

FCC Part15 Subpart C Test Report

Product Name : Eee PC
Model No. : Eee PC 900HA
FCC ID : MSQE9GE112

Applicant : ASUSTEK COMPUTER INC.

Address : NO.150, Li-Te Rd., Peitou, Taipei, Taiwan, R. O. C

Date of Receipt : Nov. 24, 2009
Test Date : Nov. 26, 2009 ~ Dec. 01, 2009
Issued Date : Dec. 02, 2009
Report No. : 09BS107R-RF-US-P05V01
Report Version : V1.0

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. 02, 2009

Report No. : 09BS107R-RF-US-P05V01



Product Name : Eee PC
 Applicant : ASUSTEK COMPUTER INC.
 Address : NO.150, Li-Te Rd., Peitou, Taipei, Taiwan, R. O. C
 Manufacturer : PROTEK (Shanghai) Limited
 Address : NO.3668 Xiu Yan Rd.Kang Qiao Town.Nan Hui Dist,
 Shang Hai
 Model No. : Eee PC 900HA
 FCC ID : MSQE9GE112
 EUT Voltage : 12Vdc
 Trade Name : ASUS
 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	Eee PC
Trade Name	ASUS
Model No.	Eee PC 900HA
EUT Voltage	12Vdc
Frequency Range	For 2.4GHz Band 802.11b/g: 2412~2462MHz
Channel Number	For 2.4GHz Band 802.11b/g: 11
Tech. of Modulation	802.11b: DSSS
	802.11g: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
Channel Control	Auto
Antenna Type	PIFA
Antenna Gain	2.37 dBi for 2.4GHz band
AC Adapter	Manufacturer: Enertronic, Inc. M/N: EXA0801XA Input: 100-240V~50/60Hz 1.0A Output: 12Vdc, 3.0A

For 2.4GHz Band

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

For 802.11b/g Antenna List

Antenna	Manufacturer	Model No.	Antenna Gain(dBi)
900 WLAN Antenna R	ASUS	14G15B002110	2.37 dBi for 2.4GHz band
900 WLAN Antenna L	ASUS	14G15B002010	1.23 dBi for 2.4GHz band

1.2. Mode of Operation

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

Test Mode
Mode 1: Transmit by 802.11b
Mode 2: Transmit by 802.11g

Note:

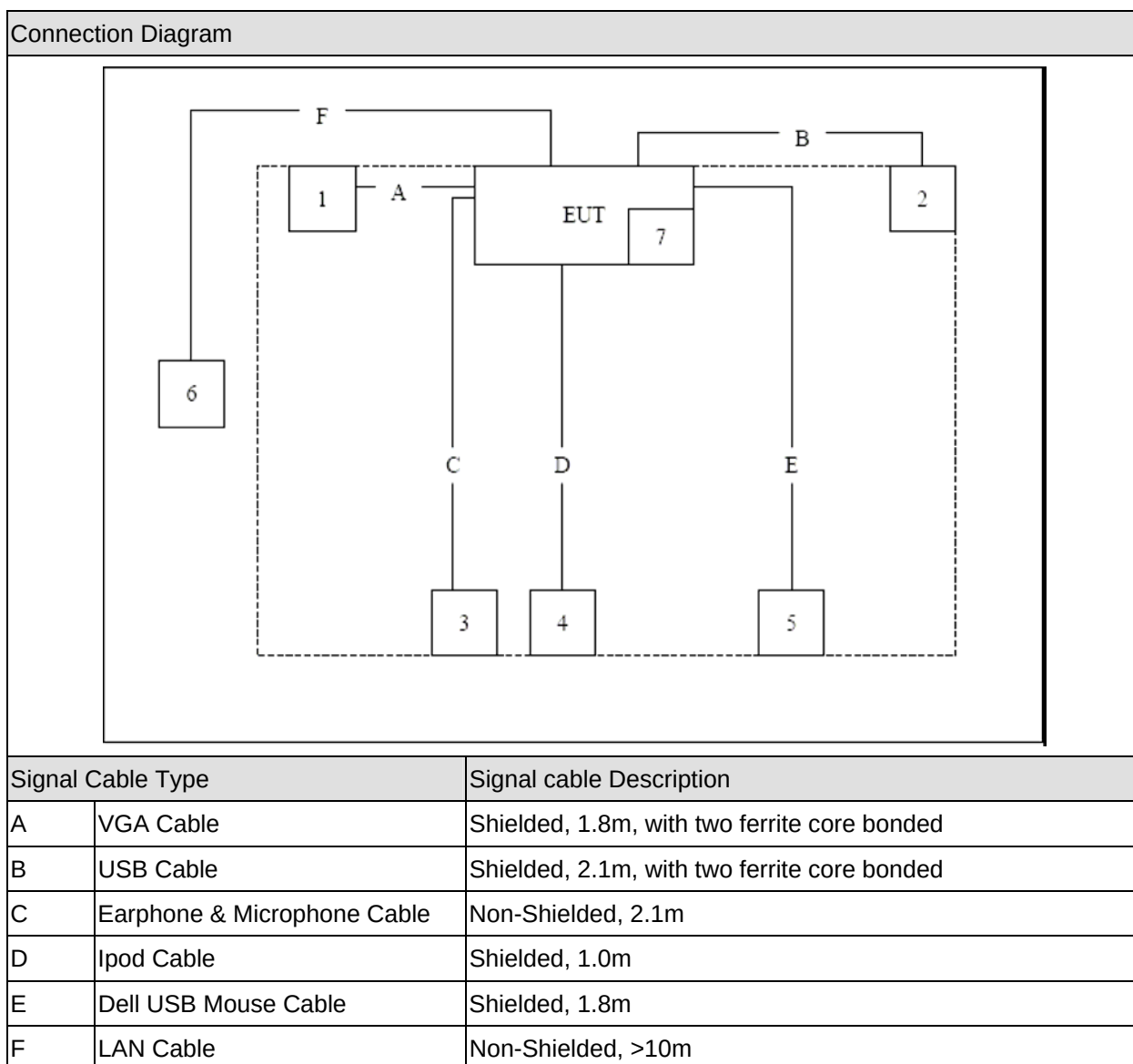
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 09BS105E.

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



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

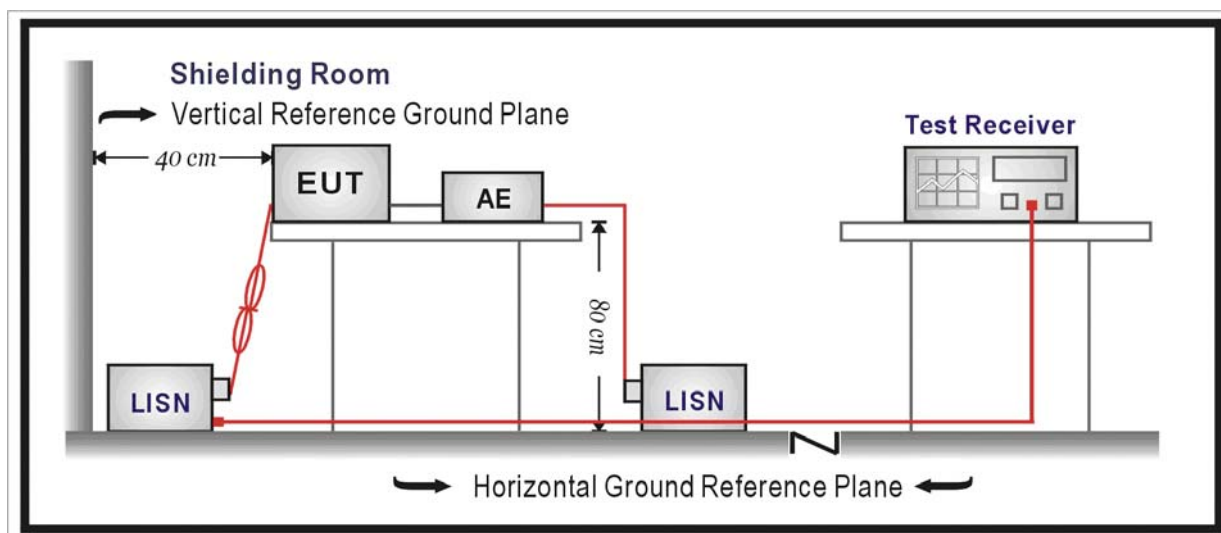
3.1. Test Equipment

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.

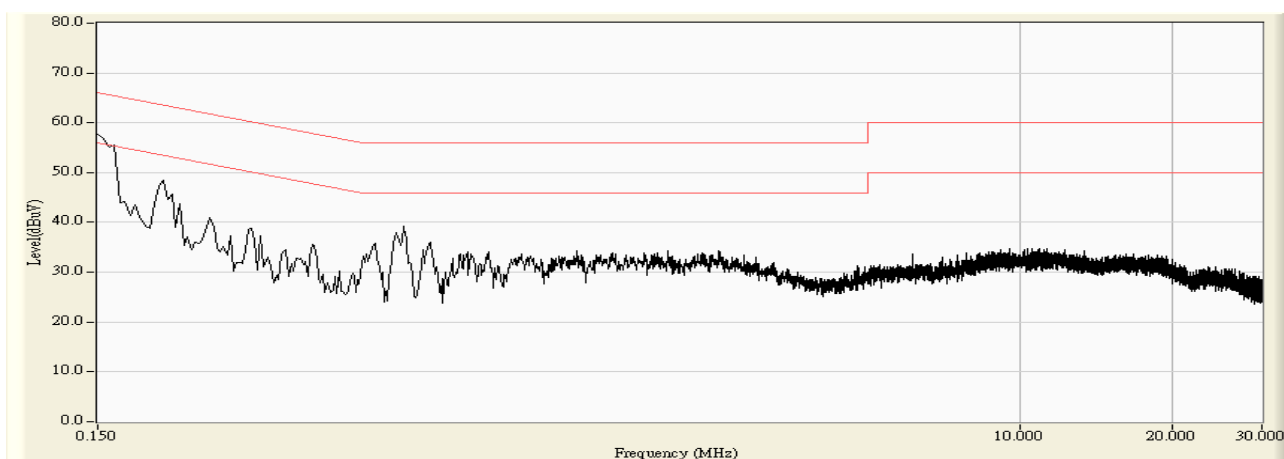
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

3.5. Uncertainty

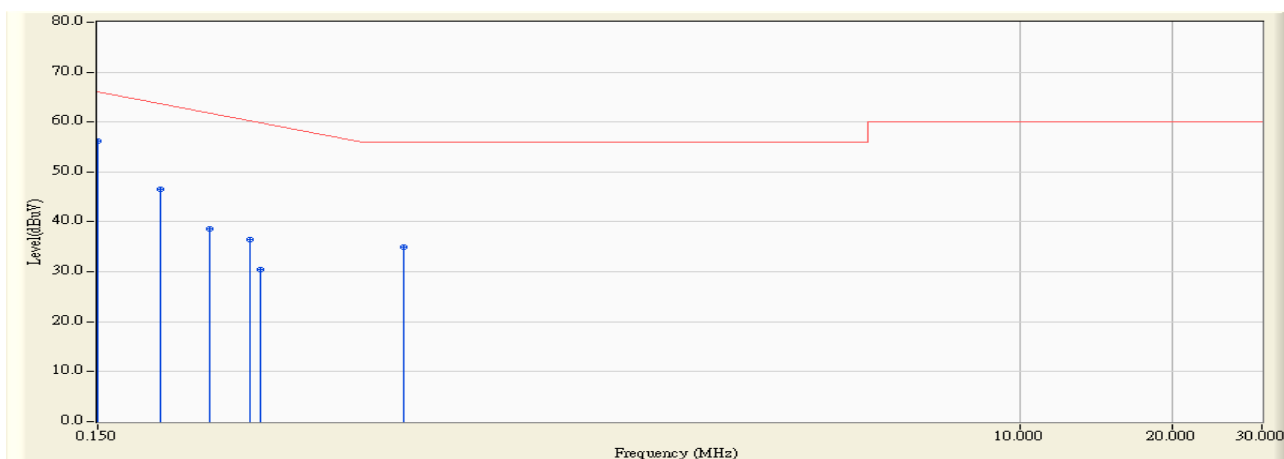
The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:33
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

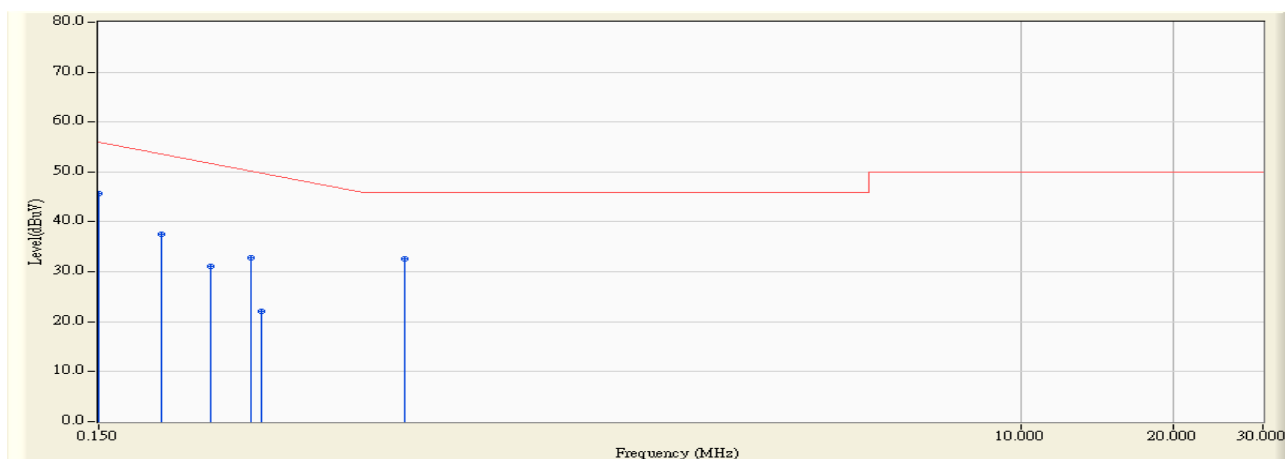


Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:37
Limit : FCC_SPartC_15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line1	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1



