

# FCC TEST REPORT

**REPORT NO.:** RF990716E07A

**MODEL NO.:** ARG-0810

**FCC ID:** VYXWIFI-008

**RECEIVED:** Sep. 28, 2010

**TESTED:** Oct. 27 to Nov. 04, 2010

**ISSUED:** Nov. 30, 2010

**APPLICANT:** Argtek Communication Inc.

**ADDRESS:** 8F-9, No. 4, Lane 609, Sec. 5, Chung Hsin Rd. San  
Chung City, Taipei Hsien

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

**LAB ADDRESS:** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,  
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

**TEST LOCATION (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,  
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

**TEST LOCATION (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen,  
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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## 1. CERTIFICATION

**PRODUCT:** Club Base  
**BRAND NAME:** ARGtek  
**MODEL NO.:** ARG-0810  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**TESTED:** Oct. 27 to Nov. 04, 2010  
**APPLICANT:** Argtek Communication Inc.  
**STANDARDS:** FCC Part 15, Subpart C (Section 15.247)  
ANSI C63.4-2003

The above equipment (Model: ARG-0810) 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** : Midoli Peng , **DATE:** Nov. 30, 2010  
( Midoli Peng, Specialist )

**TECHNICAL ACCEPTANCE** : Hank Chung , **DATE:** Nov.30, 2010  
( Hank Chung, Deputy Manager )

**APPROVED BY** : May Chen , **DATE:** Nov. 30, 2010  
( May Chen, Deputy Manager )



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## 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
15.247(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 -0.5dB at 2489.3MHz.
15.203	Antenna Requirement	PASS	Antenna connector is RP-SMA not a standard connector.

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



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## 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
Radiated emissions (30MHz-1GHz) – Chamber G	3.30 dB
Radiated emissions (1GHz -18GHz) – Chamber H	2.19 dB
Radiated emissions (18GHz -40GHz) – Chamber H	2.56 dB



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### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Club Base
<b>MODEL NO.</b>	ARG-0810
<b>FCC ID</b>	VYXWIFI-008
<b>POWER SUPPLY</b>	DC 5V from host equipment
<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 802.11n (20MHz, 800ns GI): 65 / 58.5 / 52 / 39 / 26 / 19.5 / 13 / 6.5Mbps 802.11n (40MHz, 800ns GI): 135 / 121.5 / 108 / 81 / 54 / 40.5 / 27 / 13.5Mbps 802.11n (20MHz, 400ns GI): 72.2 / 65 / 57.8 / 43.3 / 28.9 / 21.7 / 14.4 / 7.2Mbps 802.11n (40MHz, 400ns GI): 150 / 135 / 120 / 90 / 60 / 45 / 30 / 15Mbps
<b>FREQUENCY RANGE</b>	2412MHz ~ 2462MHz
<b>NUMBER OF CHANNEL</b>	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
<b>MAXIMUM OUTPUT POWER</b>	802.11b: 58.9mW 802.11g: 478.6mW 802.11n (20MHz): 467.7mW 802.11n (40MHz): 478.6mW
<b>ANTENNA TYPE</b>	Please see note 2
<b>DATA CABLE</b>	USB cable (Unshielded, 1.5m)
<b>I/O PORTS</b>	Mini USB port x 1
<b>ASSOCIATED DEVICES</b>	NA

# NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF990716E07 design is as the following information:

- ◆ The color of housing and antenna location design are different.
- ◆ Changed the USB cable form 2.8m to 1.5m.
- ◆ Add one new Dipole antenna(Gain : 9dBi)
- ◆ Add product name & model name as below table:

Original	
Product name	Model name
Diamond	ARG-1005
Addition	
Product name	Model name
Club Base	ARG-0810

2. There is three antennas provided to this EUT, please refer to the following table:

Antenna	Gain(dBi)	Antenna Type	Connector Type	Frequency range (MHz to MHz)
Antenna 1	5	Dipole	RP-SMA	2400~2500
Antenna 2	7	Panel	RP-SMA	2400~2500
Antenna 3	9	Dipole	RP-SMA	2400~2500

**Antennas 2 & 3** were chosen for final test.

3. The EUT incorporates a SISO function with 802.11n.
4. The EUT is 1 \* 1 spatial SISO without beam forming function.
5. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b and 802.11n technique devices to the network.
6. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

### 3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

Seven channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2422MHz	5	2442MHz
2	2427MHz	6	2447MHz
3	2432MHz	7	2452MHz
4	2437MHz		



### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
A	-	√	√	√	Dipole antenna(9dBi)
B	-	√	-	-	Panel antenna(7dBi)

Where **PLC**: Power Line Conducted Emission

**RE < 1G**: Radiated Emission below 1GHz

**RE ≥ 1G**: Radiated Emission above 1GHz

**APCM**: Antenna Port Conducted Measurement

#### **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)	CONFIGURE MODE
802.11g	1 to 11	6	OFDM	BPSK	6	A / B

#### **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)	CONFIGURE MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	A
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	A
802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	A

### ANTENNA PORT CONDUCTED MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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)	CONFIGURE MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	A
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	A
802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	A

### TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (system)	TESTED BY
RE $\geq$ 1G	20deg. C, 71%RH, 1012 hPa	120Vac, 60Hz	Eric Lee
RE<1G	19deg. C, 68%RH, 1012 hPa	120Vac, 60Hz	Frank Liu
APCM	25deg. C, 60%RH, 1013 hPa	120Vac, 60Hz	Eric Lee

### **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.

### 3.4 DESCRIPTION OF SUPPORT UNITS

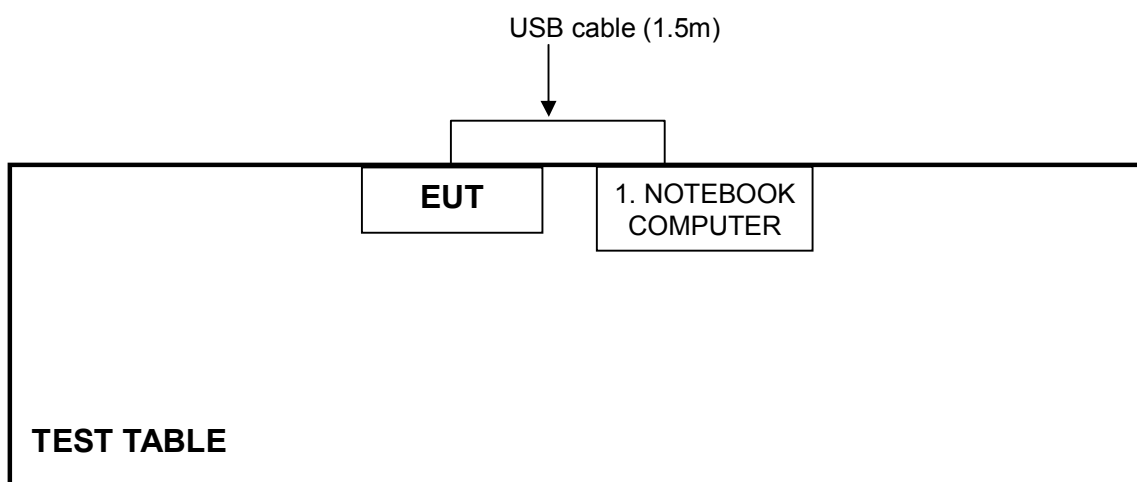
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	FCC DoC

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.5 m USB cable.

**NOTE:** 1. All power cords of the above support units are non shielded (1.8m).

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST



## 4. TEST TYPES AND RESULTS

### 4.1 RADIATED EMISSION MEASUREMENT

#### 4.1.1 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.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.

## 4.1.2 TEST INSTRUMENTS

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011
Agilent Pre-Selector	N9039A	MY46520311	July 14, 2010	July 13, 2011
Agilent Signal Generator	N5181A	MY49060517	July 14, 2010	July 13, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02578	July 05, 2010	July 04, 2011
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 29, 2010	Apr. 28, 2011
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 12, 2010	Nov. 11, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHGCAB_001	NA	NA
Software	ADT_Radiated_ V8.7.05	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, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in 966 Chamber No. G.

4. The FCC Site Registration No. is 966073.

5. The VCCI Site Registration No. is G-137.

6. The CANADA Site Registration No. is IC 7450H-2.



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**For above 1GHz test:**

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 23, 2010	Aug. 22, 2011
Agilent Pre-Selector	N9039A	MY46520310	Aug. 23, 2010	Aug. 22, 2011
Agilent Signal Generator	N5181A	MY49060347	July 30, 2010	July 29, 2011
LIG NEX1 Test Receiver	ER-265	L09068005	Oct. 25, 2010	Oct. 24, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02465	Mar. 01, 2010	Feb. 28, 2011
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 28, 2010	Apr. 27, 2011
AISI Horn Antenna	AIH.8018	0000220091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-205 RF104-207 RF104-208	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHHCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	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, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in 966 Chamber No. H.

4. The FCC Site Registration No. is 797305.

5. The CANADA Site Registration No. is IC 7450H-3.

#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meters chamber room. 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

**NOTE:**

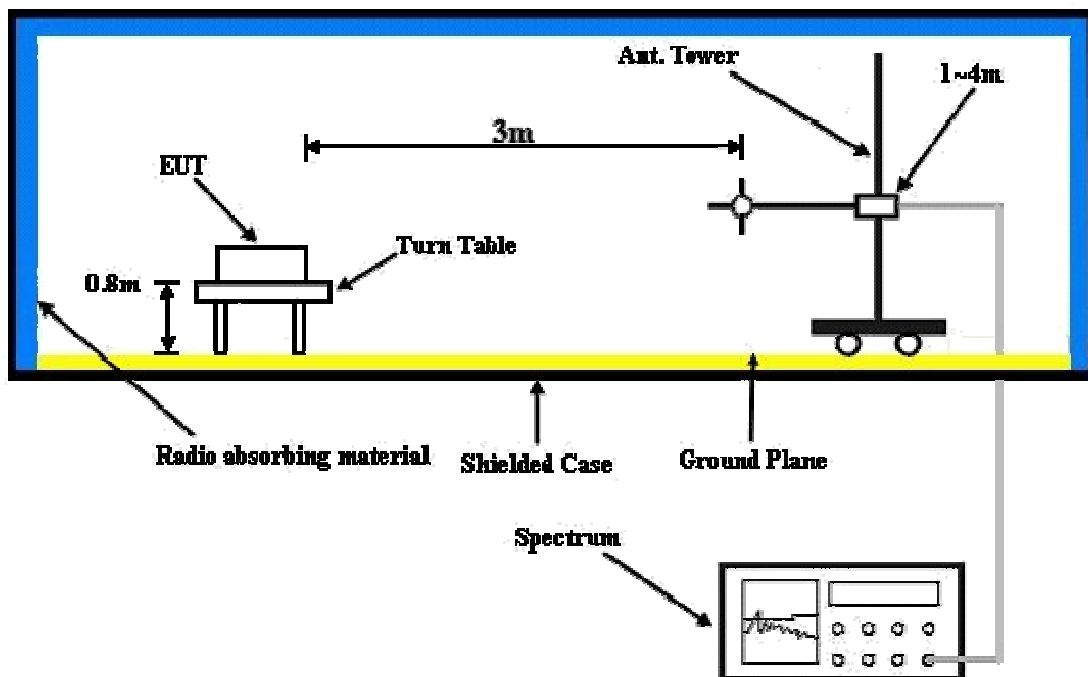
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation



#### 4.1.5 TEST SETUP



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

#### 4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on test table.
2. The support unit 1 (Notebook Computer) runs test program “QA\_RT3x7x\_V1.5.6.4” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

#### 4.1.7 TEST RESULTS (Dipole antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 68%RH 1013 hPa	TESTED BY	Frank Liu

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	120.00	33.4 QP	43.5	-10.1	1.50 H	298	20.91	12.46
2	189.52	32.2 QP	43.5	-11.3	2.00 H	347	21.02	11.19
3	324.04	38.8 QP	46.0	-7.2	1.00 H	275	23.07	15.72
4	360.04	34.3 QP	46.0	-11.7	1.00 H	143	17.77	16.50
5	480.01	33.2 QP	46.0	-12.8	1.00 H	172	13.99	19.23
6	599.97	37.1 QP	46.0	-8.9	1.50 H	54	15.17	21.97
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	320.73	38.2 QP	46.0	-7.8	2.00 V	89	22.59	15.65
2	360.04	36.9 QP	46.0	-9.2	1.50 V	360	20.35	16.50
3	480.01	35.4 QP	46.0	-10.6	1.00 V	0	16.16	19.23
4	507.24	36.0 QP	46.0	-10.0	1.50 V	315	16.15	19.87
5	531.88	35.8 QP	46.0	-10.3	1.50 V	317	15.33	20.42
6	555.92	34.1 QP	46.0	-11.9	1.00 V	84	13.13	20.96

- 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.

