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# FCC TEST REPORT

**REPORT NO.:** RF981123H05

**MODEL NO.:** USB CPE

**RECEIVED:** Nov. 23, 2009

**TESTED:** Dec. 30, 2009 to Jan. 16, 2010

**ISSUED:** Jan. 21, 2010

**APPLICANT:** Argtek Communication Inc.

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

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## 1. CERTIFICATION

**PRODUCT :** 802.11 b/g/n WLAN USB Adapter  
**BRAND :** ARGtek  
**MODEL NO.:** USB CPE  
**APPLICANT :** Argtek Communication Inc.  
**TESTED :** Dec. 30, 2009 to Jan. 16, 2010  
**TEST SAMPLE :** ENGINEERING SAMPLE  
**STANDARDS :** FCC Part 15, Subpart C (Section 15.247),  
ANSI C63.4-2003

The above equipment (Model: USB CPE) 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 :** Claire Kuan, **DATE:** Jan. 25, 2010  
( Claire Kuan, Specialist )

**TECHNICAL ACCEPTANCE :** Ray Yeh, **DATE:** Jan. 25, 2010  
( Ray Yeh, Deputy Manager )

**APPROVED BY :** May Chen, **DATE:** Jan. 25, 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 -12.69dB at 3.453MHz.
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 -0.60dB at 2384.67MHz and 2385.87MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is RP-SMA not a standard connector.

### 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	2.44 dB
Radiated emissions (30MHz-1GHz)	3.98 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>	802.11 b/g/n WLAN USB Adapter
<b>MODEL NO.</b>	USB CPE
<b>FCC ID</b>	VYXWIFI-006
<b>POWER SUPPLY</b>	5VDC
<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: 40.7mW 802.11g: 208.9mW 802.11n (20MHz): 195.0mW 802.11n (40MHz): 182.0mW
<b>ANTENNA TYPE</b>	Please see note 1
<b>ANTENNA CONNECTOR</b>	RP-SMA connector
<b>DATA CABLE</b>	USB Cable x 1 (Shielded, 4.8m)
<b>INTERFACE</b>	USB Port
<b>ASSOCIATED DEVICES</b>	NA

**NOTE:**

1. There are two antennas provided to this EUT, please refer to the following table:

Chain	Brand No.	Model No.	Gain (dBi)	Antenna Type	Connector
Chain (0)	NA	CPE 2512	12	Patch	SMA/Female
Chain (1)	NA	NA	-6	Printed	NA

2. The EUT incorporates a SIMO function with 802.11b, 802.11g, 802.11n. Physically, the EUT provides one completed transmitter and two completed receivers.
3. The EUT is 1 \* 2 spatial SIMO (1Tx & 2Rx) without beam forming function. The antenna configurations are one transmitter antenna and two receiver antennas, as there are 1 Patch antenna and 1 Printed antenna. There is one transmitter and two receivers.
4. The EUT complies with 802.11n standards and backwards compatible with 802.11b, 802.11g products.
5. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b and draft 802.11n technique devices to the network.
6. The above EUT information was declared by the manufacturer and for more detailed features description, please refers 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	
-	√	√	√	√	-

Where **PLC**: Power Line Conducted Emission

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

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

**APCM**: Antenna Port Conducted Measurement

#### ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)
A	802.11 b	√	
B	802.11 g	√	
C	802.11n(20MHz), 800ns GI	√	
D	802.11n(40MHz), 800ns GI	√	
E	802.11n(20MHz), 400ns GI	√	
F	802.11n(40MHz), 400ns GI	√	

Note:

1. The above information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
2. Mode A~D the worst modes, were selected as representative mode for the report.

#### 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)	COMBINATION MODE
802.11g	1 to 11	1	OFDM	BPSK	6	B

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

### **BANDEDGE MEASUREMENT:**

- ☒ 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)	COMBINATION MODE
802.11b	1 to 11	1, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 11	OFDM	BPSK	6	B
802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5	C
802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	13.5	D

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

### **TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE <sup>3</sup> 1G	15deg. C, 63%RH, 1024 hPa	120Vac, 60Hz	Duke Tseng
RE<1G	15deg. C, 63%RH, 1024 hPa	120Vac, 60Hz	Duke Tseng
PLC	19deg. C, 59%RH, 1024 hPa	120Vac, 60Hz	Kent Liu
APCM	19deg. C, 59%RH, 1024 hPa	120Vac, 60Hz	Phoenix Huang

### **3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS**

The EUT is an 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.

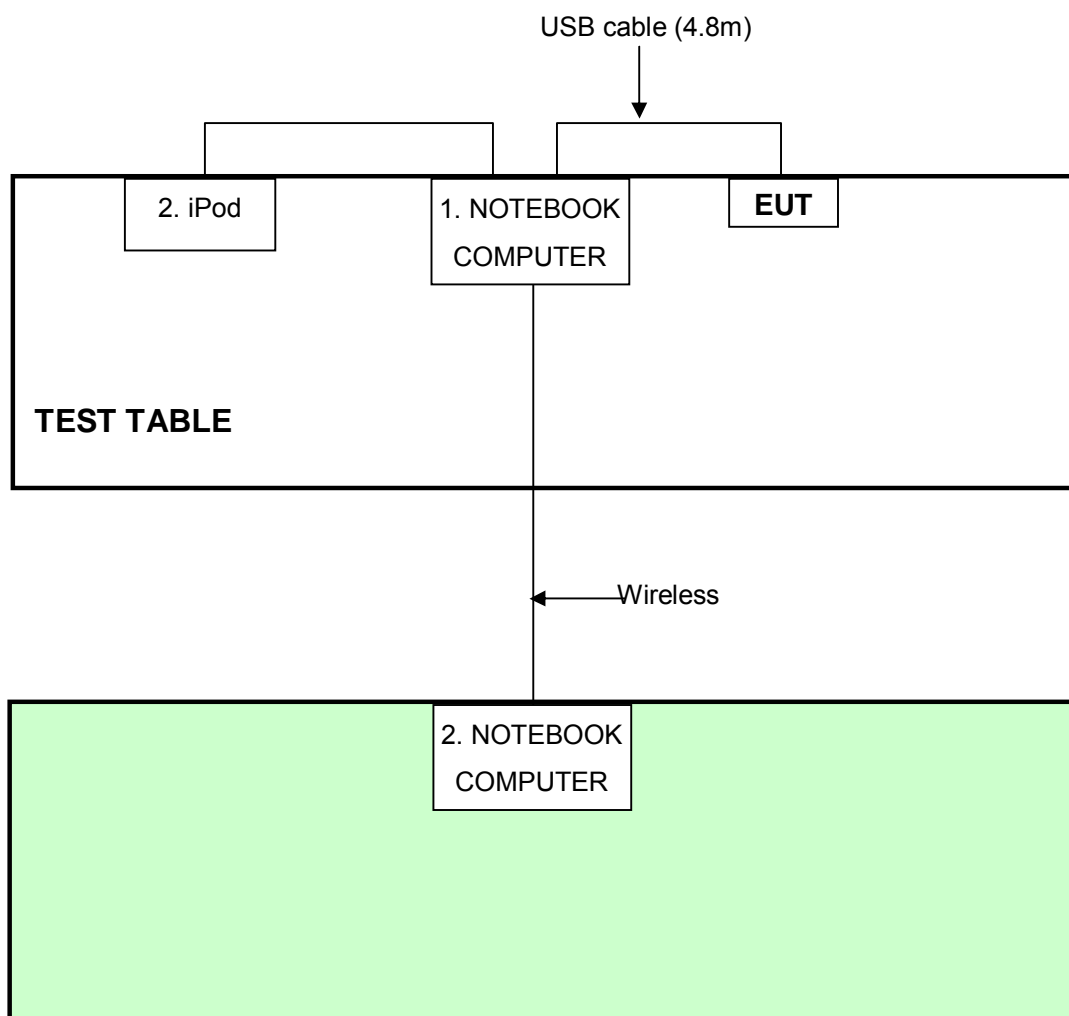
For conducted emission test					
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	D531	CN-0XM006-48643-86L-4472	QDS-BRCM1019
2	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-7016-6-5CA-0448	PIW632500516610
3	iPod	Apple	A1137	6U6078FMUPR	FCC DoC
For other test items					
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	D531	CN-0XM006-48643-86L-4472	QDS-BRCM1019
2	iPod	Apple	A1137	6U6078FMUPR	FCC DoC

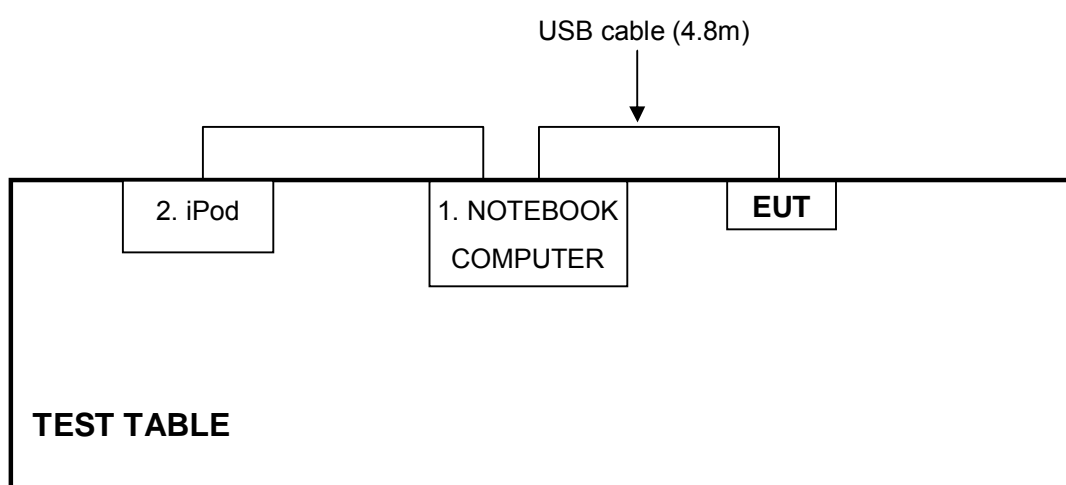
For conducted emission test	
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB cable (1.5 m shielded )
2	NA
3	1 m shielded cable, terminated with USB connector, w/o core.
For other test items	
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB cable (1.5 m shielded )
2	1 m shielded cable, terminated with USB connector, 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 emission test



**For other test items**

## 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. 23, 2009	Mar. 22, 2010
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100071	Nov. 25, 2009	Nov. 24, 2010
Line-Impedance Stabilization Network (for EUT)	ESH3-Z5	848773/004	Nov. 04, 2009	Nov. 03, 2010
RF Cable (JYEBAO)	5DFB	COBCAB-001	Aug. 14, 2009	Aug. 13, 2010
50 ohms Terminator	50	3	Nov. 04, 2009	Nov. 03, 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. B.
3. The VCCI Con B Registration No. is C-2193.



