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# FCC TEST REPORT

**REPORT NO.:** RF970909H06B

**MODEL NO.:** SPA525G, SPA525G2

**RECEIVED:** Apr. 06, 2010

**TESTED:** Apr. 19 to 23, 2010

**ISSUED:** Apr. 26, 2010

**APPLICANT:** Cisco Systems Inc

**ADDRESS:** 170 W Tasman Dr, San Jose, CA95134, USA

**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.)  
Ltd., Taoyuan Branch Hsin Chu Laboratory

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## 1. CERTIFICATION

**PRODUCT :** 5-Line IP Phone  
**BRAND :** Cisco  
**MODEL NO.:** SPA525G, SPA525G2  
**APPLICANT :** Cisco Systems Inc  
**TESTED :** Apr. 19 to 23, 2010  
**TEST SAMPLE :** ENGINEERING SAMPLE  
**STANDARDS :** FCC Part 15, Subpart C (Section 15.247),  
ANSI C63.4-2003

The above equipment (Model: SPA525G2) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** Sunny Wen , **DATE:** Apr. 26, 2010  
( Sunny Wen, Specialist )

**TECHNICAL ACCEPTANCE :** Hank Chung , **DATE:** Apr. 26, 2010  
( Hank Chung, Deputy Manager )

**APPROVED BY :** May Chen , **DATE:** Apr. 26, 2010  
( May Chen, Deputy Manager )



## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -18.91dB at 0.537MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.8dB at 2483.50MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

**NOTE:** This report is prepared for FCC class II permissive change. Only conducted emission, radiated emission, maximum peak output power, power spectral density and spectrum bandwidth were presented in this test report.

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	5-Line IP Phone
<b>MODEL NO.</b>	SPA525G, SPA525G2
<b>FCC ID</b>	LDKSBSPA525G01
<b>POWER SUPPLY</b>	DC 5V from power adapter or PoE
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11b: 11 / 5.5 / 2 / 1Mbps 802.11g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6Mbps
<b>FREQUENCY RANGE</b>	2412MHz ~ 2462MHz
<b>NUMBER OF CHANNEL</b>	11
<b>MAXIMUM OUTPUT POWER</b>	802.11b: 89.1mW 802.11g: 177.8mW
<b>ANTENNA TYPE</b>	PIFA antenna with cable (Antenna Gain : 2.7dBi)
<b>ANTENNA CONNECTOR</b>	NA
<b>DATA CABLE</b>	NA
<b>I/O PORT</b>	USB Port x 1, Earphone Port x 1, RJ11 Port x 1, PC Port (RJ45) x 1, WAN Port (RJ45) x 1, RJ9 Port x 1
<b>ASSOCIATED DEVICES</b>	Stand

**NOTE:**

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF970909H06 design is as the following information:

- u Add one model name (Model: SPA525G2) and modify the chip filter of the Wi-Fi for the additional model name (Model: SPA525G2):

Brand	Model No.	Difference
Cisco	SPA525G	◆ The original model name.
	SPA525G2	◆ Additional model name. ◆ Modify the chip filter of the Wi-Fi

2. The EUT must be supplied with a power adapter as following:

<b>Brand:</b>	Linksys
<b>Model:</b>	PSM11R-050
<b>Input:</b>	AC 100~240V, 0.3A, 50~60Hz
<b>Output:</b>	DC 5V, 2A, 1.8m / unshielded

3. The EUT complies with IEEE 802.11g standards, and backwards compatible with IEEE 802.11b products.

4. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

For 802.11b/g normal mode: thirteen channels are provided to this EUT.

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
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		

EUT is capable of operating on channel 1-13, however, the channel 12 and 13 can't be operated in US band. Because this device is a Wi-Fi client device and US master devices doesn't support channel 12 or 13 operation. Beside, non-US channels have been disabled by firmware in ad-hoc mode.





### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE <sup>3</sup> 1G	APCM	
-	√	√	√	√	With stand

Where **PLC**: Power Line Conducted Emission      **RE < 1G**: Radiated Emission below 1GHz  
**RE <sup>3</sup> 1G**: Radiated Emission above 1GHz      **APCM**: Antenna Port Conducted Measurement

#### **POWER LINE CONDUCTED EMISSION TEST:**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

#### **RADIATED EMISSION TEST (BELOW 1 GHZ):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

#### **RADIATED EMISSION TEST (ABOVE 1 GHZ):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6



**ANTENNA PORT CONDUCTED MEASUREMENT:**

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

**TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE <sup>3</sup> 1G	32deg. C, 50%RH, 1011 hPa	120Vac, 60Hz	Phoenix Huang
RE<1G	24deg. C, 67%RH, 1011 hPa	120Vac, 60Hz	Wen Yu
PLC	25deg. C, 85%RH, 1011 hPa	120Vac, 60Hz	Timmy Hu
APCM	25deg. C, 60%RH, 1020 hPa	120Vac, 60Hz	Phoenix Huang

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C. (15.247)**

**ANSI C63.4-2003**

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Conducted test					
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook Computer	DELL	PP18L	12252644560	FCC DoC
2	Notebook Computer	DELL	E6400	D814C A00 APCC	FCC DoC
3	32 Button Attendant console	Cisco	SPA500S	CBT131900E	NA
4	32 Button Attendant console	Cisco	SPA500S	CBT131900E	NA
5	iPod	Apple	A1199	6U6425ZDVQ5	FCC DoC
6	Earphone	NOKIA	HS-47	NA	NA
7	POE Switch	D-Link	DES-1316	F3F417A000010	NA
Radiated test					
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook Computer	DELL	PP05L	CN-04Y212-48643-38E-0145	FCC DoC
2	Notebook Computer	DELL	PP21L	CN-0GD366-70166-5B3-09ZX	QDS-BRCM1016
3	32 Button Attendant console	Linksys	SPA932	NA	NA
4	iPod	Apple	A1199	6U6426MTVQS	FCC DoC
5	Earphone	PHILIPS	SBC HL145	8710895759472	NA



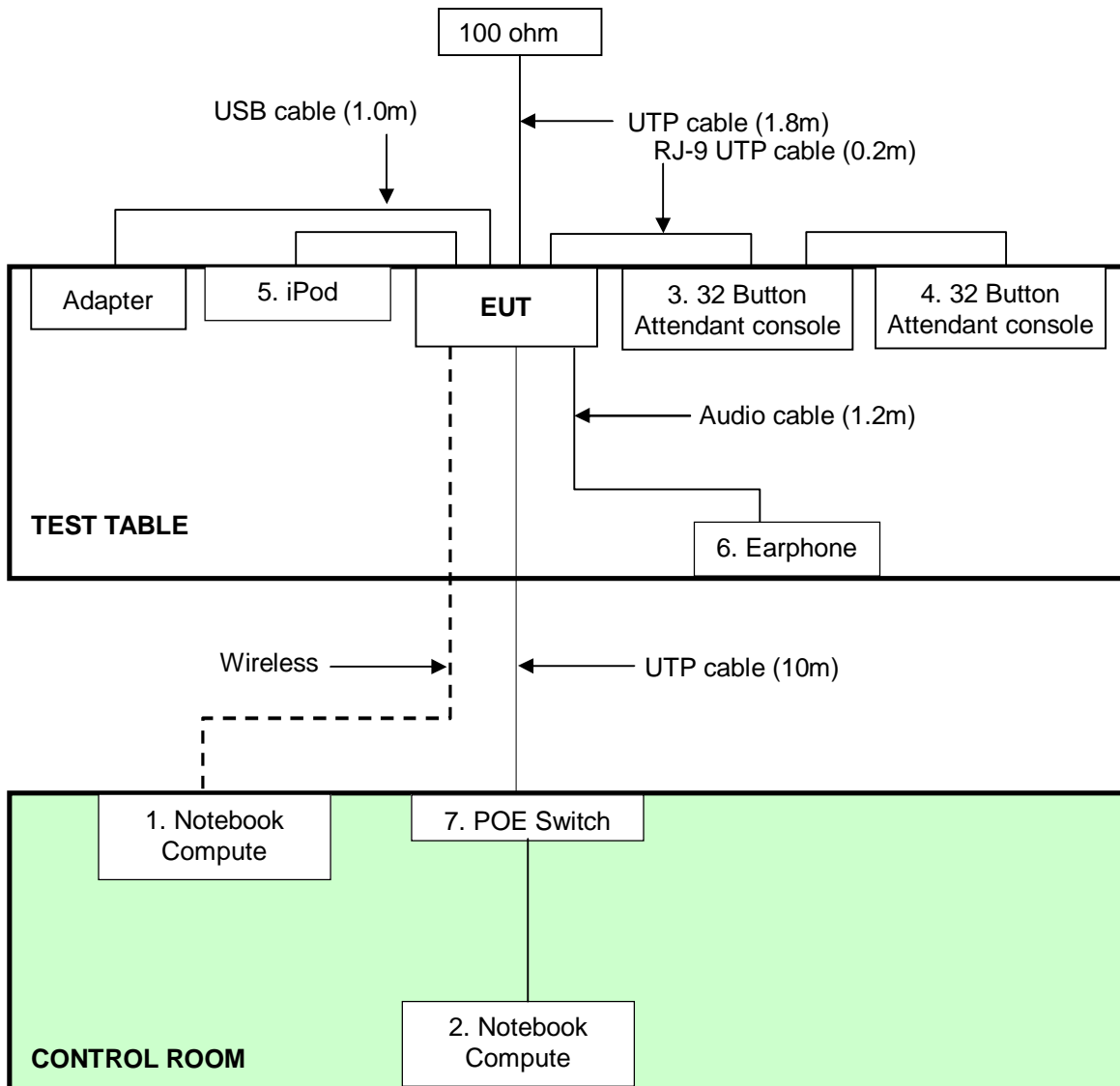
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<b>Conducted test</b>	
<b>NO.</b>	<b>SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS</b>
1	NA
2	10 m UTP cable.
3	0.2 m shielded RJ9 cable.
4	0.2 m shielded RJ9 cable.
5	1.0 m shielded cable, terminated with USB connector, w/o core.
6	1.2 m wrapped shielded wire, terminated with 3.5mm phone plug via drain wire, w/o core.
7	10 m UTP cable.
<b>Radiated test</b>	
<b>NO.</b>	<b>SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS</b>
1	10 m UTP cable.
2	10 m UTP cable.
3	0.2 m shielded RJ11 cable.
4	1.0 m shielded cable, terminated with USB connector, w/o core.
5	1.2 m wrapped shielded wire, terminated with 3.5mm phone plug via drain wire, w/o core.

