

FCC RADIO TEST REPORT

Applicant's company	D-Link Corporation.
Applicant Address	No.289, Shinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan, R.O.C.
FCC ID	KA2WL3230APA1
Manufacturer's company	Alpha Networks Inc.
Manufacturer Address	No. 10-1, Li-Hsin Rd. 1, Science-Based Industrial Park, Hsinchu 300, Taiwan R.O.C

Product Name	Wireless Lan Access Point
Brand Name	D-Link
Model Name	DWL-3260AP, DWL-3230AP
Test Rule	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz
Received Date	Nov. 27, 2006
Final Test Date	Jan. 30, 2007
Submission Type	Original Equipment
Multiple Listing	Please refer to section 3.7



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.

Table of Contents

1. CERTIFICATE OF COMPLIANCE	1
2. SUMMARY OF THE TEST RESULT	2
3. GENERAL INFORMATION	3
3.1. Product Details.....	3
3.2. Accessories.....	3
3.3. Table for Filed Antenna.....	3
3.4. Table for Carrier Frequencies	4
3.5. Table for Test Modes	4
3.6. Table for Testing Locations.....	5
3.7. Table for Multiple Listing.....	5
3.8. Table for Supporting Units	5
3.9. Table for Parameters of Test Software Setting	5
3.10. Test Configurations	6
4. TEST RESULT	10
4.1. AC Power Line Conducted Emissions Measurement.....	10
4.2. Maximum Peak Output Power Measurement	16
4.3. Power Spectral Density Measurement	18
4.4. 6dB Spectrum Bandwidth Measurement	24
4.5. Radiated Emissions Measurement	30
4.6. Band Edge Emissions Measurement	50
4.7. Antenna Requirements	59
5. LIST OF MEASURING EQUIPMENTS	60
6. TEST LOCATION.....	62
APPENDIX A. PHOTOGRAPHS OF EUT.....	A1 ~ A17
APPENDIX B. TEST PHOTOS.....	B1 ~ B5
APPENDIX C. MAXIMUM PERMISSIBLE EXPOSURE.....	C1 ~C3

History of This Test Report

Original Issue Date: Jan. 31, 2007

Report No.: FR6N2704

☒ No additional attachment.

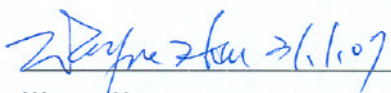
☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description

1. CERTIFICATE OF COMPLIANCE

Product Name : Wireless Lan Access Point
Brand Name : D-Link
Model Name : DWL-3260AP, DWL-3230AP
Applicant : D-Link Corporation.
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 Nov. 27, 2006 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.



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	5.29 dB
4.2	15.247(b)(3)	Maximum Peak Conducted Output Power	Complies	2.12 dB
4.3	15.247(e)	Power Spectral Density	Complies	16.67 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	0.89 dB
4.6	15.247(d)	Band Edge Emissions	Complies	0.25 dB
4.7	15.203	Antenna Requirements	Complies	-

Test Items	Uncertainty	Remark
AC Power Line Conducted Emissions	$\pm 2.3\text{dB}$	Confidence levels of 95%
Maximum Peak Conducted Output Power	$\pm 0.8\text{dB}$	Confidence levels of 95%
Power Spectral Density	$\pm 0.5\text{dB}$	Confidence levels of 95%
6dB Spectrum Bandwidth	$\pm 8.5 \times 10^{-8}$	Confidence levels of 95%
Radiated Emissions (9kHz~30MHz)	$\pm 0.8\text{dB}$	Confidence levels of 95%
Radiated Emissions (30MHz~1000MHz)	$\pm 1.9\text{dB}$	Confidence levels of 95%
Radiated / Band Edge Emissions (1GHz~18GHz)	$\pm 1.9\text{dB}$	Confidence levels of 95%
Radiated Emissions (18GHz~40GHz)	$\pm 1.9\text{dB}$	Confidence levels of 95%
Temperature	$\pm 0.7^{\circ}\text{C}$	Confidence levels of 95%
Humidity	$\pm 3.2\%$	Confidence levels of 95%
DC / AC Power Source	$\pm 1.4\%$	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Power Type	POE & 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 (6/9/12/18/24/36/48/54/108)
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11
Channel Band Width (99%)	11b: 15.60 MHz ; 11g: 16.50 MHz ; 11g Turbo: 32.75 MHz
Conducted Output Power	11b: 17.88 dBm ; 11g: 20.95 dBm ; 11g Turbo: 19.12 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

3.2. Accessories

Power	Brand	Model	Rating
Adapter 1	BOTHHAND ENTERPRISE	SA06L48-V	Input: 100-240V / 50-60Hz / 0.6A Output: 48V / 0.4A
Adapter 2	BOTHHAND ENTERPRISE	SA06-20S48-V	Input: 100-240V / 50-60Hz / 0.6A Output: 48V / 0.4A

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Function
1	ALPHA	WSS002	Dipole Antenna	Reversed-SMA	2.10	TX/RX
2	ALPHA	WAPG13_2A1G	Printed Antenna	-	1.05	TX/RX

DWL-3230AP use Ant. 2 as its main antenna.

DWL-3260AP use Ant.1 and Ant.2 as its TX and RX antenna, and it supports the antenna TX/RX diversity function.

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	Turbo 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	1 Mbps	6	1/2
Maximum Peak Conducted Output Power	11b/CCK	1 Mbps	1/6/11	NA
Power Spectral Density	11g/BPSK	6 Mbps	1/6/11	NA
6dB Spectrum Bandwidth	11g/BPSK Turbo	12 Mbps	6	NA
Radiated Emissions 9kHz~1GHz	11g/BPSK	6 Mbps	6	1
Radiated Emissions 1GHz~10 th Harmonic	11b/CCK	1 Mbps	1/6/11	1/2
	11g/BPSK	6 Mbps	1/6/11	1/2
	11g/BPSK Turbo	12 Mbps	6	1
Band Edge Emissions	11b/CCK	1 Mbps	1/11	1/2
	11g/BPSK	6 Mbps	1/11	1/2
	11g/BPSK Turbo	12 Mbps	6	1

Test Mode:

Mode 1: DWL-3230AP+Adapter 1

Mode 2: DWL-3230AP+Adapter 2

Mode 3: DWL-3230AP+POE+Adapter 1

Mode 4: DWL-3230AP+POE+Adapter 2

Mode 5: DWL-3260AP+Adapter 1

Mode 6: DWL-3260AP+Adapter 2

Mode 7: DWL-3260AP+POE+Adapter 1

Mode 8: DWL-3260AP+POE+Adapter 2

For conduction, cause "Mode 1" generated the worst test result, it was reported as final data.

For radiation, cause "Mode 5" generated the worst test result, it was reported as final data.

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 Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
D-Link	DWL-3260AP	With External Antenna
D-Link	DWL-3230AP	Without External Antenna

3.8. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	D520	E2KWM3945ABG
Notebook	DELL	D400	E2K24GBRL
SWITCHINGHUB	Laneed	LD-LSW16C/AT	DOC
POE	BASE UNIT	EBU-101-T1	DOC

3.9. 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	ART		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	16	17	17
IEEE 802.11g	15.5	16	16
IEEE 802.11g Turbo	16	-	-

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

Executed "ping.exe" to link with the remote workstation to receive and transmit data.

Executed traffic packet data generated software and keep 10% traffic load to link with the remote workstation by LAN and WLAN.