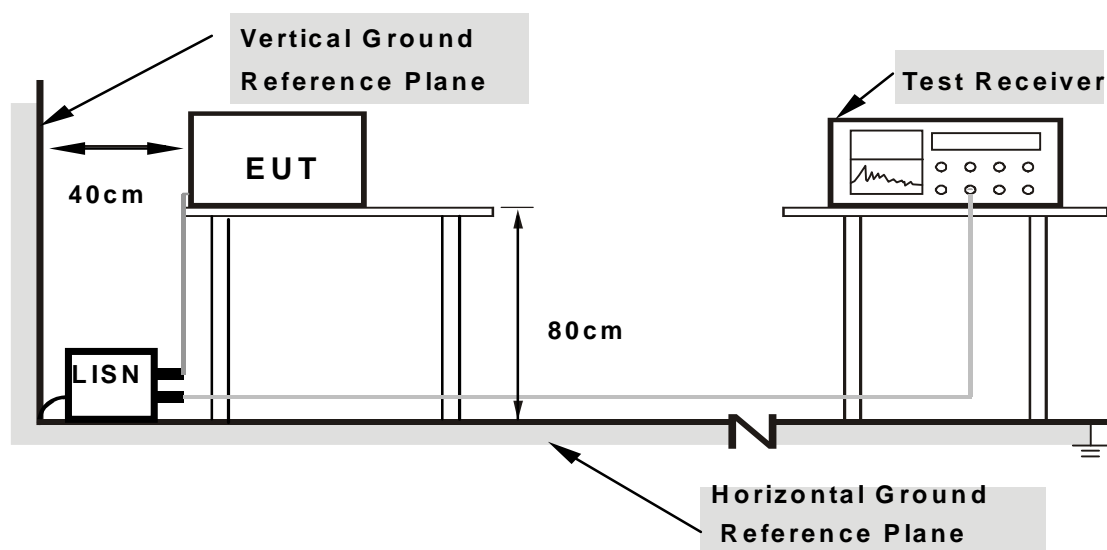
### 4.1.3 TEST PROCEDURES

- 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.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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 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

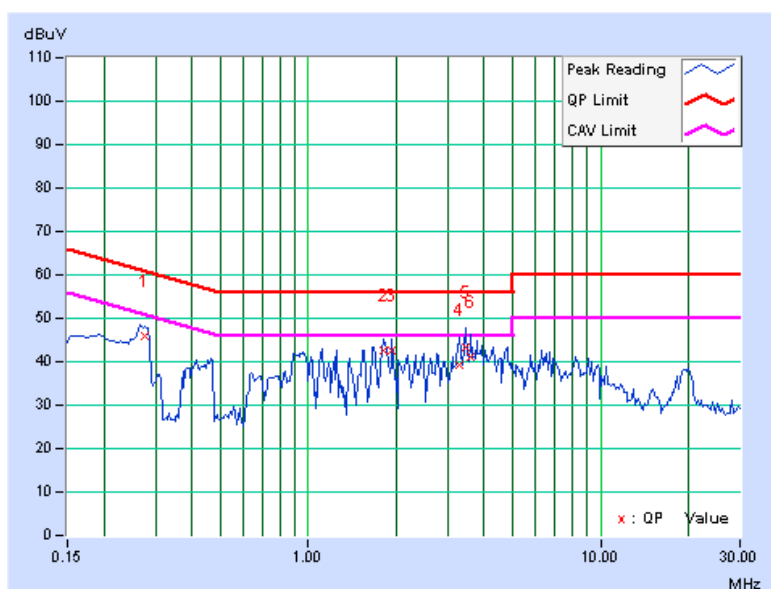
- a. Connect the EUT with the support unit 1 (Notebook Computer) which placed on a testing table.
- b. The communication partner run test program "RT3x7x\_QA.exe" to enable EUT under transmission/receiving condition continuously at specific channel frequency via one USB cable.

#### 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)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.277	9.71	36.26	-	45.97	-	60.90	50.90	-14.93	-
2	1.813	9.89	32.71	-	42.60	-	56.00	46.00	-13.40	-
3	1.934	9.89	32.73	-	42.62	-	56.00	46.00	-13.38	-
4	3.285	9.87	29.36	-	39.23	-	56.00	46.00	-16.77	-
5	3.453	9.87	33.44	-	43.31	-	56.00	46.00	-12.69	-
6	3.605	9.87	31.19	-	41.06	-	56.00	46.00	-14.94	-

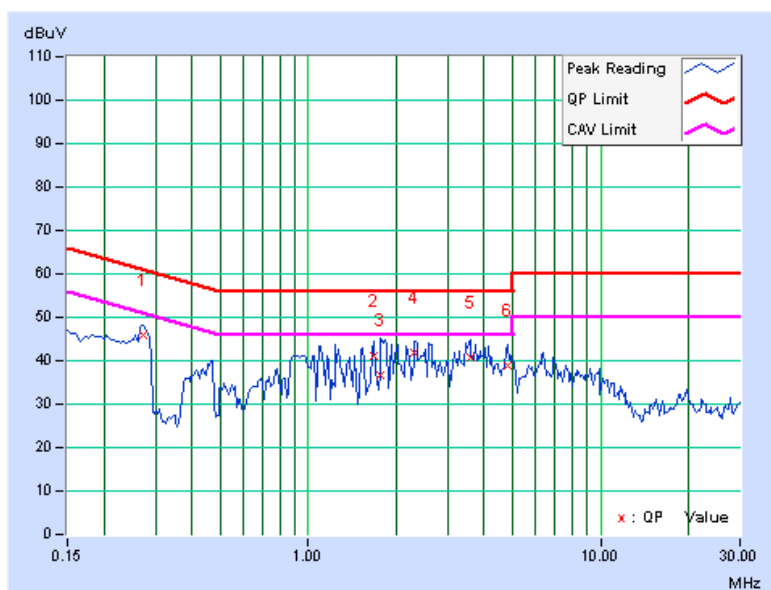
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.271	9.71	36.23	-	45.94	-	61.08	51.08	-15.14	-
2	1.668	9.88	31.19	-	41.07	-	56.00	46.00	-14.93	-
3	1.770	9.89	26.65	-	36.54	-	56.00	46.00	-19.46	-
4	2.313	9.89	31.79	-	41.68	-	56.00	46.00	-14.32	-
5	3.594	9.87	30.84	-	40.71	-	56.00	46.00	-15.29	-
6	4.793	9.92	29.08	-	39.00	-	56.00	46.00	-17.00	-

- 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	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 18, 2009	Dec. 17, 2010
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
R&S Loop Antenna	HFH2-Z2	100070	Jan. 13, 2010	Jan. 12, 2011
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.

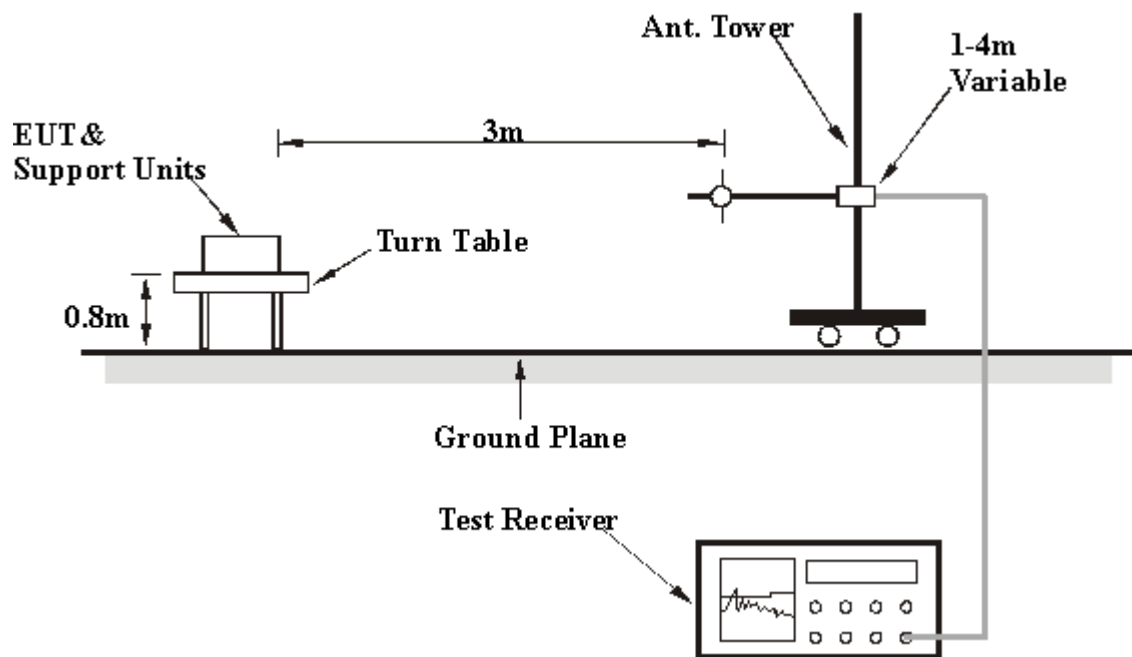
**NOTE:**

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





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**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 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	29.0 QP	43.50	-14.6	1.56 H	216	17.00	11.95
2	239.99	33.8 QP	46.00	-12.2	1.00 H	186	20.50	13.33
3	360.00	39.0 QP	46.00	-7.0	2.14 H	209	21.50	17.52
4	479.97	36.2 QP	46.00	-9.8	1.77 H	161	15.42	20.74
5	527.97	28.4 QP	46.00	-17.6	1.58 H	183	6.41	22.03
6	840.00	30.4 QP	46.00	-15.6	1.00 H	329	3.18	27.21
7	960.01	36.1 QP	54.00	-17.9	1.09 H	169	7.46	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	120.00	26.9 QP	43.50	-16.6	1.00 V	309	14.97	11.95
2	239.99	29.6 QP	46.00	-16.4	1.00 V	73	16.30	13.33
3	360.00	40.2 QP	46.00	-5.8	1.26 V	108	22.66	17.52
4	479.97	38.0 QP	46.00	-8.0	1.00 V	121	17.23	20.74
5	527.97	32.0 QP	46.00	-14.0	1.00 V	283	10.00	22.03
6	839.95	30.4 QP	46.00	-15.6	1.13 V	305	3.15	27.21
7	960.01	34.5 QP	54.00	-19.5	1.00 V	302	5.81	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.

## 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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	61.4 PK	74.00	-12.7	1.58 H	75	31.29	30.06
2	2390.00	48.2 AV	54.00	-5.8	1.58 H	75	18.12	30.06
3	*2412.00	106.8 PK			1.55 H	78	76.65	30.15
4	*2412.00	104.1 AV			1.55 H	78	73.95	30.15
5	4824.00	55.6 PK	74.00	-18.4	1.29 H	329	20.16	35.43
6	4824.00	53.2 AV	54.00	-0.8	1.29 H	329	17.81	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	2385.87	62.7 PK	74.00	-11.3	1.47 V	32	32.67	30.04
2	2385.87	53.4 AV	54.00	-0.6	1.47 V	32	23.35	30.04
3	*2412.00	110.1 PK			1.44 V	40	79.97	30.15
4	*2412.00	108.4 AV			1.44 V	40	78.25	30.15
5	4824.00	52.9 PK	74.00	-21.1	1.11 V	113	17.47	35.43
6	4824.00	49.2 AV	54.00	-4.8	1.11 V	113	13.77	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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	103.1 PK			1.41 H	318	72.83	30.24
2	*2437.00	100.6 AV			1.41 H	318	70.31	30.24
3	4874.00	54.4 PK	74.00	-19.6	1.19 H	335	18.88	35.52
4	4874.00	52.1 AV	54.00	-1.9	1.19 H	335	16.58	35.52
5	7311.00	51.7 PK	74.00	-22.3	1.00 H	124	9.74	41.96
6	7311.00	39.0 AV	54.00	-15.0	1.00 H	124	-2.96	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	107.9 PK			1.56 V	0	77.67	30.24
2	*2437.00	105.5 AV			1.56 V	0	75.24	30.24
3	4874.00	52.6 PK	74.00	-21.4	1.24 V	104	17.08	35.52
4	4874.00	49.3 AV	54.00	-4.7	1.24 V	104	13.78	35.52
5	7311.00	51.5 PK	74.00	-22.5	1.24 V	113	9.54	41.96
6	7311.00	39.3 AV	54.00	-14.7	1.24 V	113	-2.66	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.



