

FCC TEST REPORT

for

47 CFR Part 15 Subpart C

Equipment : **Wireless-G PCI Adapter**
Model No. : **WPCI54G**
FCC ID : **Q87-WPCI54G**
Filing Type : **Certification**
Applicant : **Cisco-Lindsys,LLC**
121 Theory Dr. Irvine, CA 92614

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

Table of Contents

History of this test report.....ii

CERTIFICATE OF COMPLIANCE..... 1

1. General Description of Equipment under Test.....2

 1.1. Applicant 2

 1.2. Manufacturer 2

 1.3. Basic Description of Equipment under Test 2

 1.4. Feature of Equipment under Test 3

2 Test Configuration of Equipment under Test4

 2.1. Test Manner 4

 2.2. Description of Test System 4

 2.3. Connection Diagram of Test System 7

3 Operation of Equipment under Test8

4 General Information of Test.....9

 4.1. Test Voltage 9

 4.2. Standard for Methods of Measurement..... 9

 4.3. Test in Compliance with 9

 4.4. Frequency Range Investigated 9

 4.5. Test Distance 9

5 Report of Measurements and Examinations10

 5.1. List of Measurements and Examinations 10

 5.2. 6dB Bandwidth 11

 5.3. Power Spectral Density 19

 5.4. Band Edges Measurement 27

 5.5. Peak Output Power 33

6. Test of Conducted Emission35

 6.1. Major Measuring Instruments..... 35

 6.2. Test Procedures 35

 6.3. Test Result of Conducted Emission 36

7. Test of Radiated Emission.....48

 7.1. Major Measuring Instruments..... 48

 7.2. Test Procedures 49

 7.3. Typical Test Setup Layout of Radiated Emission..... 49

 7.4. Test Result of Radiated Emission 50

8. Antenna Requirements70

 8.1. Standard Applicable 70

 8.2. Antenna Connected Construction 70

9. RF Exposure.....71

 9.1. Limit For Maximum Permissible Exposure (MPE)..... 71

 9.2. MPE Calculations 72

 9.3. FCC Radiation Exposure Statement 72

10. List of Measuring Equipments Used73

11. Uncertainty Measurement.....75

Appendix A. Photographs of EUT External..... A1 ~ A4

Appendix B. Photographs of EUT Internal..... B1 ~ B3

Appendix C. Photographs of Setup C1 ~ C5

CERTIFICATE OF COMPLIANCE
for
47 CFR Part 15 Subpart C

Equipment : **Wireless-G PCI Adapter**
Model No. : **WPCI54G**
FCC ID : **Q87-WPCI54G**
Filing Type : **Certification**
Applicant : **Cisco-Lindsys, LLC**
121 Theory Dr. Irvine, CA 92614

HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2001** and the equipment under test was **passed** all test items required in FCC Part 15 subpart C, relative to the equipment under test. Testing was carried out on Feb. 20, 2004 at **SPORTON International Inc.** LAB.



Daniel Lee
Manager

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1. Applicant

Cisco-Linksys, LLC
121 Theory Dr. Irvine, CA 92614

1.2 Manufacturer

Same as 1.1

1.3 Basic Description of Equipment under Test

Equipment : Wireless-G PCI Adapter
Trade Name : Linksys
Model No. : WPCI54G
Power Supply Type : From system

1.4 Feature of Equipment under Test

Product Feature & Specification																											
1. Modulation Type/Data Rate	802.11b: CCK (11Mbps), DQPSK (5.5Mbps) DQPSK (2Mbps),DBPSK (1Mbps); 802.11g: 6/9/12/18/24/36/48/54 Mbps OFDM																										
2. Freq.Range/Carrier Freqs.	<table border="1"> <thead> <tr> <th>Freq.Range</th> <th>2400~2483.5MHz</th> </tr> <tr> <th>Cannel ID</th> <th>Center Frequency(MHz)</th> </tr> </thead> <tbody> <tr><td>1</td><td>2412</td></tr> <tr><td>2</td><td>2417</td></tr> <tr><td>3</td><td>2422</td></tr> <tr><td>4</td><td>2427</td></tr> <tr><td>5</td><td>2432</td></tr> <tr><td>6</td><td>2437</td></tr> <tr><td>7</td><td>2442</td></tr> <tr><td>8</td><td>2447</td></tr> <tr><td>9</td><td>2452</td></tr> <tr><td>10</td><td>2457</td></tr> <tr><td>11</td><td>2462</td></tr> </tbody> </table>	Freq.Range	2400~2483.5MHz	Cannel ID	Center Frequency(MHz)	1	2412	2	2417	3	2422	4	2427	5	2432	6	2437	7	2442	8	2447	9	2452	10	2457	11	2462
Freq.Range	2400~2483.5MHz																										
Cannel ID	Center Frequency(MHz)																										
1	2412																										
2	2417																										
3	2422																										
4	2427																										
5	2432																										
6	2437																										
7	2442																										
8	2447																										
9	2452																										
10	2457																										
11	2462																										
3. Channel Bandwidth	22MHz/11b; 20MHz/11g																										
4. Expected Max. Conducted RF Power	Peak power 18.11dBm/11g Peak power 16.98dBm/11b																										
5. List of the IF & L .O . frequency	3216MHz																										
6. Type of All Filed Antennas(Gain)	Dipole antenna/Class B /Max Peak gain 6.22 dBi																										
7. Antenna Connector	Reverse SMA																										
8. Function Type	Transmitter <input type="checkbox"/> Transceiver <input checked="" type="checkbox"/> V																										
9. Singal Type	Data <input checked="" type="checkbox"/> Audio <input type="checkbox"/> Vido <input type="checkbox"/> Others <input type="checkbox"/>																										
10. Attached Data Cables(length, shield)	N/A																										
11. Power Rating (DC/AC , Voltage)	DC 3.3V / 5V																										
12. Duty Cycle	100%																										
13. Temperature / Humidity Range	0°C to 55°C (32°F to 150°F) 0% to 95% relative humidity, Non-Condensing																										

2 Test Configuration of Equipment under Test

2.1 Test Manner

- a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2001 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
- b. The complete test system included VIEWSONIG Monitor, LOGITECH PS2 Keyboard, LOGITECH PS2 Mouse, ACEEX Modem, EPSON Printer, COMPAQ PC and EUT as local workstation and COMPAQ PC as remote workstation for EMI test.
- c. The EUT can operate on eleven channels from 2412MHz to 2462MHz. (as listed in section 1.4).
- d. The following test modes were pretested for conduction test:
 - Mode 1: 11b TX CH01 (2412MHz)
 - Mode 2: 11b TX CH06 (2437MHz)
 - Mode 3: 11b TX CH11 (2462MHz)
 - Mode 4: 11g TX CH01 (2412MHz)
 - Mode 5: 11g TX CH06 (2437MHz)
 - Mode 6: 11g TX CH11 (2462MHz)

The following test modes were pretested for radiation test:

 - Mode 1: 11b TX CH01 (2412MHz)
 - Mode 2: 11b TX CH06 (2437MHz)
 - Mode 3: 11b TX CH11 (2462MHz)
 - Mode 4: 11g TX CH01 (2412MHz)
 - Mode 5: 11g TX CH06 (2437MHz)
 - Mode 6: 11g TX CH11 (2462MHz)
- e. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

2.2 Description of Test System

Support Unit 1. – Monitor (VIEWSONIG)-local workstation and remote workstation

FCC ID	: N/A
Model No.	: VCDTS21553-3P
Power Supply Type	: Switching
Data Cable	: Shielded, 1.7m
Serial No.	: SP0021
Remark	: This support device was tested to comply with FCC standards and authorized under a declaration of conformity

Support Unit 2. –(PS2)Keyboard (LOGITECH) –local workstation

FCC ID : N/A
Model No. : Y-SJ17
Serial No. : SP0026
Data Cable : Shielded, 1.7m
Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 3. –(PS2)MOUSE (LOGITECH) –local workstation

FCC ID : N/A
Model No. : M-S34
Serial No. : SP0035
Power Cord : Non-Shielded
Data Cable : Shielded, 1.7m
Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 4. –PRINTER(EPSON) –local workstation

FCC ID : N/A
Model No. : STYLUS COLRO 680
Serial No. : SP0042
Power Cord : Non-Shielded
Data Cable : Shielded, 1.35m
Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 5. –MODEM(ACEEX) –local workstation

FCC ID : IFAXDM141
Model No. : DM141
Serial No. : SP0048
Power Cord : Non-Shielded
Data Cable : Shielded, 1.15m
Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

Support Unit 6. –PC (COMPAQ) –local workstation

FCC ID : 3902Q042

Model No. : 0209031

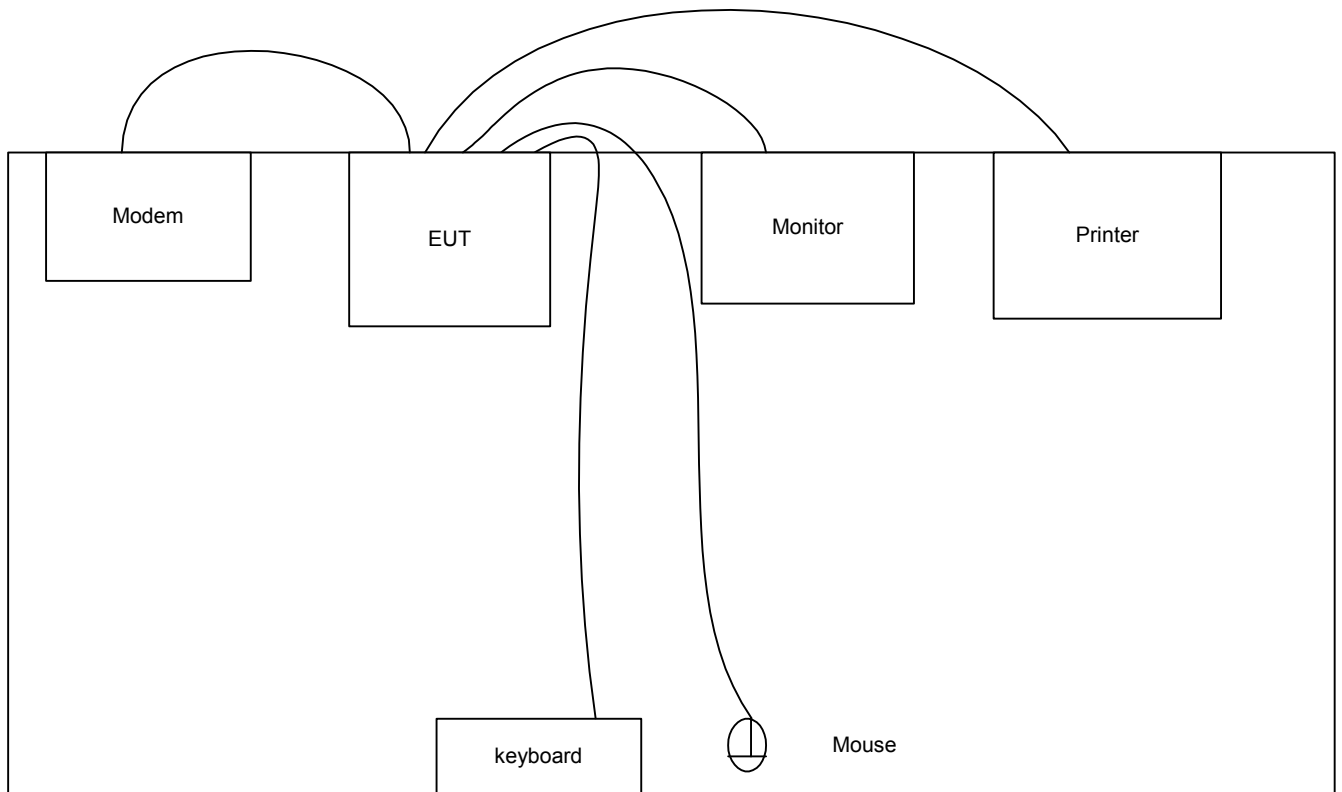
Power Supply Type : Linear

Power Cord : Non-Shielded

Serial No. : SP0052

Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.

2.3 Connection Diagram of Test System



3 Operation of Equipment under Test

An executive program, EMCTEST.EXE on WIN2000 continuously generating a complete line of "H" pattern, was used as the test software.

The program was executed as follows:

- a. Turn on the power of all equipment.
- b. The PC reads the test program from the hard disk drive and runs it.
- c. The PC sends "H" messages to the monitor, and the monitor displays "H" patterns on the screen.
- d. The PC sends "H" messages to the printer, then the printer prints them on the paper.
- e. The PC sends "H" messages to the internal hard disk , and the hard disk reads and writes the message.
- f. Repeat the steps from c to e.

At the same time, the following program was executed:

"CRTV- II " sends continuous Tx.

4 General Information of Test

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055

Test Site No : CO01-HY, 03CH03-HY

4.1 Test Voltage

110V/ 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2001

4.3 Test in Compliance with

47 CFR Part 15 Subpart C

4.4 Frequency Range Investigated

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 25000 MHz

4.5 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.

