

MEASUREMENT REPORT of *Wireless Ethernet Router*

Applicant : RUBY TECH CORP.
EUT : Wireless Access Point / Router Bridge
/ Client Bridge
Model No. : OW-2000, RB-170
FCC ID : KFWIOW2XXARC

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.

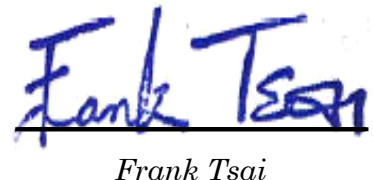
We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart B (Declaration of Conformity) and C Section 15.247.

Applicant : **RUBY TECH CORP..**
Applicant Address : **2F, NO.7, Lane 50, Nan Kang Road, Sec.3,**
Taipei, Taiwan
Product Name : **Wireless Access Point / Router Bridge / Client Bridge**
Model : **OW-2000, RB-170**
Report No. : **R2015060493**
Test Date : **August 10, 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.**



Federal Communications Commission

Declaration of Conformity

for the following equipment:

Product name : Wireless Access Point / Router Bridge / Client Bridge
 Trade name : RUBYTECH
 Model name : OW-2000, RB-170

Is herewith confirmed and found to comply with the requirements of CFR 47 part15 Subpart B - Unintentional Radiators regulation. The results of electromagnetic mission evaluation are shown in the report number : R2015060493

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received,
 including interference that may cause undesired operation

Manufacturer	USA local representative
Company name: RUBY TECH CORP.	To be determined
Computer address: 2F, NO.7, Lane 50, Nan Kang Road, Sec.3, Taipei, Taiwan	
ZIP / Postal code 115	
Contact person: Lobo Tu	
Title: Assistant Vice President	
Internet e-mail address: lobo@mail.rubyttech.com.tw	
Tel / Fax: 886-2-27853961 / 886-2-27828632	

Tables of Contents

I.	GENERAL	6
1.1	Introduction	6
1.2	Description of EUT	6
1.3	Test method	7
1.4	Description of Support Equipment	7
1.5	Configuration of System Under Test	9
1.6	Verify the Frequency and Channel	11
1.7	Test Procedure	12
1.8	Location of the Test Site	12
1.9	General Test Condition	12
II.	Section 15.101(a) : Equipment Authorization of Unintentional Radiators	13
III.	Section 15.203 : Antenna Requirement	14
IV.	Section 15.207 : Power Line Conducted Emissions for AC Powered Units	15
4.1	Test Condition & Setup	15
4.2	List of Test Instruments	16
4.3	Test Result of Conducted Emissions	17
	External Antenna IEEE 802.11b & IEEE 802.11g.....	17
	Internal Antenna IEEE 802.11b & IEEE 802.11g.....	20
V.	Section 15.247(a) : Technical Description of the EUT.....	23
VI.	Section 15.247(a)(2) : Bandwidth for Direct Sequence System	24
6.1	Test Condition & Setup	24
6.2	Test Instruments Configuration	24
6.3	List of Test Instruments	24
6.4	Test Result of Bandwidth	25
	External Antenna Channel 01	26
	External Antenna Channel 06	27
	External Antenna Channel 11	28

Internal Antenna Channel 01	29
Internal Antenna Channel 06	30
Internal Antenna Channel 11	31
VII. Section 15.247(b) : Power Output	32
7.1 Test Condition & Setup	32
7.2 List of Test Instruments	32
7.3 Test Result	33
VIII. Section 15.247(c) : Spurious Emissions (Radiated)	34
8.1 Test Condition & Setup	34
8.2 List of Test Instruments	36
8.3 Test Result of Spurious Radiated Emissions	37
External Antenna Standby mode	37
External Antenna IEEE 802.11b CH 01& CH 06 & CH 11	39
External Antenna IEEE 802.11g CH 01 & CH 06 & CH11.....	48
Internal Antenna Standby mode	57
Internal Antenna IEEE 802.11b CH 01& CH 06 & CH 11	59
Internal Antenna IEEE 802.11g CH 01 & CH 06 & CH11.....	68
8.4 Test Result of Bandedge.....	77
IEEE 802.11b CH 01	78
IEEE 802.11b CH 11	80
IEEE 802.11g CH 01	82
IEEE 802.11g CH 11	84
IX. Section 15.247(d) : Power Spectral Density	86
9.1 Test Condition & Setup	86
9.2 Test Instruments Configuration	86
9.3 List of Test Instruments.....	86
9.4 Test Result of Power Spectral Density	87
IEEE 802.11b	87
IEEE 802.11g.....	88
External Antenna CH 01 & CH 06 & CH 11	89
Internal Antenna CH 01 & CH 06 & CH 11	92

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, B and C of the Commission's Rules and Regulations.

1.2 Description of EUT

FCC ID	: KFWIOW2XXARC
Product Name	: Wireless Access Point / Router Bridge / Client Bridge
Model Name	: OW-2000, RB-170
Frequency Range	: 2.400GHz ~ 2.4835GHz
Channel Spacing	: 5MHz
Support Channel	: 11 Channels
Modulation Skill	: DBPSK, DQPSK, CCK, OFDM
Power Type	: Powered by PoE PoE Power Type as below: Manufacture: MEAN WELL Model: ES18U48-480 I/P: 100-240VAC 50/60Hz 0.5A MAX. O/P: 48VDC--- 0.375A , 18W MAX.
Power Cable	: 188cm length, non-shielded, incorporating a ferrite core
Data Cable	: RJ45 cable x 1, 1.2m length, non-shielded, no ferrite core RJ45 cable x 1, 30m length, non-shielded, no ferrite core

The EUT has two kind of appearance for two modes, the PCB design are the same. Only with difference antenna designed. One is external antenna, .the other one is internal.

1.3 Test method

- 1.3.1 The WAN port connected to far HUB.
- 1.3.2 The LAN port is termination by RJ45 cables.
- 1.3.3 Connected the LAN4 port to the LAN interface of PC. Using PC and software provided by the manufacturer to control EUT, the test is performed under the specific conditions.
- 1.3.4 Set different data rate and channel (CH01/CH06/CH11) being tested and repeat the procedures above.
 - (a) Radiated for Intentional test:
making EUT to the mode of continuous transmission
 - (b) Conducted test and Radiated for unintentional test:
making EUT to the linking (Rx/Tx) mode with far support equipments

1.4 Description of Support Equipment

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

PC:HP Pavilion t000

Model No. : DD281A-AB0
Serial No. : TW31720157
FCC ID : Doc Approved
Power type : AC 100 –127 4.0A, 200-240 2.0A, 50 ~ 60Hz
Power cord : Non-shielded, 2.33m long, Plastic, No ferrite core

Notebook PC : **ASUS**
Model No. : A8TC
Serial No. : 69N0AG044475
FCC ID : PPD-AR5BXB61
Power type : By Switching adaptor
Adaptor Model No. : ADP-90SB BB
Serial No. : VWW0632447709
Power type : 100 ~ 240VAC / 50 ~ 60Hz, 1.5 A, Switching
Power cord : Non-shielded, 1.0m length, Plastic hood, No ferrite core
(Main power to adaptor)
Power cord : Shielded, 1.84m length, Plastic hood, ferrite core
(DC plug to adaptor)

Monitor : **ViewSonic**
Model No. : VS10781
Serial No. : PST05420152
FCC ID : DOC Approved
Power type : 100 ~ 240V AC 15A 50/60Hz
Power cord : Shielded, 1.83m long, No ferrite core
Data cable : Shielded, 1.46m (1.80m) long, with two ferrite cores (no ferrite core)

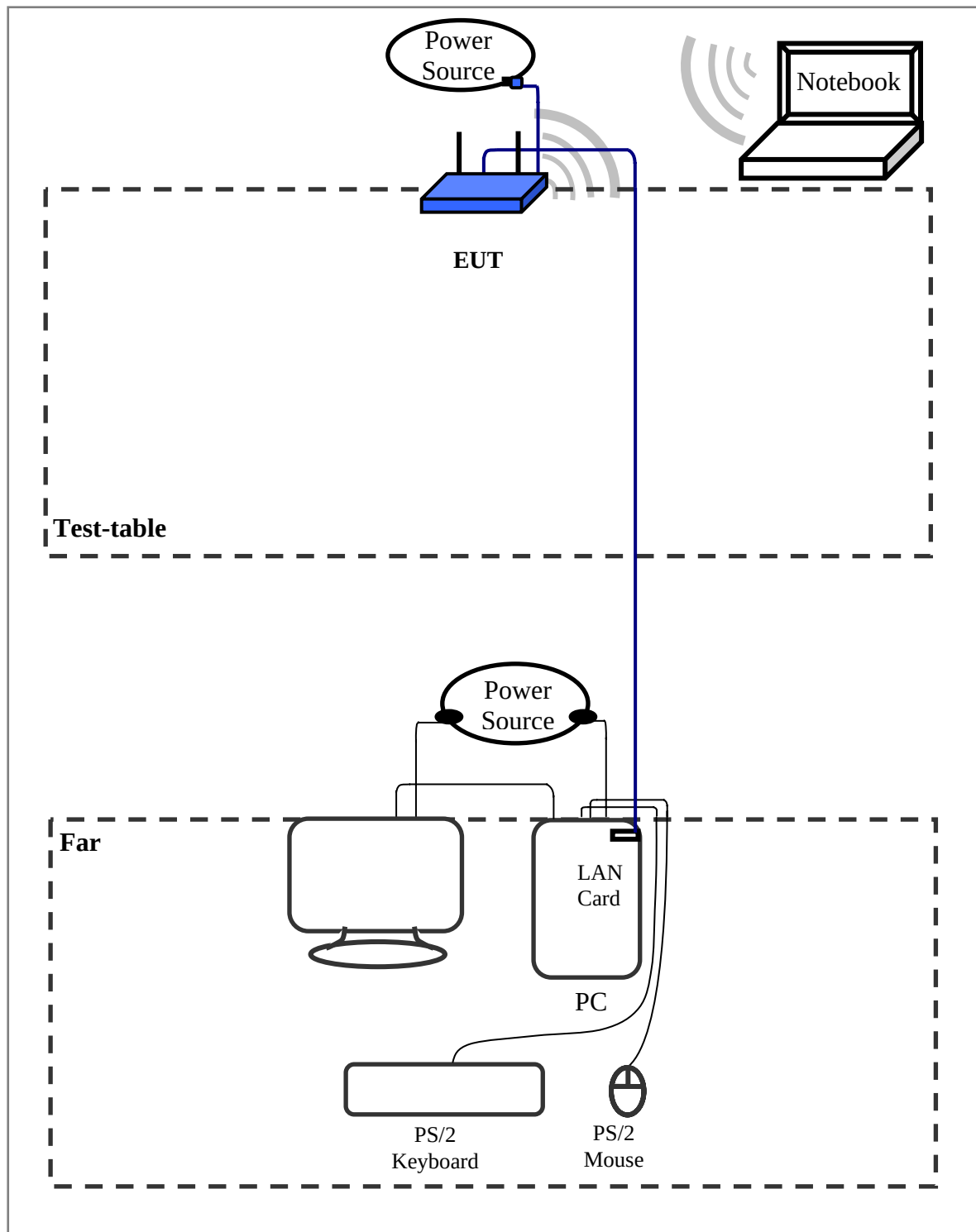
Keyboard : **HP**
Model No. : SK-2501K
Serial No. : MR80700789
FCC ID : GYUR38SK
Power type : By PC
Data cable : Shielded, 1.73m long, with ferrite core

Mouse : **HP**
Model No. : M-S34
Serial No. : LZB90714106
FCC ID : DZL211029
Power type : By PC
Power cord : Non-shielded, 1.88m long, No ferrite core

LAN Card : **D-Link**
Model No. : DFE-530TX
Serial No. : 0050BAE32FF3, 0050BAE3158B
FCC ID : N/A, DoC Approved

1.5 Configuration of System Under Test

Conducted and Radiated for Unintentional



Connections of Equipment

PC: *Parallel Port not connect anything
 *VGA Port a monitor
 *Serial Port not connect anything
 *USB Port not connect anything
 *PS/2-key Port a PS/2 keyboard
 *PS/2-mouse Port ... a PS/2 mouse
 *LAB Port **EUT**

Notebook: *Wireless card..... **EUT**

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 15.101(a): Equipment authorization of unintentional radiators

The EUT equipped with a LAN interface and should be operated with the computer. It was categorized to *Class B personal computers and peripherals* as cannot be operated stand-alone. The authorization requires **Declaration of Conformity (DoC)** and the items required such as Section15.107 (Conducted limits) and Section15.109 (Radiated emission limits) is same as Section15.207 and 15.247(C).

III. 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, which allows for replacement of a broken antenna, but does not use a standard antenna jack or electrical connector. The antenna requirement stated in Section 15.203 is inapplicable to this EUT.

The custom antenna specification of list as below:

Manufacturer	:	WANSIH ELECTRONIC CO., LTD.
Part No	:	W5W1603A1
Connector	:	SMA(M)
Antenna Type	:	Monopole
Antenna Gain	:	5.0dBi Typical

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

4.1 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 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. 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).

4.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Calibration Date
				Next time
EMI Receiver	8546A	HP	3520A00242	11/05/07
RF Filter Section	85460A	HP	3448A00217	11/05/07
LISN (EUT)	LISN-01	TRC	99-05	07/17/07
LISN (Support E.)	LISN-01	TRC	9912-03, 04	07/17/07
Pre-amplifier	15542 ZFL-500	Mini – Circuits	0 0117	05/20/07
6dB Attenuator	MCL BW-S6W2	Mini – Circuits	9915 – Conducted	05/20/07
10dB Attenuator	A5542 VAT010	Mini – Circuits	0215 – Conducted	05/20/07
Coaxial Cable (2 meter)	A30A30-0058-50FS-2M	Jyebao	SMA-08	05/20/07
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	Jyebao	SMA-09	05/20/07
Coaxial Cable (20 meter)	RG-214/U	Jyebao	NP-01	05/20/07
Coaxial Cable (20 meter)	RG-214/U	Jyebao	NP-02	05/20/07
Auto Switch Box (< 30MHz)	ASB-01	TRC	9904-01	05/20/07

4.3 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 : 23 °C Humidity : 64 % RH

Test mode: IEEE 802.11b Channel 1(External Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	274.000	45.21	---	---	62.46	52.46	-7.25
	373.000	44.07	---	---	59.63	49.63	-5.56
	4327.000	41.01	---	---	56.00	46.00	-4.99
	7360.000	42.08	---	---	60.00	50.00	-7.92
	12060.000	43.82	---	---	60.00	50.00	-6.18
	15340.000	42.40	---	---	60.00	50.00	-7.60

Line 2	182.000	46.62	---	---	65.09	59.09	-8.47
	279.000	42.22	---	---	62.31	52.31	-10.09
	1187.000	40.41	---	---	56.00	46.00	-5.59
	3897.000	41.65	---	---	56.00	46.00	-4.35
	8650.000	46.72	---	---	60.00	50.00	-3.28
	12060.000	44.38	---	---	60.00	50.00	-5.62

Test mode: IEEE 802.11b Channel 6(External Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	279.000	45.49	---	---	62.31	52.31	-6.82
	980.000	42.80	---	---	56.00	46.00	-3.20
	3477.000	40.41	---	---	56.00	46.00	-5.59
	8650.000	46.79	---	---	60.00	50.00	-3.21
	15340.000	42.99	---	---	60.00	50.00	-7.01
	21850.000	41.80	---	---	60.00	50.00	-8.20

Line 2	187.000	46.51	---	---	64.94	54.94	-8.43
	370.000	44.21	---	---	59.71	49.71	-5.50
	1451.000	41.61	---	---	56.00	46.00	-4.39
	3606.000	40.66	---	---	56.00	46.00	-5.34
	6460.000	40.87	---	---	60.00	50.00	-9.13
	11610.000	43.15	---	---	60.00	50.00	-6.85

Test mode: IEEE 802.11b Channel 11(External Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	185.000	49.69	---	---	65.00	55.00	-5.31
	279.000	47.06	---	---	62.31	52.31	-5.25
	1017.000	40.57	---	---	56.00	46.00	-5.43
	2179.000	41.89	---	---	56.00	46.00	-4.11
	8650.000	46.46	---	---	60.00	50.00	-3.54
	11610.000	43.06	---	---	60.00	50.00	-6.94
Line 2	279.000	41.63	---	---	62.31	52.31	-10.68
	359.000	42.15	---	---	60.03	50.03	-7.88
	1166.000	40.45	---	---	56.00	46.00	-5.55
	3897.000	41.06	---	---	56.00	46.00	-4.94
	12060.000	44.61	---	---	60.00	50.00	-5.39
	21850.000	40.14	---	---	60.00	50.00	-9.86

Test mode: IEEE 802.11g Channel 1(External Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	269.000	44.82	---	---	62.60	52.60	-7.78
	1451.000	41.01	---	---	56.00	46.00	-4.99
	2179.000	40.45	---	---	56.00	46.00	-5.55
	4014.000	41.68	---	---	56.00	46.00	-4.32
	8230.000	45.10	---	---	60.00	50.00	-4.90
	15340.000	43.32	---	---	60.00	50.00	-6.68
Line 2	179.000	47.46	---	---	65.17	55.17	-7.71
	370.000	44.14	---	---	59.71	49.71	-5.57
	1451.000	41.28	---	---	56.00	46.00	-4.72
	6020.000	40.76	---	---	60.00	50.00	-9.24
	12060.000	44.28	---	---	60.00	50.00	-5.72
	16080.000	42.82	---	---	60.00	50.00	-7.18

Test mode: IEEE 802.11g Channel 6(External Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	185.000	49.69	---	---	65.00	55.00	-5.31
	370.000	46.03	---	---	59.71	49.71	-3.68
	1017.000	41.45	---	---	56.00	46.00	-4.55
	4445.000	41.13	---	---	56.00	46.00	-4.87
	8780.000	46.12	---	---	60.00	50.00	-3.88
	15420.000	43.06	---	---	60.00	50.00	-6.94
Line 2	187.000	46.48	---	---	64.94	54.94	-8.46
	279.000	43.03	---	---	62.31	52.31	-9.28
	1176.000	40.29	---	---	56.00	46.00	-5.71
	4014.000	42.61	---	---	56.00	46.00	-3.39
	11610.000	43.64	---	---	60.00	50.00	-6.36
	15340.000	42.57	---	---	60.00	50.00	-7.43

Test mode: IEEE 802.11g Channel 11(External Antenna)