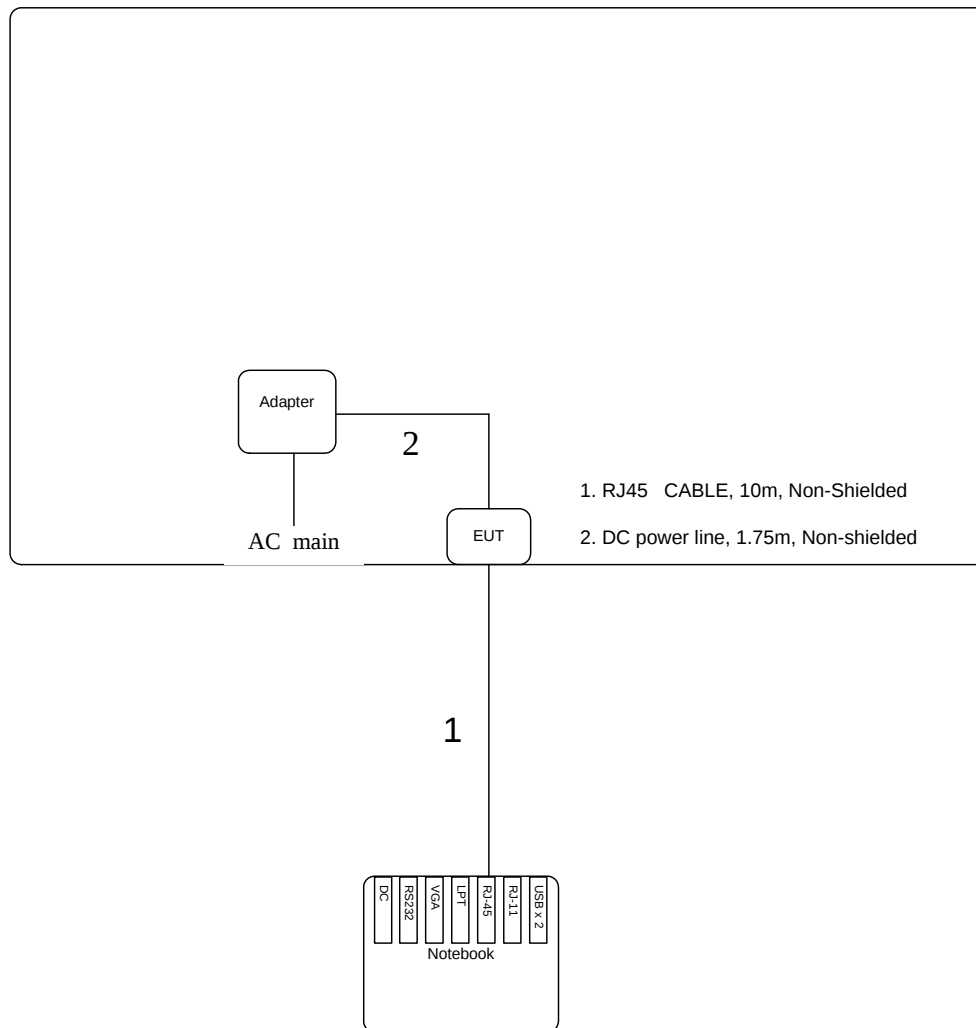
At the same time, "ART" was executed the test program to control the EUT continuously transmit RF signal.

3.10. Test Configurations

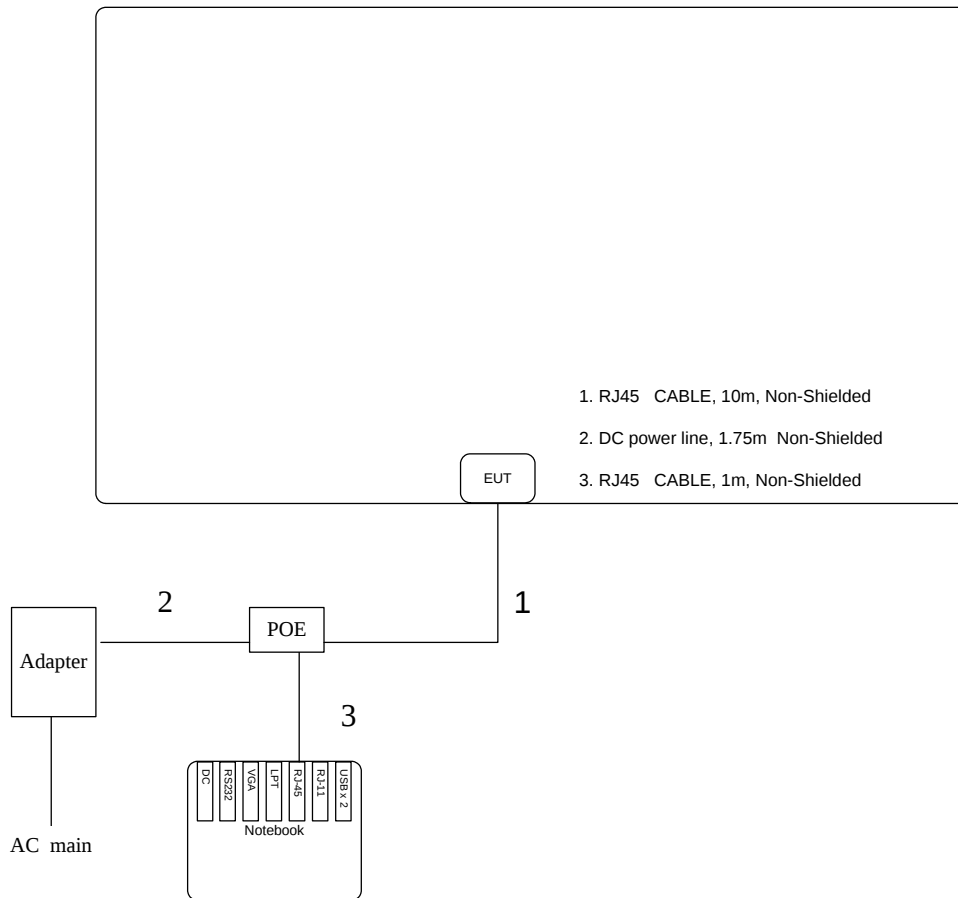
3.10.1. Radiation Emissions Test Configuration