5 Report of Measurements and Examinations

5.1 List of Measurements and Examinations

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.209(a)	Radiated Emission	Pass
15.247 (c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.247(d)	Power Spectral Density	Pass
15.203	Antenna Requirement	Pass
15.247(b)(4), 1.1307	RF Exposure	Pass

5.2 6dB Bandwidth

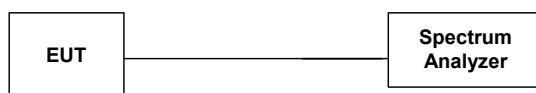
5.2.1 Measuring Instruments :

As described in chapter 7 of this test report.

5.2.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

5.2.3 Test Setup Layout :



5.2.4 Test Result :

- Mode 1~3 : WLAN 802.11b
- Temperature : 25°C
- Relative Humidity : 52%

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	8.64	0.5	Mode 1
06	2437	8.64	0.5	Mode 2
11	2462	8.64	0.5	Mode 3

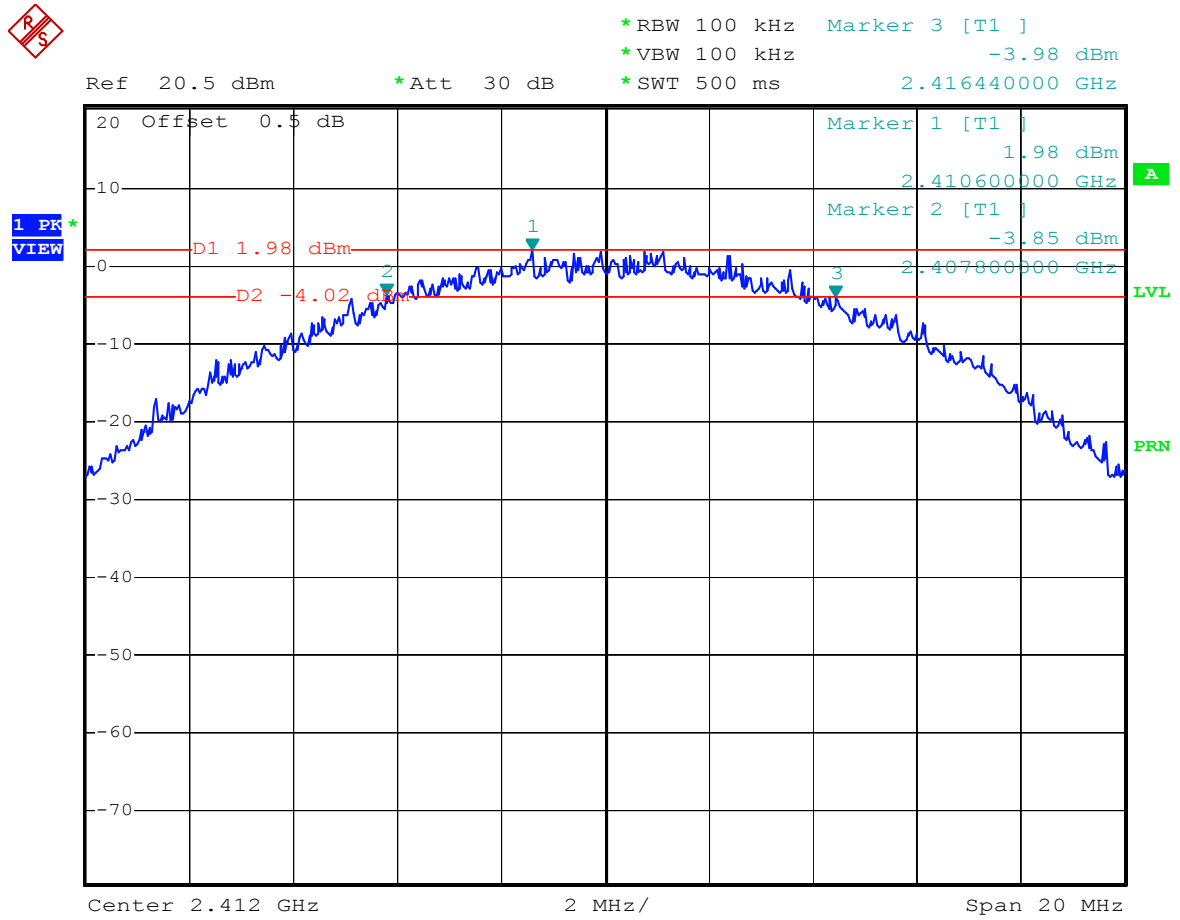
5.2.5 Test Result :

- Mode 4~6 : WLAN 802.11g
- Temperature : 25°C
- Relative Humidity : 52%

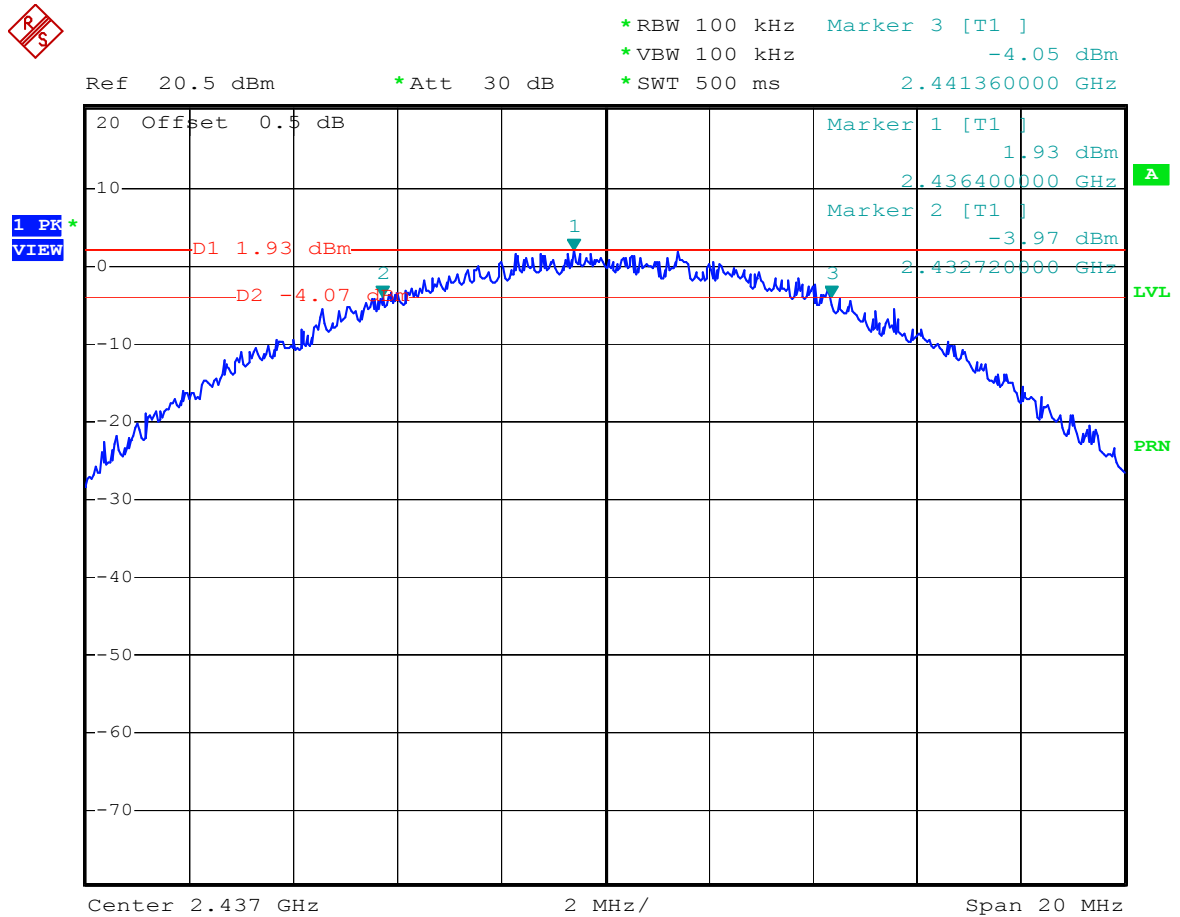
Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.48	0.5	Mode 4
06	2437	16.48	0.5	Mode 5
11	2462	16.44	0.5	Mode 6

5.2.6 6dB Bandwidth

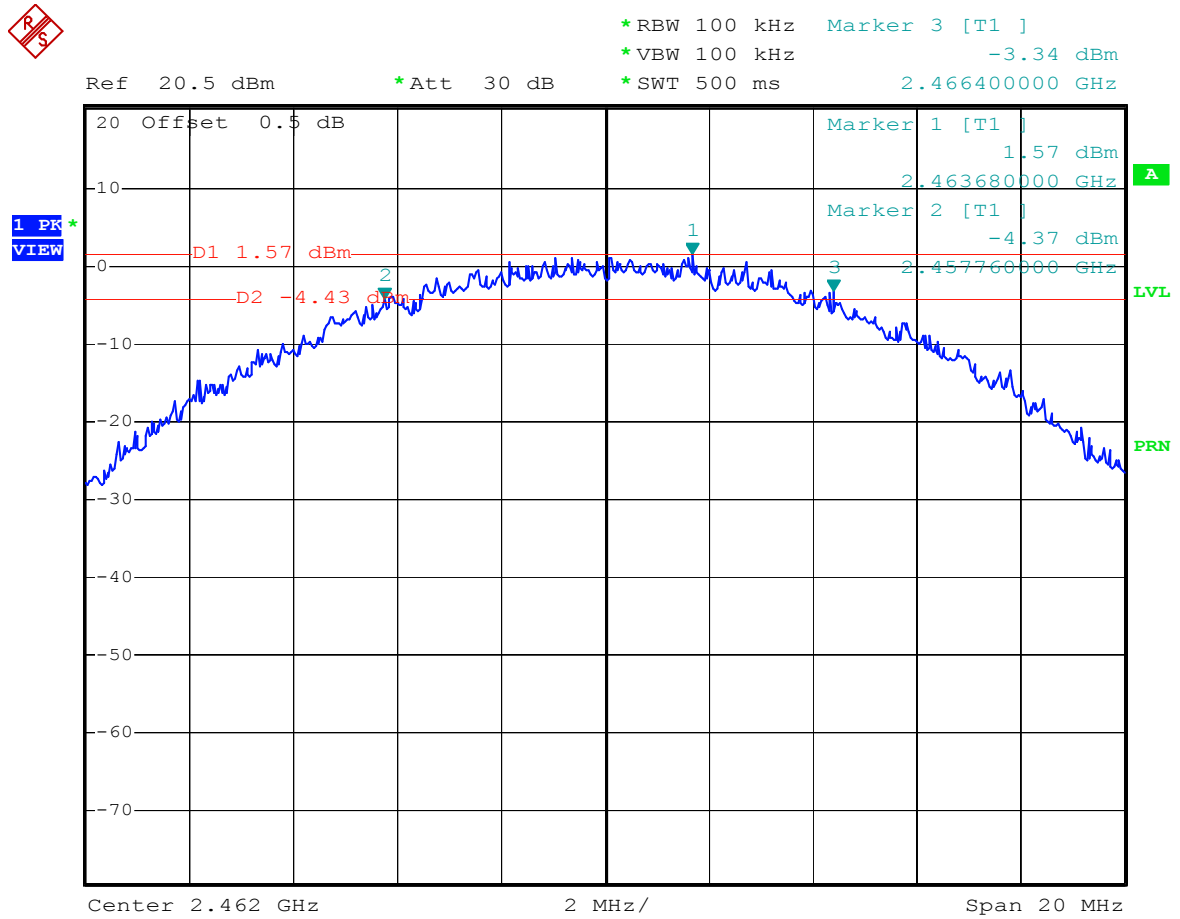
Mode 1 : 802.11b CH01 (2412MHz)



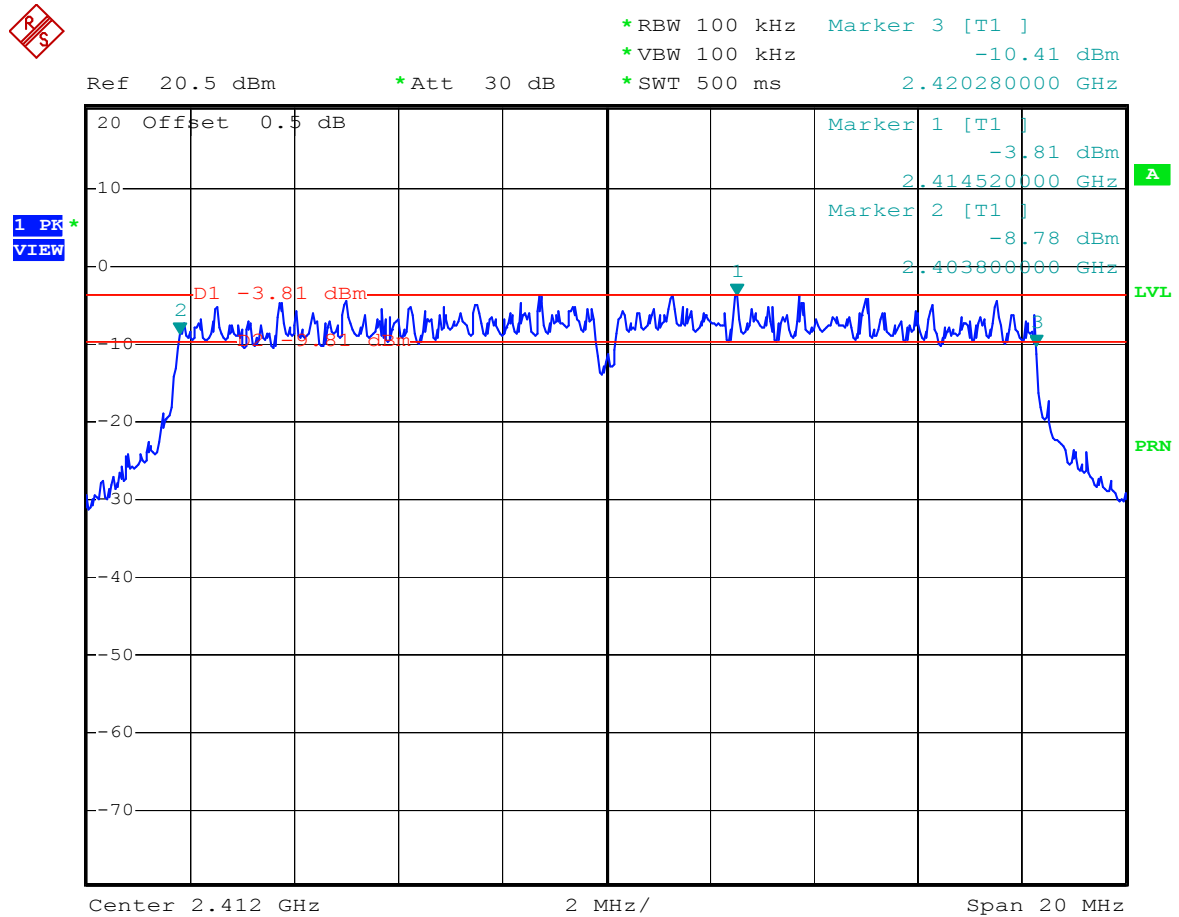
Mode 2 : 802.11b CH06 (2437MHz)