## ABOVE 1GHz WORST-CASE DATA

### 802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	56.1 PK	74.0	-17.9	1.11 H	287	24.37	31.73
2	2390.00	44.2 AV	54.0	-9.8	1.11 H	287	12.47	31.73
3	*2412.00	91.7 PK			1.11 H	288	59.91	31.79
4	*2412.00	89.9 AV			1.11 H	288	58.11	31.79
5	4824.00	47.6 PK	74.0	-26.4	1.11 H	214	7.42	40.18
6	4824.00	44.1 AV	54.0	-9.9	1.11 H	214	3.92	40.18
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	2386.30	61.4 PK	74.0	-12.6	1.06 V	276	29.68	31.72
2	2386.30	53.1 AV	54.0	-0.9	1.06 V	276	21.38	31.72
3	*2412.00	105.5 PK			1.07 V	288	73.71	31.79
4	*2412.00	101.9 AV			1.07 V	288	70.11	31.79
5	4824.00	55.0 PK	74.0	-19.0	1.41 V	241	14.82	40.18
6	4824.00	53.2 AV	54.0	-0.8	1.41 V	241	13.02	40.18

**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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	92.8 PK			1.12 H	287	60.94	31.86
2	*2437.00	90.1 AV			1.12 H	287	58.24	31.86
3	4874.00	48.8 PK	74.0	-25.2	1.00 H	249	8.42	40.38
4	4874.00	43.2 AV	54.0	-10.8	1.00 H	249	2.82	40.38
5	7311.00	53.2 PK	74.0	-20.8	1.11 H	85	8.16	45.04
6	7311.00	43.8 AV	54.0	-10.2	1.11 H	85	-1.24	45.04
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	106.8 PK			1.40 V	211	74.94	31.86
2	*2437.00	104.2 AV			1.40 V	211	72.34	31.86
3	4874.00	54.9 PK	74.0	-19.1	1.38 V	242	14.52	40.38
4	4874.00	53.2 AV	54.0	-0.8	1.38 V	242	12.82	40.38
5	7311.00	55.4 PK	74.0	-18.6	1.65 V	190	10.36	45.04
6	7311.00	46.9 AV	54.0	-7.1	1.65 V	190	1.86	45.04

**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.



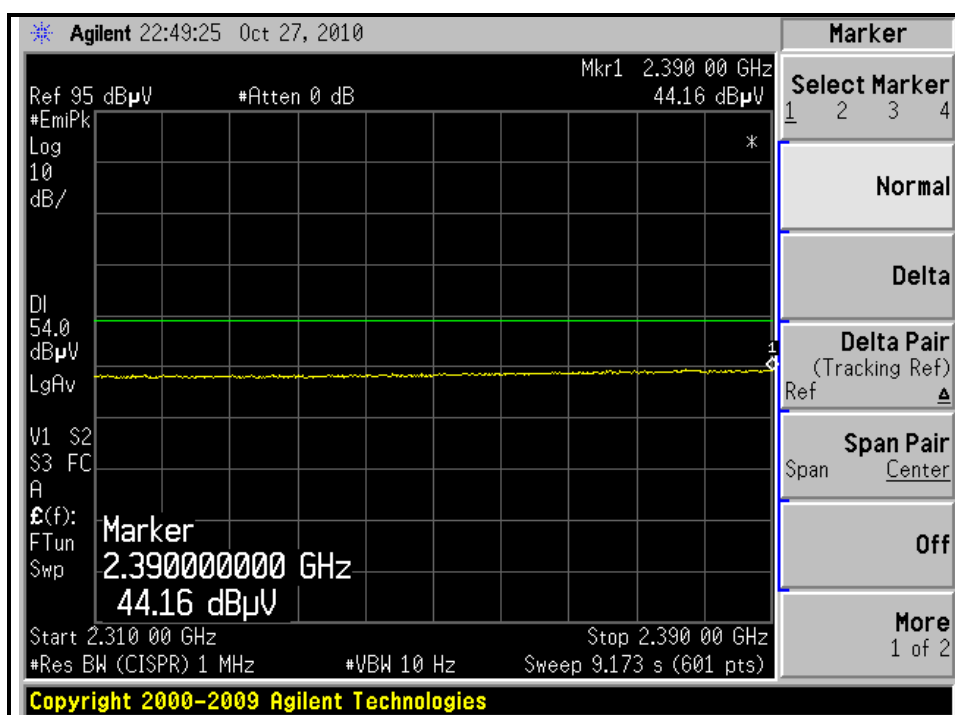
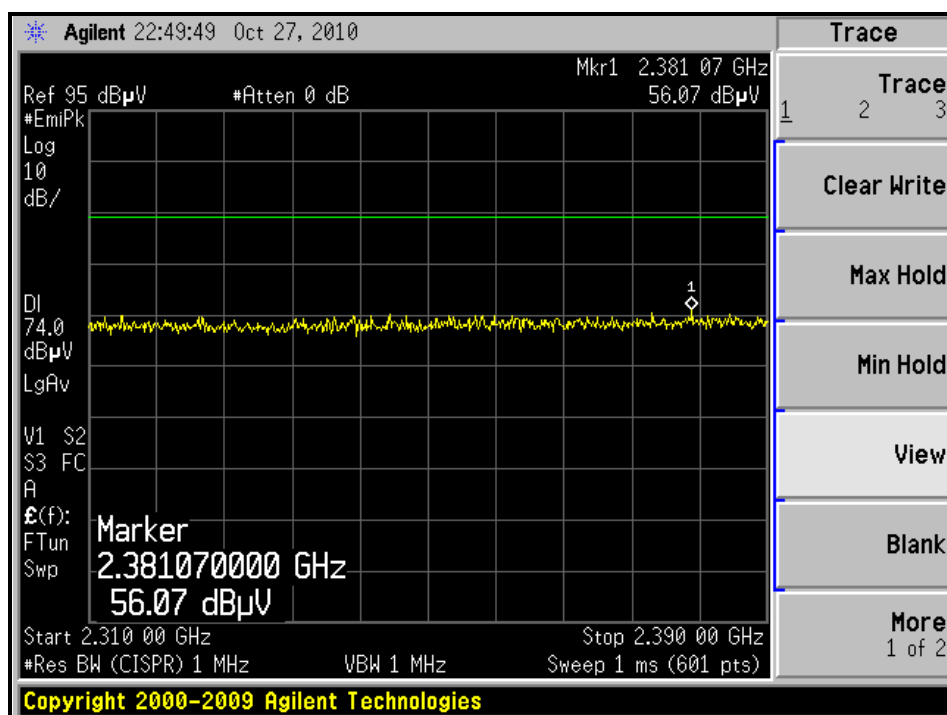
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

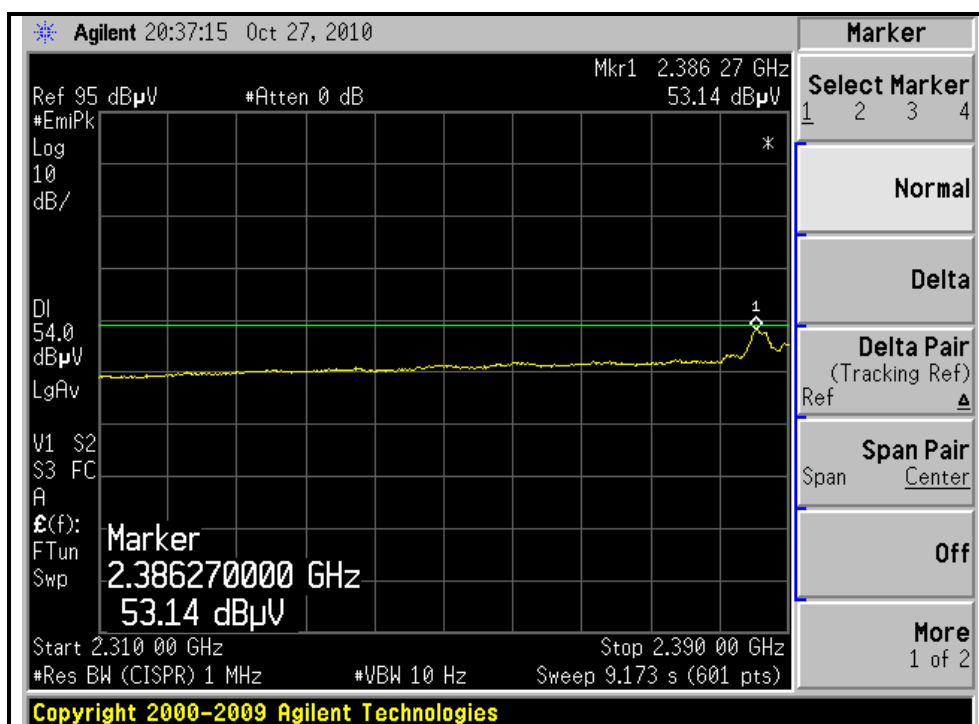
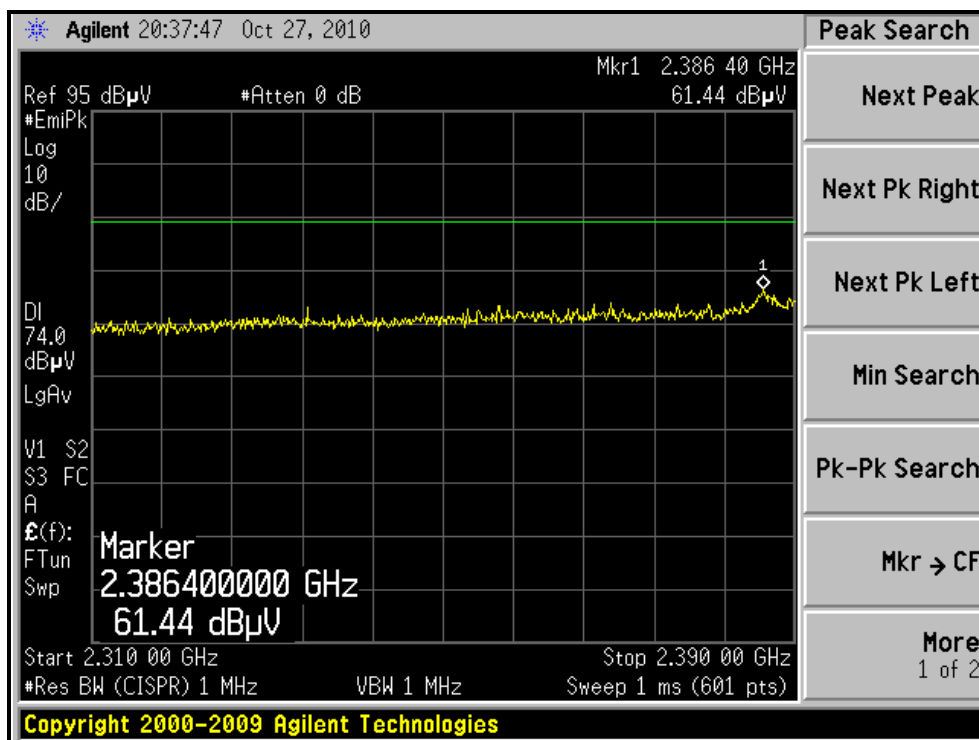
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	92.6 PK			1.09 H	231	60.67	31.93
2	*2462.00	90.2 AV			1.09 H	231	58.27	31.93
3	2487.70	55.7 PK	74.0	-18.3	1.12 H	291	23.70	32.00
4	2487.70	45.3 AV	54.0	-8.7	1.12 H	291	13.30	32.00
5	4924.00	48.7 PK	74.0	-25.3	1.01 H	271	8.12	40.58
6	4924.00	43.1 AV	54.0	-10.9	1.01 H	271	2.52	40.58
7	7386.00	52.9 PK	74.0	-21.1	1.14 H	91	7.78	45.12
8	7386.00	43.1 AV	54.0	-10.9	1.14 H	91	-2.02	45.12
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	105.7 PK			1.04 V	297	73.77	31.93
2	*2462.00	102.8 AV			1.04 V	297	70.87	31.93
3	2487.70	61.0 PK	74.0	-13.0	1.06 V	297	29.00	32.00
4	2487.70	52.2 AV	54.0	-1.8	1.06 V	297	20.20	32.00
5	4924.00	55.8 PK	74.0	-18.2	1.41 V	215	15.22	40.58
6	4924.00	53.1 AV	54.0	-0.9	1.41 V	215	12.52	40.58
7	7386.00	54.8 PK	74.0	-19.2	1.74 V	218	9.68	45.12
8	7386.00	45.8 AV	54.0	-8.2	1.74 V	218	0.68	45.12

