



SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, TaoYuan Hsien, Taiwan, R.O.C.
Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw

FCC RADIO TEST REPORT

Applicant's company	Ovislink Corp.
Applicant Address	5F, NO.6 Lane 130, Min Chuan Road, Hsin-Tien City Taipei, Taiwan.
FCC ID	MQ4WL5470AP
Manufacturer's company	OvisLink Corp.
Manufacturer Address	5F, NO.6 Lane 130, Min Chuan Road, Hsin-Tien City Taipei, Taiwan.

Product Name	802.11b/g Multi-function Wireless Access Point
Brand Name	Air Live
Model Name	WL-5470AP
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Received Date	Apr. 11, 2007
Final Test Date	Jun. 12, 2007
Submission Type	Original Equipment



Statement

Test result included is only for the 802.11b/g part of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.4-2003** and **47 CFR FCC Part 15 Subpart C**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



Testing Laboratory
1190

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1. CERTIFICATE OF COMPLIANCE

Product Name : 802.11b/g Multi-function Wireless Access Point
Brand Name : Air Live
Model Name : WL-5470AP
Applicant : Ovislink Corp.
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Apr. 11, 2007 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

A handwritten signature in blue ink that reads 'Wayne Hsu 28.6.07'.

Wayne Hsu

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	15.207	AC Power Line Conducted Emissions	Complies	0.74 dB
4.2	15.247(b)(3)	Maximum Peak Conducted Output Power	Complies	14.35 dB
4.3	15.247(e)	Power Spectral Density	Complies	23.78 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	6.88 dB
4.6	15.247(d)	Band Edge Emissions	Complies	1.45 dB
4.7	15.203	Antenna Requirements	Complies	-

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	±2.3dB	Confidence levels of 95%
Maximum Peak Conducted Output Power	±0.8dB	Confidence levels of 95%
Power Spectral Density	±0.5dB	Confidence levels of 95%
6dB Spectrum Bandwidth	±8.5×10 ⁻⁸	Confidence levels of 95%
Radiated Emissions (9kHz~30MHz)	±0.8dB	Confidence levels of 95%
Radiated Emissions (30MHz~1000MHz)	±1.9dB	Confidence levels of 95%
Radiated / Band Edge Emissions (1GHz~18GHz)	±1.9dB	Confidence levels of 95%
Radiated Emissions (18GHz~40GHz)	±1.9dB	Confidence levels of 95%
Temperature	±0.7°C	Confidence levels of 95%
Humidity	±3.2%	Confidence levels of 95%
DC / AC Power Source	±1.4%	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Power Type	Power Adapter
Modulation	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11g
Data Modulation	DSSS (BPSK / QPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11) ; OFDM (6/9/12/18/24/36/48/54)
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11
Channel Band Width (99%)	11b: 15.03 MHz ; 11g: 16.31 MHz
Conducted Output Power	11b: 15.65 dBm ; 11g: 14.88 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

3.2. Accessories

Power	Brand	Model	Rating
Adapter	LEADER	MT12-4120100-A1	Input: 120V, 60Hz, 0.3A Output: 12V, 1.0A

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Cortec	AN2400-0101RS	Dipole Antenna	Reversed-SMA	2.0

Antenna Requirement: There is an antenna coaxial cable (model name RG-178) with a core in the end side. The core brand is King core (K5B RH 9*16*5).

3.4. Table for Carrier Frequencies

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz		

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel	Antenna
AC Power Line Conducted Emissions	Normal Link	11 Mbps	6	1
Maximum Peak Conducted Output Power	11b/BPSK	1 Mbps	1/6/11	N/A
Power Spectral Density	11g/BPSK	6 Mbps	1/6/11	N/A
6dB Spectrum Bandwidth				
Radiated Emissions 9kHz~1GHz	11g/BPSK	6 Mbps	6	1
Radiated Emissions 1GHz~10 th Harmonic	11b/BPSK	1 Mbps	1/6/11	1
	11g/BPSK	6 Mbps	1/6/11	1
Band Edge Emissions	11b/BPSK	1 Mbps	1/11	1
	11g/BPSK	6 Mbps	1/11	1

3.6. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No
03CH03-HY	SAC	Hwa Ya	101377	IC 4088	-
CO04-HY	Conduction	Hwa Ya	101377	IC 4088	-
TH01-HY	OVEN Room	Hwa Ya	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC); Fully Anechoic Chamber (FAC).

Please refer section 6 for Test Site Address.

3.7. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	D520	E2KWM3945ABG
Notebook	DELL	D520	E2KWM3945ABG
Notebook	DELL	D400	E2K24GBRL
Switching HUB	LANEED	LD-LSW16C/AT	DoC
Notebook	DELL	D505	E2K24GBRL

3.8. Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters of IEEE 802.11b/g

Test Software Version	MP_TEST		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	5	5	5
IEEE 802.11g	12	12	12

During the test, the following programs under WIN XP were executed:

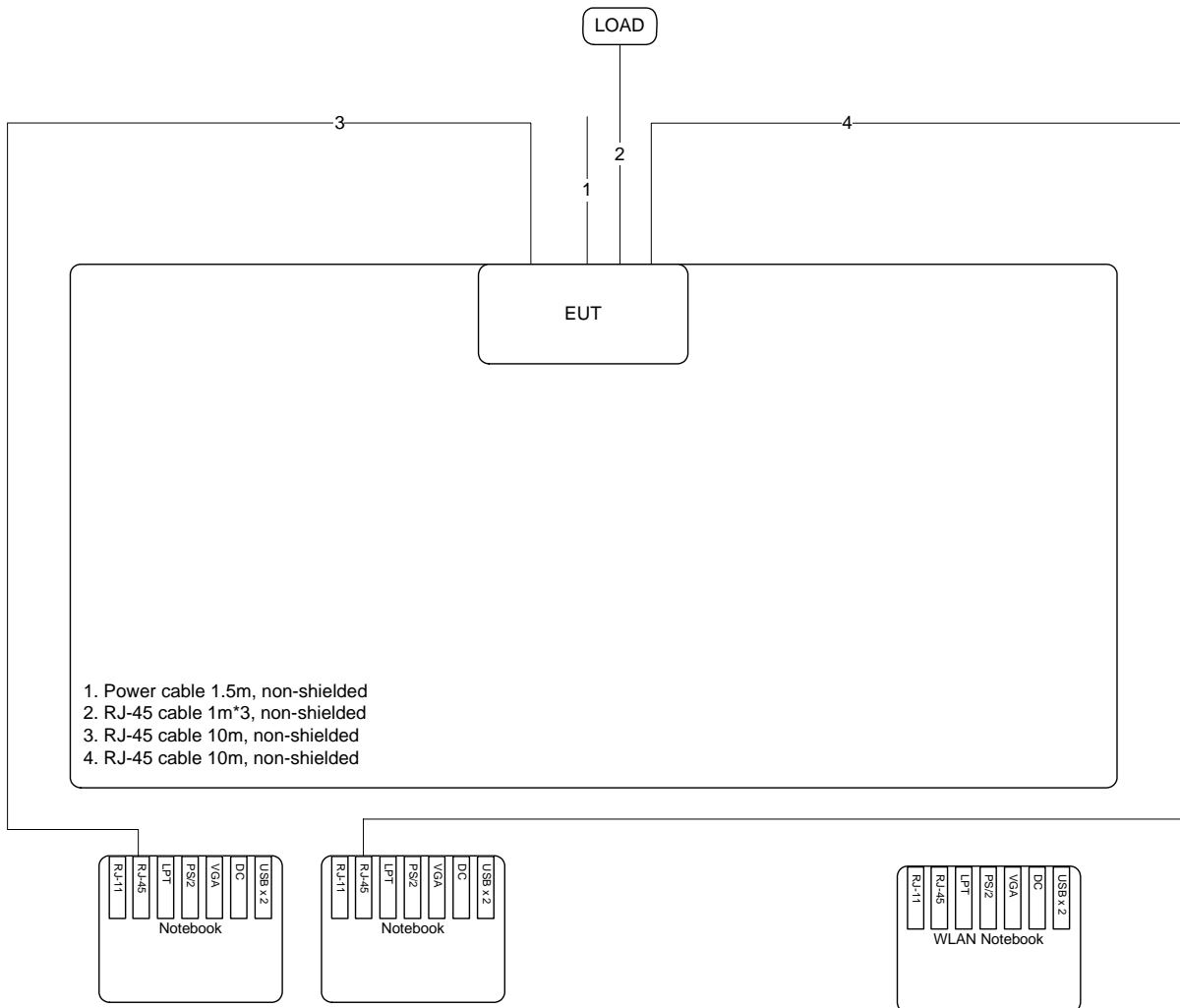
Executed "ping.exe" to link with the remote workstation to receive and transmit signal by LAN and WLAN.

Executed " MP_TEST " to control the EUT continuously transmit RF signal.