Test Configuration: 9KHz~1GHz

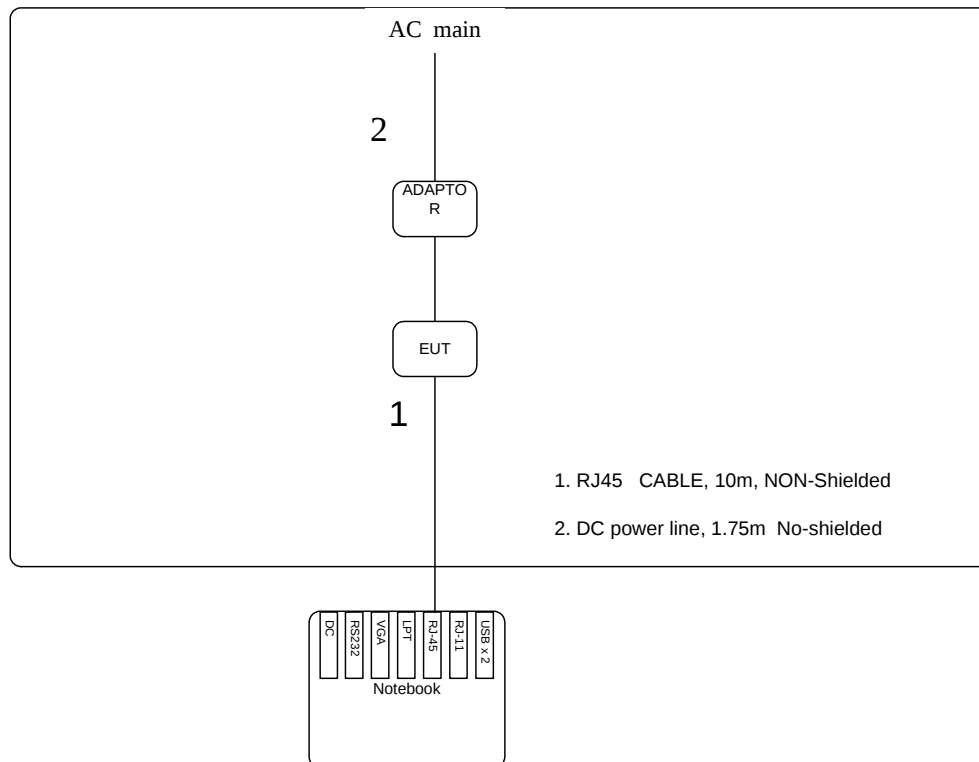
Mode 1 / Mode 2 / Mode 5 / Mode 6



Mode 3 / Mode 4 / Mode 7 / Mode 8

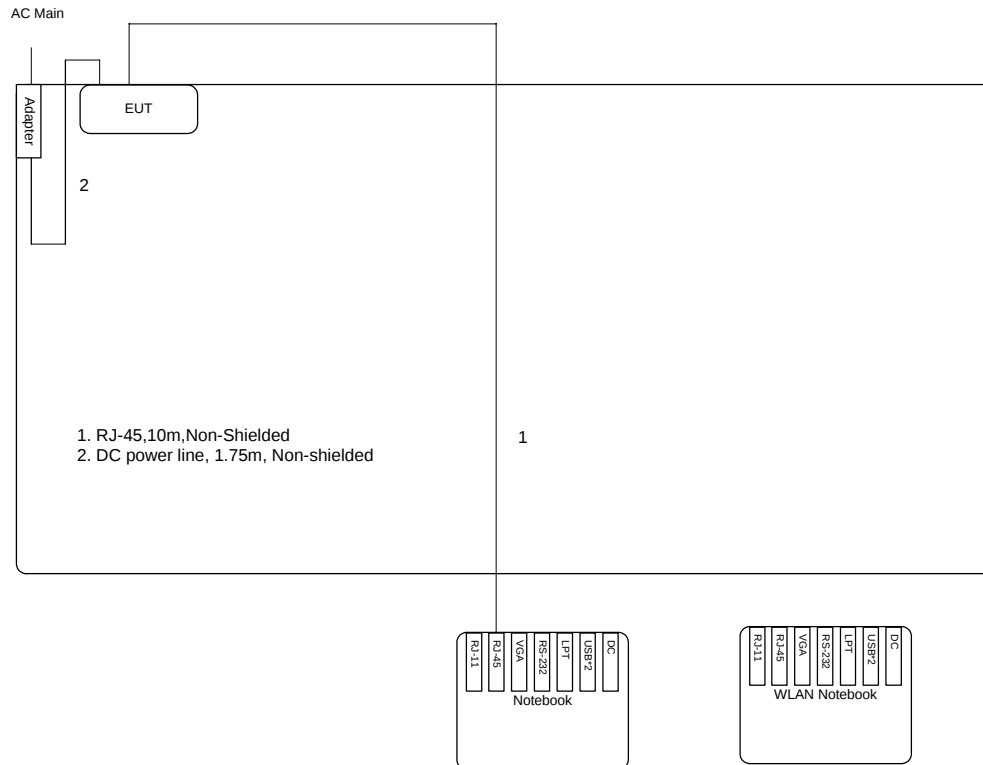


Test Configuration: Above 1GHz

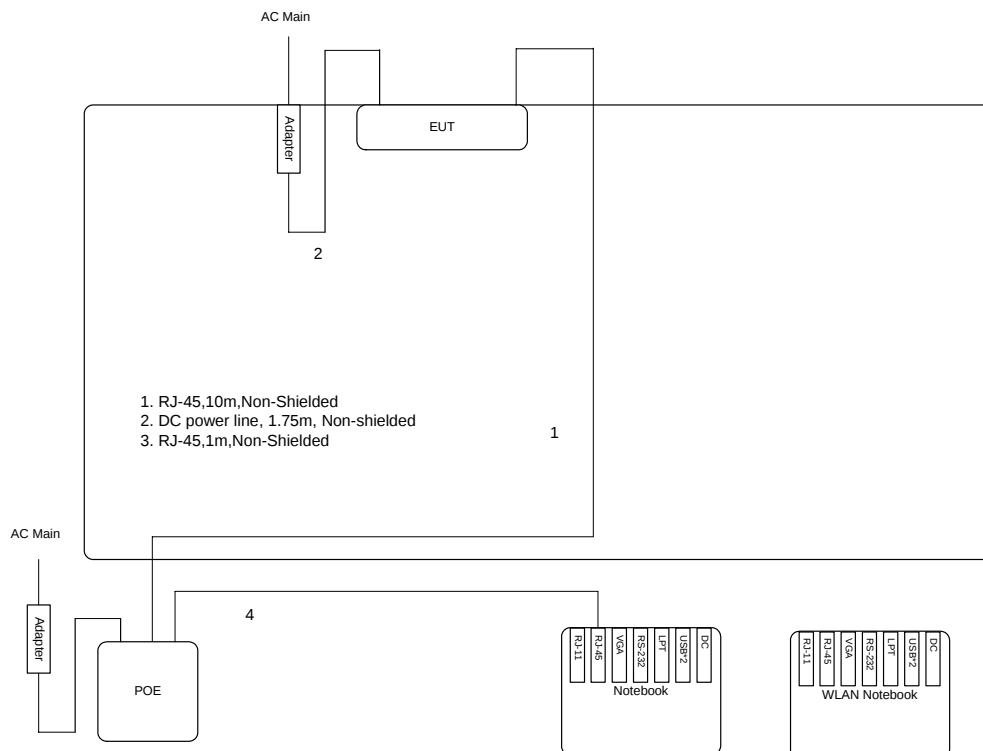


3.10.2. AC Power Line Conduction Emissions Test Configuration

Mode 1 / Mode 2 / Mode 5 / Mode 6



Mode 3 / Mode 4 / Mode 7 / Mode 8



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

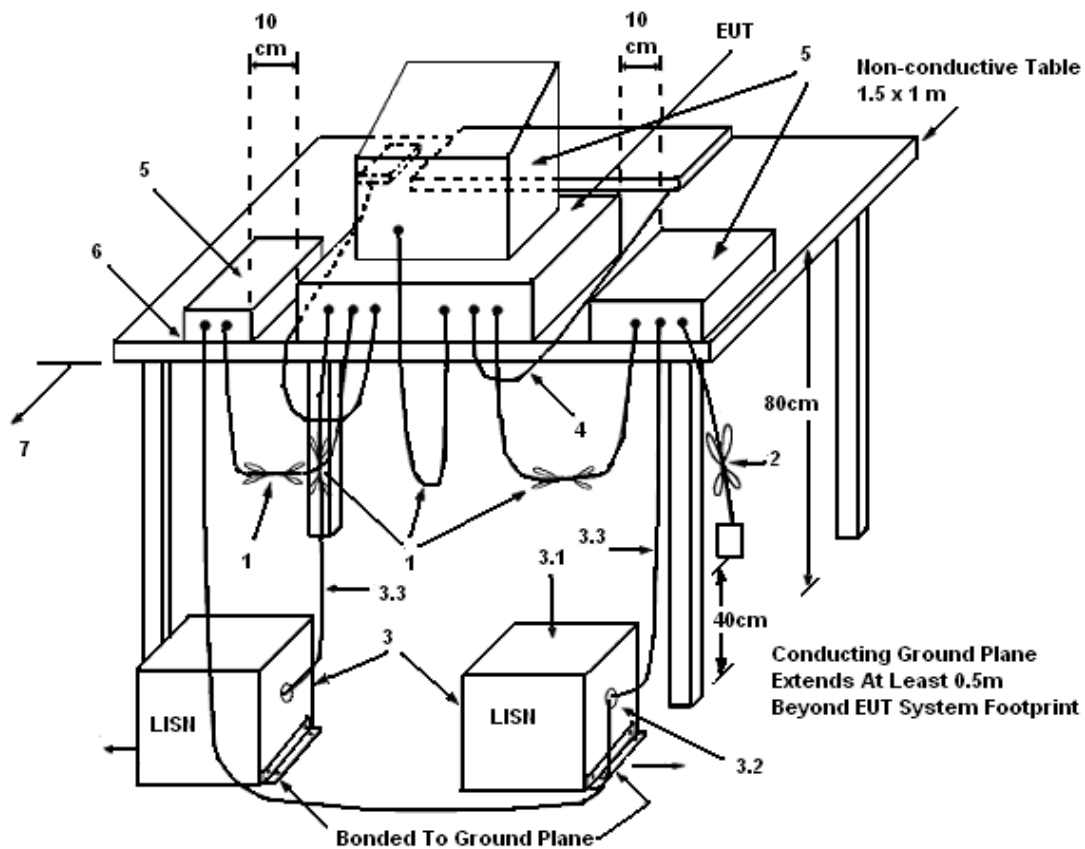
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

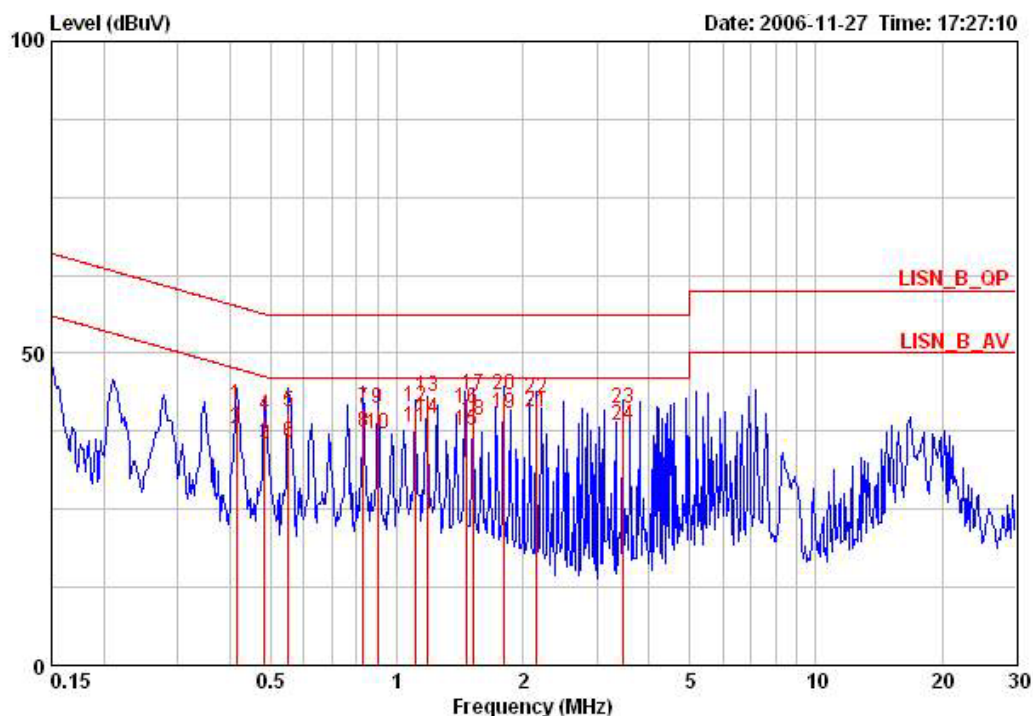
There is no deviation with the original standard.

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

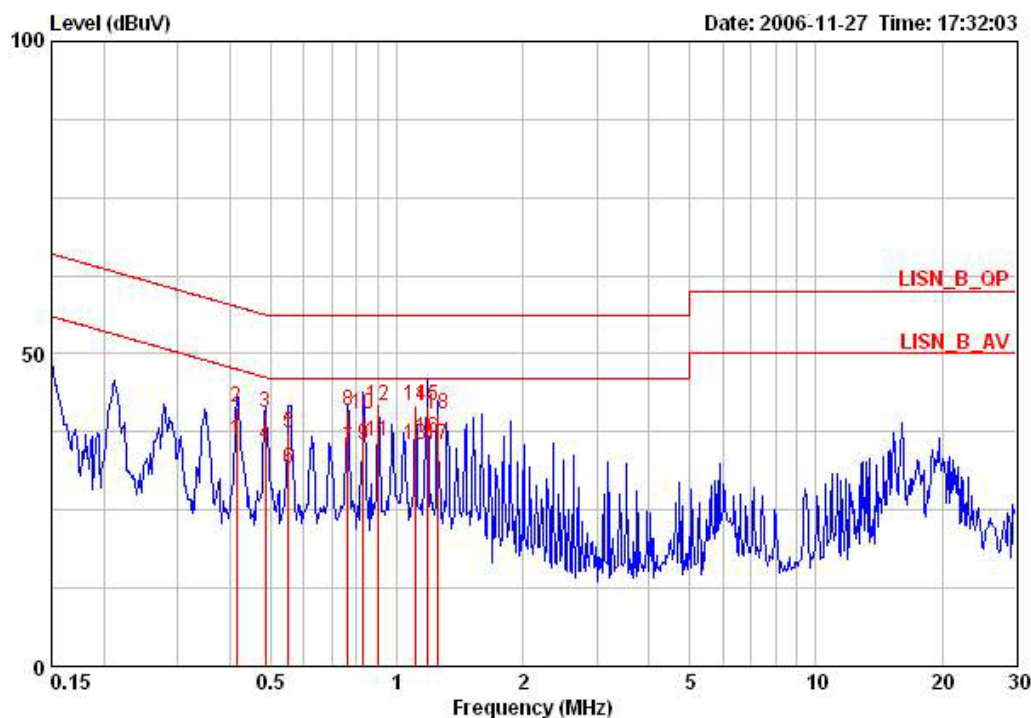
Temperature	25.6°C	Humidity	65%
Test Engineer	Johnson Chung	Phase	Line
Configuration	Normal Link / 802.11g / Channel 6 / Mode 1		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.41485	41.72	-15.83	57.55	41.52	0.00	0.20	QP	LINE
2	0.41485	37.83	-9.72	47.55	37.63	0.00	0.20	AVERAGE	LINE
3	0.48375	35.54	-10.73	46.27	35.44	0.00	0.10	AVERAGE	LINE
4	0.48375	40.03	-16.24	56.27	39.93	0.00	0.10	QP	LINE