**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.

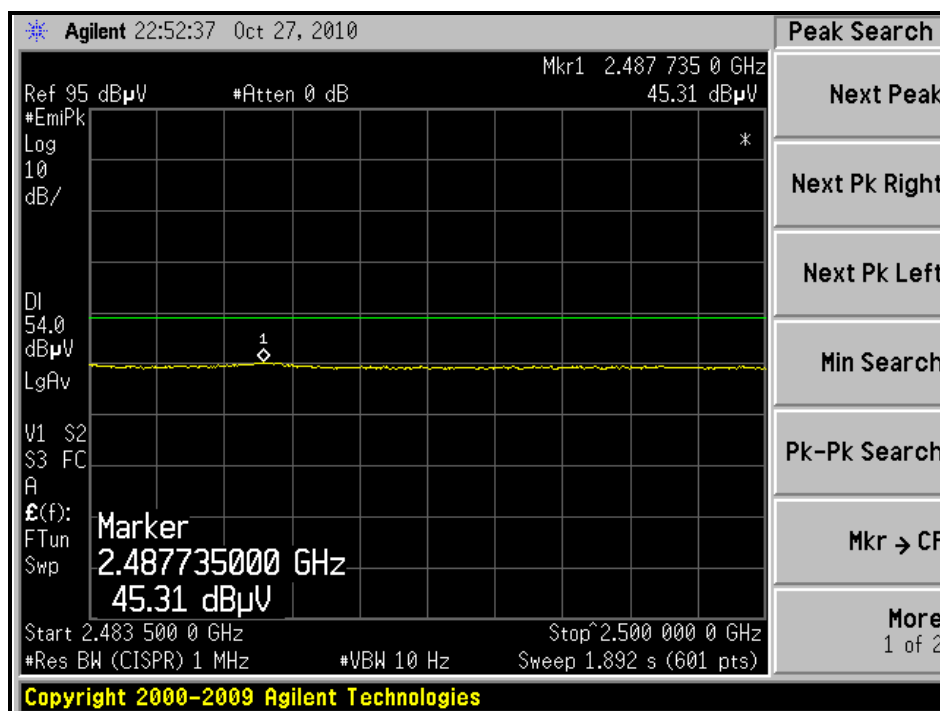
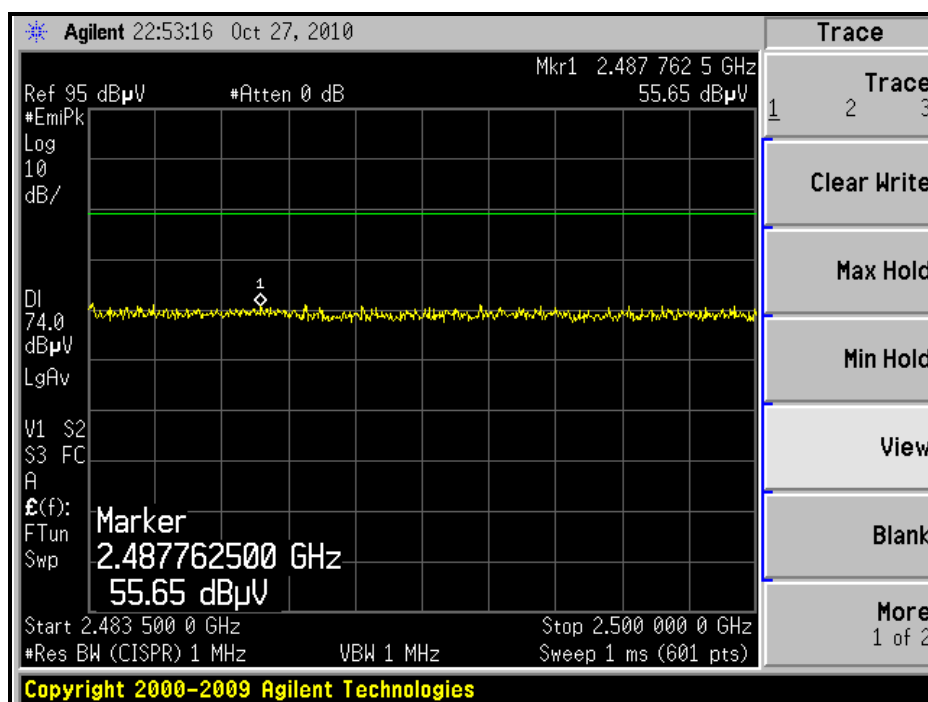
# RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL)



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



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

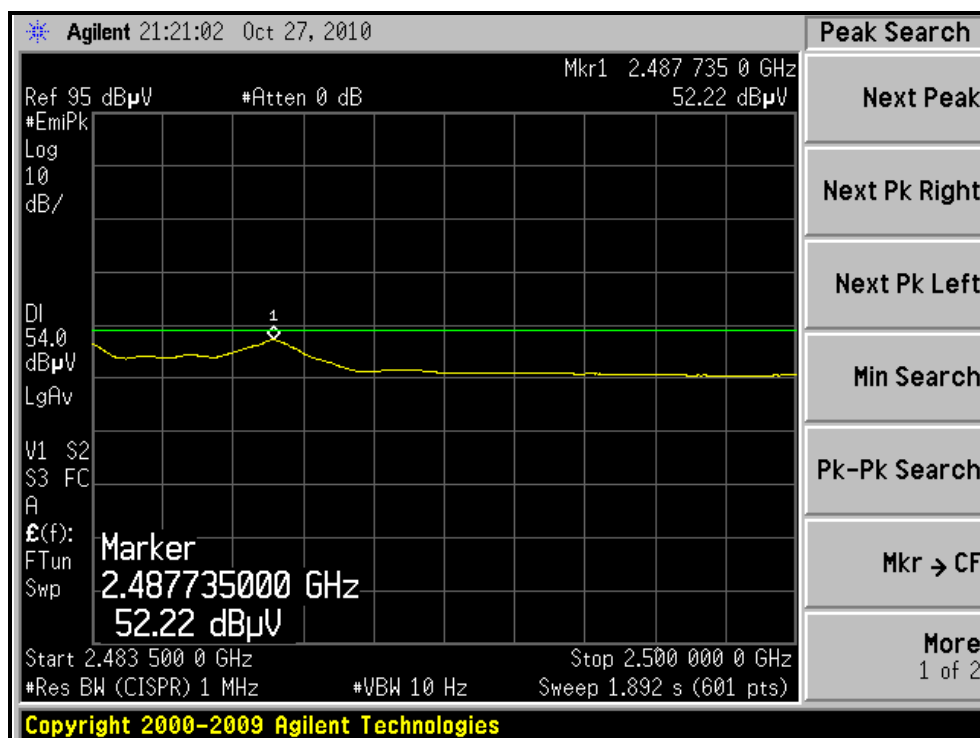
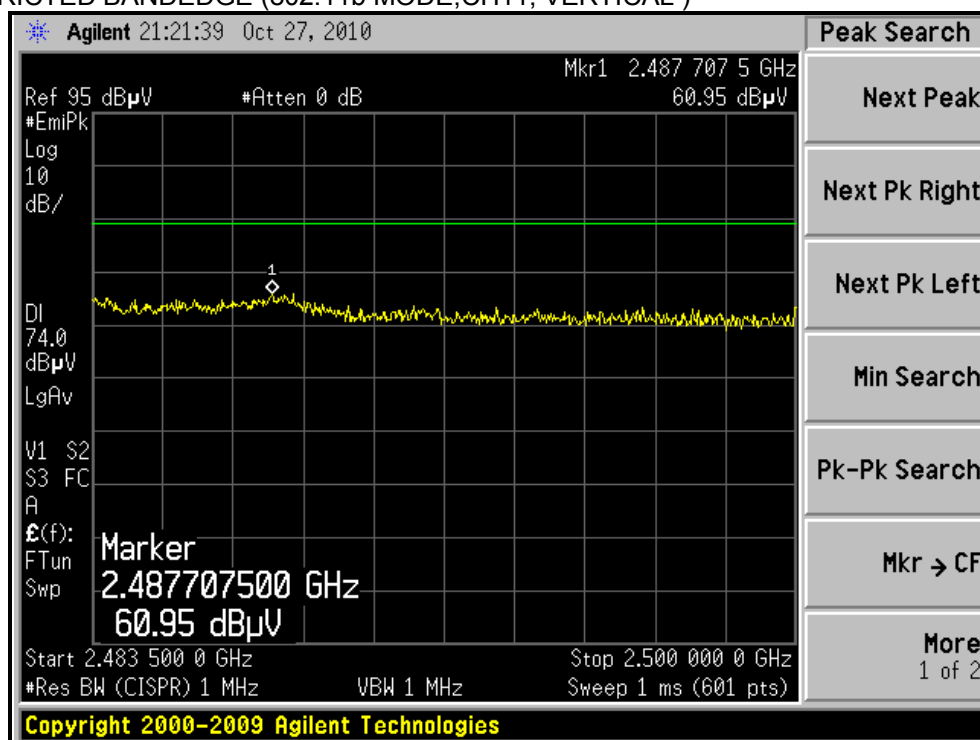






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# RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL )





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## 802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	2389.70	58.6 PK	74.0	-15.4	1.08 H	250	26.87	31.73
2	2389.70	46.8 AV	54.0	-7.2	1.08 H	250	15.07	31.73
3	*2412.00	100.1 PK			1.11 H	240	68.31	31.79
4	*2412.00	90.6 AV			1.11 H	240	58.81	31.79
5	4824.00	49.9 PK	74.0	-24.1	1.10 H	322	9.72	40.18
6	4824.00	36.1 AV	54.0	-17.9	1.10 H	322	-4.08	40.18
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	66.8 PK	74.0	-7.2	1.01 V	56	35.07	31.73
2	2390.00	53.4 AV	54.0	-0.6	1.01 V	56	21.67	31.73
3	*2412.00	109.7 PK			1.04 V	55	77.91	31.79
4	*2412.00	101.0 AV			1.04 V	55	69.21	31.79
5	4824.00	59.4 PK	74.0	-14.6	1.39 V	239	19.22	40.18
6	4824.00	46.3 AV	54.0	-7.7	1.39 V	239	6.12	40.18

**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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	105.2 PK			1.12 H	261	73.34	31.86
2	*2437.00	95.7 AV			1.12 H	261	63.84	31.86
3	4874.00	51.0 PK	74.0	-23.0	1.12 H	316	10.62	40.38
4	4874.00	39.0 AV	54.0	-15.0	1.12 H	316	-1.38	40.38
5	7311.00	57.6 PK	74.0	-16.4	1.31 H	221	12.56	45.04
6	7311.00	47.1 AV	54.0	-6.9	1.31 H	221	2.06	45.04
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	2384.40	64.2 PK	74.0	-9.8	1.04 V	56	32.48	31.72
2	2384.40	52.7 AV	54.0	-1.3	1.04 V	56	20.98	31.72
3	*2437.00	116.5 PK			1.03 V	57	84.64	31.86
4	*2437.00	106.5 AV			1.03 V	57	74.64	31.86
5	2489.30	64.2 PK	74.0	-9.8	1.03 V	129	32.20	32.00
6	2489.30	53.5 AV	54.0	-0.5	1.03 V	129	21.50	32.00
7	4874.00	67.3 PK	74.0	-6.7	1.55 V	155	26.92	40.38
8	4874.00	53.2 AV	54.0	-0.8	1.55 V	155	12.82	40.38
9	7311.00	67.1 PK	74.0	-6.9	1.62 V	154	22.06	45.04
10	7311.00	53.5 AV	54.0	-0.5	1.62 V	154	8.46	45.04