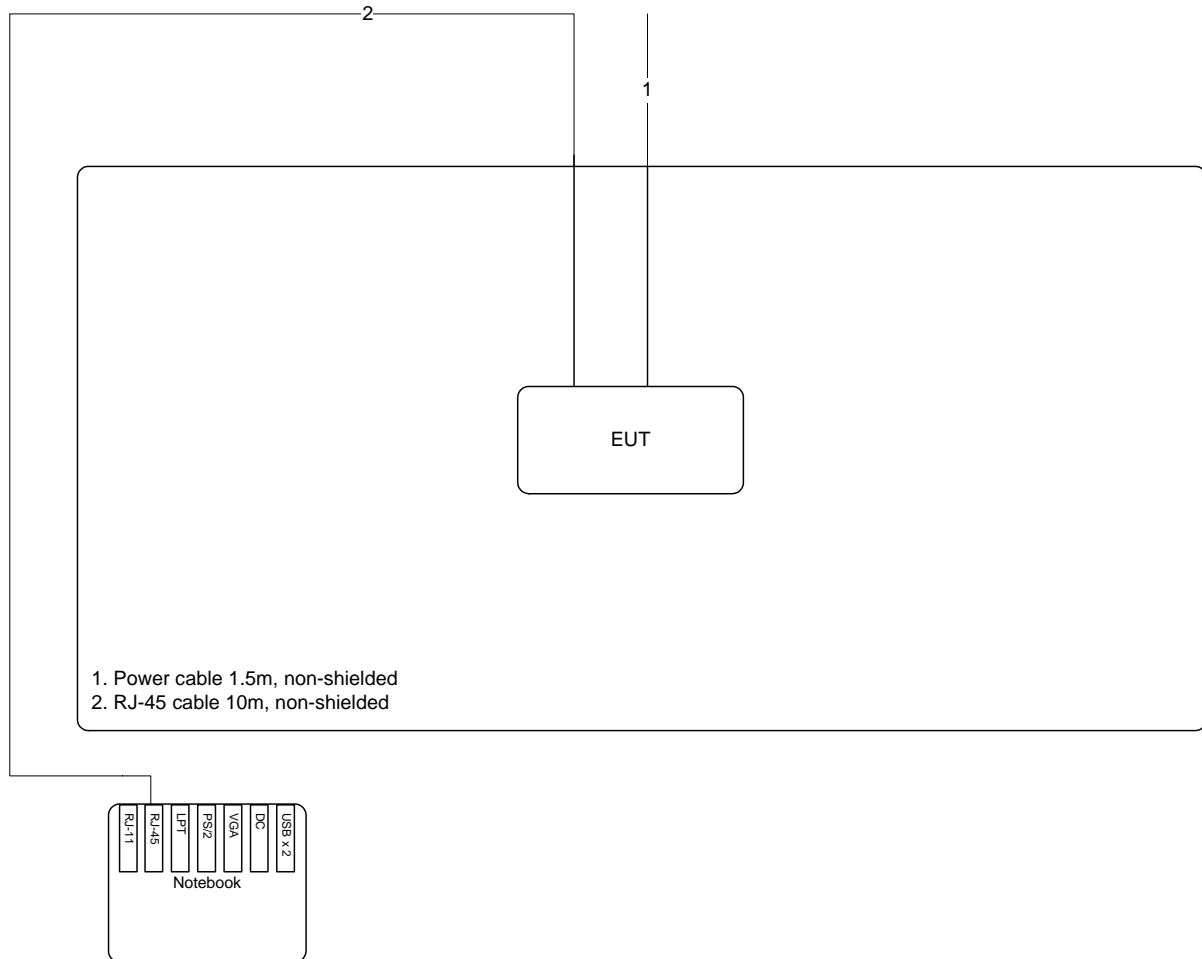
3.9. Test Configurations

3.9.1. Radiation Emissions Test Configuration

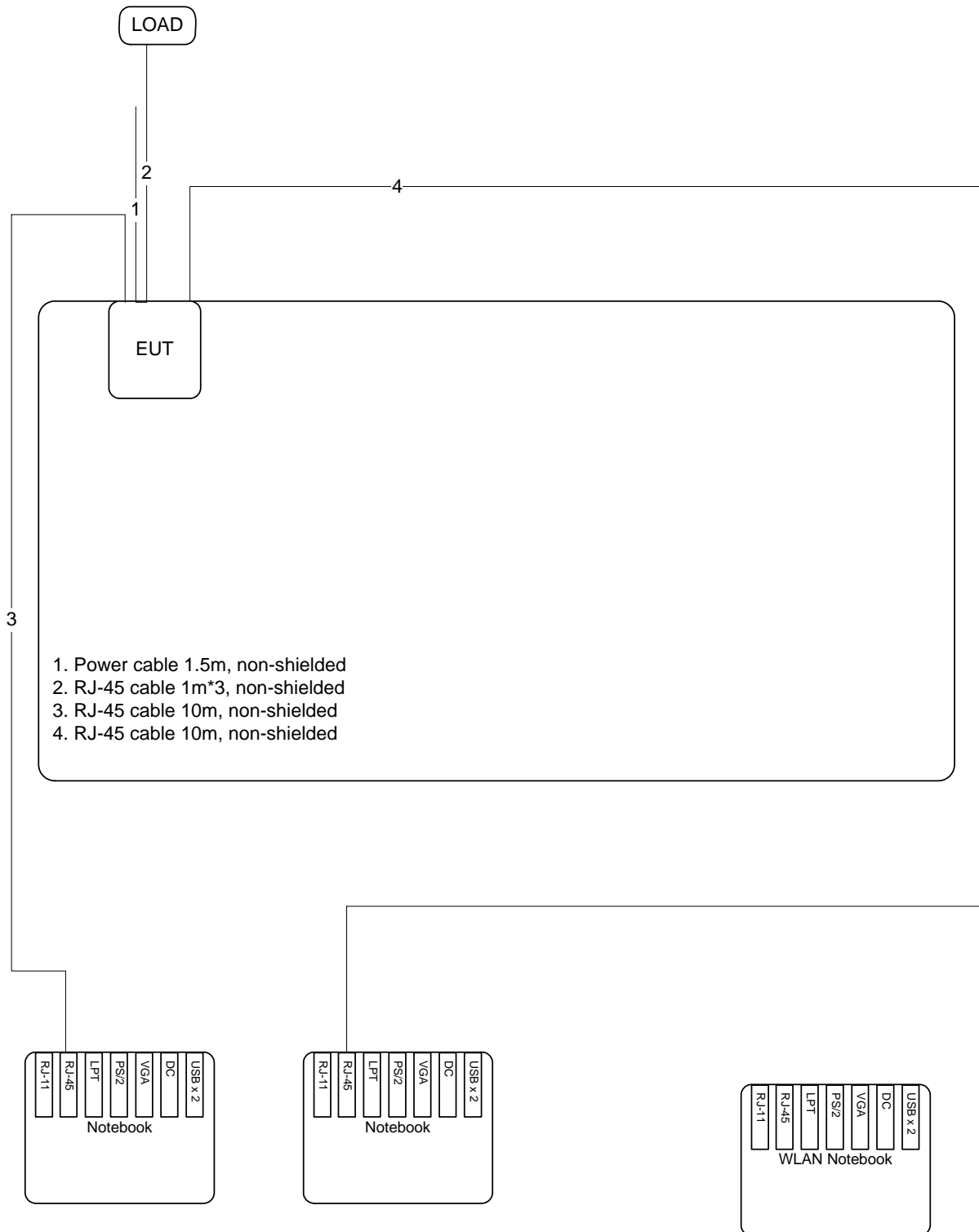
Test Configuration: 9kHz~1GHz



Test Configuration: Above 1GHz



3.9.2. AC Power Line Conduction Emissions Test Configuration



4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

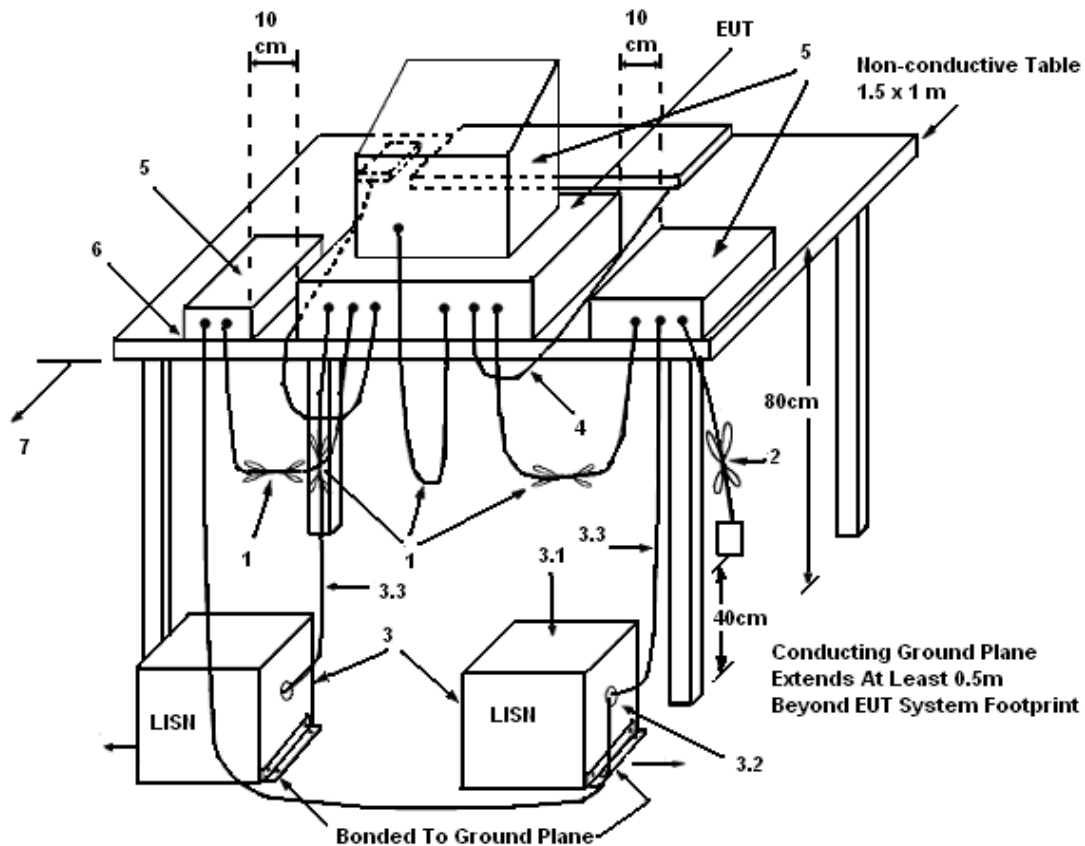
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.4. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 KHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
 - (3.1) All other equipment powered from additional LISN(s).
 - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
 - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

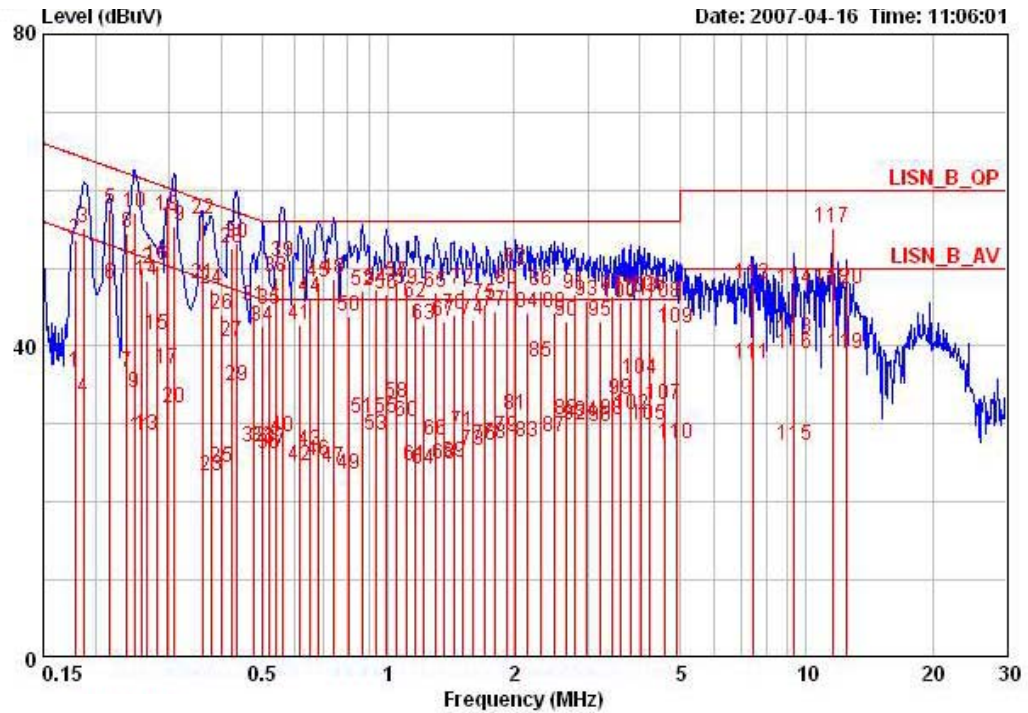
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	20°C	Humidity	59%
Test Engineer	Barry Chen	Phase	Line
Configuration	Normal Link		



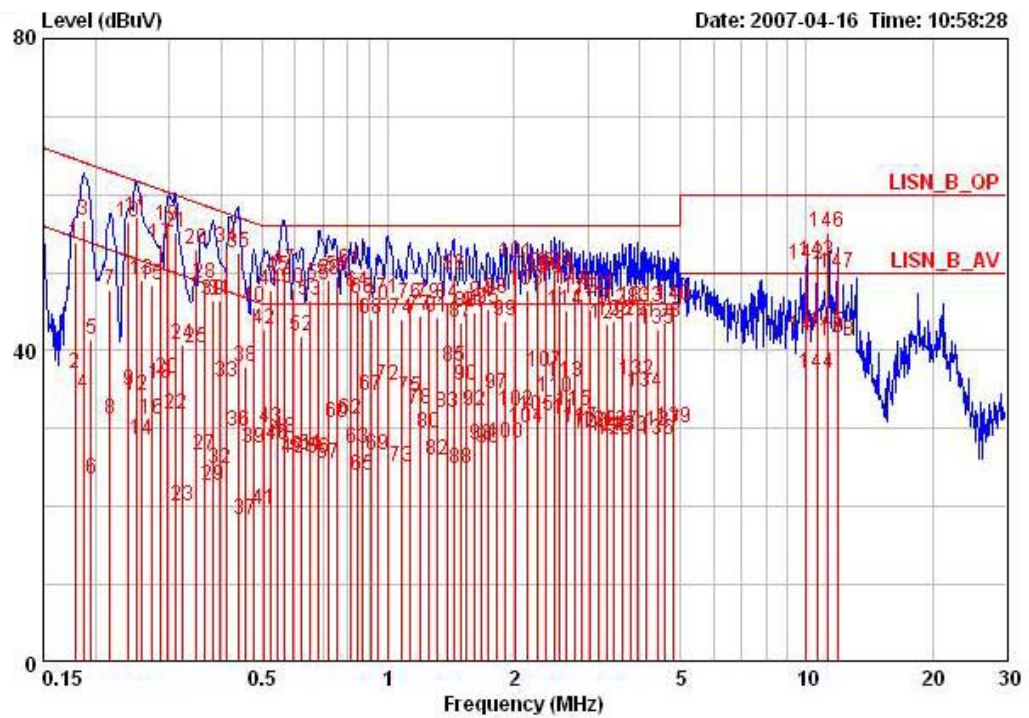
	Freq	Level	Over	Limit	Read	LISN	Cable	Remark	Pol/Phase
	MHz	dBuV	Limit	Line	Level	Factor	Loss		
			dB	dBuV	dBuV	dB	dB		
1	0.17866	36.63	-17.92	54.55	36.28	0.15	0.20	AVERAGE	LINE
2	0.17866	53.58	-10.97	64.55	53.23	0.15	0.20	QP	LINE
3	0.18739	55.17	-8.98	64.15	54.82	0.15	0.20	QP	LINE
4	0.18739	33.29	-20.86	54.15	32.94	0.15	0.20	AVERAGE	LINE
5	0.21620	57.54	-5.42	62.96	57.24	0.10	0.20	QP	LINE
6	0.21620	47.92	-5.04	52.96	47.62	0.10	0.20	AVERAGE	LINE
7	0.23784	36.60	-15.57	52.17	36.30	0.10	0.20	AVERAGE	LINE
8	0.23784	54.49	-7.68	62.17	54.19	0.10	0.20	QP	LINE
9	0.24814	33.93	-17.89	51.82	33.63	0.10	0.20	AVERAGE	LINE
10	0.24814	57.10	-4.72	61.82	56.80	0.10	0.20	QP	LINE
11	0.25751	28.25	-23.26	51.51	27.95	0.10	0.20	AVERAGE	LINE
12	0.25751	49.84	-11.67	61.51	49.54	0.10	0.20	QP	LINE
13	0.26583	28.61	-22.64	51.25	28.31	0.10	0.20	AVERAGE	LINE
14	0.26583	48.29	-12.96	61.25	47.99	0.10	0.20	QP	LINE
15	0.28178	41.44	-9.32	50.76	41.14	0.10	0.20	AVERAGE	LINE
16	0.28178	50.34	-10.42	60.76	50.04	0.10	0.20	QP	LINE
17	0.29594	36.98	-13.38	50.36	36.68	0.10	0.20	AVERAGE	LINE
18	0.29594	56.63	-3.73	60.36	56.33	0.10	0.20	QP	LINE
19	0.30834	55.28	-4.74	60.02	54.98	0.10	0.20	QP	LINE
20	0.30834	32.10	-17.92	50.02	31.80	0.10	0.20	AVERAGE	LINE
21	0.35955	48.00	-0.74	48.74	47.70	0.10	0.20	AVERAGE	LINE
22	0.35955	56.16	-2.58	58.74	55.86	0.10	0.20	QP	LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
23	0.37711	23.40	-24.94	48.34	23.10	0.10	0.20	AVERAGE	LINE
24	0.37711	47.34	-11.00	58.34	47.04	0.10	0.20	QP	LINE
25	0.39974	24.37	-23.49	47.86	24.07	0.10	0.20	AVERAGE	LINE
26	0.39974	44.03	-13.83	57.86	43.73	0.10	0.20	QP	LINE
27	0.42150	40.47	-6.95	47.42	40.17	0.10	0.20	AVERAGE	LINE
28	0.42150	52.52	-4.90	57.42	52.22	0.10	0.20	QP	LINE
29	0.43511	34.84	-12.31	47.15	34.55	0.09	0.20	AVERAGE	LINE
30	0.43511	53.24	-3.91	57.15	52.95	0.09	0.20	QP	LINE
31	0.47612	45.09	-11.32	56.41	44.85	0.09	0.15	QP	LINE
32	0.47612	27.05	-19.36	46.41	26.81	0.09	0.15	AVERAGE	LINE
33	0.50203	26.96	-19.04	46.00	26.68	0.08	0.20	AVERAGE	LINE
34	0.50203	42.51	-13.49	56.00	42.23	0.08	0.20	QP	LINE
35	0.52100	44.70	-11.30	56.00	44.42	0.08	0.20	QP	LINE
36	0.52100	26.18	-19.82	46.00	25.90	0.08	0.20	AVERAGE	LINE
37	0.54068	26.80	-19.21	46.00	26.52	0.08	0.20	AVERAGE	LINE
38	0.54068	48.88	-7.13	56.00	48.60	0.08	0.20	QP	LINE
39	0.56111	50.84	-5.16	56.00	50.57	0.07	0.20	QP	LINE
40	0.56111	28.28	-17.72	46.00	28.01	0.07	0.20	AVERAGE	LINE
41	0.61726	42.73	-13.27	56.00	42.47	0.06	0.20	QP	LINE
42	0.61726	24.73	-21.27	46.00	24.47	0.06	0.20	AVERAGE	LINE
43	0.65084	26.62	-19.39	46.00	26.36	0.06	0.20	AVERAGE	LINE
44	0.65084	46.28	-9.72	56.00	46.02	0.06	0.20	QP	LINE
45	0.68263	48.21	-7.79	56.00	47.96	0.05	0.20	QP	LINE
46	0.68263	25.33	-20.67	46.00	25.08	0.05	0.20	AVERAGE	LINE
47	0.74302	24.46	-21.54	46.00	24.22	0.04	0.20	AVERAGE	LINE
48	0.74302	48.59	-7.41	56.00	48.35	0.04	0.20	QP	LINE
49	0.80876	23.55	-22.45	46.00	23.32	0.03	0.20	AVERAGE	LINE
50	0.80876	43.86	-12.14	56.00	43.63	0.03	0.20	QP	LINE
51	0.86643	30.81	-15.19	46.00	30.59	0.02	0.20	AVERAGE	LINE
52	0.86643	47.10	-8.90	56.00	46.88	0.02	0.20	QP	LINE
53	0.93810	28.49	-17.51	46.00	28.28	0.01	0.20	AVERAGE	LINE
54	0.93810	47.22	-8.78	56.00	47.01	0.01	0.20	QP	LINE
55	0.99440	30.71	-15.29	46.00	30.51	0.00	0.20	AVERAGE	LINE
56	0.99440	46.63	-9.37	56.00	46.43	0.00	0.20	QP	LINE
57	1.049	48.20	-7.80	56.00	48.01	0.00	0.19	QP	LINE
58	1.049	32.63	-13.37	46.00	32.44	0.00	0.19	AVERAGE	LINE
59	1.111	47.31	-8.69	56.00	47.14	0.00	0.17	QP	LINE
60	1.111	30.19	-15.81	46.00	30.02	0.00	0.17	AVERAGE	LINE
61	1.166	24.67	-21.33	46.00	24.51	0.00	0.16	AVERAGE	LINE
62	1.166	45.54	-10.46	56.00	45.38	0.00	0.16	QP	LINE
63	1.216	42.72	-13.28	56.00	42.57	0.00	0.15	QP	LINE
64	1.216	24.13	-21.87	46.00	23.98	0.00	0.15	AVERAGE	LINE
65	1.296	46.82	-9.18	56.00	46.68	0.00	0.14	QP	LINE
66	1.296	27.86	-18.14	46.00	27.72	0.00	0.14	AVERAGE	LINE
67	1.367	43.06	-12.94	56.00	42.94	0.00	0.12	QP	LINE
68	1.367	24.89	-21.11	46.00	24.77	0.00	0.12	AVERAGE	LINE
69	1.433	25.14	-20.86	46.00	25.03	0.00	0.11	AVERAGE	LINE
70	1.433	43.96	-12.04	56.00	43.85	0.00	0.11	QP	LINE
71	1.511	28.99	-17.01	46.00	28.89	0.00	0.10	AVERAGE	LINE
72	1.511	47.31	-8.69	56.00	47.21	0.00	0.10	QP	LINE
73	1.602	26.59	-19.41	46.00	26.47	0.00	0.12	AVERAGE	LINE
74	1.602	43.44	-12.56	56.00	43.32	0.00	0.12	QP	LINE
75	1.707	45.39	-10.61	56.00	45.25	0.00	0.14	QP	LINE
76	1.707	27.23	-18.77	46.00	27.09	0.00	0.14	AVERAGE	LINE
77	1.800	44.57	-11.43	56.00	44.41	0.00	0.16	QP	LINE
78	1.800	27.43	-18.57	46.00	27.27	0.00	0.16	AVERAGE	LINE
79	1.918	28.36	-17.64	46.00	28.17	0.00	0.19	AVERAGE	LINE
80	1.918	47.30	-8.70	56.00	47.11	0.00	0.19	QP	LINE
81	2.023	31.17	-14.83	46.00	30.97	0.00	0.20	AVERAGE	LINE
82	2.023	49.96	-6.04	56.00	49.76	0.00	0.20	QP	LINE
83	2.144	27.71	-18.29	46.00	27.51	0.00	0.20	AVERAGE	LINE
84	2.144	44.18	-11.82	56.00	43.98	0.00	0.20	QP	LINE