Power Connected Emissions					FCC Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	274.000	44.93	---	---	62.46	52.46	-7.53
	363.000	43.06	---	---	59.91	49.91	-6.85
	989.000	42.10	---	---	56.00	46.00	-3.90
	2158.000	38.96	---	---	56.00	46.00	-7.04
	3897.000	42.01	---	---	56.00	46.00	-3.99
	8650.000	46.48	---	---	60.00	50.00	-3.52
Line 2	277.000	41.63	---	---	62.37	52.37	-10.74
	370.000	44.24	---	---	59.71	49.71	-5.47
	2179.000	39.67	---	---	56.00	46.00	-6.33
	4014.000	40.41	---	---	56.00	46.00	-5.59
	8230.000	46.44	---	---	60.00	50.00	-3.56
	15340.000	43.50	---	---	60.00	50.00	-6.50

Test mode: IEEE 802.11b Channel 1(Internal Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	182.000	50.20	---	---	65.09	55.09	-4.89
	363.000	43.89	---	---	59.91	49.91	-6.02
	1411.000	42.05	---	---	56.00	46.00	-3.95
	2115.000	40.80	---	---	56.00	46.00	-5.20
	4131.000	40.97	---	---	56.00	46.00	-5.03
	15860.000	44.19	---	---	60.00	50.00	-5.81

Line 2	182.000	47.13	---	---	65.09	55.09	-7.96
	359.000	42.15	---	---	60.03	50.03	-7.88
	1411.000	40.76	---	---	56.00	46.00	-5.24
	3702.000	39.96	---	---	56.00	46.00	-6.04
	7530.000	41.65	---	---	60.00	50.00	-8.35
	12130.000	42.75	---	---	60.00	50.00	-7.25

Test mode: IEEE 802.11b Channel 6(Internal Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	180.000	47.13	---	---	65.14	55.14	-8.01
	271.000	45.66	---	---	62.54	52.54	-6.88
	1144.000	38.96	---	---	56.00	46.00	-7.04
	4249.000	41.15	---	---	56.00	46.00	-4.85
	12250.000	42.78	---	---	60.00	50.00	-7.22
	21300.000	41.50	---	---	60.00	50.00	-8.50

Line 2	179.000	46.95	---	---	65.17	55.17	-8.22
	363.000	43.46	---	---	59.91	49.91	-6.45
	633.000	40.85	---	---	56.00	46.00	-5.15
	3702.000	40.80	---	---	56.00	46.00	-5.20
	8830.000	46.21	---	---	60.00	50.00	-3.79
	15340.000	42.50	---	---	60.000	50.00	-7.50

Test mode: IEEE 802.11b Channel 11(Internal Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	183.000	47.25	---	---	65.06	55.06	-7.81
	264.000	44.84	---	---	62.74	52.74	-7.90
	452.000	43.50	---	---	57.37	47.37	-3.87
	3477.000	39.46	---	---	56.00	46.00	-6.54
	8340.000	46.14	---	---	60.00	50.00	-3.86
	15110.000	41.98	---	---	60.00	50.00	-8.02
Line 2	363.000	44.26	---	---	59.91	49.91	-5.65
	456.000	40.78	---	---	57.26	47.26	-6.48
	1155.000	41.31	---	---	56.00	46.00	-4.69
	3477.000	39.83	---	---	56.00	46.00	-6.17
	8340.000	45.63	---	---	60.00	50.00	-4.37
	15860.000	43.66	---	---	60.00	50.00	-6.34

Test mode: IEEE 802.11g Channel 1(Internal Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	161.000	48.10	---	---	65.69	55.69	-7.59
	259.000	44.68	---	---	62.89	52.89	-8.21
	1411.000	42.71	---	---	56.00	46.00	-3.29
	4249.000	41.63	---	---	56.00	46.00	-4.37
	5600.000	39.76	---	---	60.00	50.00	-10.24
	15110.000	42.08	---	---	60.00	50.00	-7.92
Line 2	163.000	47.66	---	---	65.63	55.63	-7.97
	366.000	42.92	---	---	59.83	49.83	-6.91
	1102.000	41.96	---	---	56.00	46.00	-4.04
	3819.000	42.22	---	---	56.00	46.00	-3.78
	8740.000	46.88	---	---	60.00	50.00	-3.12
	15190.000	41.79	---	---	60.00	50.00	-8.21

Test mode: IEEE 802.11g Channel 6(Internal Antenna)

Power Connected Emissions					Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	180.000	46.62	---	---	65.14	55.14	-8.52
	370.000	43.70	---	---	59.71	49.71	-6.01
	1451.000	40.99	---	---	56.00	46.00	-5.01
	4014.000	41.63	---	---	56.00	46.00	-4.37
	6460.000	41.56	---	---	60.00	50.00	-8.44
	15110.000	42.96	---	---	60.00	50.00	-7.04
Line 2	182.000	48.56	---	---	65.09	55.09	-6.53
	257.000	46.07	---	---	62.94	52.94	-6.87
	2158.000	39.83	---	---	56.00	46.00	-6.17
	3936.000	42.31	---	---	56.00	46.00	-3.69
	9600.000	42.03	---	---	60.00	50.00	-7.97
	15790.000	42.10	---	---	60.00	50.00	-7.90

Test mode: IEEE 802.11g Channel 11(Internal Antenna)

Power Connected Emissions					FCC Class B		
Conductor	Frequency (KHz)	Peak (dBμV)	QP (dBμV)	Average (dBμV)	QP-limit (dBμV)	AVG-limit (dBμV)	Margin (dB)
Line 1	264.000	45.59	---	---	62.74	52.74	-7.15
	1187.000	36.04	---	---	56.00	46.00	-9.96
	3158.000	39.76	---	---	56.00	46.00	-6.24
	4445.000	40.94	---	---	56.00	46.00	-5.06
	8430.000	47.57	---	---	60.00	50.00	-2.43
	11830.000	43.48	---	---	60.00	50.00	-6.52
Line 2	183.000	46.90	---	---	65.06	55.06	-8.16
	366.000	44.17	---	---	59.83	49.83	-5.66
	2179.000	39.53	---	---	46.00	46.00	-6.47
	4014.000	41.26	---	---	56.00	46.00	-4.74
	8560.000	47.27	---	---	60.00	50.00	-2.73
	15110.000	43.25	---	---	60.00	50.00	-6.75

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

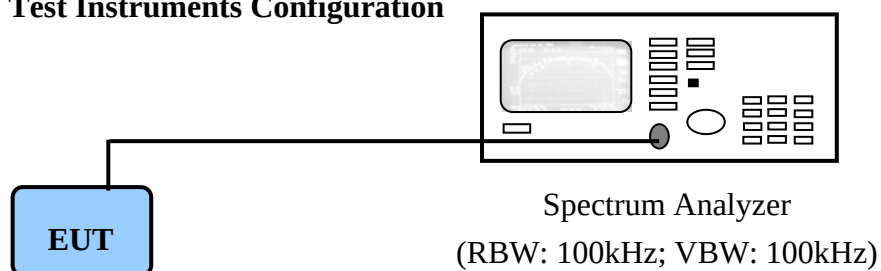
Direct Sequence System is a spread spectrum system in which the carrier has been modulated by a high speed spreading code and an information data stream. The high speed code sequence dominates the “modulating function” and is the direct cause of the wide spreading of the transmitted signal. In the operational 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.

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

6.1 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.

6.2 Test Instruments Configuration



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

6.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	11/02/07

6.4 Test Result of Bandwidth (External Antenna)

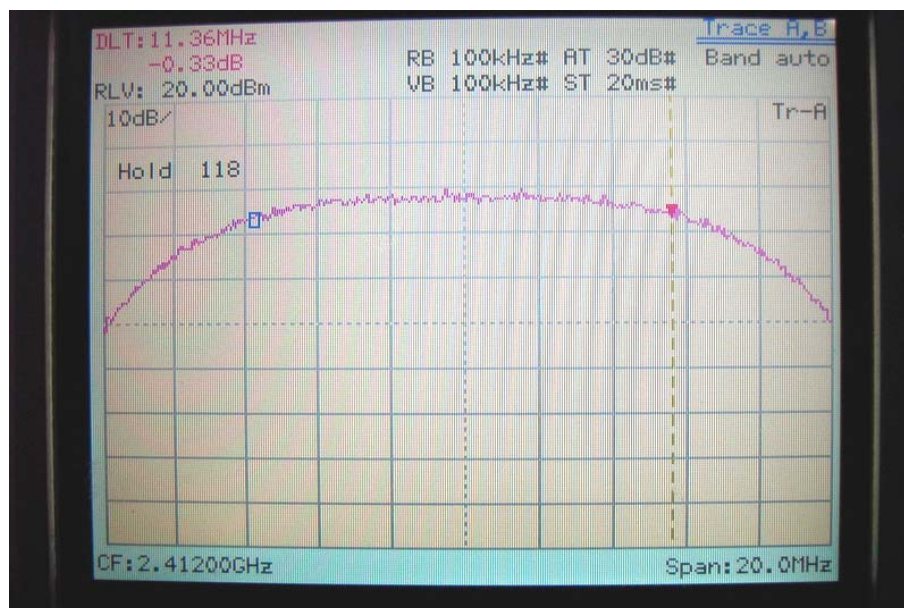
Channel	802.11b	802.11g
01	11.36 MHz	16.80 MHz
06	11.36 MHz	16.84 MHz
11	11.44 MHz	16.84 MHz

Test Result of Bandwidth (Internal Antenna)

Channel	802.11b	802.11g
01	11.68 MHz	16.76 MHz
06	11.64 MHz	16.76 MHz
11	11.64 MHz	16.72 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 $span \gg RBW$. 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)
(External Antenna)**



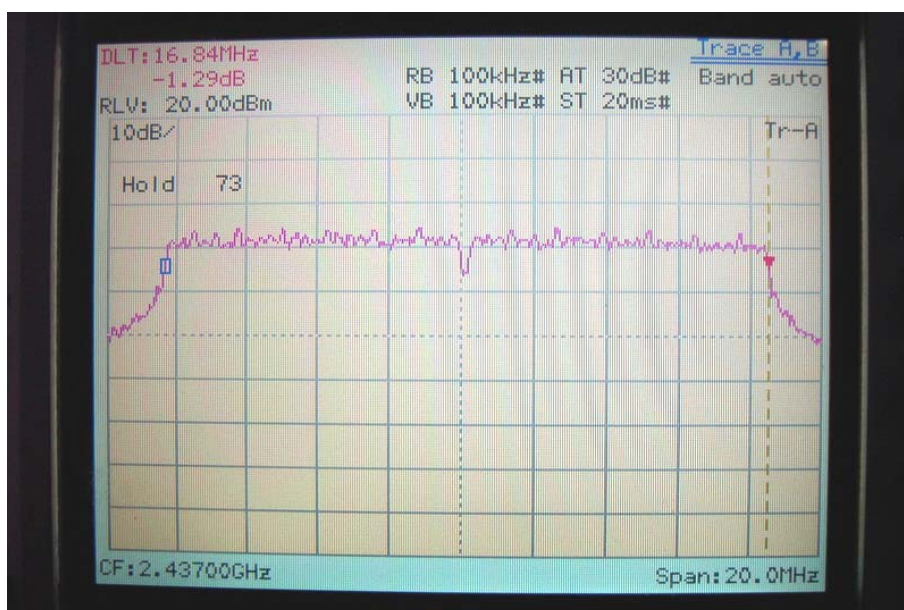
IEEE 802.11b



IEEE 802.11g

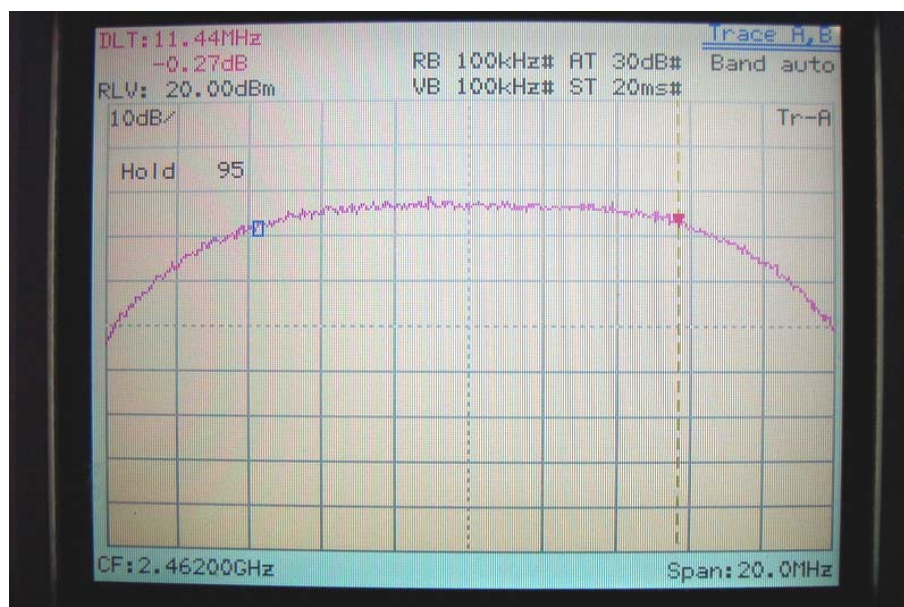
6dB Bandwidth of Channel 6 (The minimum 6dB BW at least 500kHz)