**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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

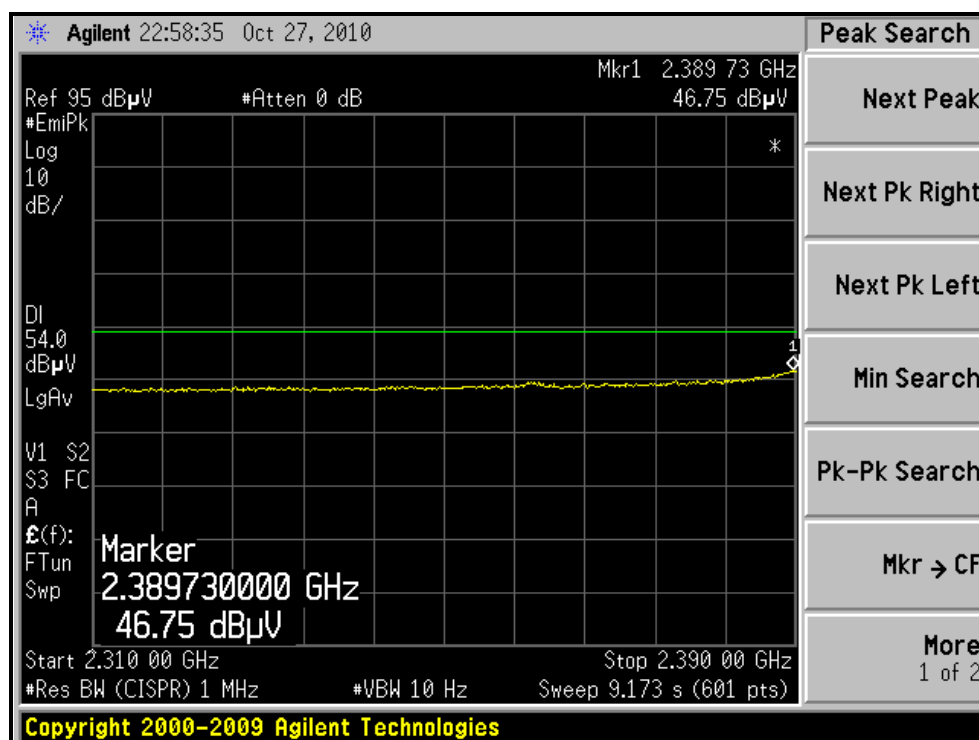
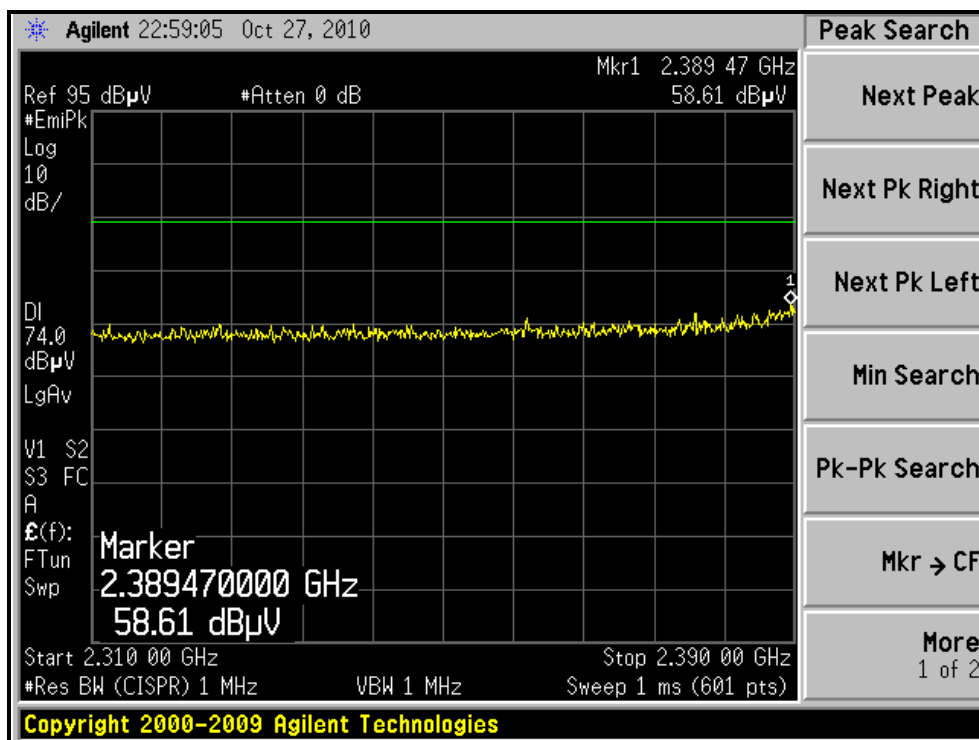
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.9 PK			1.10 H	245	69.97	31.93
2	*2462.00	92.3 AV			1.10 H	245	60.37	31.93
3	2484.30	56.9 PK	74.0	-17.1	1.09 H	250	24.91	31.99
4	2484.30	44.1 AV	54.0	-9.9	1.09 H	250	12.11	31.99
5	4924.00	50.5 PK	74.0	-23.5	1.11 H	308	9.92	40.58
6	4924.00	38.4 AV	54.0	-15.6	1.11 H	308	-2.18	40.58
7	7386.00	56.2 PK	74.0	-17.8	1.29 H	265	11.08	45.12
8	7386.00	46.9 AV	54.0	-7.1	1.29 H	265	1.78	45.12
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	111.9 PK			1.03 V	127	79.97	31.93
2	*2462.00	103.1 AV			1.03 V	127	71.17	31.93
3	2483.50	67.7 PK	74.0	-6.3	4.00 V	129	35.71	31.99
4	2483.50	52.7 AV	54.0	-1.3	4.00 V	129	20.71	31.99
5	4924.00	67.1 PK	74.0	-6.9	1.39 V	222	26.52	40.58
6	4924.00	51.2 AV	54.0	-2.8	1.39 V	222	10.62	40.58
7	7386.00	66.6 PK	74.0	-7.4	1.27 V	218	21.48	45.12
8	7386.00	53.4 AV	54.0	-0.6	1.27 V	218	8.28	45.12

**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.

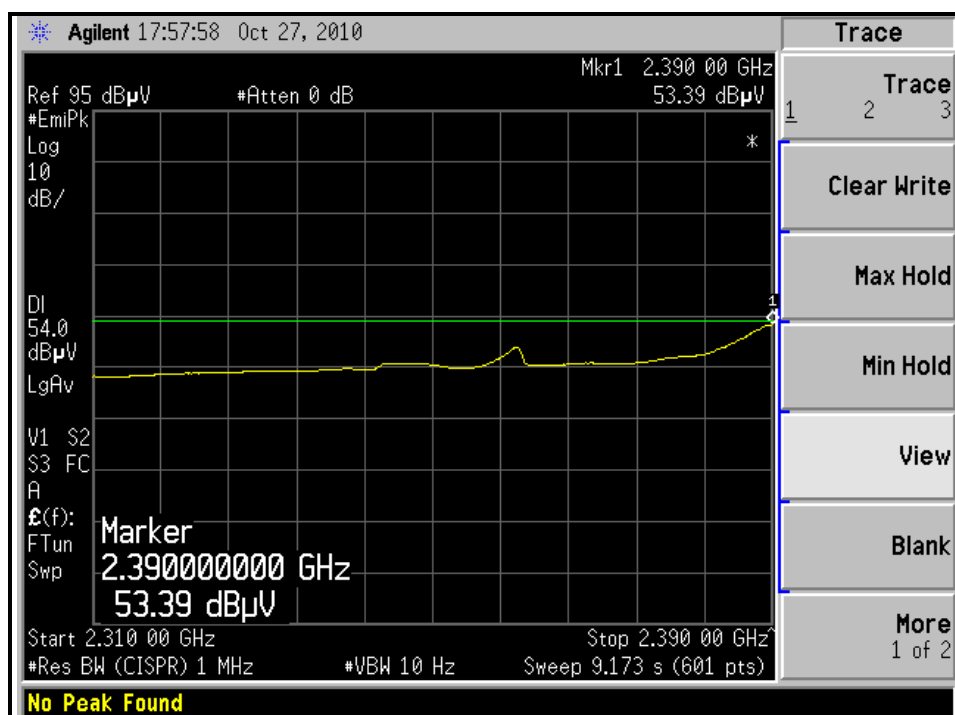
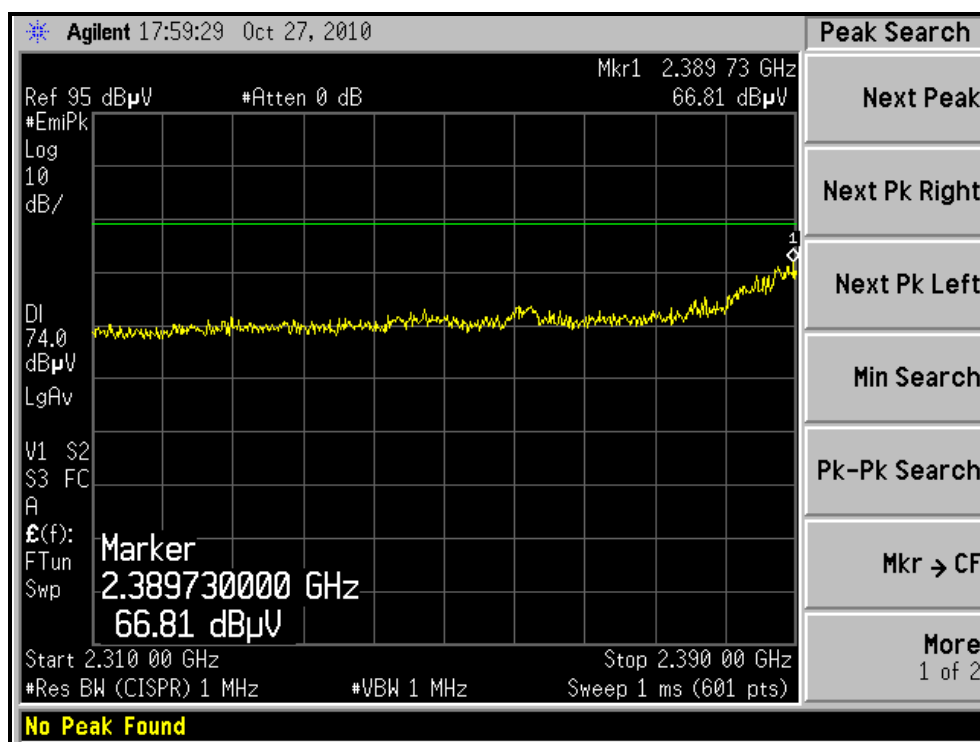


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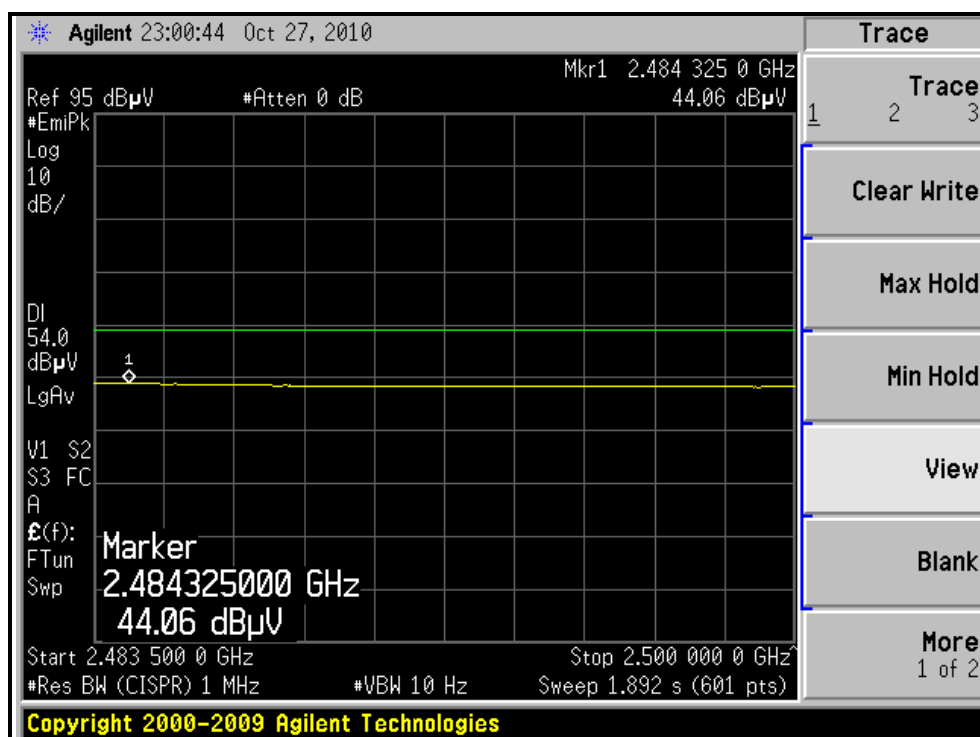
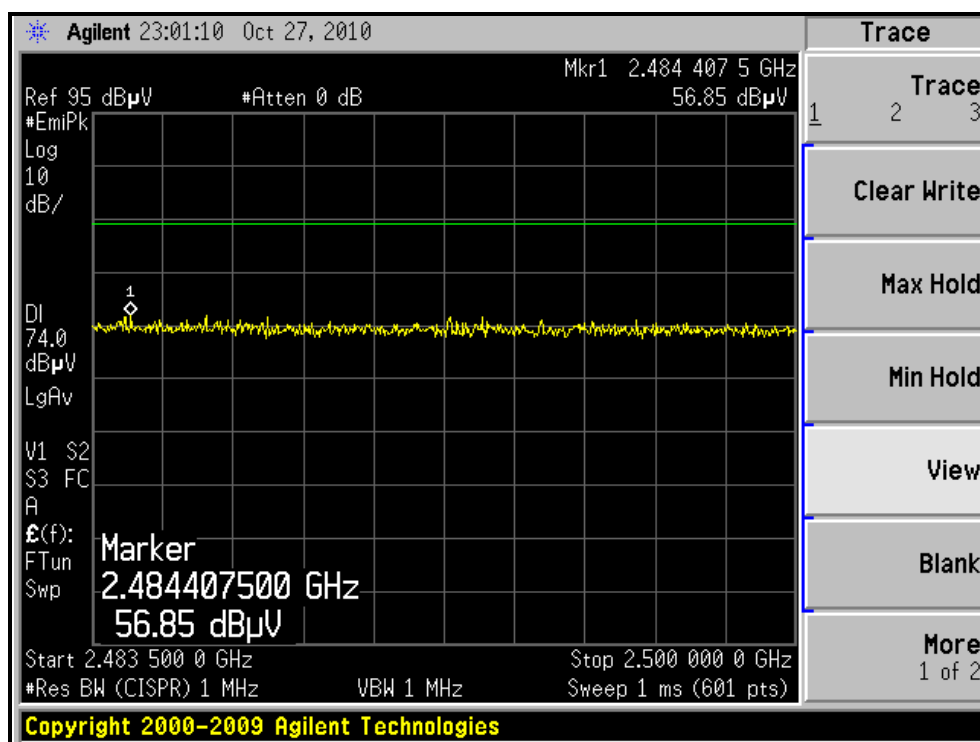
RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL )



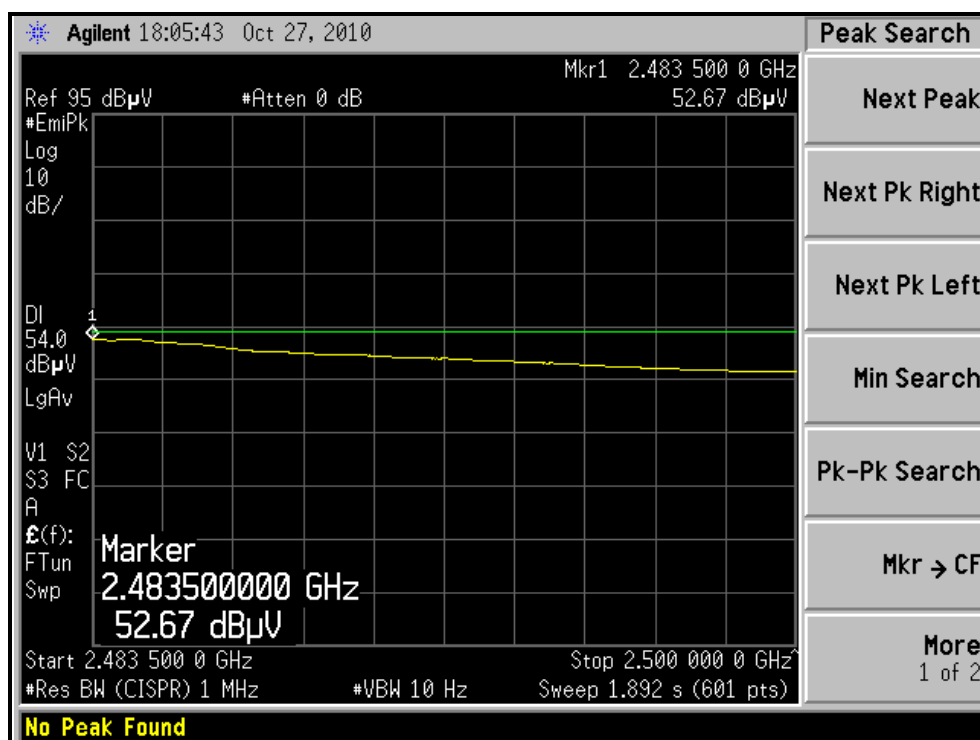
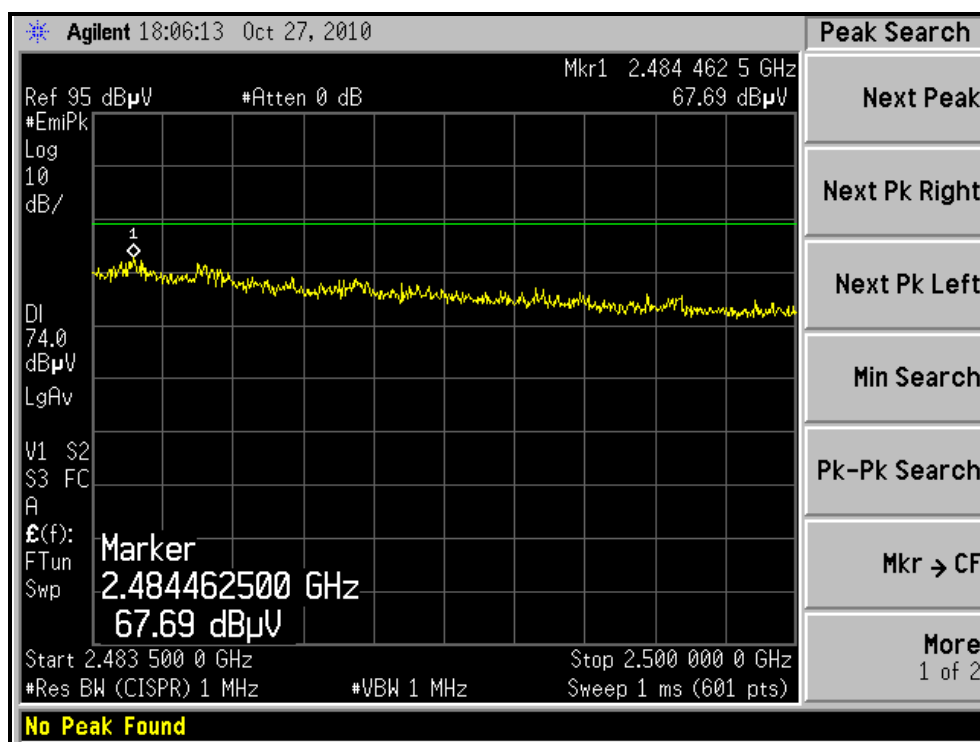
# RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL )



RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL )



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







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**802.11n (20MHz) OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	2389.90	58.9 PK	74.0	-15.1	1.10 H	300	27.17	31.73
2	2389.90	46.3 AV	54.0	-7.7	1.10 H	300	14.57	31.73
3	*2412.00	100.0 PK			1.11 H	289	68.21	31.79
4	*2412.00	90.1 AV			1.11 H	289	58.31	31.79
5	4824.00	51.4 PK	74.0	-22.6	1.14 H	308	11.22	40.18
6	4824.00	42.8 AV	54.0	-11.2	1.14 H	308	2.62	40.18
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	67.0 PK	74.0	-7.0	1.06 V	288	35.27	31.73
2	2390.00	53.1 AV	54.0	-0.9	1.06 V	288	21.37	31.73
3	*2412.00	109.4 PK			1.07 V	271	77.61	31.79
4	*2412.00	100.5 AV			1.07 V	271	68.71	31.79
5	4824.00	64.1 PK	74.0	-9.9	1.59 V	221	23.92	40.18
6	4824.00	49.6 AV	54.0	-4.4	1.59 V	221	9.42	40.18

- 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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	103.3 PK			1.11 H	261	71.44	31.86
2	*2437.00	93.2 AV			1.11 H	261	61.34	31.86
3	4874.00	51.2 PK	74.0	-22.8	1.25 H	309	10.82	40.38
4	4874.00	42.8 AV	54.0	-11.2	1.25 H	309	2.42	40.38
5	7311.00	58.1 PK	74.0	-15.9	1.30 H	140	13.06	45.04
6	7311.00	43.7 AV	54.0	-10.3	1.30 H	140	-1.34	45.04
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	113.3 PK			1.06 V	276	81.44	31.86
2	*2437.00	104.5 AV			1.06 V	276	72.64	31.86
3	4874.00	67.5 PK	74.0	-6.5	1.47 V	351	27.12	40.38
4	4874.00	53.3 AV	54.0	-0.7	1.47 V	351	12.92	40.38
5	7311.00	66.4 PK	74.0	-7.6	1.50 V	184	21.36	45.04
6	7311.00	53.1 AV	54.0	-0.9	1.50 V	184	8.06	45.04

**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.



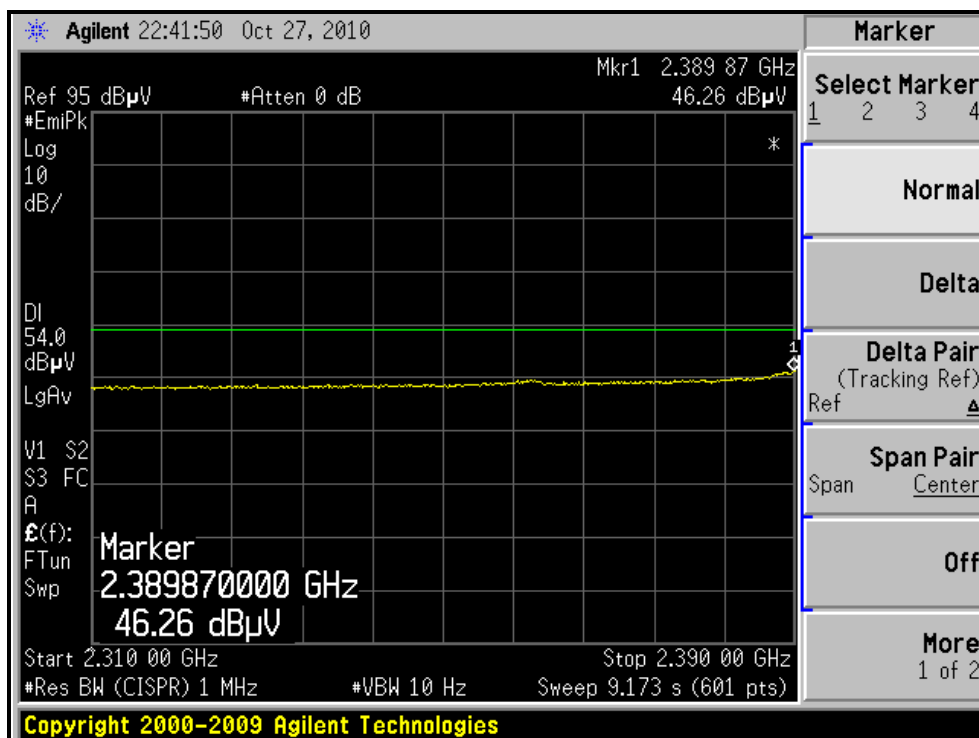
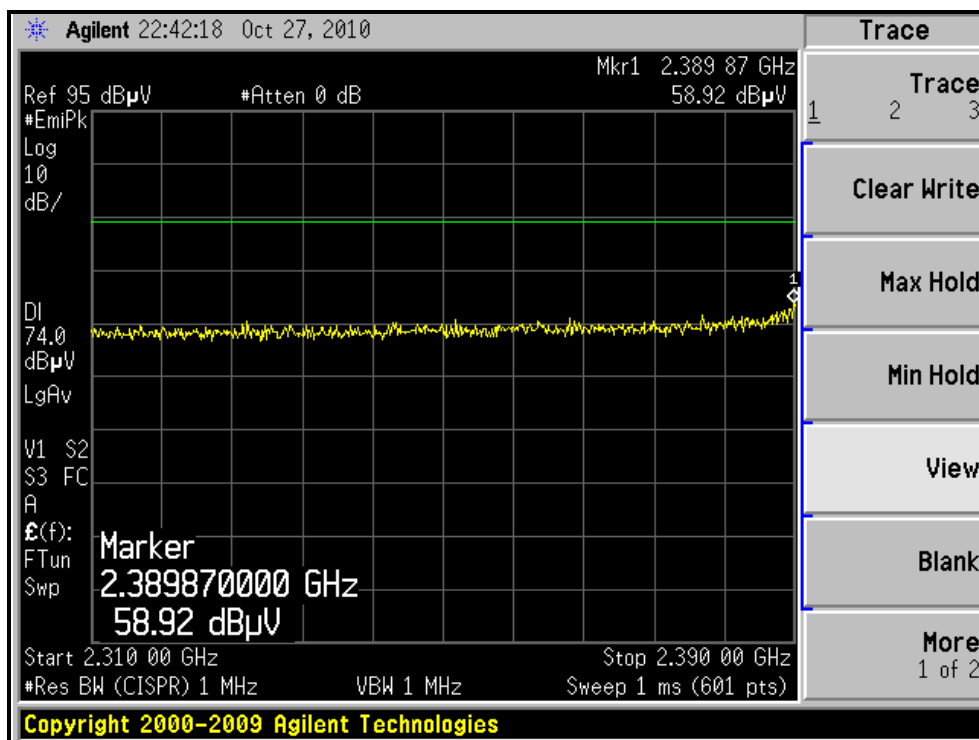
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