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
85	2.321	37.98	-8.02	46.00	37.78	0.00	0.20	AVERAGE	LINE
86	2.321	47.11	-8.89	56.00	46.91	0.00	0.20	QP	LINE
87	2.500	28.29	-17.71	46.00	28.09	0.00	0.20	AVERAGE	LINE
88	2.500	44.30	-11.70	56.00	44.10	0.00	0.20	QP	LINE
89	2.664	30.52	-15.48	46.00	30.32	0.00	0.20	AVERAGE	LINE
90	2.664	43.21	-12.79	56.00	43.01	0.00	0.20	QP	LINE
91	2.794	46.62	-9.38	56.00	46.42	0.00	0.20	QP	LINE
92	2.794	29.78	-16.22	46.00	29.58	0.00	0.20	AVERAGE	LINE
93	2.978	45.77	-10.23	56.00	45.57	0.00	0.20	QP	LINE
94	2.978	30.23	-15.77	46.00	30.03	0.00	0.20	AVERAGE	LINE
95	3.224	43.14	-12.86	56.00	42.89	0.00	0.25	QP	LINE
96	3.224	29.70	-16.30	46.00	29.45	0.00	0.25	AVERAGE	LINE
97	3.436	46.39	-9.61	56.00	46.10	0.00	0.29	QP	LINE
98	3.436	30.62	-15.38	46.00	30.33	0.00	0.29	AVERAGE	LINE
99	3.584	33.16	-12.84	46.00	32.86	0.00	0.30	AVERAGE	LINE
100	3.584	45.51	-10.49	56.00	45.21	0.00	0.30	QP	LINE
101	3.820	45.73	-10.27	56.00	45.43	0.00	0.30	QP	LINE
102	3.820	31.25	-14.75	46.00	30.95	0.00	0.30	AVERAGE	LINE
103	4.006	46.18	-9.82	56.00	45.88	0.00	0.30	QP	LINE
104	4.006	35.80	-10.20	46.00	35.50	0.00	0.30	AVERAGE	LINE
105	4.202	29.83	-16.17	46.00	29.53	0.00	0.30	AVERAGE	LINE
106	4.202	46.35	-9.65	56.00	46.05	0.00	0.30	QP	LINE
107	4.574	32.40	-13.60	46.00	32.09	0.01	0.30	AVERAGE	LINE
108	4.574	45.49	-10.51	56.00	45.18	0.01	0.30	QP	LINE
109	4.874	42.36	-13.64	56.00	42.05	0.01	0.30	QP	LINE
110	4.874	27.41	-18.59	46.00	27.10	0.01	0.30	AVERAGE	LINE
111	7.446	37.68	-12.32	50.00	37.23	0.06	0.39	AVERAGE	LINE
112	7.446	48.03	-11.97	60.00	47.58	0.06	0.39	QP	LINE
113	9.332	40.90	-9.10	50.00	40.51	0.09	0.30	AVERAGE	LINE
114	9.332	47.27	-12.73	60.00	46.88	0.09	0.30	QP	LINE
115	9.352	27.24	-22.76	50.00	26.85	0.09	0.30	AVERAGE	LINE
116	9.352	39.09	-20.91	60.00	38.70	0.09	0.30	QP	LINE
117	11.514	55.08	-4.92	60.00	54.58	0.10	0.40	QP	LINE
118	11.514	47.39	-2.61	50.00	46.89	0.10	0.40	AVERAGE	LINE
119	12.443	39.06	-10.94	50.00	38.56	0.10	0.40	AVERAGE	LINE
120	12.443	47.36	-12.64	60.00	46.86	0.10	0.40	QP	LINE

Temperature	20°C	Humidity	59%
Test Engineer	Barry Chen	Phase	Neutral
Configuration	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.17866	53.76	-10.79	64.55	53.31	0.25	0.20	QP	NEUTRAL
2	0.17866	37.16	-17.39	54.55	36.71	0.25	0.20	AVERAGE	NEUTRAL
3	0.18739	56.57	-7.58	64.15	56.12	0.25	0.20	QP	NEUTRAL
4	0.18739	34.54	-19.61	54.15	34.09	0.25	0.20	AVERAGE	NEUTRAL
5	0.19550	41.42	-22.38	63.80	41.02	0.20	0.20	QP	NEUTRAL
6	0.19550	23.57	-30.23	53.80	23.17	0.20	0.20	AVERAGE	NEUTRAL
7	0.21620	47.81	-15.15	62.96	47.41	0.20	0.20	QP	NEUTRAL
8	0.21620	31.25	-21.71	52.96	30.85	0.20	0.20	AVERAGE	NEUTRAL
9	0.24037	34.98	-17.10	52.08	34.60	0.18	0.20	AVERAGE	NEUTRAL
10	0.24037	56.53	-5.55	62.08	56.15	0.18	0.20	QP	NEUTRAL
11	0.25078	57.11	-4.62	61.73	56.73	0.18	0.20	QP	NEUTRAL
12	0.25078	34.16	-17.57	51.73	33.78	0.18	0.20	AVERAGE	NEUTRAL
13	0.25888	49.09	-12.38	61.47	48.72	0.17	0.20	QP	NEUTRAL
14	0.25888	28.46	-23.01	51.47	28.09	0.17	0.20	AVERAGE	NEUTRAL
15	0.27152	48.47	-12.60	61.07	48.10	0.17	0.20	QP	NEUTRAL
16	0.27152	31.12	-19.95	51.07	30.75	0.17	0.20	AVERAGE	NEUTRAL
17	0.28630	53.72	-6.91	60.63	53.37	0.15	0.20	QP	NEUTRAL
18	0.28630	35.76	-14.87	50.63	35.41	0.15	0.20	AVERAGE	NEUTRAL
19	0.29712	56.11	-4.21	60.32	55.76	0.15	0.20	QP	NEUTRAL
20	0.29712	36.40	-13.92	50.32	36.05	0.15	0.20	AVERAGE	NEUTRAL
21	0.30998	55.16	-4.81	59.97	54.81	0.15	0.20	QP	NEUTRAL
22	0.30998	31.87	-18.10	49.97	31.52	0.15	0.20	AVERAGE	NEUTRAL



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
23	0.32340	20.12	-29.50	49.62	19.79	0.13	0.20	AVERAGE	NEUTRAL
24	0.32340	40.80	-18.82	59.62	40.47	0.13	0.20	QP	NEUTRAL
25	0.34830	40.32	-8.69	49.00	40.00	0.12	0.20	AVERAGE	NEUTRAL
26	0.34830	52.87	-6.14	59.00	52.55	0.12	0.20	QP	NEUTRAL
27	0.36338	26.49	-22.16	48.65	26.17	0.12	0.20	AVERAGE	NEUTRAL
28	0.36338	48.56	-10.09	58.65	48.24	0.12	0.20	QP	NEUTRAL
29	0.38113	22.65	-25.60	48.25	22.35	0.10	0.20	AVERAGE	NEUTRAL
30	0.38113	46.50	-11.75	58.25	46.20	0.10	0.20	QP	NEUTRAL
31	0.39763	46.45	-11.45	57.90	46.15	0.10	0.20	QP	NEUTRAL
32	0.39763	24.91	-22.99	47.90	24.61	0.10	0.20	AVERAGE	NEUTRAL
33	0.41266	35.97	-11.62	47.59	35.67	0.10	0.20	AVERAGE	NEUTRAL
34	0.41266	53.13	-4.46	57.59	52.83	0.10	0.20	QP	NEUTRAL
35	0.43742	52.43	-4.68	57.11	52.13	0.10	0.20	QP	NEUTRAL
36	0.43742	29.65	-17.46	47.11	29.35	0.10	0.20	AVERAGE	NEUTRAL
37	0.45636	18.32	-28.44	46.76	18.02	0.10	0.20	AVERAGE	NEUTRAL
38	0.45636	38.01	-18.75	56.76	37.71	0.10	0.20	QP	NEUTRAL
39	0.47612	27.41	-19.00	46.41	27.16	0.10	0.15	AVERAGE	NEUTRAL
40	0.47612	45.64	-10.77	56.41	45.39	0.10	0.15	QP	NEUTRAL
41	0.50737	19.61	-26.39	46.00	19.31	0.10	0.20	AVERAGE	NEUTRAL
42	0.50737	42.71	-13.29	56.00	42.41	0.10	0.20	QP	NEUTRAL
43	0.52376	30.03	-15.97	46.00	29.73	0.10	0.20	AVERAGE	NEUTRAL
44	0.52376	47.81	-8.19	56.00	47.51	0.10	0.20	QP	NEUTRAL
45	0.54644	49.50	-6.50	56.00	49.20	0.10	0.20	QP	NEUTRAL
46	0.54644	27.98	-18.02	46.00	27.68	0.10	0.20	AVERAGE	NEUTRAL
47	0.56409	50.36	-5.64	56.00	50.06	0.10	0.20	QP	NEUTRAL
48	0.56409	28.84	-17.16	46.00	28.54	0.10	0.20	AVERAGE	NEUTRAL
49	0.59478	26.26	-19.74	46.00	25.96	0.10	0.20	AVERAGE	NEUTRAL
50	0.59478	47.87	-8.13	56.00	47.57	0.10	0.20	QP	NEUTRAL
51	0.62054	26.44	-19.56	46.00	26.14	0.10	0.20	AVERAGE	NEUTRAL
52	0.62054	41.94	-14.06	56.00	41.64	0.10	0.20	QP	NEUTRAL
53	0.65084	46.40	-9.60	56.00	46.10	0.10	0.20	QP	NEUTRAL
54	0.65084	26.55	-19.45	46.00	26.25	0.10	0.20	AVERAGE	NEUTRAL
55	0.68263	48.42	-7.58	56.00	48.12	0.10	0.20	QP	NEUTRAL
56	0.68263	26.23	-19.77	46.00	25.93	0.10	0.20	AVERAGE	NEUTRAL
57	0.72360	25.42	-20.58	46.00	25.12	0.10	0.20	AVERAGE	NEUTRAL
58	0.72360	49.02	-6.98	56.00	48.72	0.10	0.20	QP	NEUTRAL
59	0.75493	49.49	-6.51	56.00	49.19	0.10	0.20	QP	NEUTRAL
60	0.75493	30.82	-15.18	46.00	30.52	0.10	0.20	AVERAGE	NEUTRAL
61	0.81306	50.46	-5.54	56.00	50.16	0.10	0.20	QP	NEUTRAL
62	0.81306	31.09	-14.91	46.00	30.79	0.10	0.20	AVERAGE	NEUTRAL
63	0.84826	27.45	-18.55	46.00	27.15	0.10	0.20	AVERAGE	NEUTRAL
64	0.84826	47.50	-8.50	56.00	47.20	0.10	0.20	QP	NEUTRAL
65	0.87103	24.07	-21.93	46.00	23.77	0.10	0.20	AVERAGE	NEUTRAL
66	0.87103	46.65	-9.35	56.00	46.35	0.10	0.20	QP	NEUTRAL
67	0.91357	34.29	-11.71	46.00	33.99	0.10	0.20	AVERAGE	NEUTRAL
68	0.91357	44.01	-11.99	56.00	43.71	0.10	0.20	QP	NEUTRAL
69	0.94308	26.61	-19.39	46.00	26.31	0.10	0.20	AVERAGE	NEUTRAL
70	0.94308	45.86	-10.14	56.00	45.56	0.10	0.20	QP	NEUTRAL
71	0.99968	46.75	-9.25	56.00	46.45	0.10	0.20	QP	NEUTRAL
72	0.99968	35.43	-10.57	46.00	35.13	0.10	0.20	AVERAGE	NEUTRAL
73	1.077	25.04	-20.96	46.00	24.76	0.10	0.18	AVERAGE	NEUTRAL
74	1.077	44.12	-11.88	56.00	43.84	0.10	0.18	QP	NEUTRAL
75	1.129	34.04	-11.96	46.00	33.77	0.10	0.17	AVERAGE	NEUTRAL
76	1.129	45.95	-10.05	56.00	45.68	0.10	0.17	QP	NEUTRAL
77	1.197	44.44	-11.56	56.00	44.18	0.10	0.16	QP	NEUTRAL
78	1.197	32.51	-13.49	46.00	32.25	0.10	0.16	AVERAGE	NEUTRAL
79	1.255	45.95	-10.05	56.00	45.71	0.10	0.14	QP	NEUTRAL
80	1.255	29.43	-16.57	46.00	29.19	0.10	0.14	AVERAGE	NEUTRAL
81	1.317	44.21	-11.79	56.00	43.98	0.10	0.13	QP	NEUTRAL
82	1.317	26.00	-20.00	46.00	25.77	0.10	0.13	AVERAGE	NEUTRAL
83	1.388	32.02	-13.98	46.00	31.80	0.10	0.12	AVERAGE	NEUTRAL
84	1.388	46.10	-9.90	56.00	45.88	0.10	0.12	QP	NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
85	1.433	38.03	-7.97	46.00	37.82	0.10	0.11	AVERAGE	NEUTRAL
86	1.433	49.65	-6.35	56.00	49.44	0.10	0.11	QP	NEUTRAL
87	1.495	43.56	-12.44	56.00	43.36	0.10	0.10	QP	NEUTRAL
88	1.495	24.90	-21.10	46.00	24.70	0.10	0.10	AVERAGE	NEUTRAL
89	1.544	44.93	-11.07	56.00	44.72	0.10	0.11	QP	NEUTRAL
90	1.544	35.60	-10.40	46.00	35.39	0.10	0.11	AVERAGE	NEUTRAL
91	1.610	44.81	-11.19	56.00	44.59	0.10	0.12	QP	NEUTRAL
92	1.610	32.16	-13.84	46.00	31.94	0.10	0.12	AVERAGE	NEUTRAL
93	1.671	27.82	-18.18	46.00	27.58	0.10	0.14	AVERAGE	NEUTRAL
94	1.671	46.12	-9.88	56.00	45.88	0.10	0.14	QP	NEUTRAL
95	1.734	45.30	-10.70	56.00	45.05	0.10	0.15	QP	NEUTRAL
96	1.734	27.38	-18.62	46.00	27.13	0.10	0.15	AVERAGE	NEUTRAL
97	1.819	34.48	-11.52	46.00	34.21	0.10	0.17	AVERAGE	NEUTRAL
98	1.819	46.56	-9.44	56.00	46.29	0.10	0.17	QP	NEUTRAL
99	1.908	43.77	-12.23	56.00	43.49	0.10	0.18	QP	NEUTRAL
100	1.908	28.06	-17.94	46.00	27.78	0.10	0.18	AVERAGE	NEUTRAL
101	2.023	51.19	-4.81	56.00	50.89	0.10	0.20	QP	NEUTRAL
102	2.023	32.28	-13.72	46.00	31.98	0.10	0.20	AVERAGE	NEUTRAL
103	2.144	47.65	-8.35	56.00	47.35	0.10	0.20	QP	NEUTRAL
104	2.144	30.05	-15.95	46.00	29.75	0.10	0.20	AVERAGE	NEUTRAL
105	2.273	31.67	-14.33	46.00	31.37	0.10	0.20	AVERAGE	NEUTRAL
106	2.273	49.92	-6.08	56.00	49.62	0.10	0.20	QP	NEUTRAL
107	2.384	37.26	-8.74	46.00	36.96	0.10	0.20	AVERAGE	NEUTRAL
108	2.384	49.28	-6.72	56.00	48.98	0.10	0.20	QP	NEUTRAL
109	2.500	50.22	-5.78	56.00	49.92	0.10	0.20	QP	NEUTRAL
110	2.500	33.92	-12.08	46.00	33.62	0.10	0.20	AVERAGE	NEUTRAL
111	2.567	31.13	-14.87	46.00	30.83	0.10	0.20	AVERAGE	NEUTRAL
112	2.567	48.29	-7.71	56.00	47.99	0.10	0.20	QP	NEUTRAL
113	2.664	36.05	-9.95	46.00	35.75	0.10	0.20	AVERAGE	NEUTRAL
114	2.664	45.05	-10.95	56.00	44.75	0.10	0.20	QP	NEUTRAL
115	2.794	32.19	-13.81	46.00	31.89	0.10	0.20	AVERAGE	NEUTRAL
116	2.794	47.73	-8.27	56.00	47.43	0.10	0.20	QP	NEUTRAL
117	2.900	30.12	-15.88	46.00	29.82	0.10	0.20	AVERAGE	NEUTRAL
118	2.900	46.62	-9.38	56.00	46.32	0.10	0.20	QP	NEUTRAL
119	3.041	45.27	-10.73	56.00	44.96	0.10	0.21	QP	NEUTRAL
120	3.041	29.51	-16.49	46.00	29.20	0.10	0.21	AVERAGE	NEUTRAL
121	3.190	46.99	-9.01	56.00	46.65	0.10	0.24	QP	NEUTRAL
122	3.190	29.70	-16.30	46.00	29.36	0.10	0.24	AVERAGE	NEUTRAL
123	3.346	43.32	-12.68	56.00	42.95	0.10	0.27	QP	NEUTRAL
124	3.346	29.07	-16.93	46.00	28.70	0.10	0.27	AVERAGE	NEUTRAL
125	3.472	28.48	-17.52	46.00	28.09	0.10	0.29	AVERAGE	NEUTRAL
126	3.472	43.75	-12.25	56.00	43.36	0.10	0.29	QP	NEUTRAL
127	3.623	29.62	-16.38	46.00	29.22	0.10	0.30	AVERAGE	NEUTRAL
128	3.623	45.24	-10.76	56.00	44.84	0.10	0.30	QP	NEUTRAL
129	3.799	43.87	-12.13	56.00	43.47	0.10	0.30	QP	NEUTRAL
130	3.799	29.05	-16.95	46.00	28.65	0.10	0.30	AVERAGE	NEUTRAL
131	3.943	45.47	-10.53	56.00	45.07	0.10	0.30	QP	NEUTRAL
132	3.943	36.26	-9.74	46.00	35.86	0.10	0.30	AVERAGE	NEUTRAL
133	4.136	45.55	-10.45	56.00	45.15	0.10	0.30	QP	NEUTRAL
134	4.136	34.73	-11.27	46.00	34.33	0.10	0.30	AVERAGE	NEUTRAL
135	4.407	42.69	-13.31	56.00	42.29	0.10	0.30	QP	NEUTRAL
136	4.407	28.56	-17.44	46.00	28.16	0.10	0.30	AVERAGE	NEUTRAL
137	4.574	29.62	-16.38	46.00	29.22	0.10	0.30	AVERAGE	NEUTRAL
138	4.574	43.60	-12.40	56.00	43.20	0.10	0.30	QP	NEUTRAL
139	4.822	30.17	-15.83	46.00	29.77	0.10	0.30	AVERAGE	NEUTRAL
140	4.822	45.79	-10.21	56.00	45.39	0.10	0.30	QP	NEUTRAL
141	9.997	41.88	-8.12	50.00	41.48	0.10	0.30	AVERAGE	NEUTRAL
142	9.997	51.04	-8.96	60.00	50.64	0.10	0.30	QP	NEUTRAL
143	10.632	51.38	-8.62	60.00	50.88	0.10	0.40	QP	NEUTRAL
144	10.632	37.02	-12.98	50.00	36.52	0.10	0.40	AVERAGE	NEUTRAL
145	11.246	42.30	-7.70	50.00	41.80	0.10	0.40	AVERAGE	NEUTRAL
146	11.246	55.10	-4.90	60.00	54.60	0.10	0.40	QP	NEUTRAL