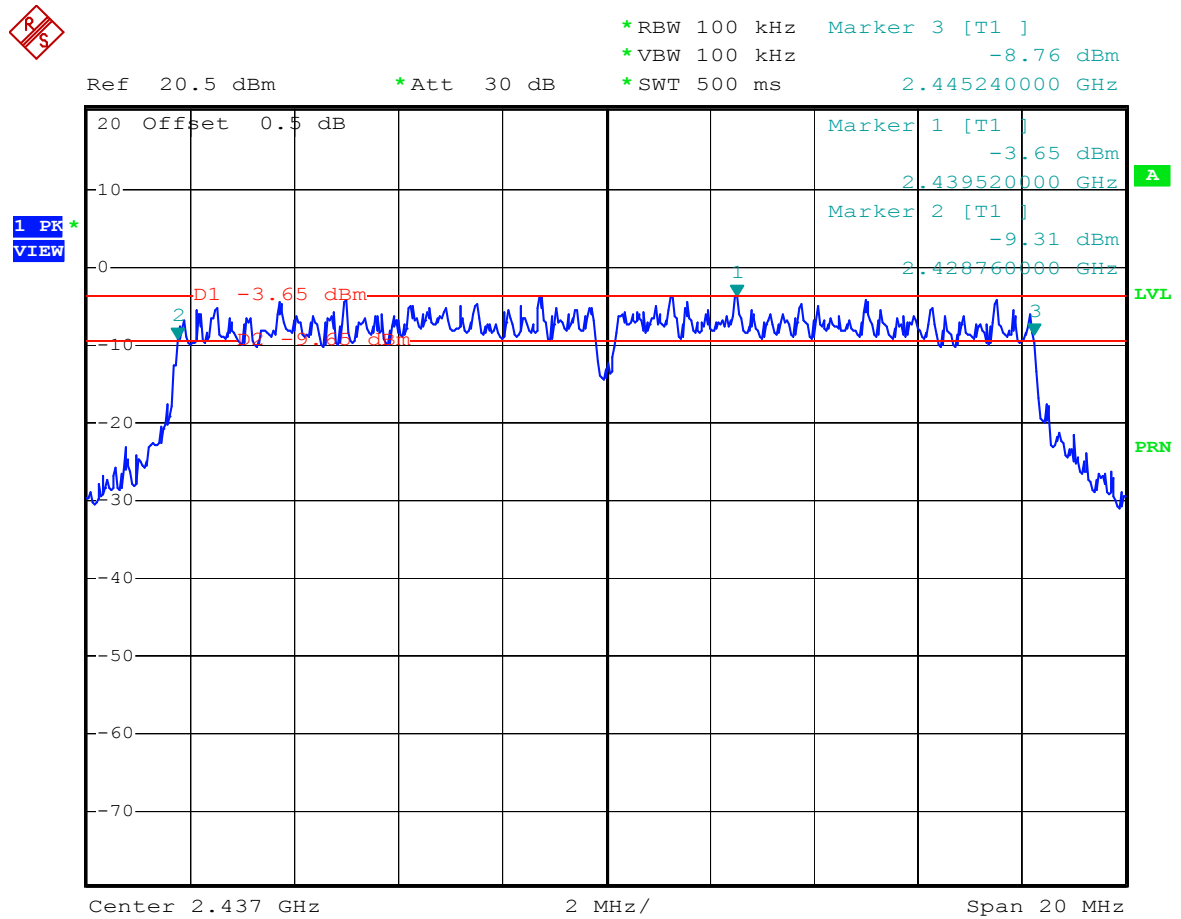
Mode 3 : 802.11b CH11(2462MHz)



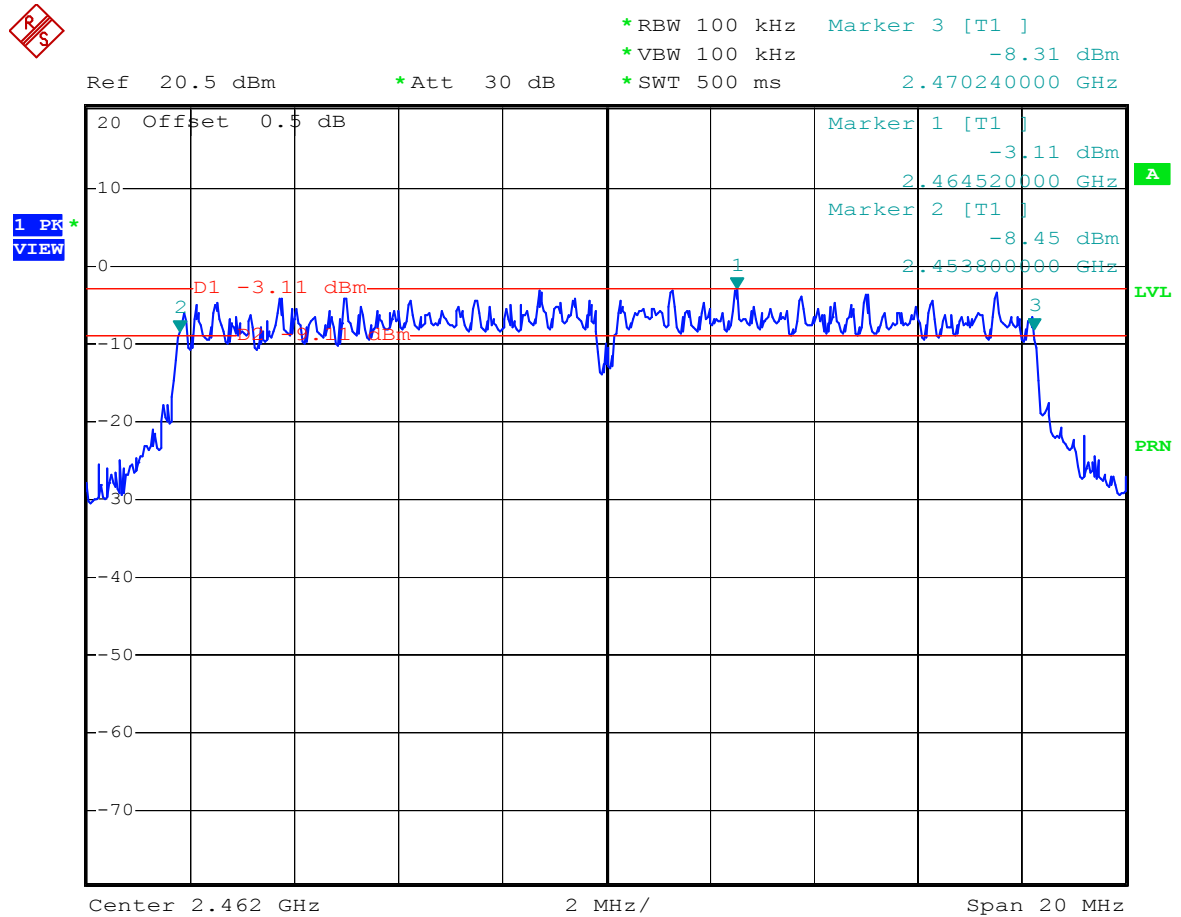
Mode 4 : 802.11g CH01 (2412MHz)



Mode 5 : 802.11g CH06 (2437MHz)



Mode 6 : 802.11g CH11(2462MHz)



5.3 Power Spectral Density

5.3.1 Measuring Instruments :

As described in chapter 7 of this test report.

5.3.2 Test Procedure :

1. The transmitter output was connected to spectrum analyzer through an attenuator.
2. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
3. The power spectral density was measured and recorded.
4. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.3.3 Test Setup Layout :



5.3.4 Test Result :

- Mode 1~3: WLAN 802.11b
- Temperature : 25°C,
- Relative Humidity : 52%

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-11.94	8	Mode 1
06	2437	-13.30	8	Mode 2
11	2462	-13.87	8	Mode 3

5.3.5 Test Result :

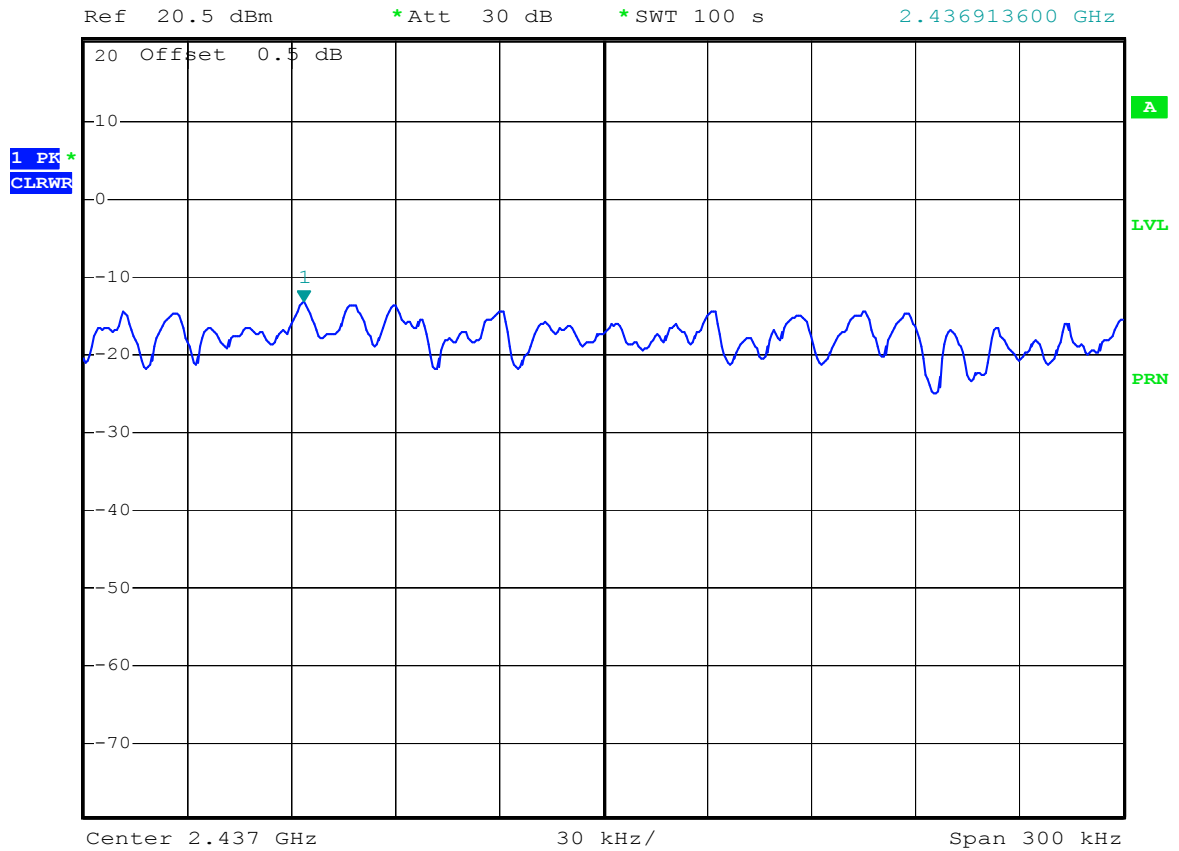
- Mode 4~6: WLAN 802.11g
- Temperature : 25°C,
- Relative Humidity : 52%

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-20.73	8	Mode 1
06	2437	-20.94	8	Mode 2
11	2462	-20.05	8	Mode 3

Mode 2 : 802.11b CH06 (2437MHz)