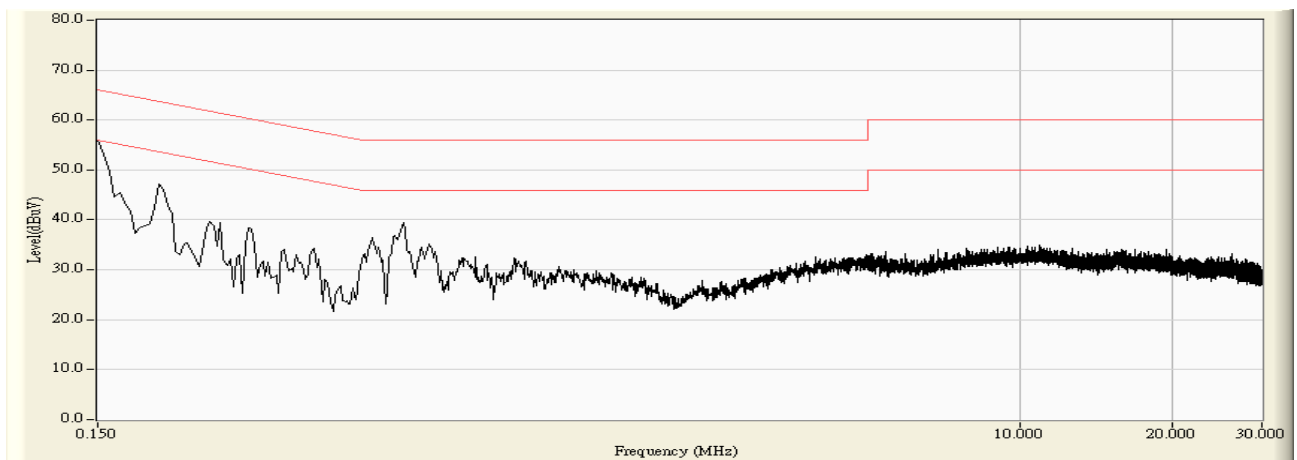
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	10.160	46.000	56.160	-9.840	66.000	QUASIPeAK
2		0.199	9.573	36.900	46.473	-17.179	63.652	QUASIPeAK
3		0.250	9.461	29.100	38.561	-23.196	61.757	QUASIPeAK
4		0.299	9.503	26.900	36.403	-23.868	60.271	QUASIPeAK
5		0.314	9.513	21.000	30.513	-29.351	59.864	QUASIPeAK
6		0.602	9.660	25.200	34.860	-21.140	56.000	QUASIPeAK

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:37
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

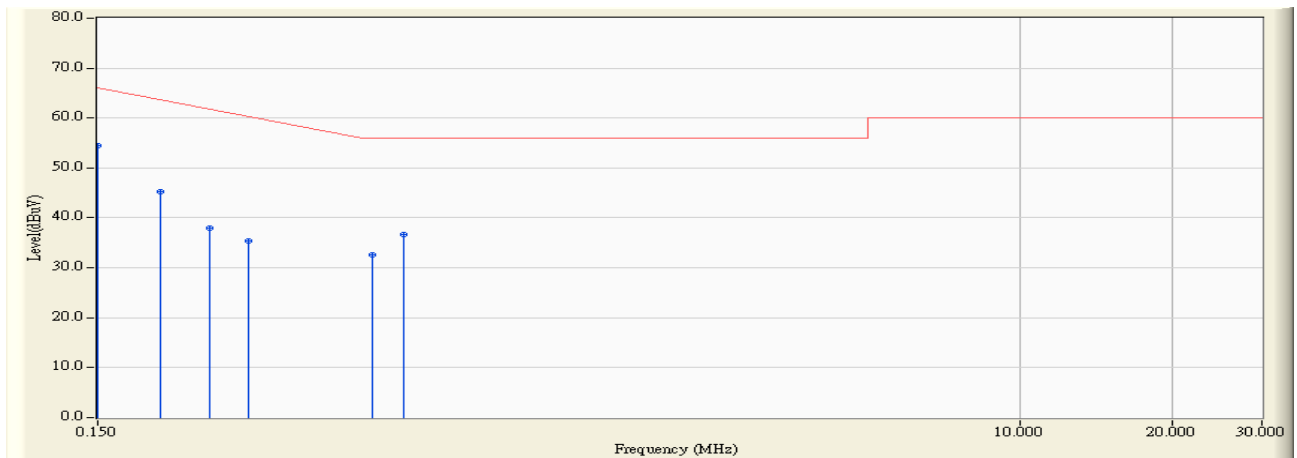


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	10.160	35.600	45.760	-10.240	56.000	AVERAGE
2		0.199	9.573	27.900	37.473	-16.179	53.652	AVERAGE
3		0.250	9.461	21.600	31.061	-20.696	51.757	AVERAGE
4		0.299	9.503	23.300	32.803	-17.468	50.271	AVERAGE
5		0.314	9.513	12.500	22.013	-27.851	49.864	AVERAGE
6		0.602	9.660	22.900	32.560	-13.440	46.000	AVERAGE

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:39
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

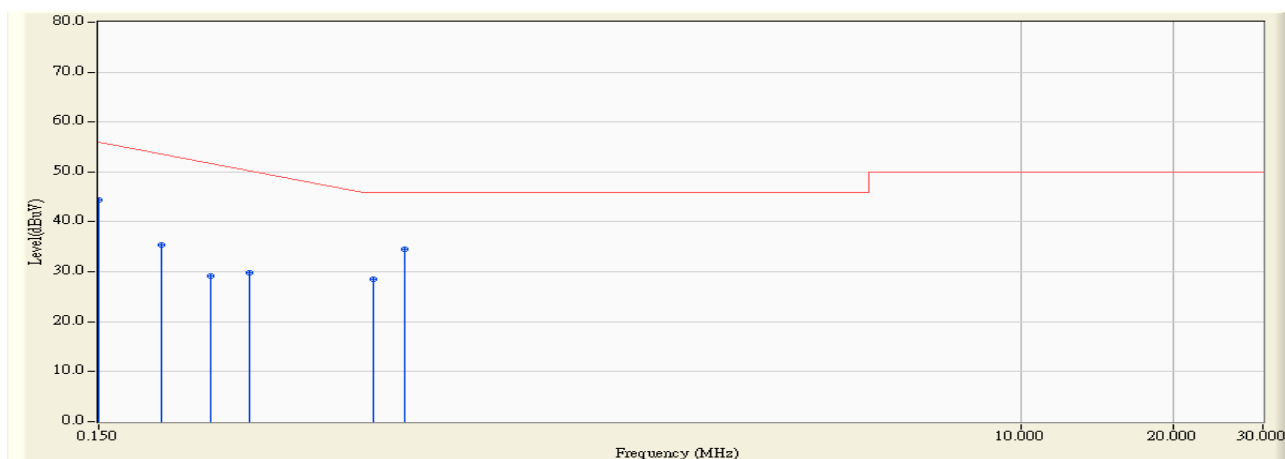


Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:41
Limit : FCC_SPartC_15.207_00M_QP	Margin : 0
Probe : ENV216_100014(0.009-30MHz) - Line2	Power : AC 120V/60Hz
EUT : Notebook	Note : Mode 1



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.150	10.006	44.400	54.406	-11.594	66.000	QUASIPeAK
2		0.200	9.656	35.500	45.156	-18.455	63.611	QUASIPeAK
3		0.250	9.580	28.300	37.880	-23.877	61.757	QUASIPeAK
4		0.298	9.600	25.700	35.300	-24.998	60.298	QUASIPeAK
5		0.522	9.632	22.900	32.532	-23.468	56.000	QUASIPeAK
6		0.602	9.705	27.000	36.705	-19.295	56.000	QUASIPeAK

Engineer : Robin	
Site : SR-1 (Conducted Emission and Power Disturbance Test)	Time : 2009/11/26 - 10:41
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	34.300	44.306	-11.694	56.000	AVERAGE
2		0.200	9.656	25.800	35.456	-18.155	53.611	AVERAGE
3		0.250	9.580	19.600	29.180	-22.577	51.757	AVERAGE
4		0.298	9.600	20.200	29.800	-20.498	50.298	AVERAGE
5		0.522	9.632	19.000	28.632	-17.368	46.000	AVERAGE
6	*	0.602	9.705	24.800	34.505	-11.495	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

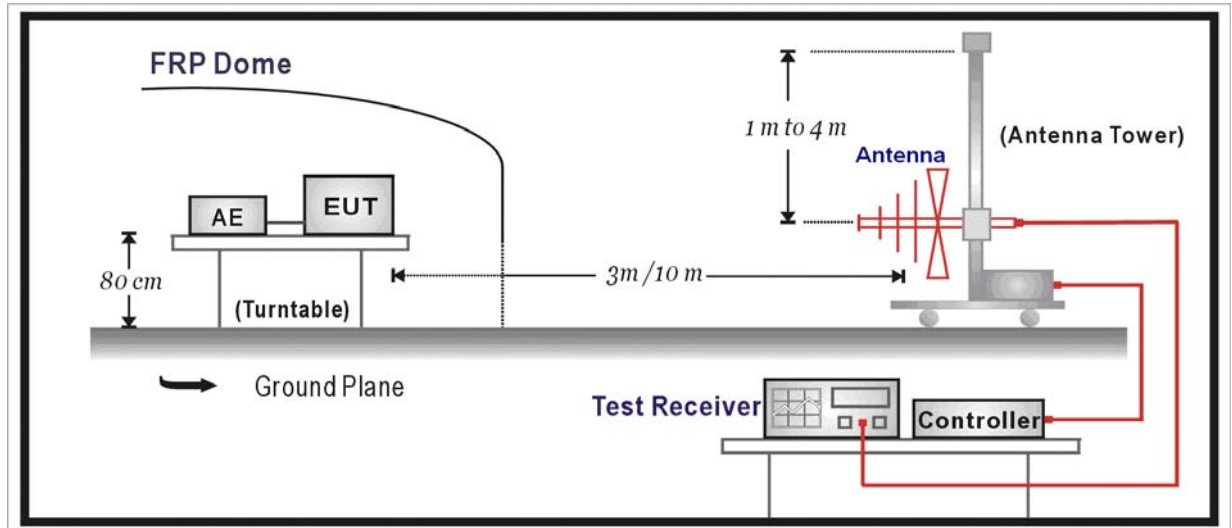
☒ Radiated Emission / AC-5

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
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2009.05.25
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C2	2009.05.25
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC5-TH	2009.03.31

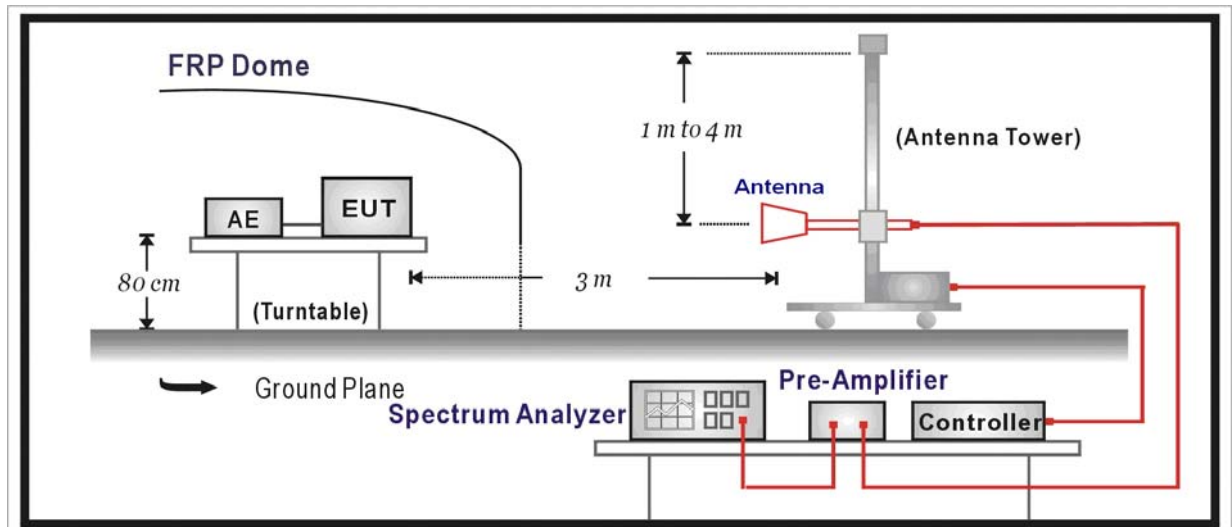
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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 - Preamplifier 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	2413.4	74.2	31.2	105.4	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-3.8	PK
6	V	2439.5	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-3.8	PK
11	V	2463.4	72.8	31.2	104.0	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-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	2414.5	78.6	31.2	109.8	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-3.8	PK
6	V	2434.2	78.2	31.2	109.4	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-3.8	PK
11	V	2465.0	76.1	31.2	107.3	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 (Note 1)	-3.0	PK
	V	5354.2	42.5	1.3	43.8	54 (Note 1)	-10.2	PK
	V	14470.8	29.6	16.8	46.4	54 (Note 1)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54 (Note 1)	-3.8	PK

