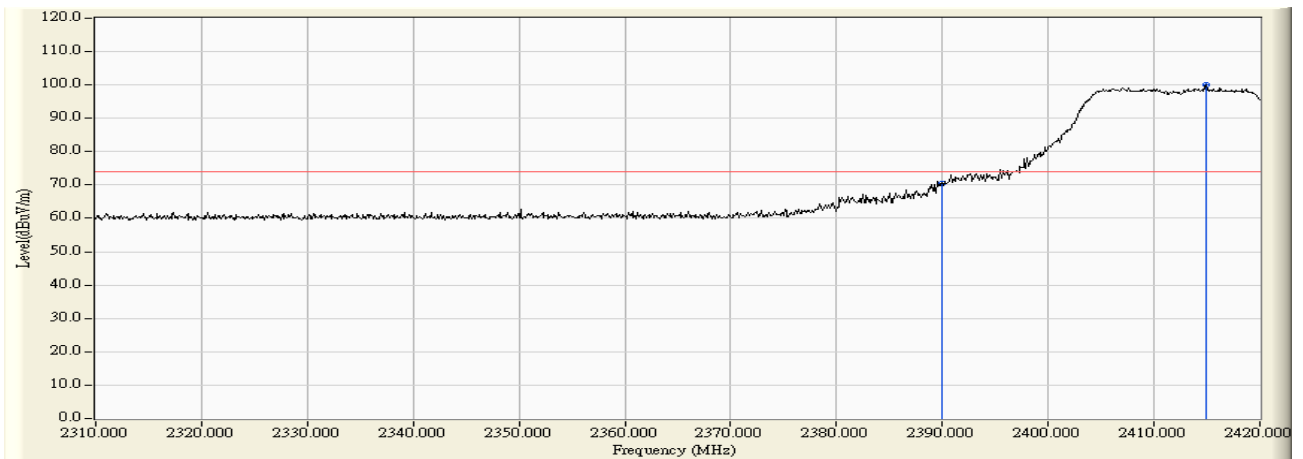
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.688	31.225	65.830	97.055	N/A	N/A	PEAK
2		2483.500	31.212	30.401	61.613	-12.357	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:01
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1: Transmit at channel 2462MHz By 802.11b



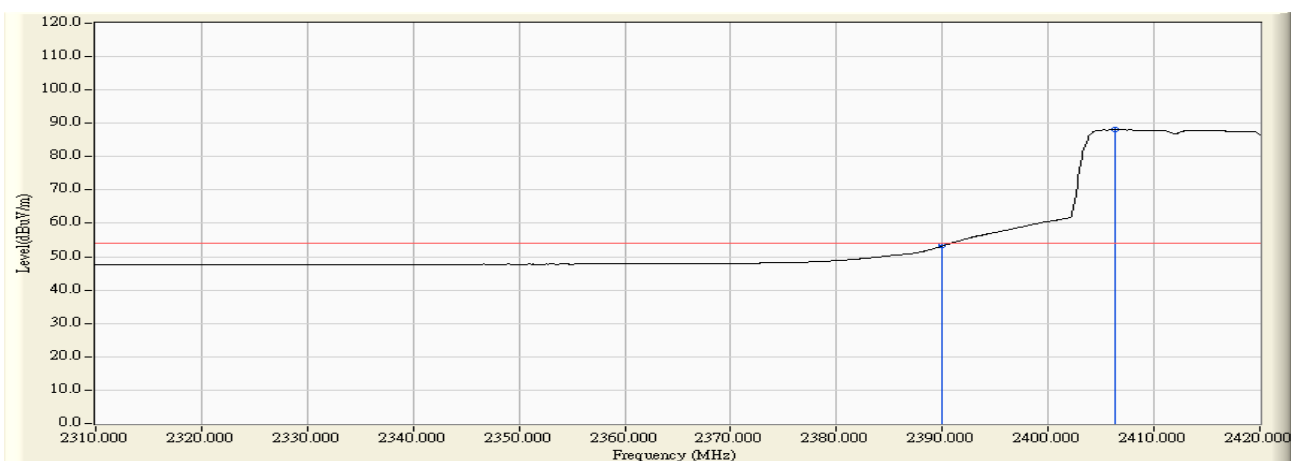
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.672	31.223	61.834	93.058	N/A	N/A	AVERAGE
2		2483.500	31.212	16.994	48.206	-5.764	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:10
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2412MHz By 802.11g



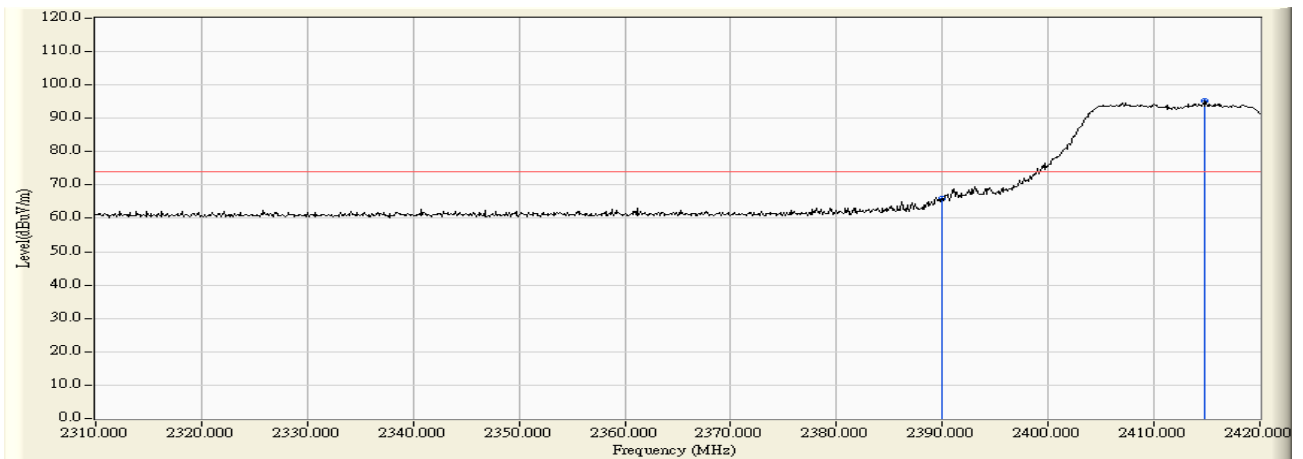
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	39.335	70.519	-3.451	73.970	PEAK
2	*	2414.940	31.193	68.733	99.926	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2412MHz By 802.11g



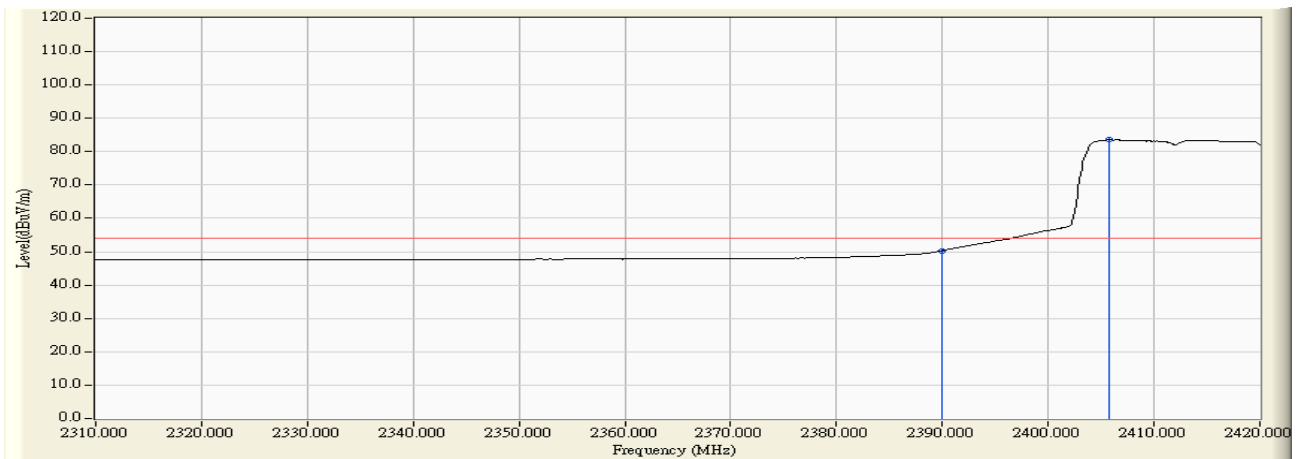
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	22.061	53.245	-0.725	53.970	AVERAGE
2	*	2406.250	31.187	56.925	88.112	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:13
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2412MHz By 802.11g