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
147	11.873	49.95	-10.05	60.00	49.45	0.10	0.40	QP	NEUTRAL
148	11.873	41.24	-8.76	50.00	40.74	0.10	0.40	AVERAGE	NEUTRAL

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. Maximum Peak Output Power Measurement

4.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

4.2.2. Measuring Instruments and Setting

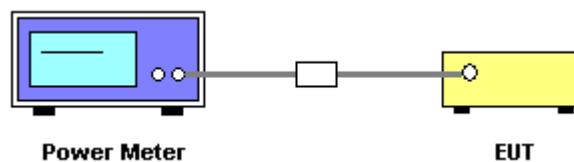
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s
Used Peak Sensor	NRV-Z32 (model 04)

4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Turn on the EUT and power meter and then record the peak power value.
3. Repeat above procedures on all channels needed to be tested.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Peak Output Power

Temperature	22.5°C	Humidity	65%
Test Engineer	Jordan Hsiao	Configurations	802.11b/g

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	15.45	30.00	Complies
6	2437 MHz	15.65	30.00	Complies
11	2462 MHz	15.59	30.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	14.24	30.00	Complies
6	2437 MHz	14.84	30.00	Complies
11	2462 MHz	14.88	30.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

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

4.3.2. Measuring Instruments and Setting

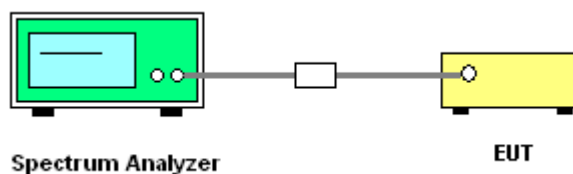
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	1.5MHz
RB	3 kHz
VB	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	500s

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser.
2. Set RBW of spectrum analyzer to 3kHz and VBW to 30kHz. Set Detector to Peak, Trace to Max Hold.
3. Mark the frequency with maximum peak power as the center of the display of the spectrum.
4. Set the span to 1.5MHz and the sweep time to 500s and record the maximum peak value.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

Temperature	22.5°C	Humidity	65%
Test Engineer	Jordan Hsiao	Configurations	802.11b/g

Configuration IEEE 802.11b

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	-15.78	8.00	Complies
6	2437 MHz	-15.80	8.00	Complies
11	2462 MHz	-15.99	8.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	-17.98	8.00	Complies
6	2437 MHz	-17.96	8.00	Complies
11	2462 MHz	-18.21	8.00	Complies

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

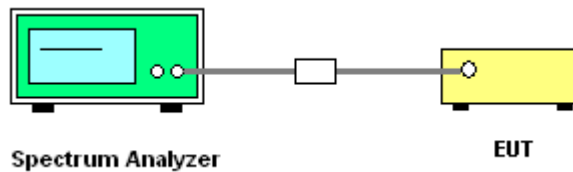
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were used.
3. Measured the spectrum width with power higher than 6dB below carrier.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

Temperature	22.5°C	Humidity	65%
Test Engineer	Jordan Hsiao	Configurations	802.11b/g

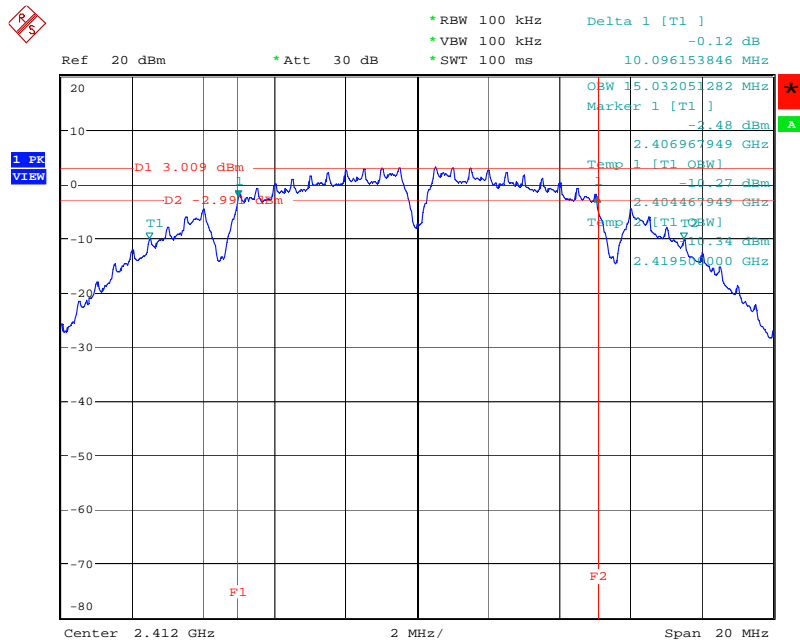
Configuration IEEE 802.11b

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.09	15.03	500	Complies
6	2437 MHz	10.09	15.03	500	Complies
11	2462 MHz	10.09	15.03	500	Complies

Configuration IEEE 802.11g

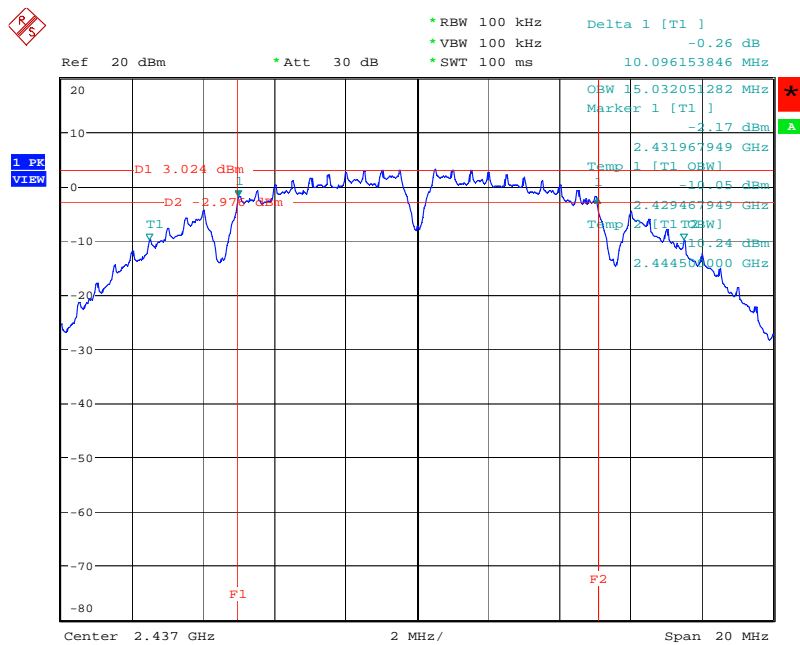
Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	15.92	16.31	500	Complies
6	2437 MHz	15.80	16.31	500	Complies
11	2462 MHz	15.70	16.31	500	Complies

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz



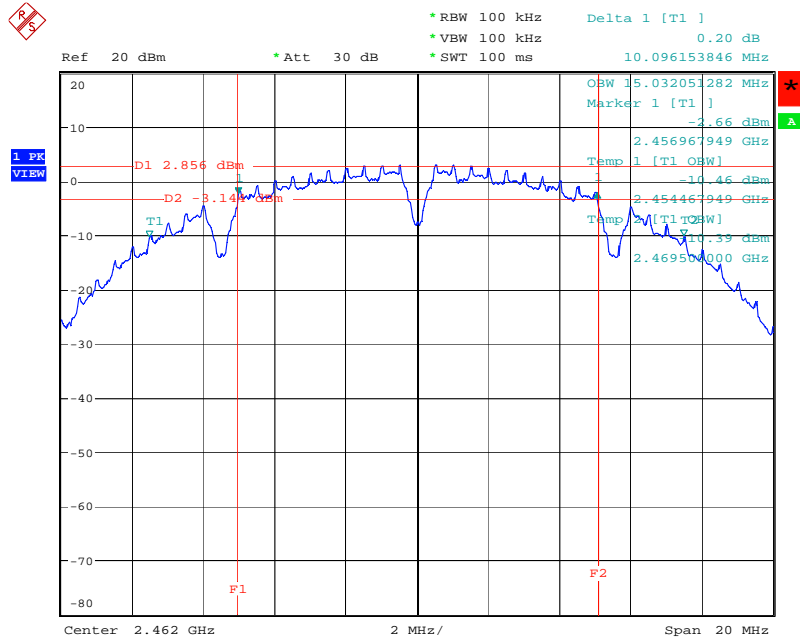
Date: 6.JUN.2007 10:59:57

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2437 MHz



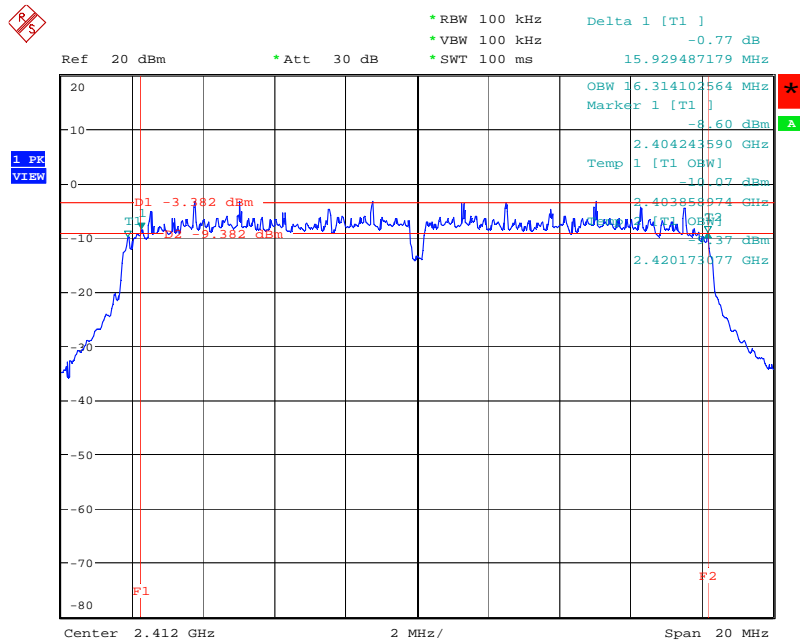
Date: 6.JUN.2007 11:02:30

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2462 MHz



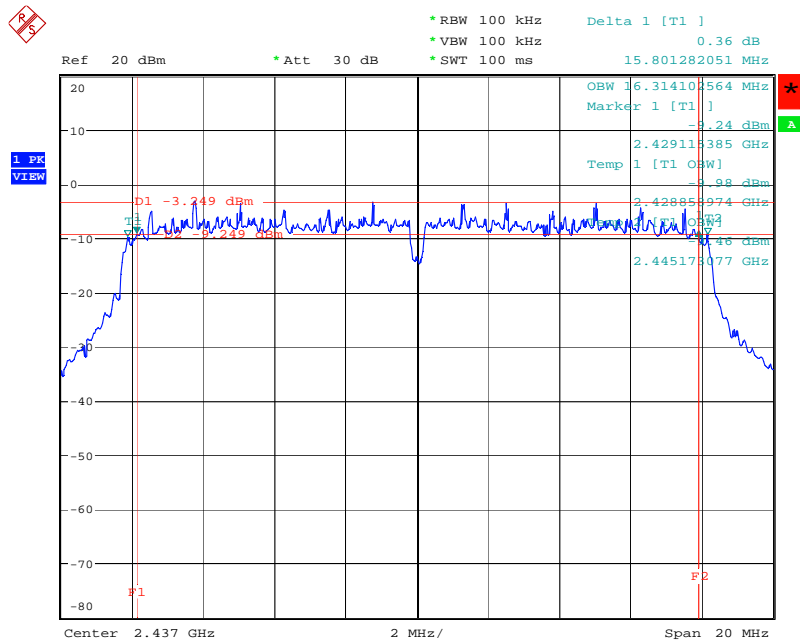
Date: 6.JUN.2007 13:23:49

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz



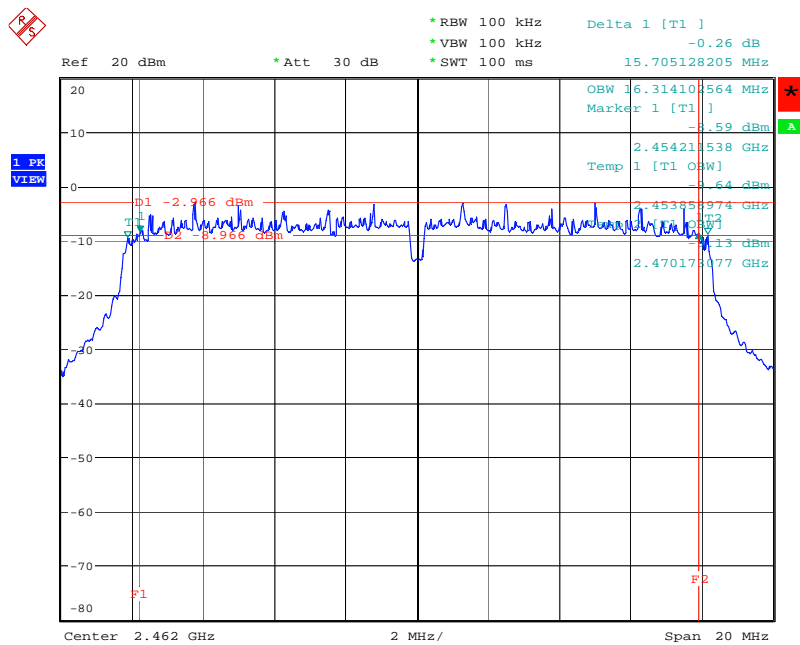
Date: 6.JUN.2007 11:09:00

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2437 MHz



Date: 6.JUN.2007 11:07:57

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2462 MHz



Date: 6.JUN.2007 11:04:55

4.5. Radiated Emissions Measurement

4.5.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100KHz / 100KHz for peak

