MEASUREMENT REPORT
of
WIRELESS MINI-PCI MODULE

Applicant	**:**	ASUSTek Computer Inc.
EUT	**:**	Wireless Mini-PCI Module
Model	**:**	WL-120g V2A
FCC ID	**:**	MSQWL120GV2A

Tested by :

Training Research Co., Ltd.

TEL : 886-2-26935155 FAX : 886-2-26934440

No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

CERTIFICATION

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 (2003) as a reference. All test were conducted by ***Training Research Co., Ltd.***, 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart C Section 15.247.

Applicant	:	ASUSTek Computer Inc.
Applicant Address	:	4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.
FCC ID	:	MSQWL120GV2A
Report No.	:	A5415060009
Test Date	:	April 11, 2006

Prepared by: *Jack Tsai* **Approved by:** *Frank Tsai*

Conditions of issue :

(1) ***This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.***

(2) ***This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.***

(3) ***This test report, measurements made by TRC are traceable to the NIST only Conducted and Radiated Method.***

NVLAP LAB CODE 200174-0

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Ⅰ. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of applicant in support that the certification in accordance with Part 2 Subpart J and Part 15 Subpart A, and C of the Commission's Rules and Regulations.

1.2 Description of EUT

Product Name	:	Wireless mini-PCI Module
Model Name	:	WL-120g V2A
FCC ID	:	MSQWL120GV2A
Frequency Range	:	2.412 GHz ~ 2.462GHz
Support Channel	:	11 Channels
Channel Spacing	:	5MHz
Modulation Skill	:	DBPSK, DQPSK, CCK, OFDM
Power Type	:	Powered by Mini-PCI interface of client' s device

1.3 Test method

1. Insert the EUT into the mini-PCI interface of the test fixture (which is transferred from PCMCIA to mini-PCI interface).
2. Using the notebook computer and software provided by the manufacturer to control EUT. The software is operated under the Windows to control the EUT in the mode of continuous transmission; the test is performed under the specific conditions.
3. Set different channel and data rate being tested and repeat the procedures above.
   (a) Conduction test and Radiated for Intentional test:
   making EUT to the mode of continuous transmission

1.4 Description of Support Equipment

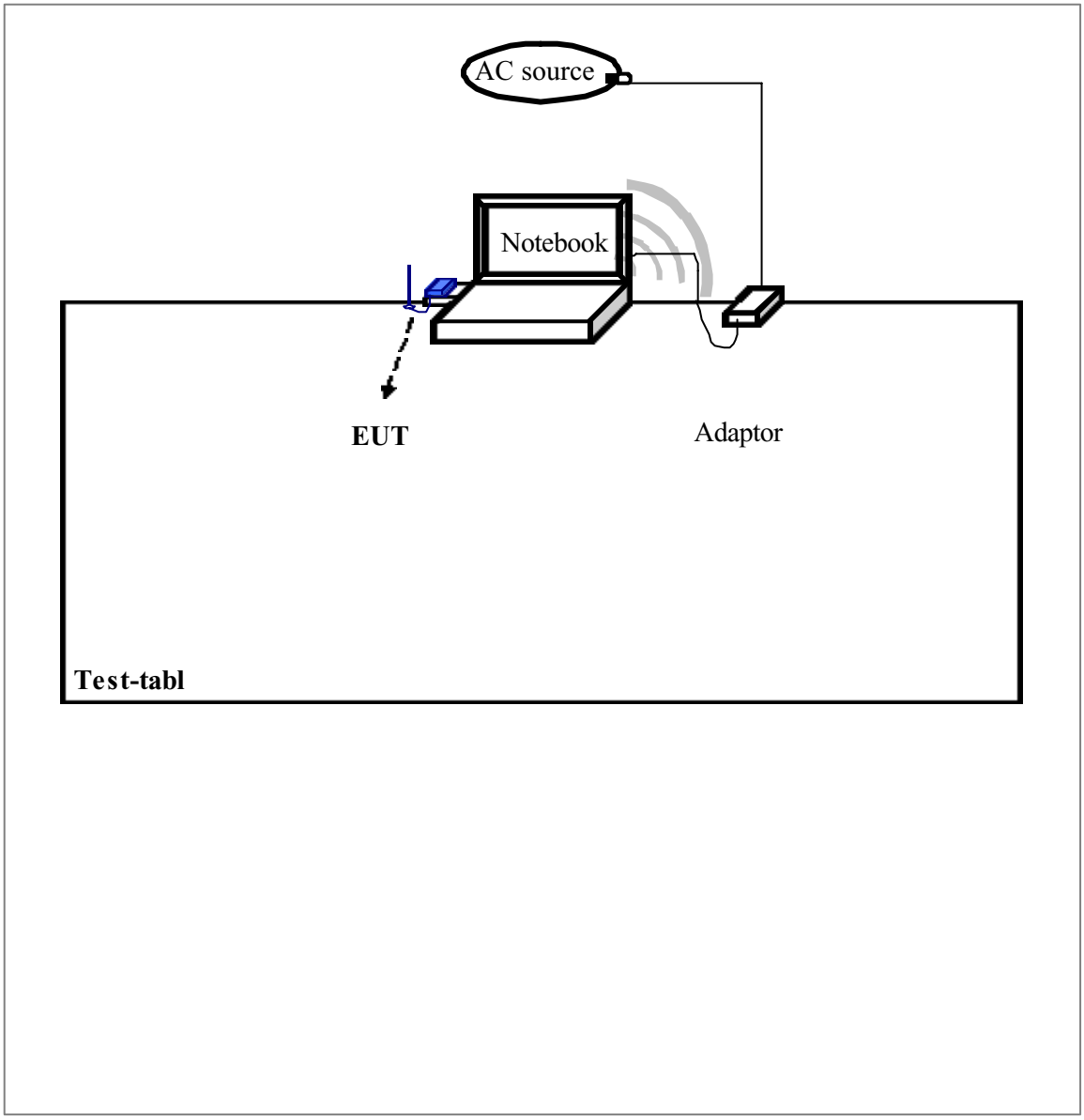
In order to construct the minimum testing, following equipment were used as the support units.

Notebook PC	**:**	**IBM**
Model No.	:	2373-IMV
Serial No.	:	99R3H1H
FCC ID	:	N/A, DoC (Declaration of Confirmation) Approved
BSMI	:	R33026
DGT	:	92LP0137
Power adaptor	**:**	**IBM**
Part No.	:	08K8202
Serial No.	:	11S08K8202Z1Z6LR459001A REV 06
BSMI	:	D33190
Power type	:	100 ~ 240VAC / 50 ~ 60Hz, 1.5 ~ 0.5A, Switching
Power cord	:	Primary: Non-shielded, 1.0m length, Plastic hood, No ferrite core Secondary: Shielded, 1.84m length, Plastic hood, ferrite core

Notebook PC	**:**	**IBM ThinkPad T43**
Model No.	:	2668-IVE
Serial No.	:	L3TGYY
FCC ID	:	N/A, DoC (Declaration of Confirmation) Approved
BSMI	:	R33B65
DGT	:	ETC093LPD0126, CTL093LPD0257
Power adaptor	**:**	**IBM**
Part No.	:	92P1018
Serial No.	:	11S92P1018Z1ZAPU57M9W6 REV: D
BSMI	:	D33030
Power type	:	100 ~ 240VAC / 50 ~ 60Hz, 1.0 ~ 0.4A, Switching
Power cord	:	Primary: Non-shielded, 1.0m length, Plastic hood, No ferrite core Secondary: Shielded, 1.84m length, Plastic hood, ferrite core

1.5 Configuration of System Under Test

1.5.1 Radiated of Intentional (Dipole Antenna)



The tests below are carried with the EUT transmitter set at high power in TDD mode. The EUT is forced to select of output power level and channel number by NB PCMCIA interface.

The setting up procedure was recorded in 1.3 test method.

1.6 Verify the Frequency and Channel

Channel	Frequency (GHz)
1	2.412
2	2.417
3	2.422
4	2.427
5	2.432
6	2.437
7	2.442
8	2.447
9	2.452
10	2.457
11	2.462

Note:

1. This is for confirming that all frequencies are in 2.412GHz to 2.462GHz.
2. Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz.
   (The locations of these frequencies one near the top, one near the middle and one near the bottom.)
3. After test, the EUT operating frequencies are in 2.412GHz to 2.462GHz. So all the items as followed in testing report are need to test these three frequencies:
   Top: Channel – 1; Middle: Channel – 6; Bottom: Channel – 11.

1.7 Test Procedure

All measurements contained in this report were performed mainly according to the techniques described in ANSI C63.4 (2003) and the pre-setup was written on 1.3 test method, the detail setup was written on each test item.

1.8 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter**, **Anechoic Chamber (FCC Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F, No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in a anechoic chamber also located at Training Research Co., Ltd.

No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

1.9 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions, which the EUT was considered likely to encounter in normal use were investigated.

In test, they were set in high power and continuously transmitting mode that controlled by computer. The ch01, ch06 and ch11 of EUT were all tested. The setting up procedure is recorded on 1.3 test method.

II. Section 15.203: Antenna requirement

The EUT can be equipped with detachable antenna. The external antenna is affixed to the EUT using a unique connector. The antenna requirement stated in Section15.203 is inapplicable to this EUT.

The antenna specification of list as follows,

Antenna No.	**Antenna Manufacturer**	**Model**	**Connector**	**Antenna Type**	**Antenna Gain (Max.)**
Antenna#1	ASUS	NONE (On PCB)	NONE (On PCB)	Printed	2.24dBi
Antenna#2	WHA YU GROUP	C660-510017-A	SMA Plug Reverse (I-PEX)	Dipole	2.00dBi

Note:

1) For more detailed features description, please reference to the Antenna Specifications. (Please reference to RF Exposure Information)

III. Section 15.207: Power Line Conducted Emissions for AC Powered Units

3.1 Test Condition & Setup

The power line conducted emission measurements were performed in an anechoic chamber. The EUT was assembled on a wooden table, which is 80 centimeters high, was placed 40 centimeters from the backwall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and Line Impedance Stabilization Networks (LISNs). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer (or EMI receiver) was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak and average detection mode. The analyzer's 6 dB bandwidth was set to 9KHz. No post-detector video filter was used.

The spectrum was scanned from 150KHz to 30MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.3.

There is a test condition apply in this test item, the test procedure description as <1.3>. Three channels were tested, one in the top (CH01), one in the middle (CH06) and the other in bottom (CH11).

3.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Calibration Date Next time
EMI Receiver	8546A	HP	3520A00242	06/01/06
RF Filter Section	85460A	HP	3448A00217	06/01/06
LISN (EUT)	LISN-01	TRC	99-05	12/10/06
LISN (Support E.)	LISN-01	TRC	9912-03, 04	11/26/06
Pre-amplifier	15542 ZFL-500	Mini – Circuits	0 0117	05/20/06
6dB Attenuator	MCL BW-S6W2	Mini – Circuits	9915 – Conducted	05/20/06
10dB Attenuator	A5542 VAT010	Mini – Circuits	0215 – Conducted	05/20/06
Coaxial Cable (2.0 meter)	A30A30-0058-50FS-2M	Jyebao	SMA-08	05/20/06
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	Jyebao	SMA-09	05/20/06
Coaxial Cable (20 meter)	RG-214/U	Jyebao	NP-01	05/20/06
Coaxial Cable (20 meter)	RG-214/U	Jyebao	NP-02	05/20/06
Auto Switch Box (< 30MHz)	ASB-01	TRC	9904-01	05/20/06

3.3 Test Result of Power Line Conducted Emissions

The following table shows a summary of the highest emissions of power line conducted emissions on the LIVE and NETURAL conductors of the EUT power cord. Show as follows.