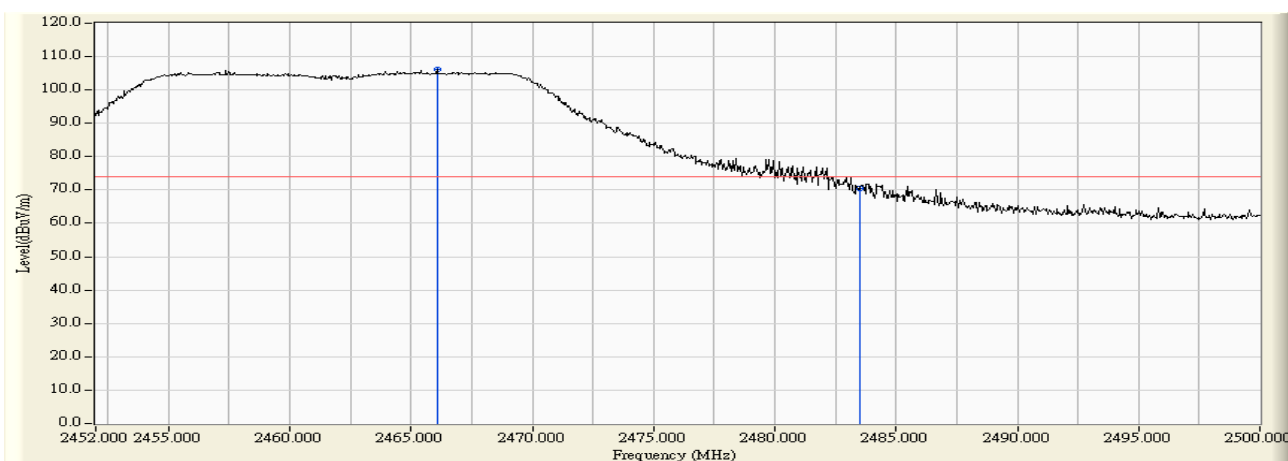
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	34.686	65.870	-8.100	73.970	PEAK
2	*	2414.830	31.193	63.933	95.126	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:14
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2412MHz By 802.11g



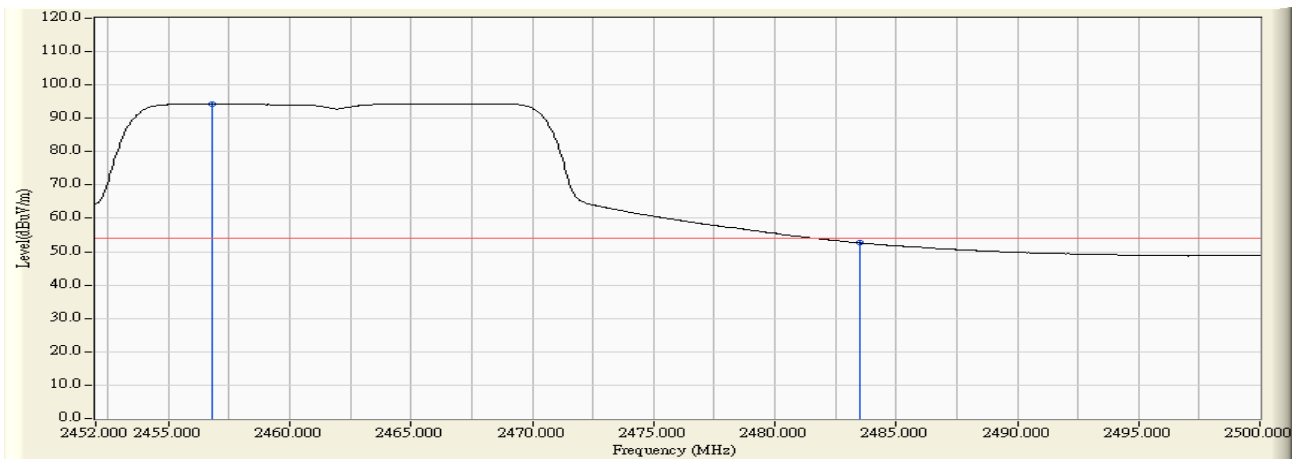
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	19.116	50.300	-3.670	53.970	AVERAGE
2	*	2405.700	31.186	52.366	83.552	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:21
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2462MHz By 802.11g



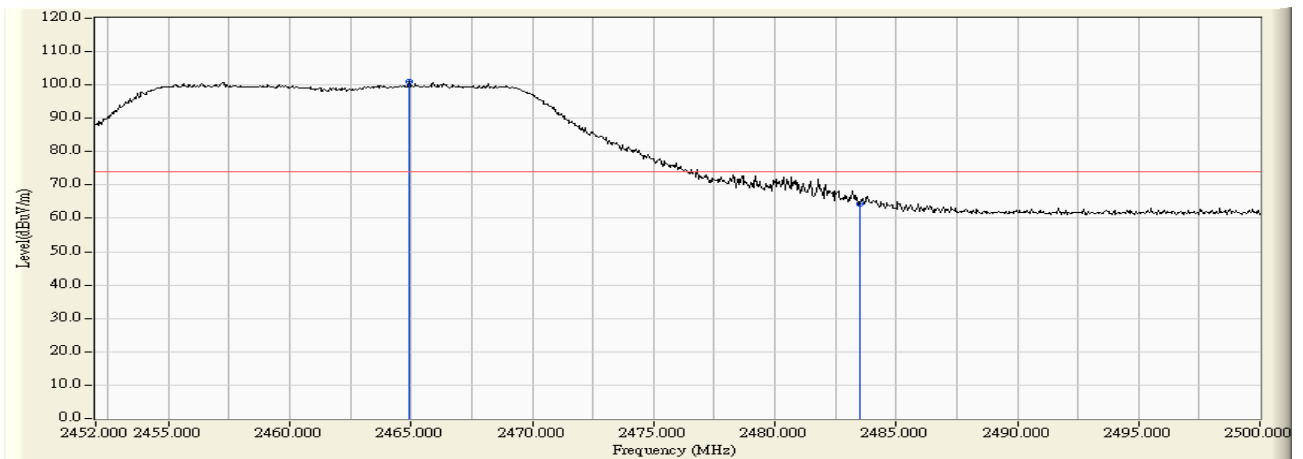
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2466.064	31.223	74.942	106.165	N/A	N/A	PEAK
2		2483.500	31.212	39.183	70.395	-3.575	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:20
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2462MHz By 802.11g



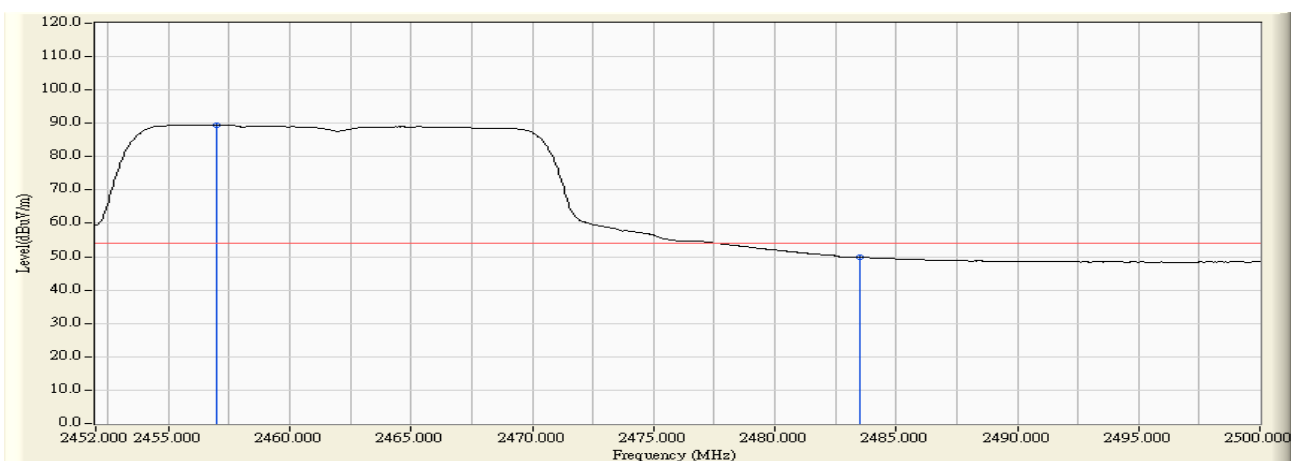
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.800	31.223	63.189	94.412	N/A	N/A	AVERAGE
2		2483.500	31.212	21.402	52.614	-1.356	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:25
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2462MHz By 802.11g



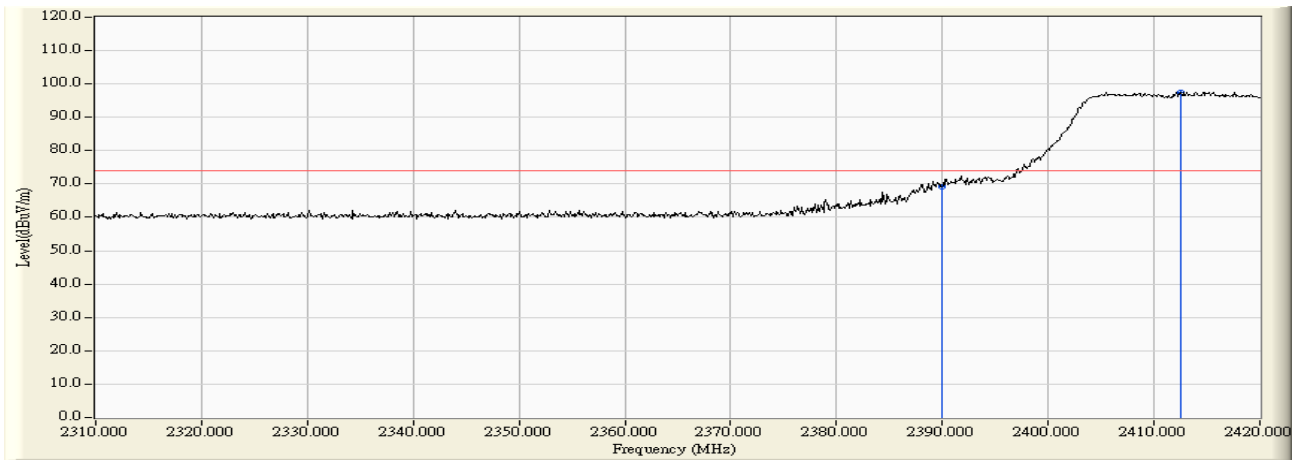
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.912	31.223	69.803	101.027	N/A	N/A	PEAK
2		2483.500	31.212	33.110	64.322	-9.648	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:25
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 2: Transmit at channel 2462MHz By 802.11g