5	0.55226	40.65	-15.35	56.00	40.45	0.00	0.20	QP	LINE
6	0.55226	35.64	-10.36	46.00	35.44	0.00	0.20	AVERAGE	LINE
7	0.83047	41.19	-14.81	56.00	40.99	0.00	0.20	QP	LINE
8	0.83047	37.32	-8.68	46.00	37.12	0.00	0.20	AVERAGE	LINE
9	0.90157	41.27	-14.73	56.00	41.07	0.00	0.20	QP	LINE
10	0.90157	36.99	-9.01	46.00	36.79	0.00	0.20	AVERAGE	LINE
11	1.110	38.06	-7.94	46.00	37.89	0.00	0.17	AVERAGE	LINE
12	1.110	41.33	-14.67	56.00	41.16	0.00	0.17	QP	LINE
13	1.181	43.05	-12.95	56.00	42.89	0.00	0.16	QP	LINE
14	1.181	39.46	-6.54	46.00	39.30	0.00	0.16	AVERAGE	LINE
15	1.463	37.54	-8.46	46.00	37.43	0.00	0.11	AVERAGE	LINE
16	1.463	41.22	-14.78	56.00	41.11	0.00	0.11	QP	LINE
17	1.526	43.27	-12.73	56.00	43.16	0.00	0.11	QP	LINE
18	1.526	39.21	-6.79	46.00	39.10	0.00	0.11	AVERAGE	LINE
19	1.804	40.27	-5.73	46.00	40.11	0.00	0.16	AVERAGE	LINE
20	1.804	43.21	-12.79	56.00	43.05	0.00	0.16	QP	LINE
21	2.151	40.71	-5.29	46.00	40.51	0.00	0.20	AVERAGE	LINE
22	2.151	42.88	-13.12	56.00	42.68	0.00	0.20	QP	LINE
23	3.472	41.14	-14.86	56.00	40.85	0.00	0.29	QP	LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
24	3.472	38.38	-7.62	46.00	38.09	0.00	0.29	AVERAGE	LINE