Note 1: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

5. RF Antenna Conducted Spurious

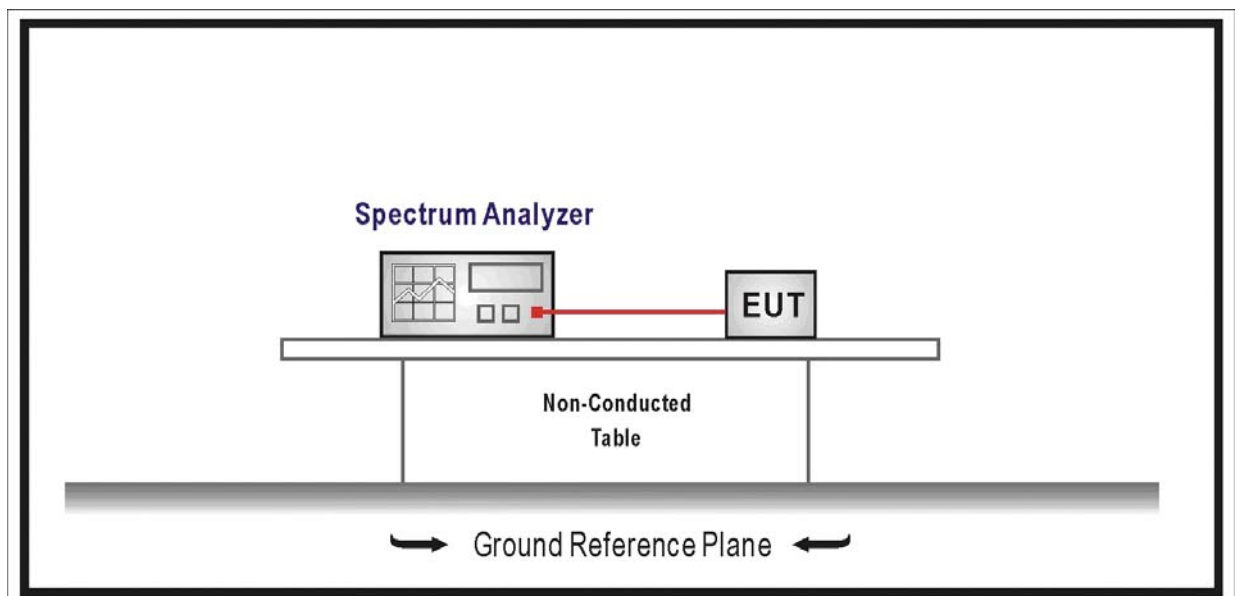
5.1. Test Equipment

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	:	Eee PC
Test Item	:	RF Antenna Conducted Spurious
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



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

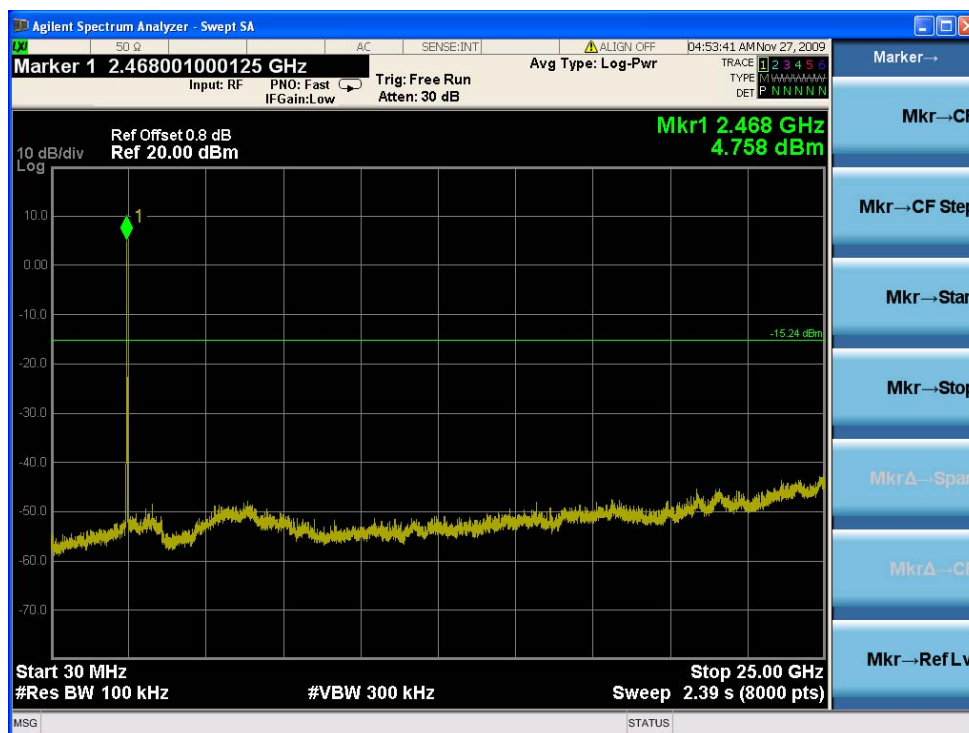
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



6. Radiated Emission Band Edge

6.1. Test Equipment

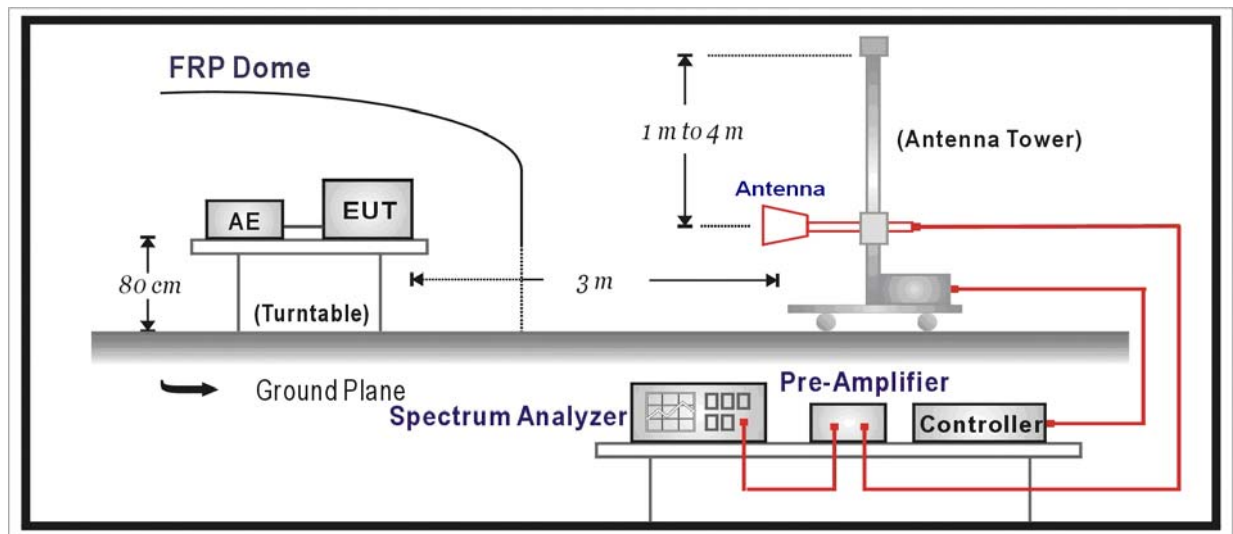
☒ Radiated Emission / AC-5

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

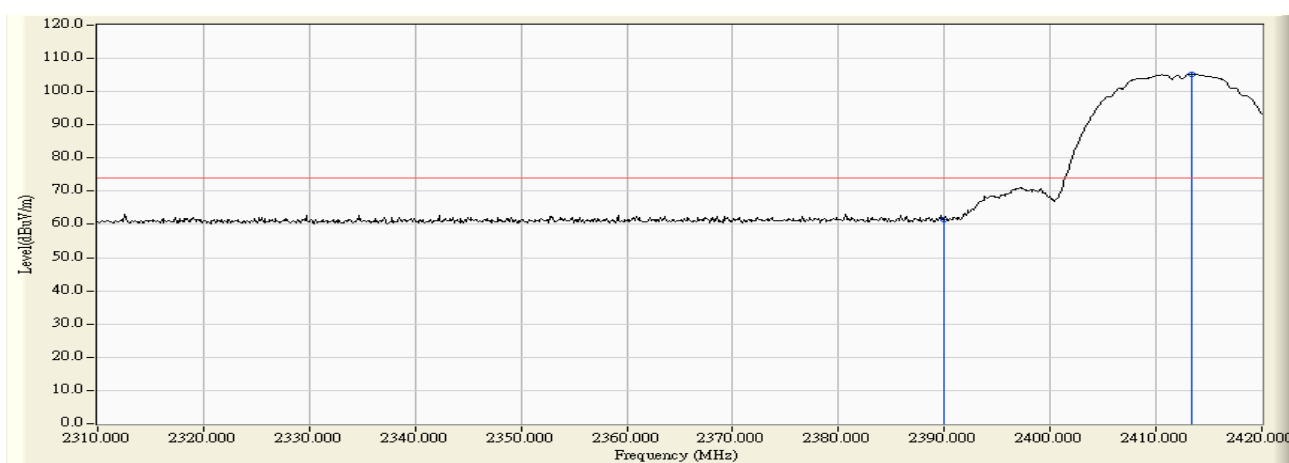
The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

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

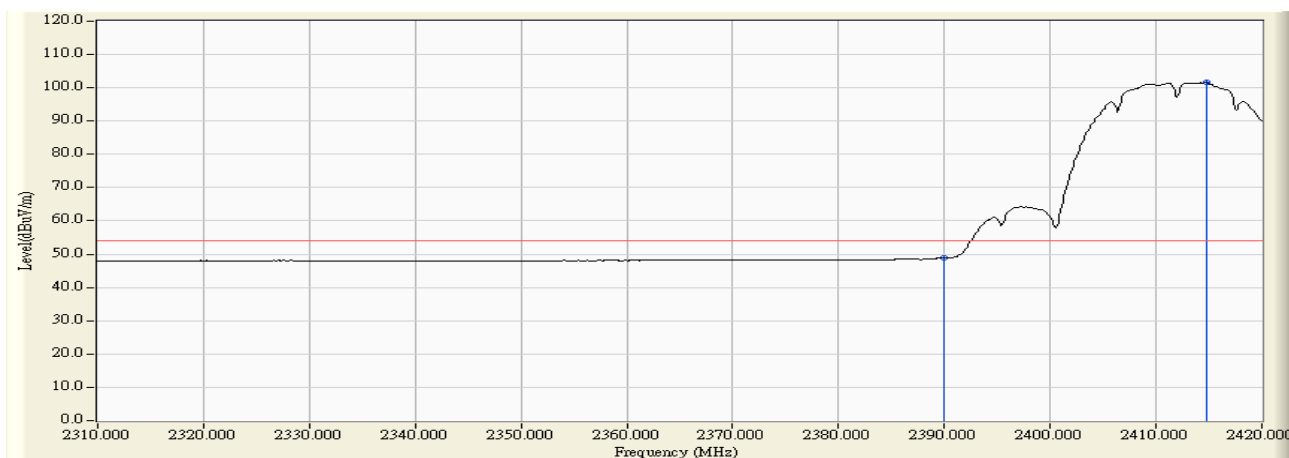
Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2412MHz



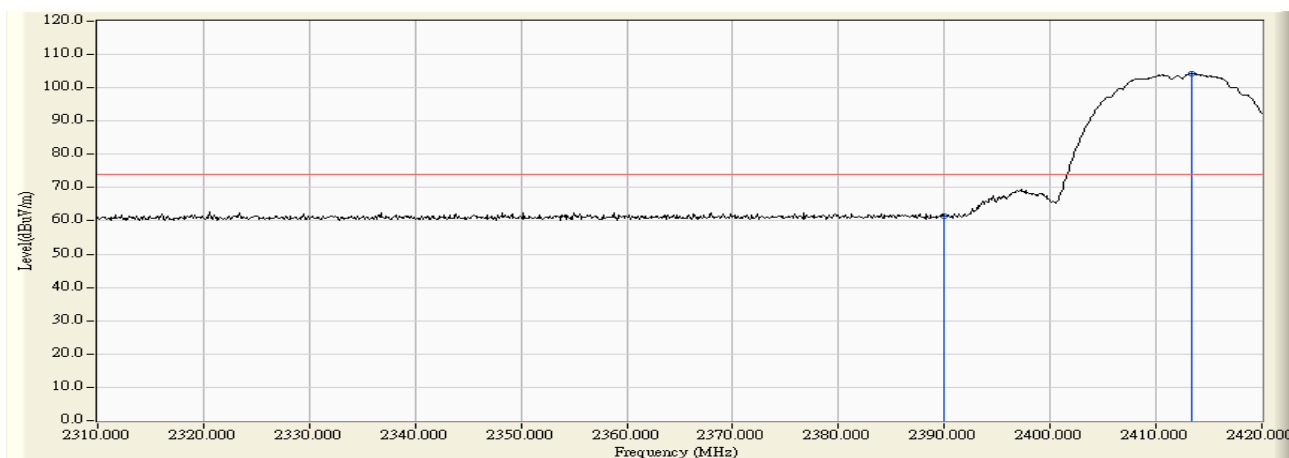
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.216	61.400	-12.570	73.970	PEAK
2	*	2413.400	31.192	74.162	105.354	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:09
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2412MHz