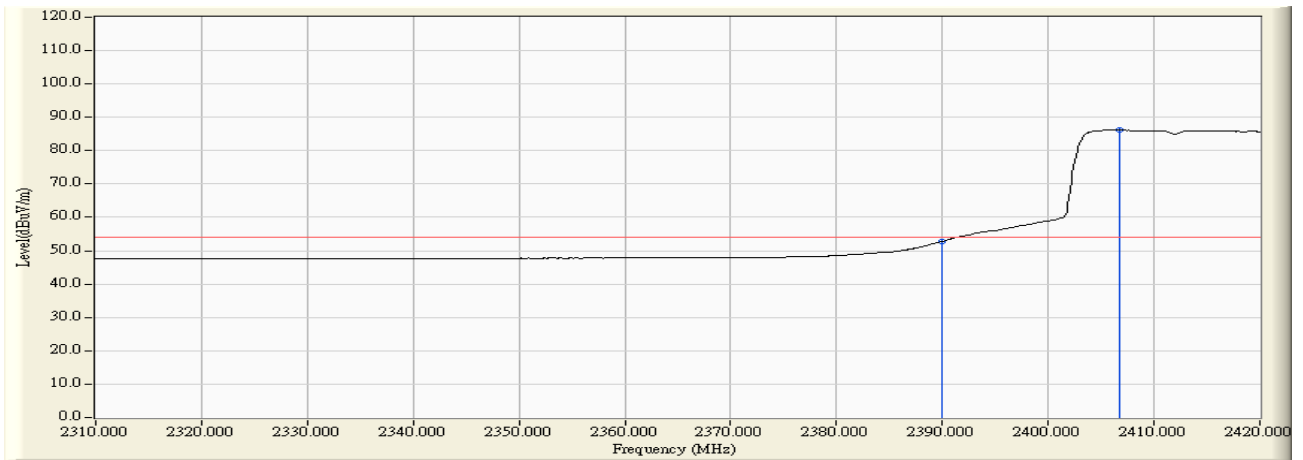
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.992	31.223	58.264	89.487	N/A	N/A	AVERAGE
2		2483.500	31.212	18.612	49.824	-4.146	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:35
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)



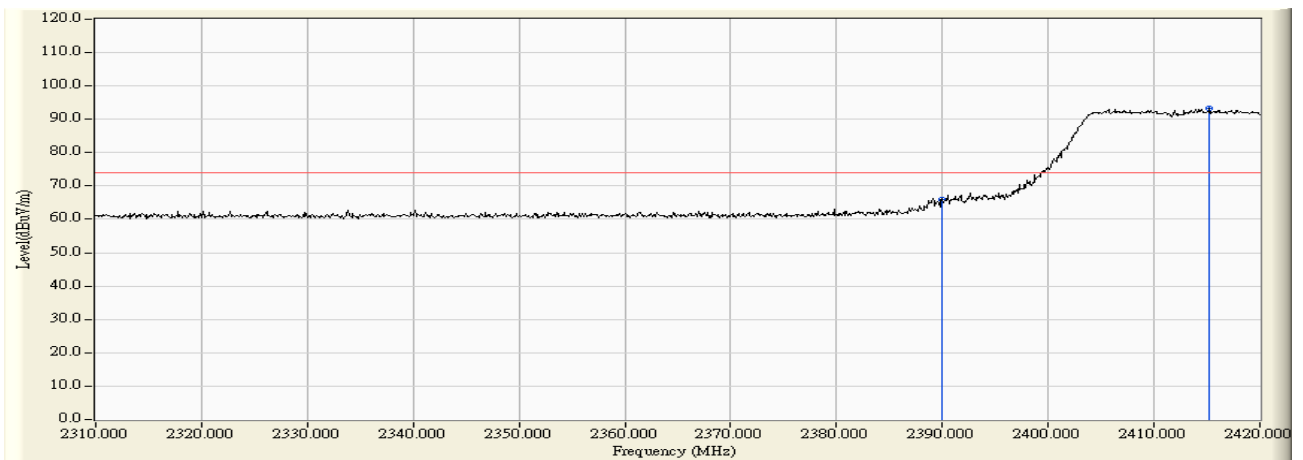
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	38.081	69.265	-4.705	73.970	PEAK
2	*	2412.520	31.191	66.412	97.603	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:34
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)



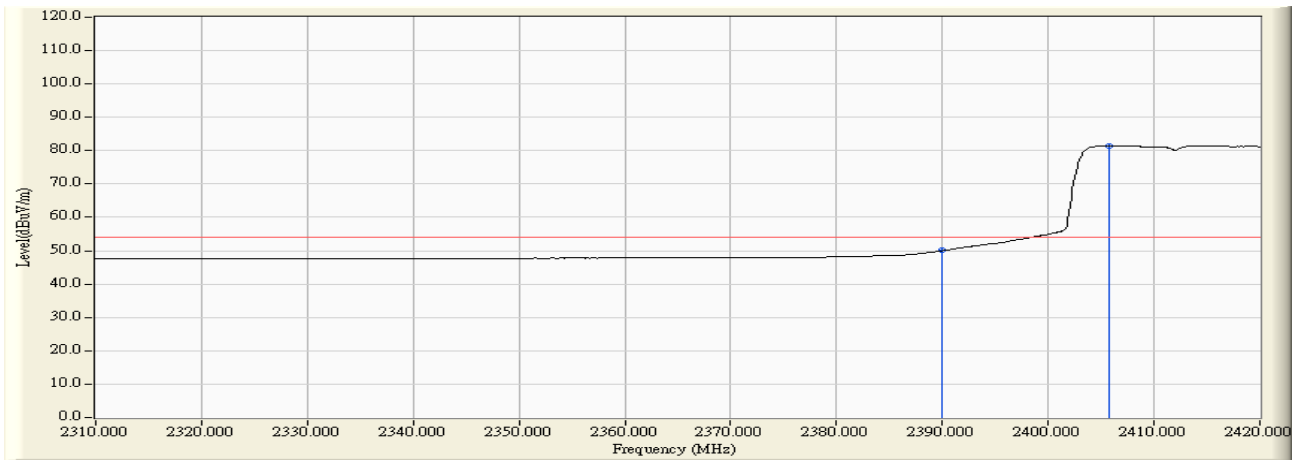
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	21.634	52.818	-1.152	53.970	AVERAGE
2	*	2406.800	31.187	54.991	86.178	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:37
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)



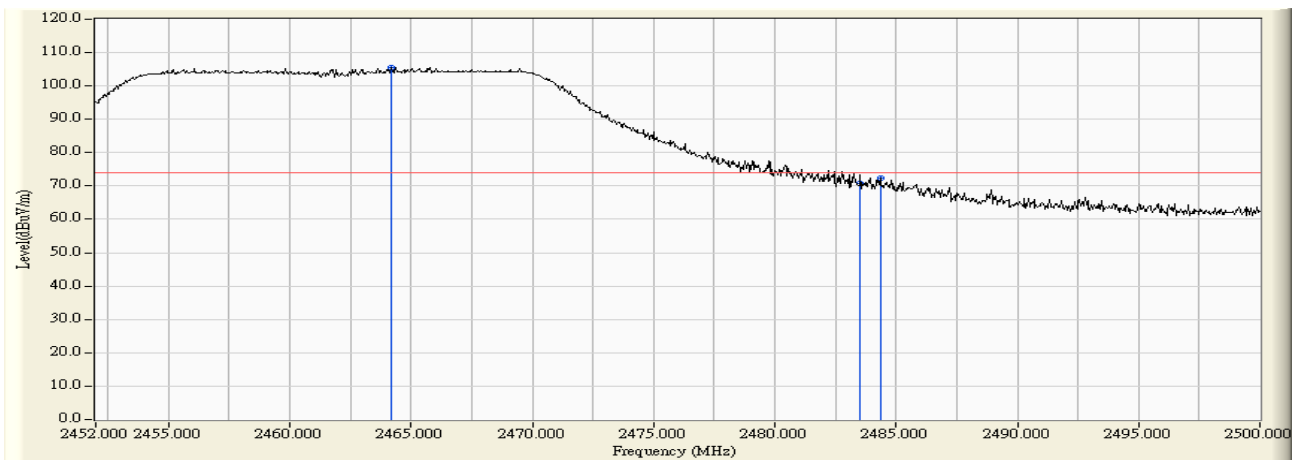
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	34.633	65.817	-8.153	73.970	PEAK
2	*	2415.270	31.193	62.125	93.318	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:38
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)