Test Conditions: Temperature : 25 ℃ Humidity : 73 % RH

Test mode: Standby mode

Power Connected Emissions					*Class B*		
Conductor	***Frequency (KHz)***	***Peak (dBμ V)***	***QP (dBμ V)***	***Average (dBμ V)***	***QP-limit (dBμ V)***	***AVG-limit (dBμ V)***	***Margin (dB)***
Line 1	504.000	35.33	---	---	56.00	46.00	-10.67
	841.000	32.13	---	---	56.00	46.00	-13.87
	2767.000	32.97	---	---	56.00	46.00	-13.03
	2846.000	32.41	---	---	56.00	46.00	-13.59
	3285.000	33.02	---	---	56.00	46.00	-12.98
	3349.000	33.80	---	---	56.00	46.00	-12.20
Line 2	504.000	35.77	---	---	56.00	46.00	-10.23
	759.000	34.12	---	---	56.00	46.00	-11.88
	841.000	35.04	---	---	56.00	46.00	-10.96
	1346.000	34.16	---	---	56.00	46.00	-11.84
	1424.000	34.30	---	---	56.00	46.00	-11.70
	1518.000	35.24	---	---	56.00	46.00	-10.76

NOTE:

(1) Margin = Peak Amplitude – Limit, *The reading amplitudes are all under limit.*

(2) A "+" sign in the margin column means the emission is OVER the Class B Limit, and "–" sign of means UNDER the Class B limit

Test mode: IEEE 802.11b Channel 1, Antenna#1 (Printed Antenna)

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	167.335	68.59	61.90	31.99	65.63	55.63	-3.73
	179.620	66.51	59.03	31.31	64.94	54.94	-5.91
	228.350	63.29	53.97	25.22	63.54	53.54	-9.57
	405.000	43.14	---	---	58.71	48.71	-5.57
	2689.000	31.70	---	---	56.00	46.00	-14.30
	4288.000	33.52	---	---	56.00	46.00	-12.48
Line 2	164.450	70.71	62.30	33.63	65.40	55.40	-3.10
	180.720	67.24	60.59	17.93	64.89	54.89	-4.30
	230.525	60.07	48.04	19.65	63.63	53.63	-15.59
	346.740	49.49	37.90	8.89	60.34	50.34	-22.44
	509.000	40.65	---	---	56.00	46.00	-5.35
	1424.000	35.59	---	---	56.00	46.00	-10.41

Test mode: IEEE 802.11b Channel 6, Antenna#1

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	169.320	61.79	42.23	34.07	65.60	55.60	-21.53
	228.165	60.77	46.79	6.19	63.69	53.69	-16.90
	273.195	56.23	43.17	8.26	62.31	52.31	-19.14
	1006.000	33.09	---	---	56.00	46.00	-12.91
	2179.000	31.70	---	---	56.00	46.00	-14.30
	3858.000	33.09	---	---	56.00	46.00	-12.91
Line 2	179.900	65.88	56.53	11.87	65.17	55.17	-8.64
	219.870	58.88	41.66	14.12	64.11	54.11	-22.45
	249.370	56.66	41.83	11.31	63.14	53.14	-21.31
	313.640	53.42	43.28	11.99	61.31	51.31	-18.03
	518.000	39.75	---	---	56.00	46.00	-6.25
	1006.000	34.83	---	---	56.00	46.00	-11.17

Test mode: IEEE 802.11b Channel 11, Antenna#1

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	163.750	64.85	41.89	15.99	65.54	55.54	-23.65
	238.970	59.21	44.90	15.99	63.29	53.29	-18.39
	587.000	34.21	---	---	56.00	46.00	-11.79
	1091.000	30.93	---	---	56.00	46.00	-15.07
	2689.000	32.23	---	---	56.00	46.00	-13.77
	4210.000	32.37	---	---	56.00	46.00	-13.63
Line 2	169.500	65.92	51.56	25.85	65.60	55.60	-14.04
	202.220	60.79	34.75	11.16	64.40	54.40	-29.65
	271.710	42.41	---	---	62.31	52.31	-9.90
	587.000	37.05	---	---	56.00	46.00	-8.95
	1006.000	34.99	---	---	56.00	46.00	-11.01
	1766.000	35.42	---	---	56.00	46.00	-10.58

Test mode: IEEE 802.11g Channel 1, Antenna#1

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	587.000	34.07	---	---	56.00	46.00	-11.93
	2689.000	32.34	---	---	56.00	46.00	-13.66
	4210.000	32.51	---	---	56.00	46.00	-13.49
	4523.000	32.62	---	---	56.00	46.00	-13.38
	4619.000	32.83	---	---	56.00	46.00	-13.17
	5390.000	33.45	---	---	60.00	50.00	-16.55
Line 2	587.000	37.64	---	---	56.00	46.00	-8.36
	919.000	35.14	---	---	56.00	46.00	-10.86
	1006.000	35.45	---	---	56.00	46.00	-10.55
	1424.000	35.95	---	---	56.00	46.00	-10.05
	1766.000	35.35	---	---	56.00	46.00	-10.65
	1854.000	34.80	---	---	56.00	46.00	-11.20

Test mode: IEEE 802.11g Channel 6, Antenna#1

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	504.000	33.52	---	---	56.00	46.00	-12.48
	587.000	34.21	---	---	56.00	46.00	-11.79
	3030.000	33.45	---	---	56.00	46.00	-12.55
	3445.000	32.62	---	---	56.00	46.00	-13.38
	3542.000	32.23	---	---	56.00	46.00	-13.77
	3858.000	33.38	---	---	56.00	46.00	-12.62
Line 2	587.000	37.36	---	---	56.00	46.00	-8.64
	674.000	35.75	---	---	56.00	46.00	-10.25
	919.000	34.99	---	---	56.00	46.00	-11.01
	1006.000	35.33	---	---	56.00	46.00	-10.67
	1424.000	35.85	---	---	56.00	46.00	-10.15
	1766.000	35.08	---	---	56.00	46.00	-10.92

Test mode: IEEE 802.11g Channel 11, Antenna#1

Power Connected Emissions					FCC Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	587.000	33.87	---	---	56.00	46.00	-12.13
	3780.000	34.33	---	---	56.00	46.00	-11.67
	3858.000	33.95	---	---	56.00	46.00	-12.05
	4210.000	33.21	---	---	56.00	46.00	-12.79
	5460.000	33.34	---	---	60.00	50.00	-16.66
	5710.000	33.07	---	---	60.00	50.00	-16.93
Line 2	587.000	37.52	---	---	56.00	46.00	-8.48
	674.000	35.85	---	---	56.00	46.00	-10.15
	919.000	34.85	---	---	56.00	46.00	-11.15
	1006.000	35.73	---	---	56.00	46.00	-10.27
	1424.000	35.47	---	---	56.00	46.00	-10.53
	1766.000	35.52	---	---	56.00	46.00	-10.48

Test mode: IEEE 802.11b Channel 1, Antenna#2 (External Dipole Antenna)

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	169.980	65.11	58.61	25.99	65.23	55.23	-6.62
	220.000	50.22	---	---	64.00	54.00	-3.78
	242.060	58.81	48.16	19.39	63.20	53.20	-15.04
	294.000	48.01	---	---	61.89	51.89	-3.88
	387.000	41.48	---	---	59.23	49.23	-7.75
	4523.000	33.91	---	---	56.00	46.00	-12.09
Line 2	160.720	68.33	58.89	31.90	65.63	55.63	-6.74
	177.410	66.98	57.35	30.15	65.09	55.09	-7.74
	206.485	63.12	54.71	26.76	64.17	54.17	-9.46
	279.000	45.40	---	---	62.31	52.31	-6.91
	575.000	39.54	---	---	56.00	46.00	-6.46
	1398.000	37.10	---	---	56.00	46.00	-8.90

Test mode: IEEE 802.11b Channel 6, Antenna#2

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	166.485	67.24	60.44	25.99	65.60	55.60	-5.16
	179.440	66.47	50.48	15.99	64.94	54.94	-14.46
	220.015	60.33	49.95	15.79	63.83	53.83	-13.88
	267.625	55.53	44.24	7.12	62.80	52.80	-18.56
	409.000	42.46	---	---	58.60	48.60	-6.14
	4666.000	33.18	---	---	56.00	46.00	-12.82
Line 2	169.355	62.32	54.98	19.05	65.40	55.40	-10.42
	215.795	58.46	43.62	15.49	64.06	54.06	-20.44
	267.065	49.58	---	---	62.60	52.60	-3.02
	337.805	49.03	35.14	21.64	60.54	50.54	-25.40
	398.000	45.29	---	---	58.91	48.91	-3.62
	1748.000	35.49	---	---	56.00	46.00	-10.51

Test mode: IEEE 802.11b Channel 11, Antenna#2

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	417.000	32.60	---	---	58.37	48.37	-15.77
	499.000	35.08	---	---	56.03	46.03	-10.95
	2767.000	32.18	---	---	56.00	46.00	-13.82
	3349.000	33.50	---	---	56.00	46.00	-12.50
	3780.000	32.76	---	---	56.00	46.00	-13.24
	3936.000	35.49	---	---	56.00	46.00	-10.51
Line 2	499.000	35.45	---	---	56.03	46.03	-10.58
	752.000	33.38	---	---	56.00	46.00	-12.62
	832.000	34.85	---	---	56.00	46.00	-11.15
	1333.000	33.16	---	---	56.00	46.00	-12.84
	1424.000	33.85	---	---	56.00	46.00	-12.15
	1503.000	34.76	---	---	56.00	46.00	-11.24

Test mode: IEEE 802.11g Channel 1, Antenna#2

Power Connected Emissions					Class B		
Conductor	**Frequency (KHz)**	**Peak (dBμ V)**	**QP (dBμ V)**	**Average (dBμ V)**	**QP-limit (dBμ V)**	**AVG-limit (dBμ V)**	**Margin (dB)**
Line 1	163.000	52.01	---	---	65.63	55.63	-3.62
	269.000	43.64	---	---	62.60	52.60	-8.96
	587.000	33.27	---	---	56.00	46.00	-12.73
	1006.000	32.02	---	---	56.00	46.00	-13.98
	3030.000	31.47	---	---	56.00	46.00	-14.53
	4092.000	33.57	---	---	56.00	46.00	-12.43
Line 2	162.340	64.13	32.24	15.19	65.63	55.63	-33.39
	189.095	56.94	29.27	6.89	65.00	55.00	-35.73
	211.860	60.10	45.85	25.39	64.11	54.11	-18.26
	352.000	45.40	---	---	60.23	50.23	-4.83
	674.000	37.08	---	---	56.00	46.00	-8.92
	1766.000	35.45	---	---	56.00	46.00	-10.55

Test mode: IEEE 802.11g Channel 6, Antenna#2

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμ V)	QP (dBμ V)	Average (dBμ V)	QP-limit (dBμ V)	AVG-limit (dBμ V)	Margin (dB)
Line 1	504.000	31.67	---	---	56.00	46.00	-14.33
	587.000	32.74	---	---	56.00	46.00	-13.26
	1006.000	31.11	---	---	56.00	46.00	-14.89
	1424.000	30.29	---	---	56.00	46.00	-15.71
	3030.000	32.81	---	---	56.00	46.00	-13.19
	4523.000	32.81	---	---	56.00	46.00	-13.19
Line 2	231.310	58.95	20.28	7.71	63.83	53.83	-43.55
	248.000	45.88	---	---	63.20	53.20	-7.32
	417.000	33.68	---	---	58.37	48.37	-14.69
	587.000	36.95	---	---	56.00	46.00	-9.05
	1006.000	35.52	---	---	56.00	46.00	-10.48
	1766.000	35.61	---	---	56.00	46.00	-10.39

Test mode: IEEE 802.11g Channel 11, Antenna#2

Power Connected Emissions					FCC Class B		
Conductor	Frequency (KHz)	Peak (dBμ V)	QP (dBμ V)	Average (dBμ V)	QP-limit (dBμ V)	AVG-limit (dBμ V)	Margin (dB)
Line 1	164.200	67.69	61.28	33.61	65.54	55.54	-4.26
	177.330	67.24	52.05	25.69	65.06	55.06	-13.01
	218.070	63.92	54.72	25.76	64.11	54.11	-9.39
	320.495	51.08	44.19	16.90	60.89	50.89	-16.70
	1091.000	32.95	---	---	56.00	46.00	-13.05
	4171.000	33.18	---	---	56.00	46.00	-12.82
Line 2	165.735	68.77	62.04	22.89	65.51	55.51	-3.47
	192.135	64.43	52.00	13.73	64.54	54.54	-12.54
	264.660	57.38	46.57	7.05	62.66	52.66	-16.09
	394.445	47.62	38.68	8.78	58.91	48.91	-20.23
	998.000	34.71	---	---	56.00	46.00	-11.29
	1748.000	35.21	---	---	56.00	46.00	-10.79

VI. Section 15.247 (a): Technical description of the EUT

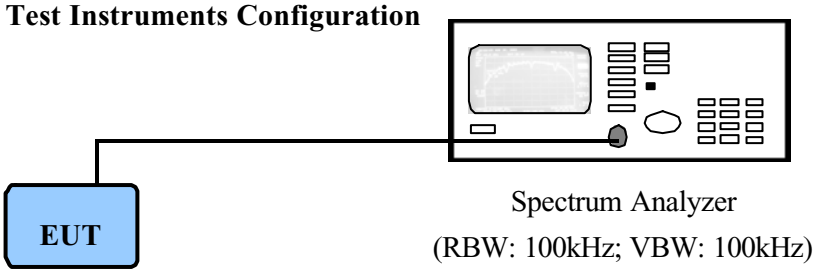
Direct Sequence System is a spread spectrum system in which the carrier has been modulated by a high speed spreading code and an information data stream. The high speed code sequence dominates the "modulating function" and is the direct cause of the wide spreading of the transmitted signal. In the operational description demonstrates the operation principles of the Baseband processor employed by the EUT, shows that which is a complete DSSS baseband processor and meets the definition of the direct sequence spread spectrum system.

V. Section 15.247(a)(2): Bandwidth for Direct Sequence System.

5.1 Test Condition & Setup

The transmitter bandwidth measurements were performed by the contact manner. The EUT was set to transmit continuously, also various channels were investigated to find the maximum occupied bandwidth. The output of the EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency is observed by the spectrum analyzer with 100kHz RBW and 100kHz VBW.