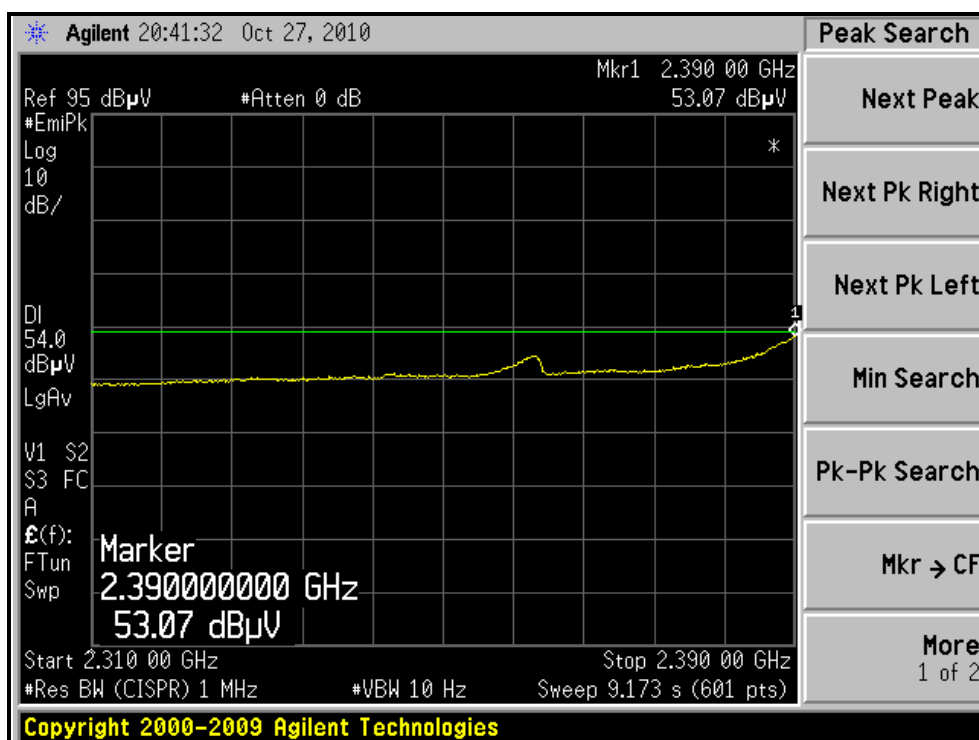
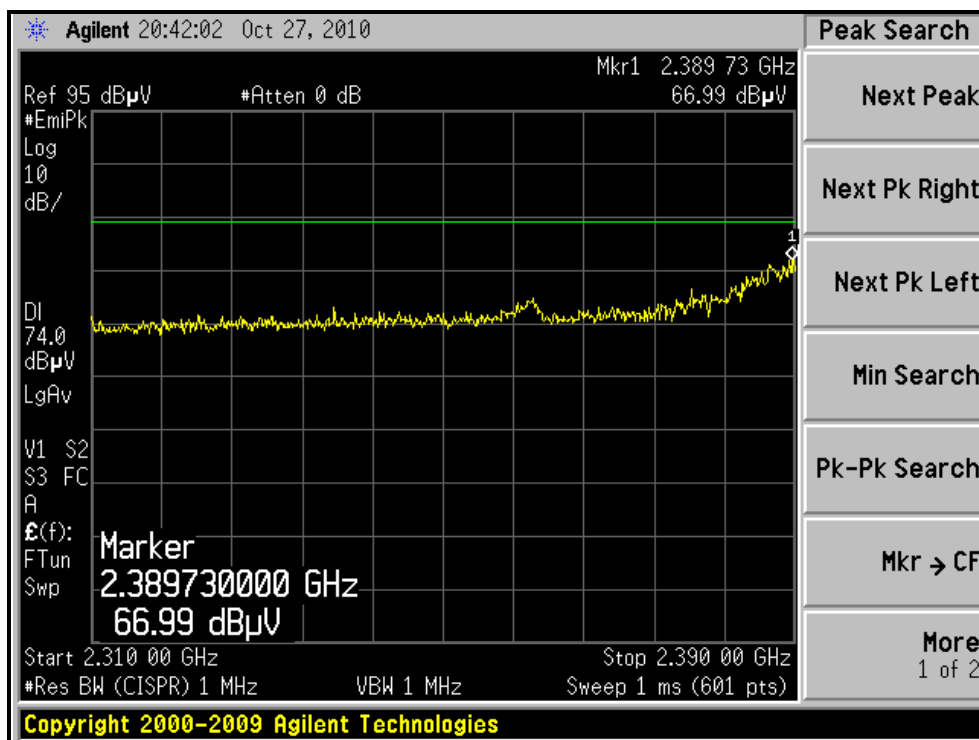
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.2 PK			1.08 H	248	70.27	31.93
2	*2462.00	92.7 AV			1.08 H	248	60.77	31.93
3	2483.90	57.4 PK	74.0	-16.6	1.01 H	256	25.41	31.99
4	2483.90	46.1 AV	54.0	-7.9	1.01 H	256	14.11	31.99
5	4924.00	53.2 PK	74.0	-20.8	1.31 H	341	12.62	40.58
6	4924.00	43.1 AV	54.0	-10.9	1.31 H	341	2.52	40.58
7	7386.00	57.9 PK	74.0	-16.1	1.40 H	267	12.78	45.12
8	7386.00	42.5 AV	54.0	-11.5	1.40 H	267	-2.62	45.12
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	112.6 PK			1.03 V	305	80.67	31.93
2	*2462.00	103.2 AV			1.03 V	305	71.27	31.93
3	2484.10	65.7 PK	74.0	-8.3	1.03 V	305	33.71	31.99
4	2484.10	53.1 AV	54.0	-0.9	1.03 V	305	21.11	31.99
5	4924.00	66.8 PK	74.0	-7.2	1.48 V	67	26.22	40.58
6	4924.00	50.2 AV	54.0	-3.8	1.48 V	67	9.62	40.58
7	7386.00	66.1 PK	74.0	-7.9	1.74 V	222	20.98	45.12
8	7386.00	53.4 AV	54.0	-0.6	1.74 V	222	8.28	45.12

**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.

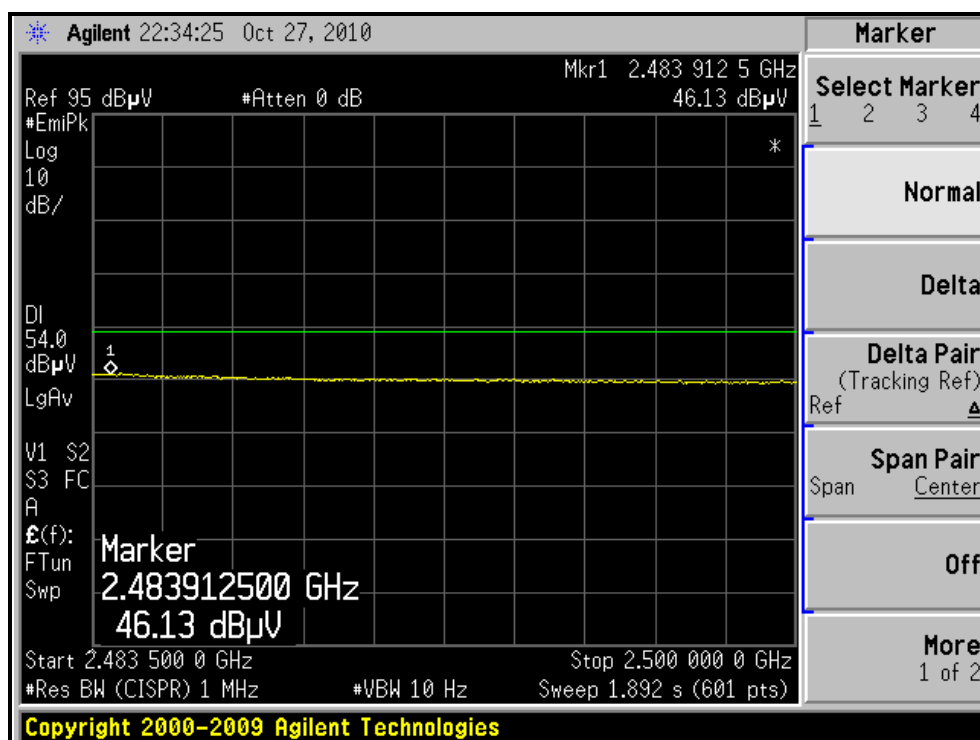
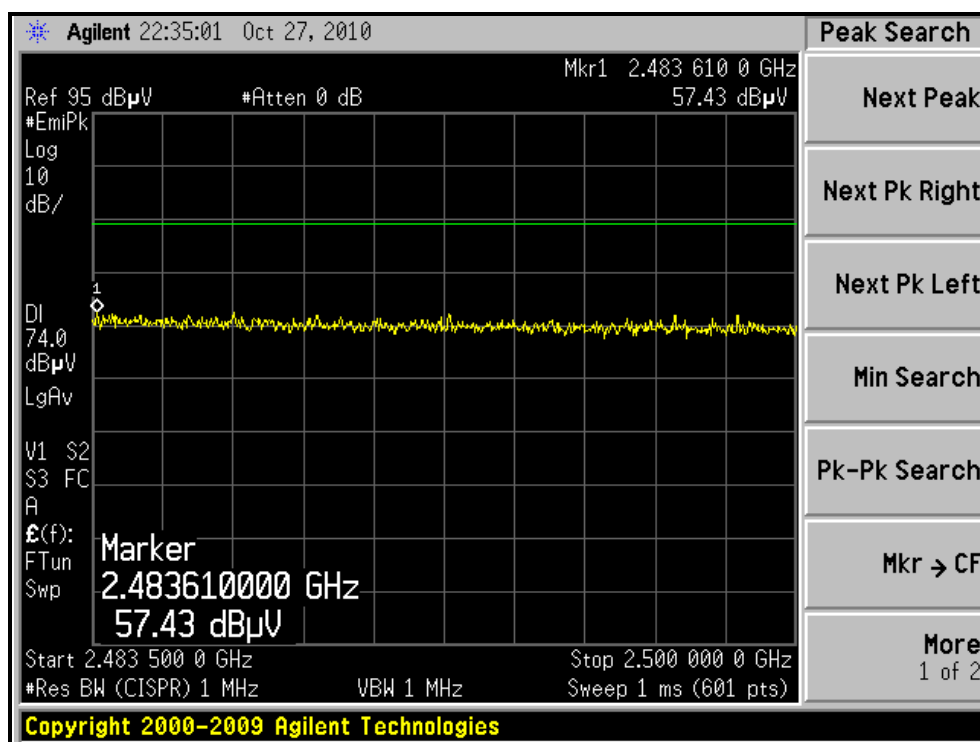
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL )



# RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL )



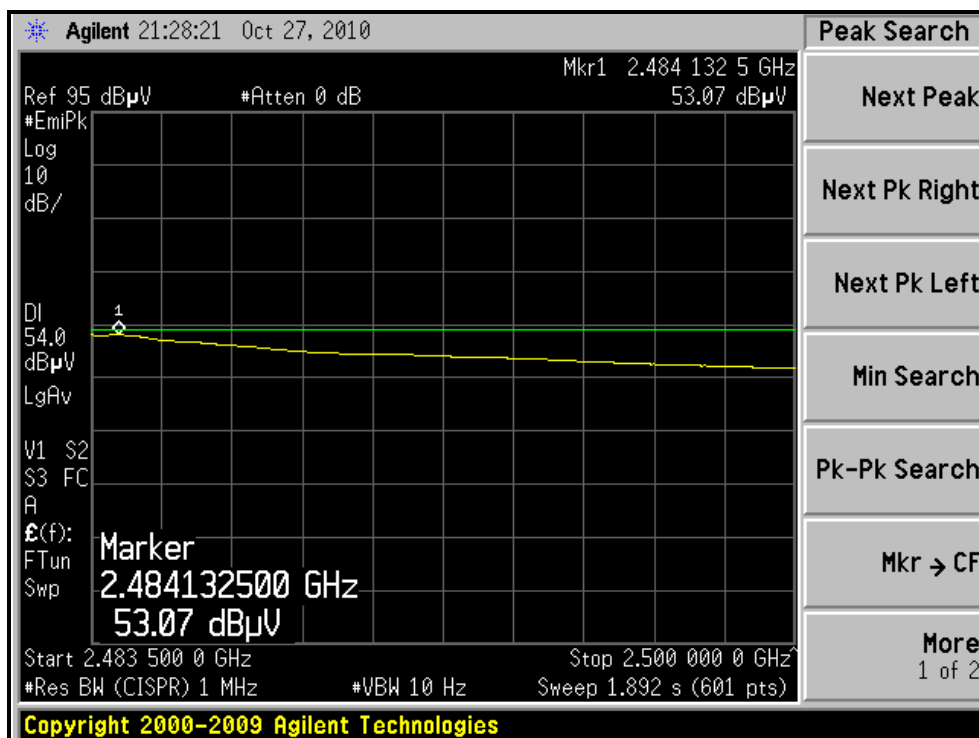
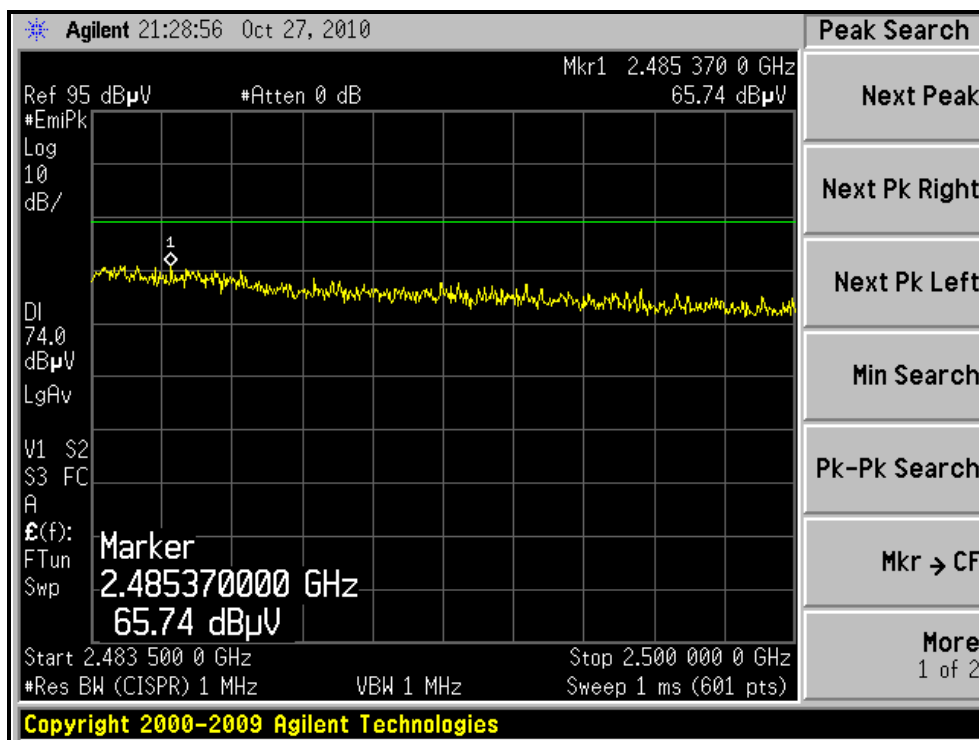
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL )