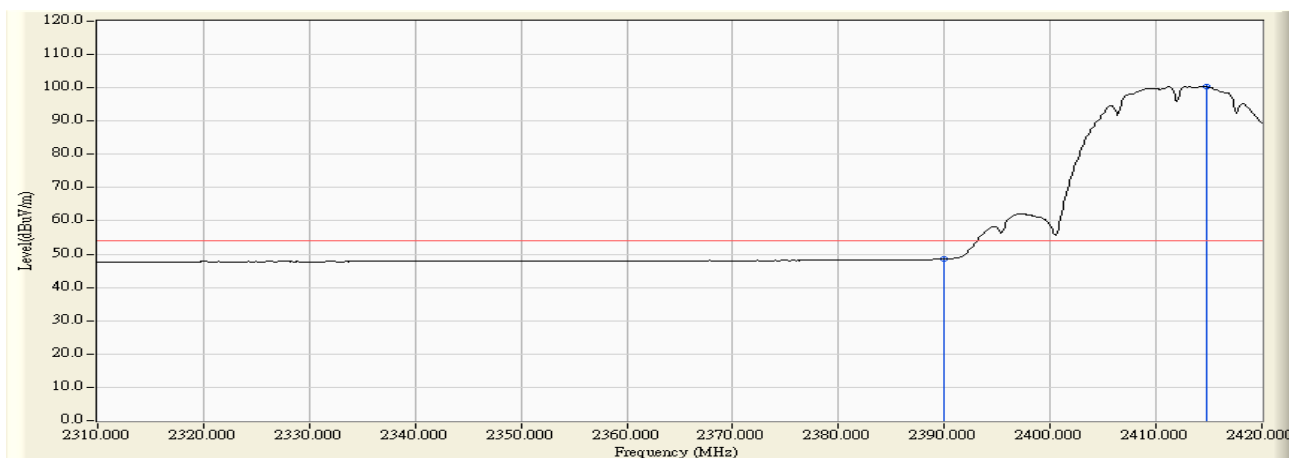
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.630	48.814	-5.156	53.970	AVERAGE
2	*	2414.720	31.193	70.413	101.606	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:06
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2412MHz



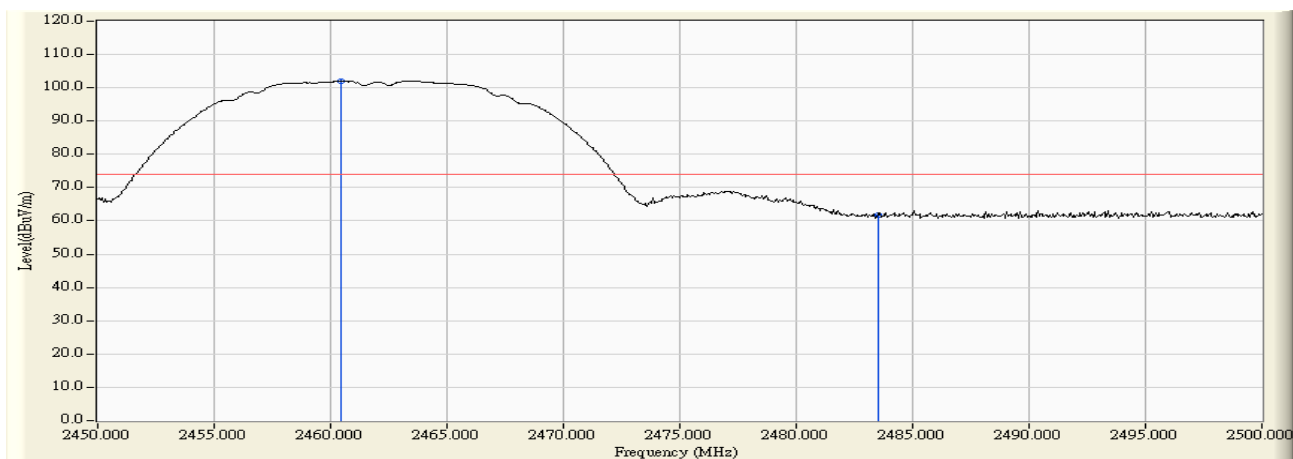
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	30.355	61.539	-12.431	73.970	PEAK
2	*	2413.400	31.192	72.941	104.133	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:06
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2412MHz



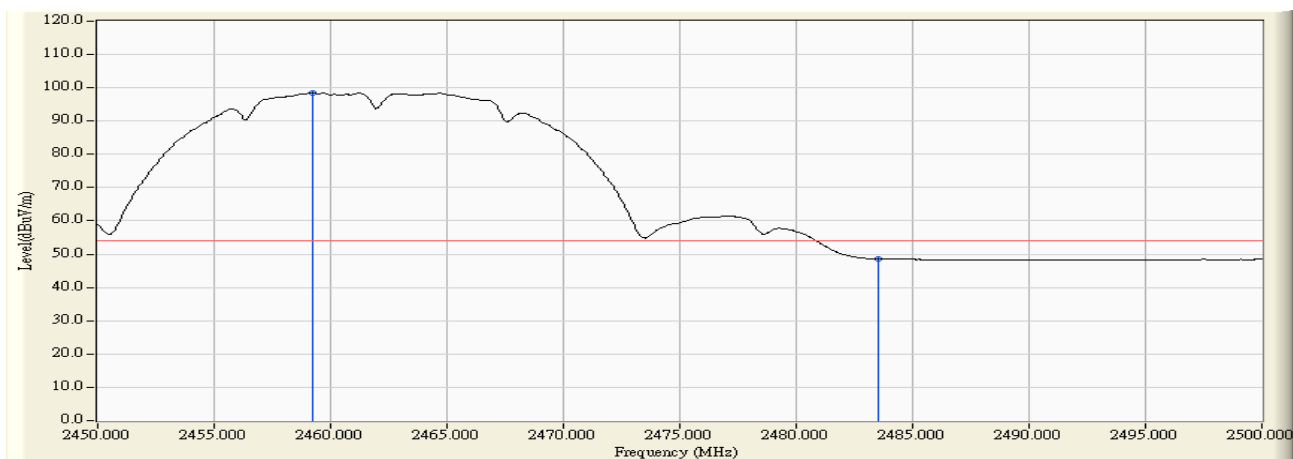
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	17.338	48.522	-5.448	53.970	AVERAGE
2	*	2414.720	31.193	69.338	100.531	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:59
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2462MHz



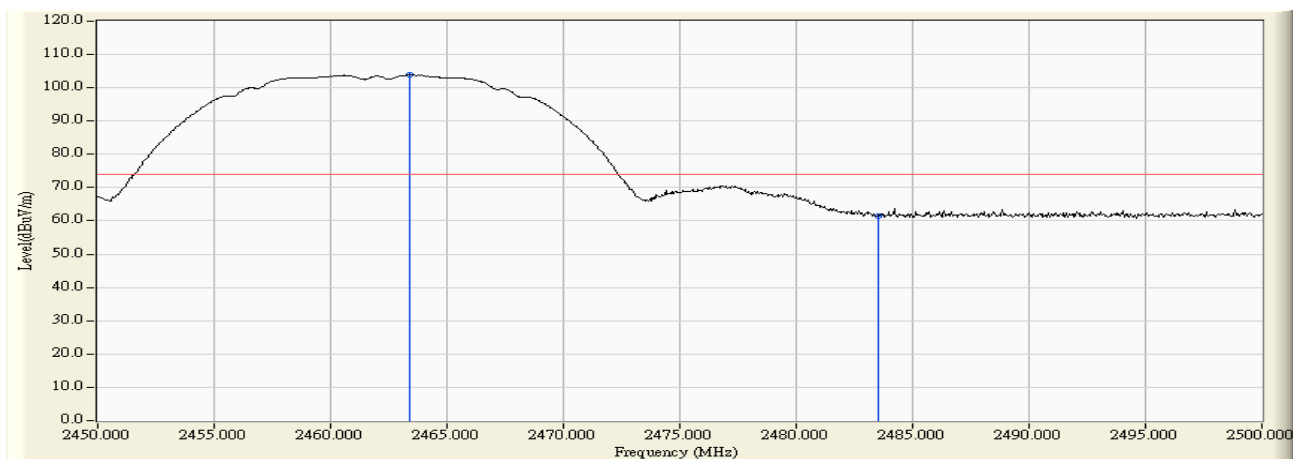
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2460.450	31.225	70.813	102.038	N/A	N/A	PEAK
2		2483.500	31.212	30.556	61.768	-12.202	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:00
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2462MHz



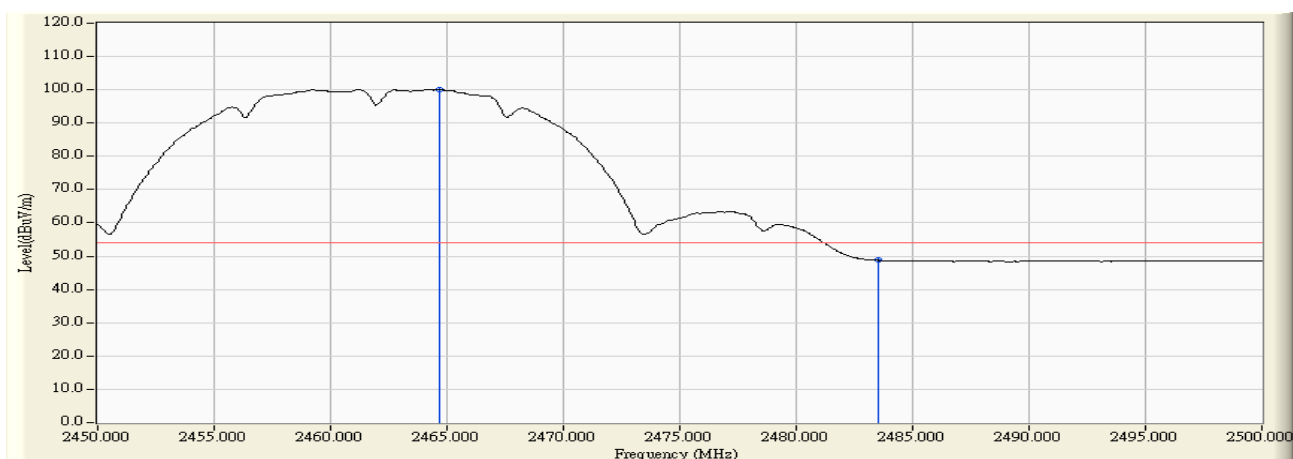
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2459.200	31.224	67.221	98.445	N/A	N/A	AVERAGE
2		2483.500	31.212	17.359	48.571	-5.399	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:03
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2462MHz



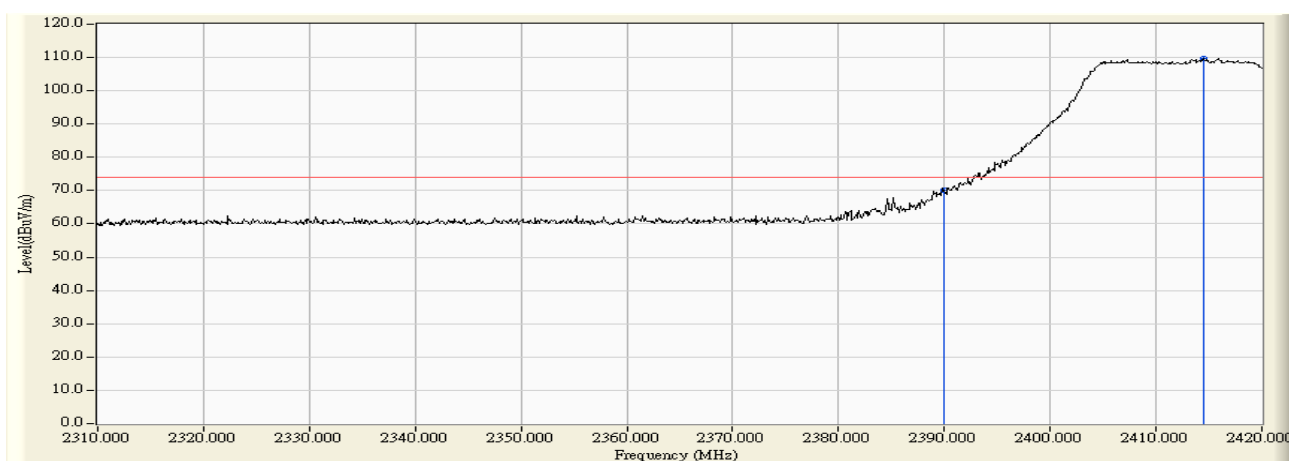
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2463.400	31.224	72.733	103.957	N/A	N/A	PEAK
2		2483.500	31.212	30.357	61.569	-12.401	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 10:03
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 1: Transmit by 802.11b at channel 2462MHz