5.2 Test Instruments Configuration



PC to control the EUT at maximal power output and channel number and set antenna kit

5.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	11/15/06

5.4 Test Result of Bandwidth

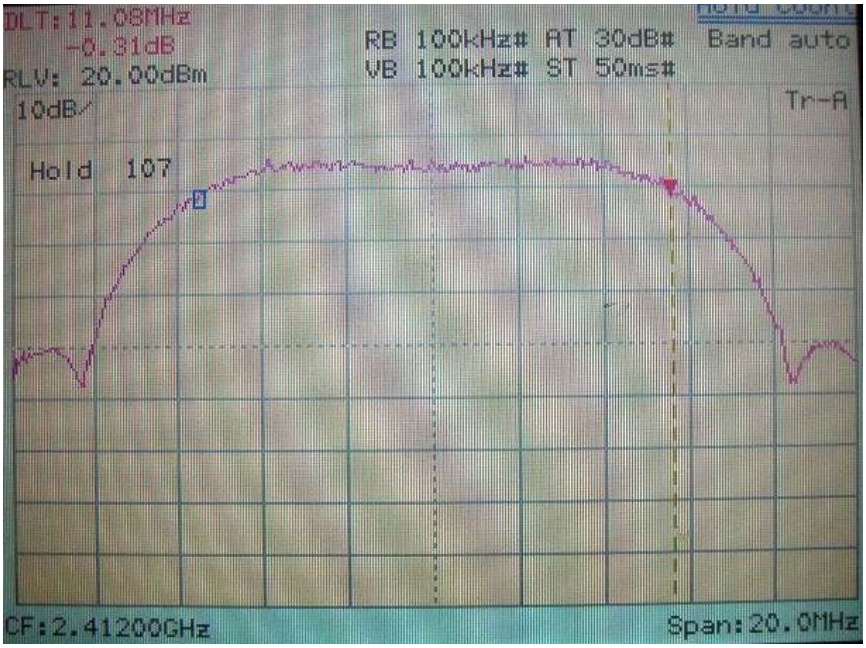
Channel	802.11b	802.11g
01	11.08 MHz	16.80 MHz
06	11.08 MHz	16.80 MHz
11	11.04 MHz	16.76 MHz

Note: 1. The data in the above table are summarizing the following attachment spectrum analyzer hard copy. According to the guidance, we' d made the measurement with the spectrum analyzer' s resolution bandwidth *(RBW)=100kHz* and set the *span>>RBW*. The results show the measured 6dB bandwidth comply with the minimum 500kHz requirement.

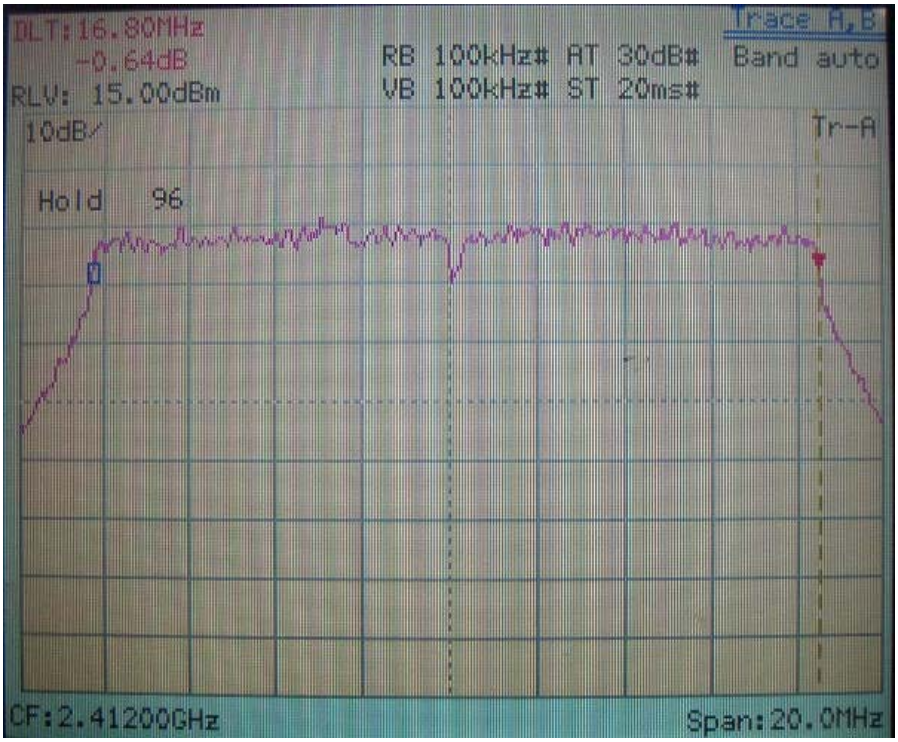
2. The attachments show these on the following pages.

6dB Bandwidth of Channel 1 (The minimum 6dB BW at least 500kHz)

IEEE 802.11b

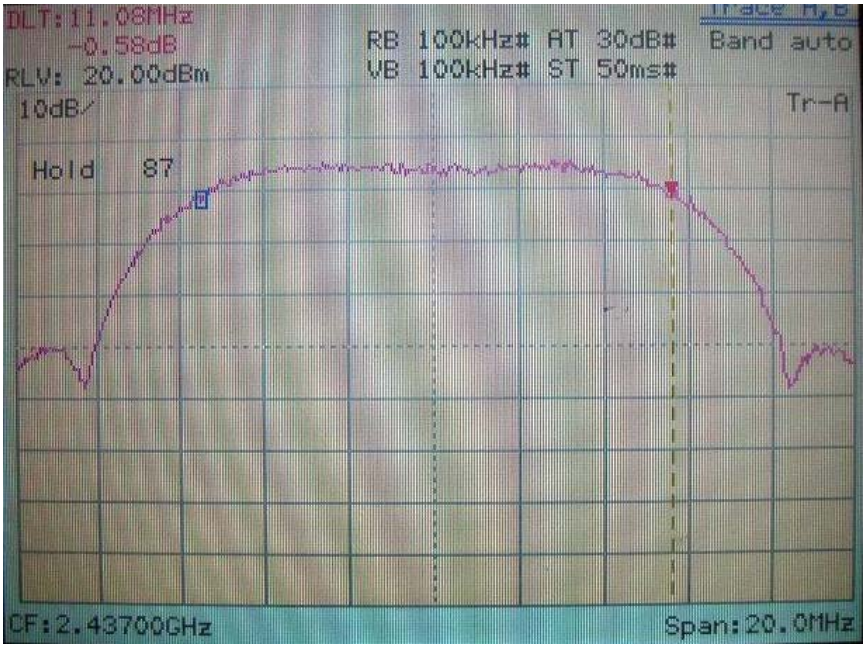


IEEE 802.11g

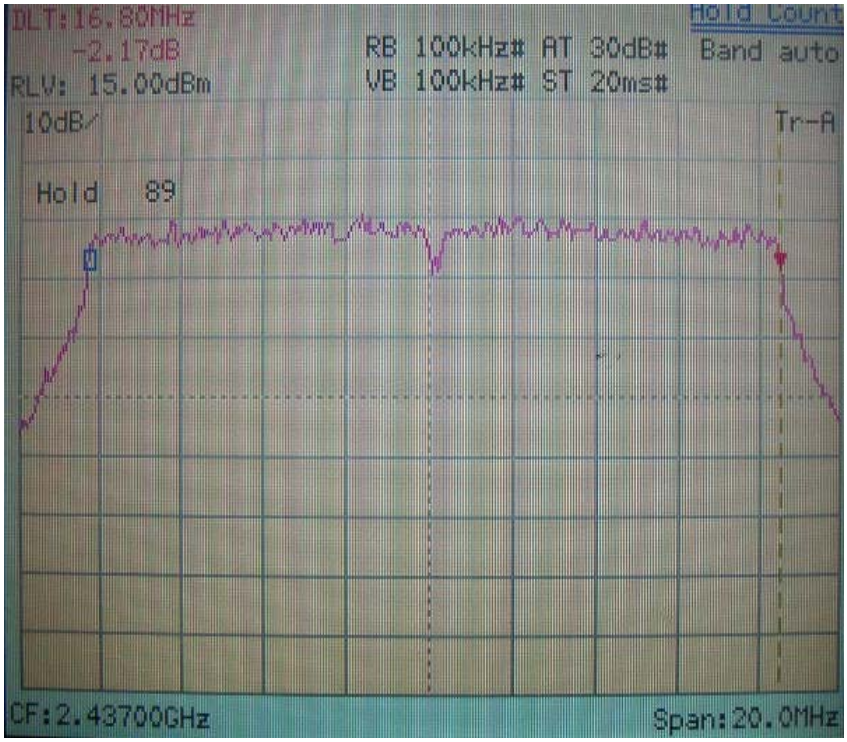


6dB Bandwidth of Channel 6 (The minimum 6dB BW at least 500kHz)

IEEE 802.11b

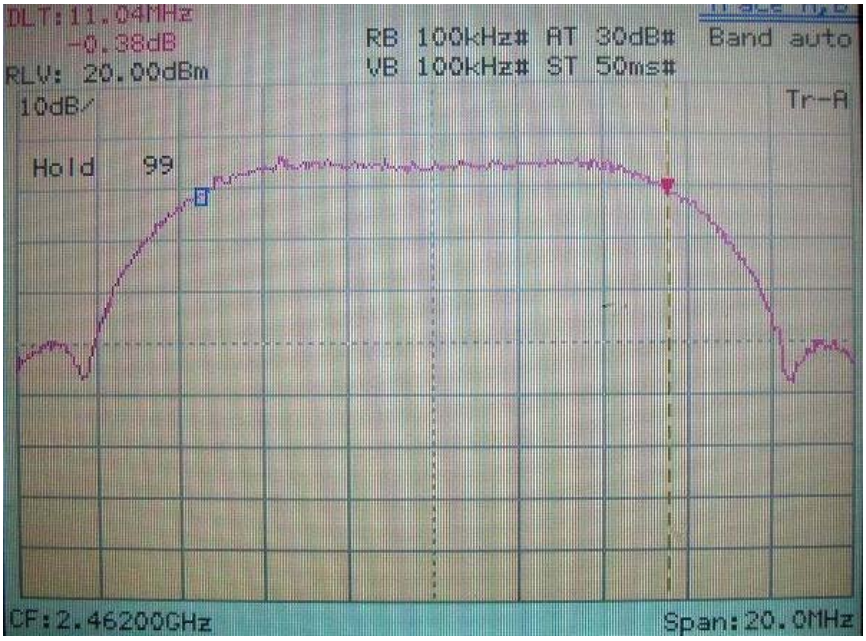


IEEE 802.11g

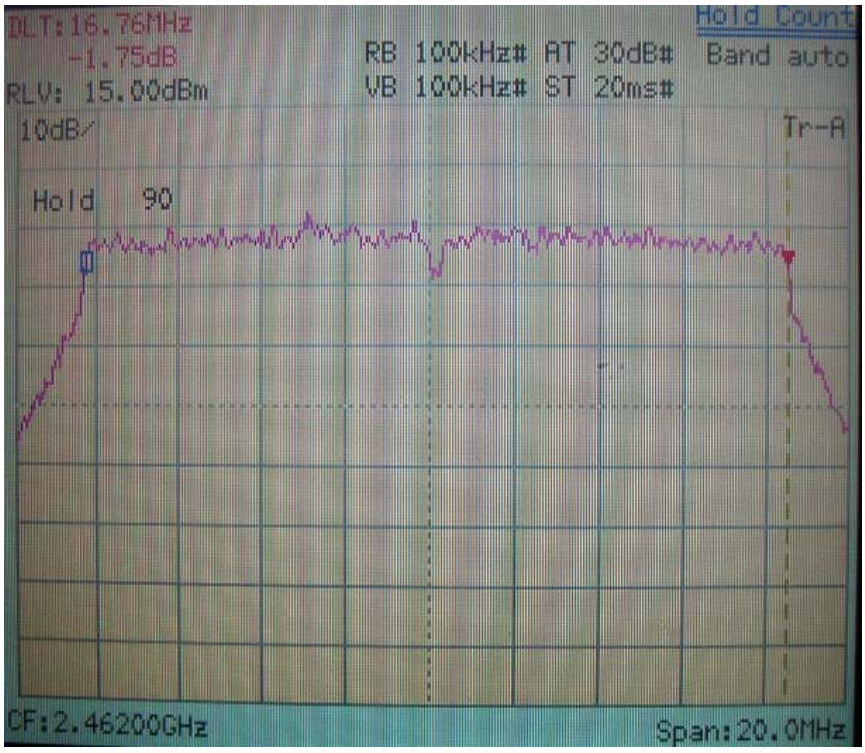


6dB Bandwidth of Channel 11 (The minimum 6dB BW at least 500kHz)

IEEE 802.11b

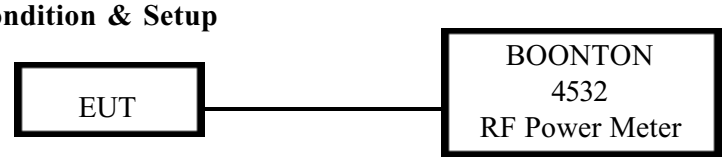


IEEE 802.11g



VI. Section 15.247(b): Power Output

6.1 Test Condition & Setup



1. The output of the transmitter is connected to the BOONTON RF Power Meter.
2. The calibration is performed before every test. The values of the output power of the EUT will shown in the dBm directly are the transmitter output peak power. Recording as follows.

6.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Next time
RF Power Meter	4532	BOONTON	117501	04/21/06
Peak Power Sensor	57340	BOONTON	2696	04/26/06

6.3 Test Result

Formula:
RF Output of EUT + |Cable Loss| = Output Peak Power

Channel	RF Output	Cable Loss	Output Peak Power	
	dBm	dBm	dBm	mW
802.11b CH01	20.03	1.00	21.03	126.77
802.11b CH06	19.83	1.00	20.83	121.06
802.11b CH11	19.86	1.00	20.86	121.90
802.11g CH01	18.98	1.00	19.98	99.54
802.11g CH06	18.65	1.00	19.65	92.23
802.11g CH11	18.89	1.00	19.89	97.50

VII. Section 15.247 (C): Spurious Emissions (Radiated)

7.1 Test Condition & Setup

We' d performed the test by the *radiated emission* skill: The EUT was placed in an anechoic chamber, and set the EUT transmitting continuously and scanned at 3-meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration, which produced the highest emissions was noted so it could be reproduced later during the final tests. For the measurement above 1GHz, according to the guidance we' d set the spectrum analyzer' s 6dB bandwidth RBW to 1MHz.

This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT.

Final radiation measurements were made on a three-meter, anechoic chamber. The EUT system was placed on a nonconductive turntable, which is 0.8 meters height, top surface 1.0 x 1.5 meter.