IEEE 802.11b

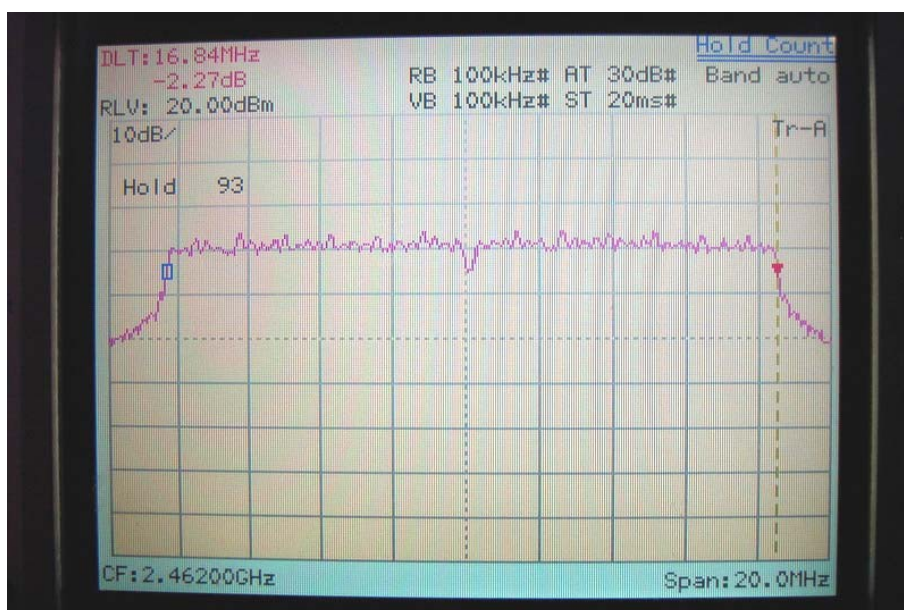


IEEE 802.11g

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

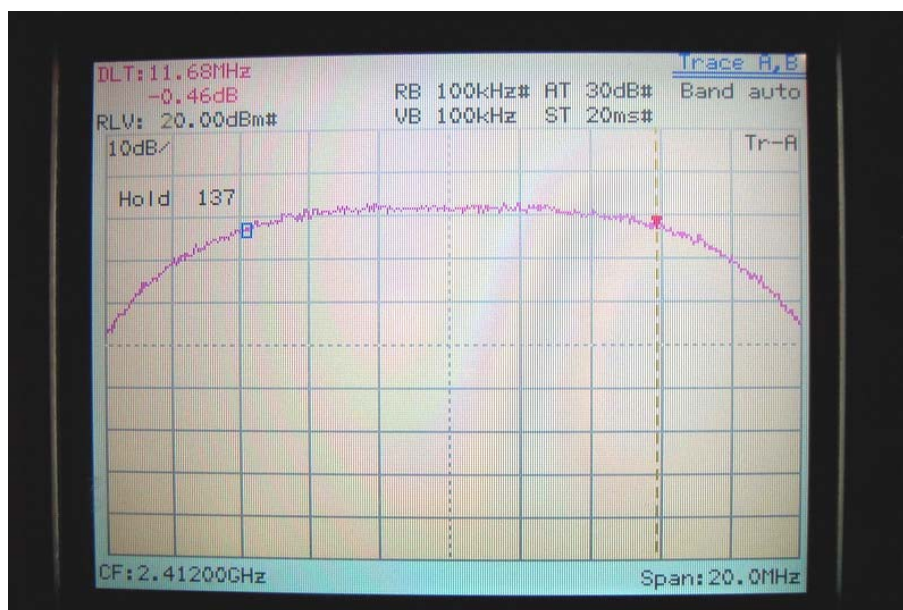


IEEE 802.11b

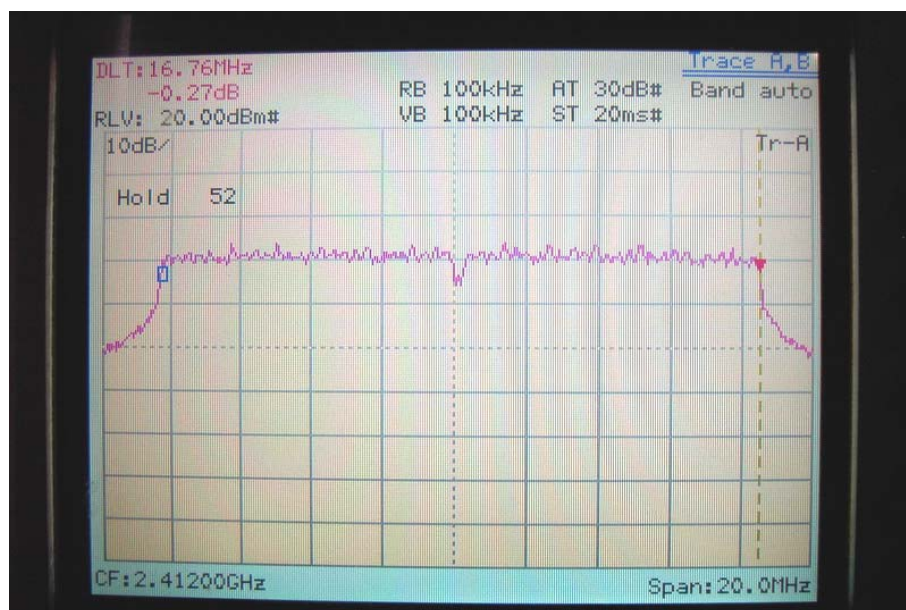


IEEE 802.11g

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

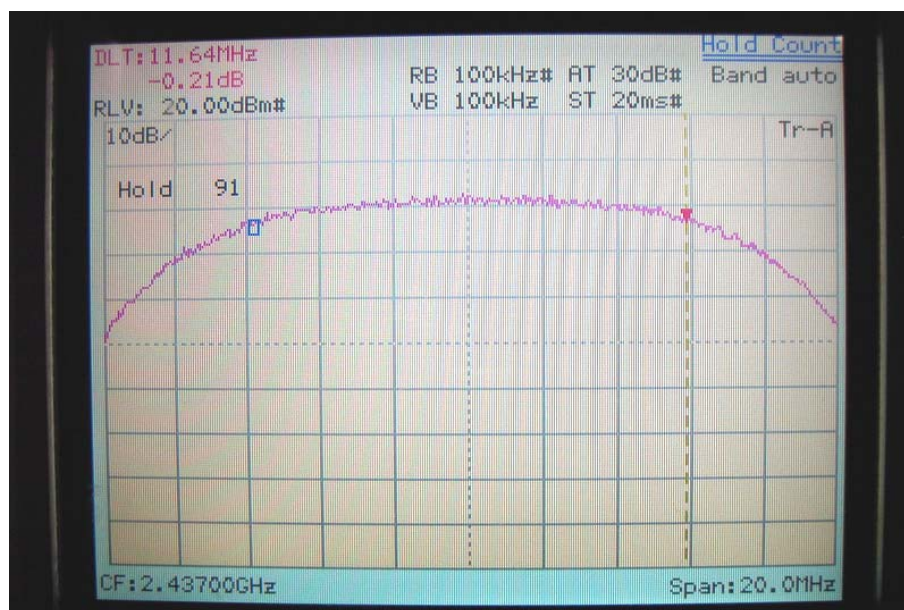


IEEE 802.11b

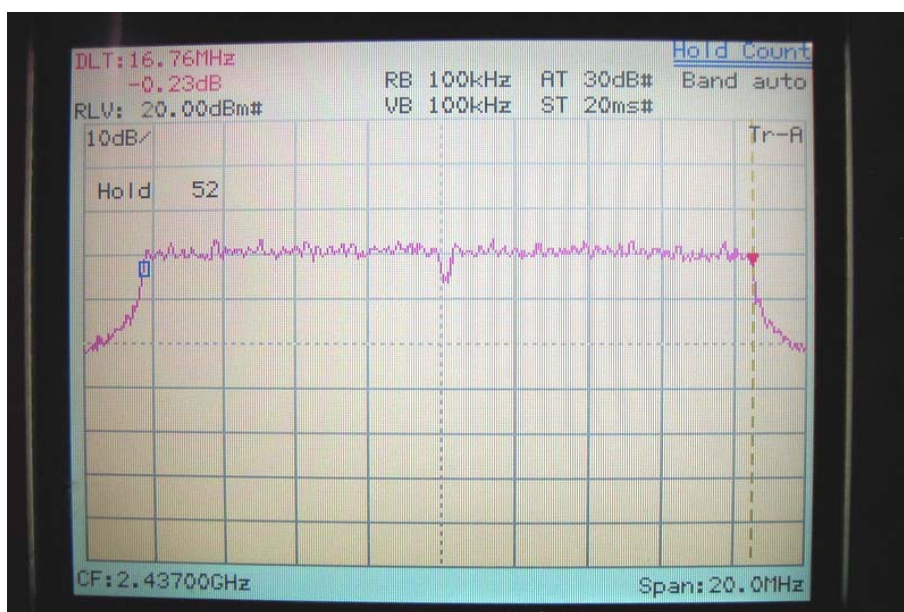


IEEE 802.11g

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



IEEE 802.11b



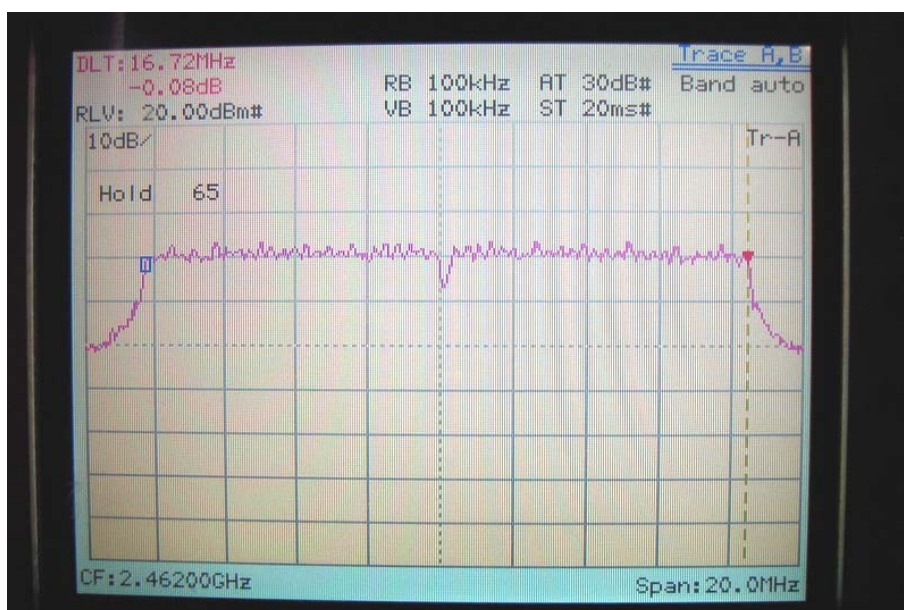
IEEE 802.11g

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

IEEE 802.11b

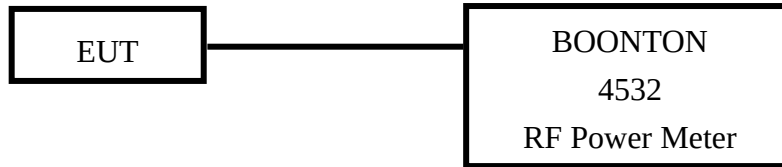


IEEE 802.11g



VII. Section 15.247(b): Power Output

7.1 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.

7.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Next time
RF Power Meter	4532	BOONTON	117501	04/21/07
Peak Power Sensor	57340	BOONTON	2696	04/26/07

7.3 Test Result

Formula:

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

(External Antenna)

Channel	RF Output	Cable Loss	Output Peak Power	
			dBm	mW
802.11b CH01	18.584	0.7	19.284	84.80
802.11b CH06	18.007	0.7	18.707	74.25
802.11b CH11	17.385	0.7	18.085	64.34
802.11g CH01	17.650	0.7	18.350	68.39
802.11g CH06	17.405	0.7	18.105	64.64
802.11g CH11	17.040	0.7	17.740	59.43

(Internal Antenna)

Channel	RF Output	Cable Loss	Output Peak Power	
			dBm	mW
802.11b CH01	18.584	0.7	19.284	84.80
802.11b CH06	18.007	0.7	18.707	74.25
802.11b CH11	17.385	0.7	18.085	64.34
802.11g CH01	21.308	0.7	22.008	158.78
802.11g CH06	20.578	0.7	21.278	134.21
802.11g CH11	20.284	0.7	20.984	125.43

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

8.1 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 30MHz to 1000MHz 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 (dB μ V/m) is determined by algebraically adding the measured reading in dB μ V, 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

$$F_{Ia} \text{ (dB}\mu\text{V/m)} = F_{Ir} \text{ (dB}\mu\text{V)} + \text{Correction Factors}$$

F_{Ia} : Actual Field Intensity

F_{Ir} : Reading of the Field Intensity

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

For frequency between 1GHz to 25GHz

$$F_{Ia} \text{ (dB}\mu\text{V/m)} = F_{Ir} \text{ (dB}\mu\text{V)} + \text{Correction Factor}$$

F_{Ia} : Actual Field Intensity

F_{Ir} : Reading of the Field Intensity

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

8.2 List of Test Instruments

Instrument Name	Model	Brand	Serial No.	Calibration Date
				Next time
EMI Receiver	8546A	HP	3520A00242	11/05/07
RF Filter Section	85460A	HP	3448A00217	11/05/07
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	10/11/07
Pre-amplifier	PA1F	TRC	1FAC	05/20/07
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	05/20/07
Coaxial Cable (Double shielded, 15 meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	05/20/07
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	05/20/0
Spectrum Analyzer	8564E	HP	3720A00840	11/13/07
Microwave Preamplifier	84125C	HP	US36433002	11/13/07
Horn Antenna	3115	EMCO	9104-3668	12/27/07
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	10/15/07
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	10/15/07
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	01/11/07
Pre-amplifier	PA2F	TRC	2F1GZ	06/20/07
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	06/20/07
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	06/20/07

8.3 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions from 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](External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
221.57	35.49	1.00	197	-4.03	39.52	46.00	-10.51
251.89	36.43	1.00	177	-3.66	40.09	46.00	-9.57
312.51	43.89	1.00	287	-3.18	47.07	46.00	-2.11
499.24	40.65	1.00	310	2.26	38.39	46.00	-5.35
744.16	40.58	1.00	137	10.08	30.5	46.00	-5.42
807.21	42.04	1.00	151	12.16	29.88	46.00	-3.96

Test mode: STANDBY mode for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	37.88	1.00	63	-0.78	38.66	43.50	-5.62
253.10	34.87	1.00	182	-3.75	38.62	46.00	-11.13
312.51	38.09	1.00	96	-3.18	41.27	46.00	-7.91
499.24	37.88	1.00	99	2.26	35.62	46.00	-8.12
744.16	42.01	1.00	41	10.08	31.93	46.00	-3.99
807.21	43.65	1.00	302	12.16	31.49	46.00	-2.35
869.05	43.60	1.00	27	13.72	29.88	46.00	-2.40
930.89	44.73	1.00	14	15.36	29.37	46.00	-1.27

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 26.5GHz [Horizontal] (External Antenna)

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
5016.25	1.00	335	28.24	---	15.63	43.87	---	73.96	53.96	-10.09
7318.33	1.00	5	25.08	---	21.66	46.74	---	73.96	53.96	-7.22
10172.92	1.00	143	25.24	---	22.71	47.95	---	73.96	53.96	-6.01
13764.17	1.00	231	31.08	---	19.70	50.78	---	73.96	53.96	-3.18
19724.79	1.00	19	48.15	---	1.86	50.01	---	73.96	53.96	-3.95
22579.37	1.00	290	47.49	---	3.70	51.19	---	73.96	53.96	-2.77
25710.21	1.00	111	49.99	---	1.53	51.52	---	73.96	53.96	-2.44

Test mode: STANDBY mode for 1GHz to 26.5GHz [Vertical] (External Antenna)

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
3663.33	1.00	218	30.24	---	11.05	41.29	---	73.96	53.96	-12.67
5554.58	1.00	331	27.58	---	17.07	44.65	---	73.96	53.96	-9.31
8812.92	1.00	105	24.41	---	23.00	47.41	---	73.96	53.96	-6.55
13764.17	1.00	46	32.08	---	19.70	51.78	---	73.96	53.96	-2.18
19027.08	1.00	223	49.49	---	1.60	51.09	---	73.96	53.96	-2.87
21176.87	1.00	172	48.15	---	2.58	50.73	---	73.96	53.96	-3.23
23733.96	1.00	291	47.65	---	3.37	51.02	---	73.96	53.96	-2.94

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 [Horizontal] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
35.34	38.28	1.00	67	6.31	31.97	40.00	-1.72
81.24	34.74	1.00	180	0.65	34.09	40.00	-5.26
254.31	34.64	1.00	193	-3.84	38.48	46.00	-11.36
380.41	39.40	1.00	193	-1.79	41.19	46.00	-6.60
500.05	43.31	1.00	197	2.28	41.03	46.00	-2.69
625.34	37.94	1.00	213	7.18	30.76	46.00	-8.06
744.16	38.32	1.00	178	10.08	28.24	46.00	-7.68
806.00	41.99	1.00	350	12.13	29.86	46.00	-4.01
875.11	42.57	1.00	7	13.92	28.65	46.00	-3.43
992.72	42.22	1.00	3	17.16	25.06	54.00	-11.78

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
250.67	34.70	1.00	177	-3.57	38.27	46.00	-11.30
312.51	38.16	1.00	77	-3.18	41.34	46.00	-7.84
498.02	38.32	1.00	100	2.22	36.1	46.00	-7.68
558.65	37.56	1.00	45	4.88	32.68	46.00	-8.44
744.16	41.68	1.00	34	10.08	31.6	46.00	-4.32
807.21	42.81	1.00	295	12.16	30.65	46.00	-3.19
869.05	43.57	1.00	27	13.72	29.85	46.00	-2.43
930.89	44.66	1.00	7	15.36	29.3	46.00	-1.34

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5 GHz [Horizontal] (External Antenna)

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
2125.00	1.00	184	37.33	---	8.44	45.77	---	73.96	53.96	-8.19
2802.08	1.00	26	34.66	---	10.06	44.72	---	73.96	53.96	-9.24
4823.12	1.00	246	38.94	---	3.76	42.70	---	73.96	53.96	-11.26
7233.75	1.00	227	35.28	---	10.07	45.35	---	73.96	53.96	--8.61
9644.37	1.00	38	35.94	---	11.44	47.38	---	73.96	53.96	-6.58
12061.04	1.00	141	38.44	---	9.81	48.25	---	73.96	53.96	-5.71
19296.25	1.00	263	46.83	---	1.60	48.43	---	73.96	53.96	-5.53
21708.12	1.00	53	46.83	---	2.87	49.20	---	73.96	53.96	-4.76
24120.00	1.00	354	44.33	---	3.40	47.73	---	73.96	53.96	-6.23

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5GHz [Vertical] (External Antenna)

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	343	37.50	---	8.52	46.02	---	73.96	53.96	-7.94
2579.17	1.00	191	36.00	---	9.64	45.64	---	73.96	53.96	-8.32
3168.75	1.00	115	35.83	---	11.24	47.07	---	73.96	53.96	-6.89
4823.12	1.00	309	38.44	---	3.76	42.20	---	73.96	53.96	-11.76
7233.75	1.00	86	36.11	---	10.07	46.18	---	73.96	53.96	-7.78
9650.42	1.00	258	34.94	---	11.47	46.41	---	73.96	53.96	-7.55
12061.04	1.00	267	37.44	---	9.81	47.25	---	73.96	53.96	-6.71
19296.25	1.00	341	45.83	---	1.60	47.43	---	73.96	53.96	-6.53
21708.12	1.00	157	45.50	---	2.87	48.37	---	73.96	53.96	-5.59
24120.00	1.00	0	45.50	---	3.40	48.90	---	73.96	53.96	-5.06

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Horizontal] (External Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
35.34	41.70	1.00	80	6.31	32.23	40.00	-1.46
83.35	39.00	1.00	180	0.49	38.51	40.00	-1.00
253.10	34.89	1.00	167	-3.75	38.64	46.00	-11.11
379.20	41.89	1.00	167	-1.82	43.71	46.00	-4.11
504.09	44.77	1.00	200	2.47	42.3	46.00	-1.23
806.00	43.02	1.00	343	12.13	30.89	46.00	-2.98
875.11	43.25	1.00	21	13.92	29.33	46.00	-2.27
992.72	42.18	1.00	3	17.16	25.02	54.00	-11.82

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	37.71	1.00	3	-0.78	38.49	43.50	-5.79
250.67	35.01	1.00	183	-3.57	38.58	46.00	-10.99
312.51	38.04	1.00	67	-3.18	41.22	46.00	-7.96
499.24	37.99	1.00	120	2.26	35.73	46.00	-8.01
744.16	42.04	1.00	41	10.08	31.96	46.00	-3.96
807.21	43.28	1.00	309	12.16	31.12	46.00	-2.72
869.05	43.19	1.00	21	13.72	29.47	46.00	-2.81
930.89	44.82	1.00	27	15.36	29.46	46.00	-1.18

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Horizontal] (External Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction	Corrected		Limit		Margin
			Peak / Ave.			Amplitude		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2125.00	1.00	213	36.83	---	8.44	45.27	---	73.96	53.96	-8.69
2250.00	1.00	175	36.00	---	8.79	44.79	---	73.96	53.96	-9.17
3181.25	1.00	360	38.33	---	11.30	49.63	---	73.96	53.96	-4.33
4871.46	1.00	247	38.27	---	3.95	42.22	---	73.96	53.96	-11.74
7312.29	1.00	77	35.61	---	10.30	45.91	---	73.96	53.96	-8.05
9747.08	1.00	51	35.27	---	11.89	47.16	---	73.96	53.96	-6.80
12187.92	1.00	197	39.77	---	9.74	49.51	---	73.96	53.96	-4.45
19494.58	1.00	332	46.50	---	1.69	48.19	---	73.96	53.96	-5.77
21934.79	1.00	3	44.50	---	3.09	47.59	---	73.96	53.96	-6.37
24371.46	1.00	358	45.00	---	3.26	48.26	---	73.96	53.96	-5.70

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Vertical] (External Antenna)

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
2312.50	1.00	88	39.50	---	8.96	48.46	---	73.96	53.96	-5.50
2706.25	1.00	10	35.33	---	9.88	45.21	---	73.96	53.96	-8.75
3114.58	1.00	156	36.00	---	10.98	46.98	---	73.96	53.96	-6.98
4871.46	1.00	346	37.94	---	3.95	41.89	---	73.96	53.96	-12.07
7312.29	1.00	26	35.27	---	10.30	45.57	---	73.96	53.96	-8.39
9747.08	1.00	12	34.44	---	11.89	46.33	---	73.96	53.96	-7.63
12187.92	1.00	359	39.27	---	9.74	49.01	---	73.96	53.96	-4.95
19494.58	1.00	100	46.00	---	1.69	47.69	---	73.96	53.96	-6.27
21934.79	1.00	214	45.33	---	3.09	48.42	---	73.96	53.96	-5.54
24371.46	1.00	110	45.17	---	3.26	48.43	---	73.96	53.96	-5.53

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Horizontal] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
35.34	41.02	1.00	71	6.31	34.71	40.00	-1.29
81.24	40.48	1.00	205	0.65	39.83	40.00	-6.66
253.10	35.46	1.00	178	-3.75	39.21	46.00	-10.54
377.99	41.47	1.00	178	-1.86	43.33	46.00	-4.53
500.06	46.48	1.00	192	2.28	44.2	46.00	-3.85
625.34	37.23	1.00	204	7.18	30.05	46.00	-8.77
807.21	42.58	1.00	10	12.16	30.42	46.00	-3.42
875.11	42.11	1.00	24	13.92	28.19	46.00	-3.89

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
253.10	35.10	1.00	195	-3.75	38.85	46.00	-10.90
312.51	37.77	1.00	96	-3.18	40.95	46.00	-8.23
499.24	37.95	1.00	109	2.26	35.69	46.00	-8.05
744.16	41.78	1.00	41	10.08	31.7	46.00	-4.22
807.21	42.86	1.00	295	12.16	30.7	46.00	-3.14
869.05	43.92	1.00	27	13.72	30.2	46.00	-2.08
930.89	44.80	1.00	27	15.36	29.44	46.00	-1.20