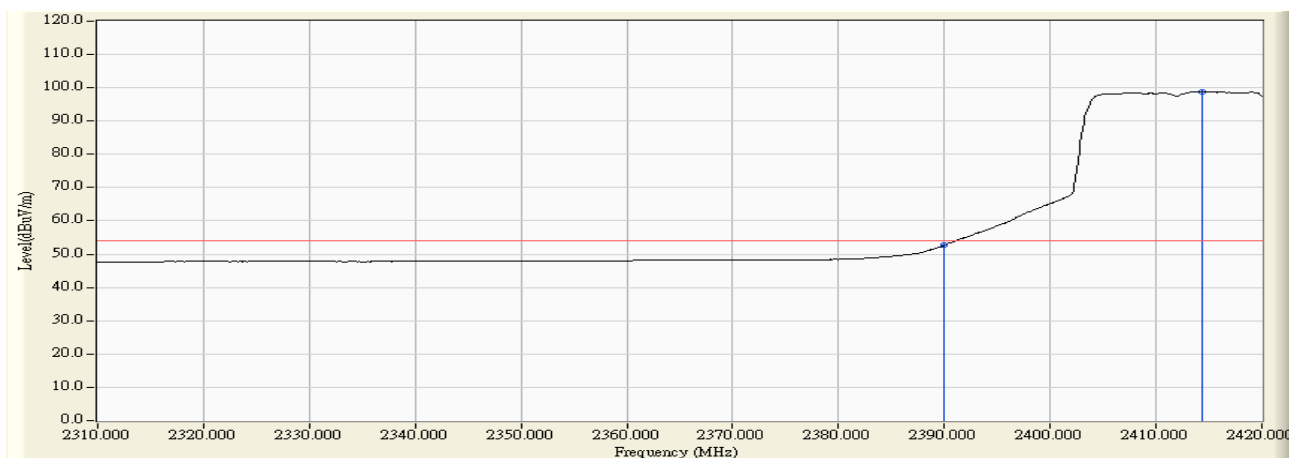
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.700	31.223	68.920	100.144	N/A	N/A	AVERAGE
2		2483.500	31.212	17.557	48.769	-5.201	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:38
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2412MHz



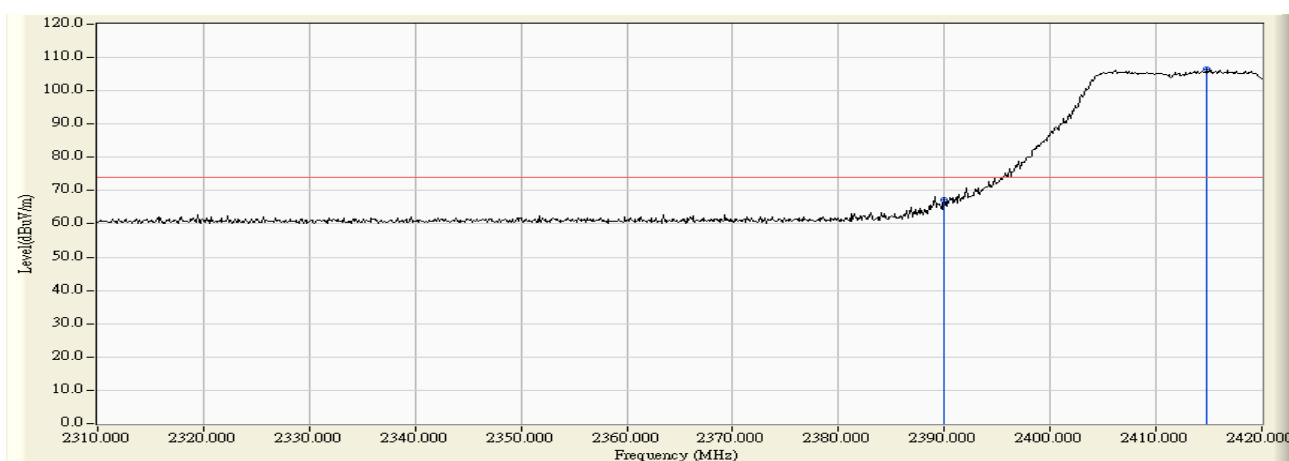
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	38.832	70.016	-3.954	73.970	PEAK
2	*	2414.500	31.193	78.571	109.763	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:39
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2412MHz



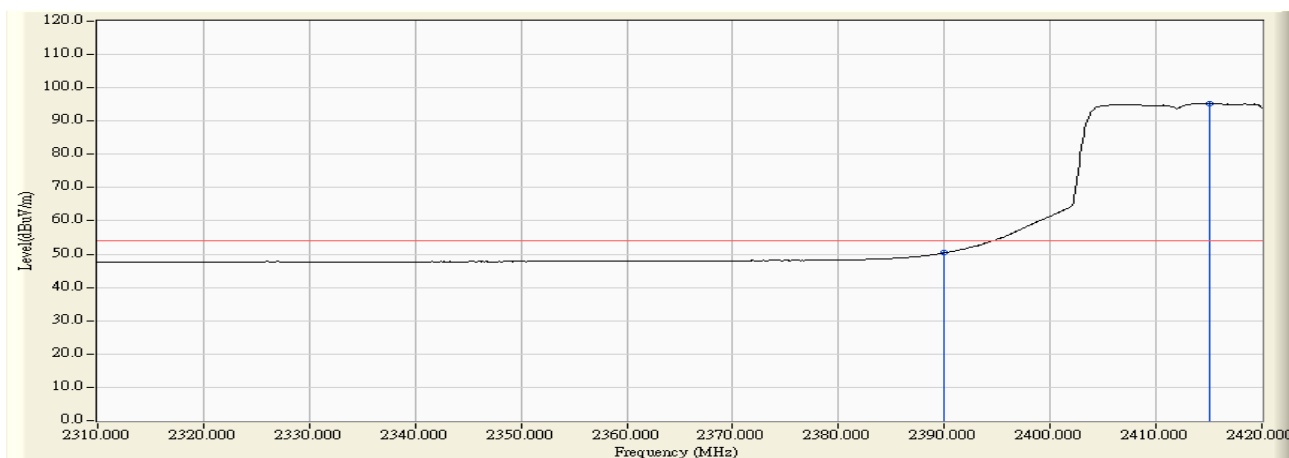
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	21.463	52.647	-1.323	53.970	AVERAGE
2	*	2414.390	31.192	67.528	98.720	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:41
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2412MHz



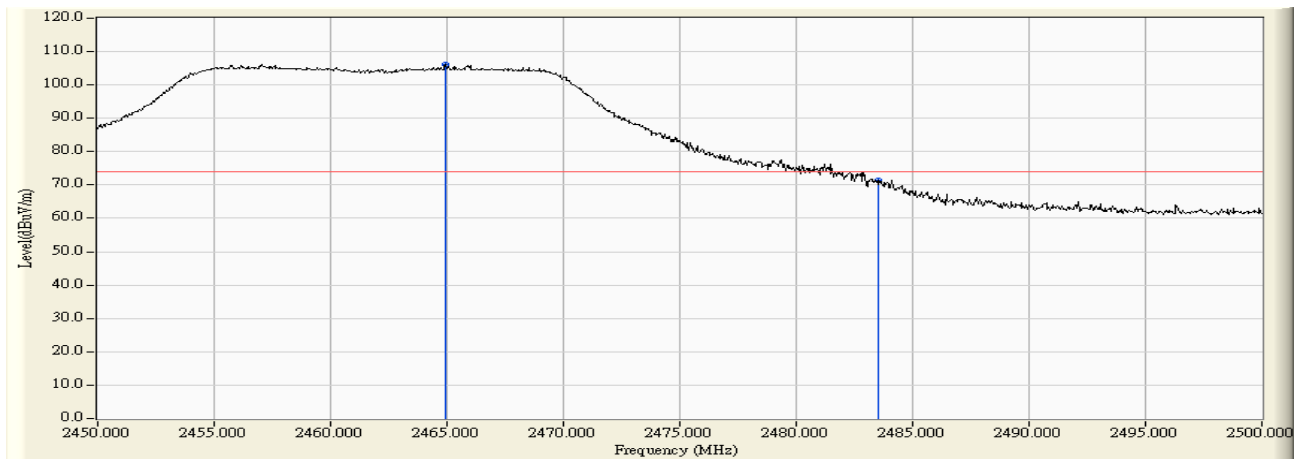
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	36.081	67.265	-6.705	73.970	PEAK
2	*	2414.830	31.193	75.188	106.381	N/A	N/A	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:41
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2412MHz



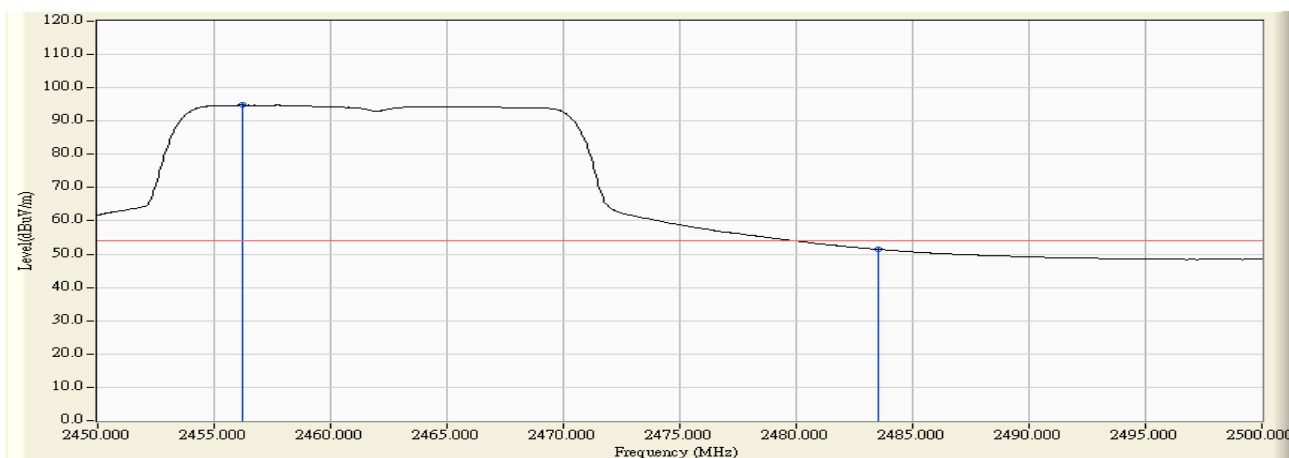
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2390.000	31.184	19.205	50.389	-3.581	53.970	AVERAGE
2	*	2415.050	31.193	63.993	95.186	N/A	N/A	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:56
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2462MHz



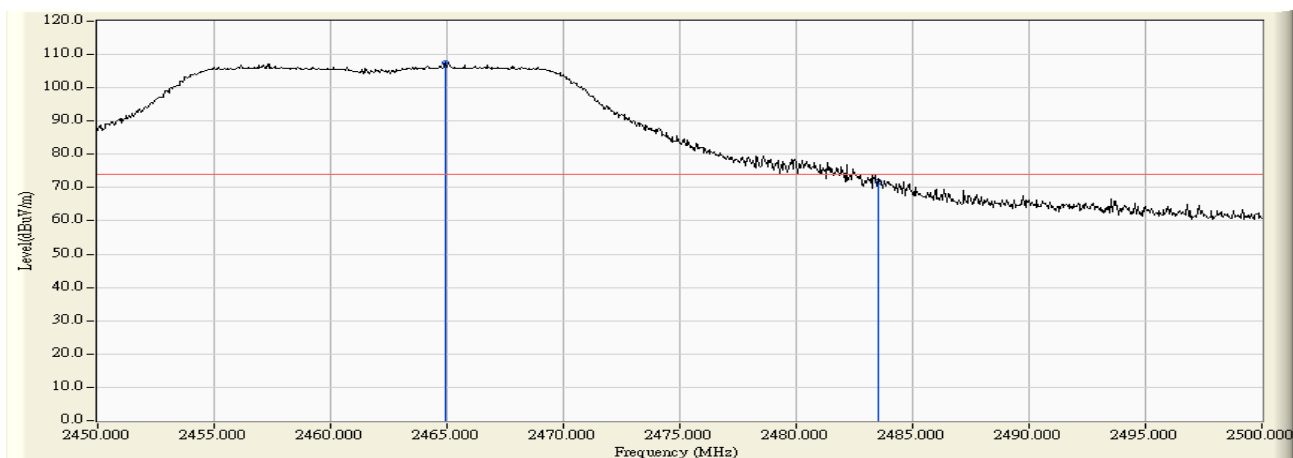
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.950	31.223	74.997	106.220	N/A	N/A	PEAK
2		2483.500	31.212	40.174	71.386	-2.584	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:56
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2462MHz