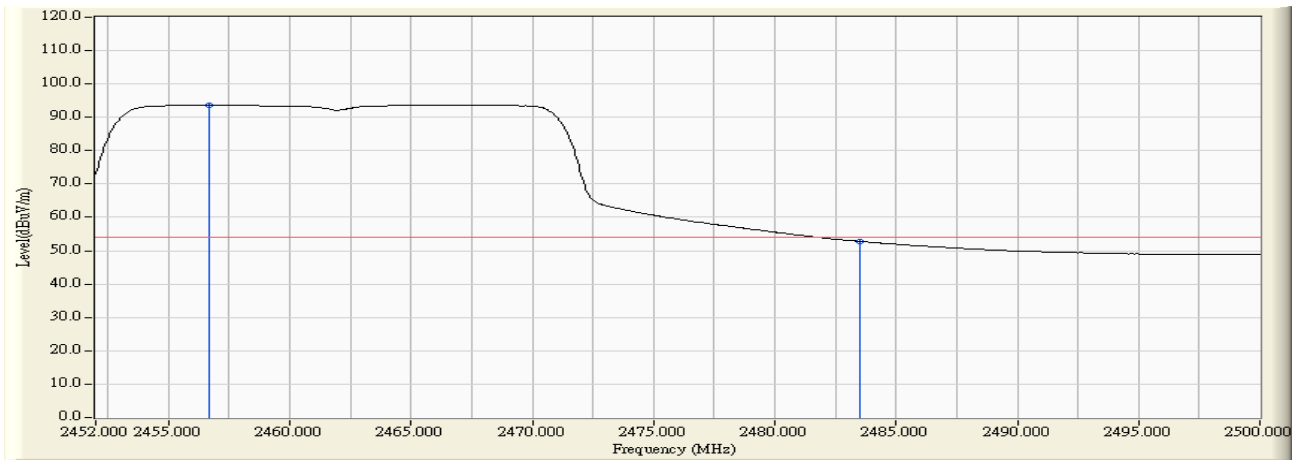
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	18.850	50.034	-3.936	53.970	AVERAGE
2	*	2405.810	31.186	50.264	81.451	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:48
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)



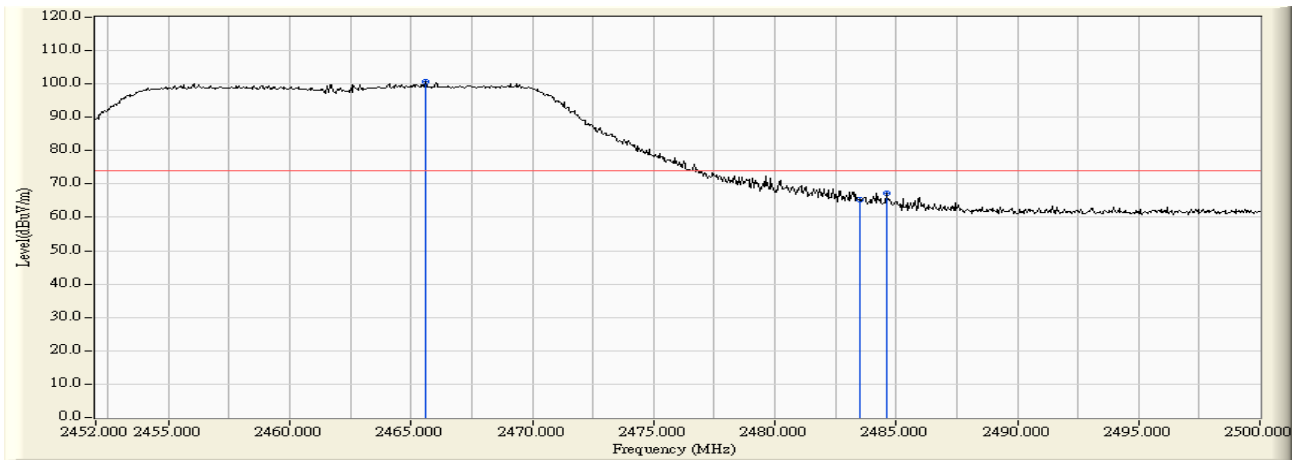
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.192	31.224	74.321	105.545	N/A	N/A	PEAK
2		2483.500	31.212	39.587	70.799	-3.171	73.970	PEAK
3		2484.352	31.212	41.323	72.534	-1.436	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:47
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)



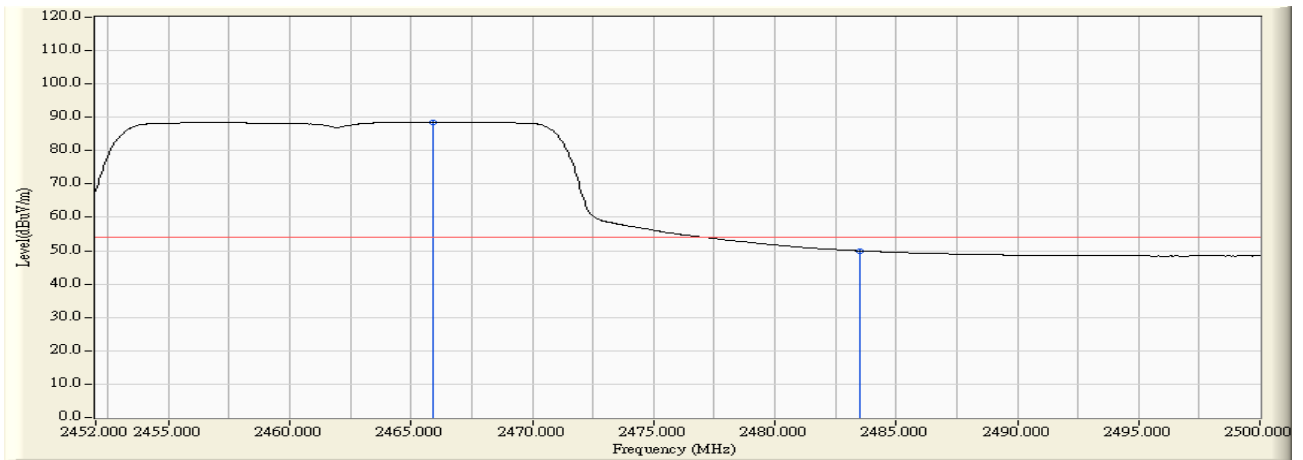
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.656	31.223	62.453	93.676	N/A	N/A	AVERAGE
2		2483.500	31.212	21.542	52.754	-1.216	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)



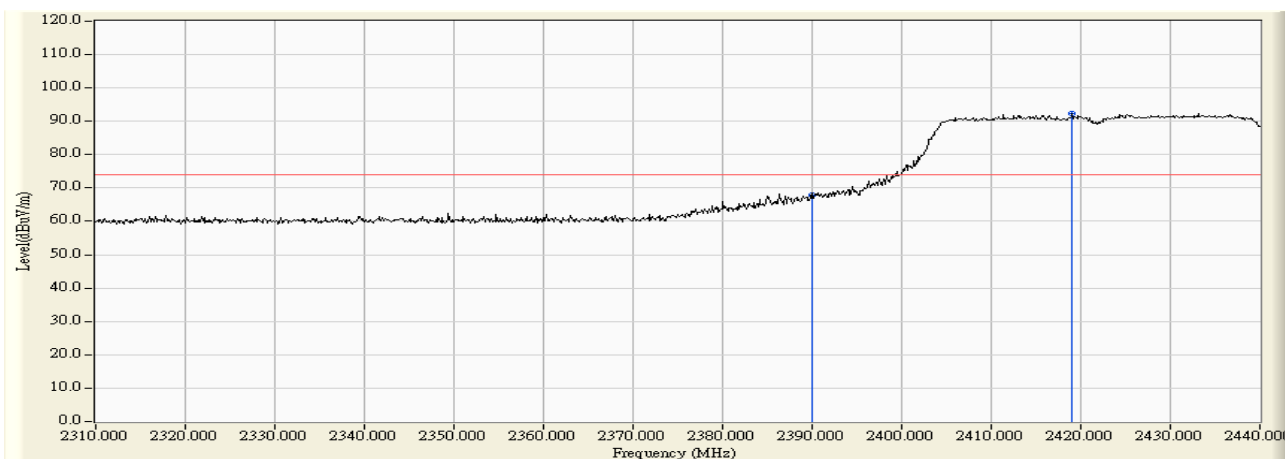
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.584	31.223	69.439	100.662	N/A	N/A	PEAK
2		2483.500	31.212	34.069	65.281	-8.689	73.970	PEAK
3		2484.592	31.212	36.183	67.394	-6.576	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 16:54
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)