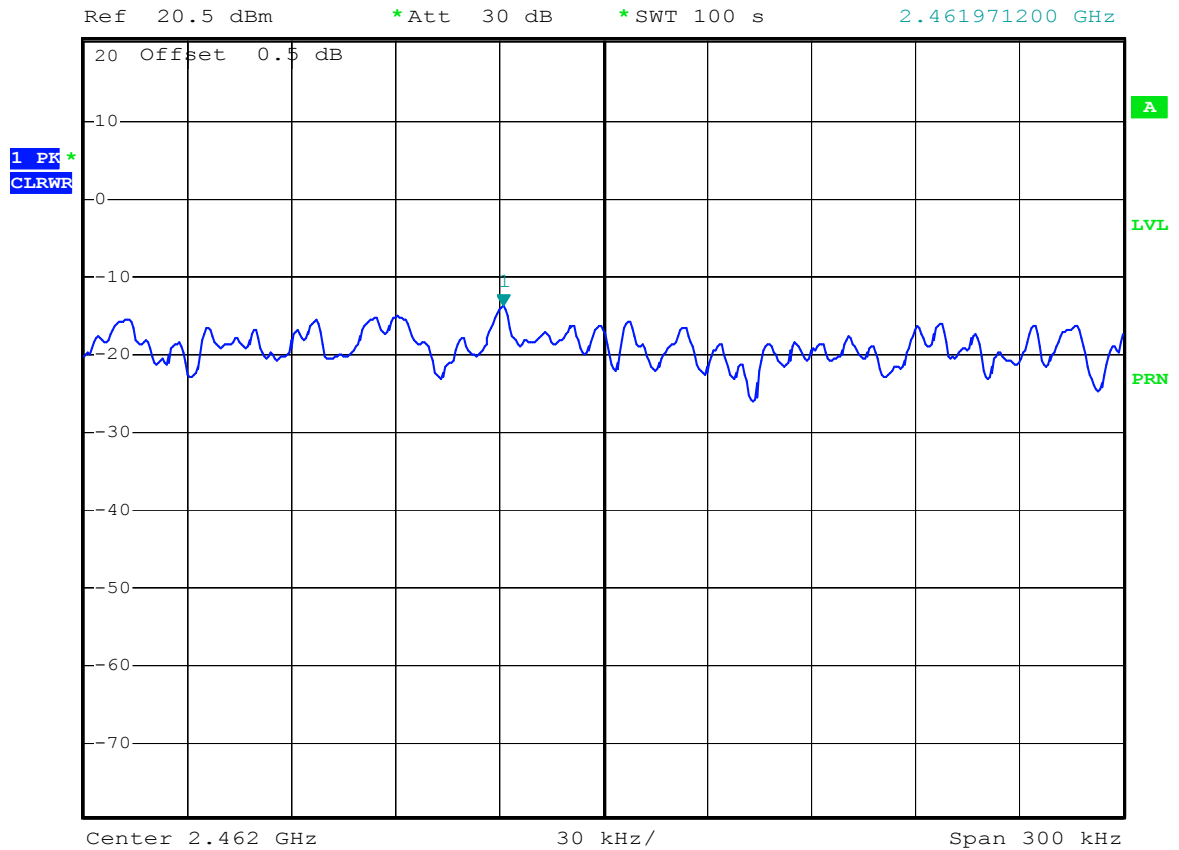
*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -13.30 dBm
*SWT 100 s 2.436913600 GHz



Mode 3 : 802.11b CH11 (2462MHz)



*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -13.87 dBm
*SWT 100 s 2.461971200 GHz



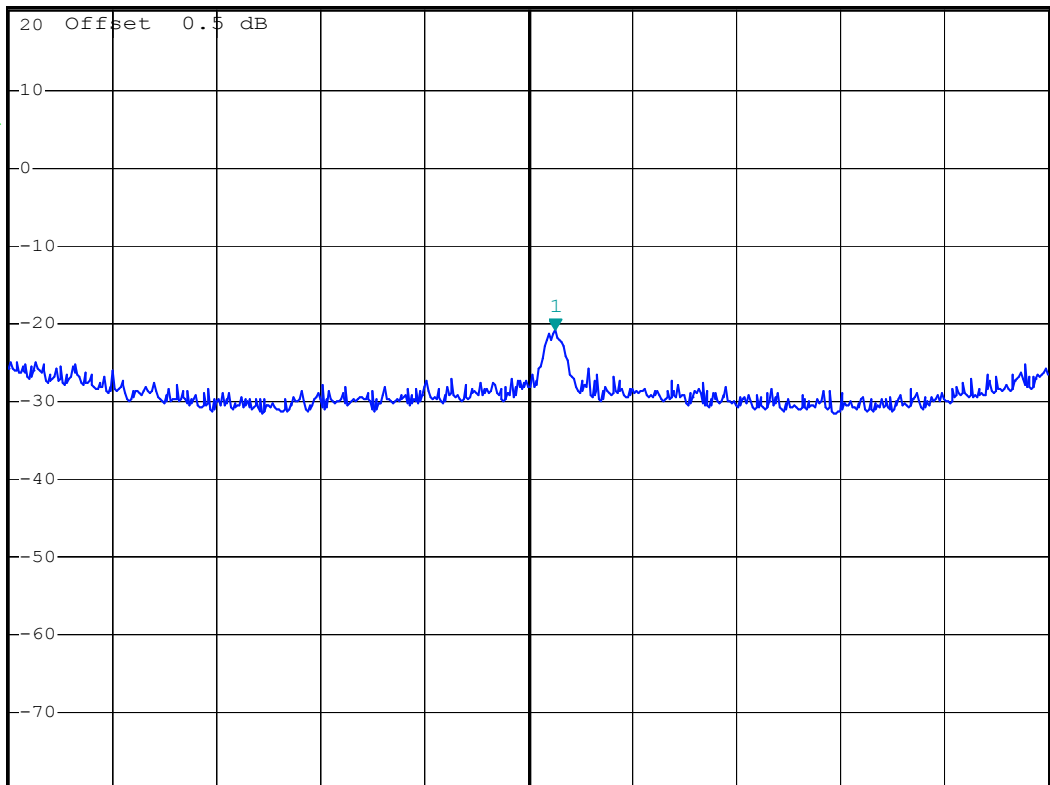
Mode 4 : 802.11g CH01(2412MHz)



*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -20.73 dBm
*SWT 100 s 2.412007800 GHz

Ref 20.5 dBm *Att 30 dB

1 PK*
CLRWR

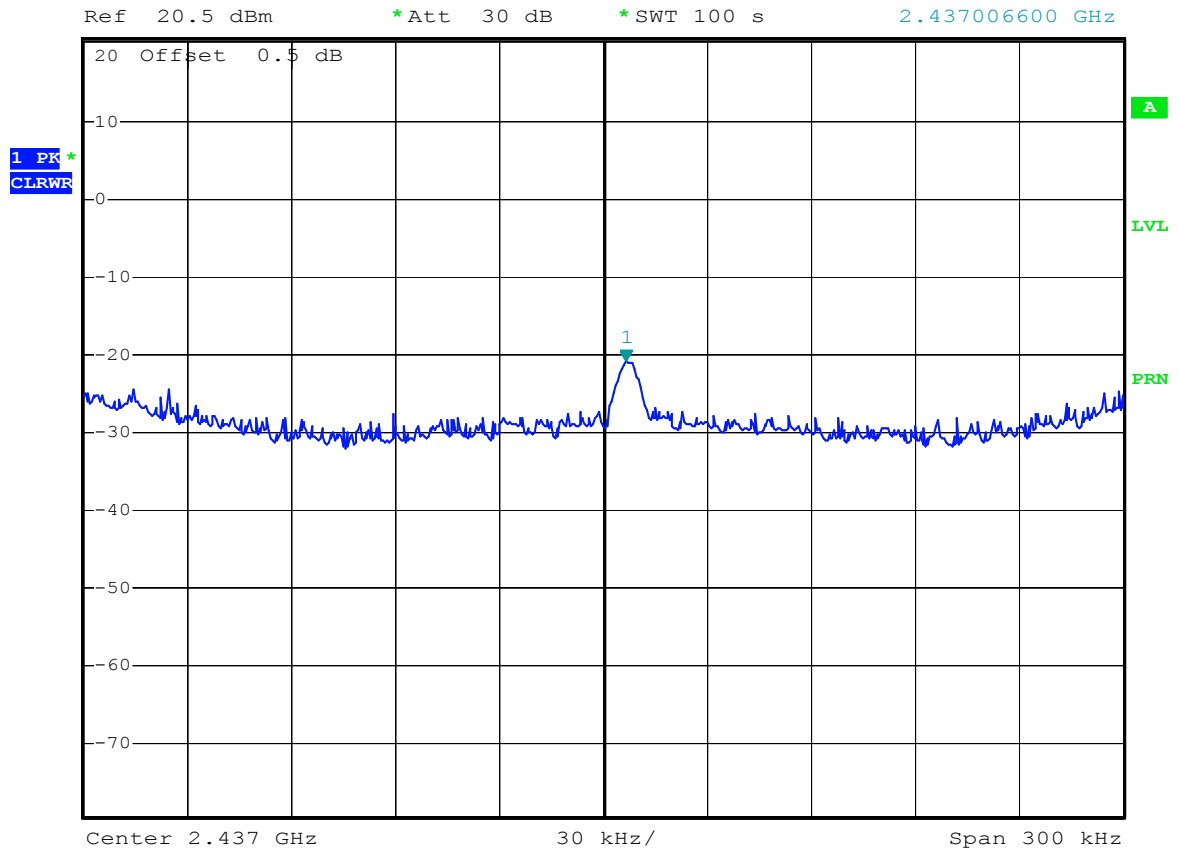


Center 2.412 GHz 30 kHz/ Span 300 kHz

Mode 5 : 802.11g CH06 (2437MHz)



*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -20.94 dBm
*SWT 100 s 2.437006600 GHz



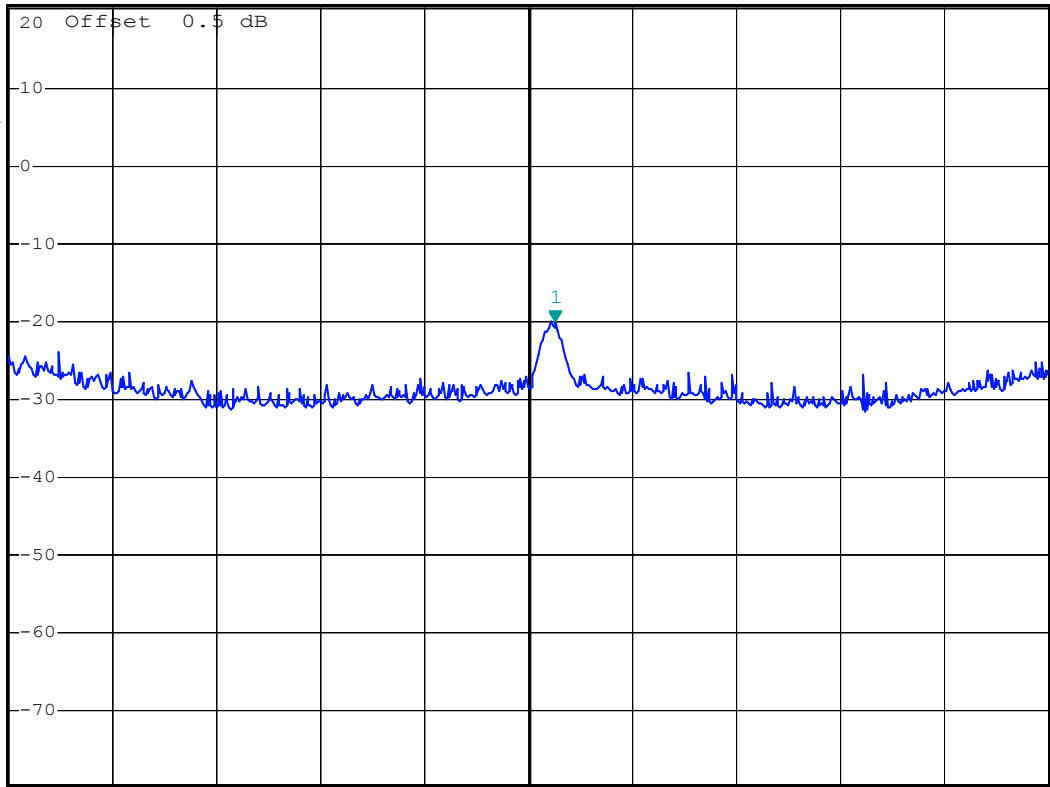
Mode 6 : 802.11g CH11 (2462MHz)



*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -20.05 dBm
*SWT 100 s 2.462007800 GHz

Ref 20.5 dBm *Att 30 dB

1 PK*
CLRWR



Center 2.462 GHz 30 kHz/ Span 300 kHz

5.4 Band Edges Measurement

5.4.1 Measuring Instruments :

As described in chapter 7 of this test report.

5.4.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

5.4.3 Test Result :

- Mode 1 and 3 : WLAN 802.11b
- Temperature : 25°C,
- Relative Humidity : 52%

- Test Result in lower band (Channel 1) : PASS
- Test Result in higher band (Channel 11) : PASS

5.4.4 Note on Band Edge Emission

The band edge emission shows 47.49 dB delta between carrier maximum power and local maximum emission in the restricted band (2.390GHz).