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Horizontal] (External Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2125.00	1.00	339	36.83	---	8.44	45.27	---	73.96	53.96	-8.69
2937.50	1.00	95	35.50	---	10.31	45.81	---	73.96	53.96	-8.15
4925.83	1.00	278	38.27	---	4.13	42.40	---	73.96	53.96	-11.56
7384.79	1.00	196	35.11	---	10.42	45.53	---	73.96	53.96	-8.43
9849.79	1.00	91	34.78	---	11.93	46.71	---	73.96	53.96	-7.25
12308.75	1.00	239	37.27	---	9.56	46.83	---	73.96	53.96	-7.13
19696.46	1.00	101	45.33	---	1.81	47.14	---	73.96	53.96	-6.82
22157.92	1.00	156	46.33	---	3.25	49.58	---	73.96	53.96	-4.38
24619.37	1.00	232	45.83	---	3.01	48.84	---	73.96	53.96	-5.12

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Vertical] (External Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction	Corrected		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2152.08	1.00	224	37.66	---	8.52	46.18	---	73.96	53.96	-7.78
2314.58	1.00	221	38.83	---	8.97	47.80	---	73.96	53.96	-6.16
2591.67	1.00	240	37.00	---	9.66	46.66	---	73.96	53.96	-7.30
4925.83	1.00	54	37.27	---	4.13	41.40	---	73.96	53.96	-12.56
7384.79	1.00	167	34.28	---	10.42	44.70	---	73.96	53.96	-9.26
9849.79	1.00	23	35.28	---	11.93	47.21	---	73.96	53.96	-6.75
12308.75	1.00	78	37.94	---	9.56	47.50	---	73.96	53.96	-6.46
19696.46	1.00	173	45.33	---	1.81	47.14	---	73.96	53.96	-6.82
22157.92	1.00	212	44.66	---	3.25	47.91	---	73.96	53.96	-6.05
24619.37	1.00	53	46.50	---	3.01	49.51	---	73.96	53.96	-4.45

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Horizontal] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
98.90	32.50	1.00	43	-0.68	33.18	43.50	-11.00
188.84	30.79	1.00	183	-3.71	34.5	43.50	-12.71
312.51	30.45	1.00	147	-3.18	33.63	46.00	-15.55
499.24	33.07	1.00	250	2.26	30.26	46.00	-12.93
558.65	32.52	1.00	264	4.88	27.64	46.00	-13.48
744.16	39.77	1.00	41	10.08	29.69	46.00	-6.23
807.21	40.65	1.00	329	12.16	28.49	46.00	-5.35
869.05	39.88	1.00	171	13.72	26.16	46.00	-6.12
930.89	42.19	1.00	312	15.36	26.83	46.00	-3.81

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
250.67	35.41	1.00	163	-3.57	38.90	46.00	-10.59
312.51	38.35	1.00	87	-3.18	41.53	46.00	-7.65
499.24	38.11	1.00	120	2.26	35.85	46.00	-7.89
558.65	37.70	1.00	7	4.88	32.82	46.00	-8.30
744.16	41.54	1.00	38	10.08	31.46	46.00	-4.46
807.21	43.30	1.00	308	12.16	31.14	46.00	-2.70
869.05	43.30	1.00	24	13.72	29.58	46.00	-2.70
930.89	44.85	1.00	253	15.36	29.49	46.00	-1.15

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Horizontal] (External Antenna)

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
1629.17	1.00	338	35.33	---	13.88	49.21	---	73.96	53.96	-4.75
2318.75	1.00	330	37.84	---	8.98	46.82	---	73.96	53.96	-7.14
3185.42	1.00	94	36.67	---	11.32	47.99	---	73.96	53.96	-5.97
4823.12	1.00	356	38.44	---	3.76	42.20	---	73.96	53.96	-11.76
7233.75	1.00	63	35.11	---	10.07	45.18	---	73.96	53.96	-8.78
9650.42	1.00	115	35.61	---	11.47	47.08	---	73.96	53.96	-6.88
12061.04	1.00	207	37.10	---	9.81	46.91	---	73.96	53.96	-7.05
19296.25	1.00	319	45.67	---	1.60	47.27	---	73.96	53.96	-6.69
21708.12	1.00	109	44.83	---	2.87	47.70	---	73.96	53.96	-6.26
24120.00	1.00	70	45.00	---	3.40	48.40	---	73.96	53.96	-5.56

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Vertical] (External Antenna)

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
1687.50	1.00	176	35.66	---	12.97	48.63	---	73.96	53.96	-5.33
2310.42	1.00	13	41.17	---	8.96	50.13	---	73.96	53.96	-3.83
3185.42	1.00	202	37.83	---	11.32	49.15	---	73.96	53.96	-4.81
4823.12	1.00	127	40.10	---	3.76	43.86	---	73.96	53.96	-10.10
7233.75	1.00	52	35.44	---	10.07	45.51	---	73.96	53.96	-8.45
9650.42	1.00	51	35.27	---	11.47	46.74	---	73.96	53.96	-7.22
12061.04	1.00	289	37.77	---	9.81	47.58	---	73.96	53.96	-6.38
19296.25	1.00	258	46.50	---	1.60	48.10	---	73.96	53.96	-5.86
21708.12	1.00	40	44.83	---	2.87	47.70	---	73.96	53.96	-6.26
24120.00	1.00	209	44.67	---	3.40	48.07	---	73.96	53.96	-5.89

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Horizontal] (External Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
188.84	31.08	1.00	173	-3.71	34.79	43.50	-12.42
313.72	29.91	1.00	147	-3.16	33.07	46.00	-16.09
438.61	33.14	1.00	167	0.38	32.76	46.00	-12.86
499.24	33.23	1.00	130	2.26	30.97	46.00	-12.77
744.16	39.06	1.00	315	10.08	28.98	46.00	-6.94
807.21	40.61	1.00	336	12.16	28.45	46.00	-5.39
869.05	60.95	1.00	170	13.72	27.23	46.00	-5.05
930.89	41.59	1.00	332	15.36	26.23	46.00	-4.41

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	37.64	1.00	353	-0.78	36386	43.50	-5.86
253.10	34.79	1.00	197	-3.75	38.54	46.00	-11.21
312.51	38.49	1.00	77	-3.18	41.67	46.00	-7.51
499.24	37.79	1.00	100	2.26	35.53	46.00	-8.21
744.16	42.37	1.00	34	10.08	32.29	46.00	-3.63
807.21	43.39	1.00	288	12.16	31.23	46.00	-2.61
869.05	44.12	1.00	27	13.72	30.4	46.00	-1.88
930.89	44.73	1.00	7	15.36	29.37	46.00	-1.27

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Horizontal] (External Antenna)

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
1645.83	1.00	156	34.66	---	13.62	48.28	---	73.96	53.96	-5.68
2318.75	1.00	51	38.50	---	8.98	47.48	---	73.96	53.96	-6.48
3175.00	1.00	165	34.67	---	11.27	45.94	---	73.96	53.96	-8.02
4871.46	1.00	198	39.60	---	3.95	43.55	---	73.96	53.96	-10.41
7312.29	1.00	135	35.11	---	10.30	45.41	---	73.96	53.96	-8.55
9746.08	1.00	213	34.94	---	11.89	46.83	---	73.96	53.96	-7.13
12187.92	1.00	137	38.60	---	9.74	48.34	---	73.96	53.96	-5.62
19494.58	1.00	176	46.00	---	1.69	47.69	---	73.96	53.96	-6.27
21934.79	1.00	111	45.33	---	3.09	48.42	---	73.96	53.96	-5.54
24371.46	1.00	269	44.50	---	3.26	47.76	---	73.96	53.96	-6.20

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Vertical] (External Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction	Corrected		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1625.00	1.00	353	35.83	---	13.94	49.77	---	73.96	53.96	-4.19
2308.33	1.00	182	42.67	---	8.95	51.62	---	73.96	53.96	-2.34
3175.00	1.00	148	35.67	---	11.27	46.94	---	73.96	53.96	-7.02
4871.46	1.00	267	37.94	---	3.95	41.89	---	73.96	53.96	-12.07
7312-29	1.00	238	34.27	---	10.30	44.57	---	73.96	53.96	-9.39
9747.08	1.00	48	34.44	---	11.89	46.33	---	73.96	53.96	-7.63
12187.92	1.00	241	38.60	---	9.74	48.34	---	73.96	53.96	-5.62
19494.58	1.00	82	45.50	---	1.69	47.19	---	73.96	53.96	-6.77
21934.79	1.00	57	45.00	---	3.09	48.09	---	73.96	53.96	-5.87
24371.46	1.00	170	44.50	---	3.26	47.76	---	73.96	53.96	-6.20

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Horizontal] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
188.84	31.25	1.00	182	-3.71	34.96	43.50	-12.25
311.30	29.80	1.00	124	-3.20	33.00	46.00	-16.20
437.40	32.25	1.00	175	0.33	31.92	46.00	-13.75
499.24	33.02	1.00	289	2.26	30.76	46.00	-12.98
558.65	32.50	1.00	45	4.88	27.62	46.00	-13.50
744.16	39.73	1.00	315	10.08	29.65	46.00	-6.27
807.21	40.25	1.00	329	12.16	28.09	46.00	-5.75
869.05	40.74	1.00	171	13.72	27.02	46.00	-5.26
930.89	41.89	1.00	315	15.36	26.53	46.00	-4.11

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Vertical] (External Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
97.90	37.63	1.00	3	-0.68	38.31	43.50	-5.87
250.67	35.01	1.00	172	-3.57	38.58	46.00	-10.99
312.51	38.56	1.00	86	-3.18	41.74	46.00	-7.44
500.45	37.83	1.00	119	2.30	35.53	46.00	-8.17
558.65	37.63	1.00	346	4.88	32.75	46.00	-8.37
744.16	42.37	1.00	34	10.08	32.29	46.00	-3.36
807.21	43.00	1.00	309	12.16	30.84	46.00	-3.00
869.05	43.35	1.00	21	13.72	29.63	46.00	-2.65
930.89	44.80	1.00	27	15.36	29.44	46.00	-1.20

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Horizontal] (External Antenna)

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
2341.67	1.00	115	38.83	---	9.05	47.88	---	73.96	53.96	-6.08
3010.42	1.00	161	36.17	---	10.48	46.65	---	73.96	53.96	-7.31
4925.83	1.00	254	37.61	---	4.13	41.74	---	73.96	53.96	-12.22
7384.79	1.00	129	35.28	---	10.42	45.70	---	73.96	53.96	-8.26
9849.79	1.00	304	35.61	---	11.93	47.54	---	73.96	53.96	-6.42
12308.75	1.00	0	36.77	---	9.56	46.33	---	73.96	53.96	-7.63
19696.46	1.00	95	45.33	---	1.81	47.14	---	73.96	53.96	-6.82
22157.92	1.00	59	44.83	---	3.25	48.08	---	73.96	53.96	-5.88
24619.37	1.00	184	45.17	---	3.01	48.18	---	73.96	53.96	-5.78

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Vertical] (External Antenna)

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
2318.75	1.00	143	42.84	---	8.98	51.82	---	73.96	53.96	-2.14
2589.58	1.00	98	38.33	---	9.66	47.99	---	73.96	53.96	-5.97
3283.33	1.00	150	36.00	---	11.79	47.79	---	73.96	53.96	-6.17
4925.83	1.00	207	38.11	---	4.13	42.24	---	73.96	53.96	-11.72
7384.79	1.00	164	34.94	---	10.42	45.36	---	73.96	53.96	-8.60
9849.79	1.00	1	34.44	---	11.93	46.37	---	73.96	53.96	-7.59
12308.75	1.00	309	37.27	---	9.56	46.83	---	73.96	53.96	-7.13
19696.46	1.00	45.83	45.83	---	1.81	47.64	---	73.96	53.96	-6.32
22157.92	1.00	44.66	44.66	---	3.25	47.91	---	73.96	53.96	-6.05
24619.37	1.00	45.33	45.33	---	3.01	48.34	---	73.96	53.96	-5.62

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

Test mode: STANDBY mode for 30MHz to 1GHz [Horizontal](Internal Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
220.36	35.96	1.00	203	-4.02	39.98	46.00	-10.04
253.10	37.07	1.00	163	-3.75	40.82	46.00	-8.93
312.51	44.24	1.00	287	-3.18	47.42	46.00	-1.76
499.24	40.31	1.00	310	2.26	38.05	46.00	-5.69
744.16	40.65	1.00	137	10.08	30.57	46.00	-5.35
807.21	42.24	1.00	144	12.16	30.08	46.00	-3.76
869.05	39.52	1.00	27	13.72	25.8	46.00	-6.48
930.89	39.99	1.00	312	15.36	24.63	46.00	-6.01

Test mode: STANDBY mode for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors	Corrected Amplitude	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
187.62	33.34	1.00	303	-3.72	37.06	43.50	-10.16
249.46	34.79	1.00	177	-3.55	38.34	46.00	-11.21
312.51	38.35	1.00	77	-3.18	6.53	46.00	-7.65
496.81	39.99	1.00	110	2.19	37.08	46.00	-6.01
682.33	37.78	1.00	14	8.87	28.91	46.00	-8.22
744.16	42.14	1.00	41	10.08	32.06	46.00	-3.86
807.21	42.73	1.00	295	12.16	30.57	46.00	-3.27
869.05	43.62	1.00	27	13.72	29.9	46.00	-2.38
930.89	44.19	1.00	27	15.36	28.83	46.00	-1.81

Note:

4. Margin = Amplitude – limit, if margin is minus means under limit.
5. Corrected Amplitude = Reading Amplitude + Correction Factors
6. Correction factor = Antenna factor + (Cable Loss – Amplitude gain) + Switching Box Loss

Test mode: STANDBY mode for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

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

3975.00	1.00	154	30.24	---	12.38	42.62	---	73.96	53.96	-11.34
5809.58	1.00	287	27.07	---	17.60	44.67	---	73.96	53.96	-9.29
8961.67	1.00	67	24.24	---	23.42	47.66	---	73.96	53.96	-6.30
12212.92	1.00	223	29.40	---	20.64	50.04	---	73.96	53.96	-3.92
19618.54	1.00	289	48.32	---	1.70	50.02	---	73.96	53.96	-3.94
21120.21	1.00	272	47.83	---	2.47	50.30	---	73.96	53.96	-3.66
23772.92	1.00	126	47.49	---	3.54	51.03	---	73.96	53.96	-2.93
26181.25	1.00	76	50.32	---	1.61	51.93	---	73.96	53.96	-2.03

Test mode: STANDBY mode for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

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

3160.42	1.00	270	30.74	---	9.56	40.30	---	73.96	53.96	-13.66
5200.42	1.00	354	27.74	---	16.04	43.78	---	73.96	53.96	-10.18
8140.00	1.00	298	24.41	---	22.70	47.11	---	73.96	53.96	-6.85
13750.00	1.00	348	31.41	---	19.80	51.21	---	73.96	53.96	-2.75
19831.04	1.00	170	47.82	---	1.90	49.72	---	73.96	53.96	-4.24
21715.21	1.00	166	47.32	---	2.86	50.18	---	73.96	53.96	-3.78
23709.17	1.00	333	47.66	---	3.16	50.82	---	73.96	53.96	-3.14
26181.25	1.00	125	50.82	---	1.61	52.43	---	73.96	53.96	-1.53

Note:

- Margin = Corrected - Limit.
- 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.
- 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 [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dB μ V/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dB μ V)	Ant. H. (m)	Table ()			Limit (dB μ V/m)	Margin (dB)
99.11	36.24	1.00	291	-0.78	37.02	43.50	-7.26
220.36	36.01	1.00	195	-4.02	40.03	46.00	-9.99
251.89	37.26	1.00	175	-3.66	40.92	46.00	-8.74
312.51	43.84	1.00	215	-3.18	47.02	46.00	-2.16
499.24	40.26	1.00	307	2.26	38.00	46.00	-5.74
744.16	39.84	1.00	144	10.08	29.76	46.00	-6.16
807.21	41.42	1.00	144	12.16	29.26	46.00	-4.58
869.05	40.19	1.00	21	13.72	26.47	46.00	-5.81
930.89	40.92	1.00	315	15.36	25.56	46.00	-5.08

Test mode: IEEE 802.11b CH01 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dB μ V/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dB μ V)	Ant. H. (m)	Table ()			Limit (dB μ V/m)	Margin (dB)
312.51	38.23	1.00	76	-3.18	41.41	46.00	-7.77
499.24	37.74	1.00	129	2.26	35.48	46.00	-8.26
558.65	37.63	1.00	357	4.88	32.75	46.00	-8.37
744.16	42.18	1.00	31	10.08	32.1	46.00	-3.82
807.21	43.14	1.00	287	12.16	30.98	46.00	-2.86
869.05	43.14	1.00	24	13.72	29.42	46.00	-2.86
930.06	45.03	1.00	24	15.35	29.68	46.00	-2.12

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5 GHz [Horizontal] (Internal Antenna)

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
1693.75	1.00	353	35.83	---	12.87	48.70	---	73.96	53.96	-5.26
2125.00	1.00	205	37.00	---	8.44	45.44	---	73.96	53.96	-8.52
3216.67	1.00	297	36.33	---	11.47	47.80	---	73.96	53.96	-6.16
4925.83	1.00	296	38.94	---	4.13	43.07	---	73.96	53.96	-10.89
7384.79	1.00	290	35.44	---	10.42	45.86	---	73.96	53.96	-8.10
9849.79	1.00	268	35.94	---	11.93	47.87	---	73.96	53.96	-6.09
12308.75	1.00	280	37.44	---	9.56	47.00	---	73.96	53.96	-6.96
19296.25	1.00	73	46.32	---	1.60	47.92	---	73.96	53.96	-6.04
21708.12	1.00	27	45.49	---	2.87	48.36	---	73.96	53.96	-5.60
24120.00	1.00	248	44.32	---	3.40	47.72	---	73.96	53.96	-6.24

Test mode: IEEE 802.11b CH01 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dB μ V		dB/m	dB μ V/m		dB μ V/m		dB
2319.97	1.00	6	47.66	---	8.99	56.65	49.99	73.96	53.96	-3.97
2519.97	1.00	291	44.50	---	9.53	54.03	---	73.96	53.96	-10.60
2608.33	1.00	291	41.67	---	9.69	51.36	43.36	73.96	53.96	-2.60
3216.67	1.00	185	36.33	---	11.47	47.80	---	73.96	53.96	-6.16
4925.83	1.00	101	38.44	---	4.13	42.57	---	73.96	53.96	-11.39
7384.79	1.00	11	34.94	---	10.42	45.36	---	73.96	53.96	-8.60
9849.79	1.00	19	37.28	---	11.93	49.21	---	73.96	53.96	-4.75
12308.75	1.00	0	38.11	---	9.56	47.67	---	73.96	53.96	-6.29
19296.25	1.00	50	45.99	---	1.60	47.59	---	73.96	53.96	-6.37
21708.12	1.00	317	44.82	---	2.87	47.69	---	73.96	53.96	-6.27
24120.00	1.00	84	44.99	---	3.40	48.39	---	73.96	53.96	-5.57