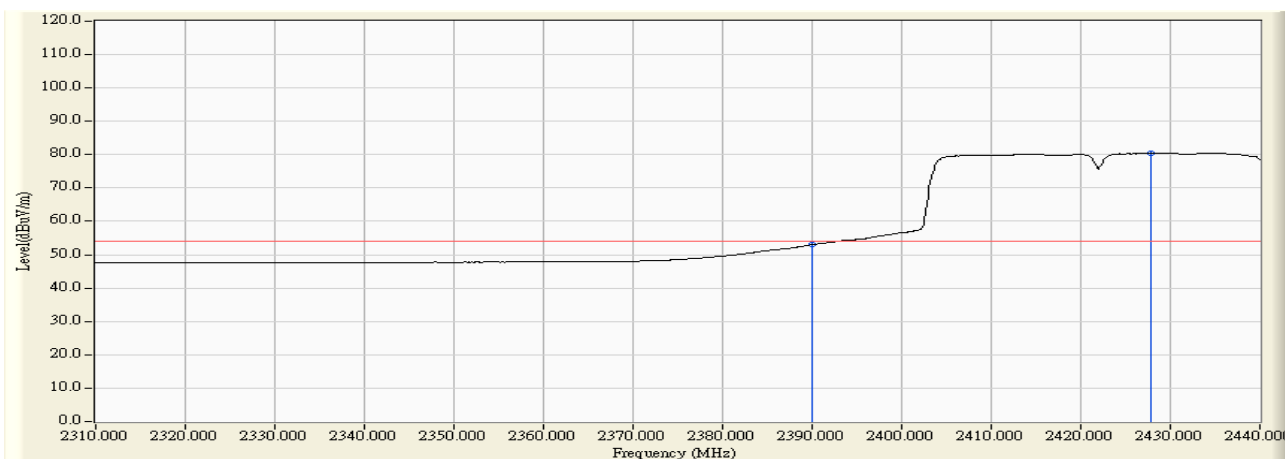
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2465.920	31.223	57.360	88.583	N/A	N/A	AVERAGE
2		2483.500	31.212	18.744	49.956	-4.014	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:01
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)



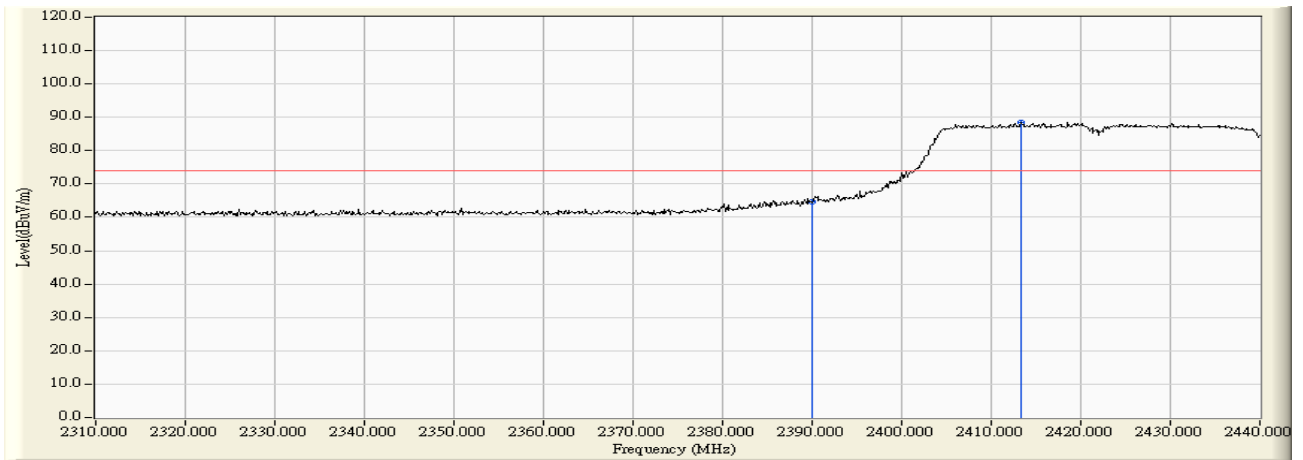
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	36.775	67.959	-6.011	73.970	PEAK
2	*	2419.070	31.196	61.027	92.223	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:01
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)



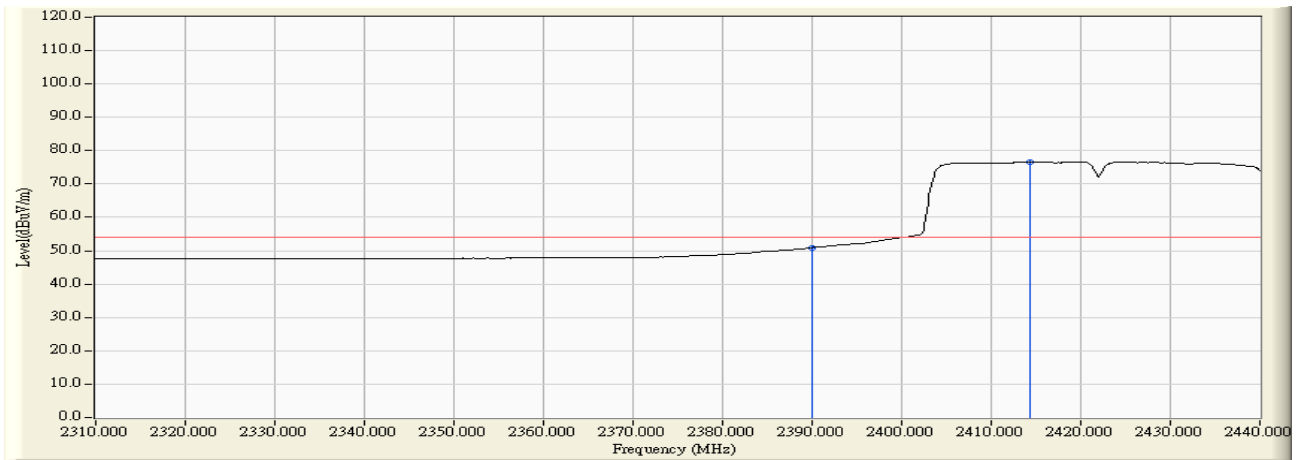
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	21.792	52.976	-0.994	53.970	AVERAGE
2	*	2427.910	31.204	49.247	80.451	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:05
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)



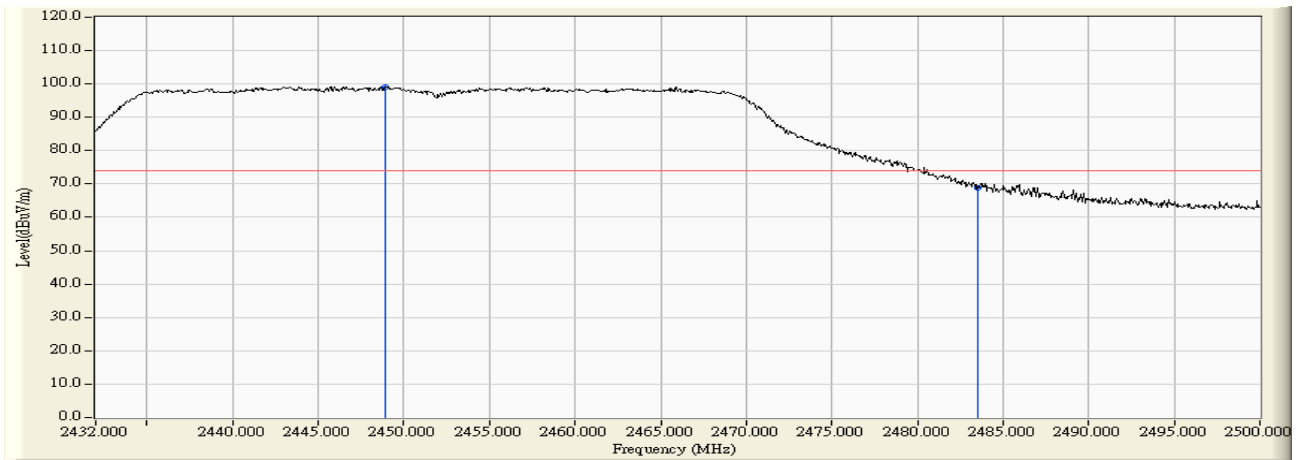
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	33.370	64.554	-9.416	73.970	PEAK
2	*	2413.350	31.192	57.257	88.449	N/A	N/A	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)