The band edge emission shows 45.73 dB delta between carrier maximum power and local maximum emission in the restricted band (2.4835GHz)

802.11b

Channel	Polarity	The emission of carrier power strength	Frequency	The emission of band edge power strength	Limit	Margin	Remark	Result
		(dB μ V/m)		(dB μ V/m)				
01	V	100.16	2385.2	52.67	74	-21.33	Peak	Pass
	V	88.50	2385.2	41.01	54	-12.99	Average	Pass
	H	108.63	2385.2	61.14	74	-12.86	Peak	Pass
	H	95.81	2385.2	48.32	54	-5.68	Average	Pass
11	V	105.27	2488.1	57.78	74	-14.46	Peak	Pass
	V	93.86	2488.1	46.37	54	-5.87	Average	Pass
	H	107.98	2488.1	62.25	74	-11.75	Peak	Pass
	H	95.76	2488.1	50.03	54	-3.97	Average	Pass

5.4.5 Test Result :

- Mode 4 and 6 : WLAN 802.11g
- Temperature : 25°C,
- Relative Humidity : 52%

- Test Result in lower band (Channel 1) : PASS
- Test Result in higher band (Channel 11) : PASS

5.4.6 Note on Band Edge Emission

The band edge emission shows 40.40 dB delta between carrier maximum power and local maximum emission in the restricted band (2.390GHz).

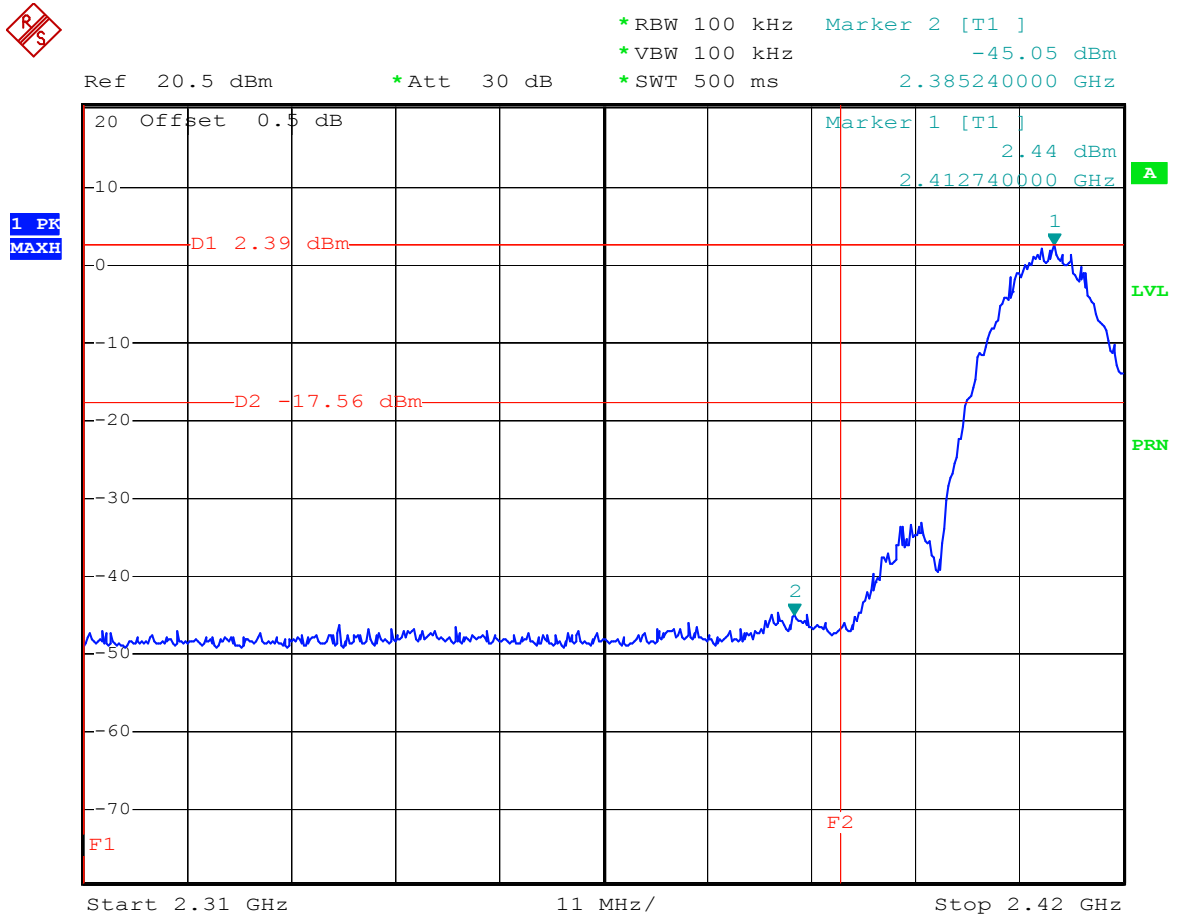
The band edge emission shows 40.18 dB delta between carrier maximum power and local maximum emission in the restricted band (2.4835GHz).

802.11g

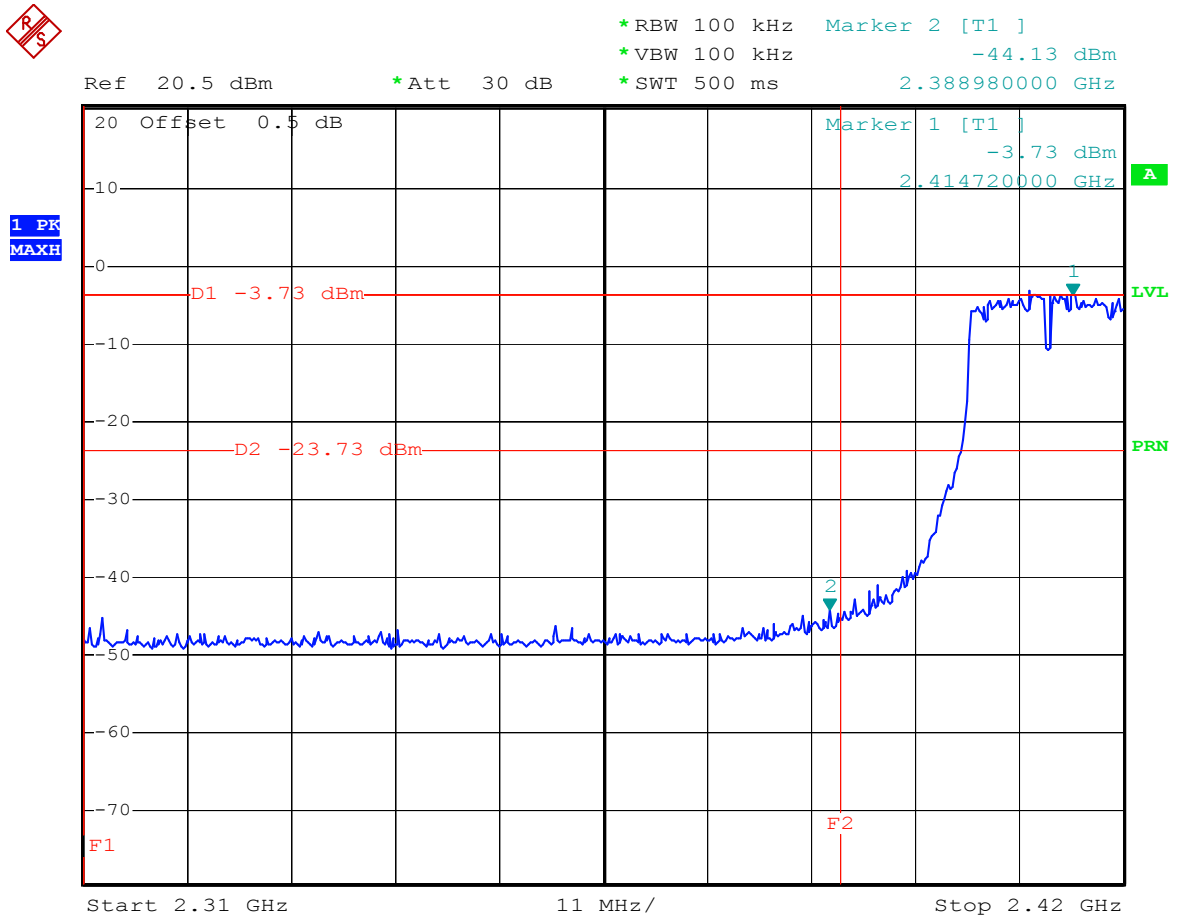
Channel	Polarity	The emission of carrier power strength	Frequency	The emission of band edge power strength	Limit	Margin	Remark	Result
		(dB μ V/m)	(MHz)	(dB μ V/m)	(dB μ V/m)	(dB)		
01	V	100.54	2388.9	60.14	74	-13.86	Peak	Pass
	V	61.29	2388.9	20.89	54	-33.11	Average	Pass
	H	106.94	2388.9	66.54	74	-7.46	Peak	Pass
	H	67.43	2388.9	27.03	54	-26.97	Average	Pass
11	V	103.68	2486.7	63.5	74	-10.50	Peak	Pass
	V	62.62	2486.7	22.44	54	-31.56	Average	Pass
	H	107.33	2486.7	67.15	74	-6.85	Peak	Pass
	H	64.51	2486.7	24.33	54	-29.67	Average	Pass

5.4.7 20dB Band Edge

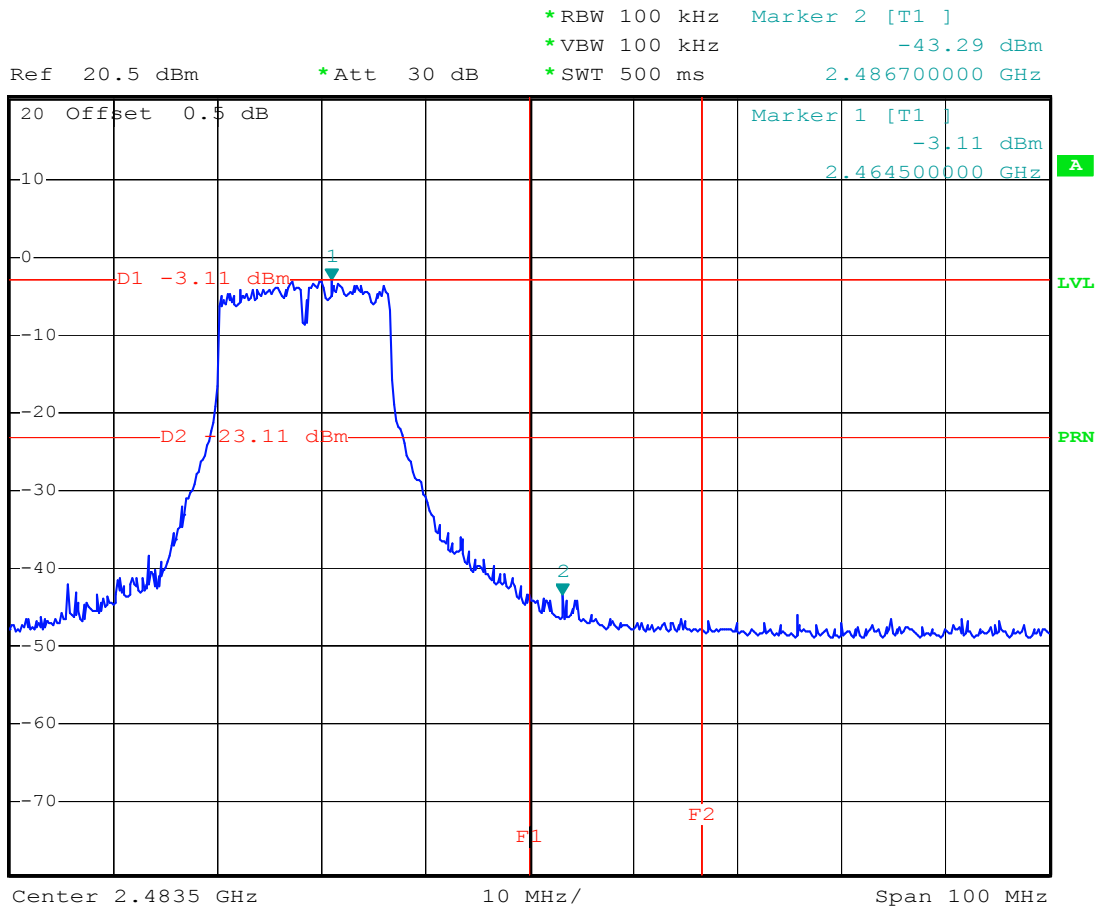
Mode1 : 802.11b CH01 (2412MHz)



Mode3 : 802.11g CH01 (2412MHz)



Mode 4 : 802.11g CH11 (2462MHz)



5.5 Peak Output Power

5.5.1 Measuring Instruments :

As described in chapter 7 of this test report.

5.5.2 Test Procedure :

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter.
 The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.