Temperature	25.6°C	Humidity	65%
Test Engineer	Johnson Chung	Phase	Neutral
Configuration	Normal Link / 802.11g / Channel 6 / Mode 1		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.41485	36.22	-11.33	47.55	36.02	0.00	0.20	AVERAGE	NEUTRAL
2	0.41485	41.50	-16.05	57.55	41.30	0.00	0.20	QP	NEUTRAL
3	0.48632	40.73	-15.50	56.23	40.63	0.00	0.10	QP	NEUTRAL
4	0.48632	35.40	-10.83	46.23	35.30	0.00	0.10	AVERAGE	NEUTRAL
5	0.55226	37.28	-18.72	56.00	37.08	0.00	0.20	QP	NEUTRAL
6	0.55226	31.74	-14.26	46.00	31.54	0.00	0.20	AVERAGE	NEUTRAL
7	0.76297	34.88	-11.12	46.00	34.68	0.00	0.20	AVERAGE	NEUTRAL
8	0.76297	40.80	-15.20	56.00	40.60	0.00	0.20	QP	NEUTRAL
9	0.83047	35.29	-10.71	46.00	35.09	0.00	0.20	AVERAGE	NEUTRAL
10	0.83047	40.43	-15.57	56.00	40.23	0.00	0.20	QP	NEUTRAL
11	0.90317	36.05	-9.95	46.00	35.85	0.00	0.20	AVERAGE	NEUTRAL
12	0.90317	41.61	-14.39	56.00	41.41	0.00	0.20	QP	NEUTRAL
13	1.110	35.44	-10.56	46.00	35.27	0.00	0.17	AVERAGE	NEUTRAL
14	1.110	41.65	-14.35	56.00	41.48	0.00	0.17	QP	NEUTRAL
15	1.178	41.56	-14.44	56.00	41.40	0.00	0.16	QP	NEUTRAL
16	1.178	36.58	-9.42	46.00	36.42	0.00	0.16	AVERAGE	NEUTRAL
17	1.249	35.46	-10.54	46.00	35.31	0.00	0.15	AVERAGE	NEUTRAL
18	1.249	40.43	-15.57	56.00	40.28	0.00	0.15	QP	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 limit 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

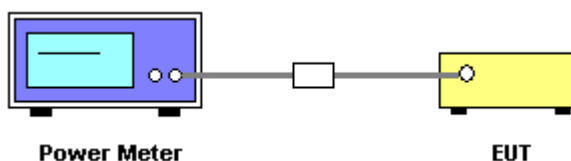
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

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	25°C	Humidity	65%
Test Engineer	Leo Hung	Configurations	802.11b/g

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	17.88	30.00	Complies
6	2437 MHz	17.65	30.00	Complies
11	2462 MHz	17.47	30.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	20.92	30.00	Complies
6	2437 MHz	20.95	30.00	Complies
11	2462 MHz	20.85	30.00	Complies

Configuration IEEE 802.11g Turbo

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
6	2437 MHz	19.12	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

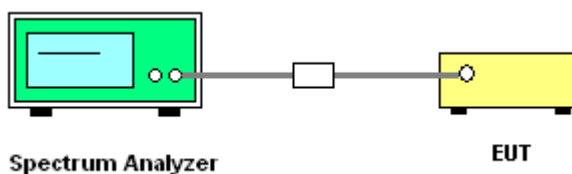
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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	25°C	Humidity	65%
Test Engineer	Leo Hung	Configurations	802.11b/g

Configuration IEEE 802.11b

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	-9.56	8	Complies
6	2437 MHz	-8.78	8	Complies
11	2462 MHz	-8.67	8	Complies

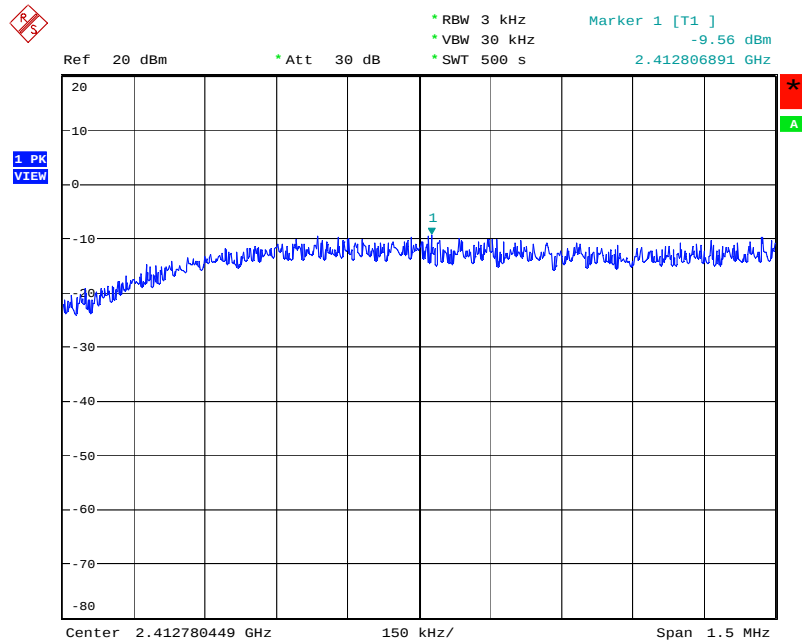
Configuration IEEE 802.11g

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
1	2412 MHz	-10.18	8	Complies
6	2437 MHz	-11.48	8	Complies
11	2462 MHz	-11.32	8	Complies

Configuration IEEE 802.11g Turbo

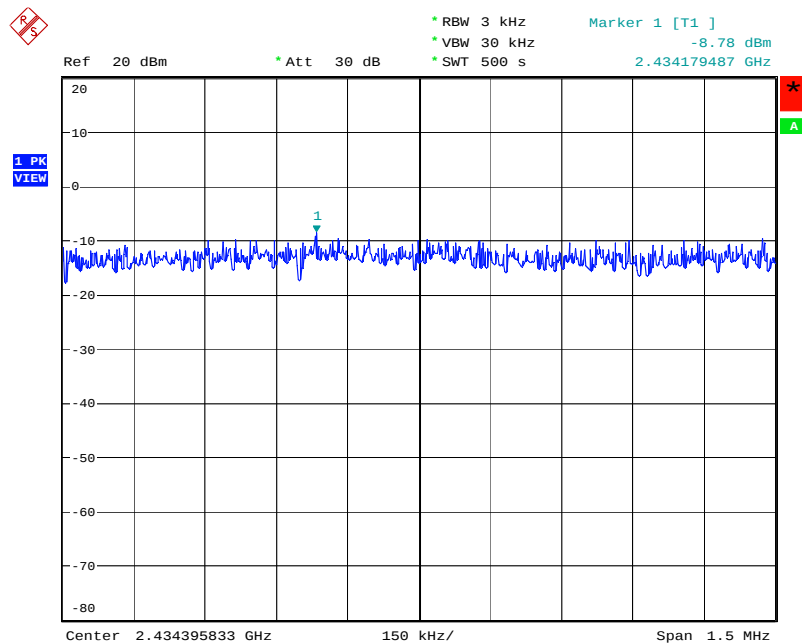
Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
6	2437 MHz	-15.10	8	Complies