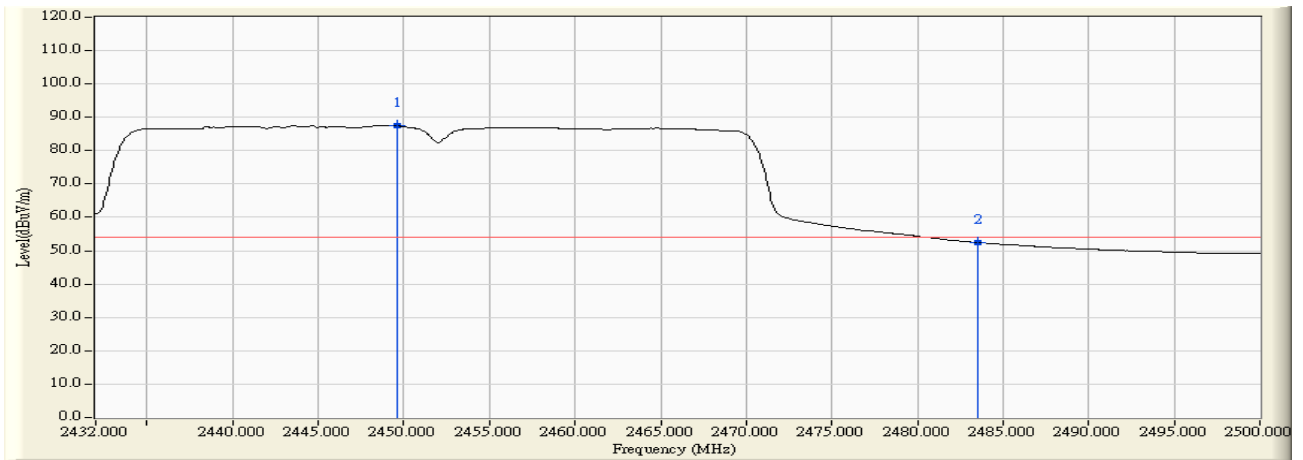
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	19.750	50.934	-3.036	53.970	AVERAGE
2	*	2414.390	31.192	45.431	76.623	N/A	N/A	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:17
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)



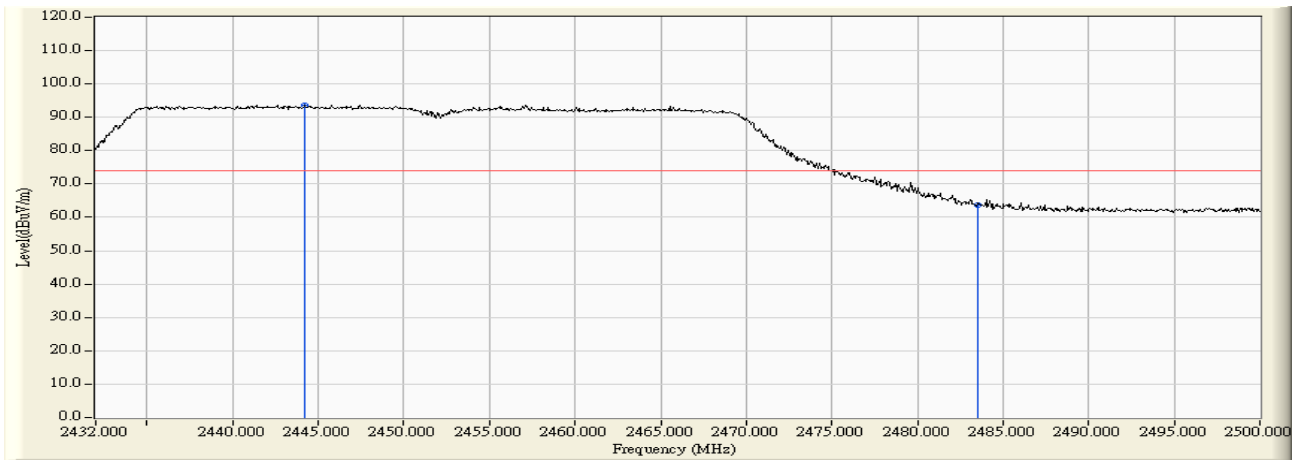
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2448.932	31.220	67.921	99.141	N/A	N/A	PEAK
2		2483.500	31.212	37.490	68.702	-5.268	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:15
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)



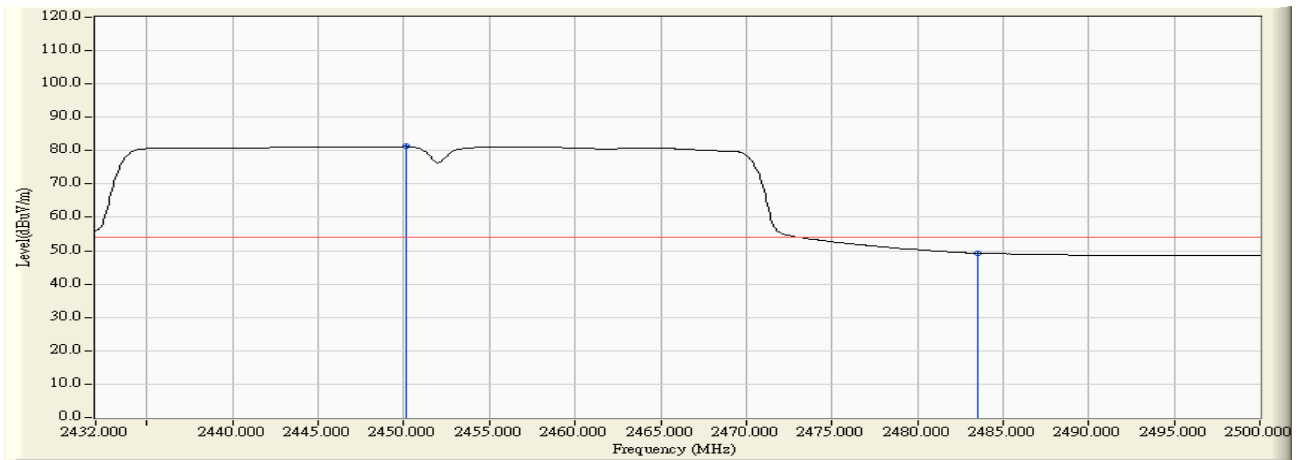
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2449.612	31.220	56.254	87.474	N/A	N/A	AVERAGE
2		2483.500	31.212	21.246	52.458	-1.512	53.970	AVERAGE

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:24
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2444.240	31.217	62.476	93.694	N/A	N/A	PEAK
2		2483.500	31.212	32.567	63.779	-10.191	73.970	PEAK

Engineer : Jame	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/26 - 17:24
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2450.156	31.221	50.030	81.251	N/A	N/A	AVERAGE
2		2483.500	31.212	18.031	49.243	-4.727	53.970	AVERAGE

7. Operation Frequency Range of 20dB Bandwidth

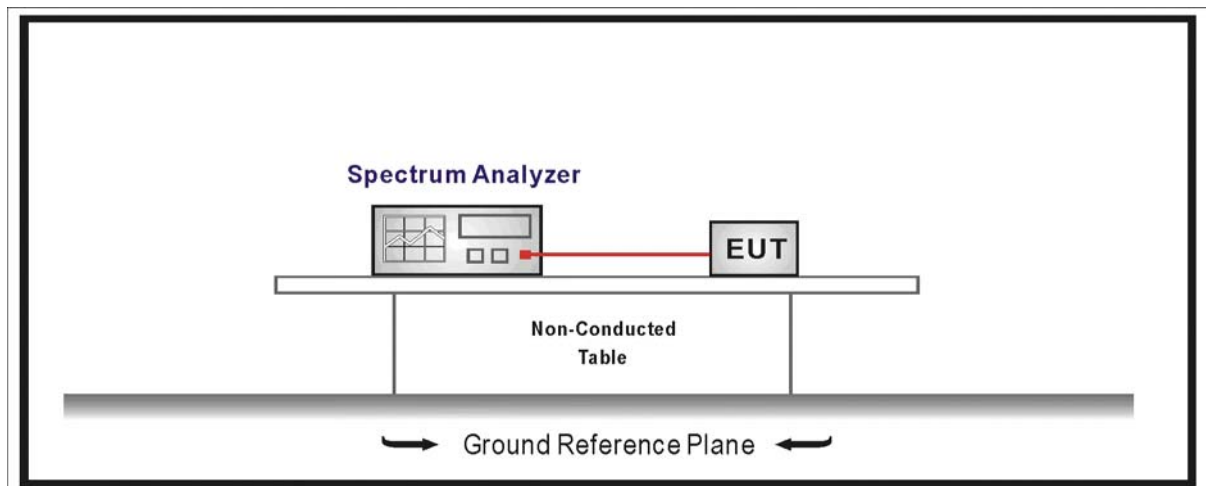
7.1. Test Equipment

Operation Frequency Range of 20dB Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2009/05/06
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

7.2. Test Setup



7.3. Limit

20 dB bandwidth of the emission is contained within the operation frequency band.

7.4. Test Procedure

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

Set RBW = 100 kHz, Span greater than RBW.