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	36.51	1.00	281	-0.78	37.29	43.50	-6.99
220.36	36.22	1.00	195	-4.02	40.24	46.00	-9.78
253.10	36.74	1.00	162	-3.75	40.49	46.00	-9.26
312.51	44.08	1.00	215	-3.18	47.26	46.00	-1.92
499.24	40.14	1.00	307	2.26	37.88	46.00	-5.86
744.16	40.80	1.00	144	10.08	30.72	46.00	-5.20
807.21	41.33	1.00	137	12.16	29.17	46.00	-4.67
930.89	41.50	1.00	305	15.36	26.14	46.00	-4.50

Test mode: IEEE 802.11b CH06 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	38.40	1.00	23	-0.78	39.18	43.50	-5.10
251.89	34.95	1.00	197	-3.66	38.61	46.00	-11.05
312.51	38.30	1.00	77	-3.18	41.48	46.00	-7.70
499.24	37.72	1.00	100	2.26	35.46	46.00	-8.28
558.65	37.14	1.00	27	4.88	32.26	46.00	-8.86
744.16	41.89	1.00	37	10.08	31.81	46.00	-4.11
807.21	43.00	1.00	295	12.16	30.84	46.00	-3.00
869.05	43.44	1.00	31	13.72	29.72	46.00	-2.56
930.89	44.35	1.00	17	15.36	28.99	46.00	-1.65

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dB μ V		dB/m	dB μ V/m		dB μ V/m		dB
1612.50	1.00	202	34.83	---	14.14	48.97	---	73.96	53.96	-4.99
2250.00	1.00	187	37.00	---	8.79	45.79	---	73.96	53.96	-8.17
3250.00	1.00	225	35.33	---	11.63	46.96	---	73.96	53.96	-7.00
4871.46	1.00	29	37.77	---	3.95	41.72	---	73.96	53.96	-12.24
7312.29	1.00	299	35.27	---	10.30	45.57	---	73.96	53.96	-8.39
9747.08	1.00	98	36.60	---	11.89	48.49	---	73.96	53.96	-5.47
12187.92	1.00	0	38.60	---	9.74	48.34	---	73.96	53.96	-5.62
19494.58	1.00	0	45.49	---	1.69	47.18	---	73.96	53.96	-6.78
21934.79	1.00	307	46.32	---	3.09	49.41	---	73.96	53.96	-4.55
24371.46	1.00	98	45.66	---	3.26	48.92	---	73.96	53.96	-5.04

Test mode: IEEE 802.11b CH06 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction	Corrected		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1625.00	1.00	313	34.83	---	13.94	48.77	---	73.96	53.96	-5.19
2319.99	1.00	271	46.16	---	8.99	55.15	49.66	73.96	53.96	-4.30
2519.99	1.00	271	43.85	---	9.53	53.38	43.53	73.96	53.96	-10.43
4877.50	1.00	306	38.11	---	3.97	42.08	---	73.96	53.96	-11.88
7312.29	1.00	74	34.94	---	10.30	25.24	---	73.96	53.96	-8.72
9747.08	1.00	20	37.10	---	11.89	48.99	---	73.96	53.96	-4.97
12187.92	1.00	31	38.77	---	9.74	48.51	---	73.96	53.96	-5.45
19494.58	1.00	318	45.66	---	1.69	47.35	---	73.96	53.96	-6.61
21934.79	1.00	190	45.16	---	3.09	48.25	---	73.96	53.96	-5.71
24371.46	1.00	173	45.49	---	3.26	48.75	---	73.96	53.96	-5.21

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
97.90	36.85	1.00	281	-0.68	37.53	43.50	-6.65
217.94	35.57	1.00	201	-4.00	39.57	46.00	-10.43
253.10	37.02	1.00	182	-3.75	40.77	46.00	-8.98
311.30	43.25	1.00	225	-3.20	46.45	46.00	-2.75
498.02	40.17	1.00	307	2.22	37.95	46.00	-5.83
744.16	39.98	1.00	158	10.08	29.9	46.00	-6.02
807.21	40.98	1.00	158	12.16	28.82	46.00	-5.02
930.89	40.21	1.00	346	15.36	24.85	46.00	-5.79

Test mode: IEEE 802.11b CH11 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	38.02	1.00	340	-0.78	38.8	43.50	-5.48
253.10	35.51	1.00	182	-3.75	39.26	46.00	-10.49
312.51	38.11	1.00	86	-3.18	41.29	46.00	-7.89
499.24	37.95	1.00	109	2.26	35.69	46.00	-8.05
682.33	38.22	1.00	21	8.87	29.35	46.00	-7.78
744.16	41.71	1.00	27	10.08	31.63	46.00	-4.29
807.21	43.65	1.00	295	12.16	31.49	46.00	-2.35
869.05	46.26	1.00	27	13.72	29.54	46.00	-2.74
930.89	44.87	1.00	21	15.36	29.51	46.00	-1.13

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude Peak / Ave.		Correction Factor	Corrected Amplitude Peak / Ave.		Limit Peak / Ave.		Margin
MHz	m	degree	dB μ V		dB/m	dB μ V/m		dB μ V/m		dB
2320.83	1.00	360	38.00	---	8.99	46.99	---	73.96	53.96	-6.97
2918.75	1.00	150	36.66	---	10.28	46.94	---	73.96	53.96	-7.02
4823.12	1.00	90	37.77	---	3.76	41.53	---	73.96	53.96	-12.43
7233.75	1.00	222	35.94	---	10.07	46.01	---	73.96	53.96	-7.95
9650.42	1.00	4	39.77	---	11.47	51.24	---	73.96	53.96	-2.72
12061.04	1.00	317	38.60	---	9.81	48.41	---	73.96	53.96	-5.55
19696.46	1.00	141	46.32	---	1.81	48.13	---	73.96	53.96	-5.83
22175.92	1.00	40	15.65	---	3.25	48.90	---	73.96	53.96	-5.06
24619.37	1.00	199	46.66	---	3.01	49.67	---	73.96	53.96	-4.29

Test mode: IEEE 802.11b CH11 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

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
2257.31	1.00	307	44.82	---	8.81	53.63	46.48	73.96	53.96	-7.48
2376.02	1.00	306	46.84	---	9.14	55.98	45.81	73.96	53.96	-8.15
2559.99	1.00	283	43.65	---	9.60	53.25	41.60	73.96	53.96	-12.36
4823.12	1.00	355	37.94	---	3.76	41.70	---	73.96	53.96	-12.26
7233.75	1.00	168	35.11	---	10.07	45.18	---	73.96	53.96	-8.78
9650.42	1.00	272	40.44	---	11.47	51.91	---	73.96	53.96	-2.05
12061.04	1.00	123	36.94	---	9.81	46.75	---	73.96	53.96	-7.21
19696.46	1.00	218	46.16	---	1.81	47.97	---	73.96	53.96	-5.99
22157.92	1.00	209	44.65	---	3.25	47.90	---	73.96	53.96	-6.06
24619.37	1.00	55	45.99	---	3.01	49.00	---	73.96	53.96	-4.96

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
97.90	35.84	1.00	261	-0.68	36.52	43.50	-7.66
152.46	34.69	1.00	211	-3.60	38.29	43.50	-8.81
220.36	35.78	1.00	195	-4.02	39.8	46.00	-10.22
253.10	36.72	1.00	175	-3.75	40.47	46.00	-9.28
313.72	44.38	1.00	284	-3.16	47.54	46.00	-1.62
499.24	39.62	1.00	317	2.26	37.36	46.00	-6.38
744.16	40.58	1.00	130	10.08	30.5	46.00	-5.42
807.21	41.85	1.00	123	12.16	29.69	46.00	-4.15
930.89	40381	1.00	7	15.36	25.45	46.00	-5.19

Test mode: IEEE 802.11g CH01 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
250.67	35.08	1.00	177	-3.57	38.65	46.00	-10.92
312.51	38.37	1.00	87	-3.18	41.55	46.00	-7.63
496.81	37.75	1.00	110	2.19	35.56	46.00	-8.25
558.65	37.03	1.00	38	4.88	32.15	46.00	-8.97
682.33	36.99	1.00	357	8.87	28.12	46.00	-9.01
744.16	41.71	1.00	34	10.08	31.63	46.00	-4.29
807.21	43.35	1.00	295	12.16	31.19	46.00	-2.65
869.05	43.30	1.00	34	13.72	31.14	46.00	-2.70
930.89	44.08	1.00	7	15.36	28.72	46.00	-1.92

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

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
2056.25	1.00	72	42	---	8.25	50.25	---	73.96	53.96	-3.71
2769.54	1.00	360	49.17	23.67	10.00	59.17	33.67	73.96	53.96	-14.79
4823.12	1.00	136	38.44	---	3.76	42.20	---	73.96	53.96	-11.76
7233.75	1.00	13	35.44	---	10.07	45.51	---	73.96	53.96	-8.45
9650.42	1.00	110	34.44	---	11.47	45.91	---	73.96	53.96	-8.05
12061.04	1.00	343	37.27	---	9.81	47.08	---	73.96	53.96	-6.88
19296.25	1.00	250	46.16	---	1.60	47.76	---	73.96	53.96	-6.20
21708.12	1.00	119	44.99	---	2.87	47.86	---	73.96	53.96	-6.10
24120.00	1.00	242	43.99	---	3.40	47.39	---	73.96	53.96	-6.57

Test mode: IEEE 802.11g CH01 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2048.66	1.00	354	55.67	26.33	8.23	63.90	34.56	73.96	53.96	-10.06
2767.41	1.00	276	53.51	25.83	9.99	63.50	35.82	73.96	53.96	-10.46
4823.12	1.00	247	35.94	---	3.76	41.70	---	73.96	53.96	-12.26
7233.75	1.00	143	37.94	---	10.07	46.01	---	73.96	53.96	-7.95
9650.42	1.00	89	35.11	---	11.47	46.58	---	73.96	53.96	-7.38
12061.04	1.00	278	37.10	---	9.81	46.91	---	73.96	53.96	-7.05
19296.25	1.00	133	46.66	---	1.60	48.26	---	73.96	53.96	-5.70
21708.12	1.00	66	45.32	---	2.87	48.19	---	73.96	53.96	-5.77
24120.00	1.00	345	43.99	---	3.40	47.39	---	73.96	53.96	-6.57

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
80.92	35.01	1.00	193	0.68	34.33	43.50	-4.99
99.11	36.12	1.00	303	-0.78	36.9	46.00	-7.38
219.15	35.57	1.00	197	-4.01	39.58	46.00	-10.43
253.10	36.98	1.00	177	-3.75	40.73	46.00	-9.02
312.51	44.34	1.00	287	-3.18	47.52	46.00	-1.66
499.24	40.03	1.00	310	2.26	37.77	46.00	-5.97
744.16	40.72	1.00	142	10.08	30.64	46.00	-5.28
807.21	41.14	1.00	163	12.16	28.98	46.00	-4.86
930.89	40.72	1.00	308	15.36	25.36	46.00	-5.28

Test mode: IEEE 802.11g CH06 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	38.33	1.00	43	-0.78	39.11	43.50	-5.17
250.67	35.27	1.00	172	-3.57	38.84	46.00	-10.73
312.51	37.58	1.00	96	-3.18	40.76	46.00	-8.42
498.02	38.46	1.00	109	2.22	36.24	46.00	-7.54
558.65	37.28	1.00	17	4.88	32.4	46.00	-8.72
744.16	41.73	1.00	41	10.08	31.65	46.00	-4.27
807.21	42.77	1.00	302	12.16	30.61	46.00	-3.23
869.05	42.93	1.00	27	13.72	29.21	46.00	-3.07
930.89	44.35	1.00	339	15.36	28.99	46.00	-1.65

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2080.60	1.00	80	47.35	23.33	8.32	55.67	31.65	73.96	53.96	-18.29
2798.22	1.00	16	52.00	24.00	10.05	62.05	34.05	73.96	53.96	-11.91
4871.46	1.00	251	38.94	---	3.95	42.89	---	73.96	53.96	-11.07
7112.92	1.00	278	35.27	---	9.51	44.78	---	73.96	53.96	-9.18
9747.08	1.00	58	35.44	---	11.89	47.33	---	73.96	53.96	-6.63
12187.92	1.00	334	37.94	---	9.74	47.68	---	73.96	53.96	-6.28
19497.42	1.00	85	46.32	---	1.70	48.02	---	73.96	53.96	-5.94
21932.67	1.00	135	45.65	---	3.09	48.74	---	73.96	53.96	-5.22
24370.75	1.00	7	45.82	---	3.26	49.08	---	73.96	53.96	-4.88

Test mode: IEEE 802.11g CH06 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2074.38	1.00	341	55.69	26.33	8.30	63.99	34.63	73.96	53.96	-9.97
2799.57	1.00	279	48.35	24.33	10.05	58.40	34.38	73.96	53.96	-15.56
4871.46	1.00	349	37.44	---	3.95	41.39	---	73.96	53.96	-12.57
7312.29	1.00	324	35.27	---	10.30	45.57	---	73.96	53.96	-8.39
9747.08	1.00	90	34.60	---	11.89	46.49	---	73.96	53.96	-7.47
12187.92	1.00	0	38.94	---	9.74	48.68	---	73.96	53.96	-5.28
19494.58	1.00	220	46.16	---	1.69	47.85	---	73.96	53.96	-6.11
21934.79	1.00	145	45.82	---	3.09	48.91	---	73.96	53.96	-5.05
24371.46	1.00	295	45.99	---	3.26	49.25	---	73.96	53.96	-4.71

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Horizontal] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
99.11	36.40	1.00	261	-0.78	37.18	43.50	-7.10
219.15	35.73	1.00	195	-4.01	39.74	46.00	-10.27
254.31	36.54	1.00	162	-3.84	40.38	46.00	-9.46
312.51	44.22	1.00	294	-3.18	47.4	46.00	-1.78
499.24	39.91	1.00	307	2.26	37.65	46.00	-6.09
744.16	40.32	1.00	142	10.08	30.24	46.00	-5.68
807.21	41.62	1.00	128	12.16	29346	46.00	-4.38
930.89	40.70	1.00	308	15.36	25.34	46.00	-5.30

Test mode: IEEE 802.11g CH11 for 30MHz to 1GHz [Vertical] (Internal Antenna)

Radiated Emission				Correction Factors (dB)	Corrected Amplitude (dBμV/m)	Class B (3 m)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table ()			Limit (dBμV/m)	Margin (dB)
97.90	38.23	1.00	333	-0.68	38.91	43.50	-5.27
253.10	35.17	1.00	183	-3.75	38.92	46.00	-10.83
311.30	38.30	1.00	77	-3.20	41.5	46.00	-7.70
498.02	37.70	1.00	110	2.22	35.48	46.00	-8.30
558.65	37.33	1.00	3	4.88	32.45	46.00	-8.67
682.33	36.94	1.00	350	8.87	28.07	46.00	-9.06
744.16	42.16	1.00	34	10.08	32.08	46.00	-3.84
807.21	43.37	1.00	302	12.16	31.21	46.00	-2.63
869.05	43.23	1.00	27	13.72	29.51	46.00	-2.77
930.89	44.99	1.00	21	15.36	29.63	46.00	-1.01

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Horizontal] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2112.50	1.00	94	42.33	---	8.41	50.74	---	73.96	53.96	-3.22
2827.35	1.00	18	46.68	23.50	10.11	56.79	33.61	73.96	53.96	-17.17
4925.83	1.00	125	37.64	---	4.13	42.07	---	73.96	53.96	-11.89
7384.79	1.00	50	35.44	---	10.42	45.86	---	73.96	53.96	-8.10
9849.79	1.00	72	35.28	---	11.93	47.21	---	73.96	53.96	-6.75
12308.75	1.00	249	37.44	---	9.56	47.00	---	73.96	53.96	-6.96
19696.46	1.00	178	46.32	---	1.81	48.13	---	73.96	53.96	-5.83
22157.92	1.00	124	44.82	---	3.25	48.07	---	73.96	53.96	-5.89
24619.37	1.00	55	45.82	---	3.01	48.83	---	73.96	53.96	-5.13

Test mode: IEEE 802.11g CH11 for 1GHz to 26.5GHz [Vertical] (Internal Antenna)

Frequency	Ant. H.	Table	Amplitude		Correction Factor	Corrected Amplitude		Limit		Margin
			Peak / Ave.			Peak / Ave.		Peak / Ave.		
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
2100.03	1.00	46	55.14	27.00	8.37	63.51	35.37	73.96	53.96	-10.45
2319.98	1.00	279	48.83	41.17	8.99	57.82	50.16	73.96	53.96	-3.80
2817.21	1.00	279	44.15	24.17	10.09	54.24	34.26	73.96	53.96	-19.70
4925.83	1.00	153	38.27	---	4.13	42.40	---	73.96	53.96	-11.56
7384.79	1.00	85	35.61	---	10.42	46.03	---	73.96	53.96	-7.93
9849.79	1.00	102	35.44	---	11.93	47.37	---	73.96	53.96	-6.59
12308.75	1.00	338	38.27	---	9.56	47.83	---	73.96	53.96	-6.13
19696.46	1.00	176	46.32	---	1.81	48.13	---	73.96	53.96	-5.83
22157.92	1.00	169	44.99	---	3.25	48.24	---	73.96	53.96	-5.72
24619.37	1.00	193	45.16	---	3.01	48.17	---	73.96	53.96	-5.79