Power Density Plot on Configuration IEEE 802.11b / 2412 MHz



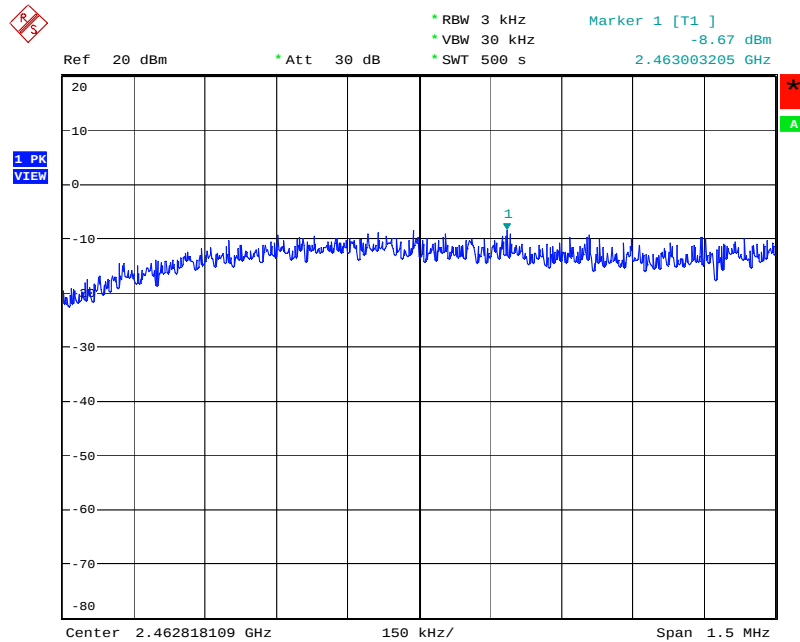
Date: 5.DEC.2006 16:11:21

Power Density Plot on Configuration IEEE 802.11b / 2437 MHz



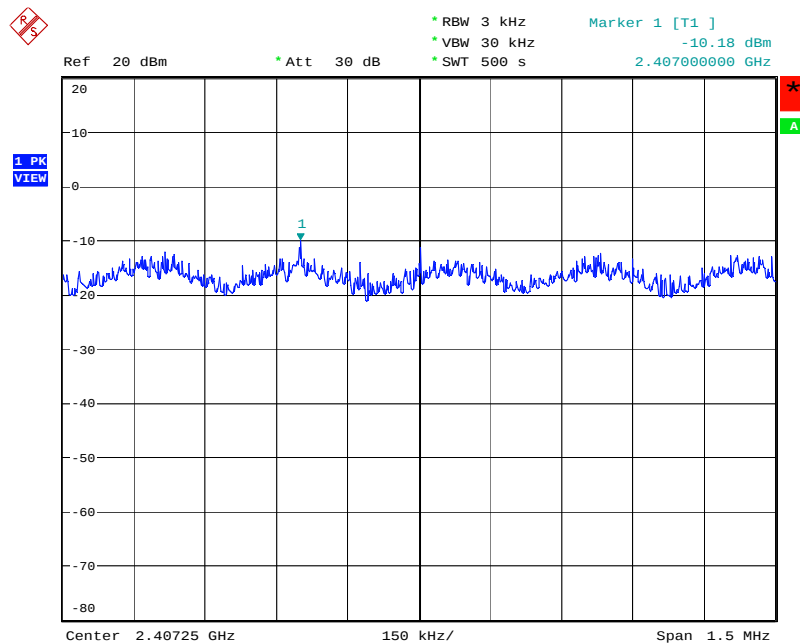
Date: 5.DEC.2006 16:12:08

Power Density Plot on Configuration IEEE 802.11b / 2462 MHz



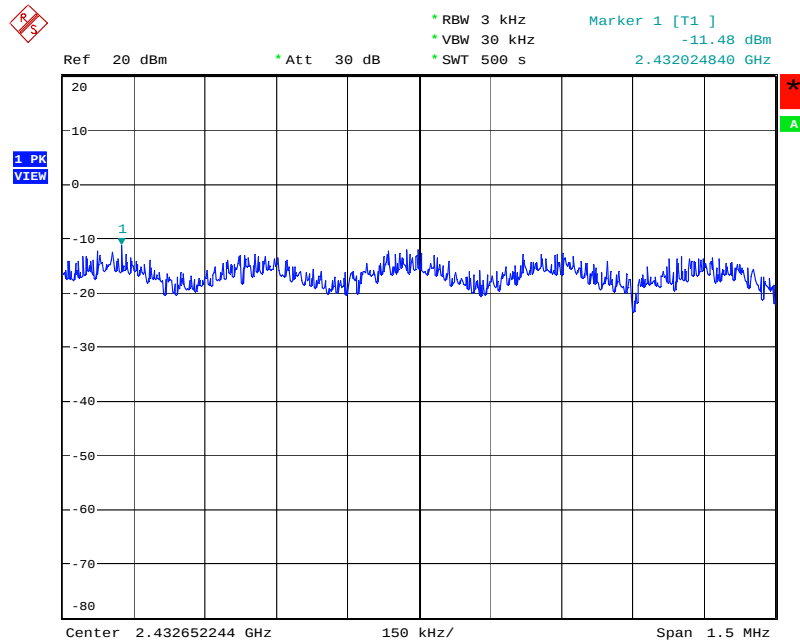
Date: 5.DEC.2006 16:13:31

Power Density Plot on Configuration IEEE 802.11g / 2412 MHz



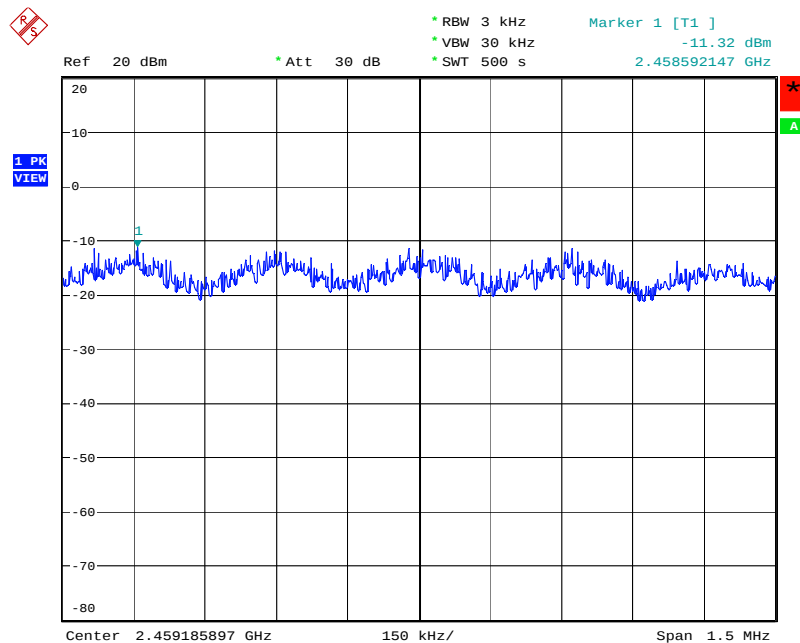
Date: 5.DEC.2006 16:09:06

Power Density Plot on Configuration IEEE 802.11g / 2437 MHz



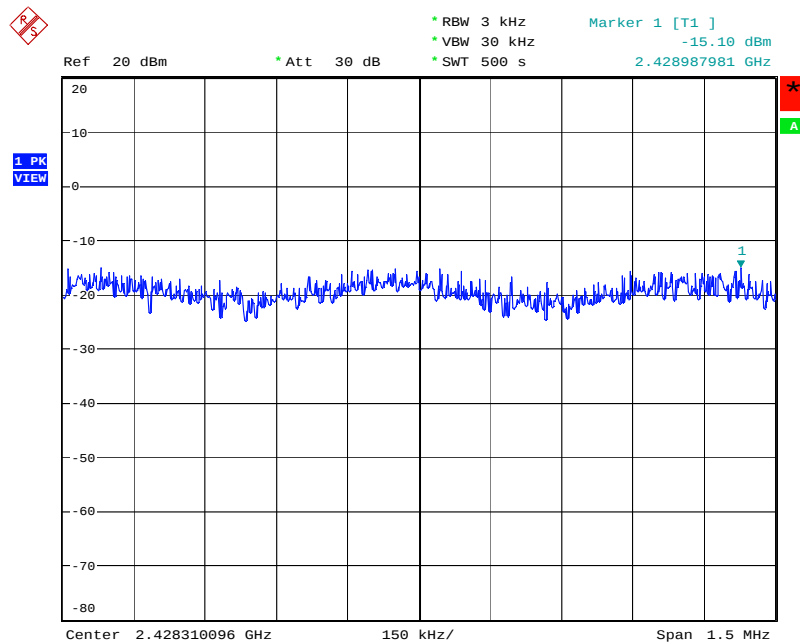
Date: 5.DEC.2006 16:07:36

Power Density Plot on Configuration IEEE 802.11g / 2462 MHz



Date: 5.DEC.2006 16:06:46

Power Density Plot on Configuration IEEE 802.11g Turbo / 2437 MHz