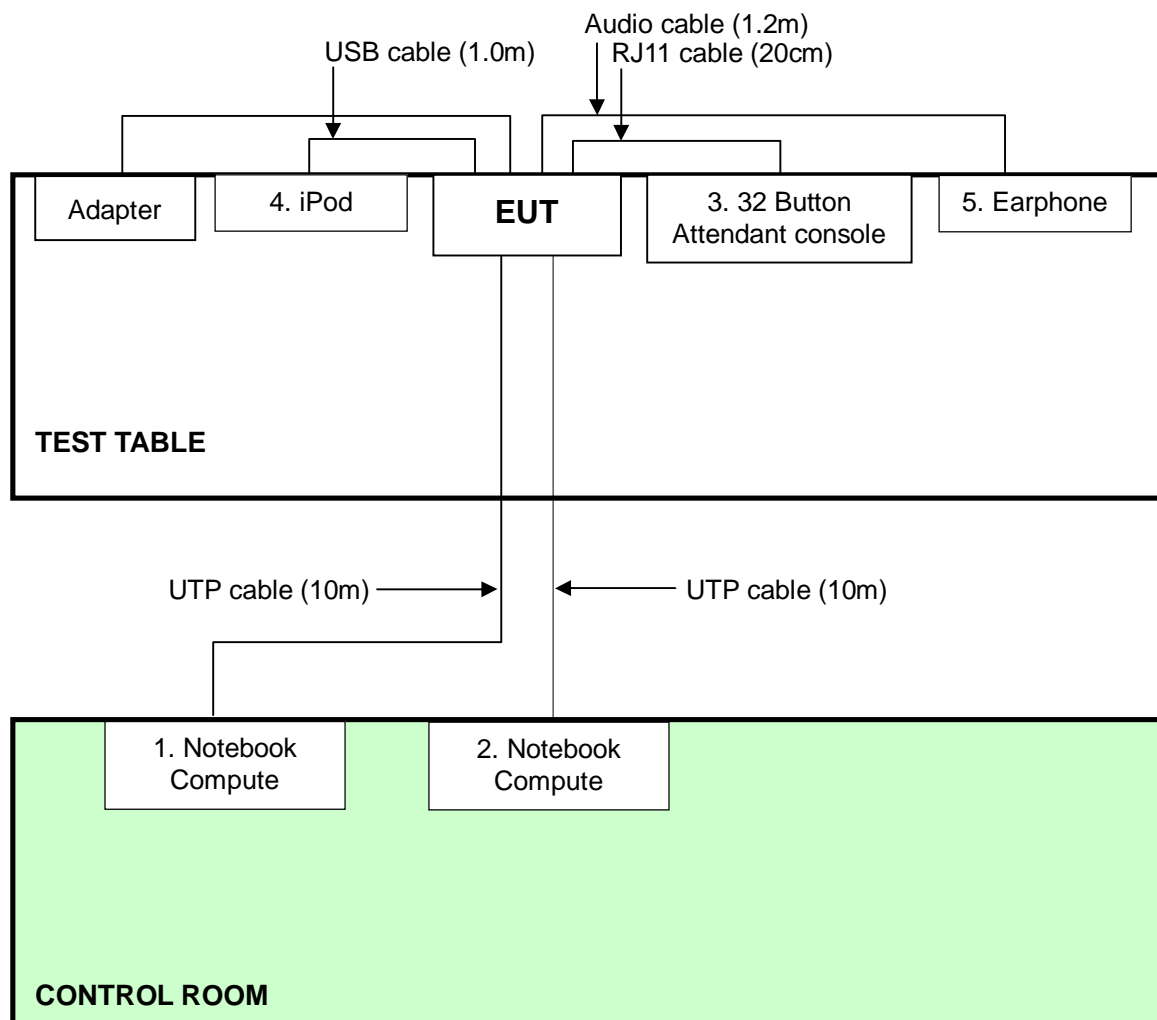
**NOTE:** All power cords of the above support units are non shielded (1.8m).

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST

For Conducted test:



**For Radiated test:**



## 4. TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
  3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2010	Mar. 08, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 23, 2009	Sep. 22, 2010
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Oct. 26, 2009	Oct. 25, 2010
RF Cable (JYEBAO)	5DFB	COBCAB-001	Nov. 24, 2009	Nov. 23, 2010
50 ohms Terminator	50	3	Oct. 28, 2009	Oct. 27, 2010
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.



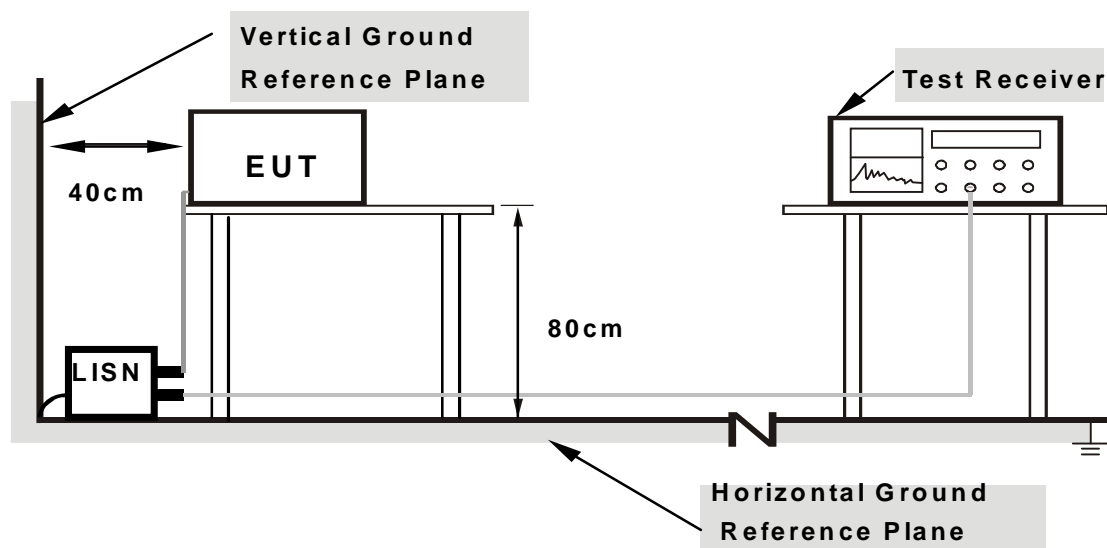
#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



- Note: 1. Support units were connected to second LISN.**  
**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes**

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

#### 4.1.6 EUT OPERATING CONDITIONS

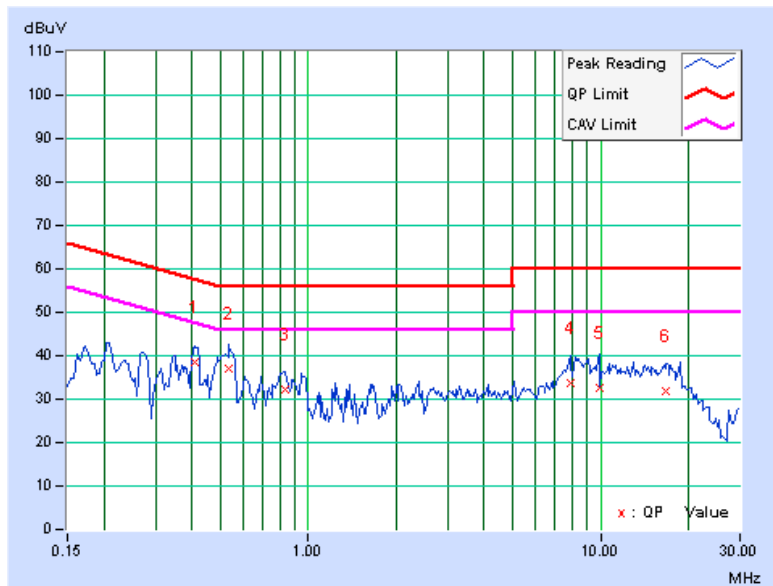
- a. Placed the EUT on testing table.
- b. Prepared other computer systems (support units 1~2) to act as communication partners and placed them outside of testing area.
- c. The communication partners run test program “Marvell” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

### 4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.408	0.06	38.52	-	38.58	-	57.69	47.69	-19.11	-
2	<b>0.537</b>	<b>0.07</b>	<b>37.02</b>	-	<b>37.09</b>	-	<b>56.00</b>	<b>46.00</b>	<b>-18.91</b>	-
3	0.834	0.08	31.97	-	32.05	-	56.00	46.00	-23.95	-
4	7.859	0.29	33.49	-	33.78	-	60.00	50.00	-26.22	-
5	9.922	0.35	32.22	-	32.57	-	60.00	50.00	-27.43	-
6	16.785	0.46	31.57	-	32.03	-	60.00	50.00	-27.97	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



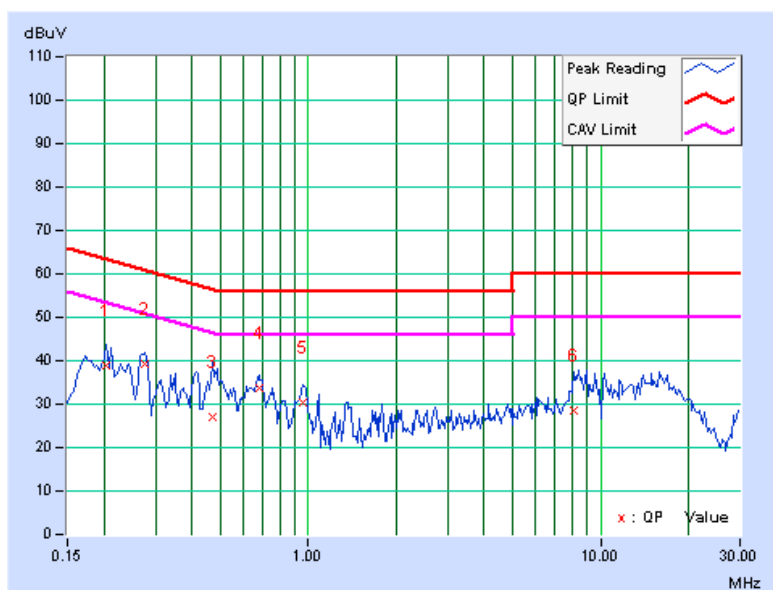


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PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.06	39.00	-	39.06	-	63.42	53.42	-24.36	-
2	0.275	0.06	39.06	-	39.12	-	60.97	50.97	-21.84	-
3	0.470	0.07	26.97	-	27.04	-	56.51	46.51	-29.46	-
4	0.677	0.08	33.52	-	33.60	-	56.00	46.00	-22.40	-
5	0.955	0.10	30.31	-	30.41	-	56.00	46.00	-25.59	-
6	8.129	0.31	28.35	-	28.66	-	60.00	50.00	-31.34	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.



## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/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

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



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#### 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010
Agilent PSA Spectrum Analyzer	E4446A	MY46180622	Apr. 24 , 2009	Apr. 23 , 2010
HP Pre_Amplifier	8449B	300801923	Nov. 02, 2009	Nov. 01, 2010
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Aug. 28, 2009	Aug. 27, 2010
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	Apr. 29, 2009	Apr. 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 18, 2009	Dec. 17, 2010
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2010	Jan. 21, 2011
R&S Loop Antenna	HFH2-Z2	100070	Feb. 03, 2010	Feb. 02, 2012
RF Switches	EMH-011	1001	NA	NA
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 14, 2009	Aug. 13, 2010
RF Cable	8DFB	STCCAB-30M-1GHz	NA	NA
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
2. The horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.  
3. The test was performed in Open Site No. C.  
4. The FCC Site Registration No. is 656396.  
5. The VCCI Site Registration No. is R-1626.  
6. The CANADA Site Registration No. is IC 7450G-3.

#### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

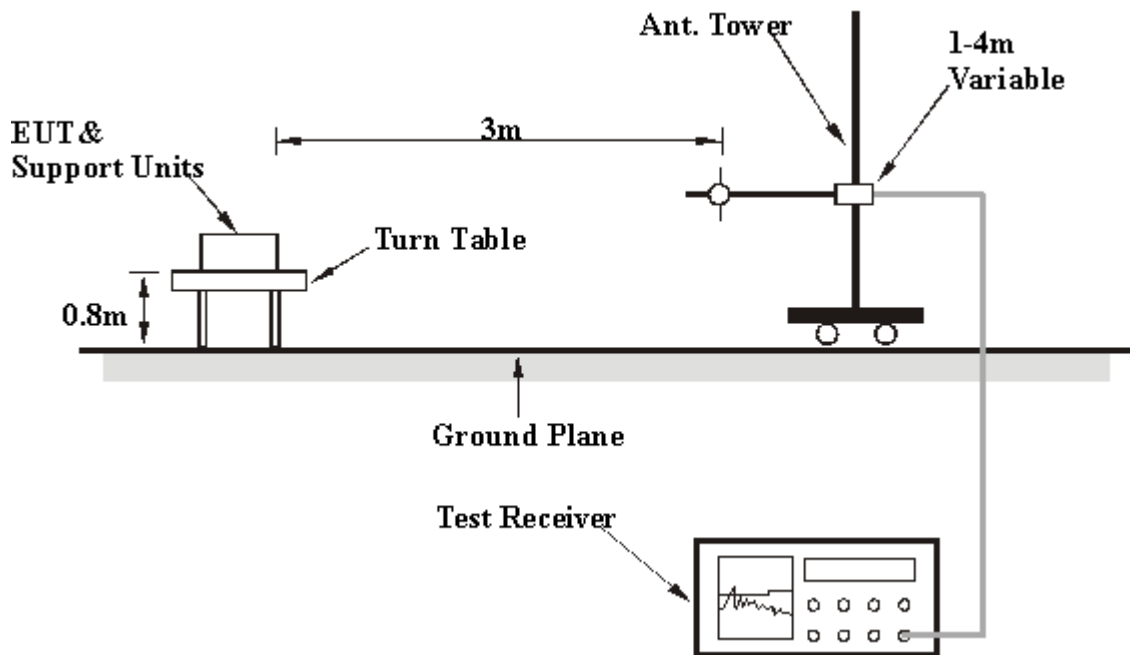
**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

#### 4.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6



## Below 1GHz Test Data

### 4.2.7 TEST RESULTS

#### BELOW 1GHz WORST-CASE DATA : 802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH 1011 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.61	34.2 QP	40.0	-5.8	1.53 H	227	21.06	13.11
2	122.88	25.0 QP	43.5	-18.5	1.46 H	151	12.75	12.26
3	270.34	24.8 QP	46.0	-21.3	1.00 H	6	10.11	14.64
4	480.02	32.2 QP	46.0	-13.8	1.86 H	85	11.48	20.74
5	663.25	33.9 QP	46.0	-12.1	1.24 H	152	9.37	24.51
6	840.04	37.4 QP	46.0	-8.6	1.00 H	294	10.16	27.21
7	960.05	36.3 QP	54.0	-17.7	1.00 H	162	7.60	28.68
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	43.97	25.8 QP	40.0	-14.2	1.11 V	160	11.45	14.33
2	375.00	26.3 QP	46.0	-19.7	1.00 V	186	8.40	17.90
3	480.03	34.1 QP	46.0	-11.9	1.00 V	103	13.40	20.74
4	575.00	28.7 QP	46.0	-17.3	1.00 V	89	5.50	23.23
5	720.00	33.0 QP	46.0	-13.0	1.19 V	89	7.76	25.22
6	800.00	36.7 QP	46.0	-9.3	1.00 V	124	10.04	26.63
7	840.04	39.5 QP	46.0	-6.6	1.00 V	215	12.24	27.21
8	960.05	31.4 QP	54.0	-22.6	1.00 V	30	2.75	28.68

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.



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## Above 1GHz Test Data

## 4.2.8 TEST RESULTS

## 802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.27	59.1 PK	74.0	-14.9	1.55 H	343	29.08	30.05
2	2386.27	51.7 AV	54.0	-2.3	1.55 H	343	21.66	30.05
3	*2412.00	106.4 PK			1.47 H	90	76.25	30.15
4	*2412.00	104.1 AV			1.47 H	90	73.95	30.15
5	4824.00	49.2 PK	74.0	-24.8	1.03 H	189	13.77	35.43
6	4824.00	45.8 AV	54.0	-8.3	1.03 H	189	10.32	35.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.27	57.9 PK	74.0	-16.1	1.10 V	257	27.88	30.05
2	2386.27	49.3 AV	54.0	-4.7	1.10 V	257	19.21	30.05
3	*2412.00	103.2 PK			1.30 V	134	73.06	30.15
4	*2412.00	100.6 AV			1.30 V	134	70.48	30.15
5	4824.00	47.7 PK	74.0	-26.3	1.00 V	329	12.27	35.43
6	4824.00	43.1 AV	54.0	-10.9	1.00 V	329	7.67	35.43

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* ”: Fundamental frequency.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.5 PK			1.49 H	92	76.26	30.24
2	*2437.00	104.1 AV			1.49 H	92	73.86	30.24
3	4874.00	48.7 PK	74.0	-25.3	1.20 H	14	13.18	35.52
4	4874.00	44.2 AV	54.0	-9.8	1.20 H	14	8.68	35.52
5	7311.00	51.2 PK	74.0	-22.8	1.33 H	332	9.24	41.96
6	7311.00	37.6 AV	54.0	-16.4	1.33 H	332	-4.36	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.7 PK			1.36 V	114	71.46	30.24
2	*2437.00	99.0 AV			1.36 V	114	68.76	30.24
3	4874.00	46.3 PK	74.0	-27.7	1.44 V	334	10.78	35.52
4	4874.00	39.7 AV	54.0	-14.3	1.44 V	334	4.18	35.52
5	7311.00	50.2 PK	74.0	-23.8	1.28 V	314	8.24	41.96
6	7311.00	37.4 AV	54.0	-16.6	1.28 V	314	-4.56	41.96