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RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, VERTICAL )





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**802.11n (40MHz) OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	2389.70	57.8 PK	74.0	-16.2	1.11 H	241	26.07	31.73
2	2389.70	46.6 AV	54.0	-7.4	1.11 H	241	14.87	31.73
3	*2422.00	95.4 PK			1.10 H	238	63.58	31.82
4	*2422.00	85.7 AV			1.10 H	238	53.88	31.82
5	4844.00	48.2 PK	74.0	-25.8	1.48 H	158	7.94	40.26
6	4844.00	36.9 AV	54.0	-17.1	1.48 H	158	-3.36	40.26
7	7266.00	53.7 PK	74.0	-20.3	1.62 H	111	8.71	44.99
8	7266.00	39.8 AV	54.0	-14.2	1.62 H	111	-5.19	44.99
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	65.4 PK	74.0	-8.6	1.06 V	276	33.67	31.73
2	2390.00	53.0 AV	54.0	-1.0	1.06 V	276	21.27	31.73
3	*2422.00	106.1 PK			1.07 V	281	74.28	31.82
4	*2422.00	96.6 AV			1.07 V	281	64.78	31.82
5	4844.00	57.7 PK	74.0	-16.3	1.28 V	73	17.44	40.26
6	4844.00	48.6 AV	54.0	-5.4	1.28 V	73	8.34	40.26
7	7266.00	59.6 PK	74.0	-14.4	1.11 V	68	14.61	44.99
8	7266.00	47.2 AV	54.0	-6.8	1.11 V	68	2.21	44.99

- 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 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

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	98.9 PK			1.11 H	211	67.04	31.86
2	*2437.00	89.1 AV			1.11 H	211	57.24	31.86
3	4874.00	49.5 PK	74.0	-24.5	1.50 H	148	9.12	40.38
4	4874.00	37.6 AV	54.0	-16.4	1.50 H	148	-2.78	40.38
5	7311.00	54.6 PK	74.0	-19.4	1.25 H	34	9.56	45.04
6	7311.00	39.8 AV	54.0	-14.2	1.25 H	34	-5.24	45.04
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	66.8 PK	74.0	-7.2	1.06 V	216	35.07	31.73
2	2390.00	52.5 AV	54.0	-1.5	1.06 V	216	20.77	31.73
3	*2437.00	109.6 PK			1.06 V	216	77.74	31.86
4	*2437.00	100.0 AV			1.06 V	216	68.14	31.86
5	4874.00	65.9 PK	74.0	-8.1	1.39 V	223	25.52	40.38
6	4874.00	52.7 AV	54.0	-1.3	1.39 V	223	12.32	40.38
7	7311.00	67.4 PK	74.0	-6.6	1.50 V	185	22.36	45.04
8	7311.00	53.4 AV	54.0	-0.6	1.50 V	185	8.36	45.04

**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.



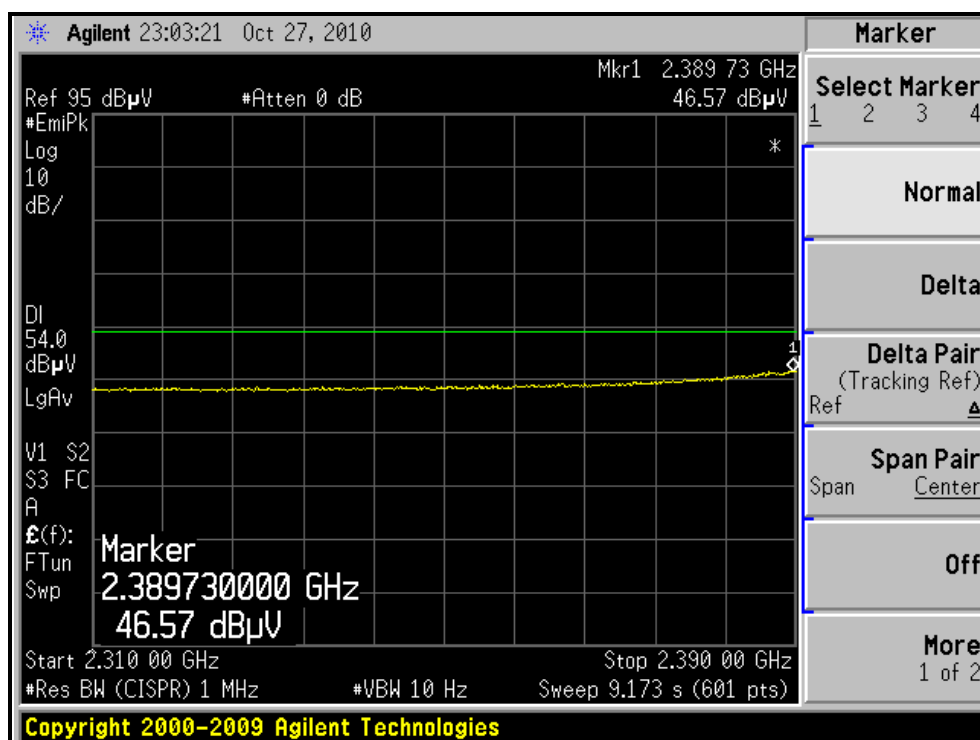
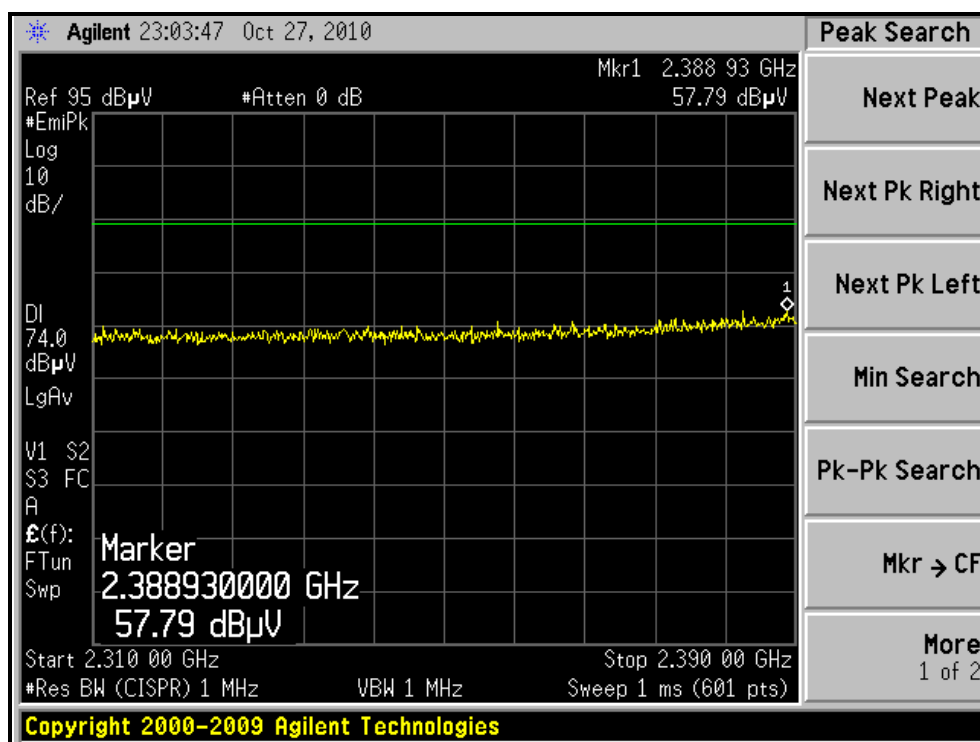
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 71%RH 1013 hPa	TESTED BY	Eric Lee

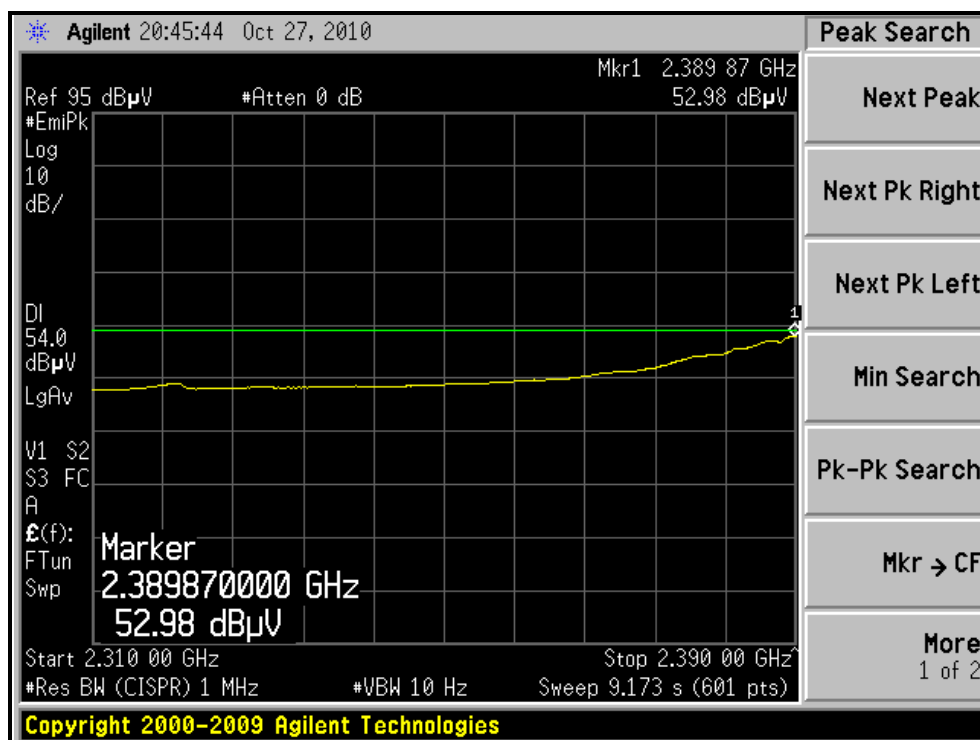
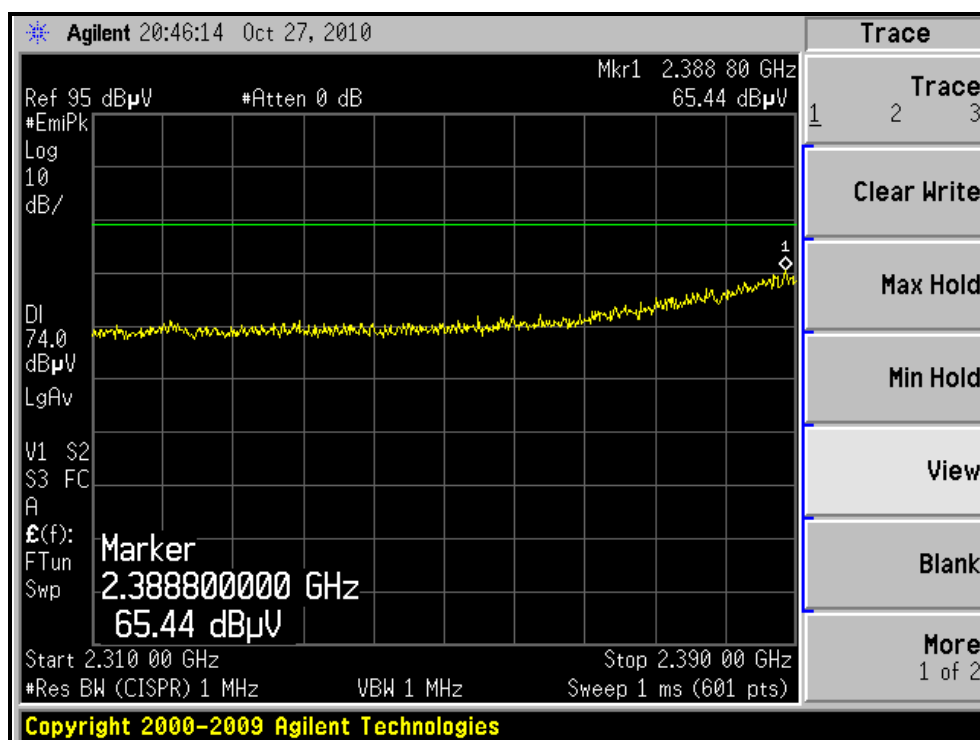
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.3 PK			1.09 H	251	63.40	31.90
2	*2452.00	85.4 AV			1.09 H	251	53.50	31.90
3	2484.10	57.1 PK	74.0	-16.9	1.11 H	240	25.11	31.99
4	2484.10	45.2 AV	54.0	-8.8	1.11 H	240	13.21	31.99
5	4904.00	48.9 PK	74.0	-25.1	1.14 H	360	8.40	40.50
6	4904.00	36.8 AV	54.0	-17.2	1.14 H	360	-3.70	40.50
7	7356.00	53.8 PK	74.0	-20.2	1.30 H	58	8.71	45.09
8	7356.00	39.6 AV	54.0	-14.4	1.30 H	58	-5.49	45.09
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	*2452.00	106.6 PK			1.28 V	297	74.70	31.90
2	*2452.00	96.8 AV			1.28 V	297	64.90	31.90
3	2484.40	65.4 PK	74.0	-8.6	1.28 V	298	33.41	31.99
4	2484.40	53.4 AV	54.0	-0.6	1.28 V	298	21.41	31.99
5	4904.00	56.8 PK	74.0	-17.2	1.50 V	200	16.30	40.50
6	4904.00	48.7 AV	54.0	-5.3	1.50 V	200	8.20	40.50
7	7356.00	67.1 PK	74.0	-6.9	1.69 V	222	22.01	45.09
8	7356.00	53.2 AV	54.0	-0.8	1.69 V	222	8.11	45.09