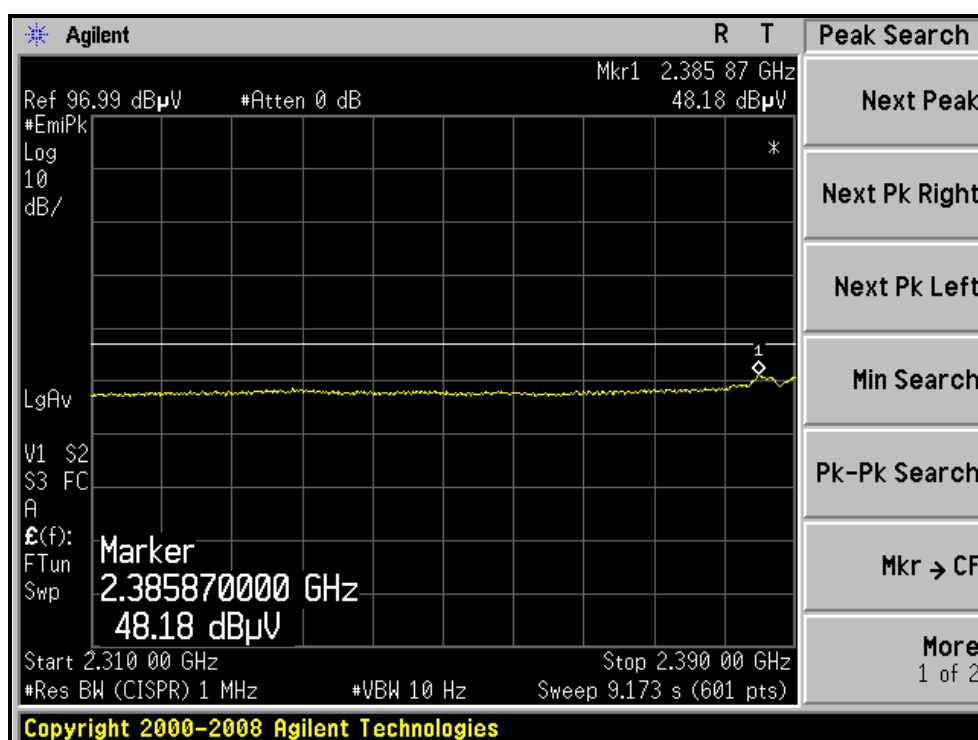
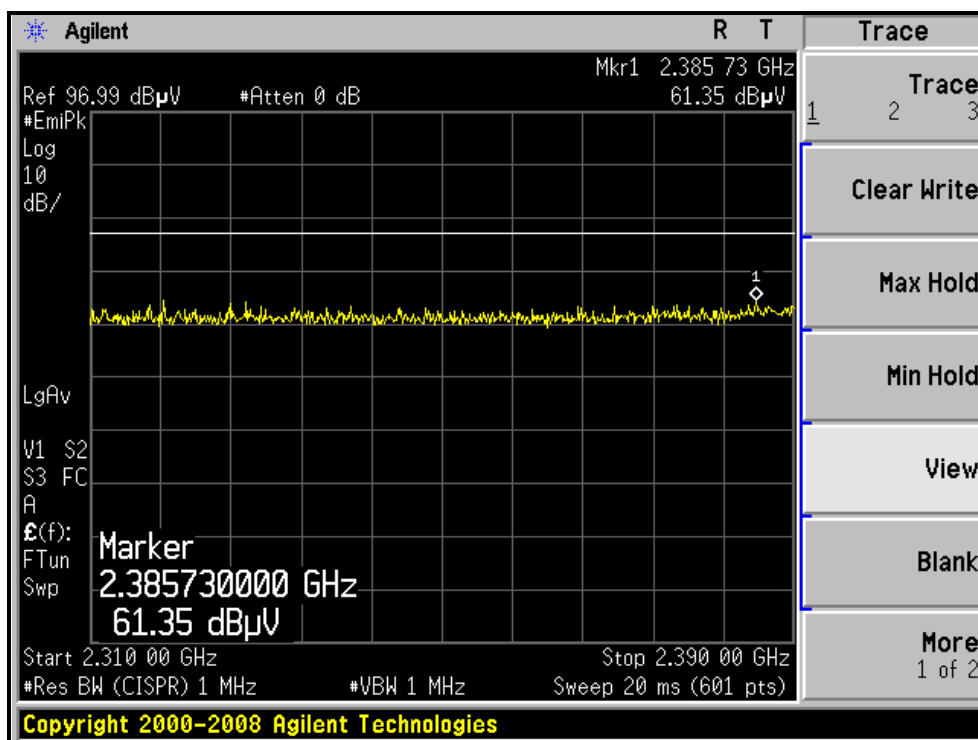
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

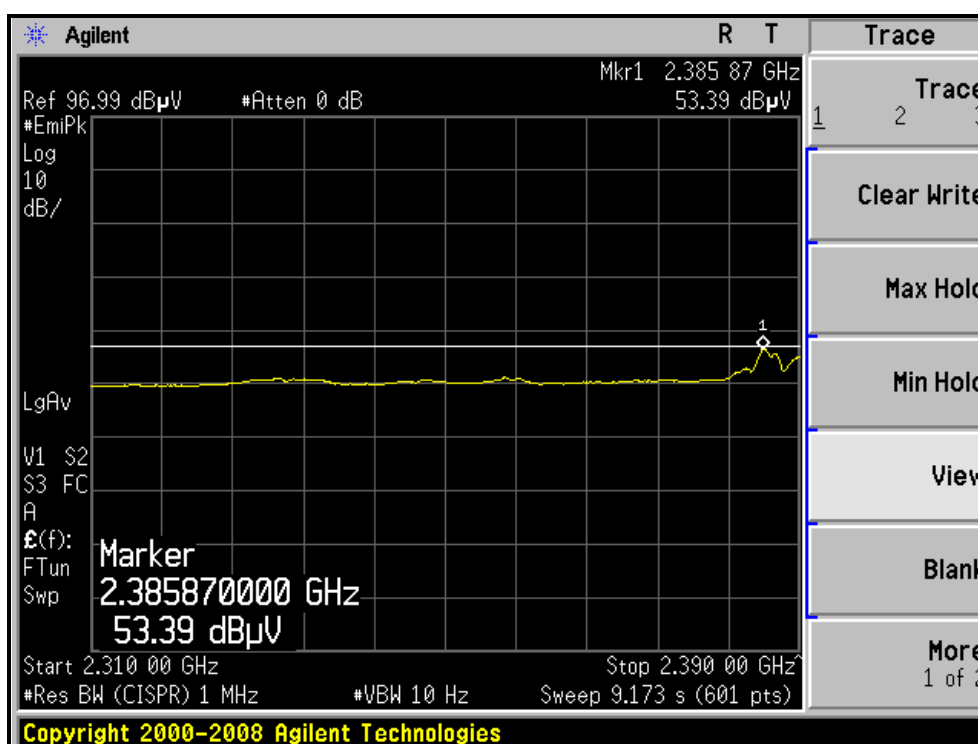
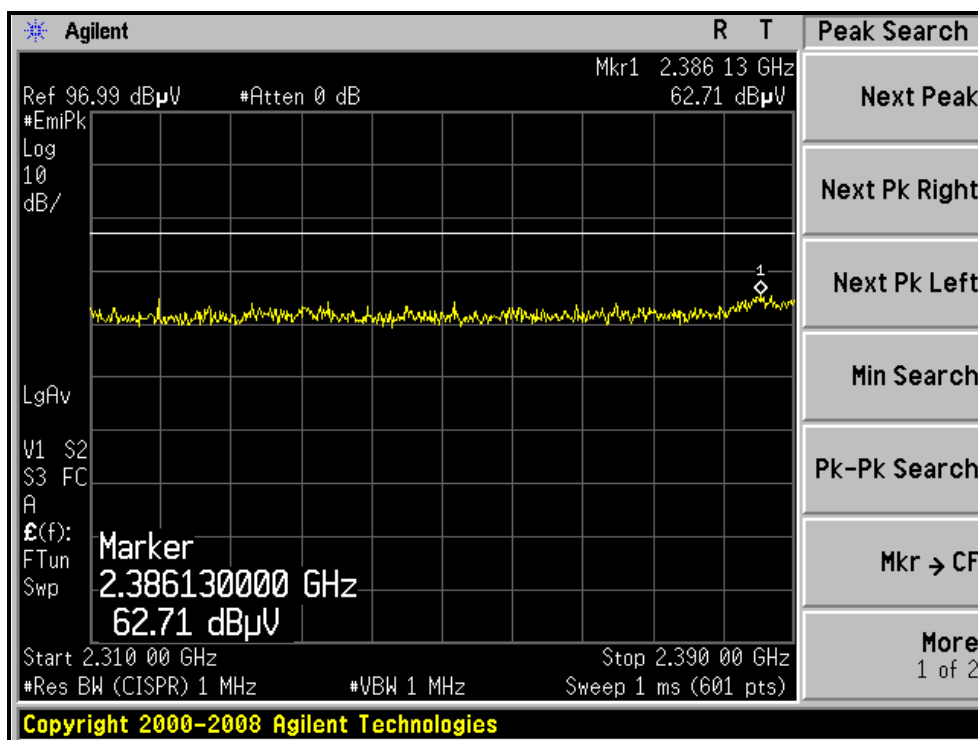
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.7 PK			1.50 H	36	71.36	30.34
2	*2462.00	98.2 AV			1.50 H	36	67.86	30.34
3	2483.50	52.2 PK	74.00	-21.8	1.53 H	359	21.79	30.43
4	2483.50	41.8 AV	54.00	-12.2	1.53 H	359	11.39	30.43
5	4924.00	55.4 PK	74.00	-18.6	1.29 H	334	19.78	35.62
6	4924.00	52.8 AV	54.00	-1.2	1.29 H	334	17.18	35.62
7	7386.00	51.0 PK	74.00	-23.0	1.07 H	126	8.90	42.10
8	7386.00	38.4 AV	54.00	-15.6	1.07 H	126	-3.70	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	104.1 PK			1.44 V	37	73.76	30.34
2	*2462.00	101.4 AV			1.44 V	37	71.06	30.34
3	2483.50	58.9 PK	74.00	-15.1	1.39 V	35	28.43	30.43
4	2483.50	44.4 AV	54.00	-9.6	1.39 V	35	13.99	30.43
5	4924.00	51.6 PK	74.00	-22.4	1.23 V	103	15.98	35.62
6	4924.00	47.8 AV	54.00	-6.2	1.23 V	103	12.18	35.62
7	7386.00	51.3 PK	74.00	-22.7	1.23 V	116	9.20	42.10
8	7386.00	38.2 AV	54.00	-15.8	1.23 V	116	-3.90	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.

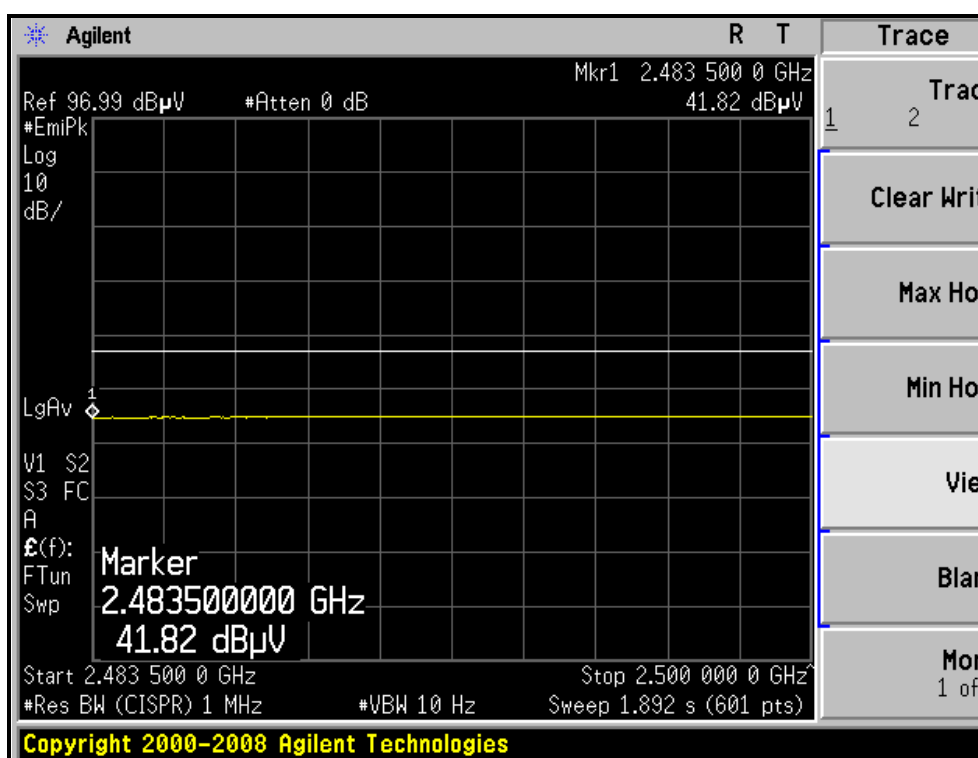
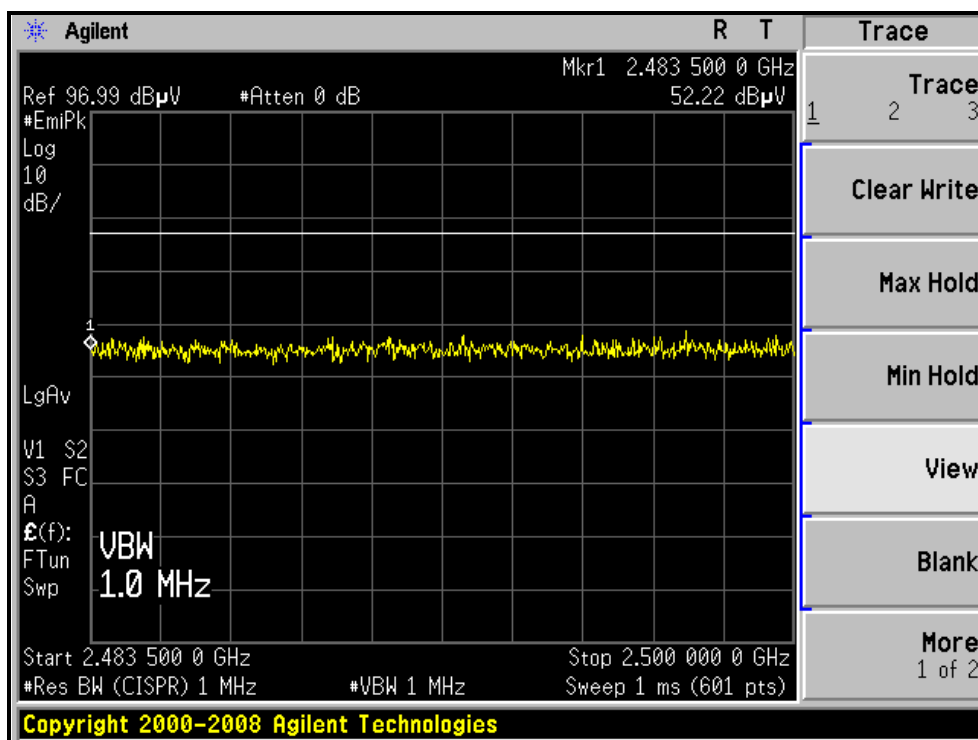
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL )



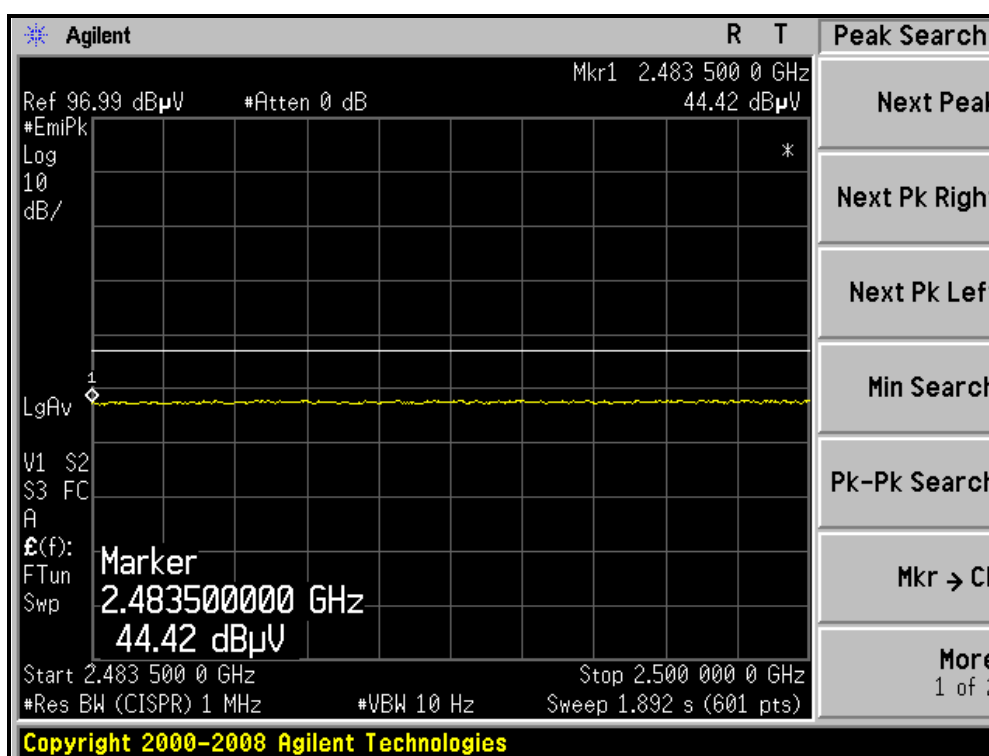
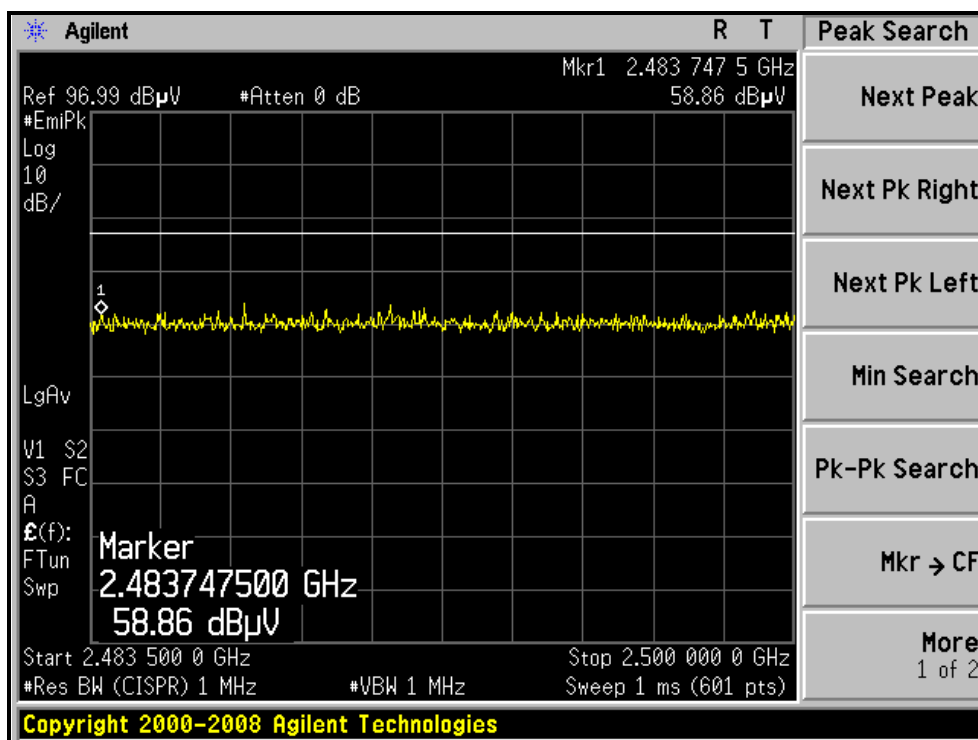
# RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL )



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



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







## 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	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	57.0 PK	74.00	-17.0	1.25 H	319	26.96	30.06
2	2390.00	47.0 AV	54.00	-7.0	1.25 H	319	16.94	30.06
3	*2412.00	109.3 PK			1.27 H	320	79.15	30.15
4	*2412.00	98.2 AV			1.27 H	320	68.05	30.15
5	4824.00	55.9 PK	74.00	-18.1	1.05 H	61	20.46	35.43
6	4824.00	40.3 AV	54.00	-13.7	1.05 H	61	4.85	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	70.6 PK	74.00	-3.4	1.45 V	31	40.51	30.06
2	2390.00	53.0 AV	54.00	-1.0	1.45 V	31	22.90	30.06
3	*2412.00	112.3 PK			1.43 V	40	82.15	30.15
4	*2412.00	100.5 AV			1.43 V	40	70.35	30.15
5	4824.00	54.9 PK	74.00	-19.2	1.11 V	287	19.42	35.43
6	4824.00	38.9 AV	54.00	-15.1	1.11 V	287	3.47	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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	106.4 PK			1.42 H	319	76.14	30.24
2	*2437.00	97.0 AV			1.42 H	319	66.75	30.24
3	4874.00	58.7 PK	74.00	-15.3	1.18 H	335	23.18	35.52
4	4874.00	48.1 AV	54.00	-5.9	1.18 H	335	12.58	35.52
5	7311.00	53.4 PK	74.00	-20.6	1.35 H	216	11.44	41.96
6	7311.00	40.9 AV	54.00	-13.1	1.35 H	216	-1.06	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	2384.67	65.0 PK	74.00	-9.0	1.47 V	31	35.00	30.04
2	2384.67	53.4 AV	54.00	-0.6	1.47 V	31	23.36	30.04
3	*2437.00	108.3 PK			1.44 V	36	78.06	30.24
4	*2437.00	99.2 AV			1.44 V	36	68.96	30.24
5	4874.00	53.4 PK	74.00	-20.6	1.10 V	284	17.87	35.52
6	4874.00	38.7 AV	54.00	-15.3	1.10 V	284	3.21	35.52
7	7311.00	48.9 PK	74.00	-25.2	1.23 V	110	6.89	41.96
8	7311.00	35.2 AV	54.00	-18.8	1.23 V	110	-6.76	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.



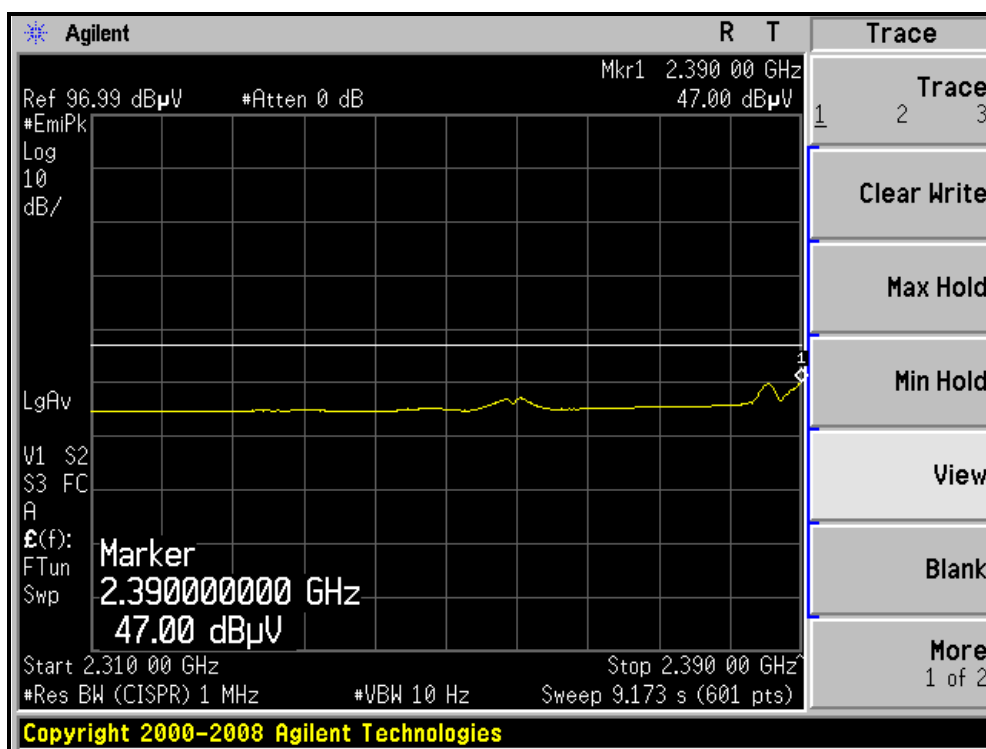
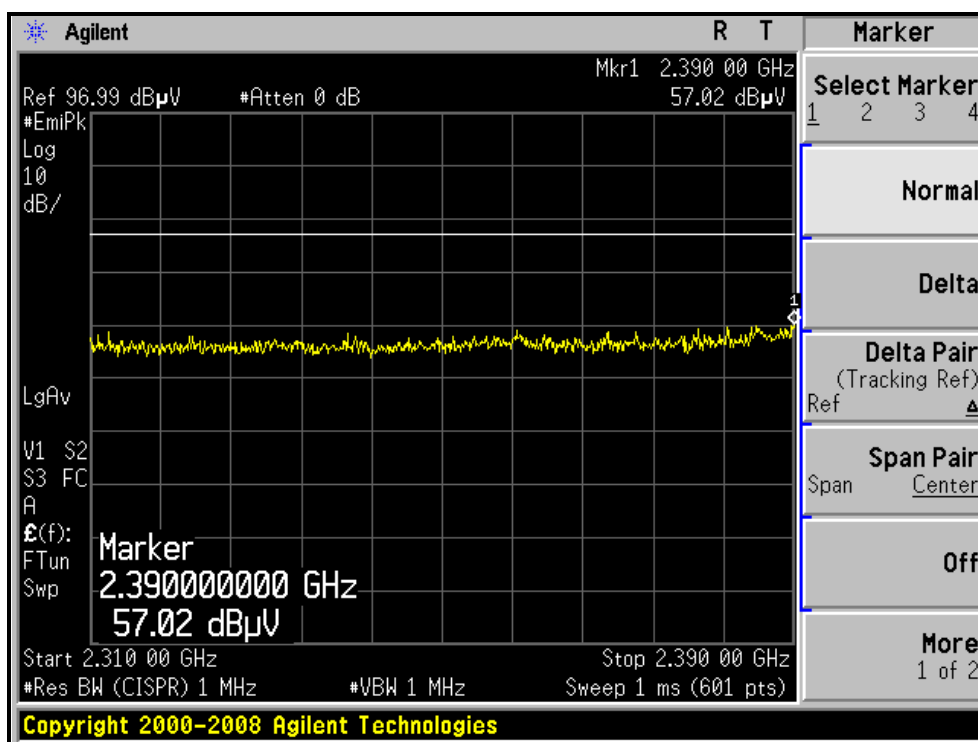
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