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

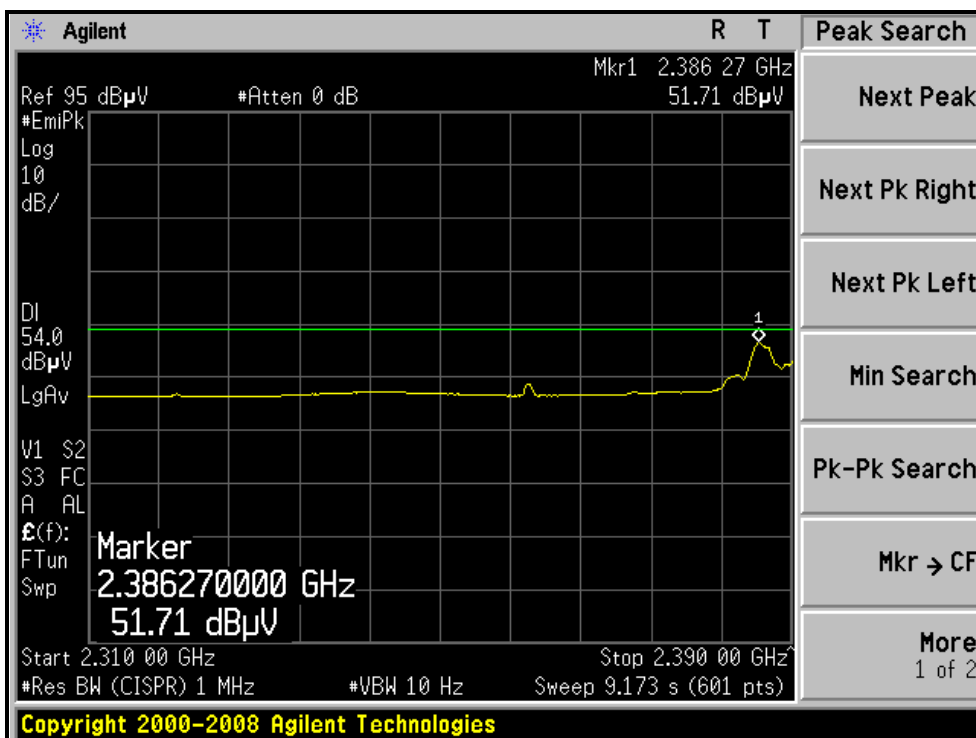
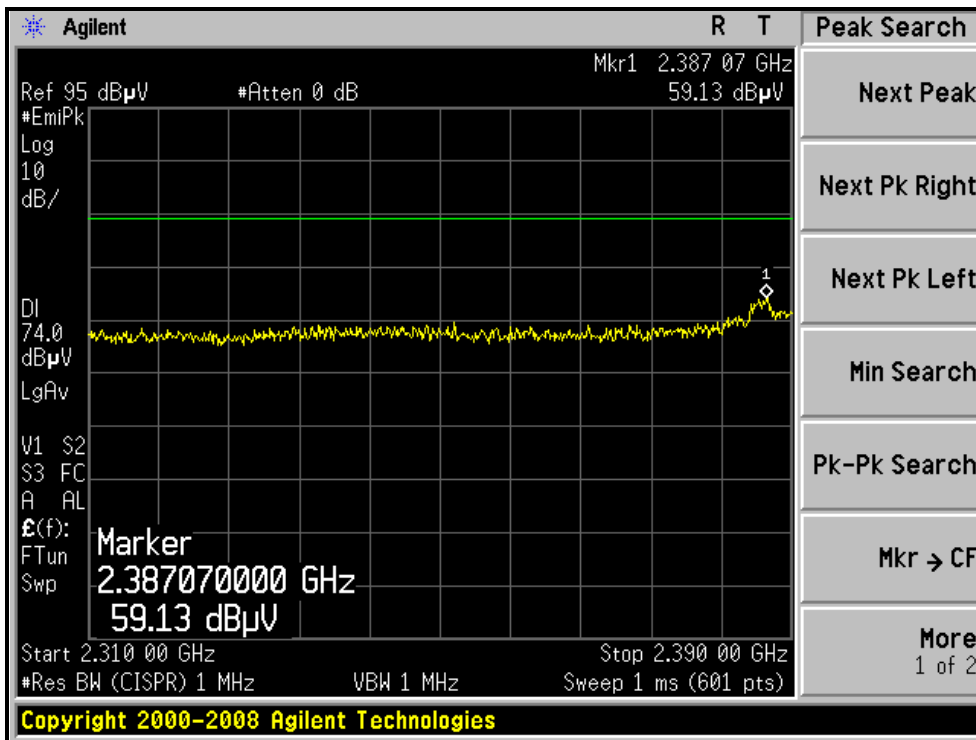
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.2 PK			1.43 H	107	75.86	30.34
2	*2462.00	103.7 AV			1.43 H	107	73.32	30.34
3	2483.50	59.8 PK	74.0	-14.2	1.48 H	111	29.38	30.43
4	2483.50	52.4 AV	54.0	-1.6	1.48 H	111	21.95	30.43
5	4924.00	48.0 PK	74.0	-26.0	1.16 H	11	12.38	35.62
6	4924.00	43.3 AV	54.0	-10.7	1.16 H	11	7.68	35.62
7	7386.00	50.1 PK	74.0	-23.9	1.32 H	327	8.00	42.10
8	7386.00	37.2 AV	54.0	-16.8	1.32 H	327	-4.90	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.9 PK			1.34 V	248	73.57	30.34
2	*2462.00	101.4 AV			1.34 V	248	71.07	30.34
3	2483.50	59.1 PK	74.0	-14.9	1.32 V	248	28.63	30.43
4	2483.50	50.6 AV	54.0	-3.4	1.32 V	248	20.13	30.43
5	4924.00	45.7 PK	74.0	-28.3	1.40 V	325	10.08	35.62
6	4924.00	39.5 AV	54.0	-14.5	1.40 V	325	3.88	35.62
7	7386.00	49.7 PK	74.0	-24.3	1.03 V	24	7.60	42.10
8	7386.00	37.0 AV	54.0	-17.0	1.03 V	24	-5.10	42.10

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.



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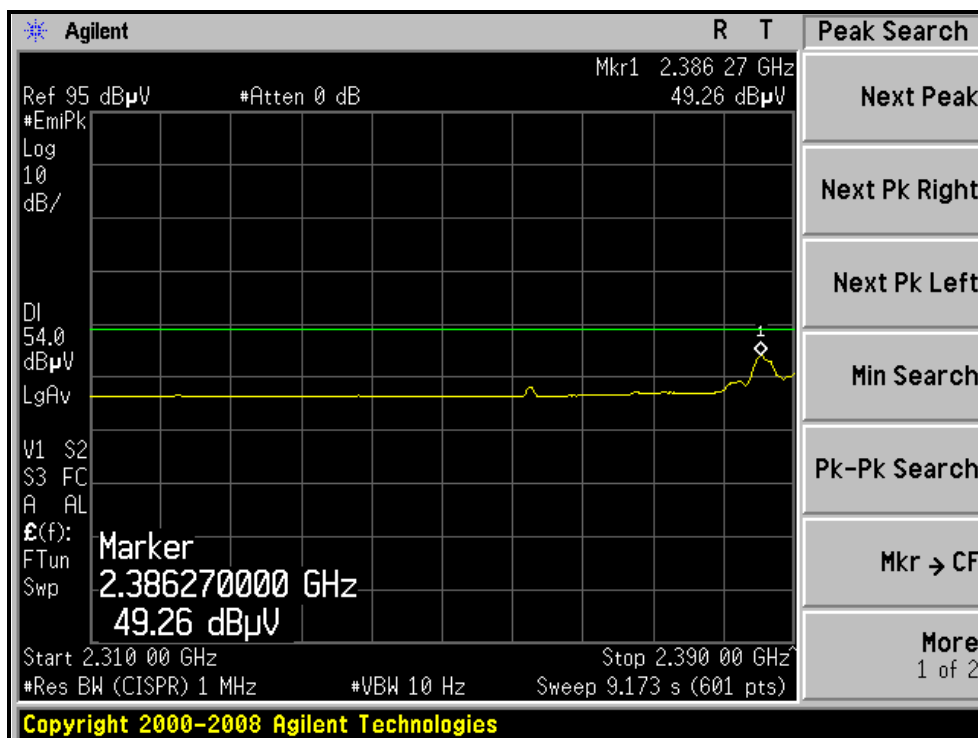
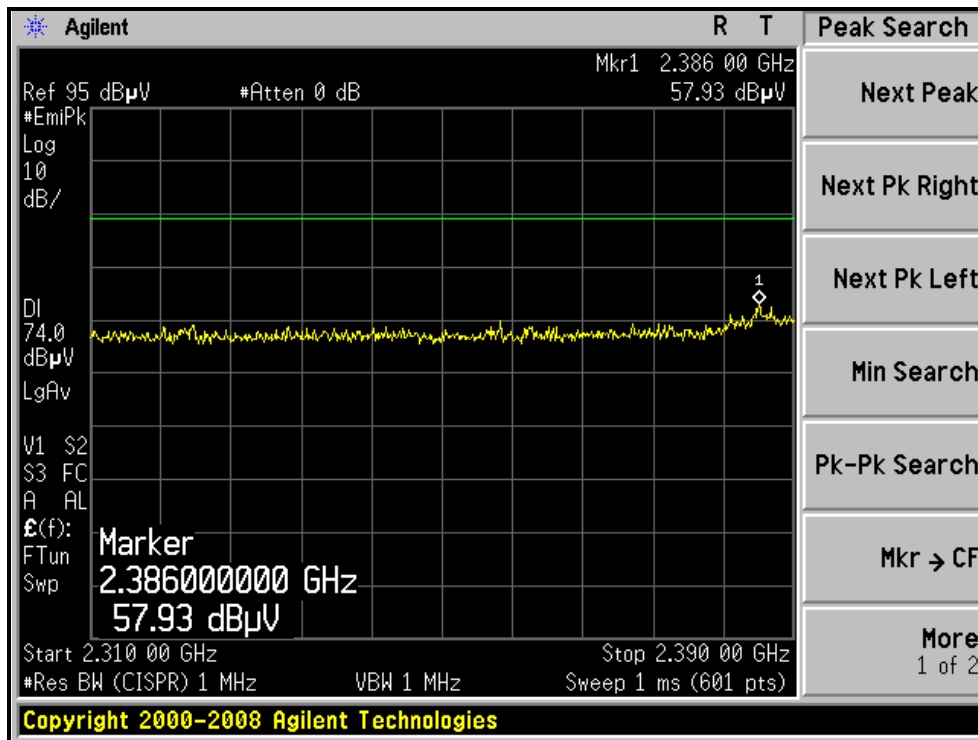
RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL )

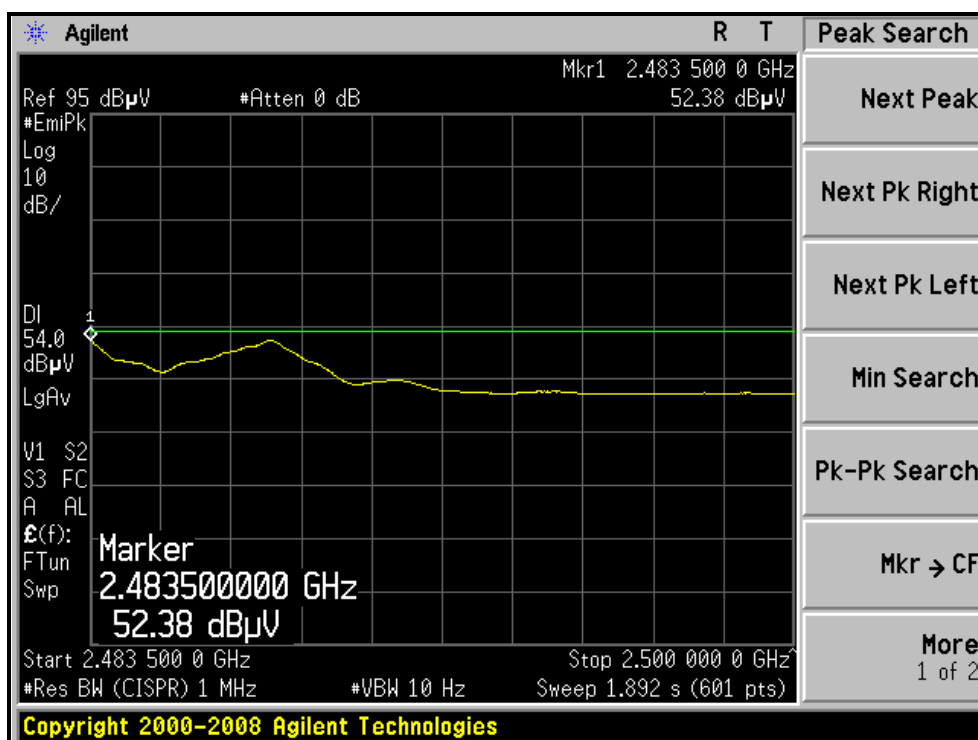
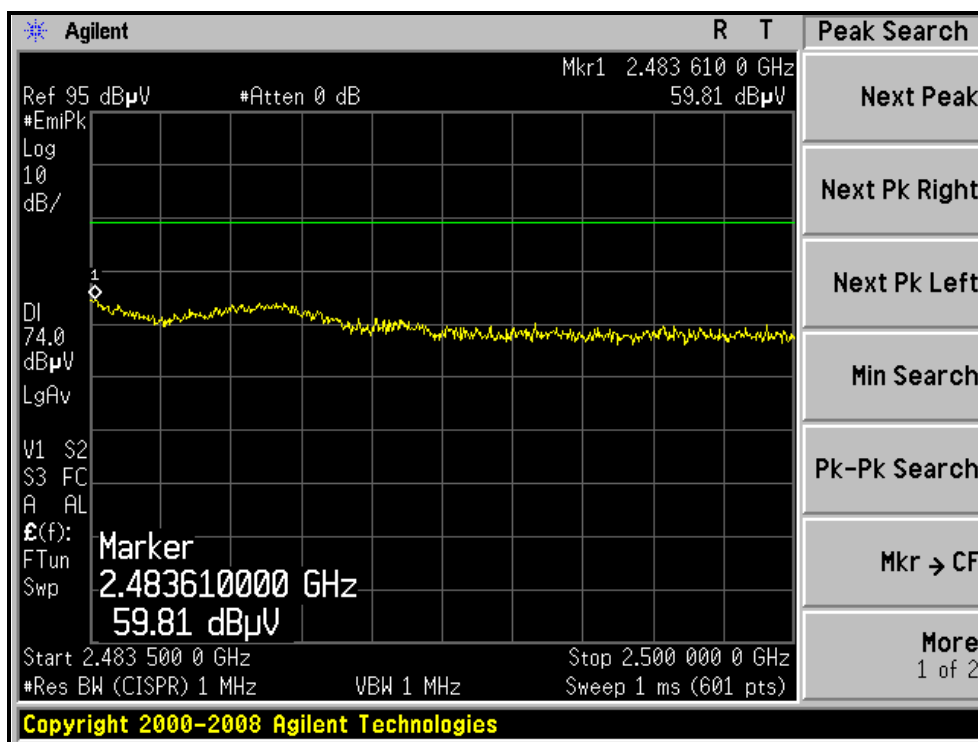




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RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL )

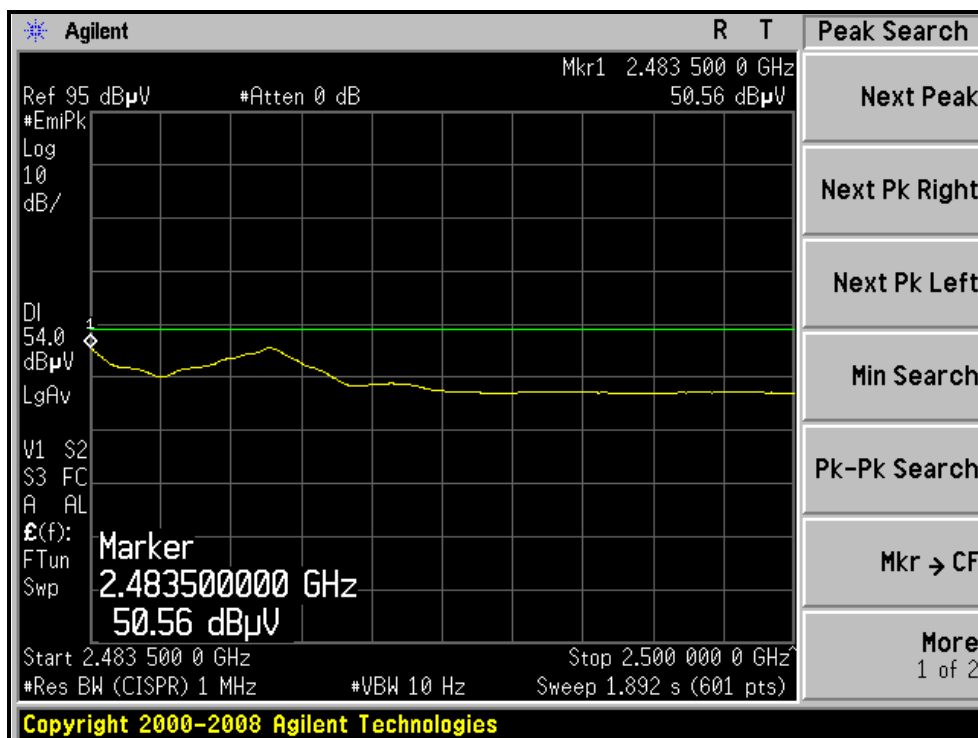
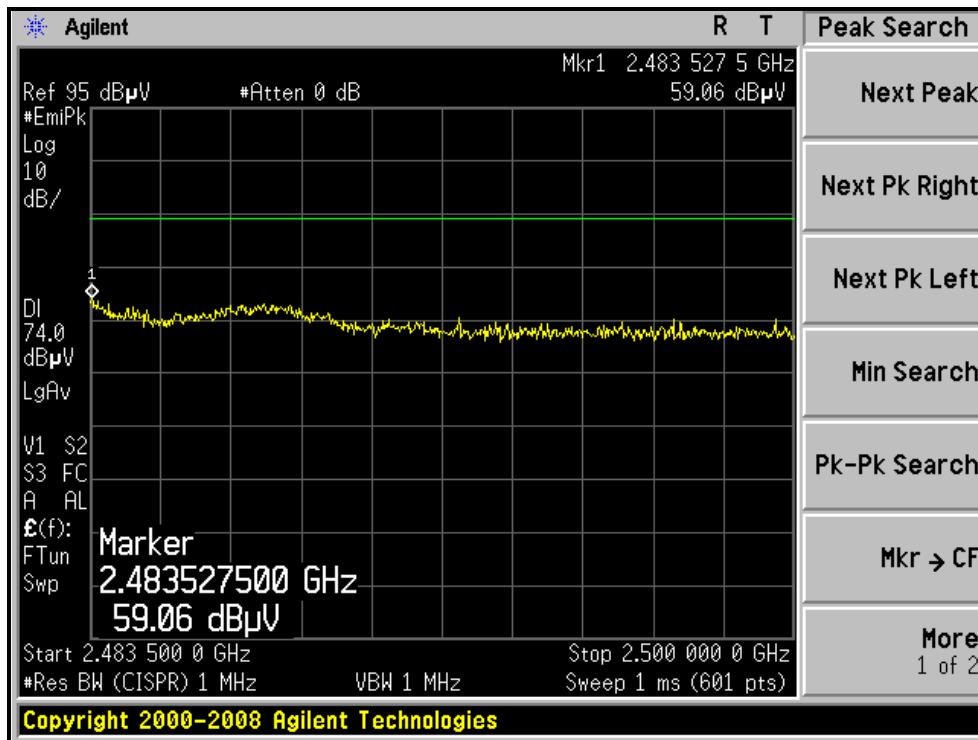


**RESTRICTED BANDEDGE (802.11b MODE, CH11, HORIZONTAL)**




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RESTRICTED BANDEDGE (802.11b MODE, CH11, VERTICAL)







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## 802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.9 PK	74.0	-5.1	1.55 H	343	38.80	30.06
2	2390.00	52.6 AV	54.0	-1.4	1.55 H	343	22.54	30.06
3	*2412.00	104.7 PK			1.53 H	342	74.55	30.15
4	*2412.00	95.8 AV			1.53 H	342	65.62	30.15
5	4824.00	43.9 PK	74.0	-30.1	1.22 H	284	8.47	35.43
6	4824.00	32.1 AV	54.0	-21.9	1.22 H	284	-3.36	35.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.6 PK	74.0	-11.4	1.40 V	247	32.56	30.06
2	2390.00	48.5 AV	54.0	-5.5	1.40 V	247	18.46	30.06
3	*2412.00	101.0 PK			1.39 V	66	70.85	30.15
4	*2412.00	92.1 AV			1.39 V	66	61.95	30.15
5	4824.00	43.8 PK	74.0	-30.2	1.00 V	42	8.37	35.43
6	4824.00	31.6 AV	54.0	-22.4	1.00 V	42	-3.85	35.43

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.7 PK			1.51 H	106	75.46	30.24
2	*2437.00	96.3 AV			1.51 H	106	66.06	30.24
3	4874.00	41.3 PK	74.0	-32.7	1.04 H	219	5.81	35.52
4	4874.00	31.6 AV	54.0	-22.4	1.04 H	219	-3.90	35.52
5	7311.00	48.8 PK	74.0	-25.2	1.00 H	26	6.84	41.96
6	7311.00	37.2 AV	54.0	-16.8	1.00 H	26	-4.76	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.0 PK			1.38 V	115	70.76	30.24
2	*2437.00	91.8 AV			1.38 V	115	61.56	30.24
3	4874.00	40.7 PK	74.0	-33.3	1.21 V	159	5.18	35.52
4	4874.00	30.7 AV	54.0	-23.3	1.21 V	159	-4.86	35.52
5	7311.00	49.6 PK	74.0	-24.4	1.04 V	131	7.67	41.96
6	7311.00	37.9 AV	54.0	-16.1	1.04 V	131	-4.06	41.96