The spectrum was examined from 30 MHz to 1000 MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008) for 1G - 25GHz.

At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 85460A for frequency 30MHz to 1000MHz, and 8564E for frequency 1GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1GHz to 25GHz) and the analyzer was operated in the maximum hold mode. There is a test condition applies in this test item, the test procedure description as the following:

Three channels were tested, one in the top (CH01), one in the middle (CH06) and the other in bottom (CH11). The setting up procedure is recorded on <1.3>

With the transmitter operating from a AC source and using the internal of EUT, radiates spurious emissions falling within the restricted bands of 15.209 were measured at operating frequencies corresponding to upper, middle and bottom channels in the 2400 ~ 2483.5 MHz band.

The actual field intensity in decibels referenced to 1 microvolt per meter (dBμV/m) is determined by algebraically adding the measured reading in dBμV, the antenna factor (dB), and cable loss (dB) at the appropriate frequency. Since the EUT was set to transmit continuously, no *duty cycle* is present.

For frequency between 30MHz to 1000MHz

FIa (dBuV/m) = FIr (dBμV) + Correction Factors

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplitude Gain) + Switching Box Loss

For frequency between 1GHz to 25GHz

FIa (dBμV/m) = FIr (dBμV) + Correction Factor

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + (Cable Loss – Amplitude Gain) + Switching Box Loss

7.2 List of Test Instruments

Calibration Date

Instrument Name	Model	Brand	Serial No.	Next time
EMI Receiver	8546A	HP	3520A00242	06/01/06
RF Filter Section	85460A	HP	3448A00217	06/01/06
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	08/17/06
Pre-amplifier	PA1F	TRC	1FAC	05/20/06
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	05/20/06
Coaxial Cable (Double shielded, 15 meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	05/20/06
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	05/20/06
Spectrum Analyzer	8564E	HP	3720A00840	11/07/06
Microwave Preamplifier	84125C	HP	US36433002	11/07/06
Horn Antenna	3115	EMCO	9104-3668	01/23/07
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	04/11/06
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	11/09/06
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	11/09/06
Pre-amplifier	PA2F	TRC	2F1GZ	06/20/06
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	06/20/06
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	06/20/06

7.3 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarizations, EUT orientation, etc. are recorded on the following.

Test Conditions: Temperature : 25 ° C Humidity : 73 % RH

Test mode: Standby mode for 30MHz to 1GHz [Horizontal]

Radiated Emission				*Correction Factors*	*Corrected Amplitude*	*Class B (3 m)*	
Frequency (MHz)	*Amplitude (dBμV)*	*Ant. H. (m)*	*Table (°)*	*(dB)*	*(dBμV/m)*	*Limit (dBμV/m)*	*Margin (dB)*
213.09	39.04	1.00	253	-3.96	35.08	43.50	-8.42
236.12	37.29	1.00	173	-4.07	33.22	46.00	-12.78
335.55	35.10	1.00	327	-2.88	32.22	46.00	-13.78
368.29	44.17	1.00	237	-2.15	42.02	46.00	-3.98
458.01	36.21	1.00	237	1.08	37.29	46.00	-8.71
501.66	31.52	1.00	310	2.36	33.88	46.00	-12.12

Test mode: Standby mode for 30MHz to 1GHz [Vertical]

Radiated Emission				*Correction Factors*	*Corrected Amplitude*	*Class B (3 m)*	
Frequency (MHz)	*Amplitude (dBμV)*	*Ant. H. (m)*	*Table (°)*	*(dB)*	*(dBμV/m)*	*Limit (dBμV/m)*	*Margin (dB)*
169.44	36.68	1.00	353	-3.80	32.88	43.50	-10.62
368.29	34.89	1.00	77	-2.15	32.74	46.00	-13.26
434.97	33.37	1.00	107	0.23	33.60	46.00	-12.40
461.65	37.44	1.00	187	1.18	38.62	46.00	-7.38
501.66	31.80	1.00	80	2.36	34.16	46.00	-11.84
730.83	31.20	1.00	226	9.84	41.04	46.00	-4.96

Note:

1. Margin = Amplitude – limit, *if margin is minus means under limit.*
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction factor = Antenna factor + (Cable Loss – Amplitude gain) + Switching Box Loss

Test mode: Standby mode for 1GHz to 25GHz [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1637.50	1.00	352	38.24	---	0.43	38.67	---	73.96	53.96	-15.29
3847.50	1.00	141	31.91	---	11.79	43.70	---	73.96	53.96	-10.26
7197.92	1.00	186	24.91	---	21.33	46.24	---	73.96	53.96	-7.72
10803.33	1.00	264	23.91	---	22.04	45.95	---	73.96	53.96	-8.01
24736.25	1.00	158	48.16	---	2.46	50.62	---	73.96	53.96	-3.34

Test mode: Standby mode for 1GHz to 25GHz [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2395.42	1.00	134	34.24	---	6.31	40.55	---	73.96	53.96	-13.41
4187.50	1.00	127	29.41	---	12.80	42.21	---	73.96	53.96	-11.75
8324.17	1.00	228	21.40	---	22.88	44.28	---	73.96	53.96	-9.68
11504.58	1.00	216	24.74	---	21.87	46.61	---	73.96	53.96	-7.35
24746.87	1.00	144	48.65	---	2.34	50.99	---	73.96	53.96	-2.97

Note:

1. Margin = Corrected - Limit.
2. The EUT utilizes a *permanently attached antenna*. In addition the spurious RF radiated emissions levels do comply with the *20dBc limit* both at its bandedges and other spurious emissions.
3. As stated in Section 15.35(b), for any frequencies above 1000MHz, radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. As the results of our test, the peak amplitudes are already below the FCC limit. Thus the average amplitudes of the rest are omitted.

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
301.6	41.67	1.00	183	-3.32	38.35	46.00	-7.65
313.72	41.26	1.00	73	-3.16	38.10	46.00	-7.90
335.55	40.49	1.00	43	-2.88	37.61	46.00	-8.39
638.29	43.06	1.00	233	-2.15	40.91	46.00	-5.09
434.97	36.82	1.00	83	0.23	37.05	46.00	-8.95
458.01	36.60	1.00	223	1.08	37.68	46.00	-8.32

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
169.44	39.04	1.00	333	-3.80	35.24	43.50	-8.26
434.97	36.35	1.00	37	0.23	36.58	46.00	-9.42
461.65	37.20	1.00	20	1.18	38.38	46.00	-7.62
501.66	35.92	1.00	100	2.36	38.28	46.00	-7.72
568.35	31.81	1.00	159	5.20	37.01	46.00	-8.99
730.83	30.37	1.00	225	9.84	40.21	46.00	-5.79

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1608.33	1.00	0	35.83	---	14.20	50.03	---	73.96	53.96	-3.93
2289.58	1.00	261	40.50	---	8.90	49.40	---	73.96	53.96	-4.56
2354.17	1.00	16	40.17	---	9.08	49.25	---	73.96	53.96	-4.71
2527.08	1.00	281	39.17	---	9.54	48.71	---	73.96	53.96	-5.25
12061.04	1.00	199	38.60	---	9.81	48.41	---	73.96	53.96	-5.55

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
2152.08	1.00	225	37.16	---	8.52	45.68	---	73.96	53.96	-8.28
2672.92	1.00	260	34.83	---	9.82	44.65	---	73.96	53.96	-9.31
7233.75	1.00	122	36.44	---	10.07	46.51	---	73.96	53.96	-7.45
9650.42	1.00	83	36.61	---	11.47	48.08	---	73.96	53.96	-5.88
12061.04	1.00	216	39.10	---	9.81	48.91	---	73.96	53.96	-5.05
21708.12	1.00	38	47.32	---	2.87	50.19	---	73.96	53.96	-3.77

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
211.87	38.94	1.00	223	-3.96	34.98	43.50	-8.52
301.60	42.12	1.00	167	-3.32	38.80	46.00	-7.20
367.07	44.12	1.00	247	-2.19	41.93	46.00	-4.07
436.19	36.82	1.00	287	0.28	37.10	46.00	-8.90
456.80	36.07	1.00	247	1.04	37.11	46.00	-8.89
502.87	36.12	1.00	280	2.41	38.53	46.00	-7.47

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
168.22	40.24	1.00	63	-3.7	36.54	43.50	-6.96
434.97	36.00	1.00	147	0.23	36.23	46.00	-9.77
461.65	37.46	1.00	180	1.18	38.64	46.00	-7.36
501.66	36.06	1.00	110	2.36	38.42	46.00	-7.58
656.92	30.08	1.00	161	5.12	35.20	46.00	-10.80
730.83	31.02	1.00	226	9.84	40.86	46.00	-5.14

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1625.00	1.00	57	35.83	---	13.94	49.77	---	73.96	53.96	-4.19
2500.00	1.00	360	40.67	---	9.49	50.16	---	73.96	53.96	-3.80
7312.29	1.00	138	35.61	---	10.30	45.91	---	73.96	53.96	-8.05
9747.08	1.00	360	36.44	---	11.89	48.33	---	73.96	53.96	-5.63
12187.92	1.00	207	39.77	---	9.74	49.51	---	73.96	53.96	-4.45

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1625.00	1.00	265	35.33	---	13.94	49.27	---	73.96	53.96	-4.69
2150.00	1.00	240	36.67	---	8.51	45.18	---	73.96	53.96	-8.78
7312.29	1.00	183	35.44	---	10.30	45.74	---	73.96	53.96	-8.22
9747.08	1.00	137	36.27	---	11.89	48.16	---	73.96	53.96	-5.80
12187.92	1.00	0	39.94	---	9.74	49.68	---	73.96	53.96	-4.28

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
213.09	38.46	1.00	221	-3.96	34.50	43.50	-9.00
301.60	41.93	1.00	182	-3.32	38.61	46.00	-7.39
369.50	44.04	1.00	234	-2.11	41.93	46.00	-4.07
434.97	37.23	1.00	106	0.23	37.46	46.00	-8.54
459.22	35.56	1.00	225	1.11	36.67	46.00	-9.33
504.09	33.21	1.00	234	2.47	35.68	46.00	-10.32

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
211.87	33.82	1.00	301	-3.96	29.86	43.50	-13.64
434.97	36.45	1.00	135	0.23	36.68	46.00	-9.32
461.65	36.97	1.00	175	1.18	38.15	46.00	-7.85
501.66	37.29	1.00	155	2.36	39.65	46.00	-6.35
565.92	30.29	1.00	147	5.12	35.41	46.00	-10.59
730.83	31.36	1.00	219	9.84	41.20	46.00	-4.80

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.67	1.00	135	37.17	---	13.68	50.85	---	73.96	53.96	-3.11
2340.05	1.00	255	43.31	30.67	9.04	52.35	39.71	73.96	53.96	-14.25
2375.99	1.00	254	43.32	32.00	9.14	52.46	41.14	73.96	53.96	-12.82
2516.67	1.00	360	40.50	---	9.52	50.02	---	73.96	53.96	-3.94
9849.79	1.00	75	35.78	---	11.93	47.71	---	73.96	53.96	-6.25
12308.75	1.00	171	37.77	---	9.56	47.33	---	73.96	53.96	-6.63

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.67	1.00	267	36.83	---	13.68	50.51	---	73.96	53.96	-3.45
2395.83	1.00	360	38.16	---	9.20	47.36	---	73.96	53.96	-6.60
7384.79	1.00	254	35.28	---	10.42	45.70	---	73.96	53.96	-8.26
9849.79	1.00	238	34.94	---	11.93	46.87	---	73.96	53.96	-7.09
12308.75	1.00	260	37.11	---	9.56	46.67	---	73.96	53.96	-7.29

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
234.91	41.14	1.00	14	-4.08	37.06	46.00	-8.94
299.78	42.90	1.00	160	-3.35	39.55	46.00	-6.45
311.30	44.72	1.00	7	-3.20	41.52	46.00	-4.48
365.26	43.80	1.00	238	-2.24	41.56	46.00	-4.44
433.16	39.16	1.00	265	0.16	39.32	46.00	-6.68
500.45	34.97	1.00	312	2.30	37.27	46.00	-8.73

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
211.27	35.32	1.00	284	-3.95	31.37	43.50	-12.13
433.16	37.69	1.00	3	0.16	37.85	46.00	-8.15
499.84	37.18	1.00	99	2.28	39.46	46.00	-6.54
565.32	30.20	1.00	147	5.10	35.30	46.00	-10.70
632.01	28.67	1.00	51	7.43	36.10	46.00	-9.90
729.61	31.11	1.00	230	9.82	40.93	46.00	-5.07

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1608.33	1.00	108	36.33	---	14.20	50.53	---	73.96	53.96	-3.43
2695.83	1.00	93	34.83	---	9.86	44.69	---	73.96	53.96	-9.27
7233.75	1.00	96	35.11	---	10.07	45.18	---	73.96	53.96	-8.78
9650.42	1.00	201	35.94	---	11.47	47.41	---	73.96	53.96	-6.55
12061.04	1.00	17	38.44	---	9.81	48.25	---	73.96	53.96	-5.71

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1608.33	1.00	234	36.50	---	14.20	50.70	---	73.96	53.96	-3.26
3156.25	1.00	76	35.33	---	11.18	46.51	---	73.96	53.96	-7.45
7233.75	1.00	100	35.11	---	10.07	45.18	---	73.96	53.96	-8.78
9650.42	1.00	271	35.27	---	11.47	46.74	---	73.96	53.96	-7.22
12061.04	1.00	173	37.27	---	9.81	47.08	---	73.96	53.96	-6.88