8.4 Test Result of the Bandedge

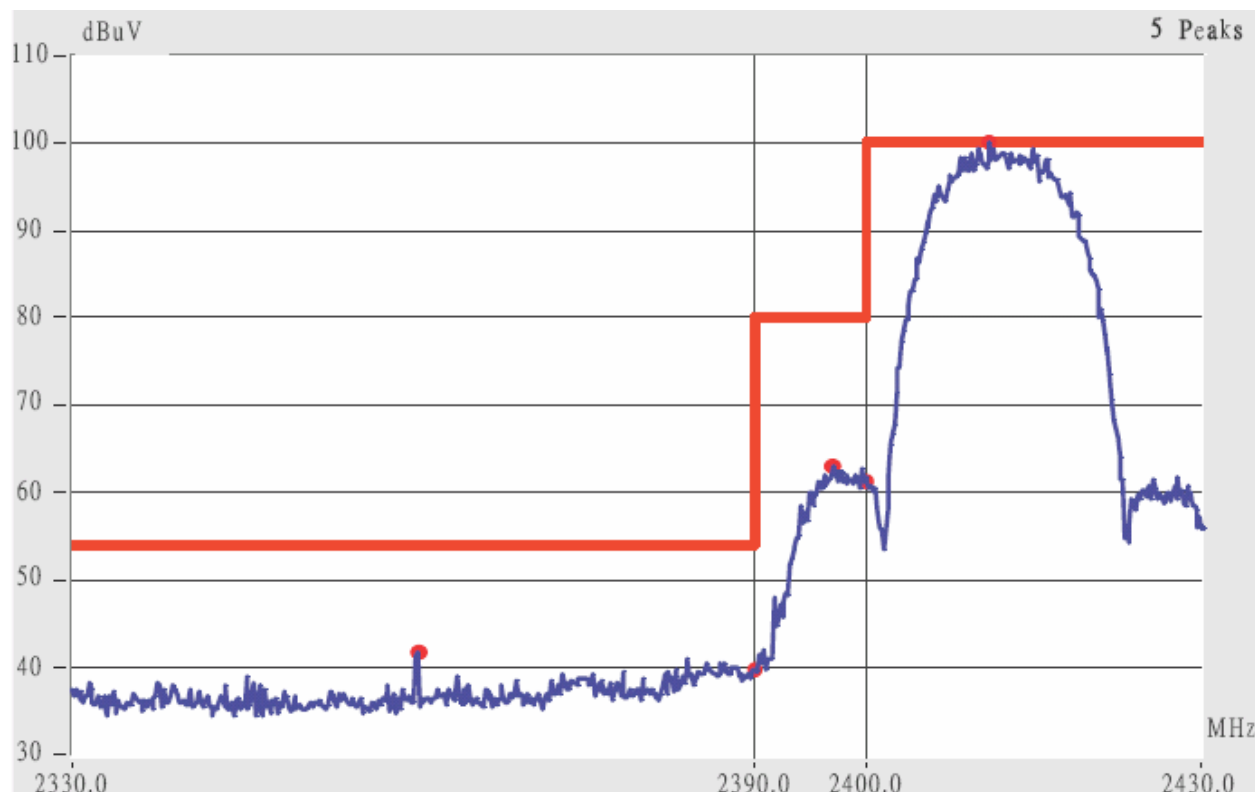
If any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either *at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in §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 Part15.205(a) must also *comply with the radiated emission limits specified in Part15.209(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 >

Channel 1 of IEEE 802.11b(External Antenna)

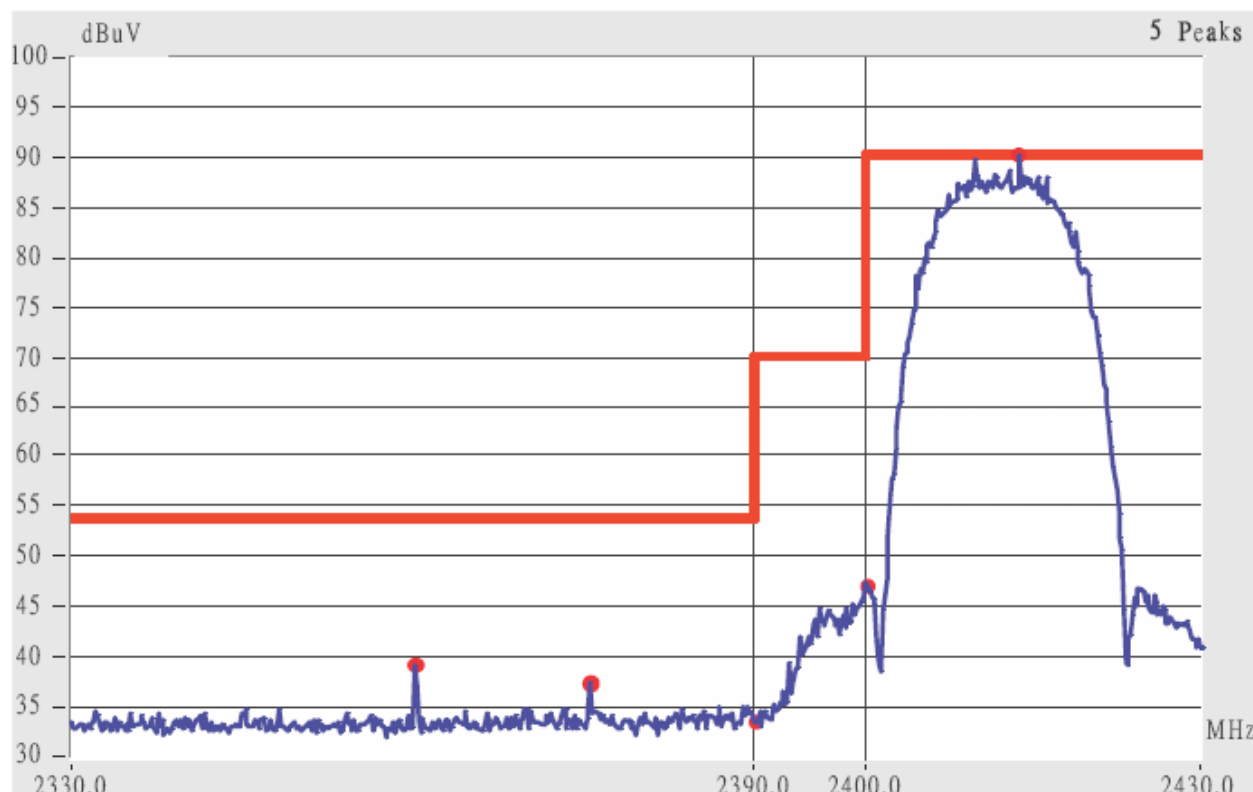


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

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		Class B (3m)		
Frequency (MHz)	Ant. P.	Ant. H. (m)	Table ()	Factors (dB)	(dBμV/m)		Limit (dBμV/m)		Margin (dB)
					Peak	Average	Peak	Ave.	
2384.17	Hor	1.00	96.00	9.17	49.17	---	73.96	53.96	-4.79
2390.02	Hor	1.00	96.00	9.18	47.85	---	73.96	53.96	-6.11
2385.40	Ver	1.00	134.00	9.17	54.84	---	73.96	53.96	-11.46
2390.22	Ver	1.00	18.00	9.18	53.52	---	73.96	53.96	-11.11

Channel 1 of IEEE 802.11b(Internal Antenna)

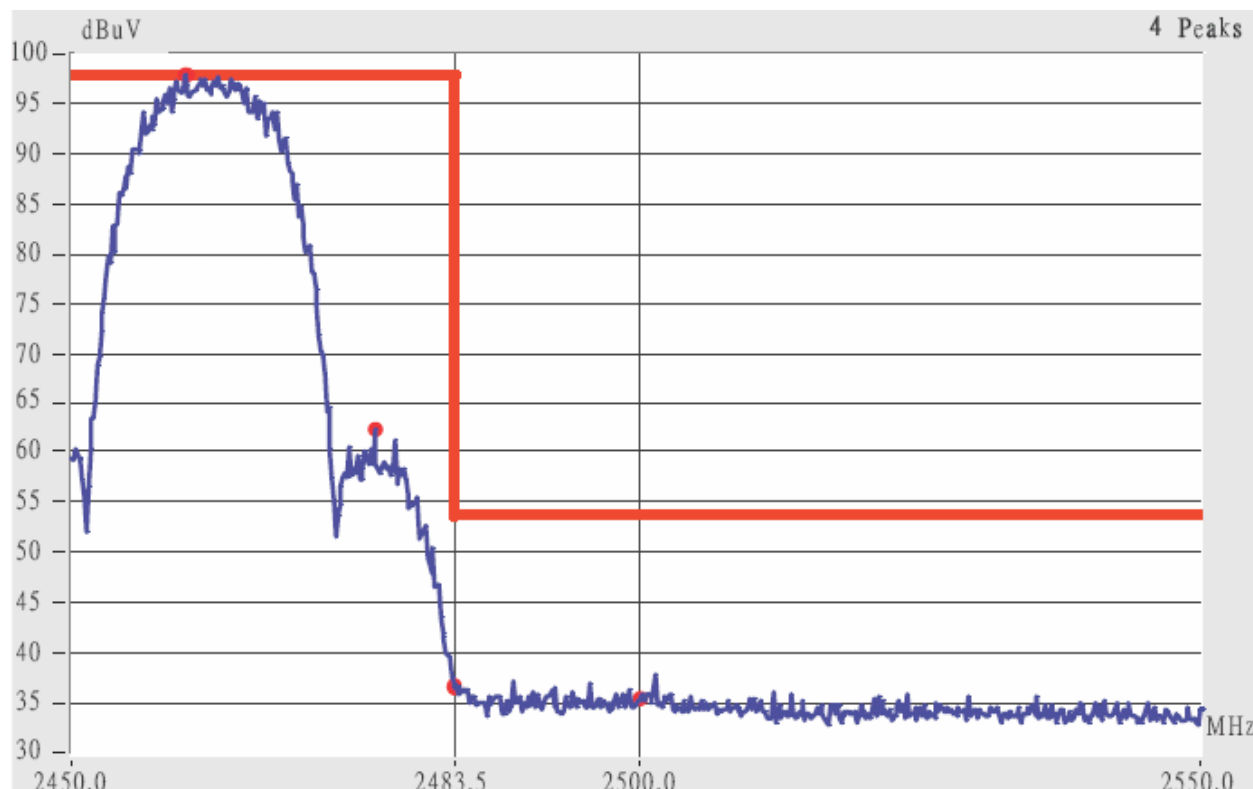


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

3. The lobe left 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		Class B (3m)		
Frequency (MHz)	Ant. P.	Ant. H. (m)	Table ()	Factors (dB)	(dBμV/m)		Limit (dBμV/m)		Margin (dB)
					Peak	Average	Peak	Ave.	
2367.10	Hor	1.00	34.00	9.12	39.00	---	73.96	53.96	-5.84
2390.02	Hor	1.00	268.00	9.18	40.17	---	73.96	53.96	-4.61
2359.97	Ver	1.00	334.00	9.10	51.83	---	73.96	53.96	-3.53
2390.37	Ver	1.00	275.00	9.18	52.84	---	73.96	53.96	-1.61

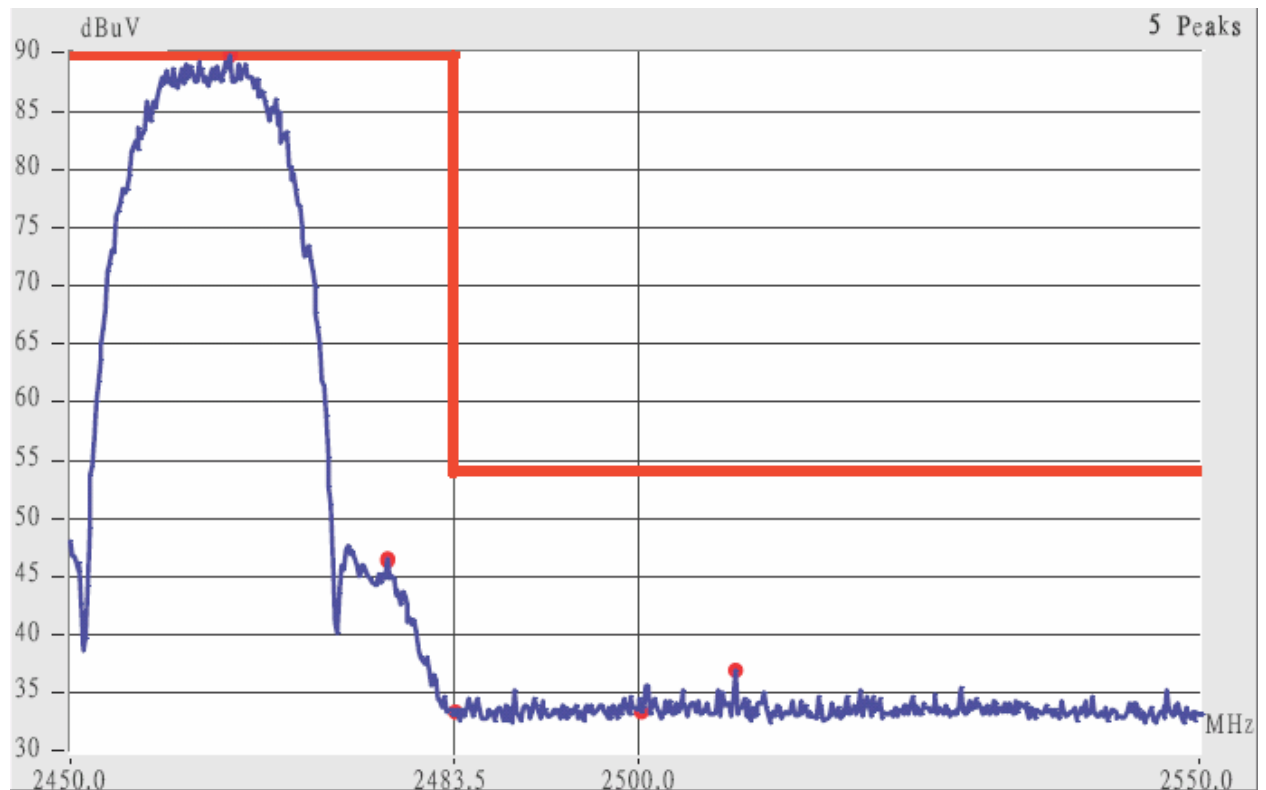
Channel 11 of IEEE 802.11b(External Antenna)



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.

5. The lobe right 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		Class B (3m)		
Frequency (MHz)	Ant. P.	Ant. H. (m)	Table ()	Factors (dB)	(dBμV/m)		Limit (dBμV/m)		Margin (dB)
					Peak	Average	Peak	Ave.	
2483.50	Hor	1.00	161	9.44	46.28	---	73.96	53.96	-7.68
2488.98	Hor	1.00	168	9.46	47.29	---	73.96	53.96	-6.67
2500.01	Hor	1.00	168	9.49	45.16	---	73.96	53.96	-8.80
2518.21	Hor	1.00	100	9.52	45.86	---	73.96	53.96	-8.10
2483.50	Ver	1.00	203	9.44	51.44	---	73.96	53.96	-2.52
2489.28	Ver	1.00	199	9.46	51.46	---	73.96	53.96	-2.50
2500.01	Ver	1.00	197	9.46	50.32	---	73.96	53.96	-3.64
2511.85	Ver	1.00	203	9.51	48.85	---	73.96	53.96	-5.11

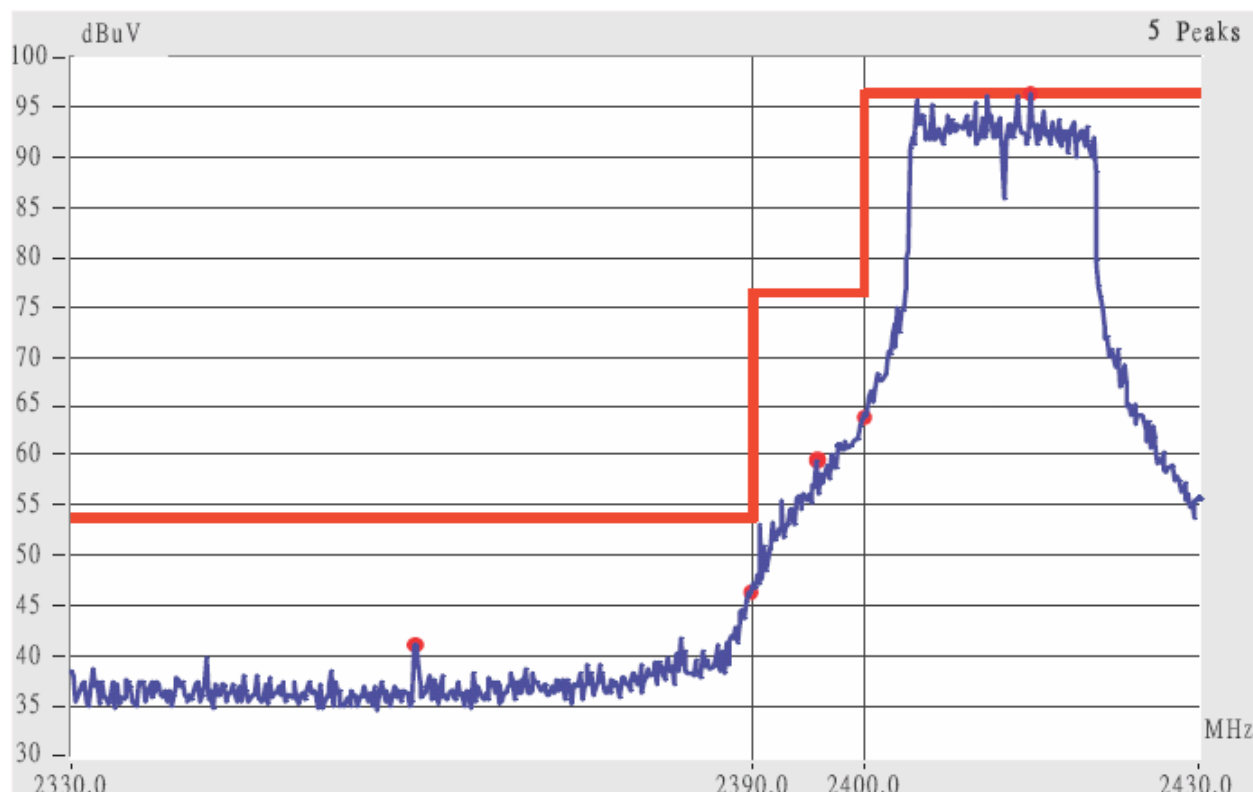
Channel 11 of IEEE 802.11b(Internal Antenna)

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

<i>Radiated Emission</i>					<i>Corrected Amplitude</i>		<i>Class B (3m)</i>		
<i>Frequency (MHz)</i>	<i>Ant. P.</i>	<i>Ant. H. (m)</i>	<i>Table ()</i>	<i>Factors (dB)</i>	<i>(dBμV/m)</i>		<i>Limit (dBμV/m)</i>		<i>Margin (dB)</i>
					<i>Peak</i>	<i>Average</i>	<i>Peak</i>	<i>Ave.</i>	
2483.50	Hor	1.00	284	9.44	48.44	---	73.96	53.96	-5.52
2492.19	Hor	1.00	284	9.47	47.30	---	73.96	53.96	-6.66
2500.01	Hor	1.00	92	9.49	45.99	---	73.96	53.96	-7.97
2505.20	Hor	1.00	92	9.50	47.50	---	73.96	53.96	-6.46
2483.08	Ver	1.00	339	9.44	60.44	52.11	73.96	53.96	-1.85
2489.20	Ver	1.00	340	9.46	61.29	49.63	73.96	53.96	-4.33
2499.42	Ver	1.00	29	9.49	54.99	45.99	73.96	53.96	-7.97
2509.42	Ver	1.00	340	9.51	57.18	43.84	73.96	53.96	-10.12