**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.

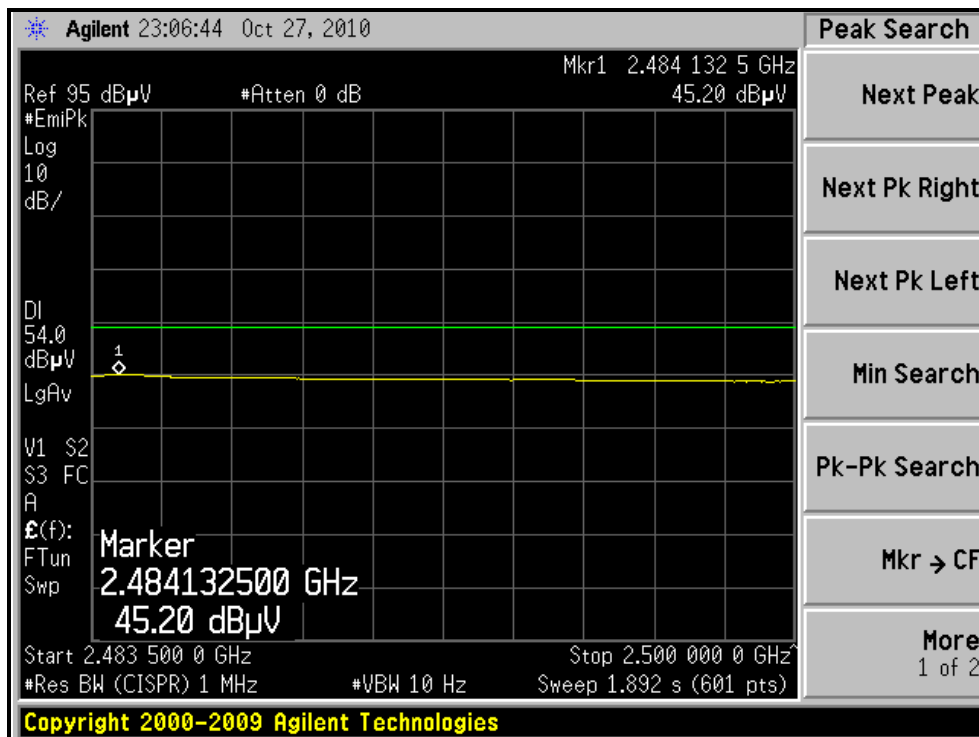
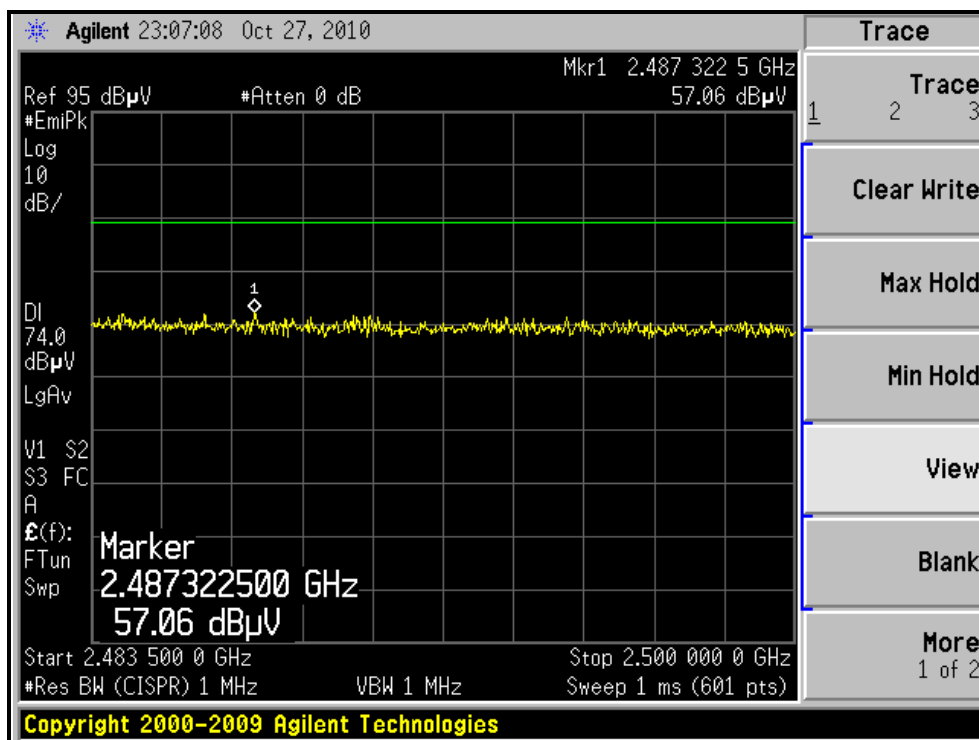
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL )



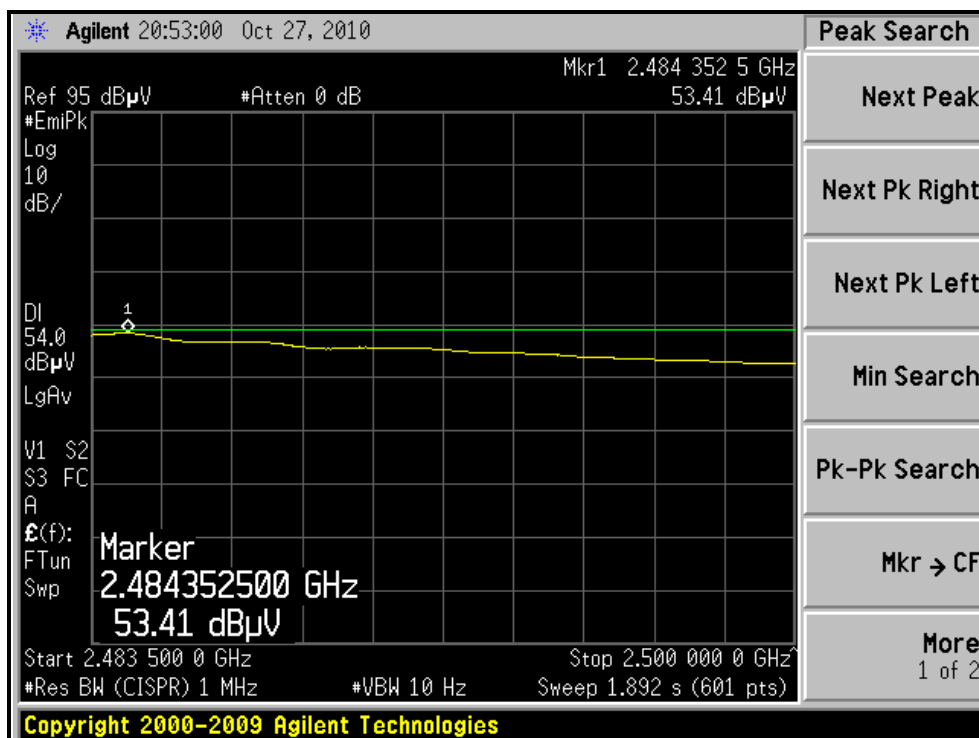
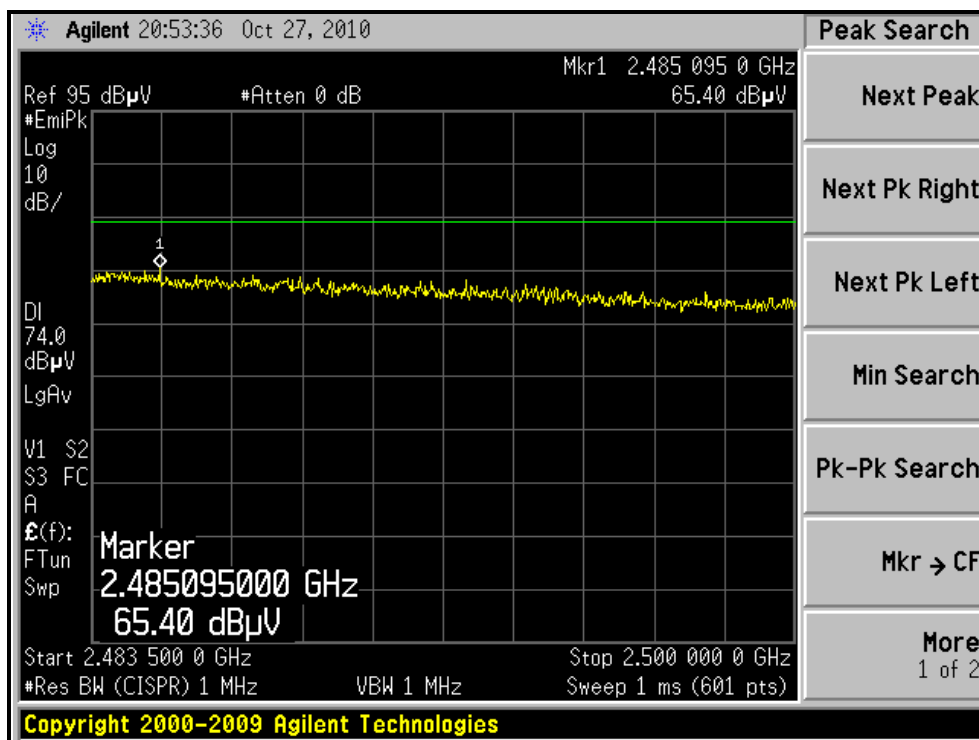
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL )



RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, HORIZONTAL )



# RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, VERTICAL )



#### 4.1.8 TEST RESULTS (Panel antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 68%RH 1013 hPa	TESTED BY	Frank Liu

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	120.00	32.9 QP	43.5	-10.6	2.00 H	126	20.43	12.46
2	200.65	33.7 QP	43.5	-9.8	1.50 H	360	23.06	10.62
3	322.03	36.3 QP	46.0	-9.7	1.50 H	337	20.59	15.68
4	360.04	36.5 QP	46.0	-9.5	1.00 H	323	20.01	16.50
5	480.01	35.0 QP	46.0	-11.0	2.00 H	223	15.73	19.23
6	599.97	32.4 QP	46.0	-13.6	1.00 H	174	10.41	21.97
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	319.78	35.9 QP	46.0	-10.1	2.00 V	41	20.25	15.63
2	360.04	32.8 QP	46.0	-13.3	2.00 V	65	16.25	16.50
3	599.97	32.6 QP	46.0	-13.4	1.00 V	126	10.67	21.97
4	840.01	34.7 QP	46.0	-11.3	1.50 V	0	9.53	25.20
5	911.54	32.7 QP	46.0	-13.3	2.00 V	360	6.37	26.33
6	944.93	29.4 QP	46.0	-16.6	1.00 V	332	2.85	26.59

- 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.

## 4.2 MAXIMUM PEAK OUTPUT POWER

### 4.2.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

### 4.2.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Anritsu Power Meter	ML2495A	0824006	May 04, 2010	May 03, 2011
Pulse Power Sensor	MA2411B	0738172	May 04, 2010	May 03, 2011

**NOTE:**

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

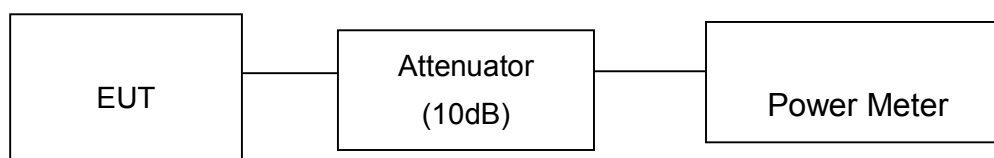
### 4.2.3 TEST PROCEDURES

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.

### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.2.5 TEST SETUP



### 4.2.6 EUT OPERATING CONDITIONS

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



## 4.2.7 TEST RESULTS

### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	39.8	16.0	27	PASS
6	2437	58.9	17.7	27	PASS
11	2462	51.3	17.1	27	PASS

### 802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	467.7	26.7	27	PASS
6	2437	478.6	26.8	27	PASS
11	2462	457.1	26.6	27	PASS

### 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	467.7	26.7	27	PASS
6	2437	446.7	26.5	27	PASS
11	2462	436.5	26.4	27	PASS

### 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2422	380.2	25.8	27	PASS
4	2437	478.6	26.8	27	PASS
7	2452	389.0	25.9	27	PASS

## 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.

**--- END ---**