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
210.66	39.47	1.00	220	-3.95	35.52	43.50	-7.98
302.81	42.63	1.00	173	-3.30	39.33	46.00	-6.67
368.29	43.57	1.00	233	-2.15	41.42	46.00	-4.58
402.24	44.42	1.00	333	-1.11	43.31	46.00	-2.69
438.61	36.71	1.00	283	0.38	37.09	46.00	-8.91
459.22	36.21	1.00	243	1.11	37.32	46.00	-8.68

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
433.76	37.21	1.00	353	0.18	37.39	46.00	-8.61
462.86	36.71	1.00	185	1.22	37.93	46.00	-8.07
501.66	36.86	1.00	145	2.36	39.22	46.00	-6.78
568.35	30.92	1.00	145	5.20	36.12	46.00	-9.88
632.61	28.26	1.00	73	7.45	35.71	46.00	-10.29
730.83	31.32	1.00	225	9.84	41.16	46.00	-4.84

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1625.00	1.00	305	36.17	---	13.94	50.11	---	73.96	53.96	-3.85
2306.25	1.00	50	37.66	---	8.95	46.61	---	73.96	53.96	-7.35
7312.29	1.00	330	35.27	---	10.30	45.57	---	73.96	53.96	-8.39
9747.08	1.00	360	37.10	---	11.89	48.99	---	73.96	53.96	-4.97
12187.92	1.00	335	39.27	---	9.74	49.01	---	73.96	53.96	-4.95

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1533.33	1.00	257	35.00	---	15.37	50.37	---	73.96	53.96	-3.59
2393.75	1.00	33	38.50	---	9.19	47.69	---	73.96	53.96	-6.27
7312.29	1.00	34	35.44	---	10.30	45.74	---	73.96	53.96	-8.22
9747.08	1.00	115	35.10	---	11.89	46.99	---	73.96	53.96	-6.97
12187.92	1.00	151	38.77	---	9.74	48.51	---	73.96	53.96	-5.45

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz, Antenna#1 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
210.66	38.86	1.00	201	-3.95	34.91	43.50	-8.59
301.60	42.16	1.00	182	-3.32	38.84	46.00	-7.16
334.34	39.63	1.00	353	-2.90	36.73	46.00	-9.27
368.29	44.05	1.00	234	-2.15	41.90	46.00	-4.10
434.97	37.98	1.00	76	0.23	38.21	46.00	-7.79
491.96	35.91	1.00	304	2.05	37.96	46.00	-8.04

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz, Antenna#1 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
169.44	39.18	1.00	218	-3.80	35.38	43.50	-8.12
436.19	37.02	1.00	23	0.28	37.30	46.00	-8.70
459.22	36.40	1.00	172	1.11	37.51	46.00	-8.49
501.66	35.99	1.00	155	2.36	38.35	46.00	-7.65
565.92	29.96	1.00	152	5.12	35.08	46.00	-10.92
730.83	30.97	1.00	218	9.84	40.81	46.00	-5.19

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz, Antenna#1 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.67	1.00	91	36.50	---	13.68	50.18	---	73.96	53.96	-3.78
2343.75	1.00	45	37.34	---	9.02	46.36	---	73.96	53.96	-7.60
7384.79	1.00	26	34.94	---	10.42	45.36	---	73.96	53.96	-8.60
9849.79	1.00	91	35.28	---	11.93	47.21	---	73.96	53.96	-6.75
12308.75	1.00	322	37.94	---	9.56	47.50	---	73.96	53.96	-6.46

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz, Antenna#1 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.67	1.00	236	37.17	---	13.68	50.85	---	73.96	53.96	-3.11
2395.83	1.00	360	37.66	---	9.20	46.86	---	73.96	53.96	-7.10
7384.79	1.00	206	35.11	---	10.42	45.53	---	73.96	53.96	-8.43
9849.79	1.00	20	37.94	---	11.93	49.87	---	73.96	53.96	-4.09
12308.75	1.00	308	38.27	---	9.56	47.83	---	73.96	53.96	-6.13

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
142.76	42.17	1.00	323	-3.09	39.08	43.50	-4.42
209.45	42.25	1.00	170	-3.91	38.34	43.50	-5.16
233.70	43.80	1.00	285	-4.08	39.72	46.00	-6.28
299.78	45.71	1.00	160	-3.35	42.36	46.00	-3.64
434.98	38.94	1.00	37	0.23	39.17	46.00	-6.83

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
167.62	40.72	1.00	309	-3.74	36.98	43.50	-6.52
433.16	35.43	1.00	161	0.16	35.59	46.00	-10.41
459.23	36.75	1.00	147	1.11	37.86	46.00	-8.14
499.84	35.52	1.00	130	2.28	37.80	46.00	-8.20
729.61	32.43	1.00	226	9.82	42.25	46.00	-3.75

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1607.99	1.00	110	37.99	33.00	14.21	52.20	47.21	73.96	53.96	-6.75
2312.50	1.00	209	35.84	---	8.96	44.80	---	73.96	53.96	-9.16
2470.83	1.00	174	38.00	---	9.41	47.41	---	73.96	53.96	-6.55
3352.08	1.00	75	36.17	---	12.12	48.29	---	73.96	53.96	-5.67
9650.42	1.00	169	36.77	---	11.47	48.24	---	73.96	53.96	-5.72

Test mode: IEEE 802.11b CH01 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1607.99	1.00	112	38.32	33.33	14.21	52.53	47.54	73.96	53.96	-6.42
2316.67	1.00	33	41.66	---	8.98	50.64	---	73.96	53.96	-3.32
2479.98	1.00	4	43.99	32.17	9.43	53.42	41.60	73.96	53.96	-12.36
12061.04	1.00	276	38.77	---	9.81	48.58	---	73.96	53.96	-5.38
19296.25	1.00	170	47.73	---	1.60	49.33	---	73.96	53.96	-4.63

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
97.90	37.92	1.00	136	-0.68	37.24	43.50	-6.26
142.16	40.83	1.00	316	-3.05	37.78	43.50	-5.72
233.70	42.98	1.00	343	-4.08	38.90	46.00	-7.10
299.50	40.74	1.00	151	-3.36	37.38	46.00	-8.62
427.09	39.75	1.00	38	-0.09	39.66	46.00	-6.34

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
167.62	36.91	1.00	207	-3.74	33.17	43.50	-10.33
433.16	35.43	1.00	168	0.16	35.59	46.00	-10.41
459.23	37.06	1.00	147	1.11	38.17	46.00	-7.83
499.84	35.73	1.00	144	2.28	38.01	46.00	-7.99
729.61	31.24	1.00	230	9.82	41.06	46.00	-4.94

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1624.65	1.00	284	38.66	33.83	13.95	52.61	47.78	73.96	53.96	-6.18
2081.25	1.00	93	35.16	---	8.32	43.48	---	73.96	53.96	-10.48
2525.00	1.00	176	37.66	---	9.54	47.20	---	73.96	53.96	-6.76
9747.08	1.00	147	35.27	---	11.89	47.16	---	73.96	53.96	-6.80
12187.92	1.00	317	40.27	---	9.74	50.01	---	73.96	53.96	-3.95

Test mode: IEEE 802.11b CH06 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1624.66	1.00	98	37.99	33.83	13.95	51.94	47.78	73.96	53.96	-6.18
2348.81	1.00	360	42.68	30.17	9.07	51.75	39.24	73.96	53.96	-14.72
2594.48	1.00	25	41.52	28.33	9.67	51.19	38.00	73.96	53.96	-15.96
9747.08	1.00	293	36.27	---	11.89	48.16	---	73.96	53.96	-5.80
12187.92	1.00	314	39.94	---	9.74	49.68	---	73.96	53.96	-4.28

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
97.90	35.44	1.00	85	-0.68	34.76	43.50	-8.74
234.31	42.82	1.00	200	-4.08	38.74	46.00	-7.26
299.65	37.97	1.00	151	-3.36	34.61	46.00	-11.39
365.26	38.70	1.00	237	-2.24	36.46	46.00	-9.54
433.16	38.33	1.00	38	0.16	38.49	46.00	-7.51

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
167.01	38.90	1.00	185	-3.72	35.18	43.50	-8.32
209.45	42.39	1.00	175	-3.91	38.48	43.50	-5.02
233.70	43.53	1.00	0	-4.08	39.45	46.00	-6.55
299.78	46.12	1.00	165	-3.35	42.77	46.00	-3.23
433.76	38.54	1.00	34	0.18	38.72	46.00	-7.28

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.33	1.00	149	41.32	38.00	13.69	55.01	51.69	73.96	53.96	-2.27
3112.50	1.00	187	35.17	---	10.97	46.14	---	73.96	53.96	-7.82
9849.79	1.00	53	35.61	---	11.93	47.54	---	73.96	53.96	-6.42
12308.75	1.00	321	37.27	---	9.56	46.83	---	73.96	53.96	-7.13
24619.37	1.00	124	47.42	---	3.01	50.43	---	73.96	53.96	-3.53

Test mode: IEEE 802.11b CH11 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.33	1.00	112	40.66	36.33	13.69	54.35	50.02	73.96	53.96	-3.94
2396.31	1.00	39	43.99	31.33	9.20	53.19	40.53	73.96	53.96	-13.43
2600.00	1.00	155	40.50	---	9.68	50.18	---	73.96	53.96	-3.78
7384.79	1.00	247	36.11	---	10.42	46.53	---	73.96	53.96	-7.43
12308.75	1.00	179	37.77	---	9.56	47.33	---	73.96	53.96	-6.63

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
97.90	35.79	1.00	95	-0.68	35.11	43.50	-8.39
200.36	40.48	1.00	214	-3.47	37.01	43.50	-6.49
234.31	42.72	1.00	51	-4.08	38.64	46.00	-7.36
299.78	47.00	1.00	146	-3.35	43.65	46.00	-2.35
433.16	40.03	1.00	37	0.16	40.19	46.00	-5.81

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
98.51	34.56	1.00	285	-0.73	33.83	43.50	-9.67
167.62	39.37	1.00	38	-3.74	35.63	43.50	-7.87
459.83	36.40	1.00	147	1.13	37.53	46.00	-8.47
499.84	35.66	1.00	141	2.28	37.94	46.00	-8.06
729.61	31.42	1.00	216	9.82	41.24	46.00	-4.76

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1607.99	1.00	111	40.82	33.67	14.21	55.03	47.88	73.96	53.96	-6.08
2962.50	1.00	232	35.50	---	10.36	45.86	---	73.96	53.96	-8.10
7233.75	1.00	149	35.28	---	10.07	45.35	---	73.96	53.96	-8.61
9650.42	1.00	273	35.61	---	11.47	47.08	---	73.96	53.96	-6.88
12061.04	1.00	193	36.94	---	9.81	46.75	---	73.96	53.96	-7.21

Test mode: IEEE 802.11g CH01 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1607.99	1.00	283	39.16	32.67	14.21	53.37	46.88	73.96	53.96	-7.08
2152.08	1.00	76	37.16	---	8.52	45.68	---	73.96	53.96	-8.28
2879.19	1.00	17	35.84	---	10.20	46.04	---	73.96	53.96	-7.92
7233.75	1.00	310	34.94	---	10.07	45.01	---	73.96	53.96	-8.95
9650.42	1.00	55	35.77	---	11.47	47.24	---	73.96	53.96	-6.72

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
210.66	43.06	1.00	193	-3.95	39.11	43.50	-4.39
236.12	43.32	1.00	177	-4.07	39.25	46.00	-6.75
301.60	48.04	1.00	167	-3.32	44.72	46.00	-1.28
368.29	39.40	1.00	87	-2.15	37.25	46.00	-8.75
436.19	38.38	1.00	37	0.28	38.66	46.00	-7.34

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
233.70	40.62	1.00	47	-4.08	36.54	46.00	-9.46
460.44	36.59	1.00	50	1.15	37.74	46.00	-8.26
502.87	36.37	1.00	140	2.41	38.78	46.00	-7.22
565.92	31.69	1.00	99	5.12	36.81	46.00	-9.19
729.61	32.03	1.00	226	9.82	41.85	46.00	-4.15

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1624.65	1.00	116	42.16	32.83	13.95	56.11	46.78	73.96	53.96	-7.18
3012.50	1.00	176	35.33	---	10.49	45.82	---	73.96	53.96	-8.14
7312.29	1.00	21	35.94	---	10.30	46.24	---	73.96	53.96	-7.72
9747.08	1.00	280	35.60	---	11.89	47.49	---	73.96	53.96	-6.47
12187.92	1.00	251	39.60	---	9.74	49.34	---	73.96	53.96	-4.62

Test mode: IEEE 802.11g CH06 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1624.65	1.00	320	40.49	33.83	13.95	54.44	47.78	73.96	53.96	-6.18
2256.25	1.00	8	38.50	---	8.81	47.31	---	73.96	53.96	-6.65
2591.67	1.00	64	36.84	---	9.66	46.50	---	73.96	53.96	-7.46
9747.08	1.00	167	35.94	---	11.89	47.83	---	73.96	53.96	-6.13
12187.92	1.00	254	38.94	---	9.74	48.68	---	73.96	53.96	-5.28

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz, Antenna#2 [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
200.36	40.85	1.00	209	-3.47	37.38	43.50	-6.12
234.31	42.91	1.00	0	-4.08	38.83	46.00	-7.17
299.59	40.82	1.00	161	-3.36	37.46	46.00	-8.54
356.59	44.02	1.00	31	-2.50	41.52	46.00	-4.48
433.76	39.94	1.00	357	0.18	40.12	46.00	-5.88

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz, Antenna#2 [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
97.90	37.14	1.00	10	-0.68	36.46	43.50	-7.04
209.45	41.88	1.00	195	-3.91	37.97	43.50	-5.53
233.70	42.99	1.00	178	-4.08	38.91	46.00	-7.09
299.78	46.19	1.00	165	-3.35	42.84	46.00	-3.16
433.16	40.51	1.00	41	0.16	40.67	46.00	-5.33