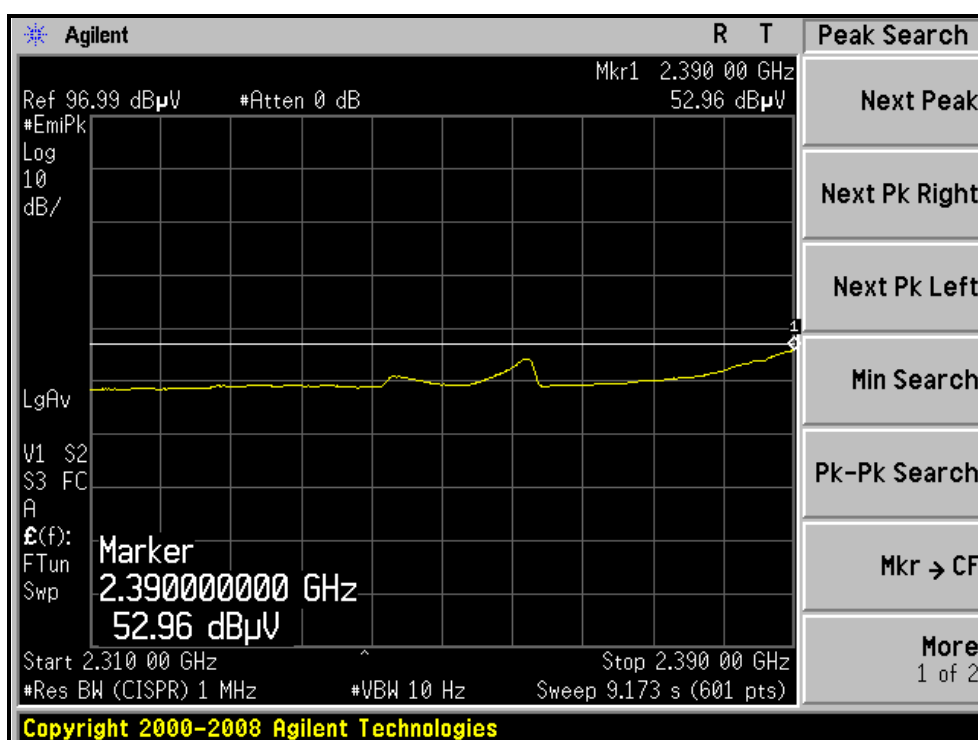
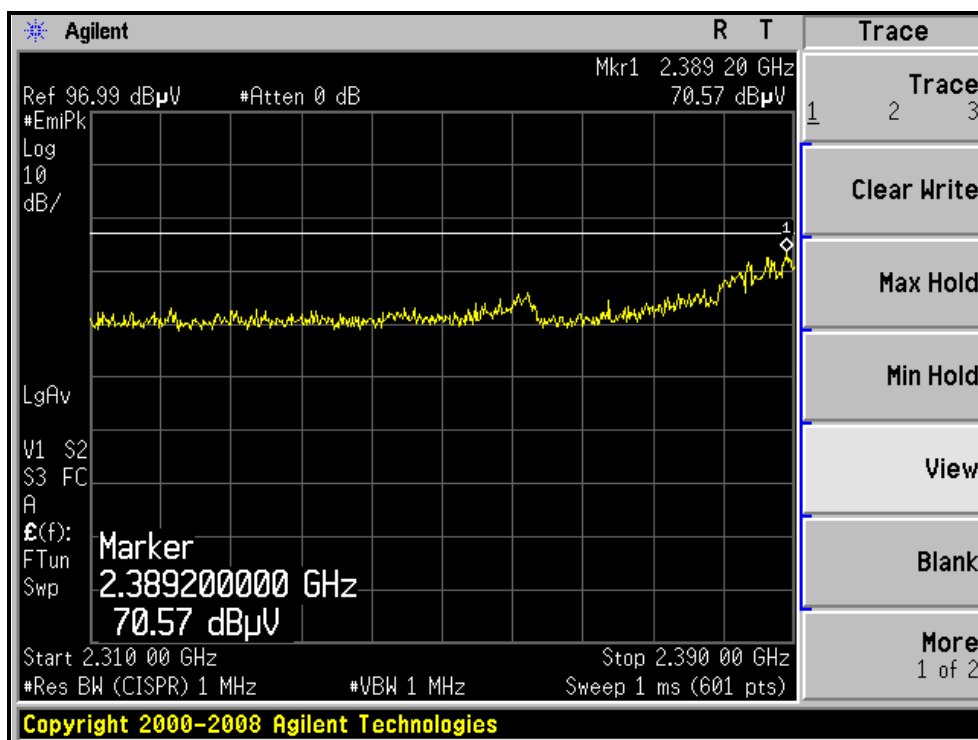
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.0 PK			1.43 H	318	76.63	30.34
2	*2462.00	97.7 AV			1.43 H	318	67.33	30.34
3	2483.50	62.2 PK	74.00	-11.8	1.43 H	296	31.76	30.43
4	2483.50	47.3 AV	54.00	-6.7	1.43 H	296	16.85	30.43
5	4924.00	52.1 PK	74.00	-21.9	1.04 H	60	16.51	35.62
6	4924.00	37.7 AV	54.00	-16.3	1.04 H	60	2.12	35.62
7	7386.00	50.0 PK	74.00	-24.0	1.33 H	220	7.88	42.10
8	7386.00	35.5 AV	54.00	-18.5	1.33 H	220	-6.56	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	108.4 PK			1.66 V	35	78.06	30.34
2	*2462.00	99.7 AV			1.66 V	35	69.36	30.34
3	2483.50	67.6 PK	74.00	-6.4	1.65 V	35	37.21	30.43
4	2483.50	52.8 AV	54.00	-1.2	1.65 V	35	22.41	30.43
5	4924.00	50.8 PK	74.00	-23.2	1.09 V	291	15.16	35.62
6	4924.00	37.2 AV	54.00	-16.8	1.09 V	291	1.61	35.62
7	7386.00	49.9 PK	74.00	-24.1	1.22 V	115	7.76	42.10
8	7386.00	35.5 AV	54.00	-18.5	1.22 V	115	-6.64	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.

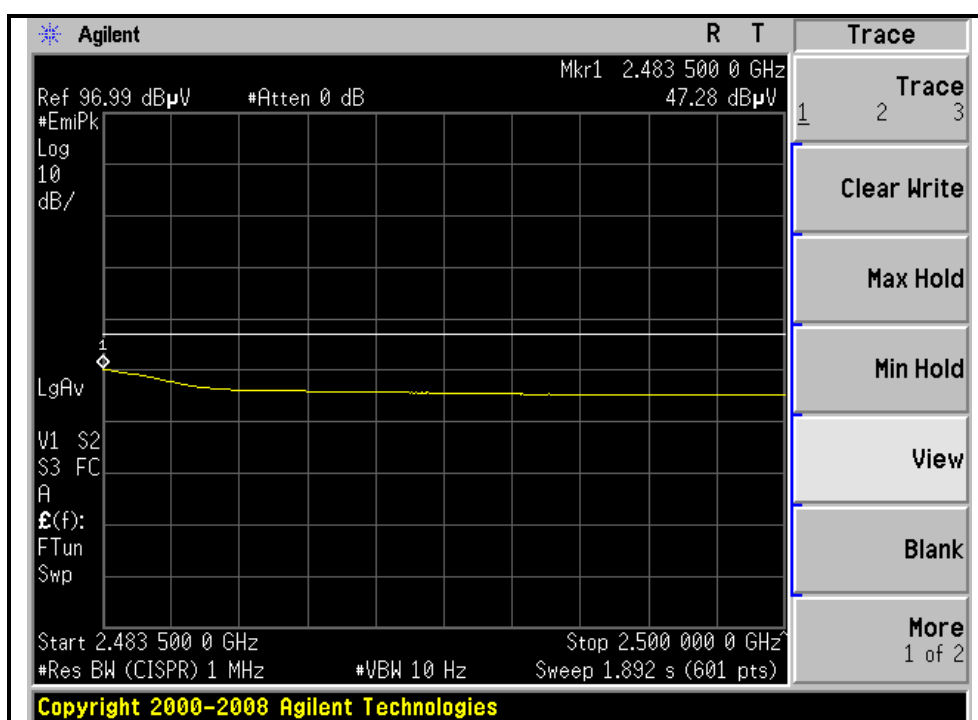
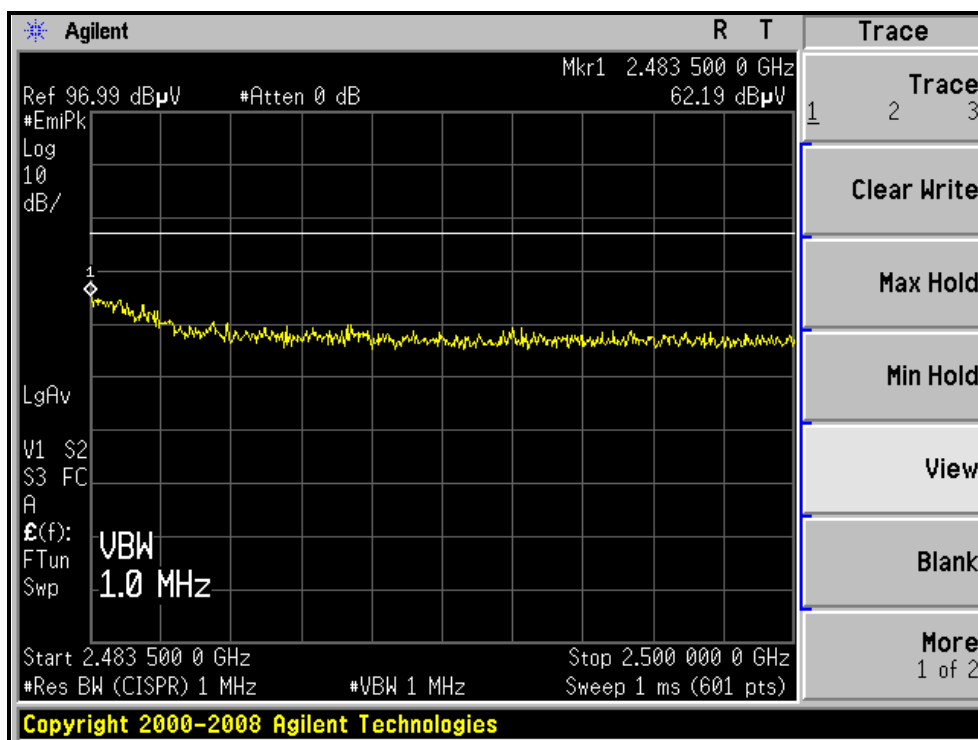
RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL )



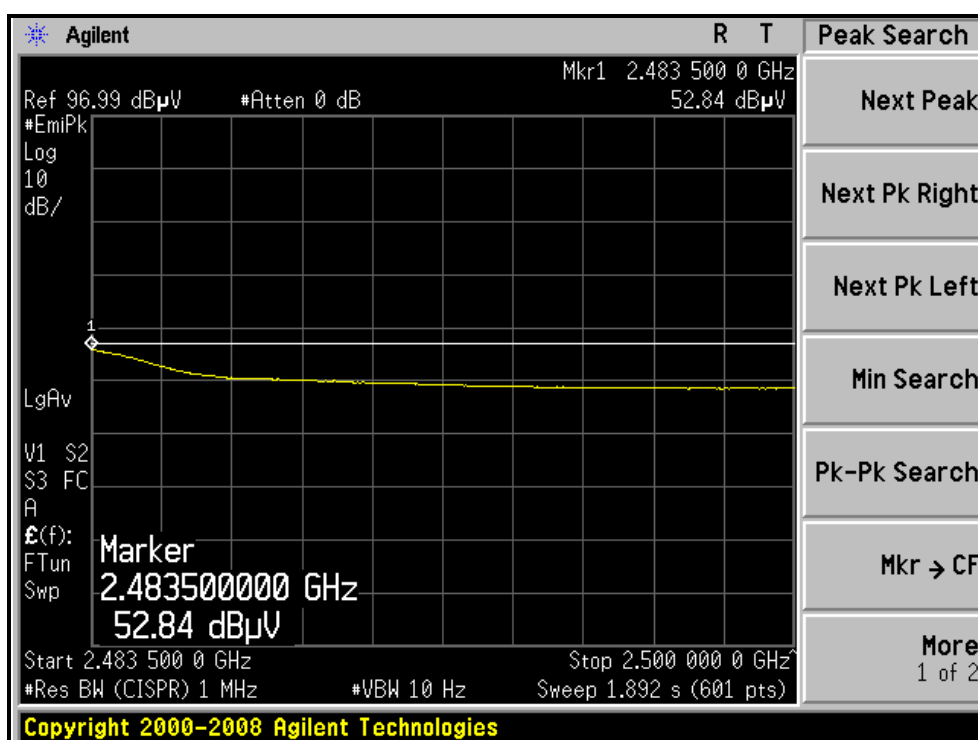
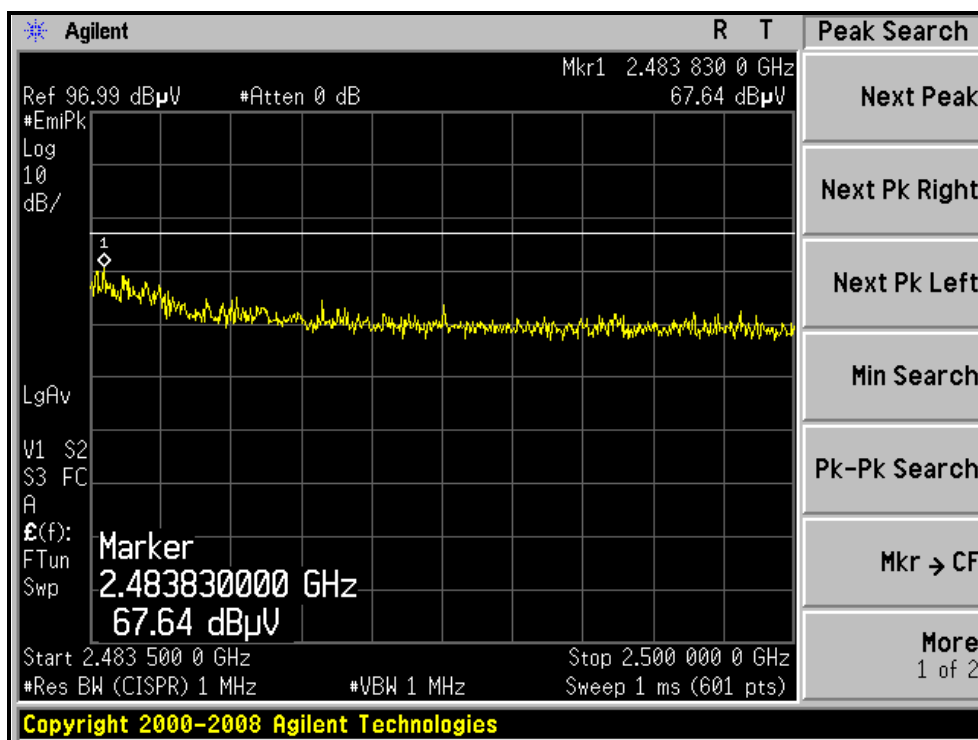
# RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL )



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



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



# DRAFT 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	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	62.1 PK	74.00	-11.9	1.52 H	290	32.06	30.06
2	2390.00	48.3 AV	54.00	-5.7	1.52 H	290	18.27	30.06
3	*2412.00	109.5 PK			1.41 H	317	79.35	30.15
4	*2412.00	98.3 AV			1.41 H	317	68.15	30.15
5	4824.00	54.9 PK	74.00	-19.1	1.06 H	62	19.50	35.43
6	4824.00	39.4 AV	54.00	-14.6	1.06 H	62	4.00	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	69.5 PK	74.00	-4.5	1.46 V	29	39.45	30.06
2	2390.00	53.3 AV	54.00	-0.8	1.46 V	29	23.19	30.06
3	*2412.00	112.7 PK			1.43 V	40	82.58	30.15
4	*2412.00	100.6 AV			1.43 V	40	70.45	30.15
5	4824.00	53.6 PK	74.00	-20.4	1.11 V	286	18.18	35.43
6	4824.00	38.1 AV	54.00	-15.9	1.11 V	286	2.69	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, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	106.4 PK			1.42 H	320	76.19	30.24
2	*2437.00	96.7 AV			1.42 H	320	66.46	30.24
3	4874.00	52.8 PK	74.00	-21.2	1.04 H	66	17.29	35.52
4	4874.00	36.9 AV	54.00	-17.1	1.04 H	66	1.34	35.52
5	7311.00	50.2 PK	74.00	-23.8	1.33 H	214	8.20	41.96
6	7311.00	35.2 AV	54.00	-18.8	1.33 H	214	-6.76	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	2385.07	63.9 PK	74.00	-10.1	1.46 V	31	33.89	30.04
2	2385.07	53.3 AV	54.00	-0.7	1.46 V	31	23.29	30.04
3	*2437.00	108.5 PK			1.44 V	32	78.26	30.24
4	*2437.00	99.4 AV			1.44 V	32	69.16	30.24
5	4874.00	53.7 PK	74.00	-20.3	1.11 V	292	18.18	35.52
6	4874.00	38.2 AV	54.00	-15.8	1.11 V	292	2.67	35.52
7	7311.00	49.1 PK	74.00	-24.9	1.20 V	120	7.14	41.96
8	7311.00	35.1 AV	54.00	-18.9	1.20 V	120	-6.88	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.



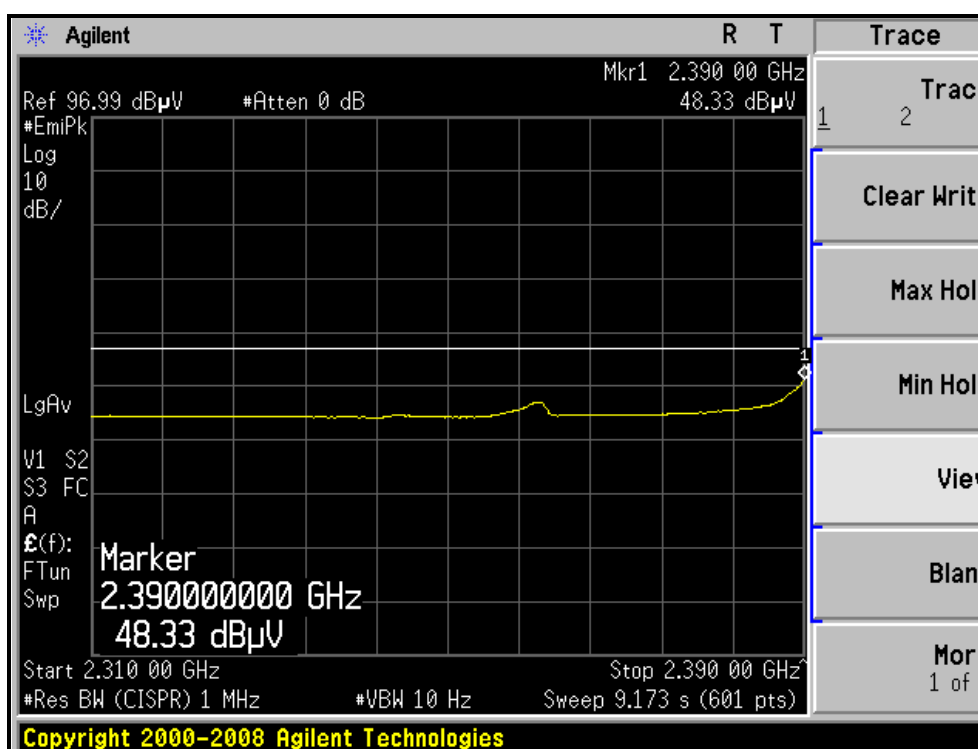
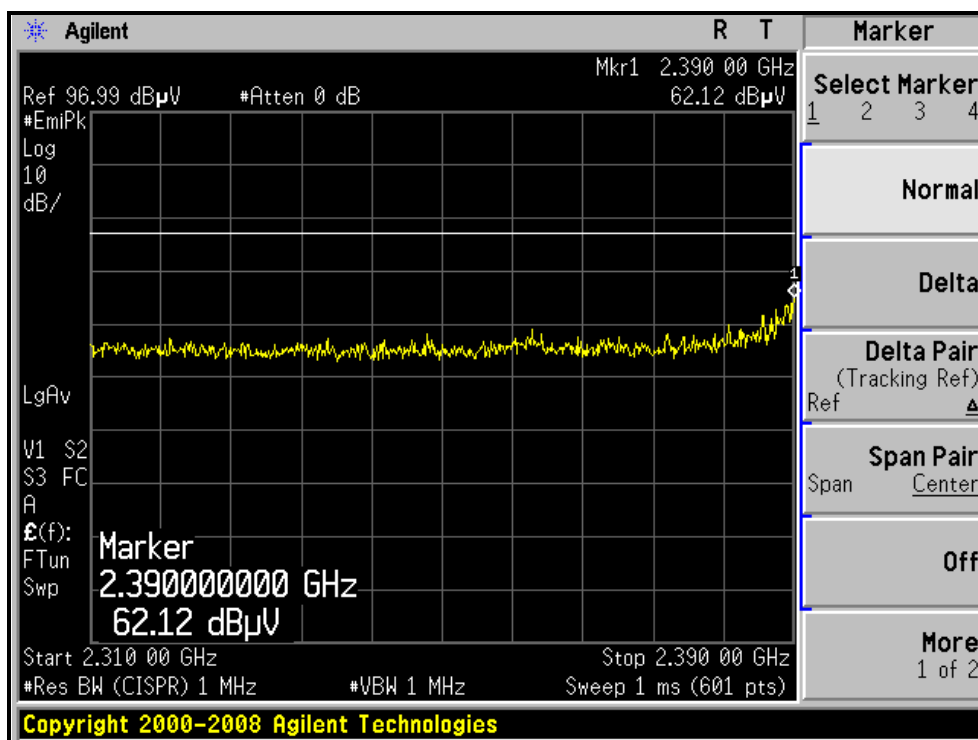
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

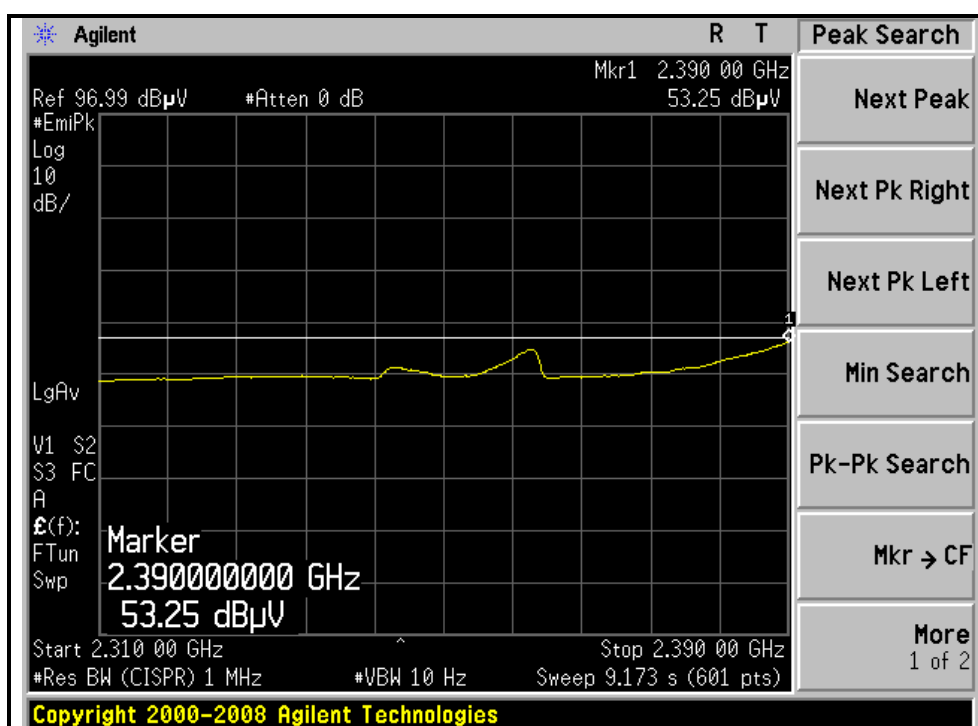
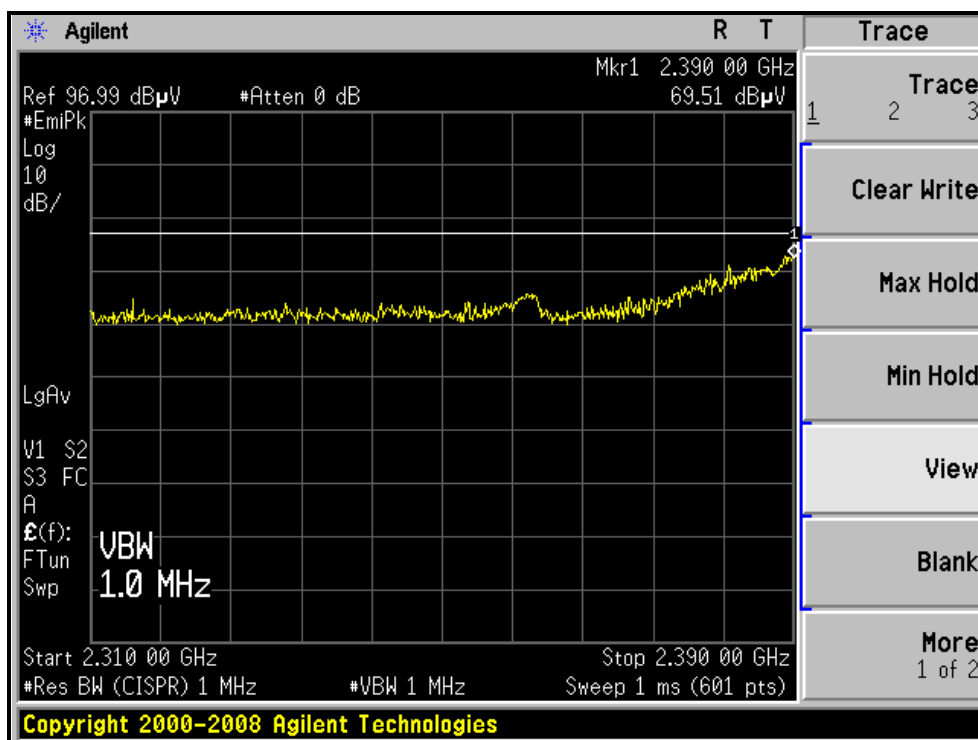
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.9 PK			1.41 H	318	76.53	30.34
2	*2462.00	97.4 AV			1.41 H	318	67.01	30.34
3	2483.50	63.0 PK	74.00	-11.0	1.47 H	298	32.60	30.43
4	2483.50	47.3 AV	54.00	-6.7	1.47 H	298	16.86	30.43
5	4924.00	52.1 PK	74.00	-21.9	1.05 H	58	16.51	35.62
6	4924.00	37.5 AV	54.00	-16.5	1.05 H	58	1.87	35.62
7	7386.00	50.0 PK	74.00	-24.0	1.30 H	217	7.87	42.10
8	7386.00	35.4 AV	54.00	-18.6	1.30 H	217	-6.66	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	108.1 PK			1.63 V	29	77.76	30.34
2	*2462.00	99.2 AV			1.63 V	29	68.86	30.34
3	2483.50	69.9 PK	74.00	-4.2	1.39 V	27	39.42	30.43
4	2483.50	52.8 AV	54.00	-1.2	1.39 V	27	22.35	30.43
5	4924.00	51.4 PK	74.00	-22.6	1.09 V	291	15.81	35.62
6	4924.00	36.7 AV	54.00	-17.3	1.09 V	291	1.08	35.62
7	7386.00	49.7 PK	74.00	-24.4	1.21 V	118	7.55	42.10
8	7386.00	35.4 AV	54.00	-18.6	1.21 V	118	-6.70	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.