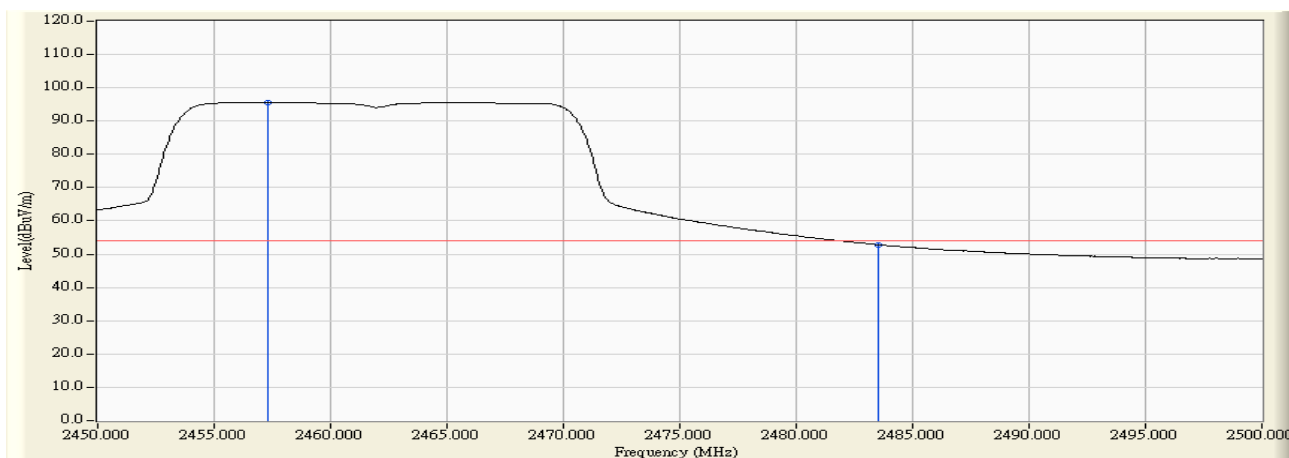
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2456.200	31.223	63.552	94.775	N/A	N/A	AVERAGE
2		2483.500	31.212	20.245	51.457	-2.513	53.970	AVERAGE

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:53
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2464.950	31.223	76.078	107.301	N/A	N/A	PEAK
2		2483.500	31.212	40.614	71.826	-2.144	73.970	PEAK

Engineer : Robin	
Site : AC-5 (3m Semi-Anechoic Chamber)	Time : 2009/11/27 - 09:52
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
Probe : 9120D_499(1-18GHz) - VERTICAL	Power : AC 120V/60Hz
EUT : Eee PC	Note : Mode 2: Transmit by 802.11g at channel 2462MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2457.300	31.223	64.438	95.661	N/A	N/A	AVERAGE
2		2483.500	31.212	21.602	52.814	-1.156	53.970	AVERAGE

7. Operation Frequency Range of 20dB Bandwidth

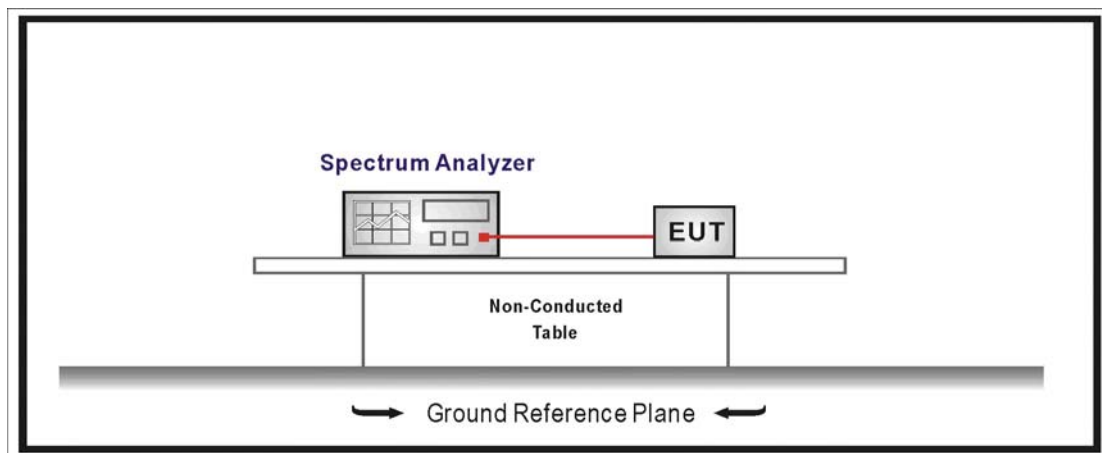
7.1. Test Equipment

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

Channel 01 (2412MHz)

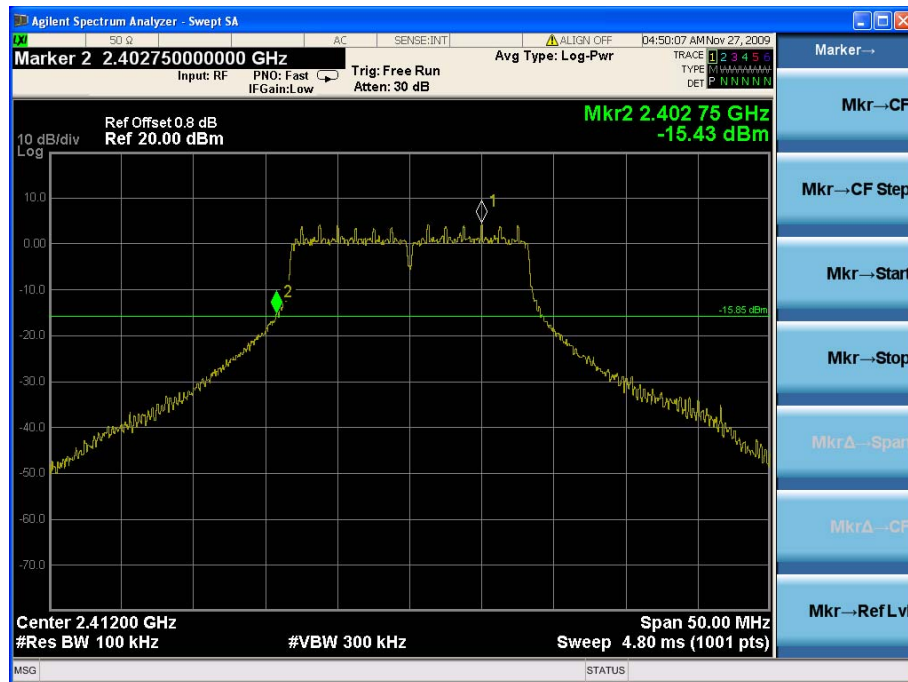


Channel 11 (2462MHz)

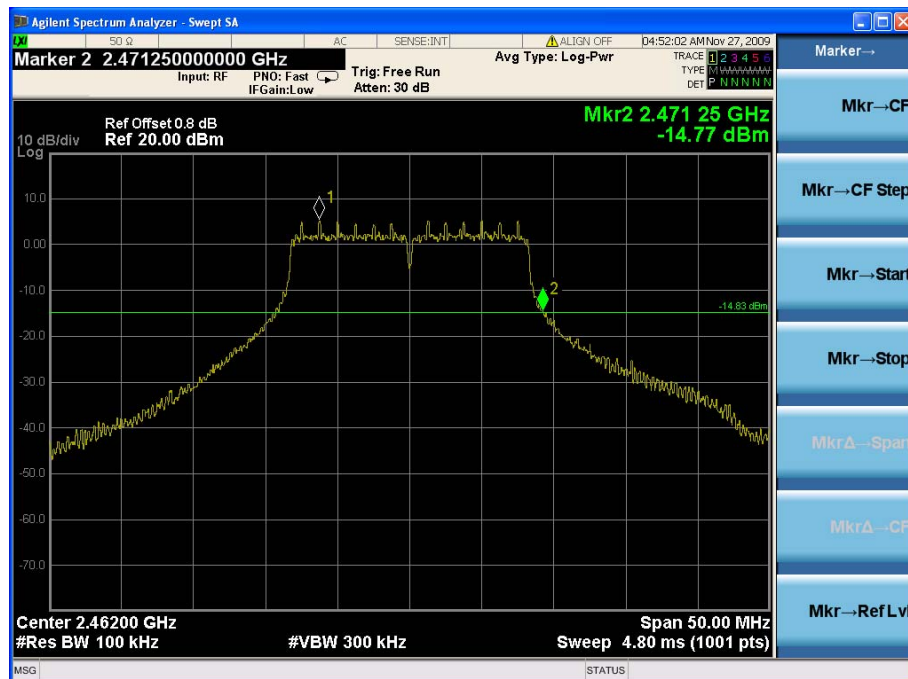


Product	:	Eee PC
Test Item	:	Operation Frequency Range of 20dB Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)



Channel 11 (2462MHz)



8. Occupied Bandwidth

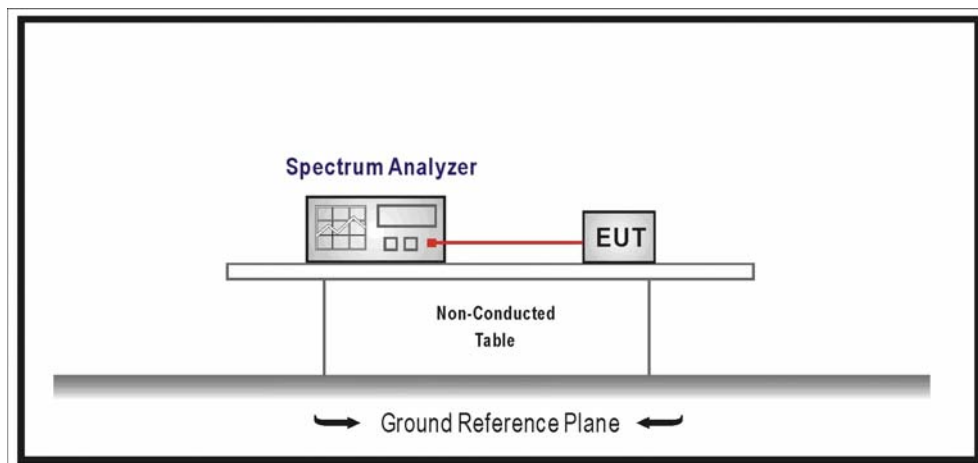
8.1. Test Equipment

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

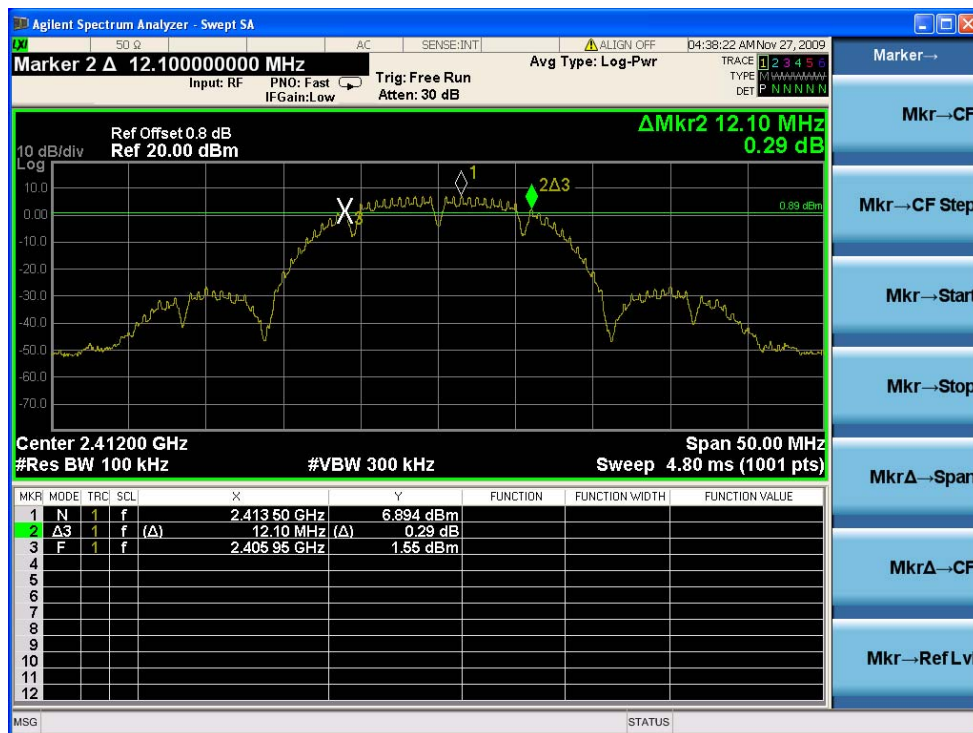
The measurement uncertainty is defined as ± 1 kHz

8.6. Test Result

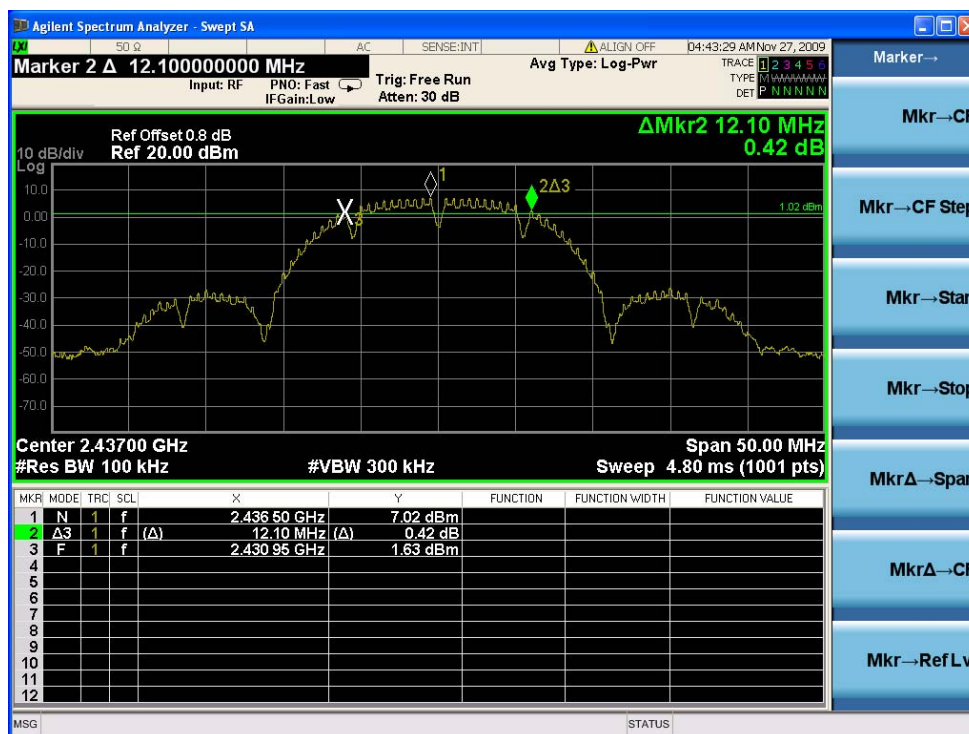
Product	:	Eee PC
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 1: Transmit by 802.11b