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz, Antenna#2 [Horizontal]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.33	1.00	101	43.49	33.83	13.69	57.18	47.52	73.96	53.96	-6.44
2391.67	1.00	336	37.50	---	9.19	46.69	---	73.96	53.96	-7.27
7384.79	1.00	200	35.28	---	10.42	45.70	---	73.96	53.96	-8.26
9849.79	1.00	246	34.94	---	11.93	46.87	---	73.96	53.96	-7.09
12308.75	1.00	295	37.44	---	9.56	47.00	---	73.96	53.96	-6.96

Test mode: IEEE 802.11g CH11 for 1GHz to 25GHz, Antenna#2 [Vertical]

Frequency	*Ant. H.*	*Table*	*Amplitude Peak / Ave.*		*Correction Factor*	*Corrected Amplitude Peak / Ave.*		*Limit Peak / Ave.*		*Margin*
MHz	*m*	*degree*	*dBμV*		*dB/m*	*dBμV/m*		*dBμV/m*		*dB*
1641.32	1.00	295	42.32	35.67	13.69	56.01	49.36	73.96	53.96	-4.60
3281.25	1.00	34	35.17	---	11.78	46.95	---	73.96	53.96	-7.01
7384.79	1.00	167	34.44	---	10.42	44.86	---	73.96	53.96	-9.10
9849.79	1.00	99	34.94	---	11.93	46.87	---	73.96	53.96	-7.09
12308.75	1.00	123	36.94	---	9.56	46.50	---	73.96	53.96	-7.46

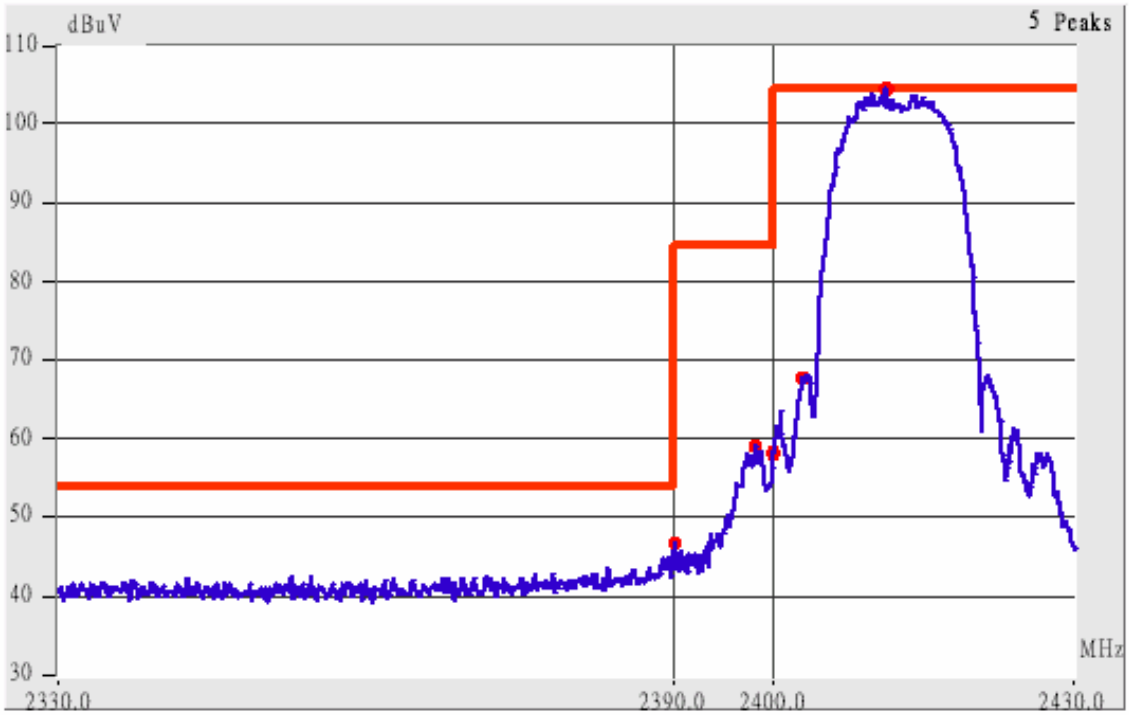
7.4 Test Result of the Bandedge

If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified id § 15.209(a)*,

We perform this section by the *radiated manner*, the RBW is set to 100kHz and VBW>RBW. We' d made the observation *up to 10th harmonics and the criterion is all the harmonic/spurious emissions must be 20dB below the highest emission level measured.* If the emissions fall in the restricted bands stated in the Part 15.205(a) must also *comply with the radiated emission limits specified in Part 15.209(a). (Peak mode: RBW=VBW=1MHz, Average mode: RBW=1MHz; VBW=10Hz)*

The following pages show our observations referring to the channel 1 and 11 respectively.
Test Condition & Setup: same as < 8.1 >

IEEE 802.11b Ch01 for Antenna#1



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2388.40	Hor	1.00	2	9.18	53.68	42.18	73.96	53.96	-11.78
2390.32	Hor	1.00	2	9.18	53.02	42.85	73.96	53.96	-11.11
2368.40	Ver	1.00	27	9.12	45.29	---	73.96	53.96	-8.67
2390.02	Ver	1.00	41	9.18	48.18	---	73.96	53.96	-5.78

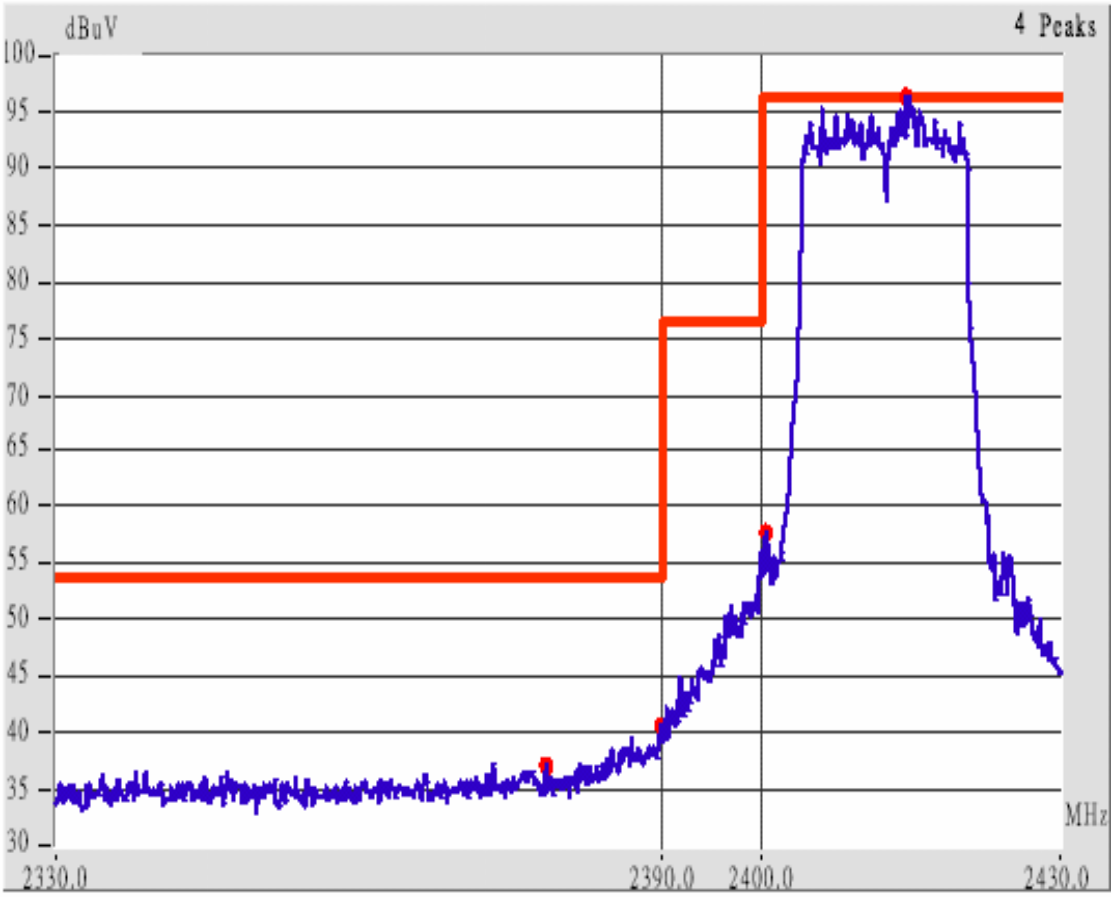
IEEE 802.11b Ch11 for Antenna#1

This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

3. The lobe right by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2483.22	Hor	1.00	0	9.44	53.61	41.94	73.96	53.96	-12.02
2485.86	Hor	1.00	348	9.45	53.12	40.62	73.96	53.96	-13.34
2500.01	Hor	1.00	325	9.49	51.16	---	73.96	53.96	-2.80
2510.10	Hor	1.00	324	9.51	50.84	---	73.96	53.96	-3.12
2492.54	Ver	1.00	325	9.47	45.14	---	73.96	53.96	-8.82
2511.32	Ver	1.00	344	9.51	45.18	---	73.96	53.96	-8.78

IEEE 802.11g Ch01 for Antenna#1

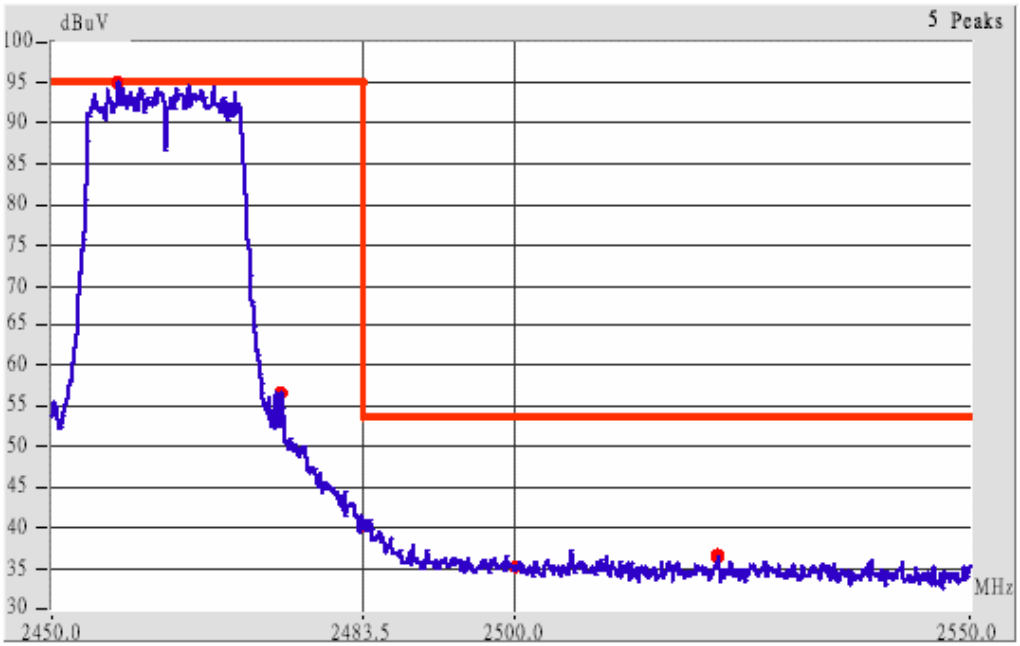


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

5. The lobe left by the fundamental side is already 20dB below the highest emission level.
6. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2383.90	Hor	1.00	291	9.16	49.83	---	73.96	53.96	-4.13
2390.02	Hor	1.00	311	9.18	49.18	---	73.96	53.96	-4.78
2388.93	Ver	1.00	30	9.18	47.85	---	73.96	53.96	-6.11
2390.02	Ver	1.00	332	9.18	45.68	---	73.96	53.96	-8.28