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	32deg. C, 50%RH 1011 hPa	TESTED BY	Phoenix Huang

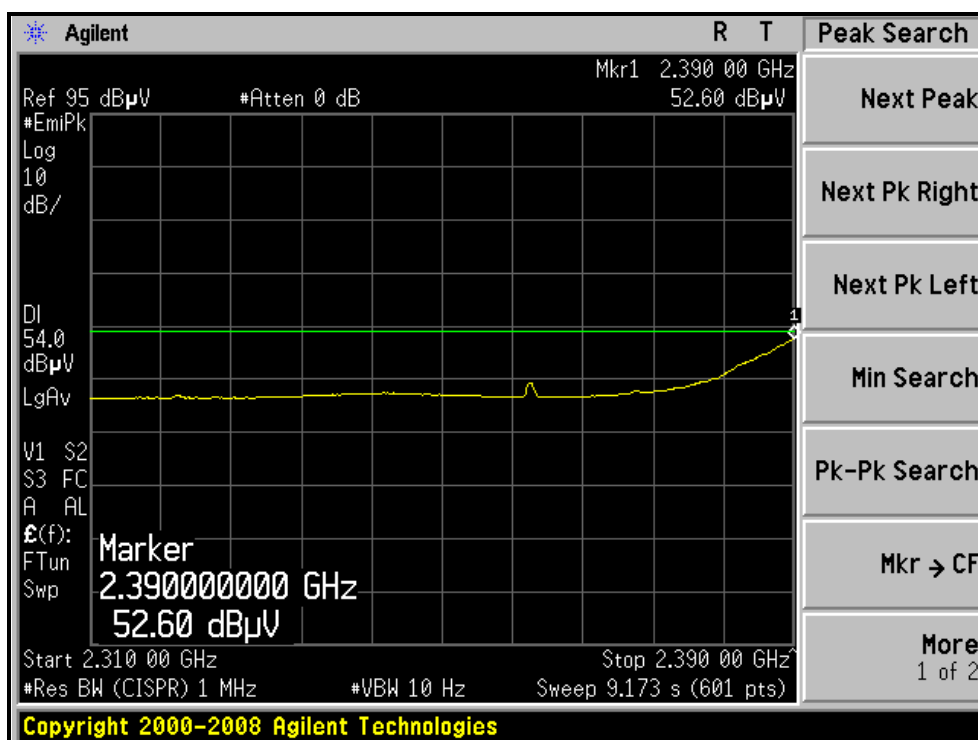
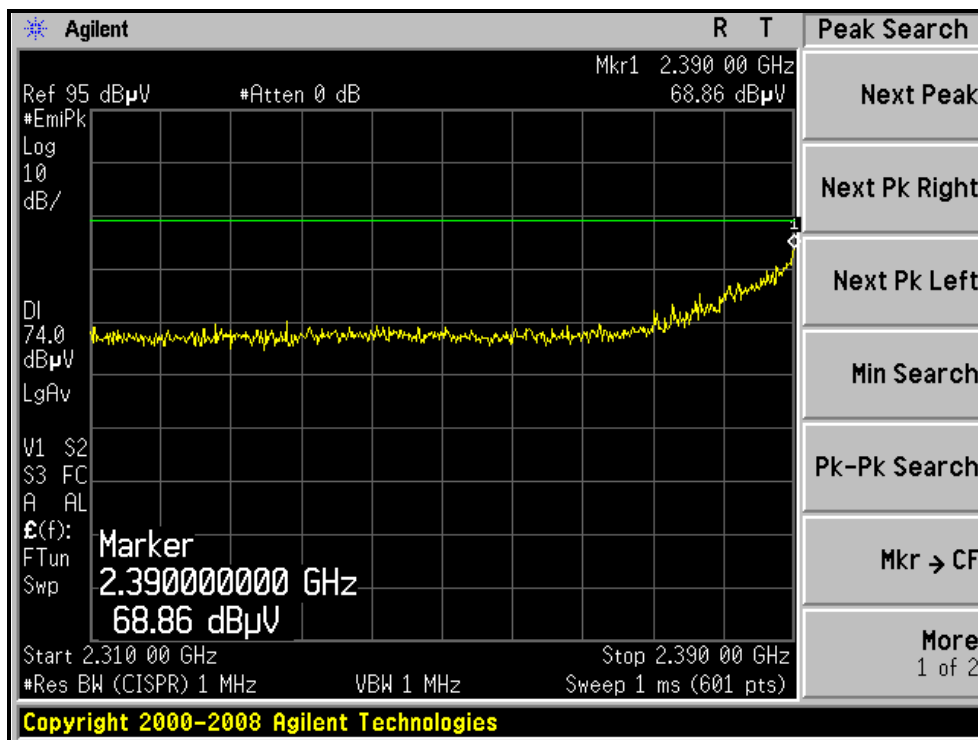
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.5 PK			1.45 H	108	75.19	30.34
2	*2462.00	96.3 AV			1.45 H	108	66.00	30.34
3	2483.50	69.7 PK	74.0	-4.3	1.40 H	109	39.28	30.43
4	<b>2483.50</b>	<b>53.2 AV</b>	<b>54.0</b>	<b>-0.8</b>	<b>1.40 H</b>	<b>109</b>	<b>22.79</b>	<b>30.43</b>
5	4924.00	44.9 PK	74.0	-29.1	1.21 H	287	9.28	35.62
6	4924.00	32.1 AV	54.0	-21.9	1.21 H	287	-3.48	35.62
7	7386.00	52.6 PK	74.0	-21.4	1.28 H	241	10.52	42.10
8	7386.00	40.1 AV	54.0	-13.9	1.28 H	241	-2.00	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.8 PK			1.04 V	236	72.46	30.34
2	*2462.00	93.2 AV			1.04 V	236	62.86	30.34
3	2483.50	66.4 PK	74.0	-7.6	1.04 V	236	35.93	30.43
4	2483.50	48.3 AV	54.0	-5.7	1.04 V	236	17.91	30.43
5	4924.00	43.9 PK	74.0	-30.2	1.10 V	35	8.23	35.62
6	4924.00	32.0 AV	54.0	-22.0	1.10 V	35	-3.62	35.62
7	7386.00	50.1 PK	74.0	-23.9	1.22 V	17	8.00	42.10
8	7386.00	38.5 AV	54.0	-15.5	1.22 V	17	-3.56	42.10

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.



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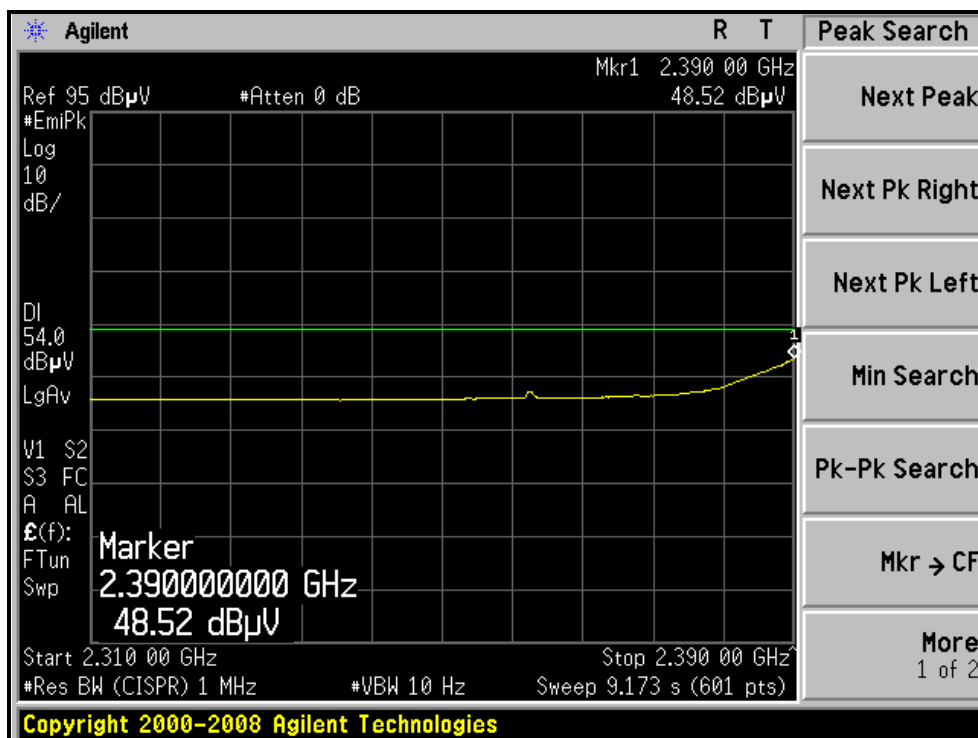
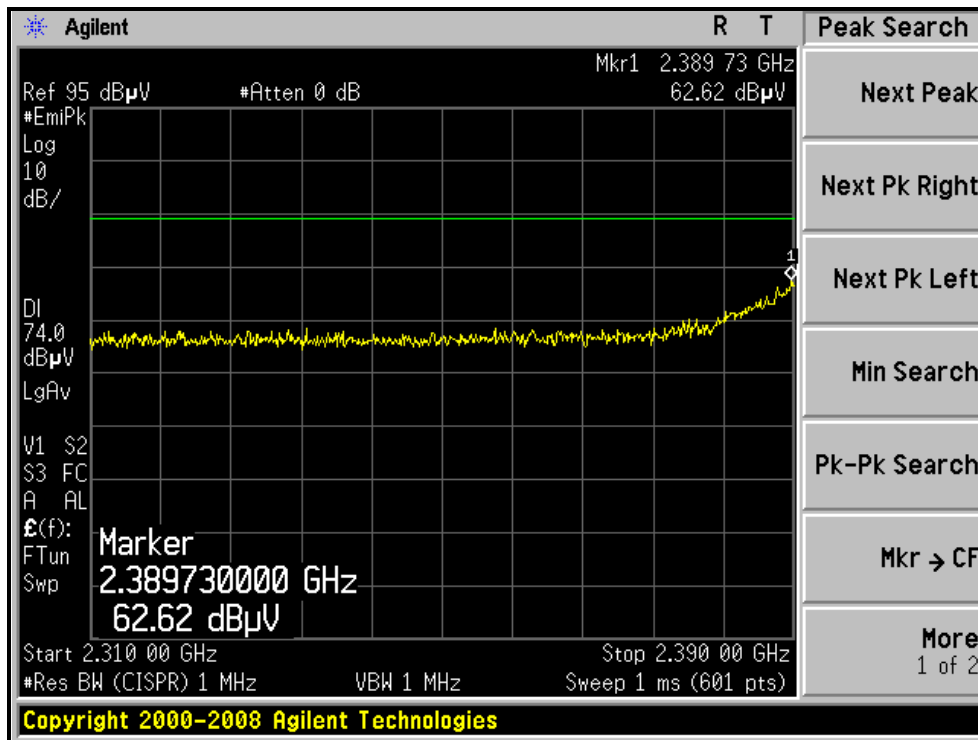
### RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL)