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

Channel 01 (2412MHz)



Channel 06 (2437MHz)



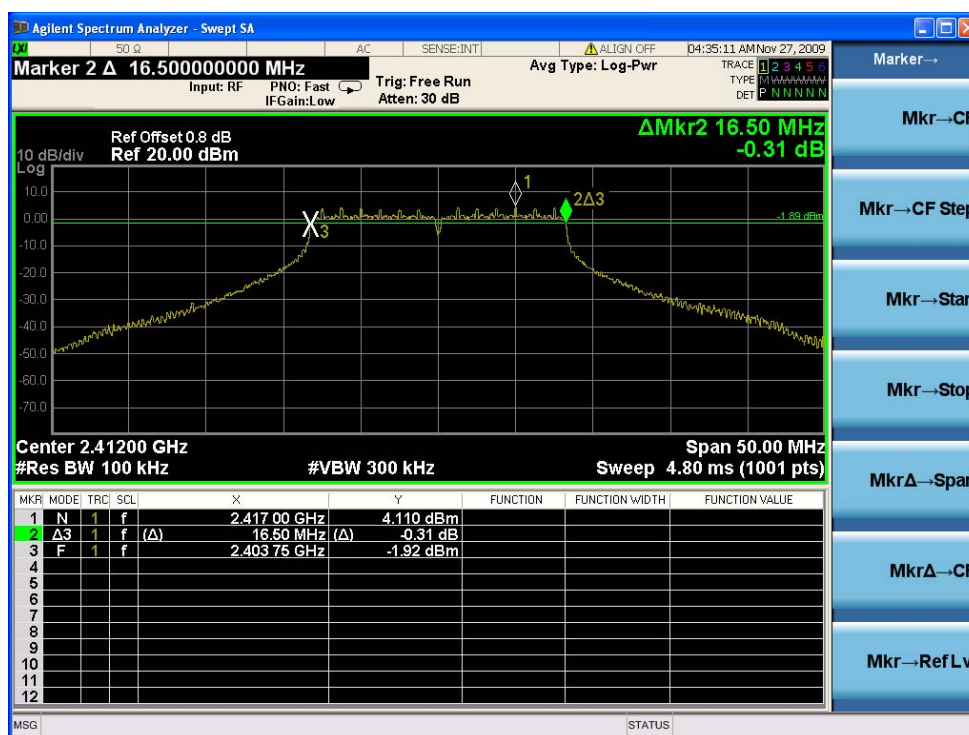
Channel 11 (2462MHz)



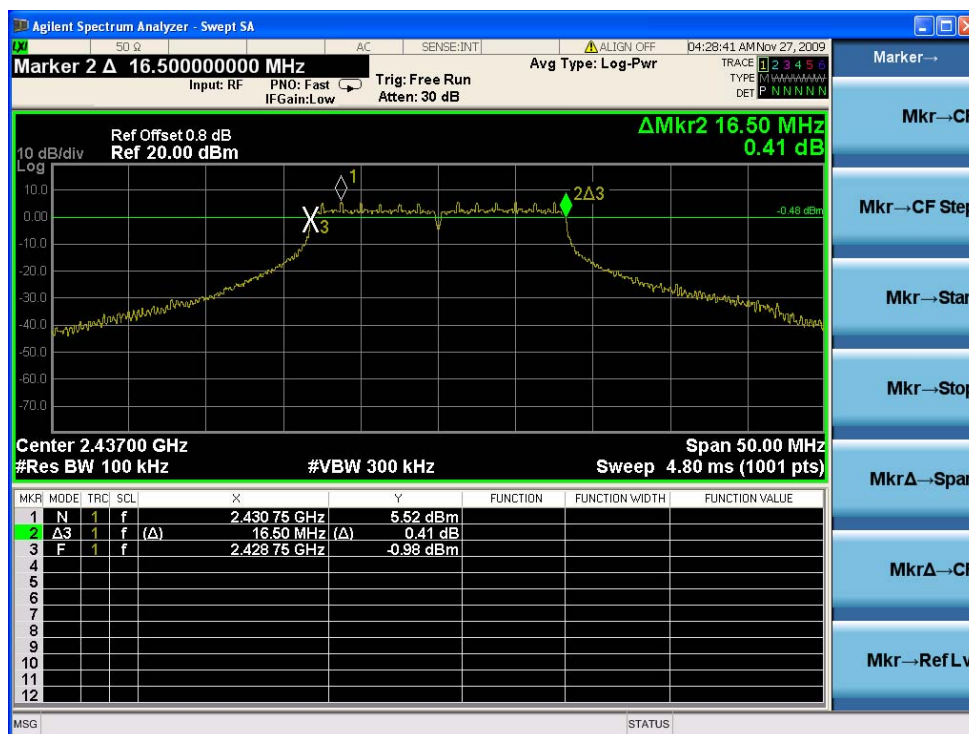
Product	:	Eee PC
Test Item	:	6dB Occupied Bandwidth
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
01	2412	16500	500	Pass
06	2437	16500	500	Pass
11	2462	16500	500	Pass

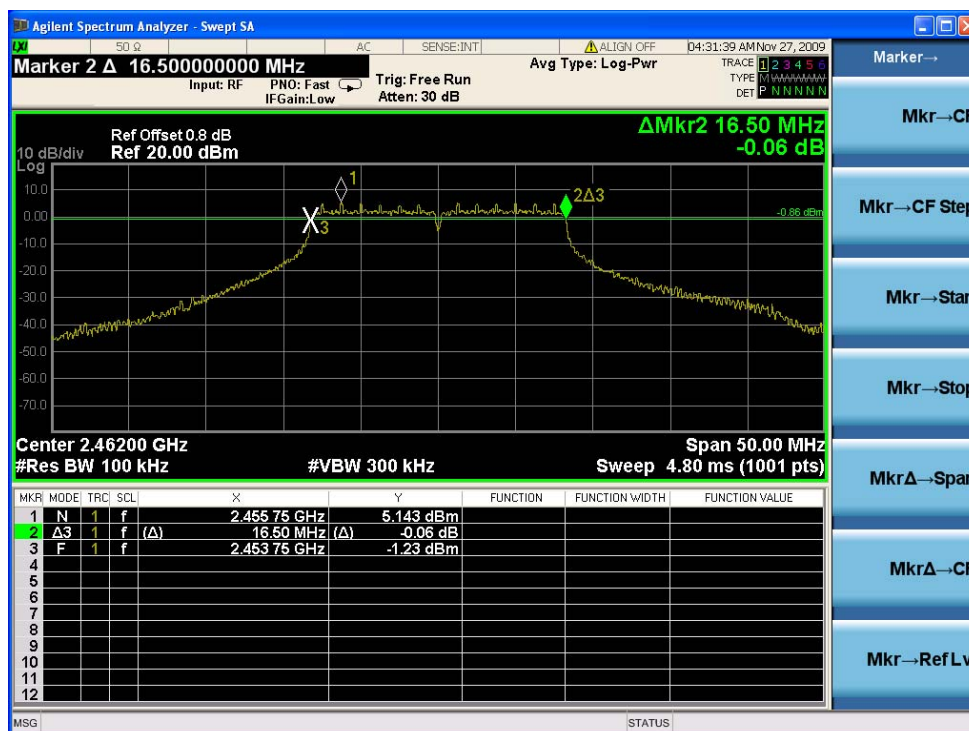
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



9. Power Output

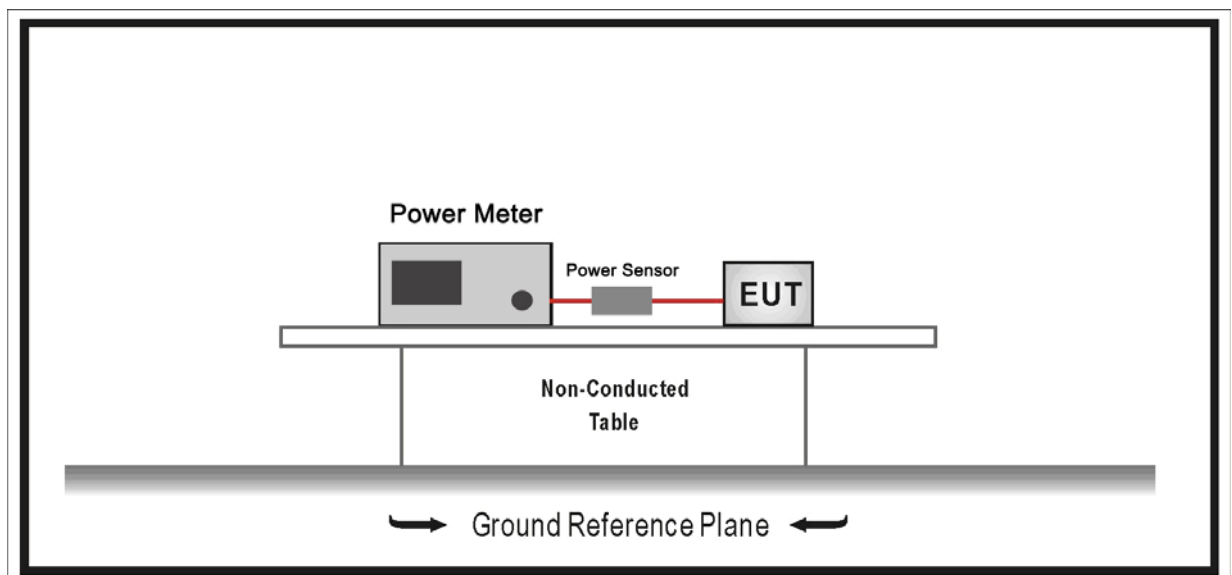
9.1. Test Equipment

Power Output / AC-6

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Wideband Peak Power Meter	Anritsu	ML2495A	0905006	2009/02/12
Power Sensor	Anritsu	MA2411B	0846014	2009/01/12
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/09

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

9.2. Test Setup



9.3. Limit

The maximum peak power shall be less 1 Watt (30dBm).

Note: the conducted output power limit specified above is based on the use the antennas with directional gains that do not exceed 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, as appropriate, by the amount in dB that the directional gain of antenna exceeds 6 dBi.

9.4. Test Procedure

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

Use the wideband power meter to test peak power and record the result.

9.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

9.6. Test Result

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (blue marker) for final test of each channel.

Power output at various data rates:

Test Mode	Frequency (MHz)	Channel	Data Rate	Peak Power (dBm)
802.11b	2437	6	1	18.94
			2	18.88
			5.5	18.67
			11	18.39
802.11g	2437	6	6	21.86
			9	21.68
			12	21.52
			18	21.29
			24	21.17
			36	21.06
			48	20.84
			54	20.68

Power Output Test Result

Test Mode	Channel No.	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
802.11b	01	2412	18.80	30	Pass
	06	2437	18.94	30	Pass
	11	2462	18.58	30	Pass
802.11g	01	2412	20.42	30	Pass
	06	2437	21.86	30	Pass
	11	2462	21.24	30	Pass

10. Power Spectral Density

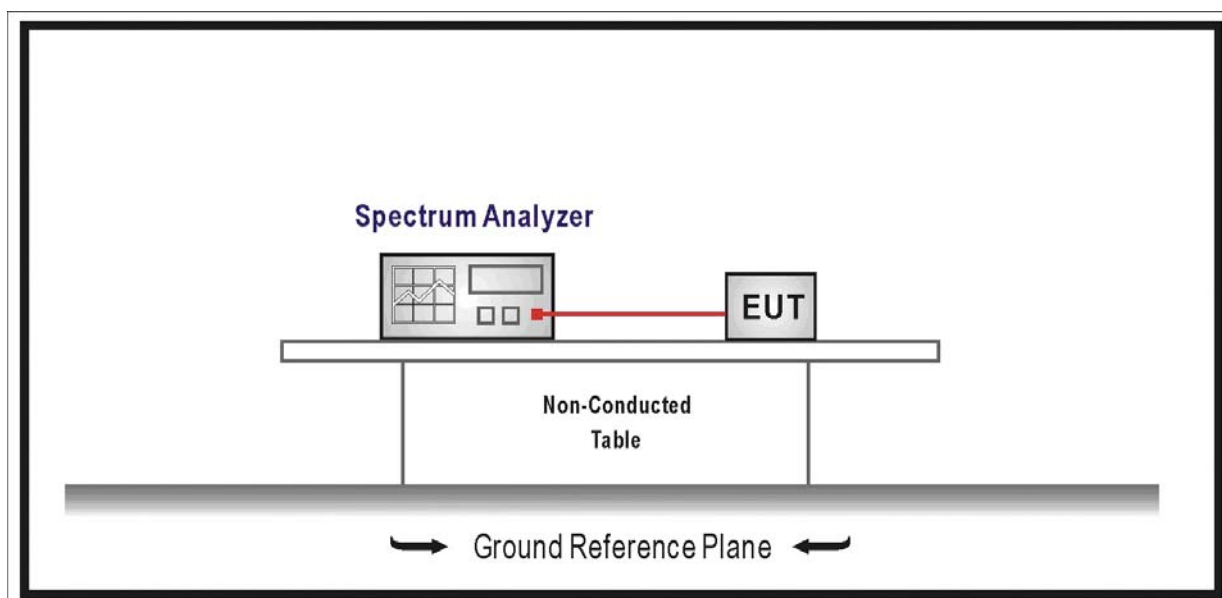
10.1. Test Equipment

Power Spectral Density / 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.