IEEE 802.11g Ch11 for Antenna#1

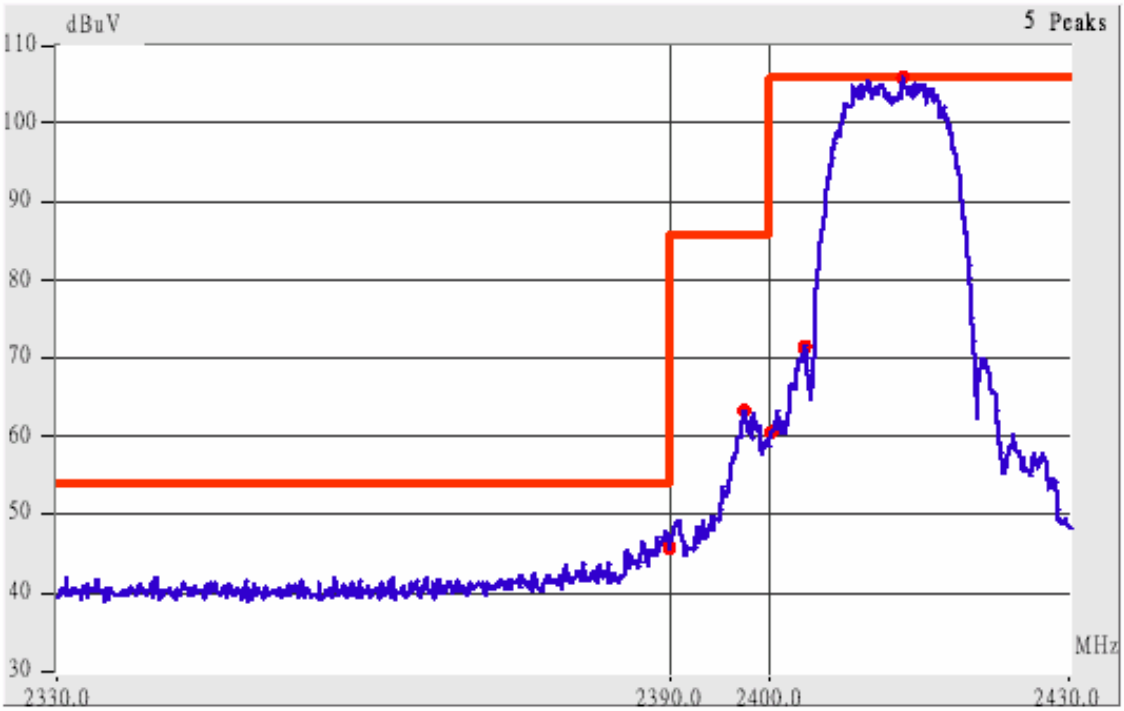


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

7. The lobe right by the fundamental side is already 20dB below the highest emission level.
8. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Angle (°)*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Limit (dBμV/m) Ave.*	*Margin (dB)*
2483.50	Hor	1.00	116	9.44	50.78	---	73.96	53.96	-3.18
2489.57	Hor	1.00	109	9.46	48.13	---	73.96	53.96	-3.58
2500.01	Hor	1.00	351	9.49	45.66	---	73.96	53.96	-8.30
2511.21	Hor	1.00	118	9.51	46.84	---	73.96	53.96	-7.12
2483.50	Ver	1.00	104	9.44	42.28	---	73.96	53.96	-11.68
2489.16	Ver	1.00	205	9.46	44.63	---	73.96	53.96	-9.33
2500.01	Ver	1.00	169	9.49	44.32	---	73.96	53.96	-9.64
2508.00	Ver	1.00	323	9.51	44.67	---	73.96	53.96	-9.29

IEEE 802.11b Ch01 for Antenna#2

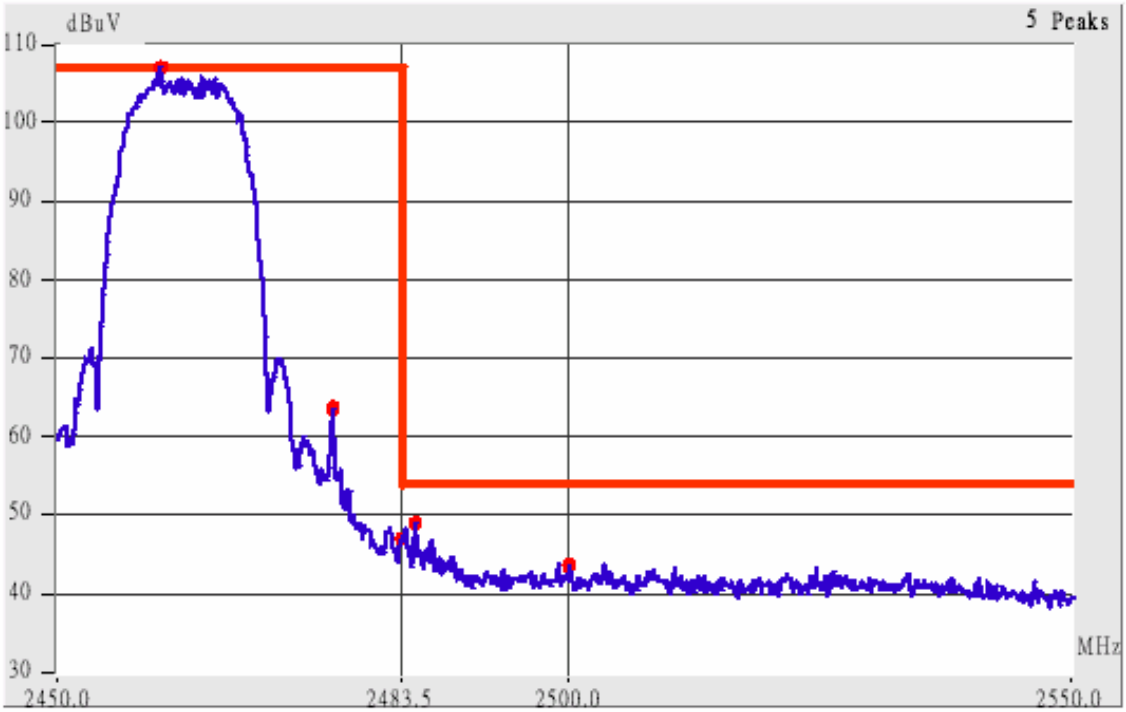


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2386.22	Hor	1.00	200	9.17	47.00	---	73.96	53.96	-6.96
2390.02	Hor	1.00	242	9.18	47.35	---	73.96	53.96	-6.61
2387.01	Ver	1.00	129	9.17	54.67	41.67	73.96	53.96	-12.29
2390.24	Ver	1.00	38	9.18	54.18	43.51	73.96	53.96	-10.45

IEEE 802.11b Ch11 for Antenna#2

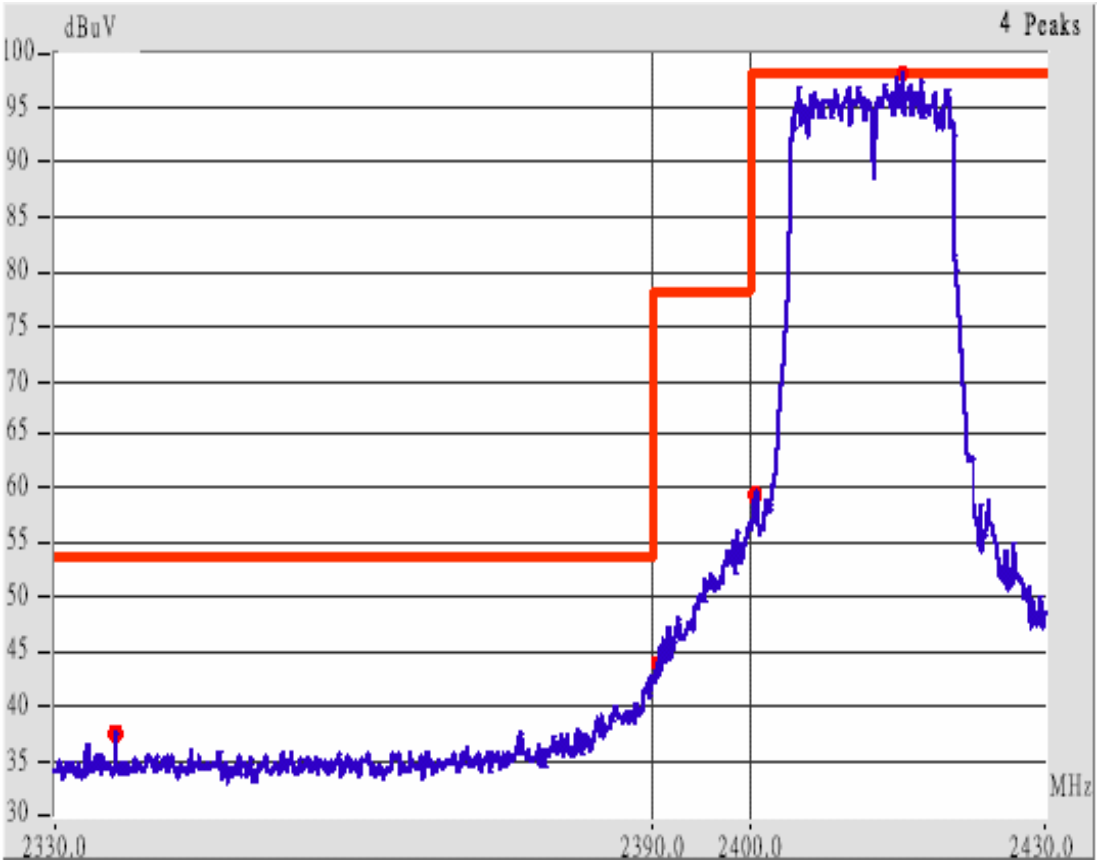


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

3. The lobe right by the fundamental side is already 20dB below the highest emission level.
4. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2483.50	Hor	1.00	306	9.44	47.28	---	73.96	53.96	-6.68
2491.03	Hor	1.00	308	9.46	45.80	---	73.96	53.96	-8.16
2483.27	Ver	1.00	260	9.44	54.44	54.44	73.96	53.96	-10.35
2487.10	Ver	1.00	204	9.45	53.95	41.95	73.96	53.96	-12.01
2500.18	Ver	1.00	67	9.49	51.66	40.49	73.96	53.96	-13.47
2511.03	Ver	1.00	214	9.51	52.68	39.84	73.96	53.96	-14.12

IEEE 802.11g Ch01 for Antenna#2

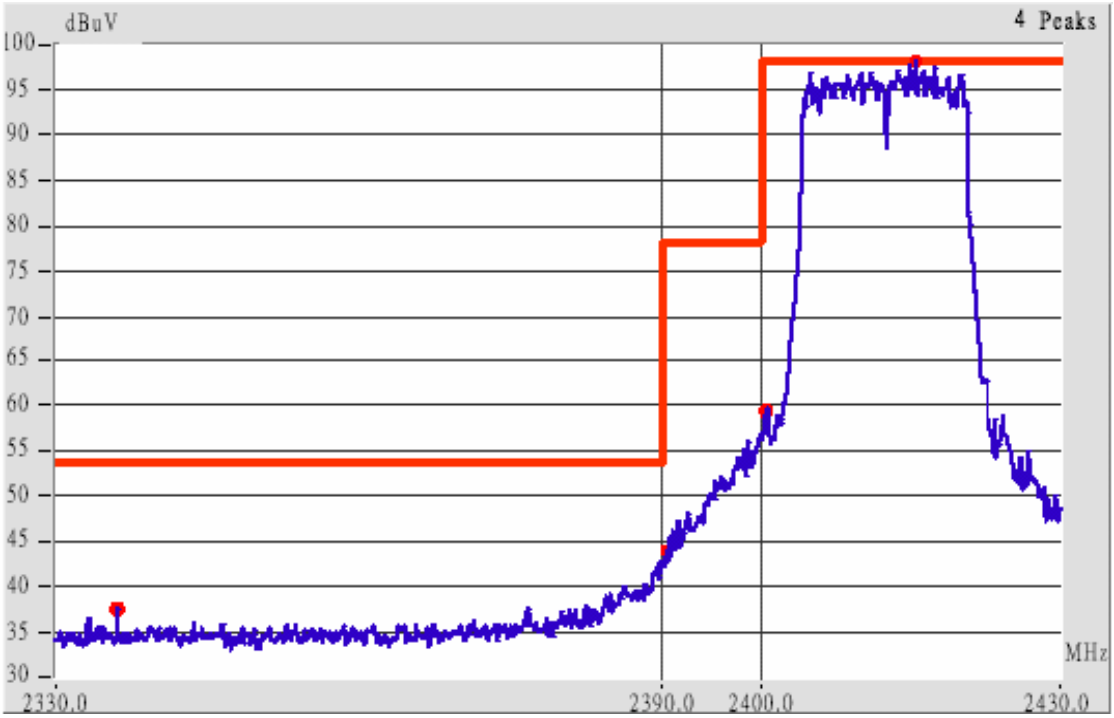


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

5. The lobe left by the fundamental side is already 20dB below the highest emission level.
6. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					***Corrected Amplitude (dBμV/m)***		***Class B (3m)***		
Frequency (MHz)	***Ant. P.***	***Ant. H. (m)***	***Angle (°)***	***Factors (dB)***	***Peak***	***Average***	***Limit (dBμV/m)***		***Margin (dB)***
							Peak	***Ave.***	
2384.93	Hor	1.00	9	9.17	49.00	---	73.96	53.96	-4.96
2390.02	Hor	1.00	1	9.18	51.02	---	73.96	53.96	-2.94
2385.41	Ver	1.00	46	9.17	51.17	---	73.96	53.96	-2.79
2389.89	Ver	1.00	127	9.18	53.02	37.85	73.96	53.96	-16.11

IEEE 802.11g Ch11 for Antenna#2



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

7. The lobe right by the fundamental side is already 20dB below the highest emission level.
8. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

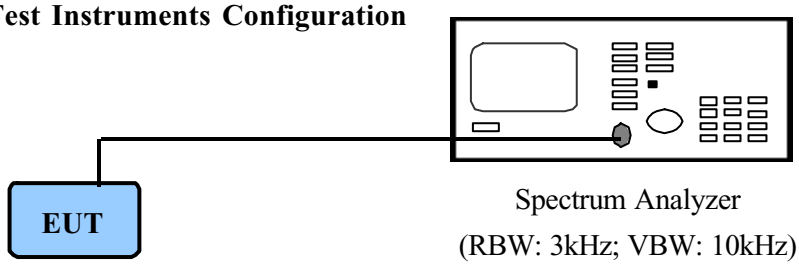
Radiated Emission					*Corrected Amplitude (dBμV/m)*		*Class B (3m)*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Angle (°)*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m)* *Peak*	*Ave.*	*Margin (dB)*
2483.50	Hor	1.00	75	9.44	49.11	---	73.96	53.96	-4.85
2486.82	Hor	1.00	68	9.45	48.32	---	73.96	53.96	-5.34
2504.79	Hor	1.00	328	9.50	47.17	---	73.96	53.96	-6.79
2483.60	Ver	1.00	223	9.44	53.94	37.11	73.96	53.96	-16.85
2488.22	Ver	1.00	196	9.46	52.12	34.56	73.96	53.96	-18.50
2500.01	Ver	1.00	196	9.49	47.32	---	73.96	53.96	-16.64
2508.35	Ver	1.00	124	9.51	48.51	---	73.96	53.96	-15.95

VIII. Section 15.247(d): Power Spectral Density

8.1 Test Condition & Setup

The tests below are running with the EUT transmitter set at high power in TDD mode. The EUT is needed to force selection of output power level and channel number. While testing, the EUT was set to transmit continuously and to be tested by the contact manner with the spectrum analyzer.