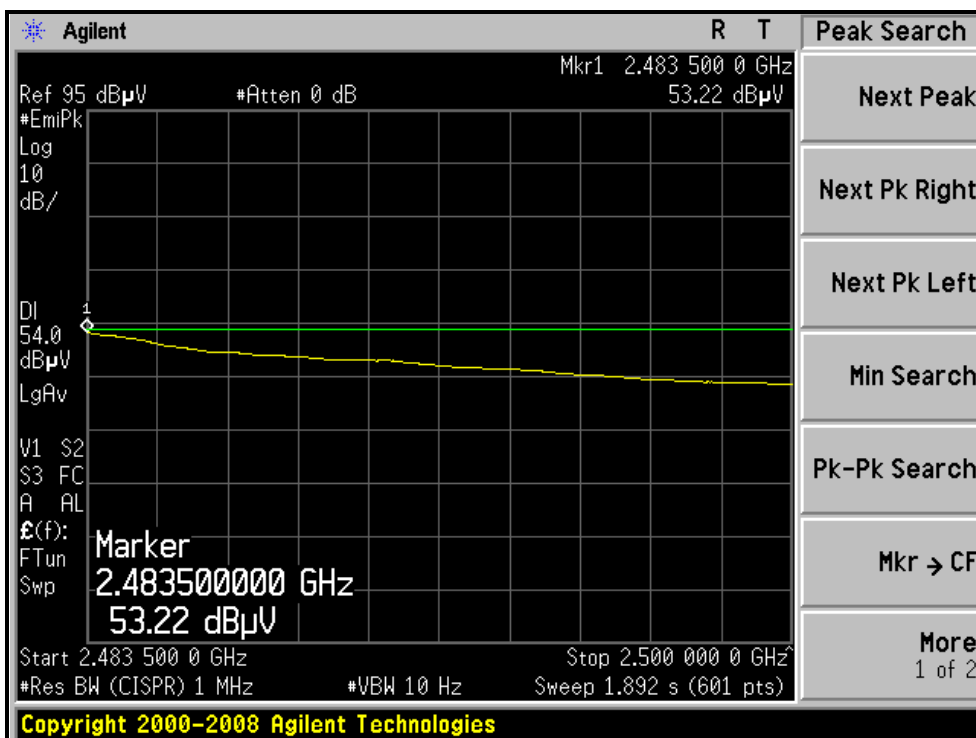
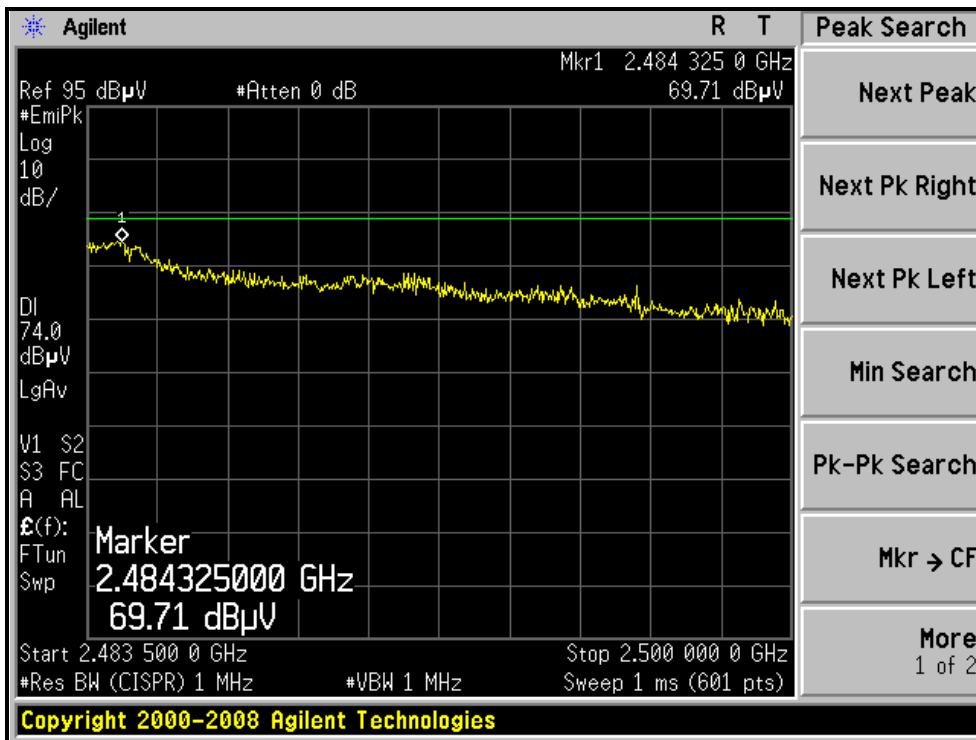


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### RESTRICTED BANDEDGE (802.11g MODE, CH1, VERTICAL)



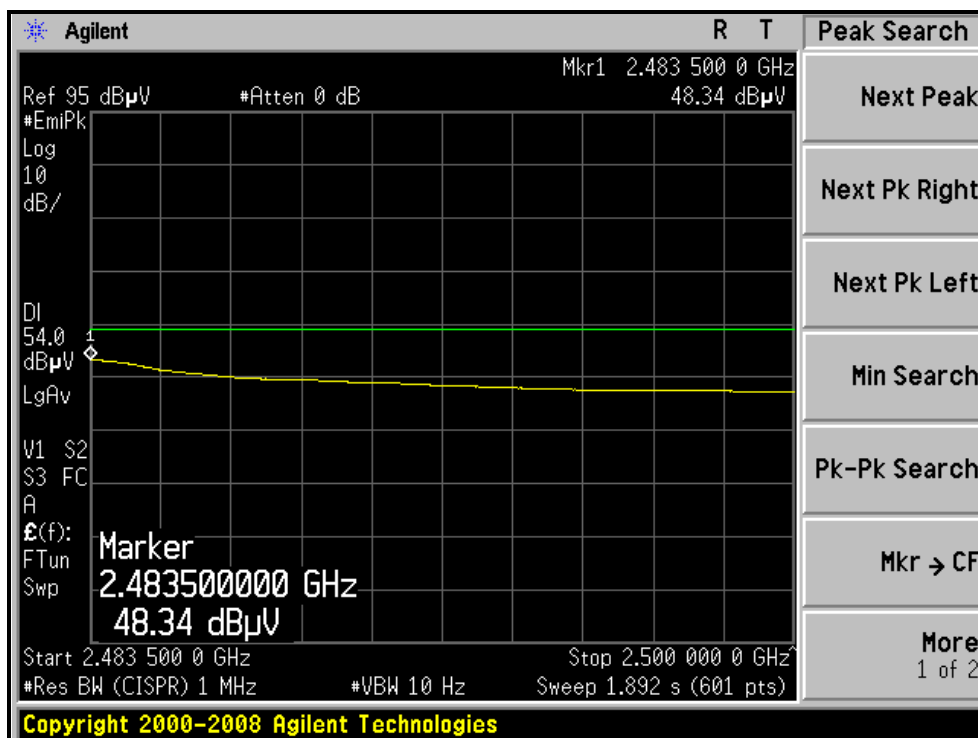
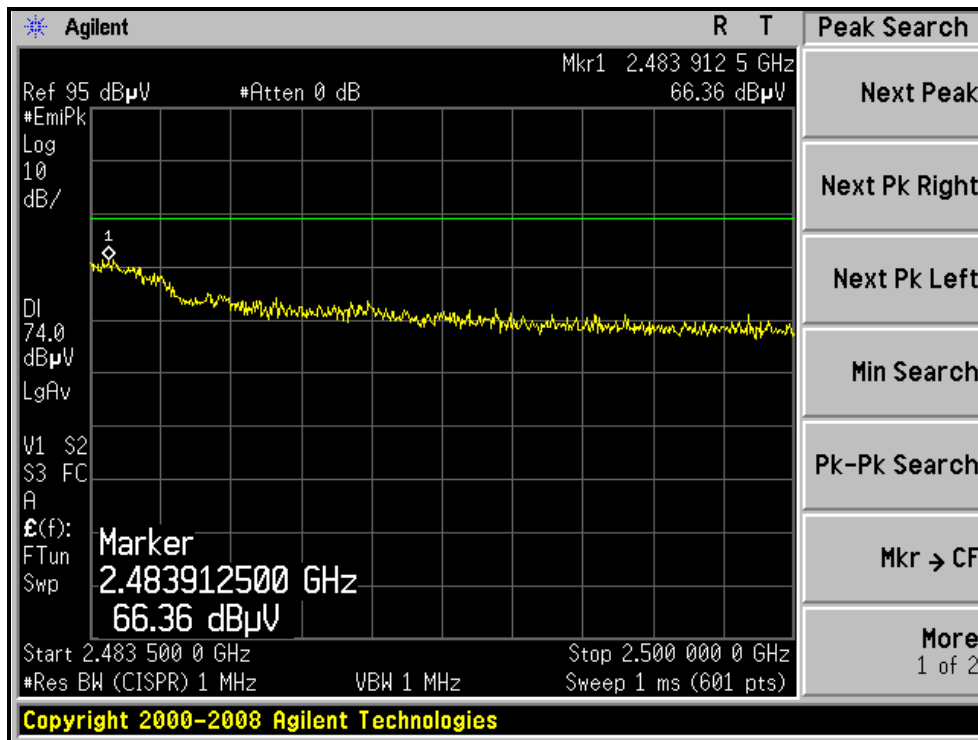
RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL)