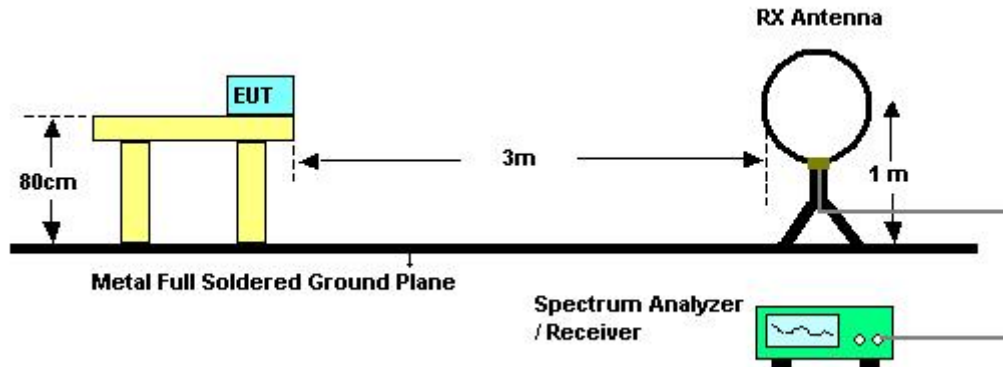
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.5.3. Test Procedures

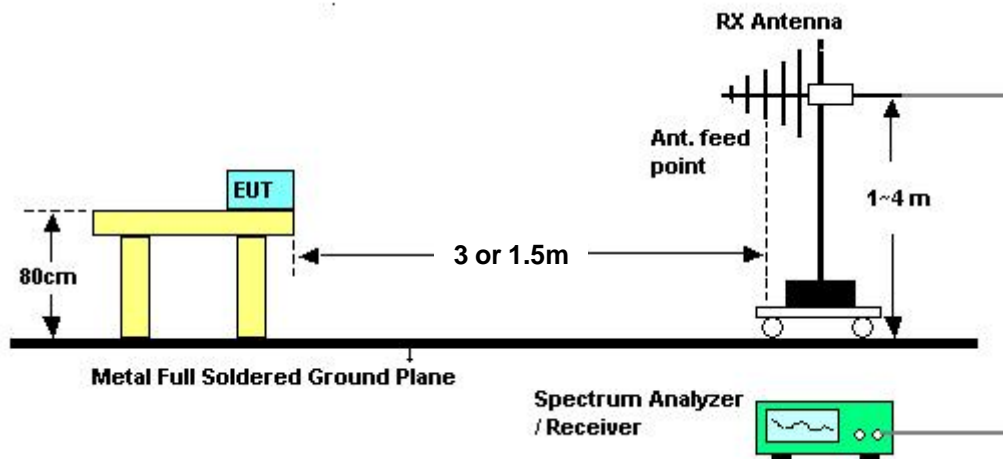
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1.5m]})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 6

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

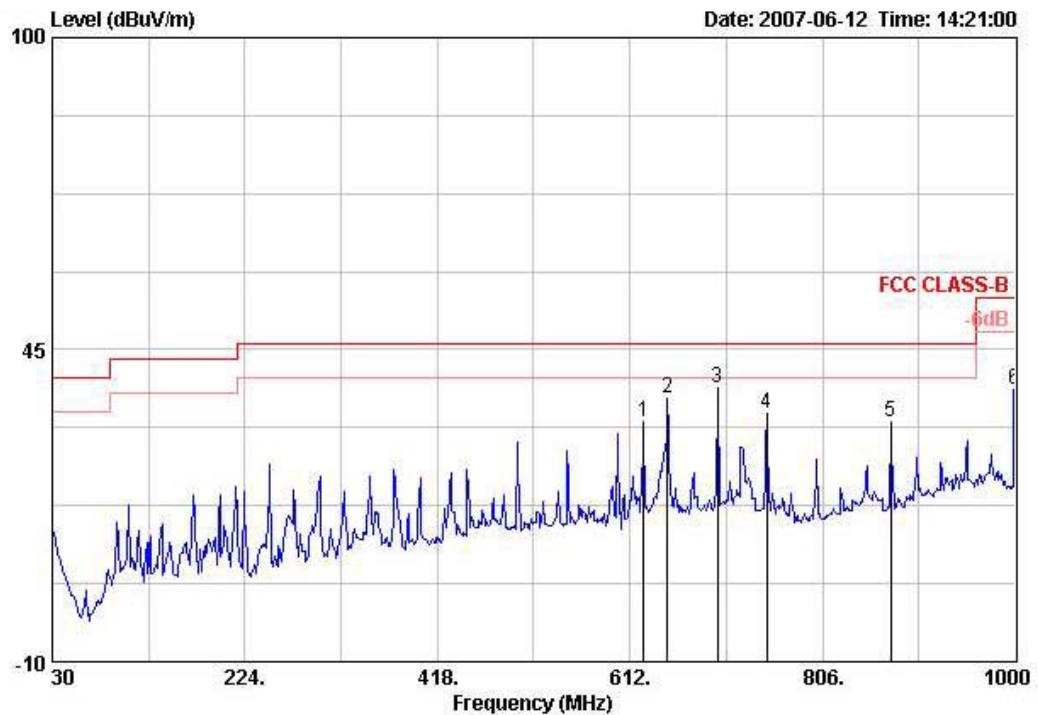
Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

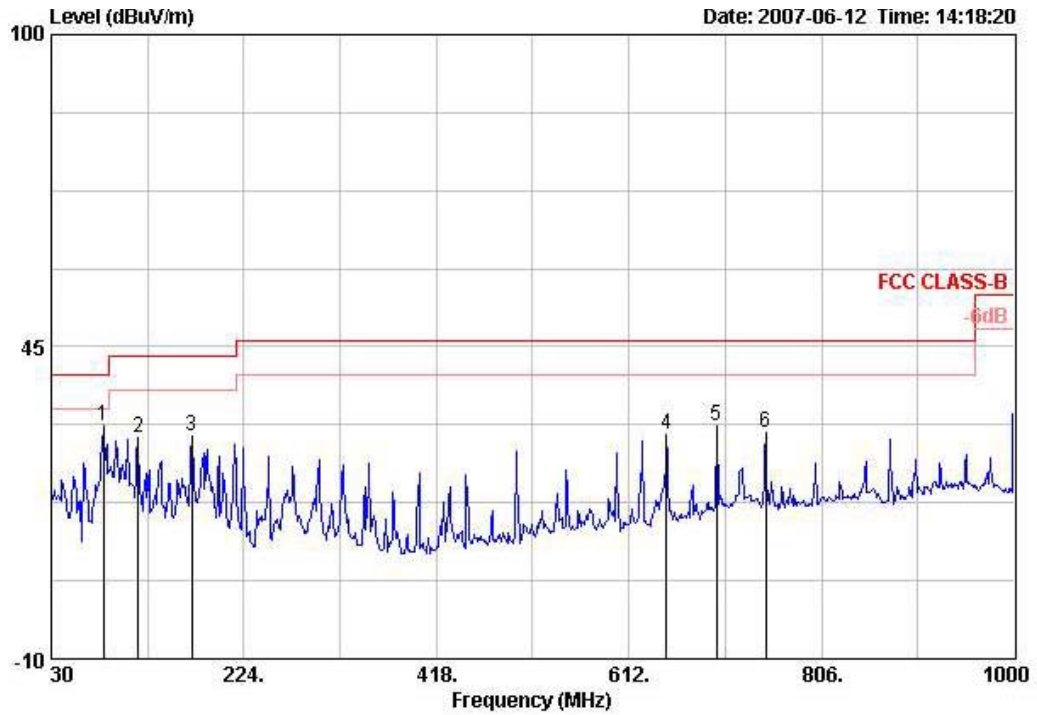
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 6

Horizontal



	Freq	Read Level	Limit Level	Limit Line	OverLimit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	625.580	40.09	32.22	46.00	-13.78	19.35	30.52	3.30	Peak	---	---	HORIZONTAL
2	649.830	43.59	36.39	46.00	-9.61	19.60	30.30	3.50	Peak	---	---	HORIZONTAL
3 *	700.270	45.25	38.13	46.00	-7.87	19.80	30.52	3.60	Peak	100	265	HORIZONTAL
4	749.740	39.68	33.61	46.00	-12.39	20.30	30.27	3.90	Peak	---	---	HORIZONTAL
5	874.870	36.73	32.33	46.00	-13.67	21.45	29.91	4.05	Peak	---	---	HORIZONTAL
6	1000.000	41.09	37.82	54.00	-16.18	22.10	29.37	4.00	Peak	---	---	HORIZONTAL

Vertical



	Freq	Read Level	Limit Level	Limit Line	OverAntenna Limit	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB		cm	deg	
1	82.380	53.39	31.03	40.00	-8.97	7.96	31.75	1.43 Peak	---	---	VERTICAL
2	117.300	46.44	29.10	43.50	-14.40	12.87	31.75	1.53 Peak	---	---	VERTICAL
3	171.620	48.69	29.16	43.50	-14.34	10.19	31.58	1.87 Peak	---	---	VERTICAL
4	649.830	36.79	29.59	46.00	-16.41	19.60	30.30	3.50 Peak	---	---	VERTICAL
5	700.270	38.21	31.09	46.00	-14.91	19.80	30.52	3.60 Peak	---	---	VERTICAL
6	749.740	36.07	30.00	46.00	-16.00	20.30	30.27	3.90 Peak	---	---	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

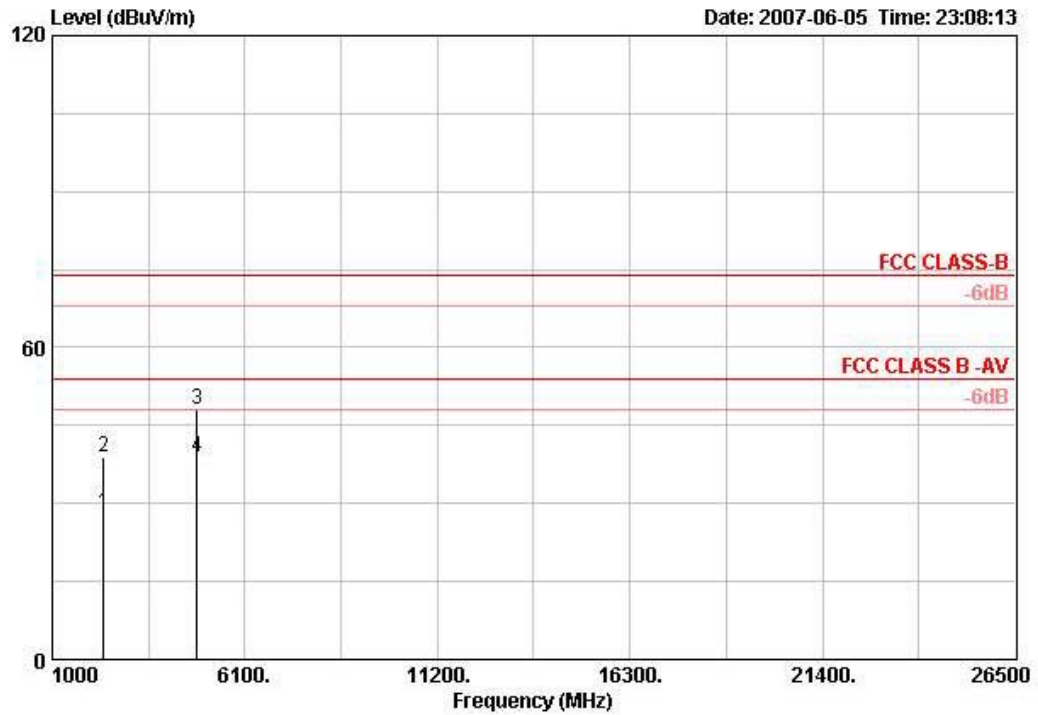
Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

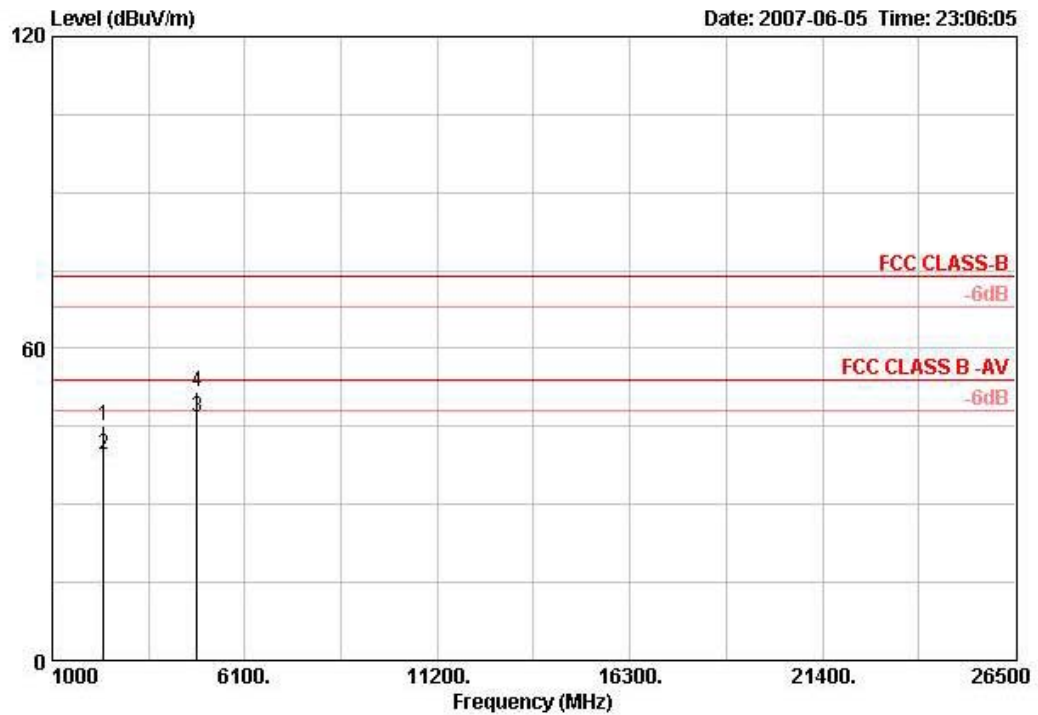
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1

Horizontal



	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2360.080	32.37	28.12	54.00	-25.88	28.10	35.08	2.74	AVERAGE	100	150	HORIZONTAL
2	2363.340	43.12	38.87	74.00	-35.13	28.10	35.08	2.74	PEAK	100	150	HORIZONTAL
3	4823.900	45.92	48.11	74.00	-25.89	33.06	35.16	4.30	PEAK	100	22	HORIZONTAL
4	4824.080	36.57	38.76	54.00	-15.24	33.06	35.16	4.30	AVERAGE	100	22	HORIZONTAL

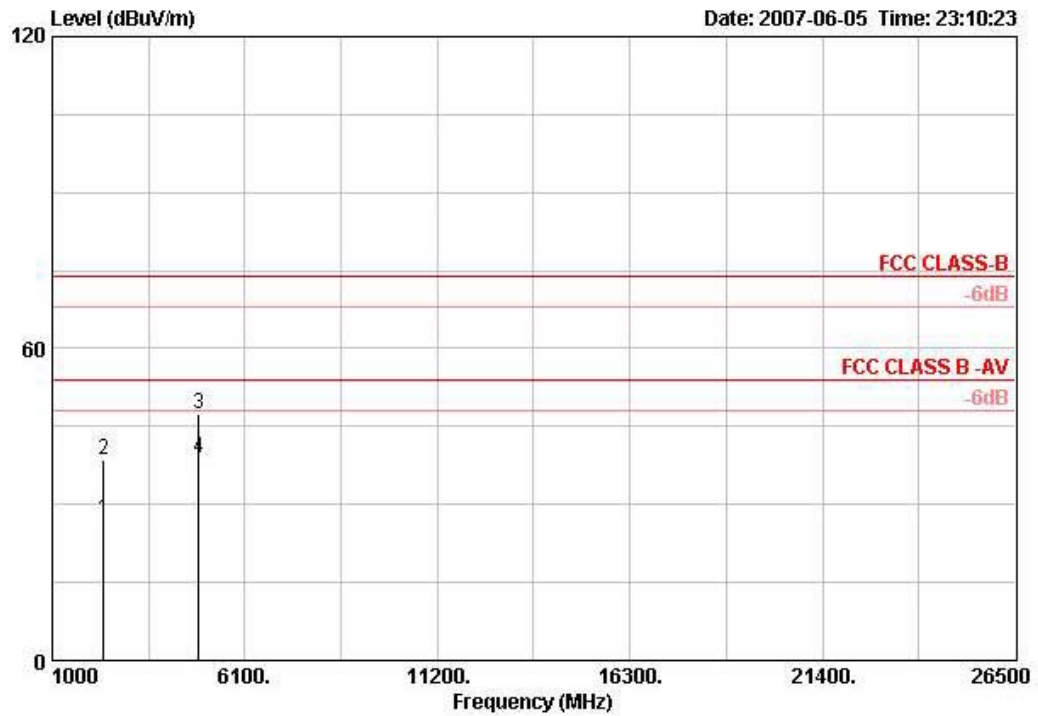
Vertical



	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2359.920	49.52	45.27	74.00	-28.73	28.10	35.08	2.74	PEAK	100	292	VERTICAL
2	2360.060	43.88	39.63	54.00	-14.37	28.10	35.08	2.74	AVERAGE	100	292	VERTICAL
3 *	4824.080	44.68	46.87	54.00	-7.13	33.06	35.16	4.30	AVERAGE	100	158	VERTICAL
4	4824.080	49.36	51.55	74.00	-22.45	33.06	35.16	4.30	PEAK	100	158	VERTICAL