Date: 30.JAN.2007 11:48:40

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

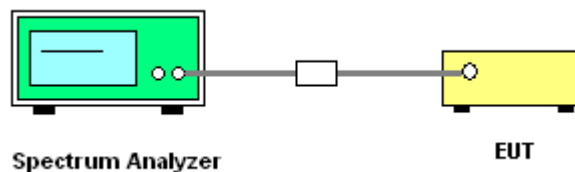
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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	25°C	Humidity	65%
Test Engineer	Leo Hung	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	11.02	15.41	500	Complies
6	2437 MHz	11.53	15.51	500	Complies
11	2462 MHz	11.05	15.60	500	Complies

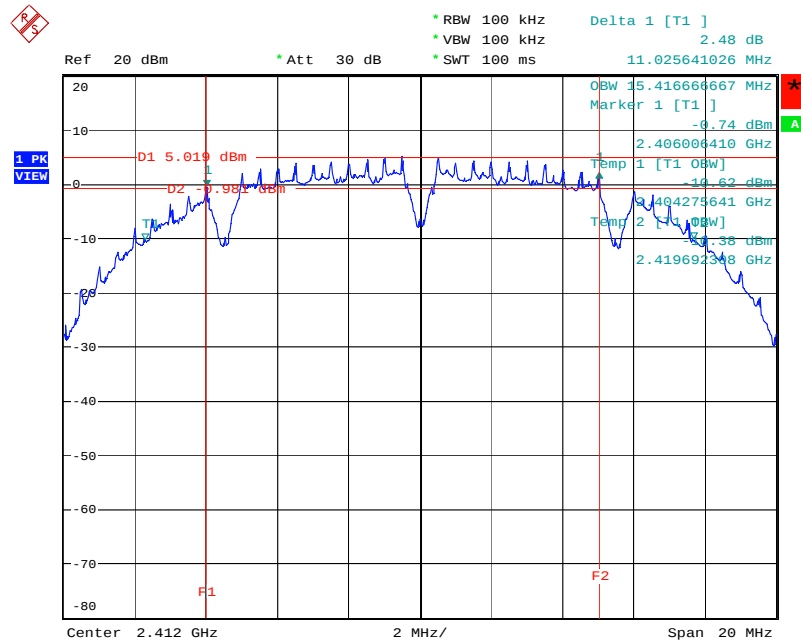
Configuration IEEE 802.11g

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	16.34	16.50	500	Complies
6	2437 MHz	16.15	16.47	500	Complies
11	2462 MHz	16.31	16.50	500	Complies

Configuration IEEE 802.11g Turbo

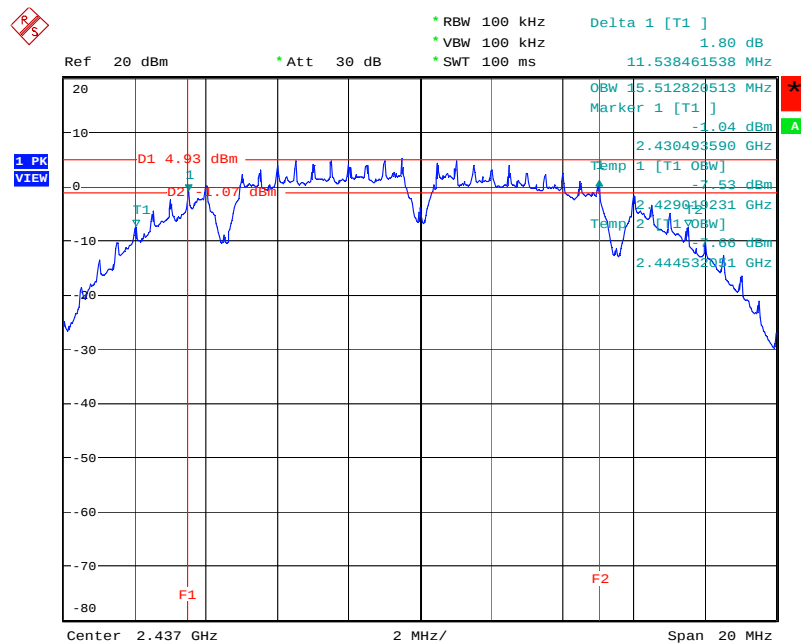
Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
6	2437 MHz	31.34	32.75	500	Complies