7.5. Uncertainty

The measurement uncertainty is defined as ± 1 kHz

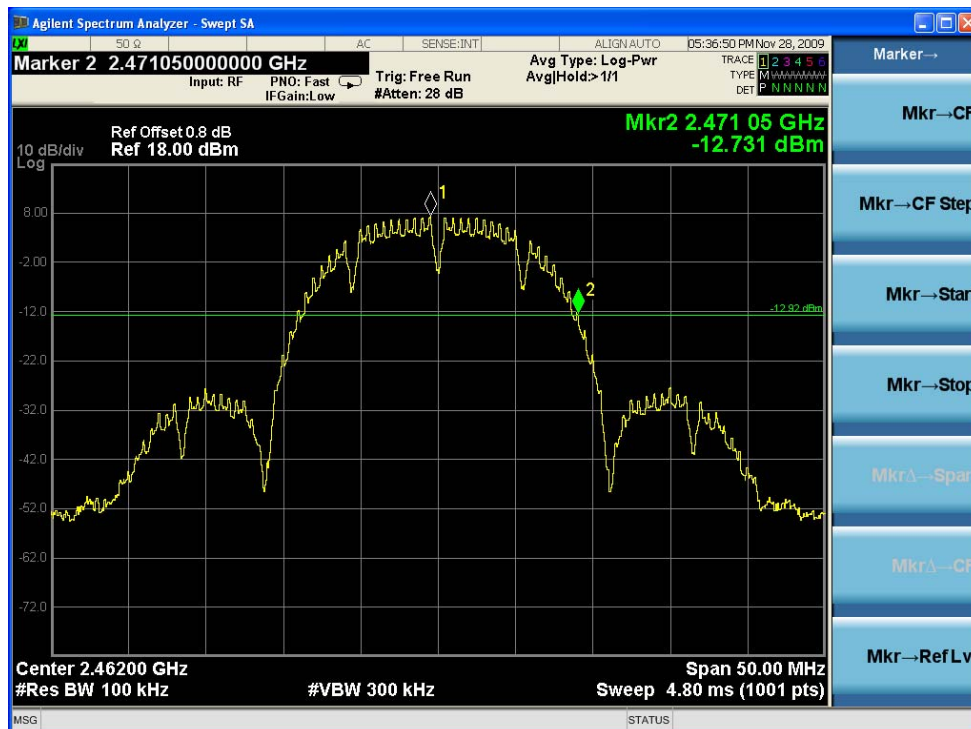
7.6. Test Result

Product	:	Notebook
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)



Channel 11 (2462MHz)



Product	:	Notebook
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)

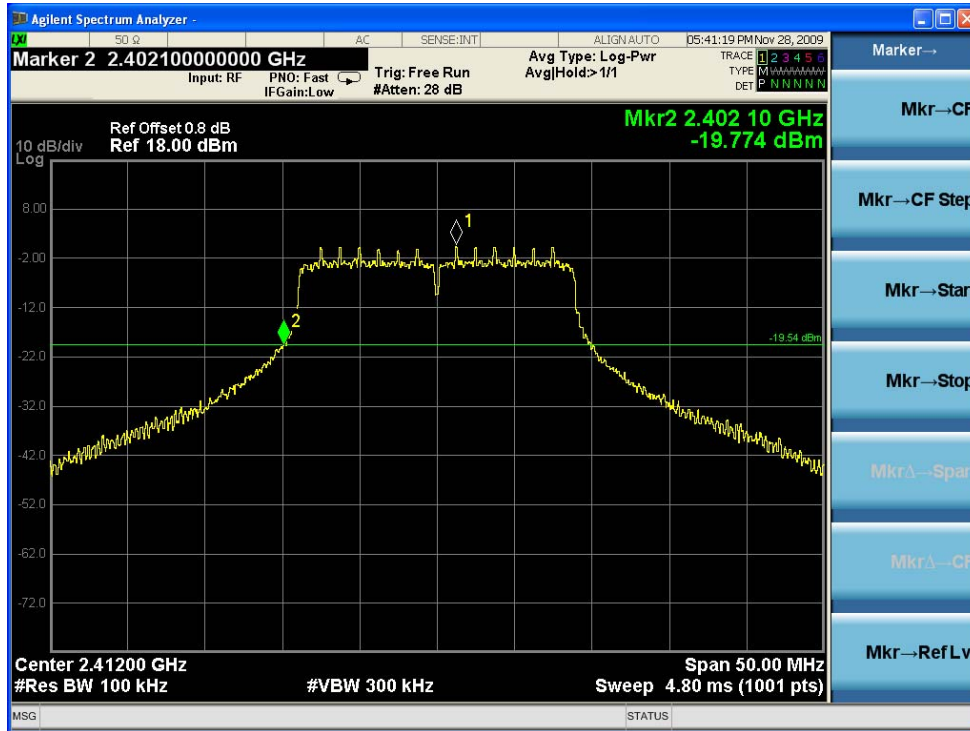


Channel 11 (2462MHz)

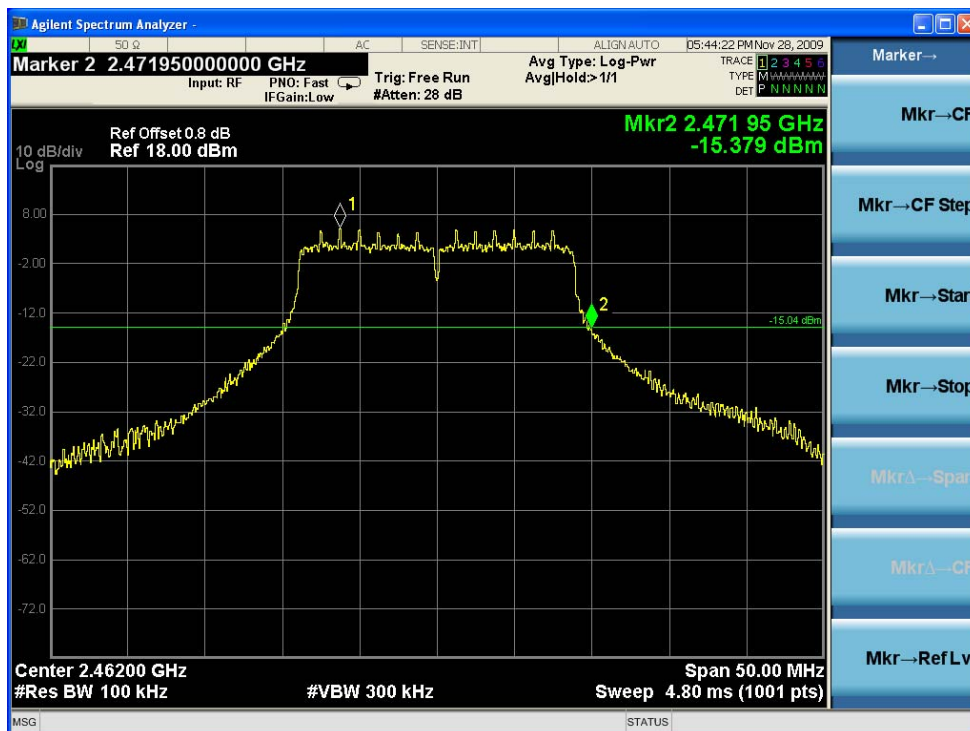


Product	:	Notebook
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Mode	:	Mode 3: Transmit by 802.11n (20MHz)

Channel 01 (2412MHz)

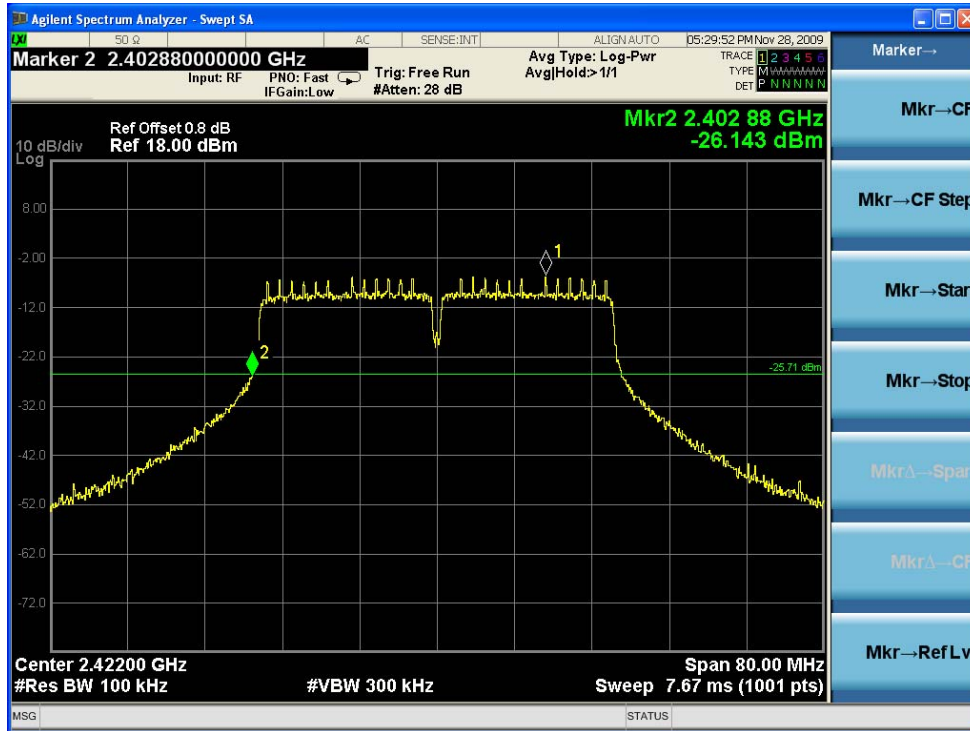


Channel 11 (2462MHz)