5.5.3 Test Setup Layout :



5.5.4 Test Result :

- Mode 1~3 : WLAN 802.11b
- Temperature : 25°C
- Relative Humidity : 52 %
- Antenna Gain: 6.22 dBi

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	16.93	1W/30 dBm
06	2437	16.98	1W/30 dBm
11	2462	16.46	1W/30 dBm

5.5.5 Test Result :

- Mode 4~6 : WLAN 802.11g
- Temperature : 25°C
- Relative Humidity : 52 %
- Antenna Gain: 6.22 dBi

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	17.93	1W/30 dBm
06	2437	17.70	1W/30 dBm
11	2462	18.11	1W/30 dBm

6. Test of Conducted Emission

Conducted emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4-2001 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

6.1. Major Measuring Instruments

● Test Receiver	(R&S ESCS 30)
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

6.2. Test Procedures

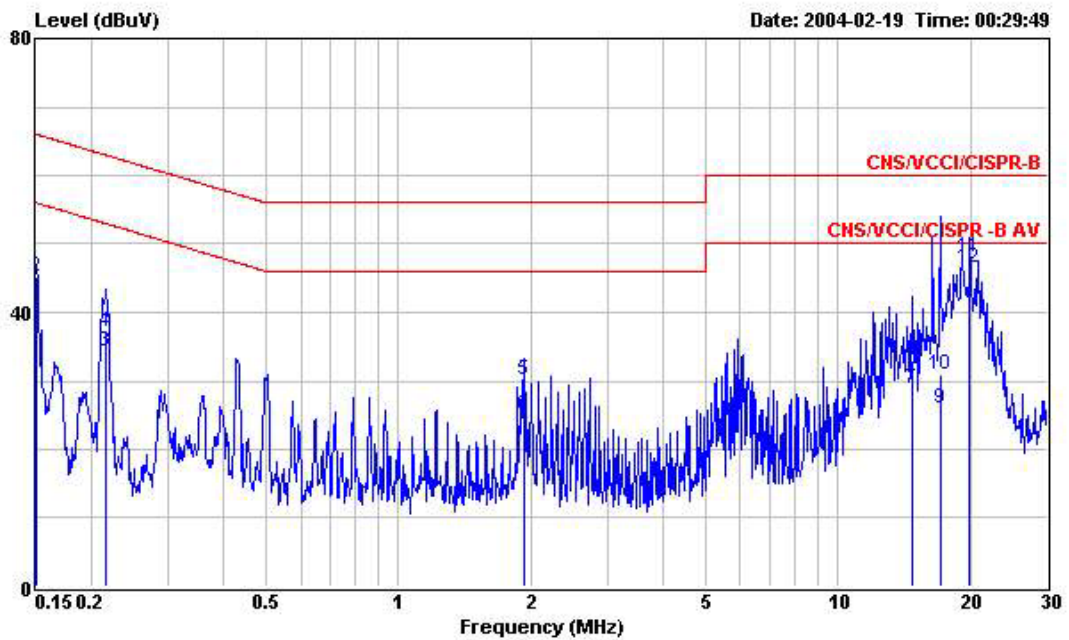
- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of the line impedance stabilization network (LISN).
- c. All the support units are connect to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

6.3. Test Result of Conducted Emission

6.3.1 Frequency Range of Test : 150kHz to 30 MHz

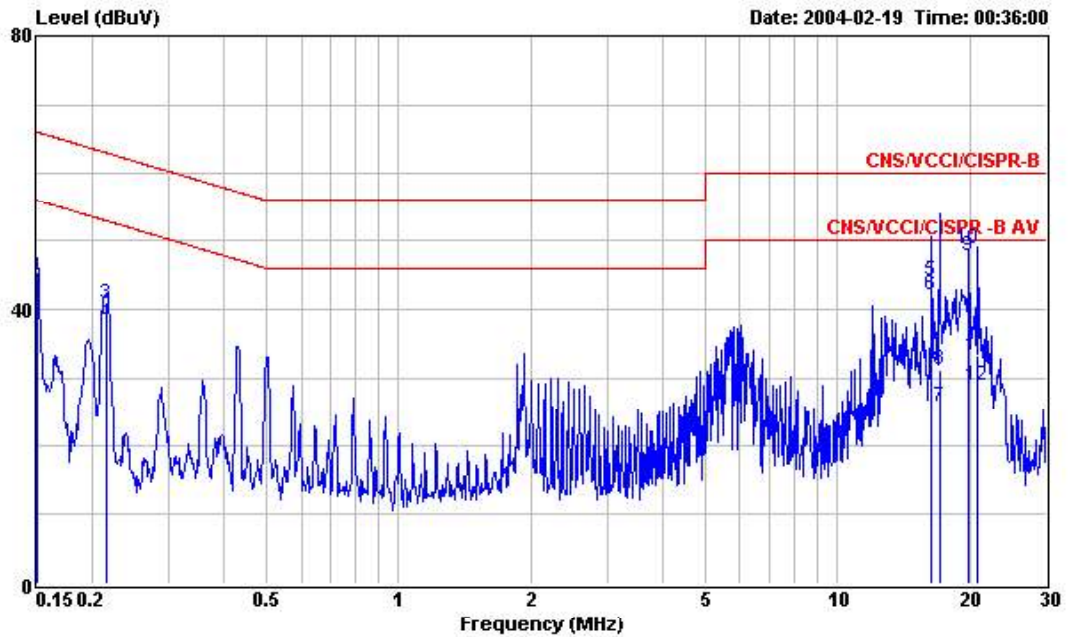
- Test Mode : Mode 1
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH01

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	42.98	-13.02	56.00	42.77	0.10	0.11	Average
2	0.150	45.23	-20.77	66.00	45.02	0.10	0.11	QP
3	0.216	34.34	-18.63	52.97	34.11	0.10	0.13	Average
4	0.216	37.12	-25.85	62.97	36.89	0.10	0.13	QP
5	1.930	30.16	-25.84	56.00	30.00	0.10	0.06	QP
6	1.930	24.99	-21.01	46.00	24.83	0.10	0.06	Average
7	14.830	28.85	-21.15	50.00	28.47	0.20	0.18	Average
8	14.830	33.09	-26.91	60.00	32.71	0.20	0.18	QP
9	17.110	25.85	-24.15	50.00	25.42	0.25	0.18	Average
10	17.110	30.99	-29.01	60.00	30.56	0.25	0.18	QP
11	19.950	48.15	-11.85	60.00	47.66	0.30	0.19	QP
12	19.950	46.39	-3.61	50.00	45.90	0.30	0.19	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH01

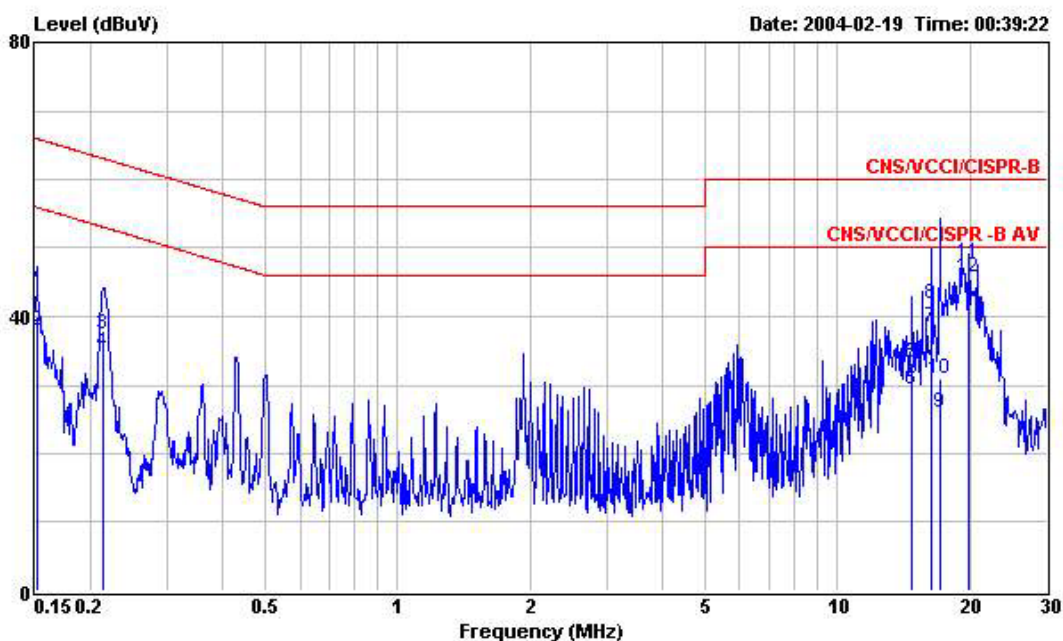
	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	45.57	-20.43	66.00	45.36	0.10	0.11	QP
2	0.150	43.42	-12.58	56.00	43.21	0.10	0.11	Average
3	0.216	40.73	-22.24	62.97	40.50	0.10	0.13	QP
4	0.216	37.92	-15.05	52.97	37.69	0.10	0.13	Average
5	16.400	44.25	-15.75	60.00	43.77	0.30	0.18	QP
6	16.400	42.18	-7.82	50.00	41.70	0.30	0.18	Average
7	17.110	25.78	-24.22	50.00	25.30	0.30	0.18	Average
8	17.110	31.08	-28.92	60.00	30.60	0.30	0.18	QP
9	19.950	47.84	-2.16	50.00	47.35	0.30	0.19	Average
10	19.950	48.88	-11.12	60.00	48.39	0.30	0.19	QP
11	20.920	33.21	-26.79	60.00	32.67	0.34	0.20	QP
12	20.920	28.87	-21.13	50.00	28.33	0.34	0.20	Average

Test Engineer : Jay
 Jay

6.3.2 Frequency Range of Test : 150kHz to 30 MHz

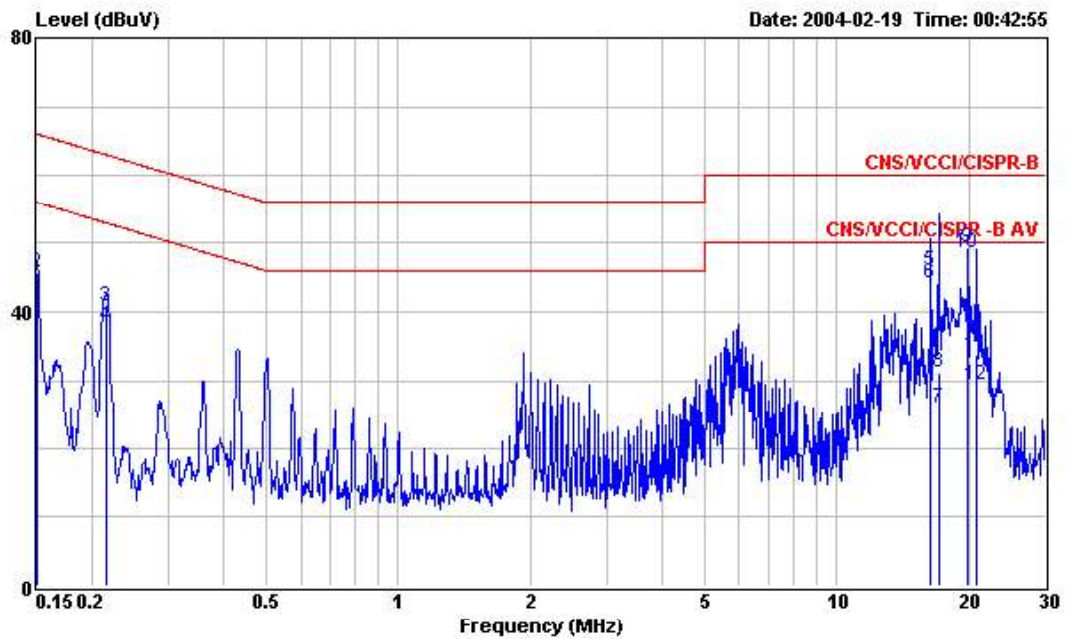
- Test Mode : Mode 2
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HV
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH06

	Over	Limit	Read	Probe	Cable		
Freq	Level	Limit	Line	Level	Factor	Loss	
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	40.09	-25.85	65.94	39.88	0.10	0.11 QP
2	0.151	37.91	-18.03	55.94	37.70	0.10	0.11 Average
3	0.214	37.38	-25.67	63.05	37.15	0.10	0.13 QP
4	0.214	34.69	-18.36	53.05	34.46	0.10	0.13 Average
5	14.830	33.13	-26.87	60.00	32.75	0.20	0.18 QP
6	14.830	29.36	-20.64	50.00	28.98	0.20	0.18 Average
7	16.400	38.35	-11.65	50.00	37.94	0.23	0.18 Average
8	16.400	41.73	-18.27	60.00	41.32	0.23	0.18 QP
9	17.110	25.91	-24.09	50.00	25.48	0.25	0.18 Average
10	17.110	30.95	-29.05	60.00	30.52	0.25	0.18 QP
11	19.950	47.81	-12.19	60.00	47.32	0.30	0.19 QP
12	19.950	45.82	-4.18	50.00	45.33	0.30	0.19 Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH06