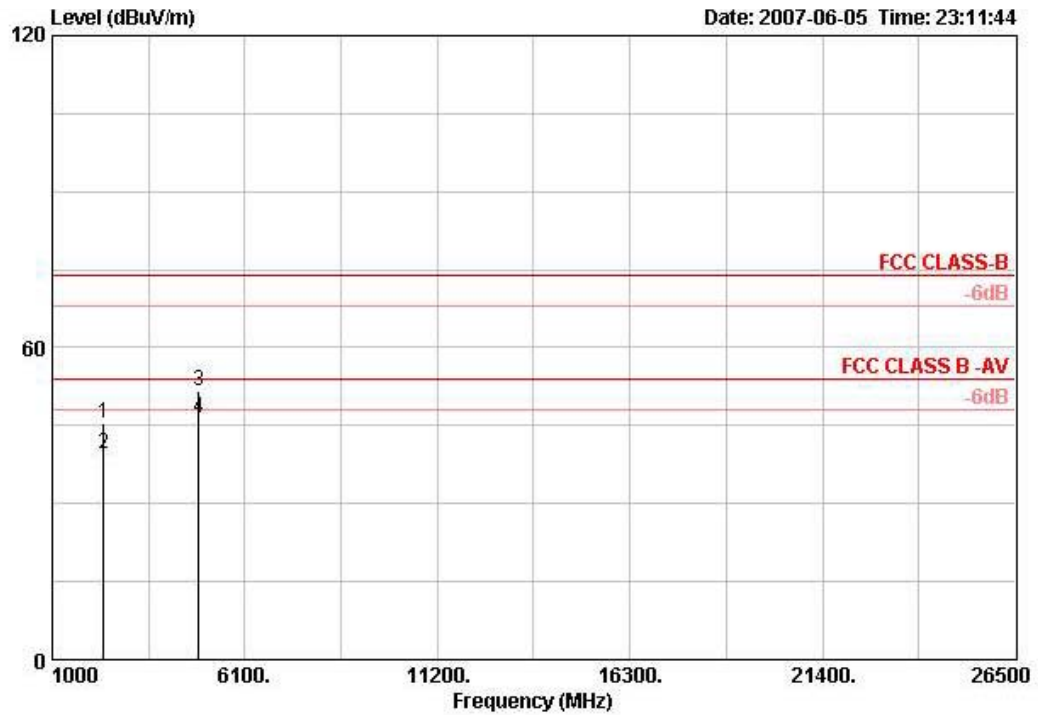
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11b CH 6

Horizontal



	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2359.980	31.34	27.09	54.00	-26.91	28.10	35.08	2.74	AVERAGE	100	323	HORIZONTAL
2	2360.020	42.82	38.57	74.00	-35.43	28.10	35.08	2.74	PEAK	100	323	HORIZONTAL
3	4874.000	45.11	47.41	74.00	-26.59	33.16	35.15	4.30	PEAK	114	28	HORIZONTAL
4	4874.080	36.47	38.78	54.00	-15.22	33.16	35.15	4.30	AVERAGE	114	28	HORIZONTAL

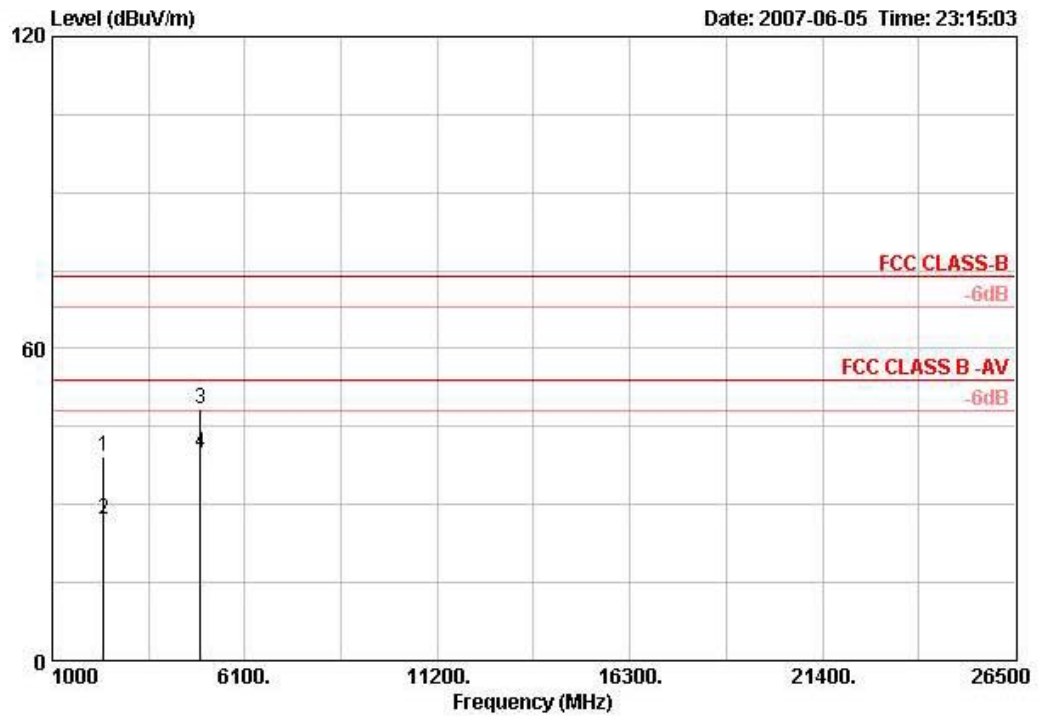
Vertical



	Read Freq	Read Level	Limit Level	Limit Line	OverLimit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2359.940	49.74	45.49	74.00	-28.51	28.10	35.08	2.74	PEAK	100	291	VERTICAL
2	2360.060	43.70	39.45	54.00	-14.55	28.10	35.08	2.74	AVERAGE	100	291	VERTICAL
3	4873.860	49.26	51.57	74.00	-22.43	33.16	35.15	4.30	PEAK	100	123	VERTICAL
4 *	4874.100	44.11	46.42	54.00	-7.58	33.16	35.15	4.30	AVERAGE	100	123	VERTICAL

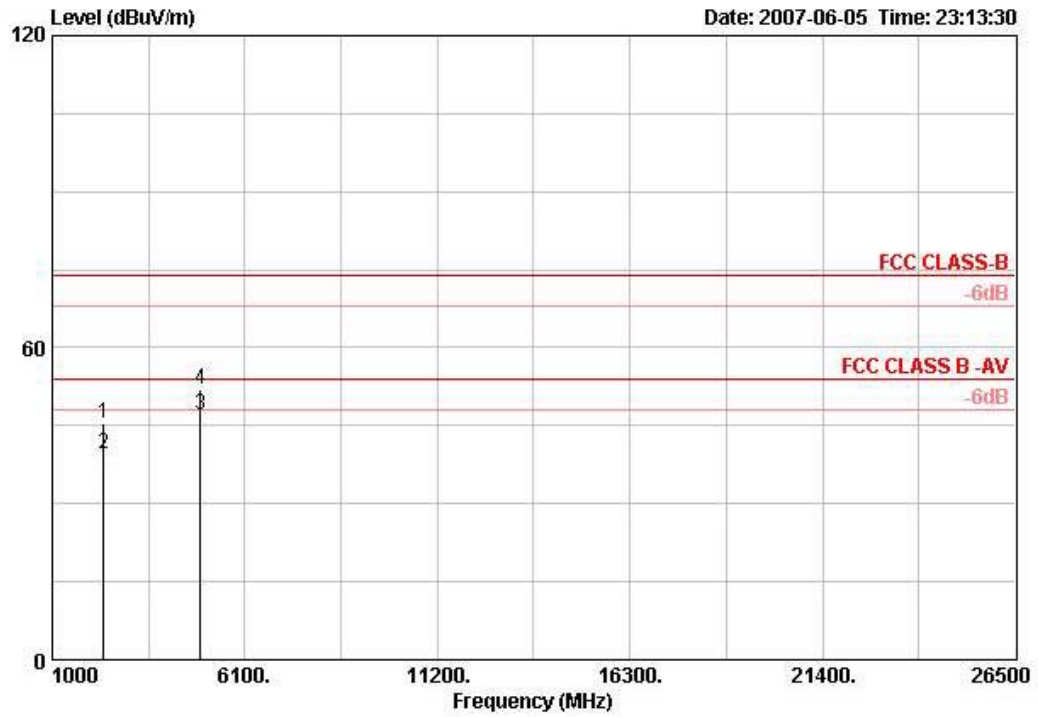
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11b CH 11

Horizontal



	Read Freq	Read Level	Read Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2360.000	43.45	39.20	74.00	-34.80	28.10	35.08	2.74	PEAK	100	273	HORIZONTAL
2	2360.040	31.52	27.27	54.00	-26.73	28.10	35.08	2.74	AVERAGE	100	273	HORIZONTAL
3	4923.820	45.95	48.37	74.00	-25.63	33.26	35.14	4.30	PEAK	102	218	HORIZONTAL
4	4924.100	37.49	39.91	54.00	-14.09	33.26	35.14	4.30	AVERAGE	102	218	HORIZONTAL

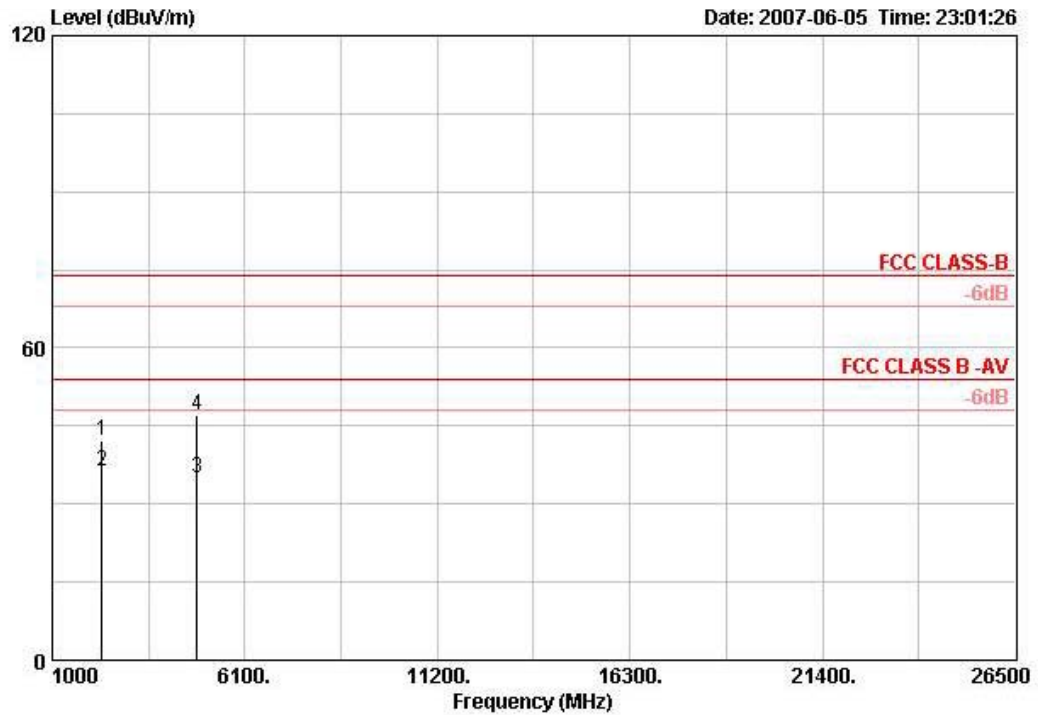
Vertical



	Read Freq	Read Level	Read Level	Limit Line	OverLimit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2360.000	49.59	45.34	74.00	-28.66	28.10	35.08	2.74	PEAK	100	291	VERTICAL
2	2360.060	43.74	39.49	54.00	-14.51	28.10	35.08	2.74	AVERAGE	100	291	VERTICAL
3 *	4924.100	44.70	47.12	54.00	-6.88	33.26	35.14	4.30	AVERAGE	100	124	VERTICAL
4	4924.240	49.68	52.10	74.00	-21.90	33.26	35.14	4.30	PEAK	100	124	VERTICAL

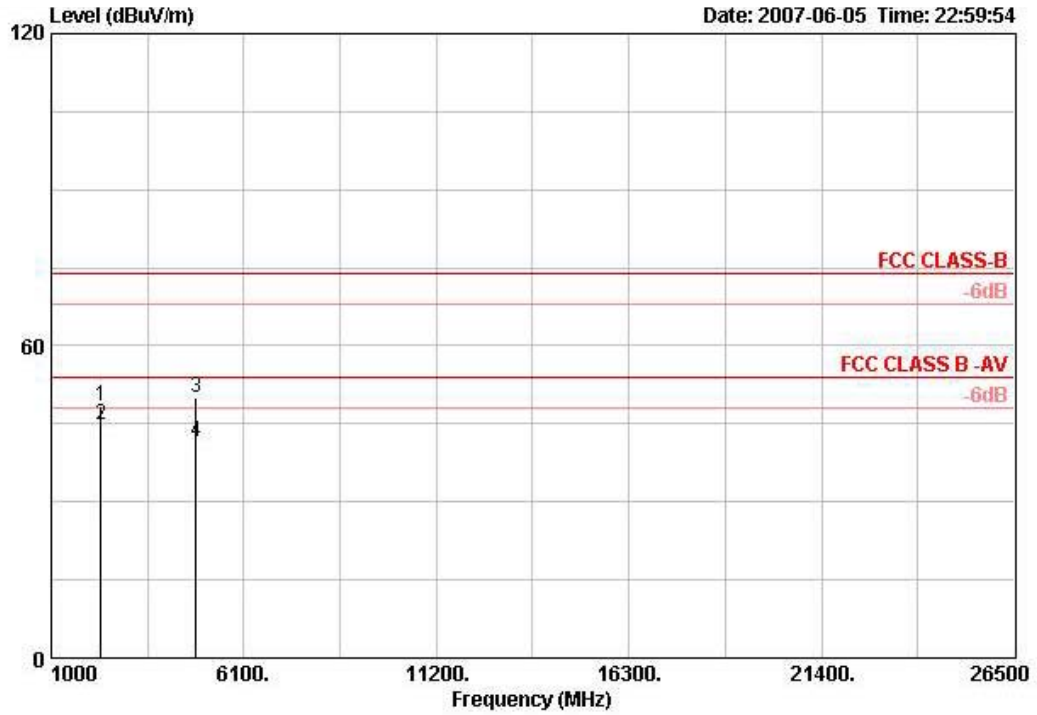
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1

Horizontal



	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2319.960	46.38	42.05	74.00	-31.95	28.02	35.07	2.71	PEAK	100	150	HORIZONTAL
2	2320.060	40.57	36.23	54.00	-17.77	28.02	35.07	2.71	AVERAGE	100	150	HORIZONTAL
3	4824.080	32.86	35.05	54.00	-18.95	33.06	35.16	4.30	AVERAGE	100	27	HORIZONTAL
4	4826.220	44.86	47.05	74.00	-26.95	33.06	35.16	4.30	PEAK	100	27	HORIZONTAL