10.2. Test Setup



10.3. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiated to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

10.4. 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= 3 kHz, Set VBW $\geq$ 10 kHz, Sweep time=100s, Set detector=Peak detector.

10.5. Uncertainty

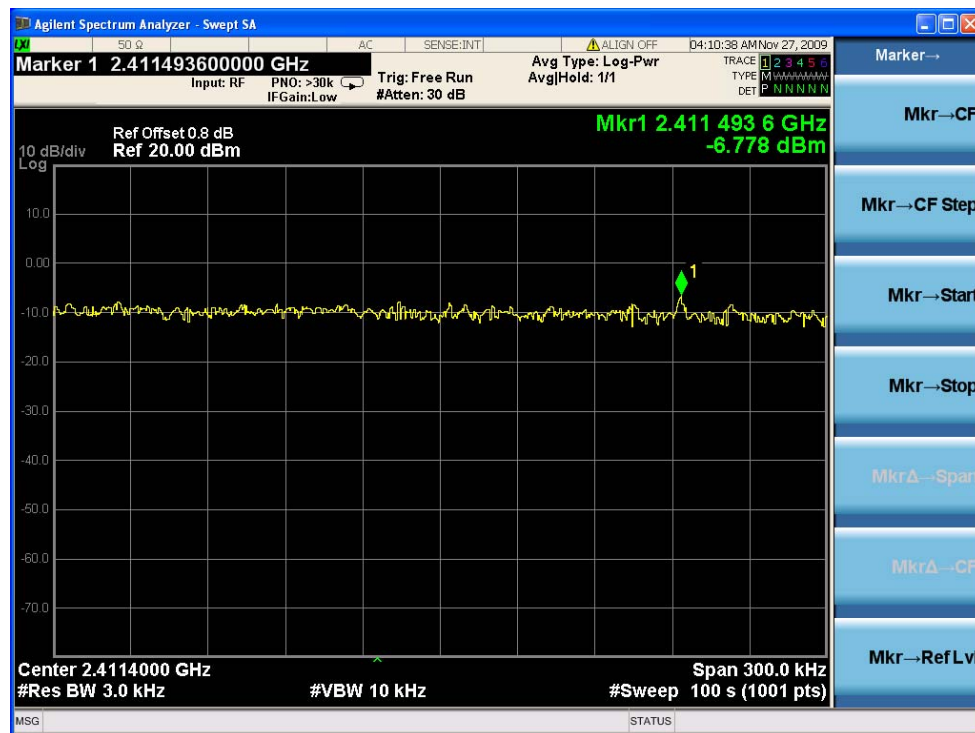
The measurement uncertainty is defined as ± 1.27 dB

10.6. Test Result

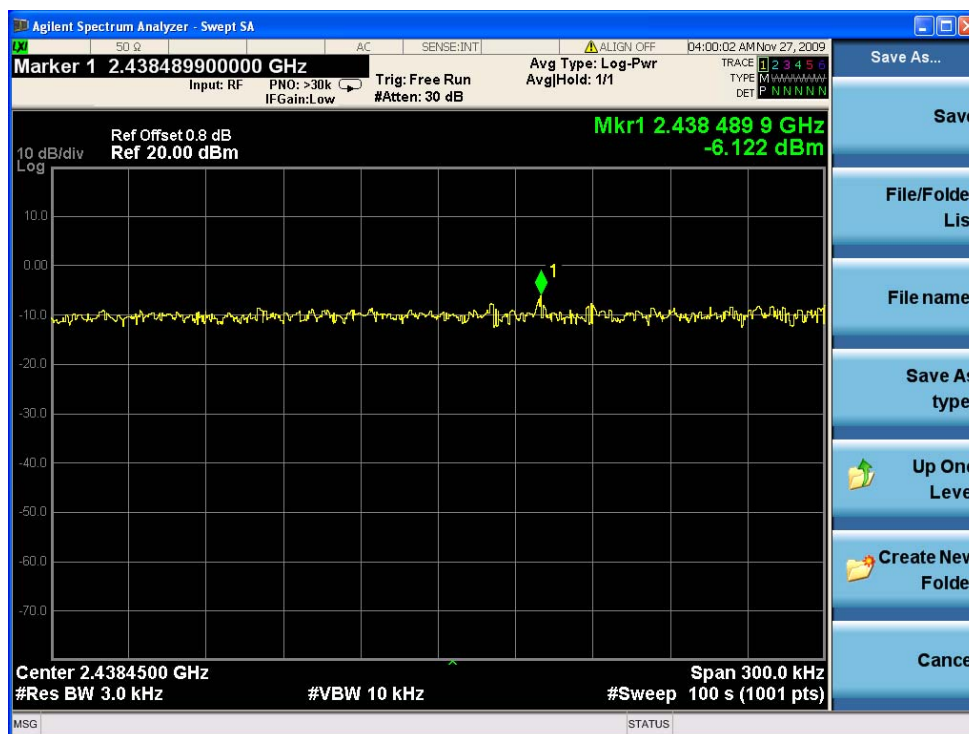
Product	:	Eee PC
Test Item	:	Power Spectral Density
Test Mode	:	Mode 1: Transmit by 802.11b

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm)	Result
01	2412	-6.778	8	Pass
06	2437	-6.122	8	Pass
11	2462	-6.798	8	Pass

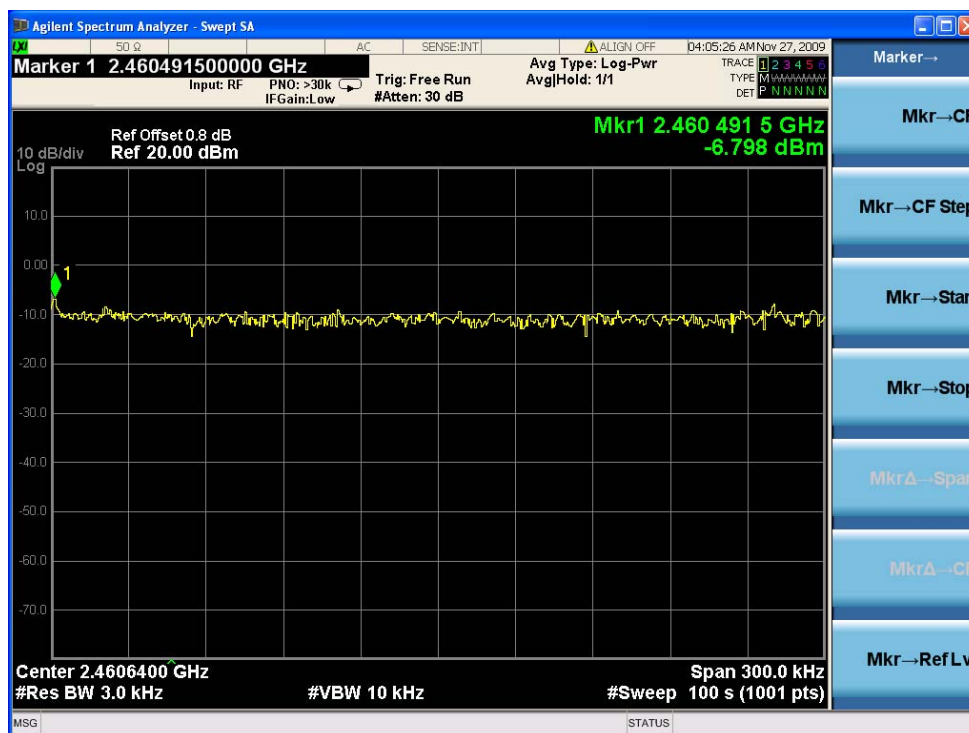
Channel 01 (2412MHz)



Channel 06 (2437MHz)



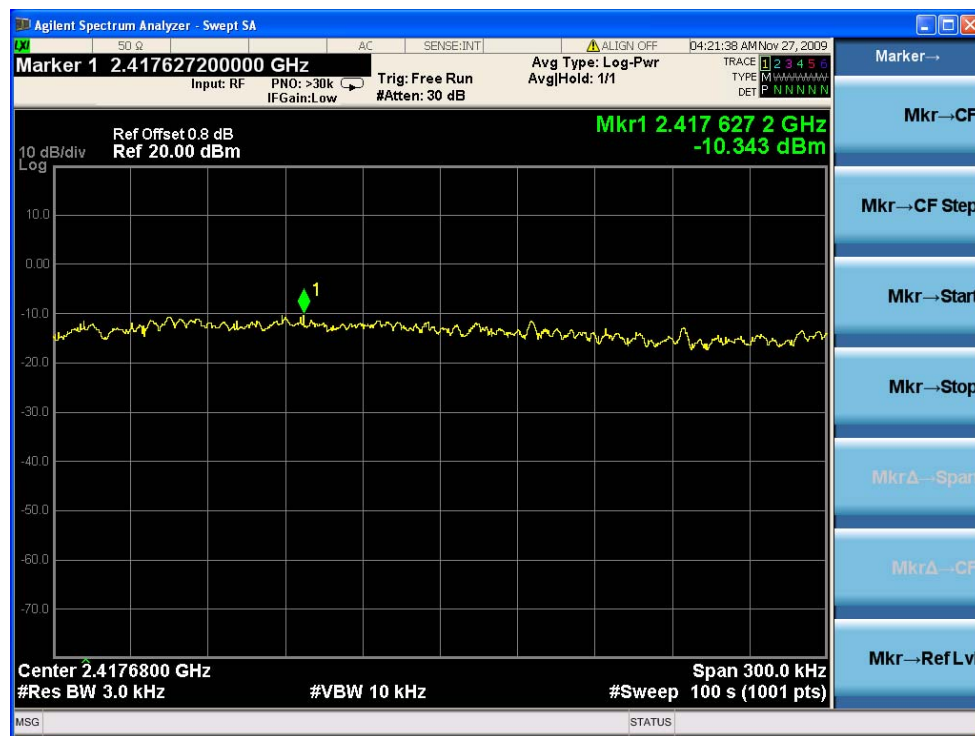
Channel 11 (2462MHz)



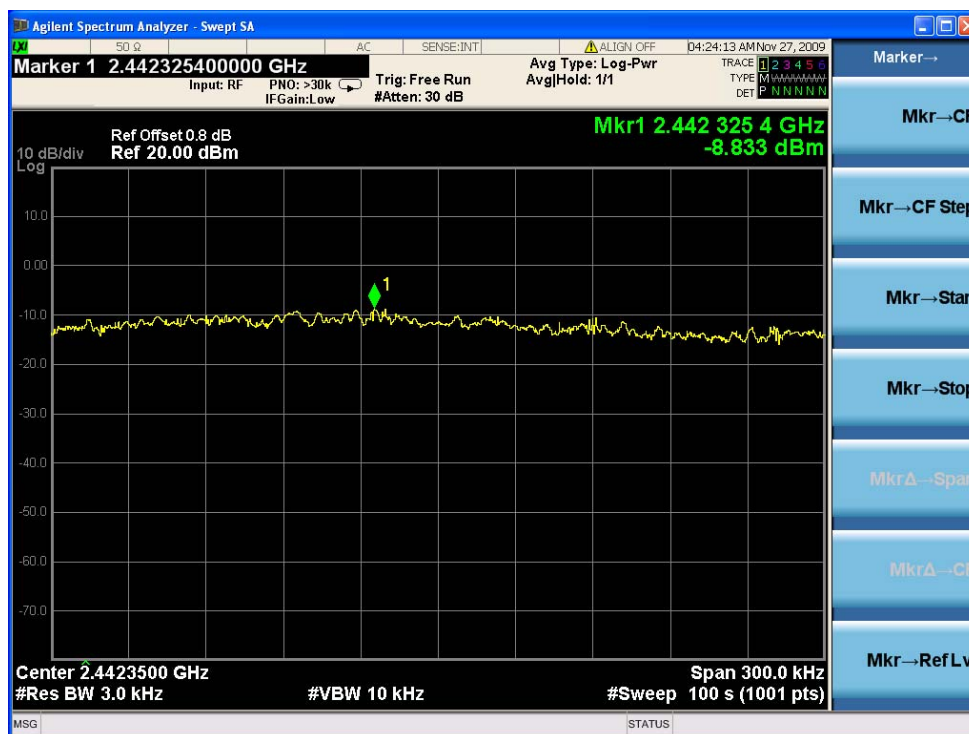
Product	:	Eee PC
Test Item	:	Power Spectral Density
Test Mode	:	Mode 2: Transmit by 802.11g

Channel No.	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm)	Result
01	2412	-10.343	8	Pass
06	2437	-8.833	8	Pass
11	2462	-9.364	8	Pass

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