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### RESTRICTED BANDEDGE (802.11g MODE, CH11, VERTICAL)



### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

**NOTE:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

#### 4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.3.5 TEST SETUP



#### 4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

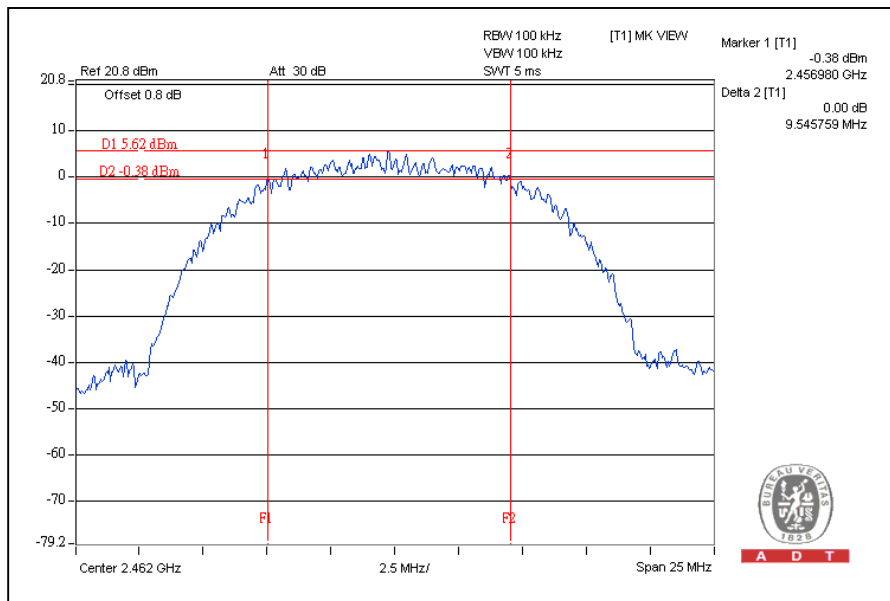


### 4.3.7 TEST RESULTS

#### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	9.53	0.5	PASS
6	2437	9.52	0.5	PASS
11	2462	9.54	0.5	PASS

#### CH11



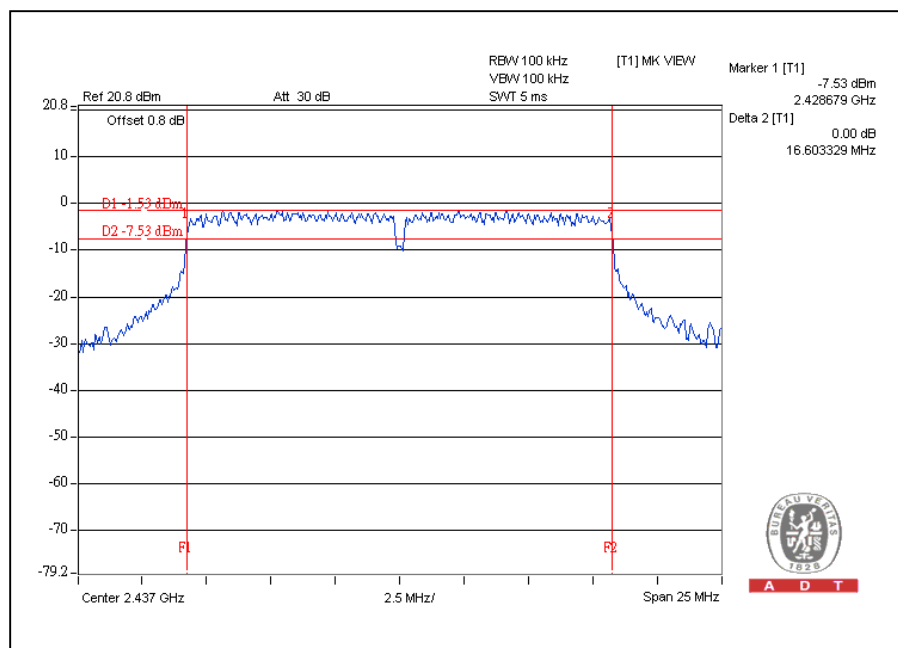


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### 802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.56	0.5	PASS
6	2437	16.60	0.5	PASS
11	2462	16.57	0.5	PASS

### CH6



#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Anritsu Power Meter	ML2495A	0824006	April 25, 2009	April 24, 2010
Pulse Power Sensor	MA2411B	0738172	April 25, 2009	April 24, 2010

**NOTE:**

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

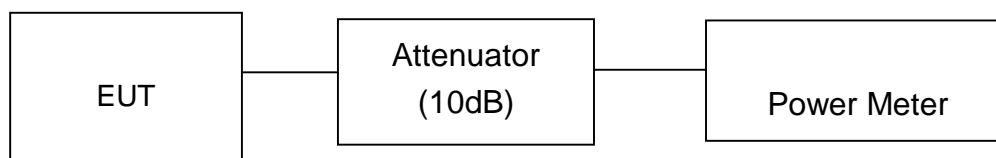
##### 4.4.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator; the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the power level.

##### 4.4.4 DEVIATION FROM TEST STANDARD

No deviation

##### 4.4.5 TEST SETUP



##### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.2.6



#### 4.4.7 TEST RESULTS

##### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	19.5	89.1	30	PASS
6	2437	19.3	85.1	30	PASS
11	2462	19.5	89.1	30	PASS

##### 802.11g OFDM modulation:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	22.4	173.8	30	PASS
6	2437	22.3	169.8	30	PASS
11	2462	22.5	177.8	30	PASS

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 03, 2009	Aug. 02, 2010

**NOTE:**

- 1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.5.3 TEST PROCEDURE

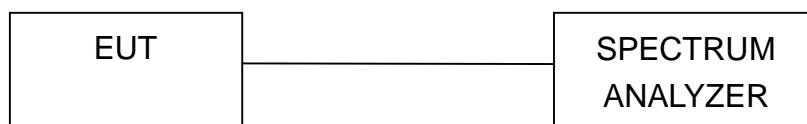
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.5.5 TEST SETUP



### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



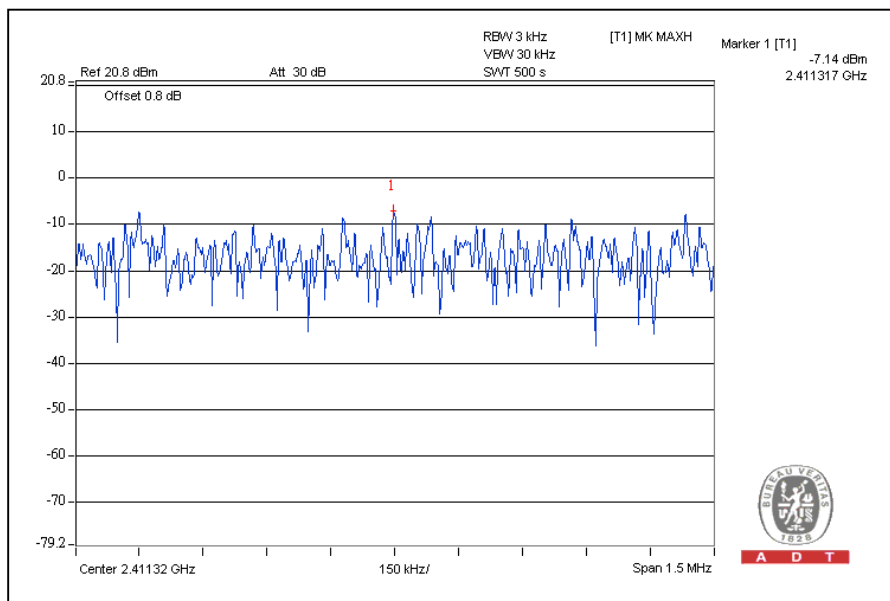
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### 4.5.7 TEST RESULTS

#### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-7.1	8	PASS
6	2437	-7.4	8	PASS
11	2462	-8.2	8	PASS

CH1



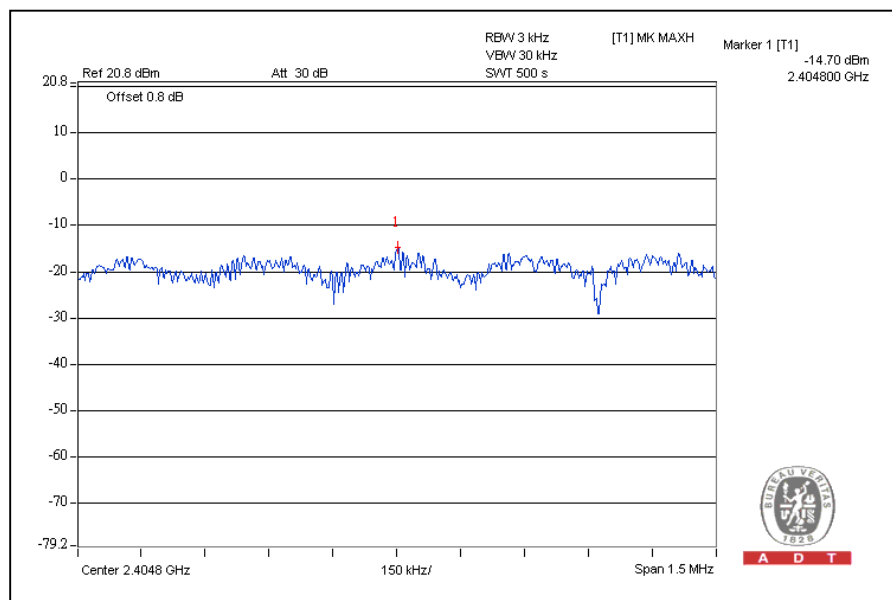


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### 802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-14.7	8	PASS
6	2437	-15.0	8	PASS
11	2462	-15.6	8	PASS

CH1





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## 5. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025:

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).

If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab:**

Tel: 886-2-26052180

Fax: 886-2-26052943

**Hsin Chu EMC/RF Lab:**

Tel: 886-3-5935343

Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab:**

Tel: 886-3-3183232

Fax: 886-3-3185050

**Email:** [service@adt.com.tw](mailto:service@adt.com.tw)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.





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## 6. APPENDIX - A MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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