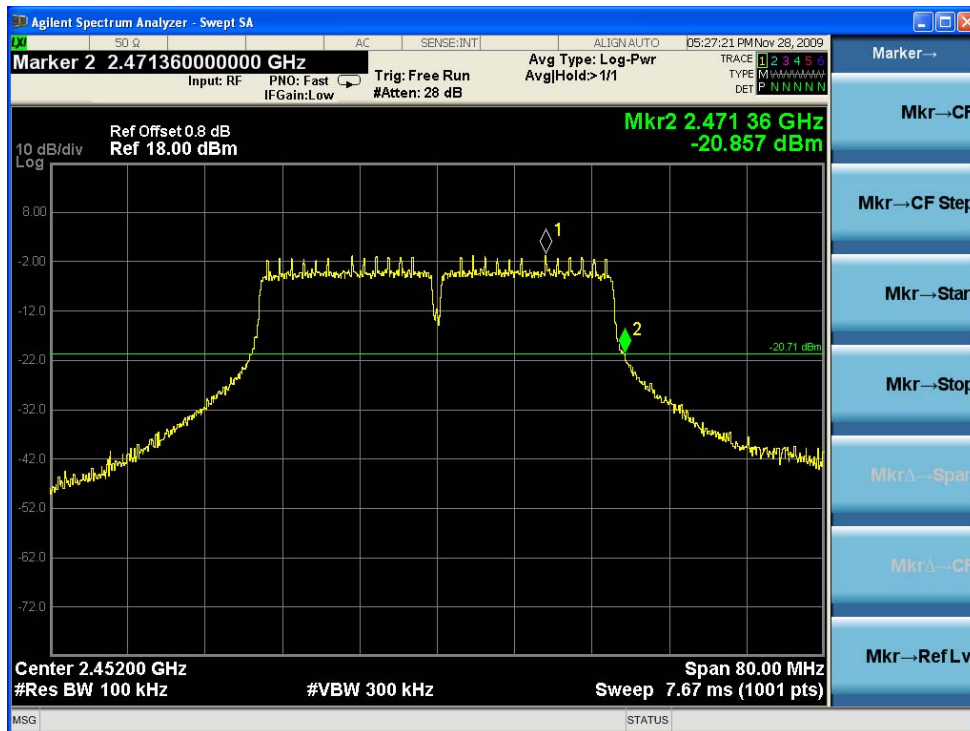


Product	:	Notebook
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Mode	:	Mode 4: Transmit by 802.11n (40MHz)

Channel 03 (2422MHz)



Channel 09 (2452MHz)



8. Occupied Bandwidth

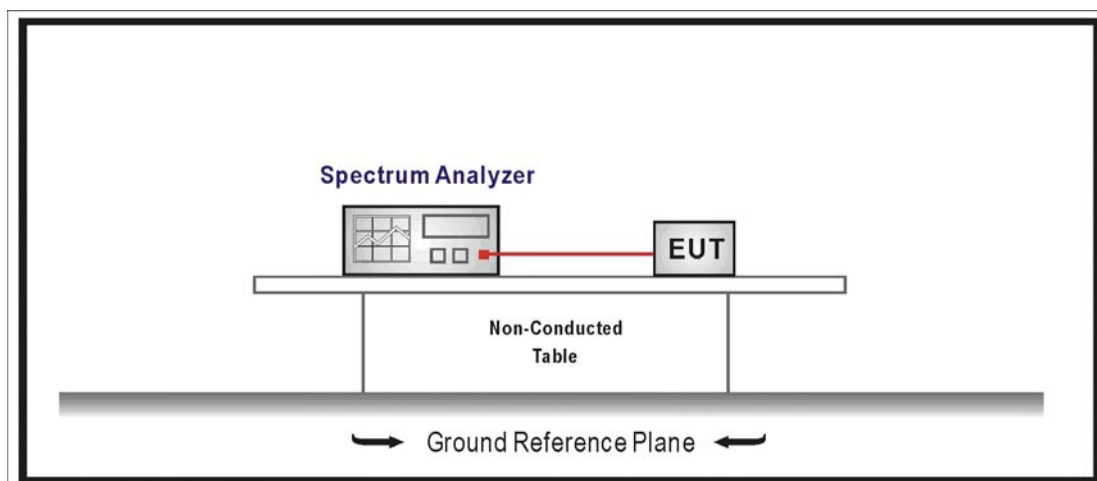
8.1. Test Equipment

Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2009/05/06
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/30

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

8.2. Test Setup



8.3. Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

8.4. Test Procedure

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

Set RBW = 100 kHz, Span greater than RBW.

8.5. Uncertainty

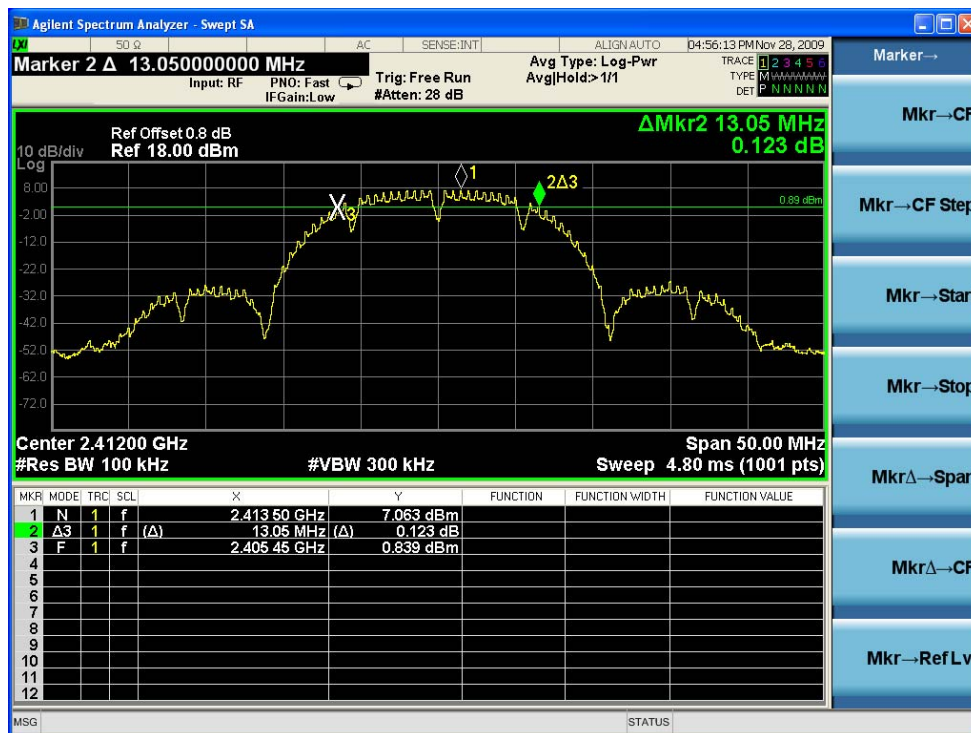
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

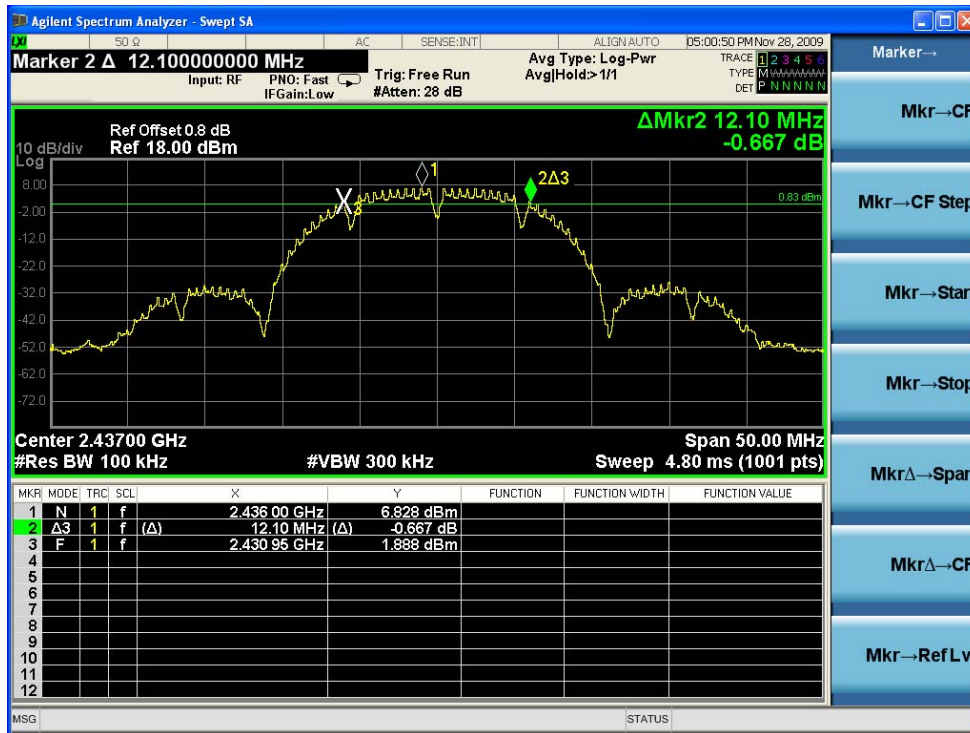
Product	:	Notebook
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	13050	500	Pass
06	2437	12100	500	Pass
11	2462	12100	500	Pass

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