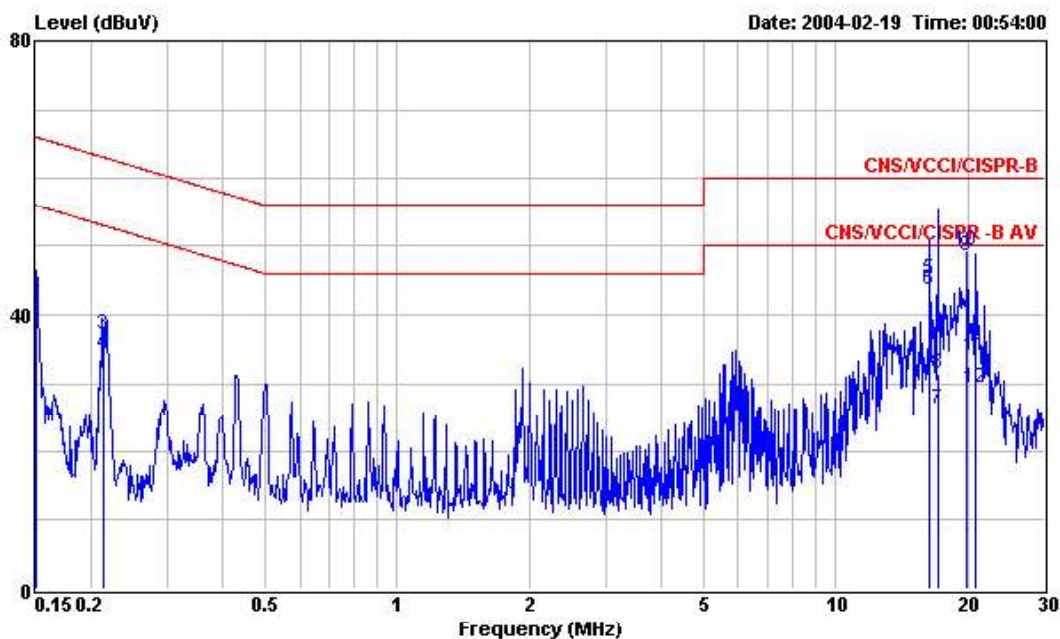
	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	43.42	-12.58	56.00	43.21	0.10	0.11	Average
2	0.150	45.59	-20.41	66.00	45.38	0.10	0.11	QP
3	0.216	40.71	-22.26	62.97	40.48	0.10	0.13	QP
4	0.216	37.92	-15.05	52.97	37.69	0.10	0.13	Average
5	16.400	45.93	-14.07	60.00	45.45	0.30	0.18	QP
6	16.400	44.15	-5.85	50.00	43.67	0.30	0.18	Average
7	17.110	25.96	-24.04	50.00	25.48	0.30	0.18	Average
8	17.110	31.18	-28.82	60.00	30.70	0.30	0.18	QP
9	19.950	49.40	-10.60	60.00	48.91	0.30	0.19	QP
10	19.950	48.61	-1.39	50.00	48.12	0.30	0.19	Average
11	20.920	33.86	-26.14	60.00	33.32	0.34	0.20	QP
12	20.920	29.47	-20.53	50.00	28.93	0.34	0.20	Average

Test Engineer : Jay
 Jay

6.3.3 Frequency Range of Test : 150kHz to 30 MHz

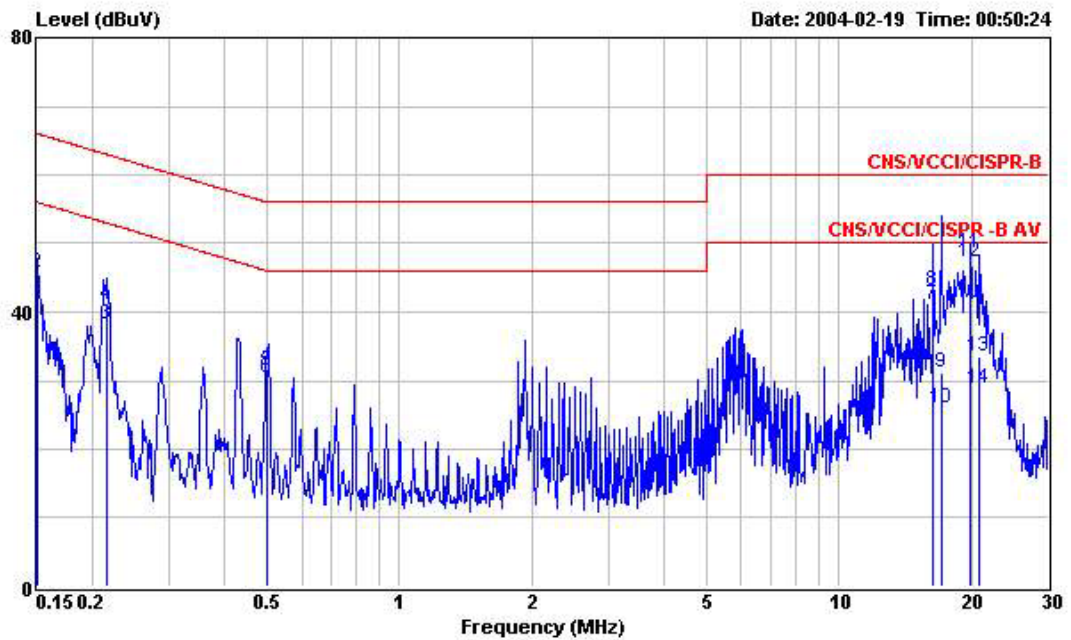
- Test Mode : Mode 3
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH11

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	45.21	-20.79	66.00	45.00	0.10	0.11	QP
2	0.150	42.98	-13.02	56.00	42.77	0.10	0.11	Average
3	0.213	37.08	-26.01	63.09	36.85	0.10	0.13	QP
4	0.213	34.30	-18.79	53.09	34.07	0.10	0.13	Average
5	16.400	45.26	-14.74	60.00	44.85	0.23	0.18	QP
6	16.400	43.63	-6.37	50.00	43.22	0.23	0.18	Average
7	17.110	26.31	-23.69	50.00	25.88	0.25	0.18	Average
8	17.110	31.41	-28.59	60.00	30.98	0.25	0.18	QP
9	19.950	48.68	-1.32	50.00	48.19	0.30	0.19	Average
10	19.950	49.48	-10.52	60.00	48.99	0.30	0.19	QP
11	20.920	33.90	-26.10	60.00	33.36	0.34	0.20	QP
12	20.920	29.22	-20.78	50.00	28.68	0.34	0.20	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11b WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11b TX CH11

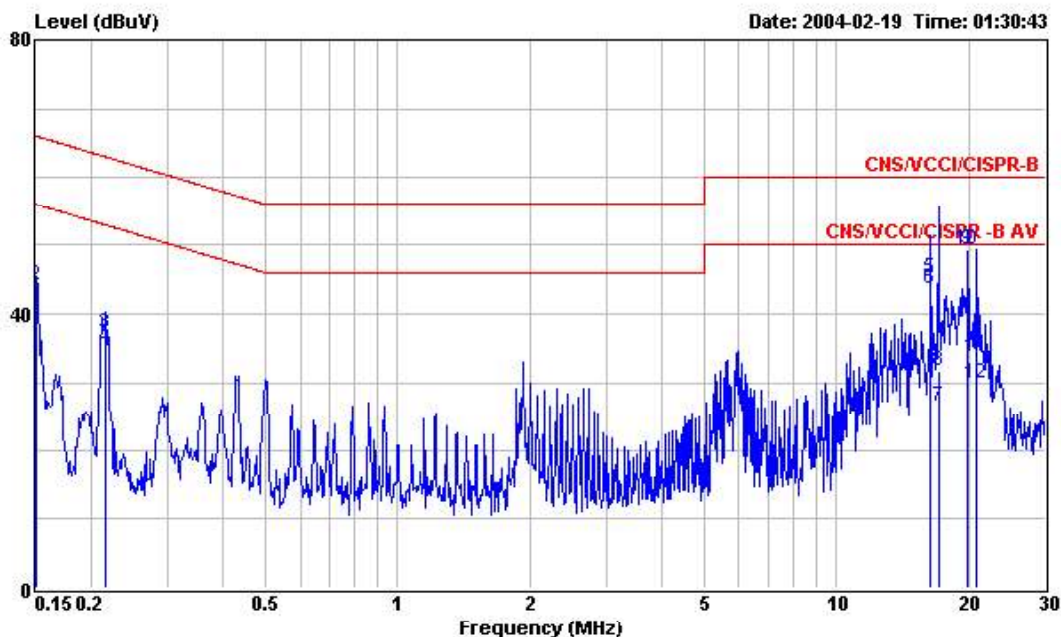
	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	43.57	-12.43	56.00	43.36	0.10	0.11	Average
2	0.150	45.71	-20.29	66.00	45.50	0.10	0.11	QP
3	0.215	38.21	-14.80	53.01	37.98	0.10	0.13	Average
4	0.215	40.97	-22.04	63.01	40.74	0.10	0.13	QP
5	0.502	31.39	-24.61	56.00	31.25	0.10	0.04	QP
6	0.502	30.46	-15.54	46.00	30.32	0.10	0.04	Average
7	16.400	41.15	-8.85	50.00	40.67	0.30	0.18	Average
8	16.400	43.16	-16.84	60.00	42.68	0.30	0.18	QP
9	17.110	31.06	-28.94	60.00	30.58	0.30	0.18	QP
10	17.110	26.02	-23.98	50.00	25.54	0.30	0.18	Average
11	19.950	48.49	-11.51	60.00	48.00	0.30	0.19	QP
12	19.950	47.17	-2.83	50.00	46.68	0.30	0.19	Average
13	20.920	33.48	-26.52	60.00	32.94	0.34	0.20	QP
14	20.920	28.87	-21.13	50.00	28.33	0.34	0.20	Average

Test Engineer : Jay
 Jay

6.3.4 Frequency Range of Test : 150kHz to 30 MHz

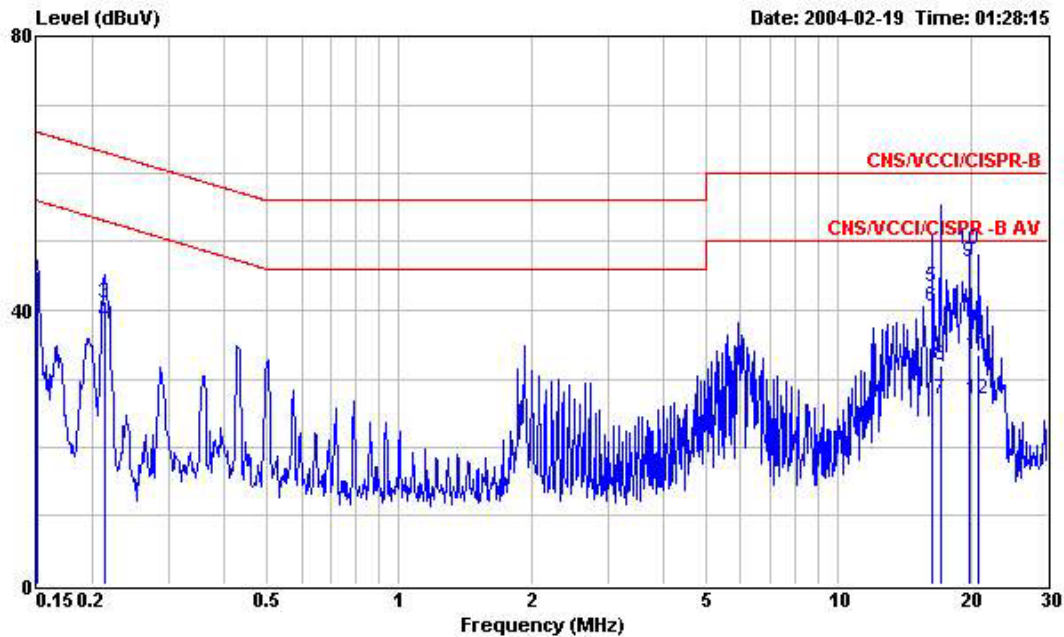
- Test Mode : Mode 4
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11g WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11g TX CH01

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	Remark
1	0.150	45.11	-20.89	66.00	44.90	0.10	0.11	QP
2	0.150	44.10	-11.90	56.00	43.89	0.10	0.11	Average
3	0.216	37.08	-25.89	62.97	36.85	0.10	0.13	QP
4	0.216	35.02	-17.95	52.97	34.79	0.10	0.13	Average
5	16.400	45.16	-14.84	60.00	44.75	0.23	0.18	QP
6	16.400	43.71	-6.29	50.00	43.30	0.23	0.18	Average
7	17.110	26.39	-23.61	50.00	25.96	0.25	0.18	Average
8	17.110	31.63	-28.37	60.00	31.20	0.25	0.18	QP
9	19.950	49.38	-0.62	50.00	48.89	0.30	0.19	Average
10	19.950	49.42	-10.58	60.00	48.93	0.30	0.19	QP
11	20.920	33.76	-26.24	60.00	33.22	0.34	0.20	QP
12	20.920	29.78	-20.22	50.00	29.24	0.34	0.20	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11g WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11g TX CH01