Channel 1 of IEEE 802.11g(External Antenna)



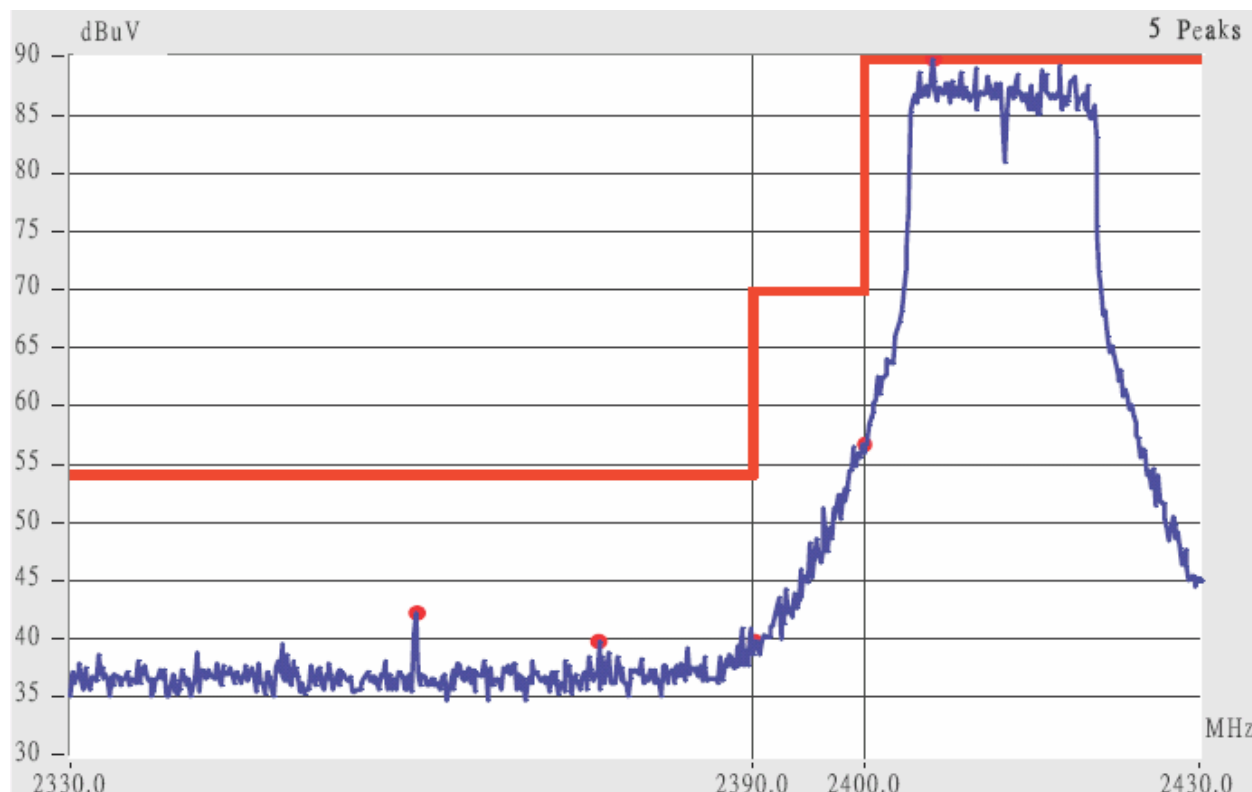
This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

9. The lobe left by the fundamental side is already 20dB below the highest emission level.

10. The emissions recorded in the restricted band do comply with the Part 15.209(a) – as below.

Radiated Emission					Corrected Amplitude		Class B (3m)		
Frequency (MHz)	Ant. P.	Ant. H. (m)	Table ()	Factors (dB)	(dBμV/m)		Limit (dBμV/m)		Margin (dB)
					Peak	Average	Peak	Ave.	
2359.68	Hor	1.00	104	9.10	48.76	---	73.96	53.96	-5.20
2390.37	Hor	1.00	158	9.18	52.68	41.01	73.96	53.96	-12.95
2359.97	Ver	1.00	163	9.10	52.26	42.93	73.96	53.96	-11.03
2389.76	Ver	1.00	68	9.18	57.52	44.51	73.96	53.96	-9.45

Channel 1 of IEEE 802.11g(Internal Antenna)



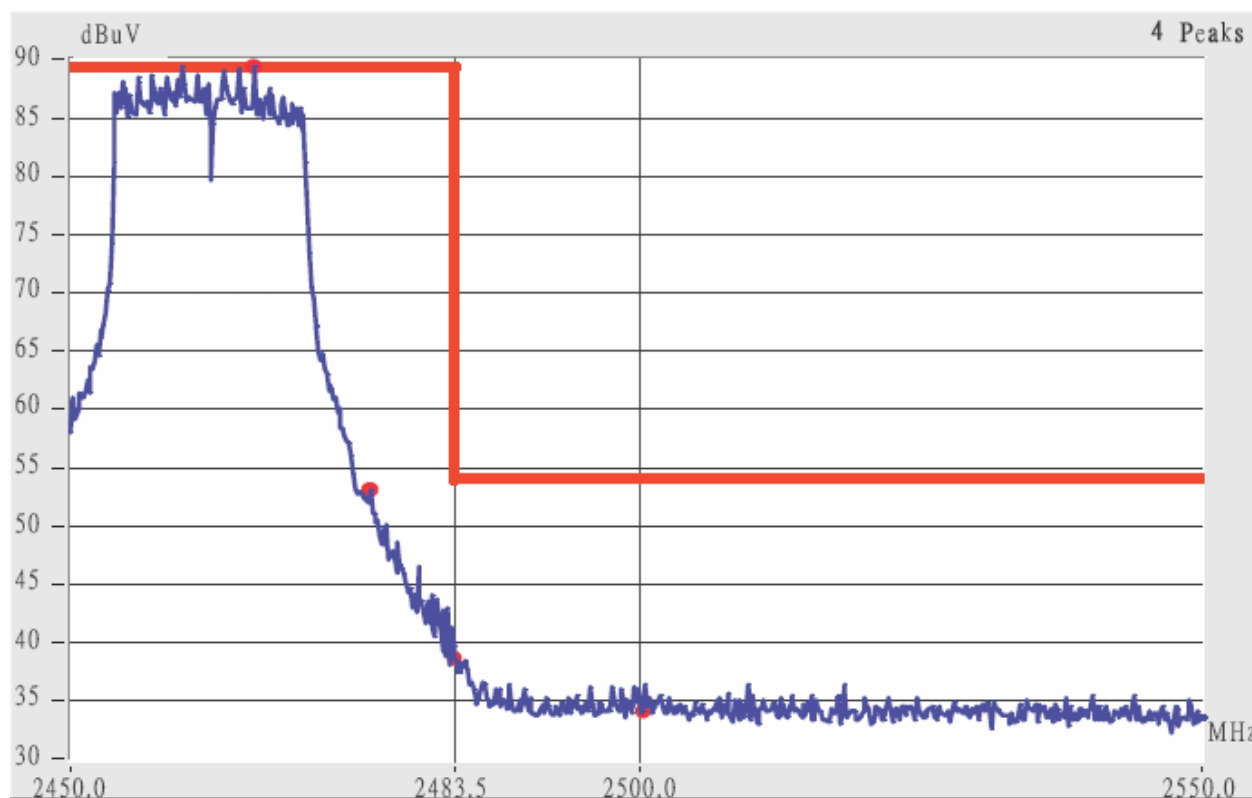
This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1.

11.The lobe left by the fundamental side is already 20dB below the highest emission level.

12.The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

<i>Radiated Emission</i>					<i>Corrected Amplitude</i>		<i>Class B (3m)</i>		
<i>Frequency (MHz)</i>	<i>Ant. P.</i>	<i>Ant. H. (m)</i>	<i>Table ()</i>	<i>Factors (dB)</i>	<i>(dBμV/m)</i>		<i>Limit (dBμV/m)</i>		<i>Margin (dB)</i>
					<i>Peak</i>	<i>Average</i>	<i>Peak</i>	<i>Ave.</i>	
2374.74	Hor	1.00	76	9.14	46.97	---	73.96	53.96	-6.99
2390.02	Hor	1.00	266	9.18	50.18	---	73.96	53.96	-3.78
2377.59	Ver	1.00	256	9.15	57.98	45.32	73.96	53.96	-8.64
2390.42	Ver	1.00	256	9.18	65.18	51.18	73.96	53.96	-2.78

Channel 11 of IEEE 802.11g(External Antenna)

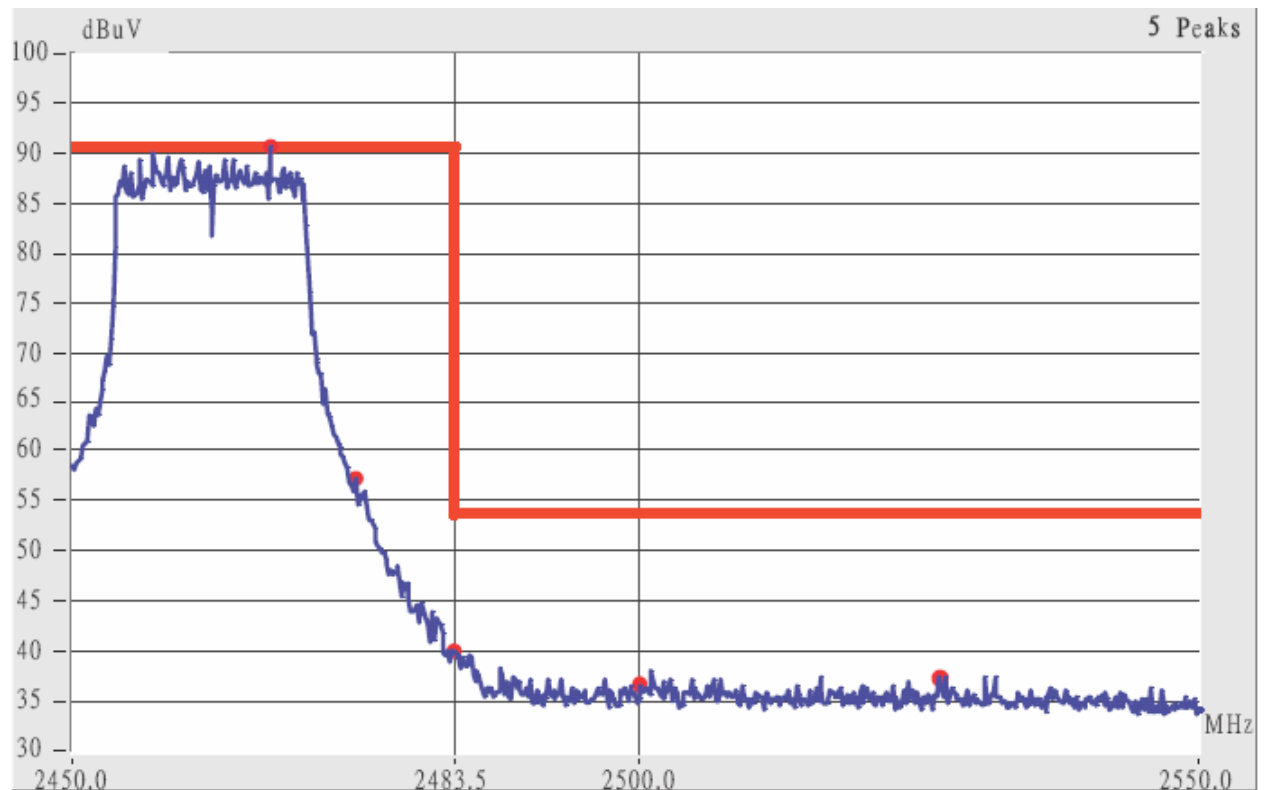


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 11.

13. The lobe right by the fundamental side is already 20dB below the highest emission level.

14. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					Corrected Amplitude		Class B (3m)		
Frequency (MHz)	Ant. P.	Ant. H. (m)	Table ()	Factors (dB)	(dBμV/m)		Limit (dBμV/m)		Margin (dB)
					Peak	Average	Peak	Ave.	
2483.50	Hor	1.00	112	9.44	52.28	---	73.96	53.96	-1.68
2493.65	Hor	1.00	112	9.47	47.14	---	73.96	53.96	-6.82
2500.01	Hor	1.00	335	9.49	44.16	---	73.96	53.96	-9.80
2509.22	Hor	1.00	112	9.51	47.84	---	73.96	53.96	-6.12
2482.97	Ver	1.00	171	9.44	59.61	44.27	73.96	53.96	-9.69
2487.07	Ver	1.00	167	9.45	52.29	39.78	73.96	53.96	-14.18
2500.01	Ver	1.00	340	9.49	48.99	---	73.96	53.96	-4.97
2511.21	Ver	1.00	168	9.51	49.51	---	73.96	53.96	-4.45

Channel 11 of IEEE 802.11g(Internal Antenna)

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.

15. The lobe right by the fundamental side is already 20dB below the highest emission level.

16. The emissions recorded in the restricted band do comply with the Part 15.209(a) – as below

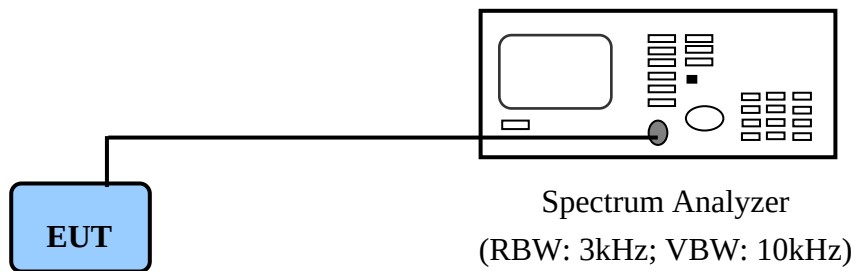
<i>Radiated Emission</i>					<i>Corrected Amplitude</i>		<i>Class B (3m)</i>		
<i>Frequency (MHz)</i>	<i>Ant. P.</i>	<i>Ant. H. (m)</i>	<i>Table ()</i>	<i>Factors (dB)</i>	<i>(dBμV/m)</i>		<i>Limit (dBμV/m)</i>		<i>Margin (dB)</i>
					<i>Peak</i>	<i>Average</i>	<i>Peak</i>	<i>Ave.</i>	
2483.03	Hor	1.00	287	9.44	52.44	---	73.96	53.96	-1.52
2492.78	Hor	1.00	291	9.47	47.80	---	73.96	53.96	-6.16
2500.01	Hor	1.00	98	9.49	45.32	---	73.96	53.96	-8.64
2512.78	Hor	1.00	125	9.51	46.68	---	73.96	53.96	-7.28
2482.90	Ver	1.00	0.00	9.44	64.94	51.44	73.96	53.96	-2.52
2488.56	Ver	1.00	324	9.46	59.79	45.13	73.96	53.96	-8.83
2499.55	Ver	1.00	25	9.49	53.82	43.66	73.96	53.96	-10.30
2505.95	Ver	1.00	42	9.50	56.17	43.50	73.96	53.96	10.46

IX. Section 15.247(d): Power Spectral Density

9.1 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.

9.2 Test Instruments Configuration



P.S.: PC to control the EUT at maximal power output and channel Number and set antenna kit

9.3 List of Test Instruments

Instrument Name	Model No.	Brand	Serial No.	Next time
Spectrum Analyzer	MS2665C	ANRITSU	6200175476	11/02/07

9.4 Test Result of Power spectral density

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

IEEE 802.11b(External Antenna)

<i>Channel</i>	<i>Ppr (dBm)</i>	<i>Cable Loss (dB)</i>	<i>Ppq (dBm)</i>	<i>Limit (dB)</i>	<i>Margin (dB)</i>
CH 01	-13.48	1.00	-12.48	8.00	-20.48
CH 06	-13.19	1.00	-12.19	8.00	-20.19
CH 11	-14.76	1.00	-13.76	8.00	-21.76

IEEE 802.11b(Internal Antenna)

<i>Channel</i>	<i>Ppr (dBm)</i>	<i>Cable Loss (dB)</i>	<i>Ppq (dBm)</i>	<i>Limit (dB)</i>	<i>Margin (dB)</i>
CH 01	-9.92	1.00	-8.92	8.00	-16.92
CH 06	-10.55	1.00	-9.55	8.00	-17.55
CH 11	-10.42	1.00	-9.42	8.00	-17.42

IEEE 802.11g(External Antenna)

<i>Channel</i>	<i>Ppr (dBm)</i>	<i>Cable Loss (dB)</i>	<i>Ppq (dBm)</i>	<i>Limit (dB)</i>	<i>Margin (dB)</i>
CH 01	-18.19	1.00	-17.19	8.00	-25.19
CH 06	-17.60	1.00	-16.60	8.00	-24.60
CH 11	-18.15	1.00	-17.15	8.00	-25.15

IEEE 802.11g(Internal Antenna)

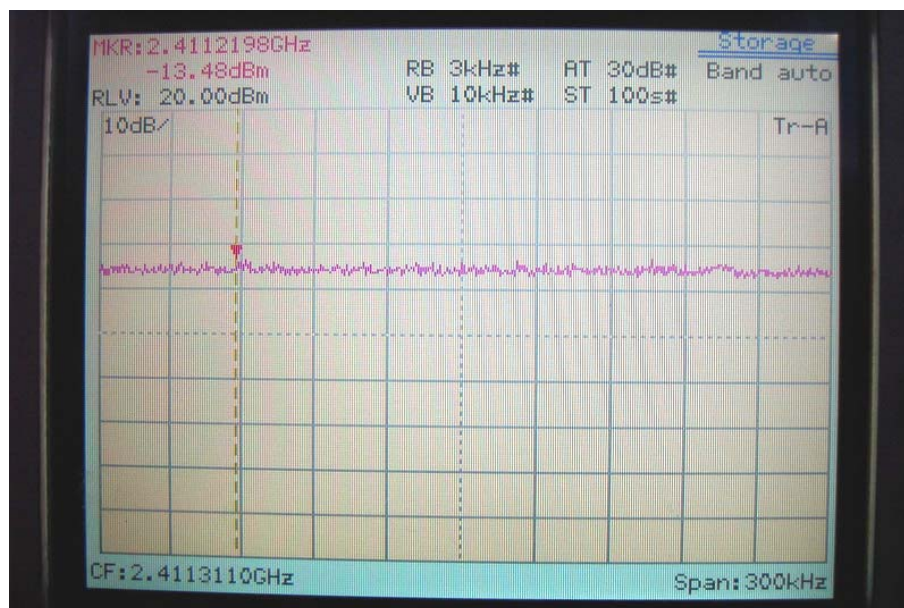
<i>Channel</i>	<i>Ppr (dBm)</i>	<i>Cable Loss (dB)</i>	<i>Ppq (dBm)</i>	<i>Limit (dB)</i>	<i>Margin (dB)</i>
CH 01	-18.47	1.00	-17.47	8.00	-25.47
CH 06	-20.24	1.00	-19.24	8.00	-27.24
CH 11	-18.32	1.00	-17.32	8.00	-25.32