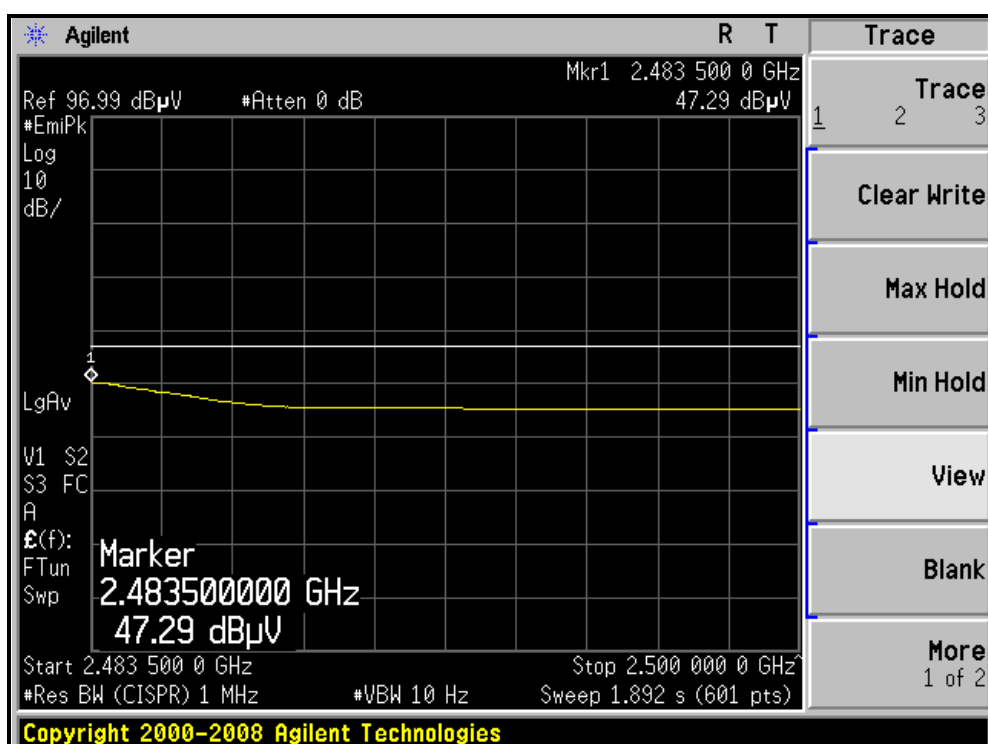
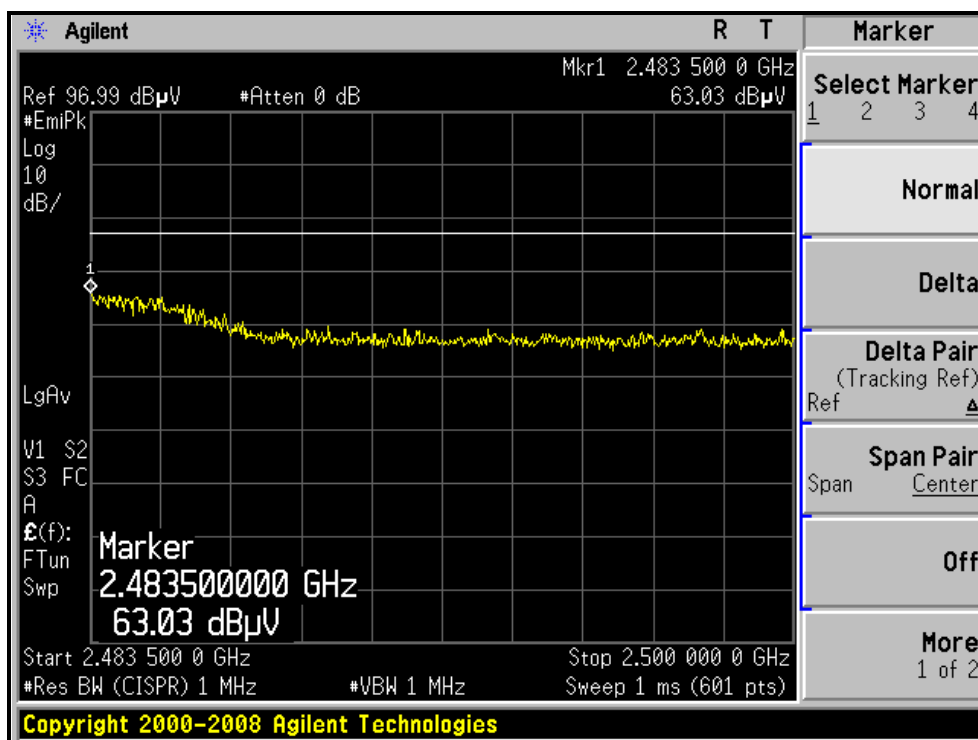
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL )



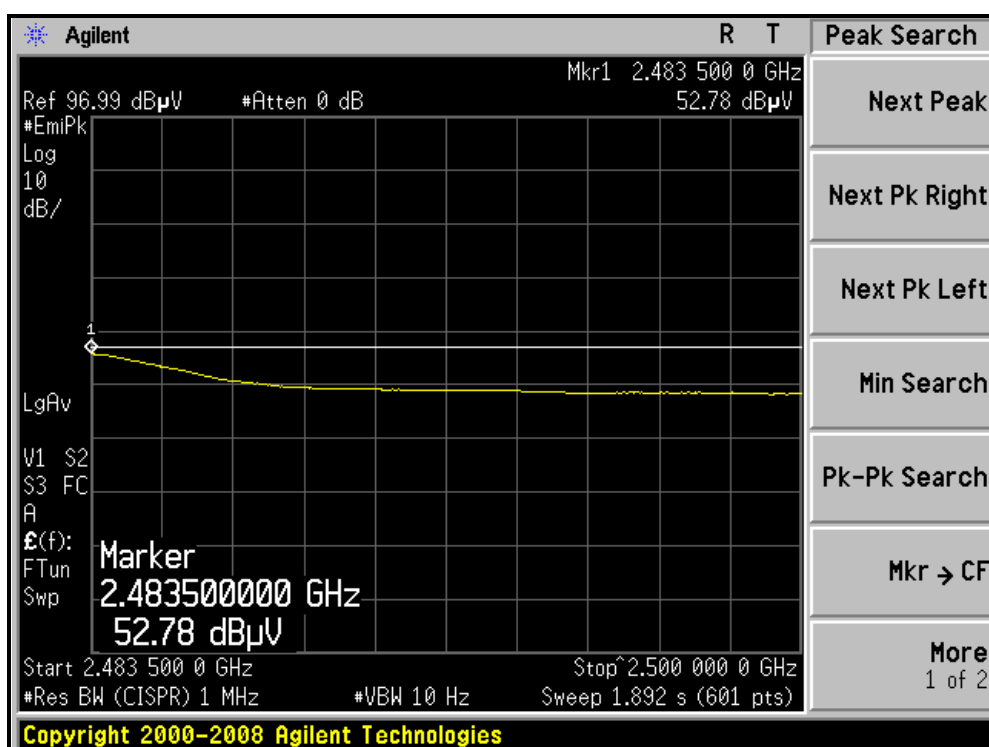
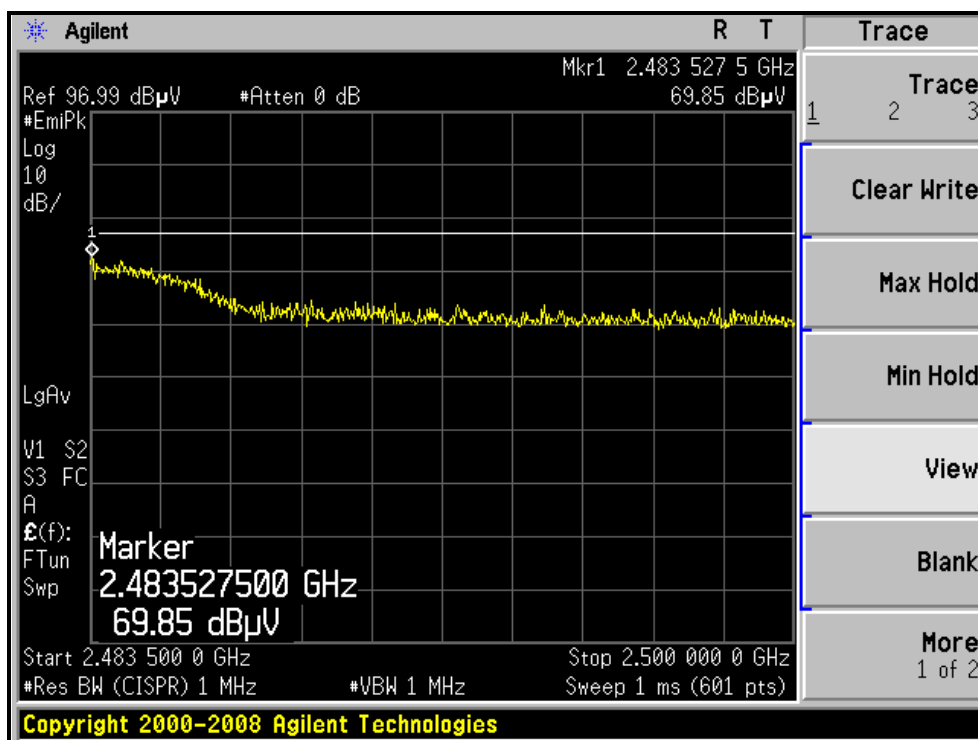
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL )



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



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





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**DRAFT 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	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	60.3 PK	74.00	-13.7	1.49 H	302	30.21	30.06
2	2390.00	49.1 AV	54.00	-4.9	1.49 H	302	19.08	30.06
3	*2422.00	103.7 PK			1.42 H	318	73.51	30.19
4	*2422.00	93.5 AV			1.42 H	318	63.28	30.19
5	4844.00	50.5 PK	74.00	-23.5	1.19 H	56	14.99	35.47
6	4844.00	37.6 AV	54.00	-16.4	1.19 H	56	2.14	35.47
7	7266.00	48.1 PK	74.00	-25.9	1.35 H	209	6.24	41.87
8	7266.00	34.9 AV	54.00	-19.1	1.35 H	209	-6.98	41.87
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	69.4 PK	74.00	-4.6	1.46 V	30	39.31	30.06
2	2390.00	53.1 AV	54.00	-0.9	1.46 V	30	23.01	30.06
3	*2422.00	106.2 PK			1.44 V	41	76.01	30.19
4	*2422.00	96.8 AV			1.44 V	41	66.61	30.19
5	4844.00	49.7 PK	74.00	-24.3	1.10 V	287	14.20	35.47
6	4844.00	36.8 AV	54.00	-17.2	1.10 V	287	1.31	35.47
7	7266.00	48.1 PK	74.00	-25.9	1.24 V	118	6.22	41.87
8	7266.00	34.9 AV	54.00	-19.1	1.24 V	118	-6.99	41.87

- 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	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

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	104.0 PK			1.42 H	319	73.73	30.24
2	*2437.00	93.8 AV			1.42 H	319	63.59	30.24
3	4874.00	48.4 PK	74.00	-25.6	1.13 H	54	12.89	35.52
4	4874.00	36.1 AV	54.00	-17.9	1.13 H	54	0.55	35.52
5	7311.00	48.9 PK	74.00	-25.1	1.33 H	211	6.93	41.96
6	7311.00	35.0 AV	54.00	-19.1	1.33 H	211	-7.01	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	2390.00	68.8 PK	74.00	-5.2	1.75 V	33	38.70	30.06
2	2390.00	52.8 AV	54.00	-1.2	1.75 V	33	22.77	30.06
3	*2437.00	106.2 PK			1.69 V	32	75.96	30.24
4	*2437.00	97.1 AV			1.69 V	32	66.86	30.24
5	4874.00	49.5 PK	74.00	-24.5	1.09 V	289	13.99	35.52
6	4874.00	36.7 AV	54.00	-17.3	1.09 V	289	1.21	35.52
7	7311.00	48.8 PK	74.00	-25.2	1.24 V	125	6.82	41.96
8	7311.00	34.9 AV	54.00	-19.1	1.24 V	125	-7.06	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.