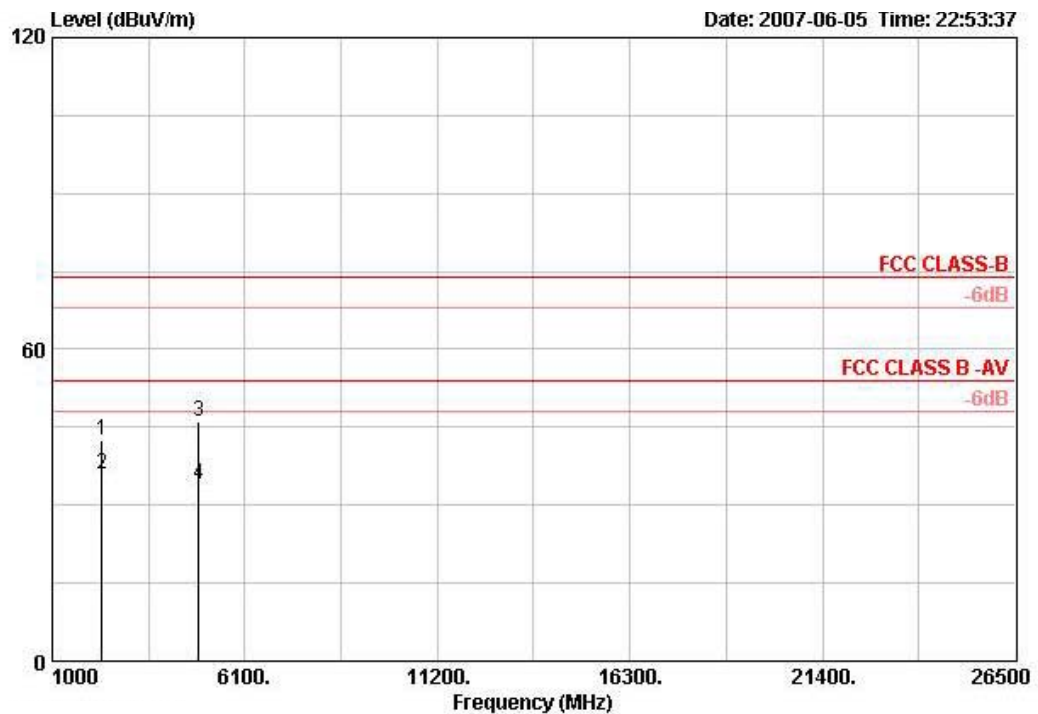
Vertical



	Freq	Read Level	Limit Level	Limit Line	OverLimit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2320.000	52.75	48.42	74.00	-25.58	28.02	35.07	2.71	PEAK	100	162	VERTICAL
2	2320.040	48.99	44.65	54.00	-9.35	28.02	35.07	2.71	AVERAGE	100	162	VERTICAL
3	4823.960	47.75	49.94	74.00	-24.06	33.06	35.16	4.30	PEAK	100	214	VERTICAL
4	4824.080	39.41	41.60	54.00	-12.40	33.06	35.16	4.30	AVERAGE	100	214	VERTICAL

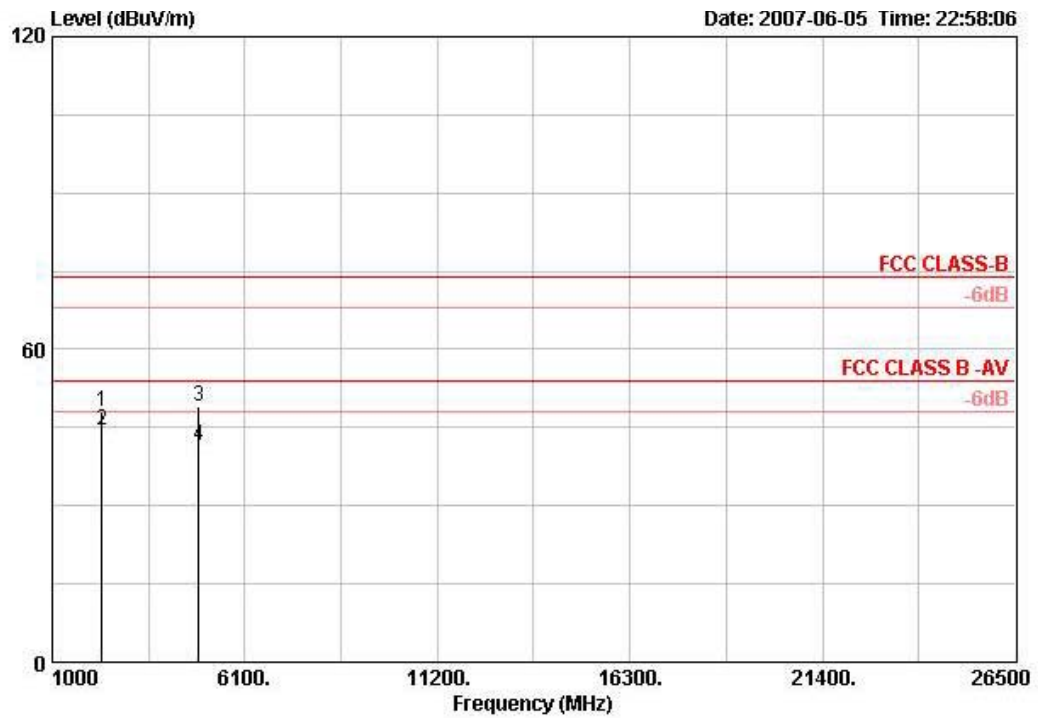
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 6

Horizontal



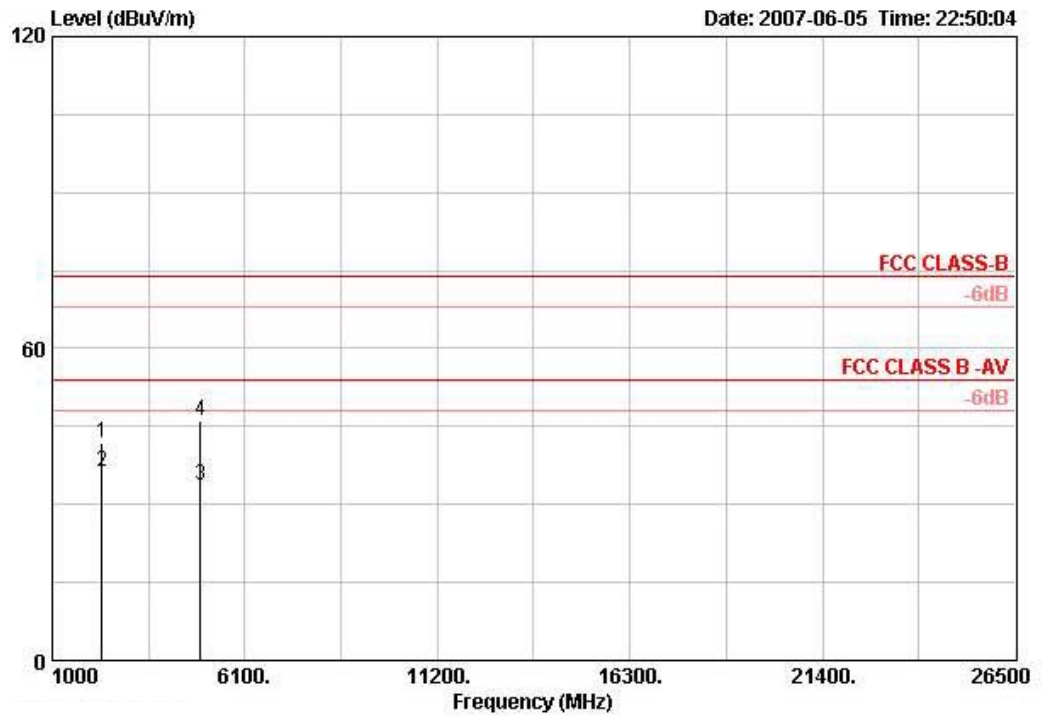
	Read Freq	Read Level	Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2319.820	46.69	42.35	74.00	-31.65	28.02	35.07	2.71	PEAK	100	149	HORIZONTAL
2	2320.040	40.29	35.95	54.00	-18.05	28.02	35.07	2.71	AVERAGE	100	149	HORIZONTAL
3	4873.540	43.92	46.23	74.00	-27.77	33.16	35.15	4.30	PEAK	100	0	HORIZONTAL
4	4874.100	31.72	34.02	54.00	-19.98	33.16	35.15	4.30	AVERAGE	100	0	HORIZONTAL

Vertical



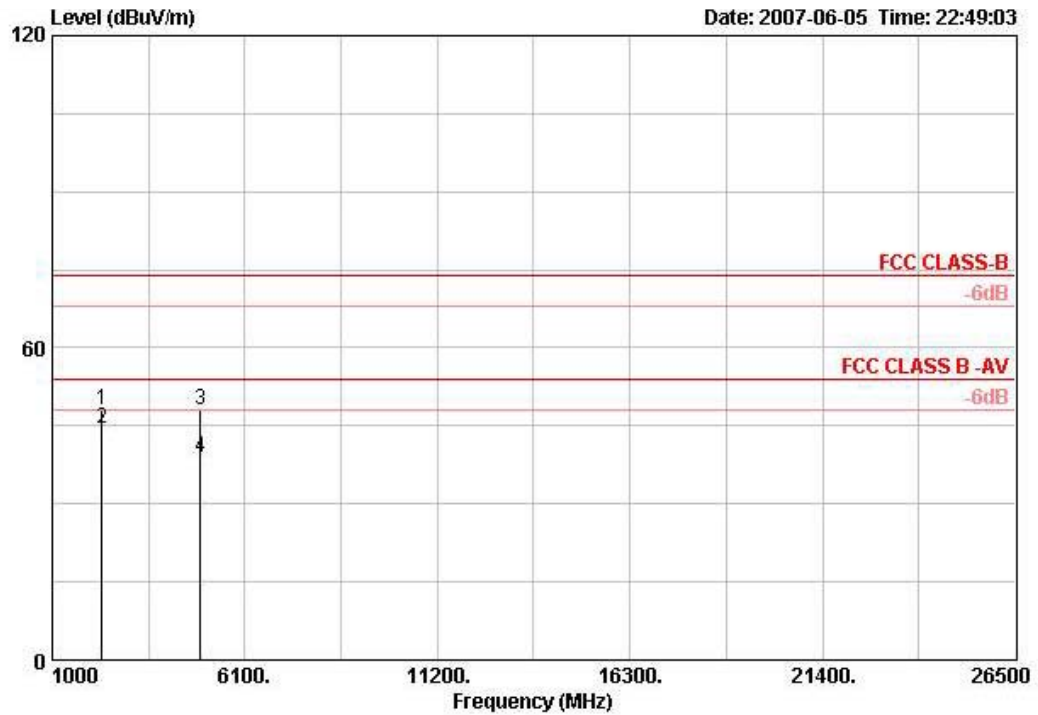
	Read	Limit	Over	Antenna	Preamp	Cable	Ant	Table		
	Freq	Level	Line	Limit	Factor	Factor	Pos	Pos	Pol/Phase	
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	cm	deg	
1	2319.960	52.36	48.02	74.00	-25.98	28.02	35.07	2.71	162	VERTICAL
2	2320.040	48.88	44.55	54.00	-9.45	28.02	35.07	2.71	162	VERTICAL
3	4874.040	46.74	49.04	74.00	-24.96	33.16	35.15	4.30	213	VERTICAL
4	4874.100	39.23	41.54	54.00	-12.46	33.16	35.15	4.30	213	VERTICAL

Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 11

Horizontal


	Read Freq	Read Level	Limit Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1	2319.620	46.07	41.74	74.00	-32.26	28.02	35.07	2.71	PEAK	100	150	HORIZONTAL
2	2320.040	40.48	36.15	54.00	-17.85	28.02	35.07	2.71	AVERAGE	100	150	HORIZONTAL
3	4924.040	31.38	33.80	54.00	-20.20	33.26	35.14	4.30	AVERAGE	100	250	HORIZONTAL
4	4926.160	43.69	46.11	74.00	-27.89	33.26	35.14	4.30	PEAK	100	250	HORIZONTAL

Vertical



	Read	Limit	Over	Antenna	Preamp	Cable		Ant	Table			
	Level	Line	Limit	Factor	Factor	Loss	Remark	Pos	Pos	Pol/Phase		
	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB		cm	deg			
1	2319.960	52.40	48.07	74.00	-25.93	28.02	35.07	2.71	PEAK	100	163	VERTICAL
2	2320.060	48.87	44.54	54.00	-9.46	28.02	35.07	2.71	AVERAGE	100	163	VERTICAL
3	4923.920	45.70	48.12	74.00	-25.88	33.26	35.14	4.30	PEAK	100	205	VERTICAL
4	4924.080	36.55	38.97	54.00	-15.03	33.26	35.14	4.30	AVERAGE	100	205	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Band Edge Emissions Measurement

4.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1 MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 KHz /100 KHz for Peak

4.6.3. Test Procedures

1. The test procedure is the same as section 4.5.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.6.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.5.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

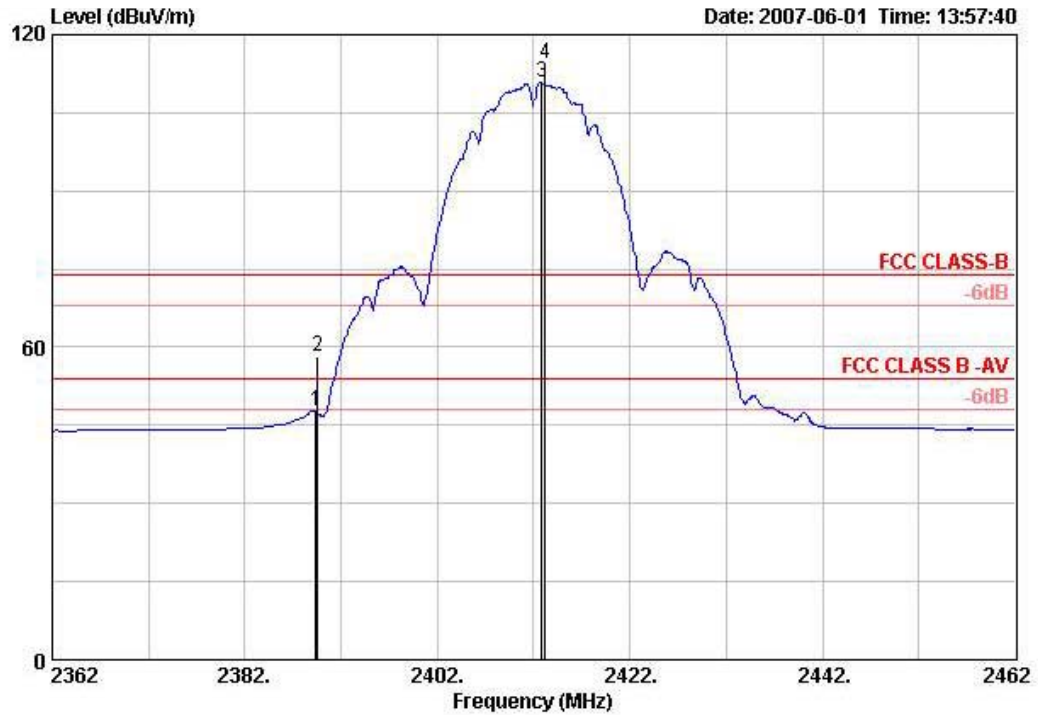
4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1, 11

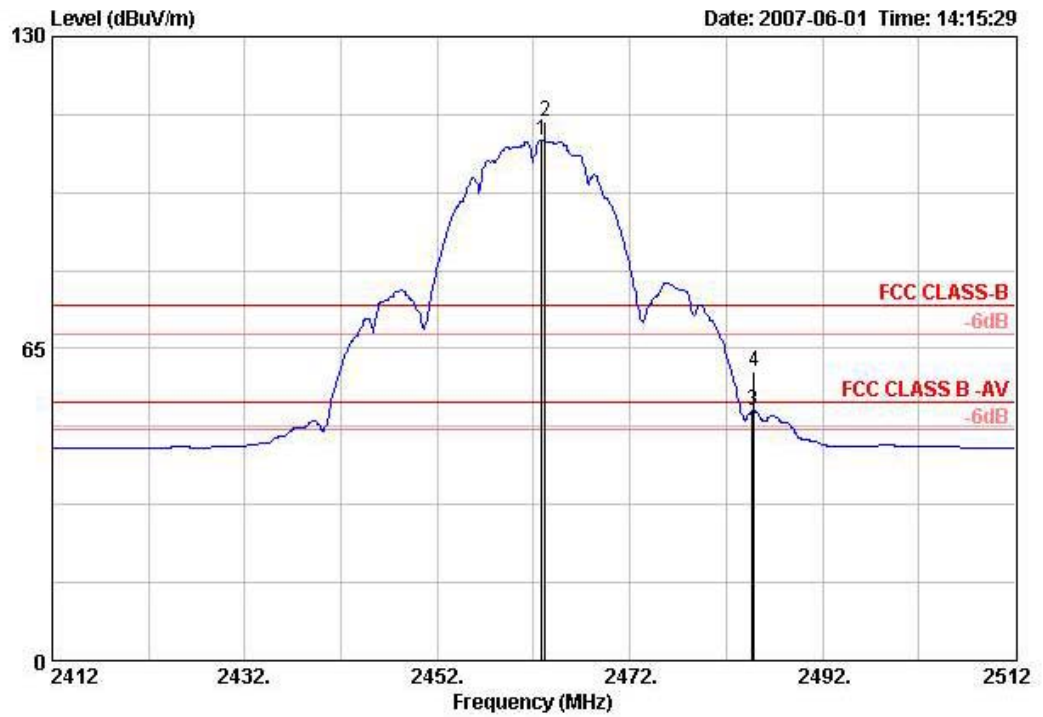
Channel 1



	Freq	Read		Limit	Over	Antenna	Preamp	Cable	Loss	Remark	Ant	Table	
		Level	Level	Line								Limit	Factor
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB			cm	deg	
1 *	2389.400	16.77	47.70	54.00	-6.30	28.17	0.00	2.76	AVERAGE		100	293	VERTICAL
2	2389.600	27.32	58.26	74.00	-15.74	28.17	0.00	2.76	PEAK		100	293	VERTICAL
3 *	2412.800	79.74	110.74			28.21	0.00	2.79	AVERAGE		100	293	VERTICAL
4 *	2413.200	83.58	114.58			28.21	0.00	2.79	PEAK		100	293	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 11