Note:

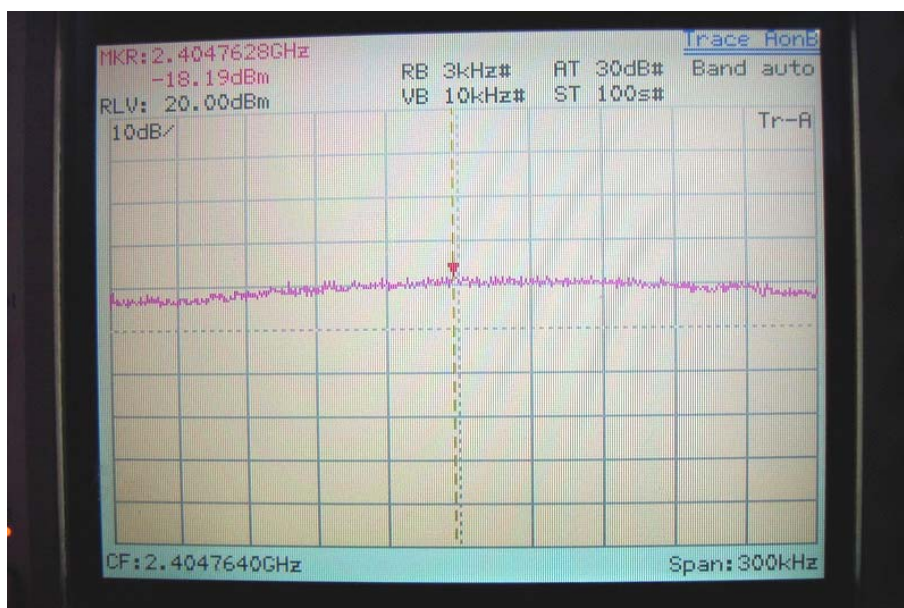
1. The following pages show the results of spectrum reading.
2. Ppr: spectrum read power density (using peak search mode),
Ppq: actual peak power density in the spread spectrum band.
3. $Ppq = Ppr + |Cable Loss|$

Power Spectral Density for Channel 01 (External Antenna)

IEEE 802.11b

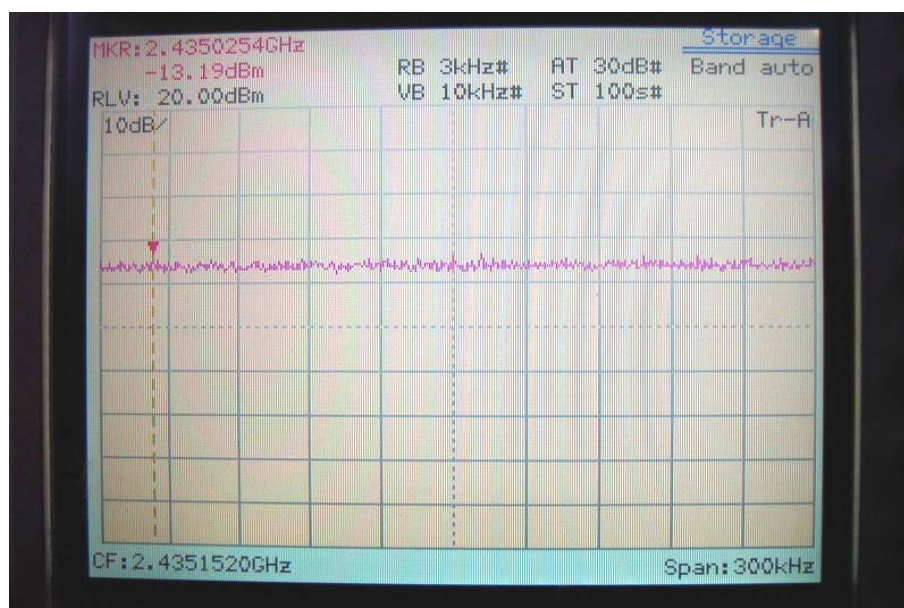


IEEE 802.11g

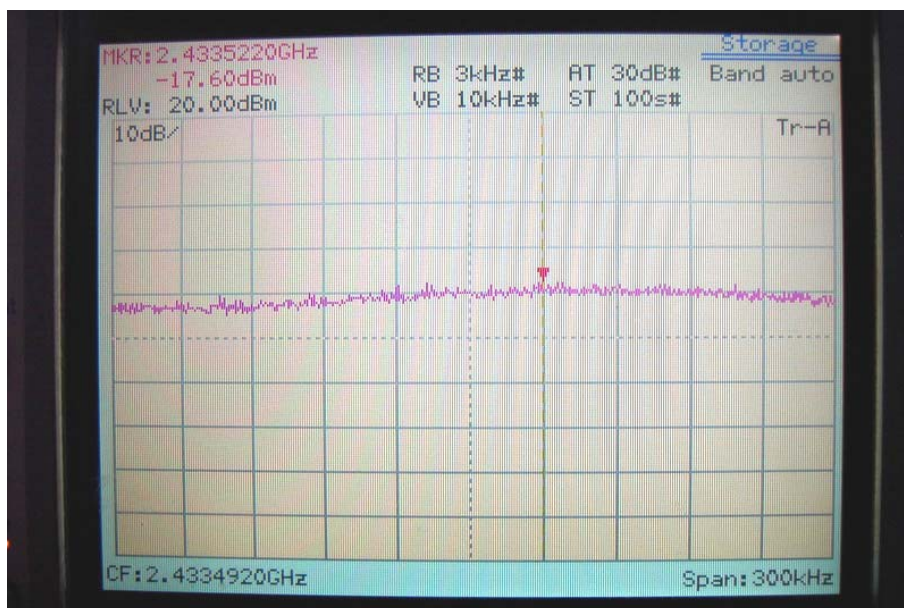


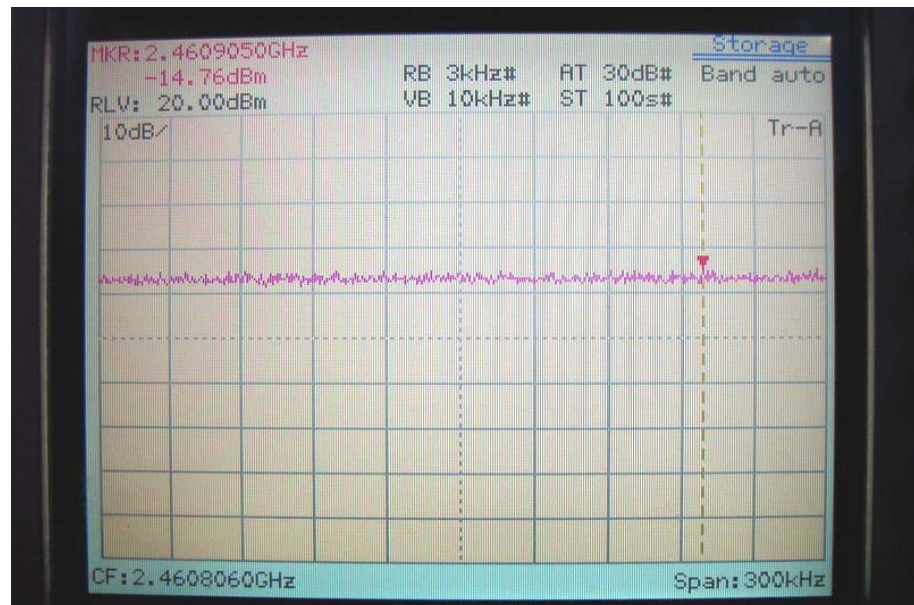
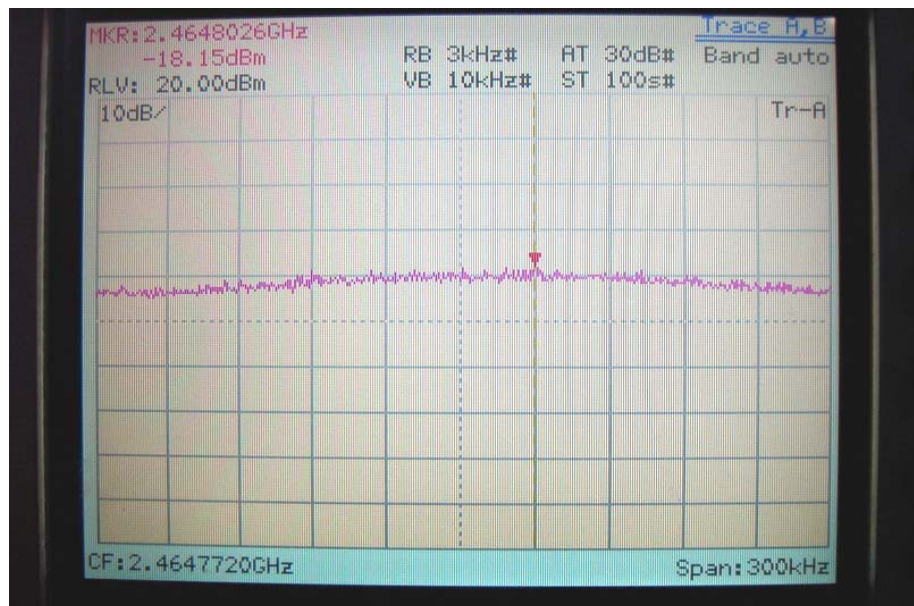
Power Spectral Density for Channel 06

IEEE 802.11b



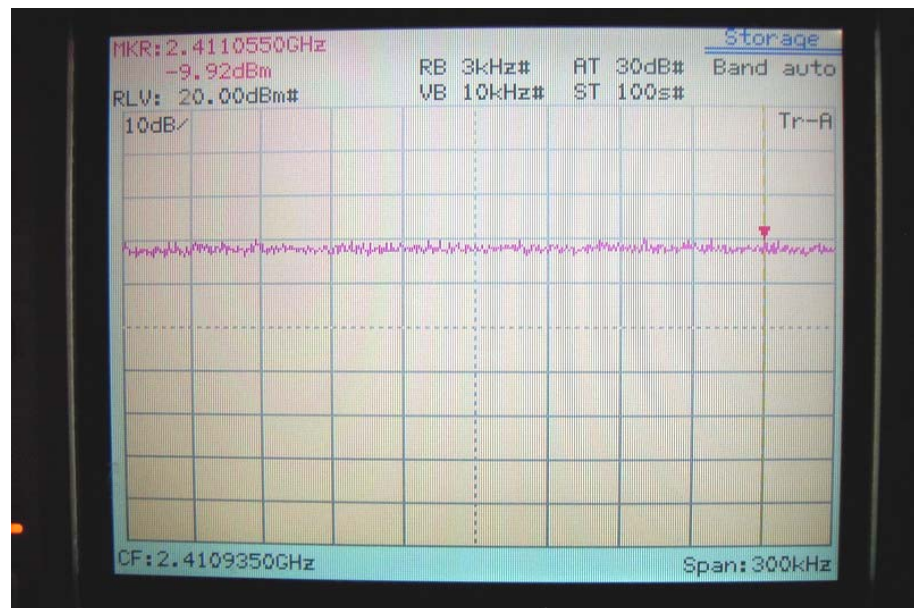
IEEE 802.11g



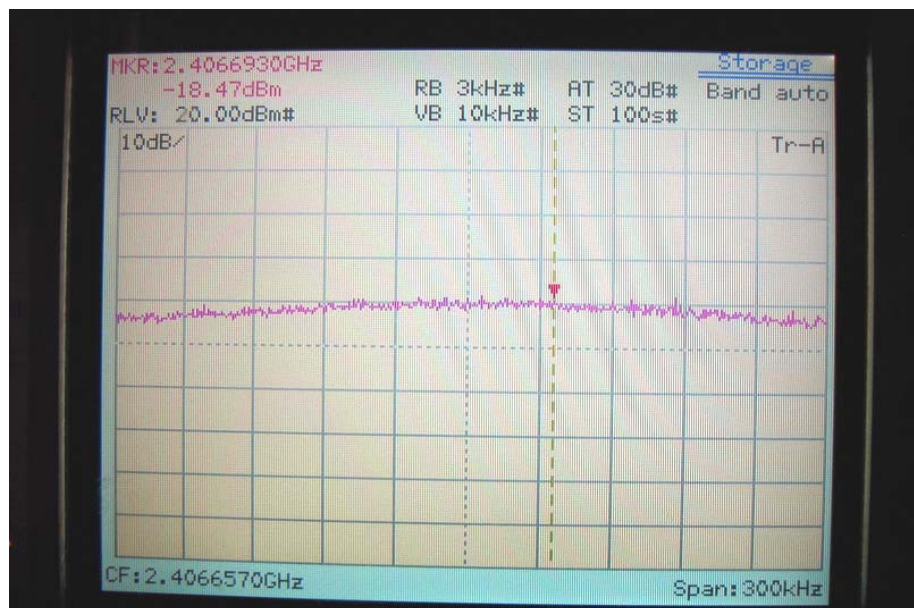
Power Spectral Density for Channel 11**IEEE 802.11b****IEEE 802.11g**

Power Spectral Density for Channel 01 (Internal Antenna)

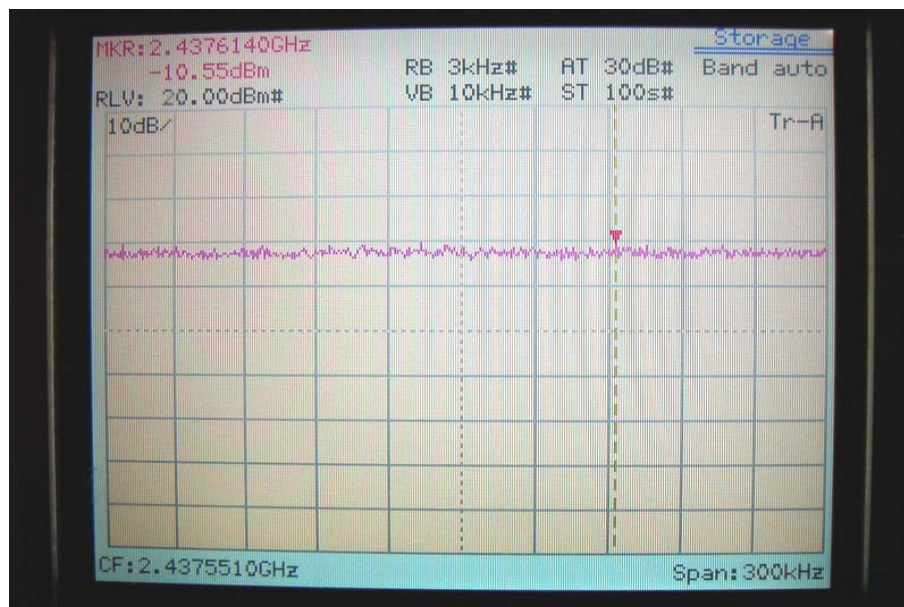
IEEE 802.11b



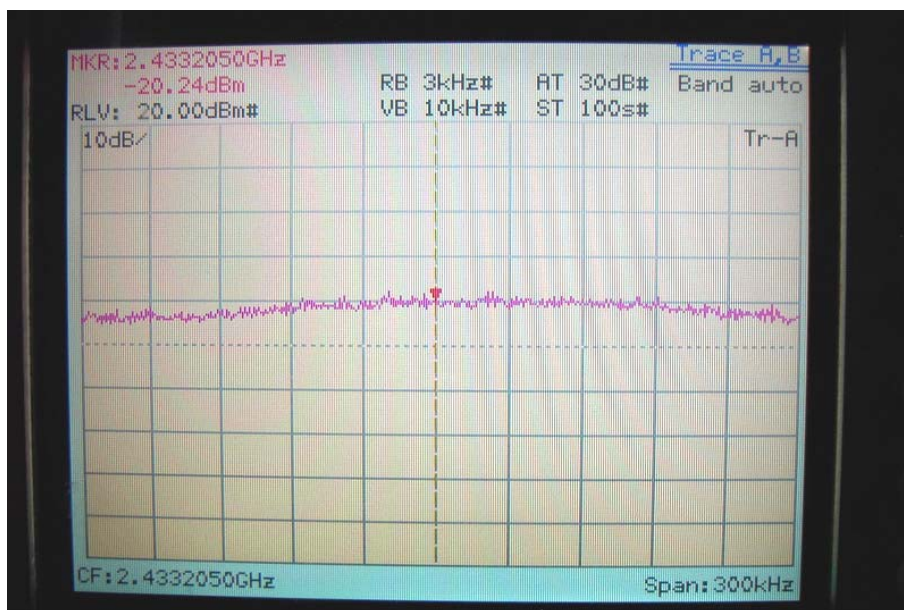
IEEE 802.11g



Power Spectral Density for Channel 06



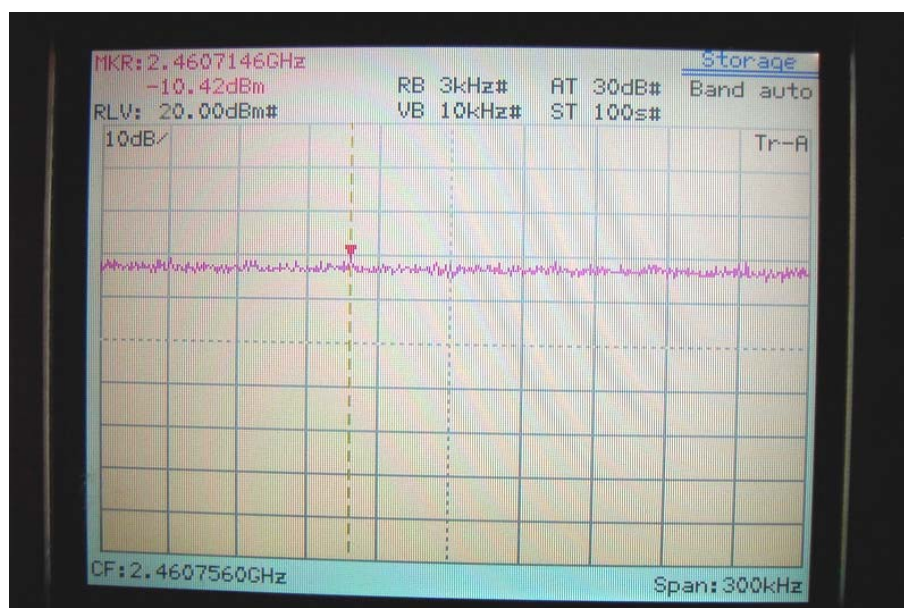
IEEE 802.11b



IEEE 802.11g

Power Spectral Density for Channel 11

IEEE 802.11b



IEEE 802.11g