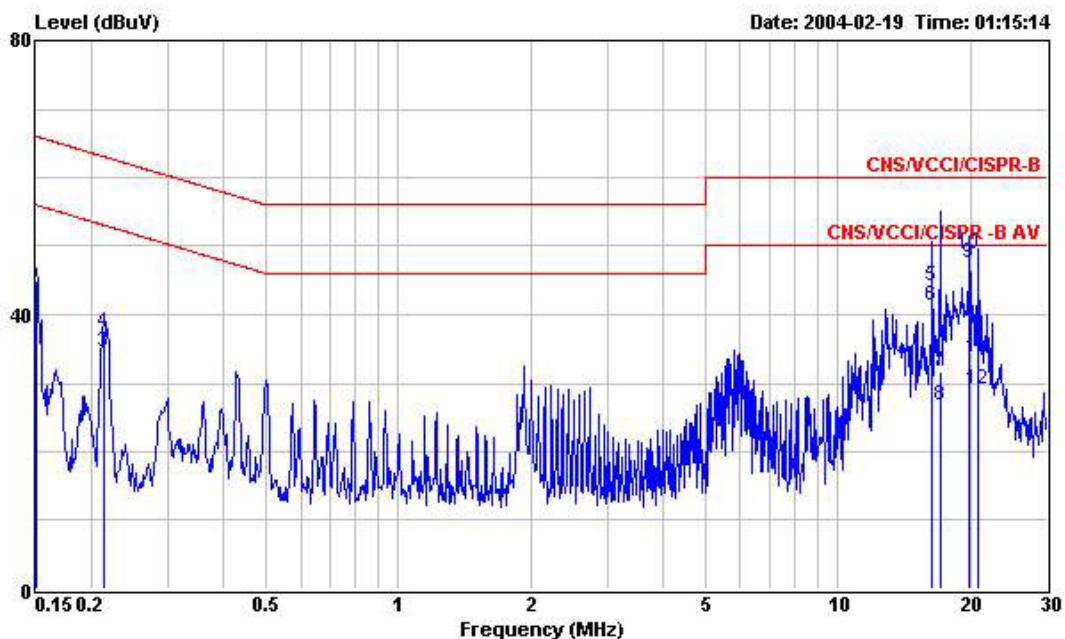
	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	Remark
1	0.150	45.63	-20.37	66.00	45.42	0.10	0.11	QP
2	0.150	41.04	-14.96	56.00	40.83	0.10	0.11	Average
3	0.214	41.05	-22.00	63.05	40.82	0.10	0.13	QP
4	0.214	38.09	-14.96	53.05	37.86	0.10	0.13	Average
5	16.400	43.38	-16.62	60.00	42.90	0.30	0.18	QP
6	16.400	40.49	-9.51	50.00	40.01	0.30	0.18	Average
7	17.110	27.04	-22.96	50.00	26.56	0.30	0.18	Average
8	17.110	31.86	-28.14	60.00	31.38	0.30	0.18	QP
9	19.950	47.08	-2.92	50.00	46.59	0.30	0.19	Average
10	19.950	48.73	-11.27	60.00	48.24	0.30	0.19	QP
11	20.920	33.48	-26.52	60.00	32.94	0.34	0.20	QP
12	20.920	27.12	-22.88	50.00	26.58	0.34	0.20	Average

Test Engineer : Jay
 Jay

6.3.5 Frequency Range of Test : 150kHz to 30 MHz

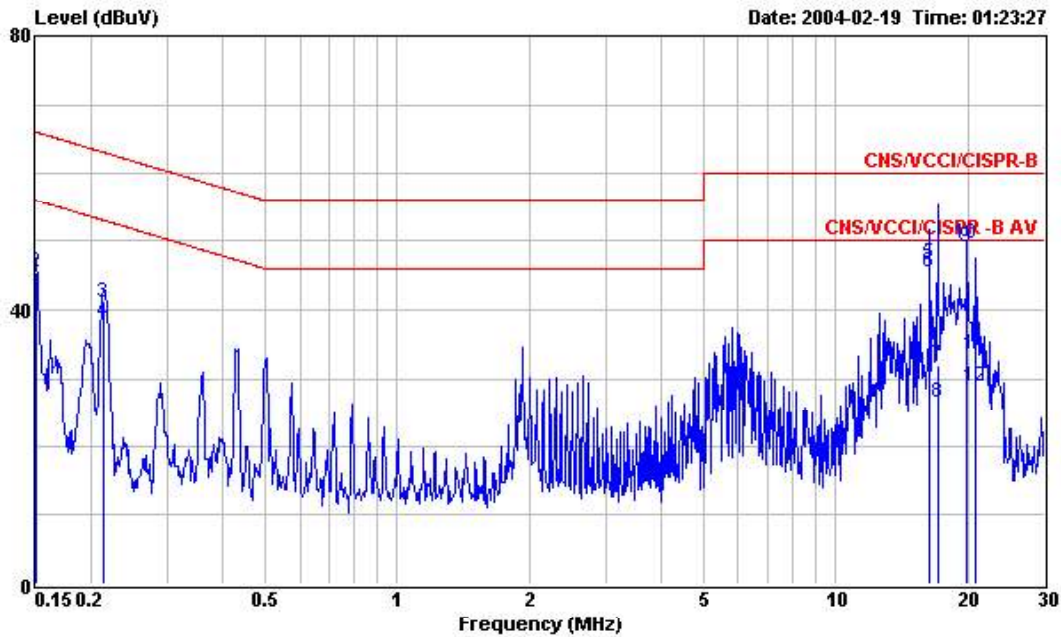
- Test Mode : Mode 5
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11g WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11g TX CH06

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.150	45.01	-20.99	66.00	44.80	0.10	0.11	QP
2	0.150	42.76	-13.24	56.00	42.55	0.10	0.11	Average
3	0.214	34.60	-18.45	53.05	34.37	0.10	0.13	Average
4	0.214	37.38	-25.67	63.05	37.15	0.10	0.13	QP
5	16.400	44.08	-15.92	60.00	43.67	0.23	0.18	QP
6	16.400	41.33	-8.67	50.00	40.92	0.23	0.18	Average
7	17.110	31.71	-28.29	60.00	31.28	0.25	0.18	QP
8	17.110	26.66	-23.34	50.00	26.23	0.25	0.18	Average
9	19.950	47.50	-2.50	50.00	47.01	0.30	0.19	Average
10	19.950	48.96	-11.04	60.00	48.47	0.30	0.19	QP
11	20.920	33.66	-26.34	60.00	33.12	0.34	0.20	QP
12	20.920	29.14	-20.86	50.00	28.60	0.34	0.20	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11g WLAN Card
 Power : 110W/60Hz
 Memo : FCC 11g TX CH06

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	43.17	-12.83	56.00	42.96	0.10	0.11	Average
2	0.150	45.43	-20.57	66.00	45.22	0.10	0.11	QP
3	0.214	41.03	-22.02	63.05	40.80	0.10	0.13	QP
4	0.214	38.21	-14.84	53.05	37.98	0.10	0.13	Average
5	16.400	46.66	-13.34	60.00	46.18	0.30	0.18	QP
6	16.400	45.39	-4.61	50.00	44.91	0.30	0.18	Average
7	17.110	31.91	-28.09	60.00	31.43	0.30	0.18	QP
8	17.110	26.55	-23.45	50.00	26.07	0.30	0.18	Average
9	19.950	49.11	-0.89	50.00	48.62	0.30	0.19	Average
10	19.950	49.58	-10.42	60.00	49.09	0.30	0.19	QP
11	20.920	33.42	-26.58	60.00	32.88	0.34	0.20	QP
12	20.920	28.95	-21.05	50.00	28.41	0.34	0.20	Average

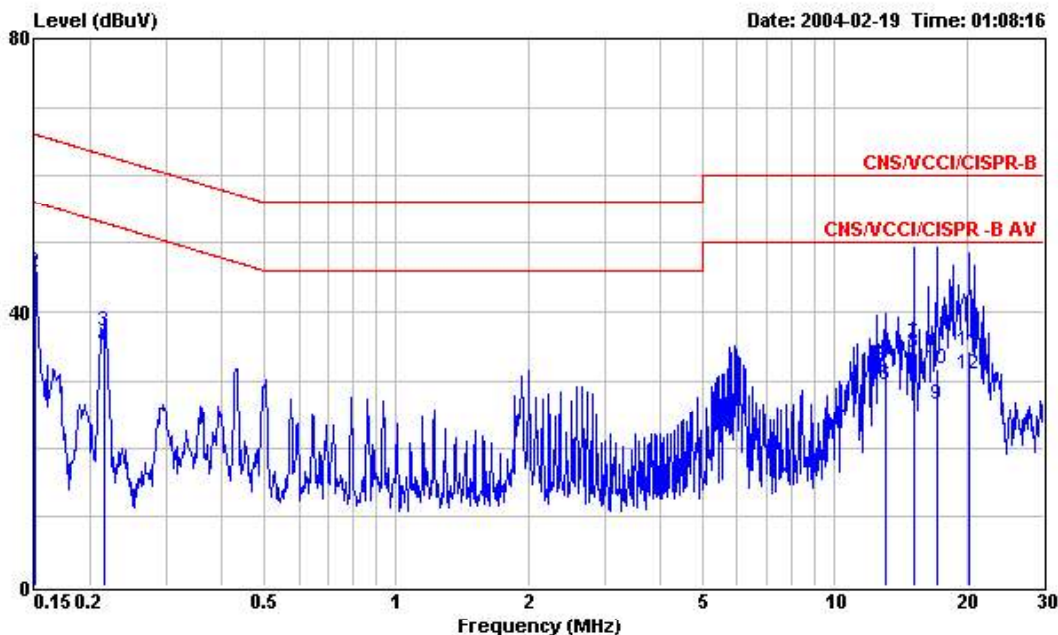
Test Engineer : Jay

Jay

6.3.6 Frequency Range of Test : 150kHz to 30 MHz

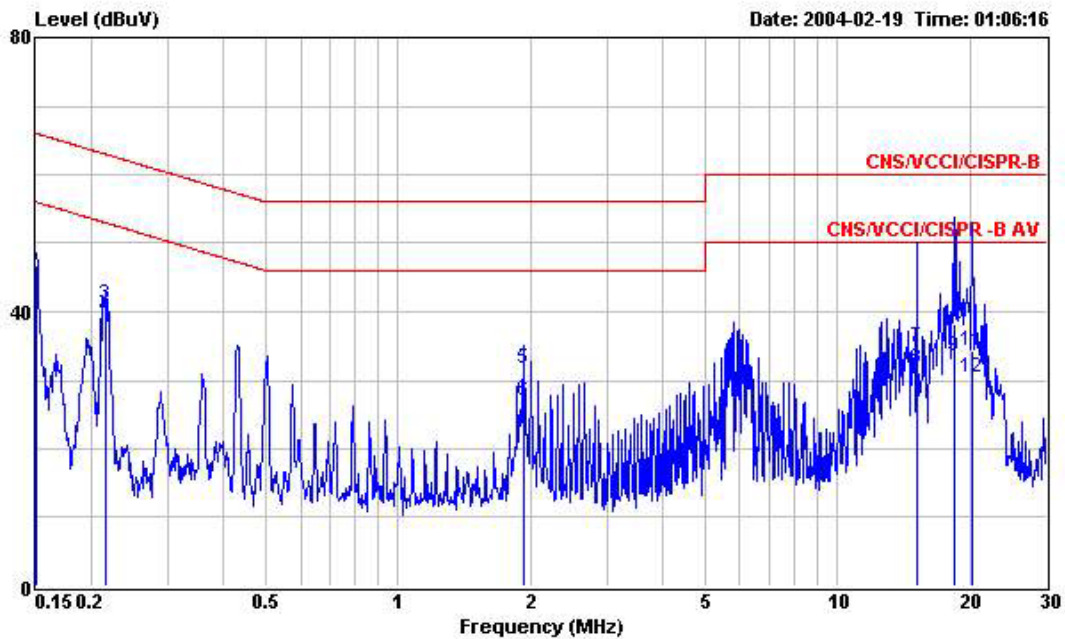
- Test Mode : Mode 6
- Temperature : 26°C
- Relative Humidity : 55 %

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 LINE
 EUT : IEEE802.11g WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11g TX CH11

	Over	Limit	Read	Probe	Cable		
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.150	45.87	-10.13	56.00	45.66	0.10	0.11 Average
2	0.150	45.71	-20.29	66.00	45.50	0.10	0.11 QP
3	0.215	37.18	-25.83	63.01	36.95	0.10	0.13 QP
4	0.215	34.69	-18.32	53.01	34.46	0.10	0.13 Average
5	13.130	32.78	-27.22	60.00	32.41	0.20	0.17 QP
6	13.130	29.46	-20.54	50.00	29.09	0.20	0.17 Average
7	15.150	35.24	-24.76	60.00	34.86	0.20	0.18 QP
8	15.150	34.07	-15.93	50.00	33.69	0.20	0.18 Average
9	17.110	26.55	-23.45	50.00	26.12	0.25	0.18 Average
10	17.110	31.69	-28.31	60.00	31.26	0.25	0.18 QP
11	20.270	34.33	-25.67	60.00	33.83	0.31	0.19 QP
12	20.270	31.04	-18.96	50.00	30.54	0.31	0.19 Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL
 EUT : IEEE802.11g WLAN Card
 Power : 110V/60Hz
 Memo : FCC 11g TX CH11

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.150	46.76	-19.24	66.00	46.55	0.10	0.11	QP
2	0.150	42.49	-13.51	56.00	42.28	0.10	0.11	Average
3	0.215	41.07	-21.94	63.01	40.84	0.10	0.13	QP
4	0.215	39.30	-13.71	53.01	39.07	0.10	0.13	Average
5	1.940	31.71	-24.29	56.00	31.55	0.10	0.06	QP
6	1.940	27.11	-18.89	46.00	26.95	0.10	0.06	Average
7	15.150	34.74	-25.26	60.00	34.26	0.30	0.18	QP
8	15.150	31.69	-18.31	50.00	31.21	0.30	0.18	Average
9	18.430	33.50	-16.50	50.00	33.01	0.30	0.19	Average
10	18.430	38.19	-21.81	60.00	37.70	0.30	0.19	QP
11	20.270	34.29	-25.71	60.00	33.79	0.31	0.19	QP
12	20.270	30.34	-19.66	50.00	29.84	0.31	0.19	Average

Test Engineer : Jay
 Jay