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



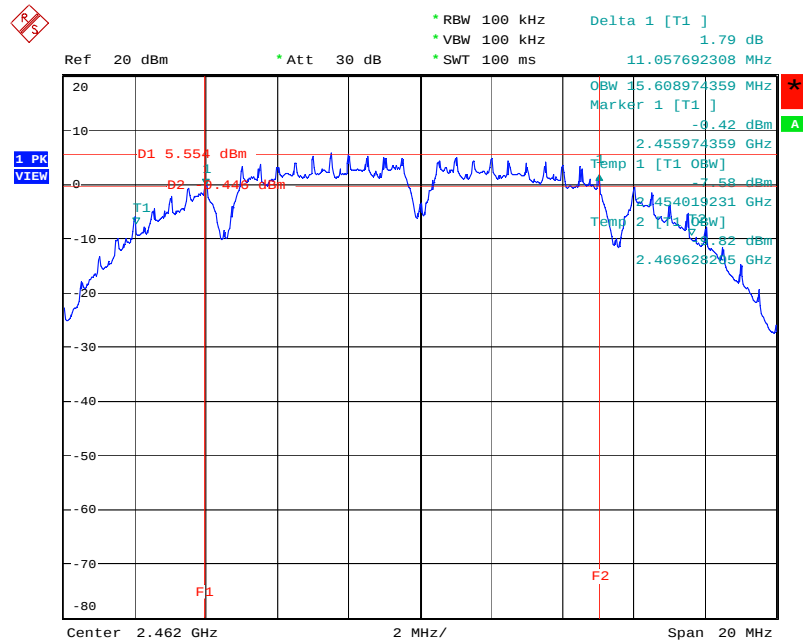
Date: 5.DEC.2006 16:10:55

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



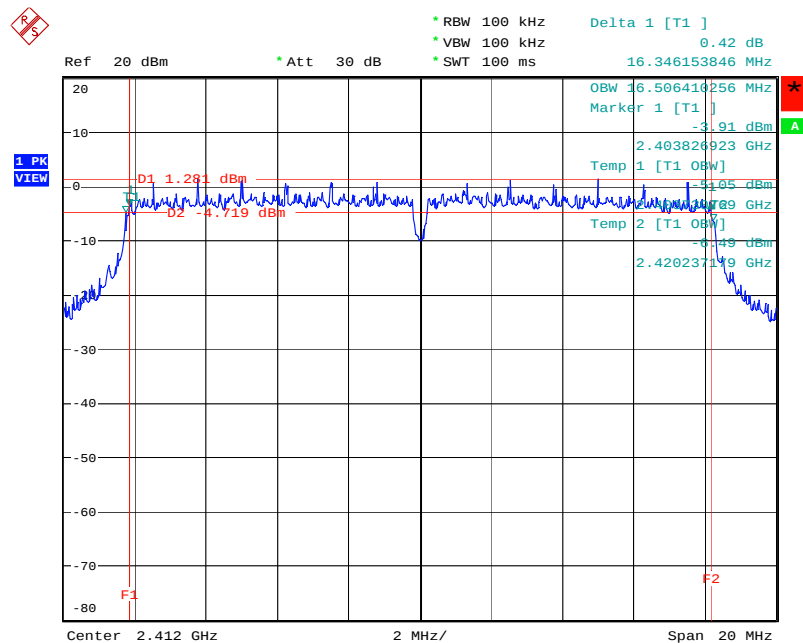
Date: 5.DEC.2006 16:11:52

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



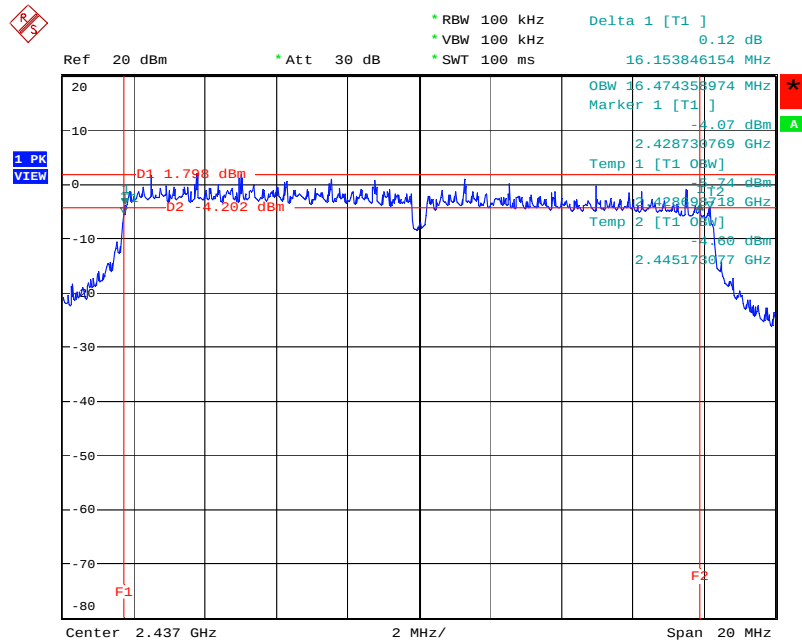
Date: 5.DEC.2006 16:13:15

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



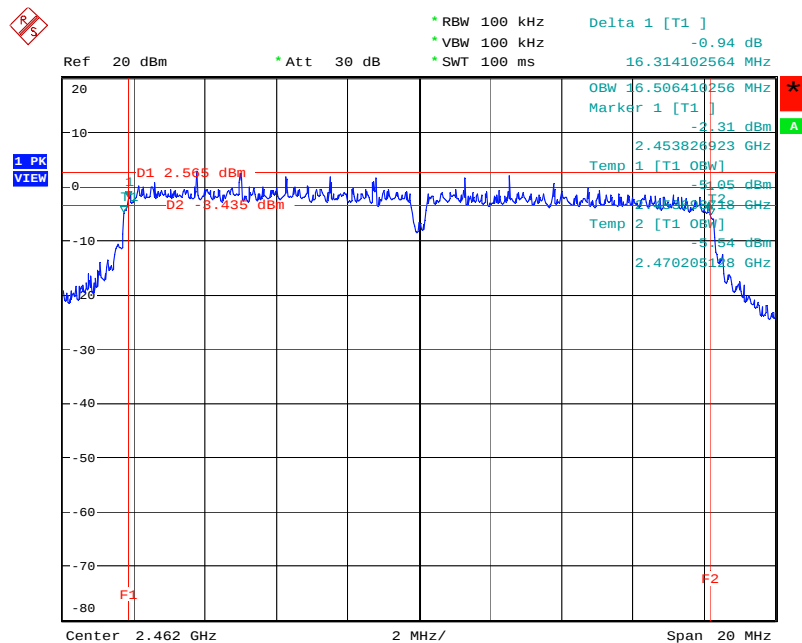
Date: 5.DEC.2006 16:08:41

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



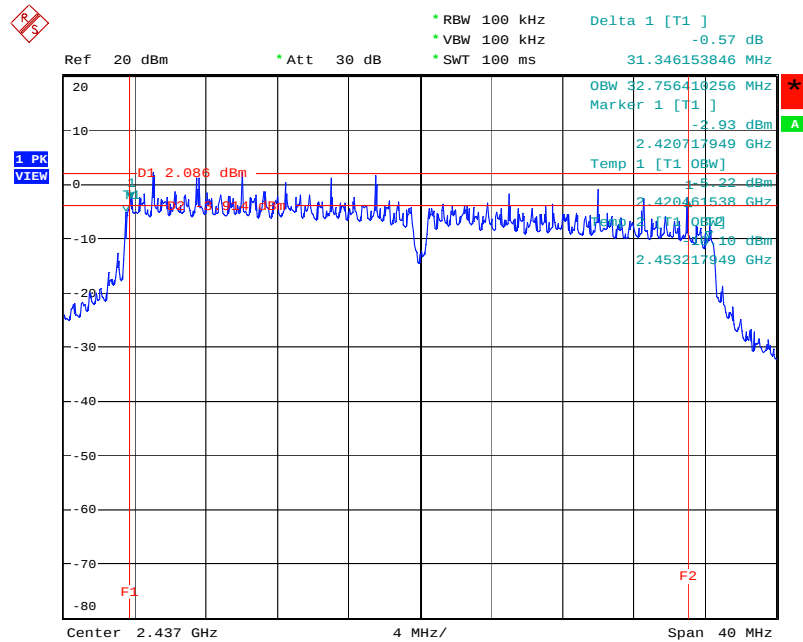
Date: 5.DEC.2006 16:07:20

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



Date: 5.DEC.2006 16:06:31

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



Date: 30.JAN.2007 11:48:23