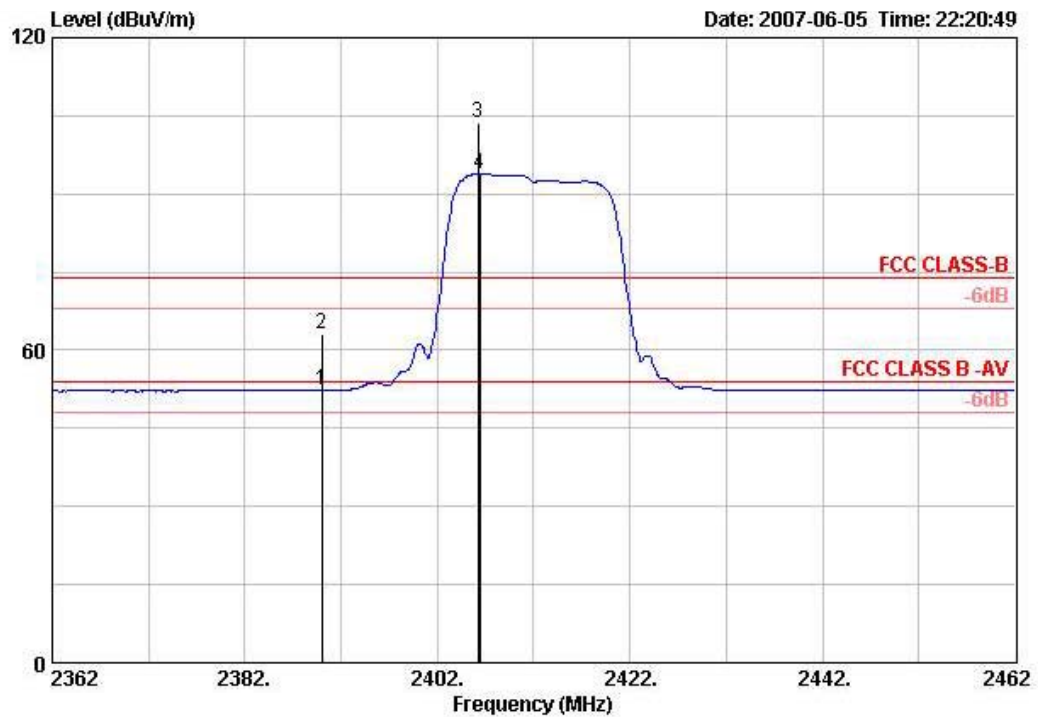


	Read Freq	Read Level	Read Level	Limit Line	OverLimit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1 *	2462.800	77.24	108.38			28.32	0.00	2.81	AVERAGE	100	293	VERTICAL
2 *	2463.200	81.11	112.25			28.32	0.00	2.81	PEAK	100	293	VERTICAL
3 *	2484.700	20.91	52.11	54.00	-1.89	28.36	0.00	2.84	AVERAGE	100	293	VERTICAL
4	2484.900	29.10	60.30	74.00	-13.70	28.36	0.00	2.84	PEAK	100	293	VERTICAL

Item 1, 2 are the fundamental frequency at 2462 MHz.

Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1, 11

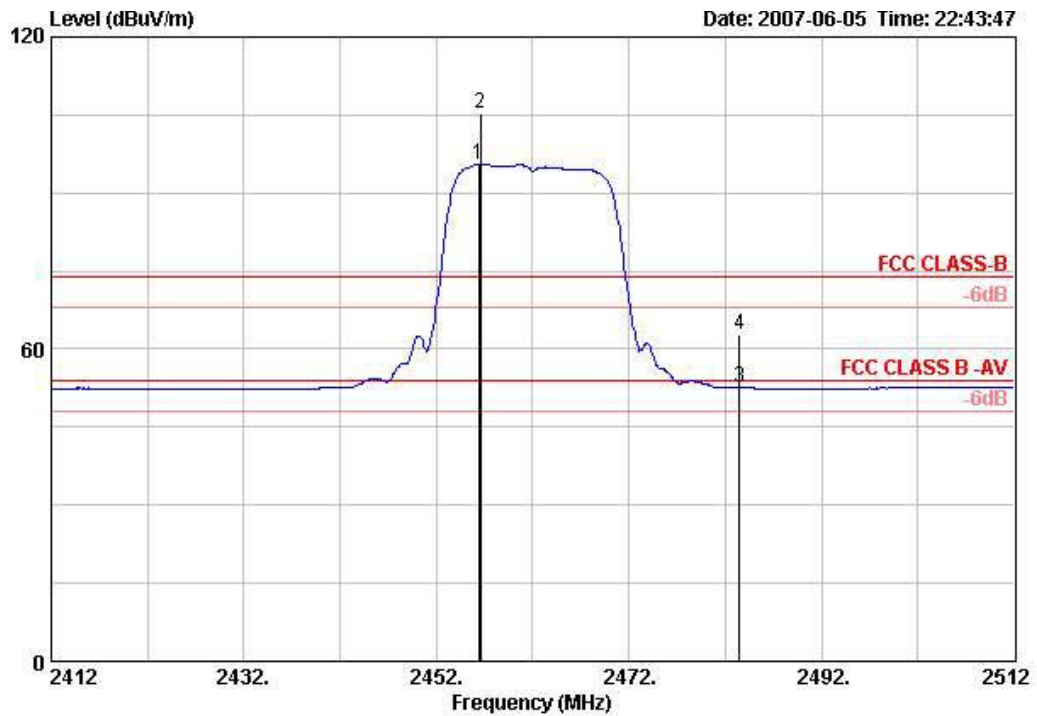
Channel 1



	Read Freq	Read Level	Read Level	Limit Line	Over Limit	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB		cm	deg	
1 *	2390.000	21.37	52.30	54.00	-1.70	28.17	0.00	2.76	AVERAGE	100	162	VERTICAL
2 *	2390.000	32.22	63.16	74.00	-10.84	28.17	0.00	2.76	PEAK	100	162	VERTICAL
3 *	2406.200	72.58	103.58			28.21	0.00	2.79	PEAK	100	162	VERTICAL
4 *	2406.400	62.99	93.99			28.21	0.00	2.79	AVERAGE	100	162	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 11



	Read	Limit	OverAntenna	Preamp	Cable	Ant	Table				
Freq	Level	Line	Limit	Factor	Loss	Pos	Pos	Pol/Phase			
MHz	dBuV	dBuV/m	dBuV/m	dB	dB/m	dB	dB	cm	deg		
1 *	2456.400	64.38	95.52		28.32	0.00	2.81	AVERAGE	100	90 VERTICAL	
2 *	2456.600	74.09	105.22		28.32	0.00	2.81	PEAK	100	90 VERTICAL	
3 *	2483.500	21.34	52.55	54.00	-1.45	28.36	0.00	2.84	AVERAGE	100	90 VERTICAL
4	2483.500	31.52	62.72	74.00	-11.28	28.36	0.00	2.84	PEAK	100	90 VERTICAL

Item 1, 2 are the fundamental frequency at 2462 MHz.

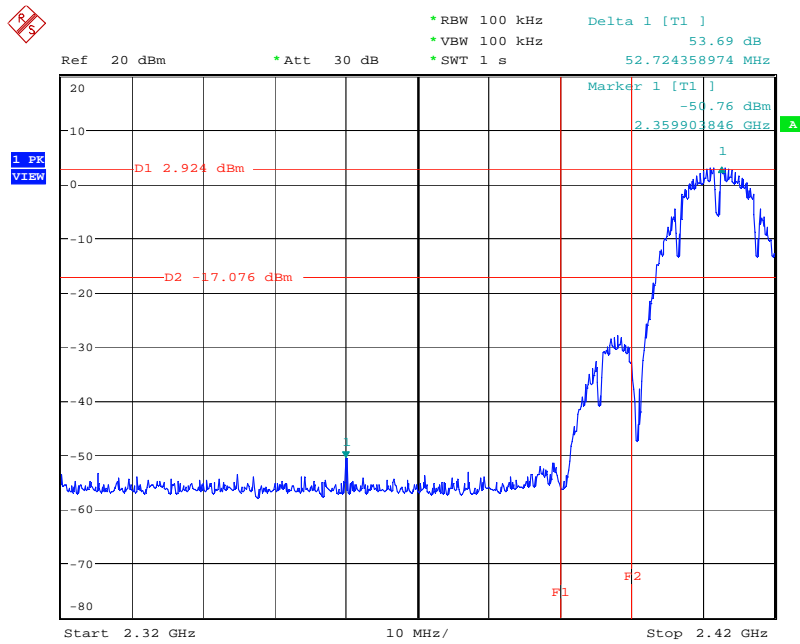
Note:

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

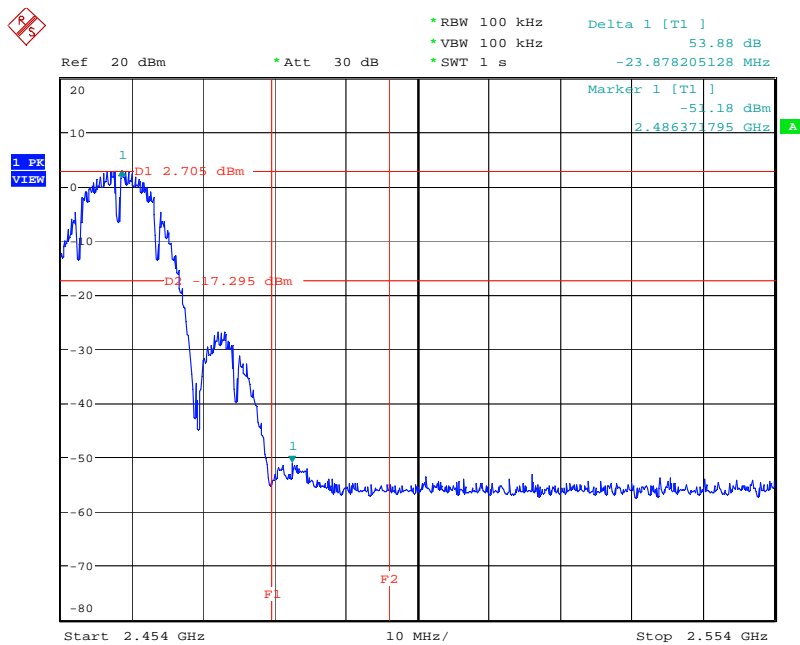
For Emission not in Restricted Band

Low Band Edge Plot on Configuration IEEE 802.11b / 2412 MHz



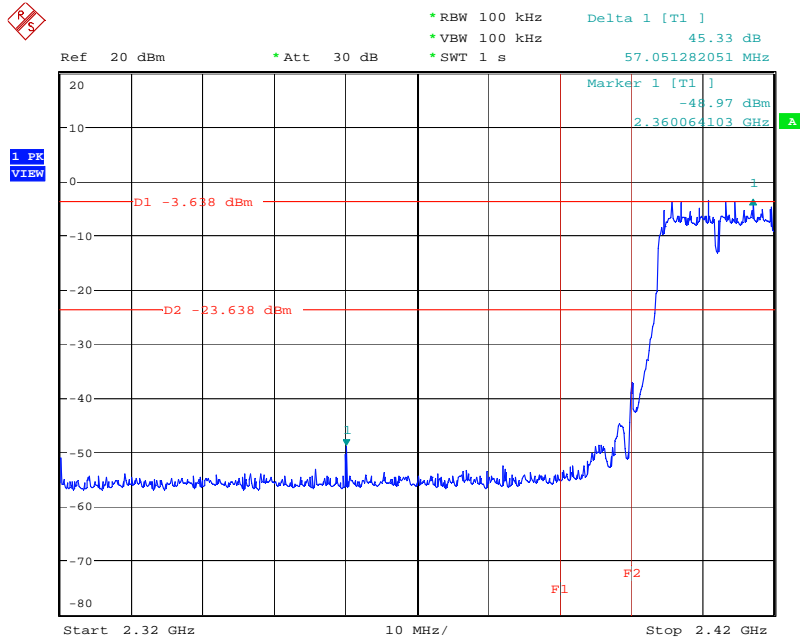
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High Band Edge Plot on Configuration IEEE 802.11b / 2462 MHz



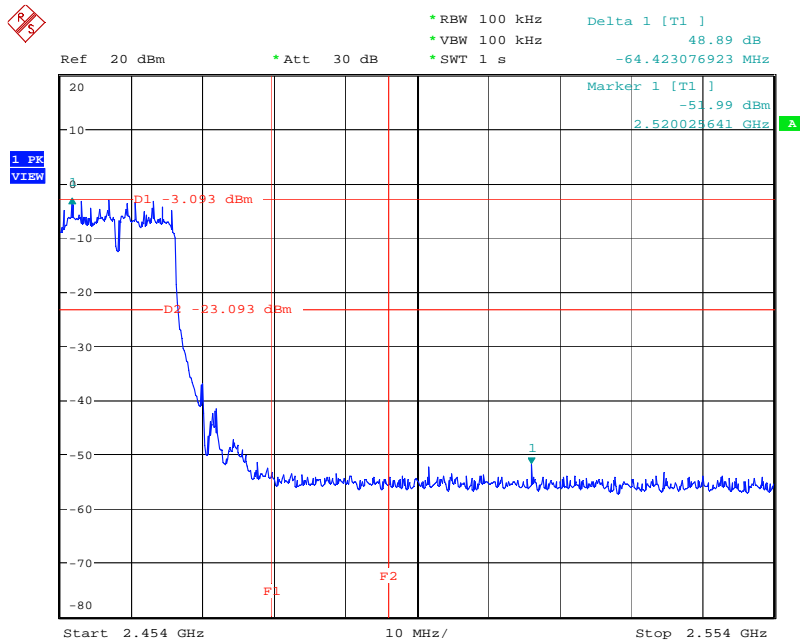
Date: 6.JUN.2007 13:24:14

Low Band Edge Plot on Configuration IEEE 802.11g / 2412 MHz



Date: 6.JUN.2007 11:09:34

High Band Edge Plot on Configuration IEEE 802.11g / 2462 MHz



Date: 6.JUN.2007 11:05:18

4.7. Antenna Requirements

4.7.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 15, 2006	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	CPA9231A	1886	9 kHz - 2 GHz	Jan. 22, 2007	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02326	1 GHz - 26.5 GHz	Dec 18, 2006	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	923364	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100004/040	9 kHz - 40 GHz	Sep. 21, 2006	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 2006*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 24, 2006	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	MAY. 04, 2007	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	NCR	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 02, 2006	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 01, 2007	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 26, 2007	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	Conduction (CO04-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Dec. 17, 2006	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100764	DC ~ 40GHz	Jul. 20, 2006	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100666	DC ~ 40GHz	Jul. 20, 2006	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 09, 2007	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May. 4, 2007*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 03, 2007	Conducted (TH01-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 02, 2006	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2006	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2006	Conducted (TH01-HY)
Oscilloscope	Tektronix	TDS1012	CO38515	100MHz / 1GS/s	Jun. 20, 2006	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 07, 2007	Conducted (TH01-HY)
Data Generator	Tektronix	DG2030	063-2920-50	0.1Hz~400MHz	Jun. 16, 2006	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

*Calibration Interval of instruments listed above is two year.

NCR means Non-Calibration required.

6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

7. TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation


Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2007 to January 09, 2010
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection : Accreditation Program for Telecommunication Equipment Testing Laboratory


Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

PI, total 9 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.