8.2 Test Instruments Configuration



PC to control the EUT at maximal power output and channel number and set antenna kit

8.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	11/15/06

8.4 Test Result of Power spectral density

The following table shows a summary of the test results of the Power Spectral Density.

Channel	*Ppr (dBm)*	*Cable Loss (dB)*	*Ppq (dBm)*	*Limit (dB)*	*Margin (dB)*
802.11b CH01	-8.39	1.00	-7.39	8.00	-15.39
802.11b CH06	-8.35	1.00	-7.35	8.00	-15.35
802.11b CH11	-7.88	1.00	-6.88	8.00	-14.88
802.11g CH01	-16.78	1.00	-15.78	8.00	-23.78
802.11g CH06	-16.97	1.00	-15.97	8.00	-23.97
802.11g CH11	-17.75	1.00	-16.75	8.00	-24.75

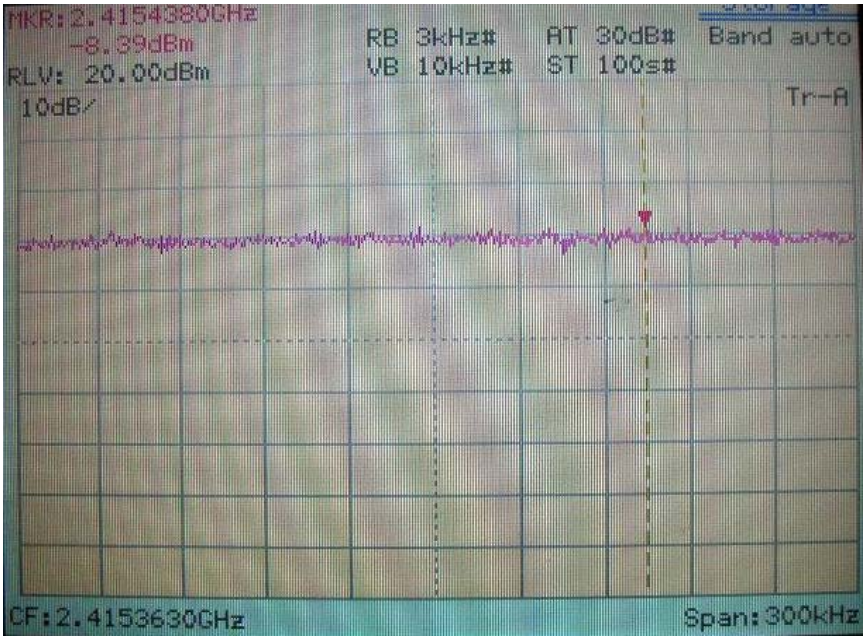
Note:

1. The following pages show the results of spectrum reading.
2. Ppr: spectrum read power density (using peak search mode),
   Ppq: actual peak power density in the spread spectrum band.

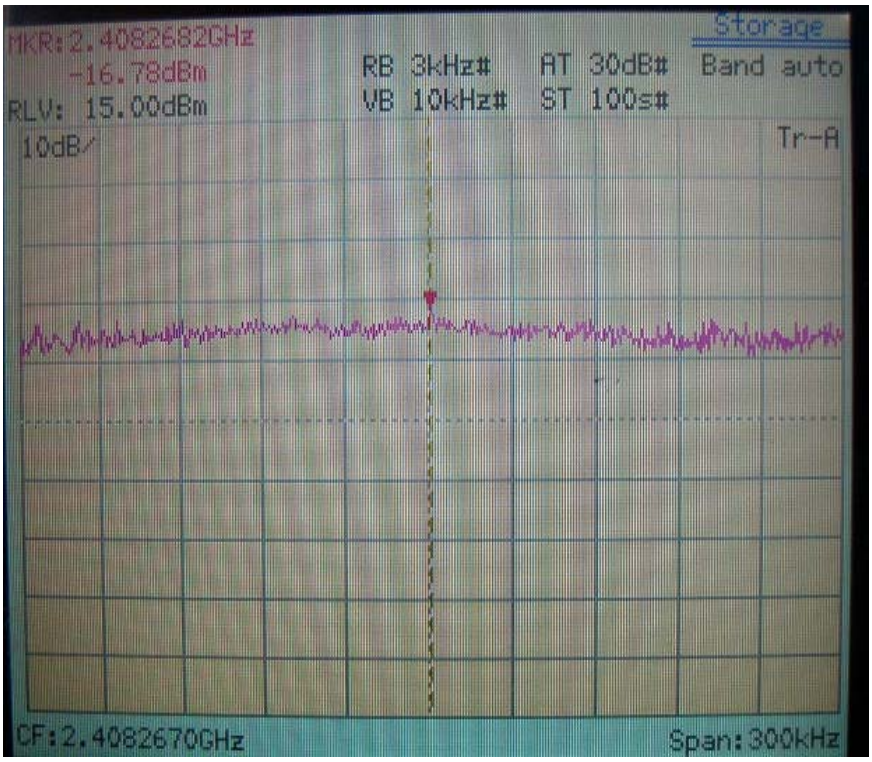
3. Ppq = Ppr + |Cable Loss|

Power Spectral Density of Channel 01

IEEE 802.11b

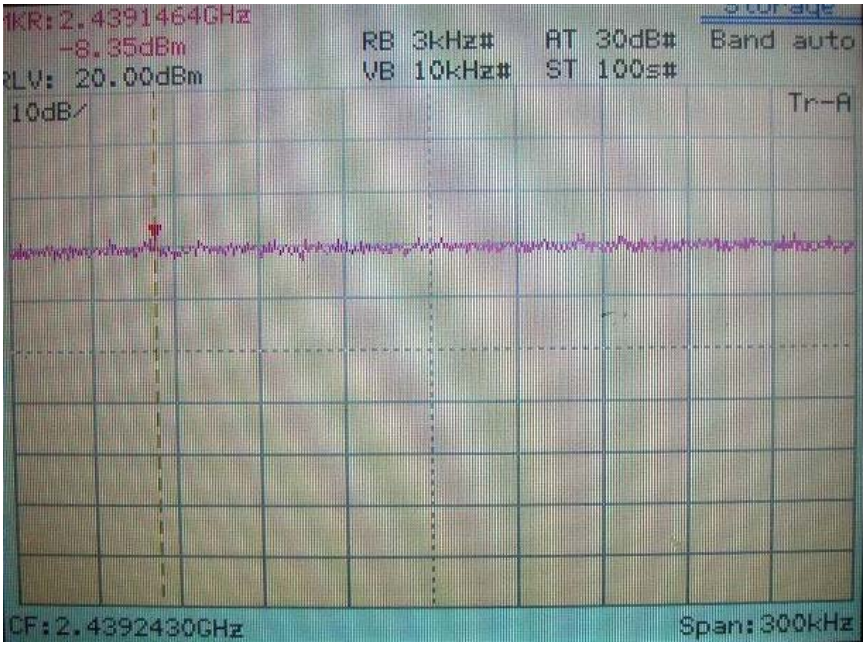


IEEE 802.11g

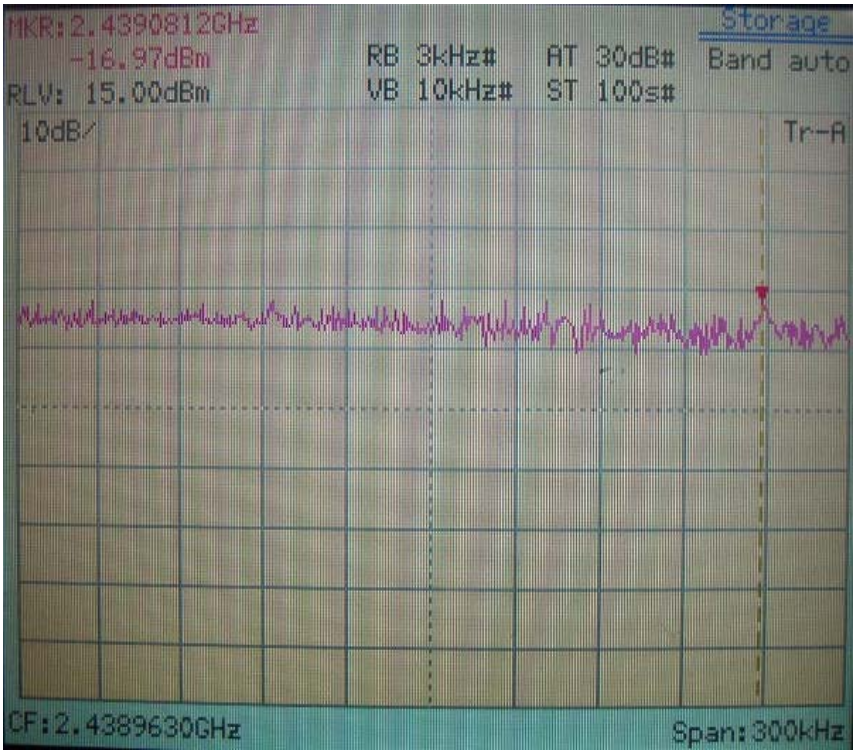


Power Spectral Density of Channel 06

IEEE 802.11b

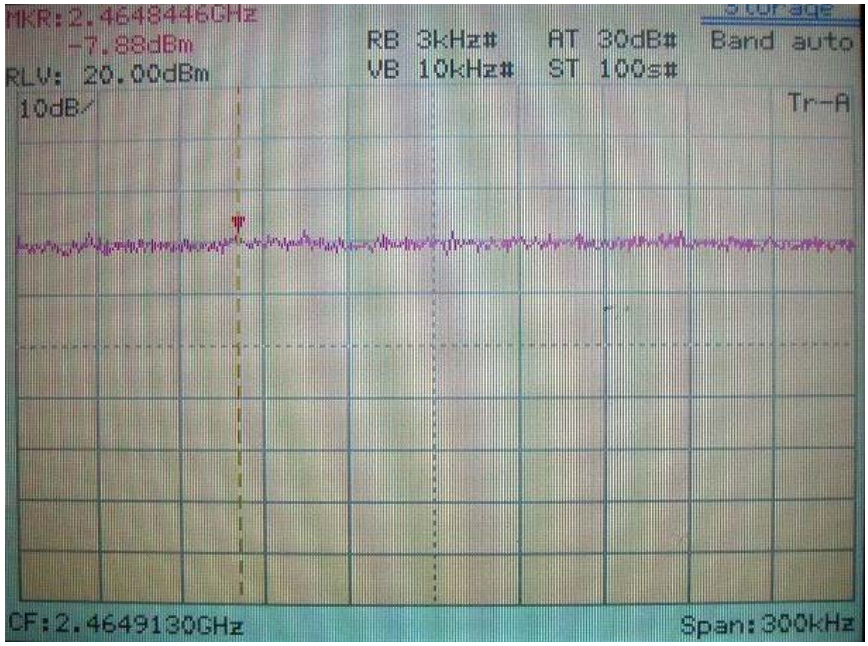
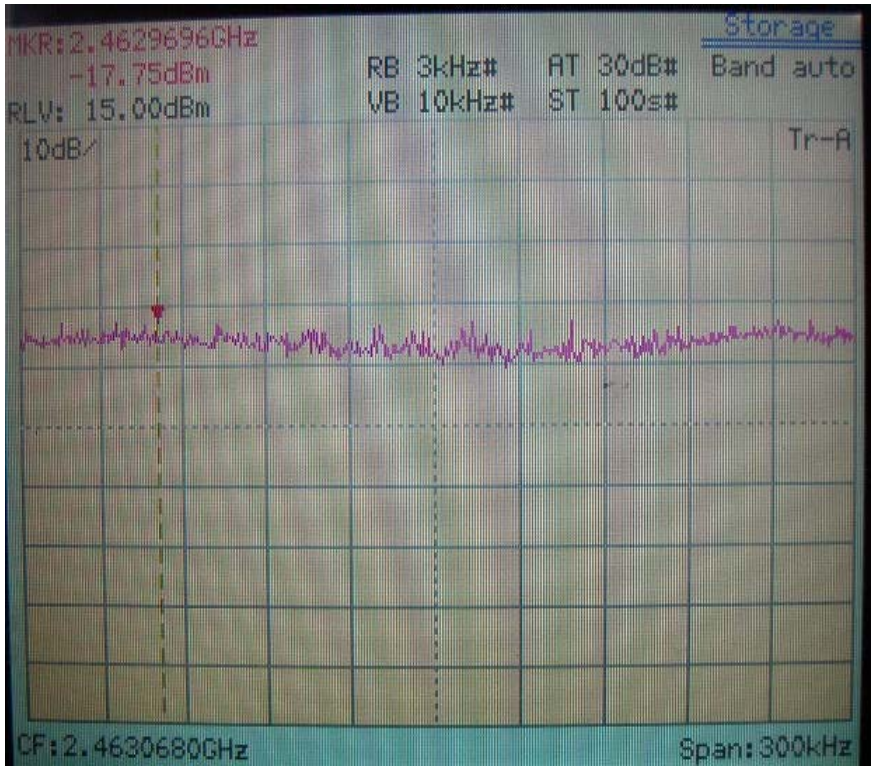


IEEE 802.11g



Power Spectral Density of Channel 11

IEEE 802.11b



IEEE 802.11g