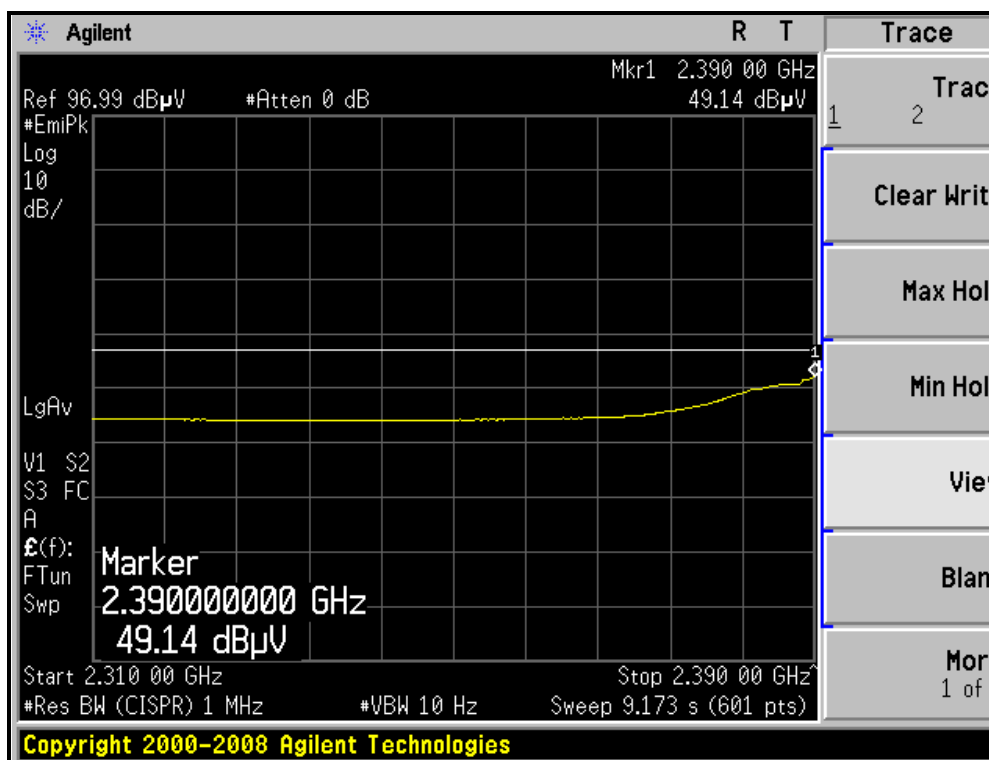
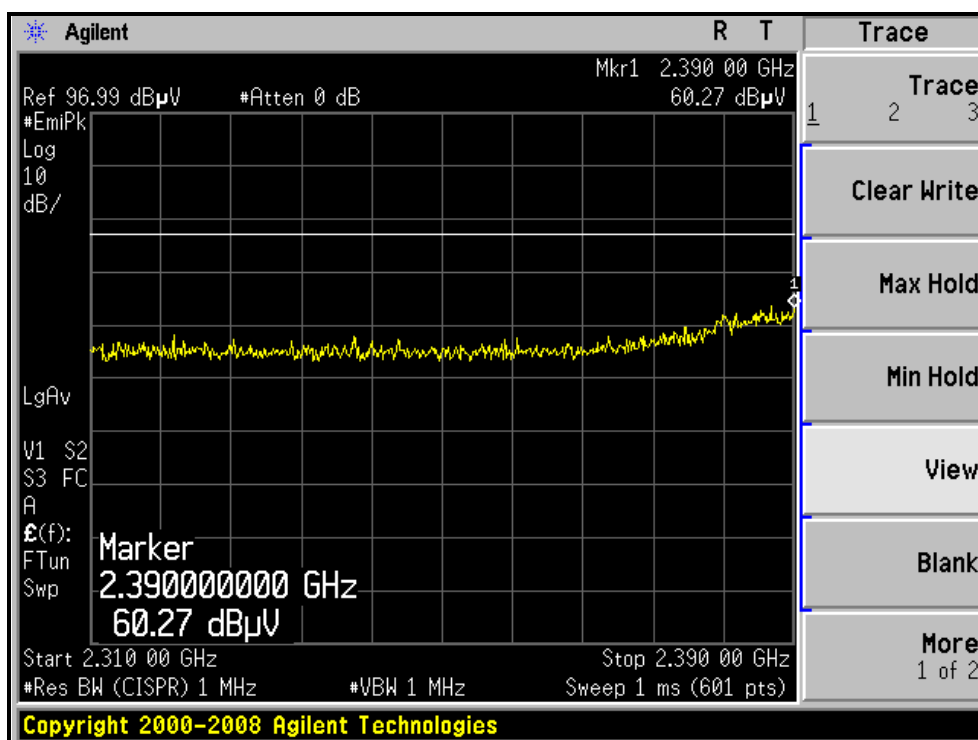
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	15deg. C, 63%RH 1024 hPa	TESTED BY	Duke Tseng

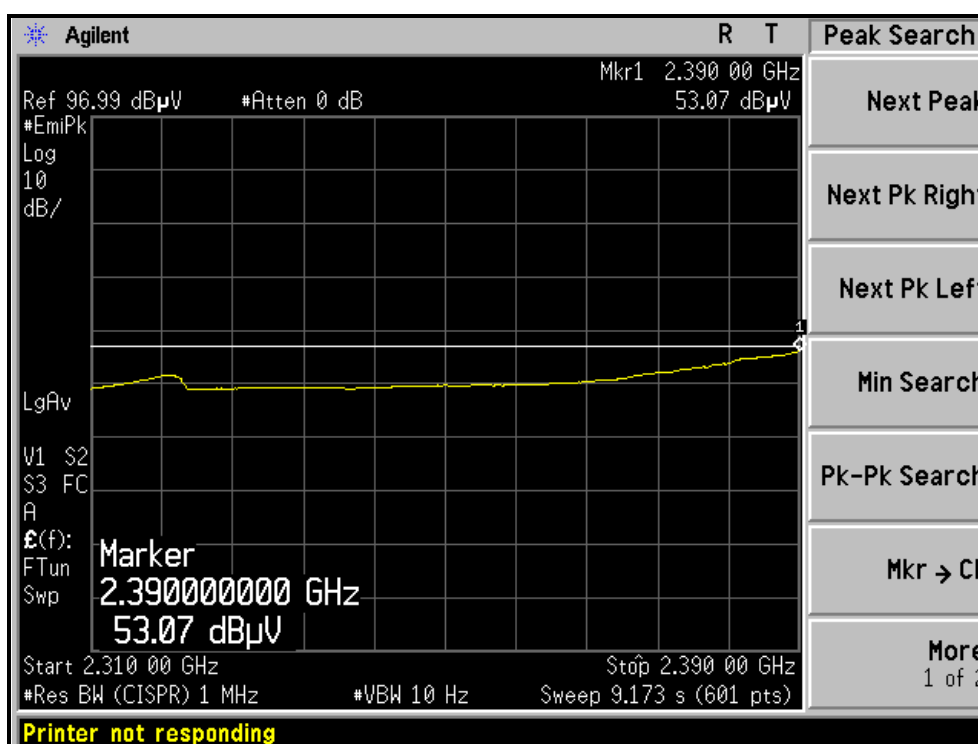
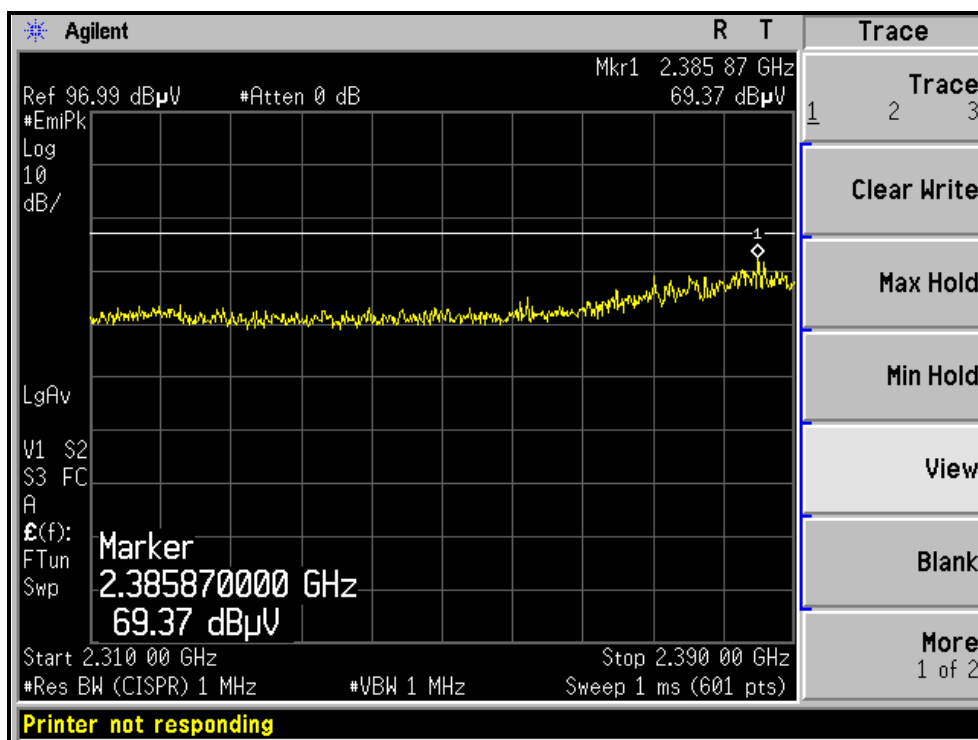
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.9 PK			1.41 H	317	69.59	30.30
2	*2452.00	90.6 AV			1.41 H	317	60.26	30.30
3	2483.50	60.1 PK	74.00	-14.0	1.49 H	257	29.62	30.43
4	2483.50	47.6 AV	54.00	-6.4	1.49 H	257	17.16	30.43
5	4904.00	46.8 PK	74.00	-27.2	1.06 H	61	11.24	35.58
6	4904.00	34.0 AV	54.00	-20.0	1.06 H	61	-1.58	35.58
7	7356.00	49.3 PK	74.00	-24.7	1.36 H	214	7.27	42.04
8	7356.00	35.3 AV	54.00	-18.7	1.36 H	214	-6.78	42.04
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	*2452.00	102.3 PK			1.65 V	34	72.00	30.30
2	*2452.00	93.6 AV			1.65 V	34	63.30	30.30
3	2483.50	65.8 PK	74.00	-8.2	1.66 V	33	35.35	30.43
4	2483.50	53.3 AV	54.00	-0.7	1.66 V	33	22.87	30.43
5	4904.00	47.8 PK	74.00	-26.2	1.10 V	288	12.19	35.58
6	4904.00	34.7 AV	54.00	-19.3	1.10 V	288	-0.91	35.58
7	7356.00	49.2 PK	74.00	-24.9	1.23 V	119	7.11	42.04
8	7356.00	35.2 AV	54.00	-18.8	1.23 V	119	-6.88	42.04

- 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.

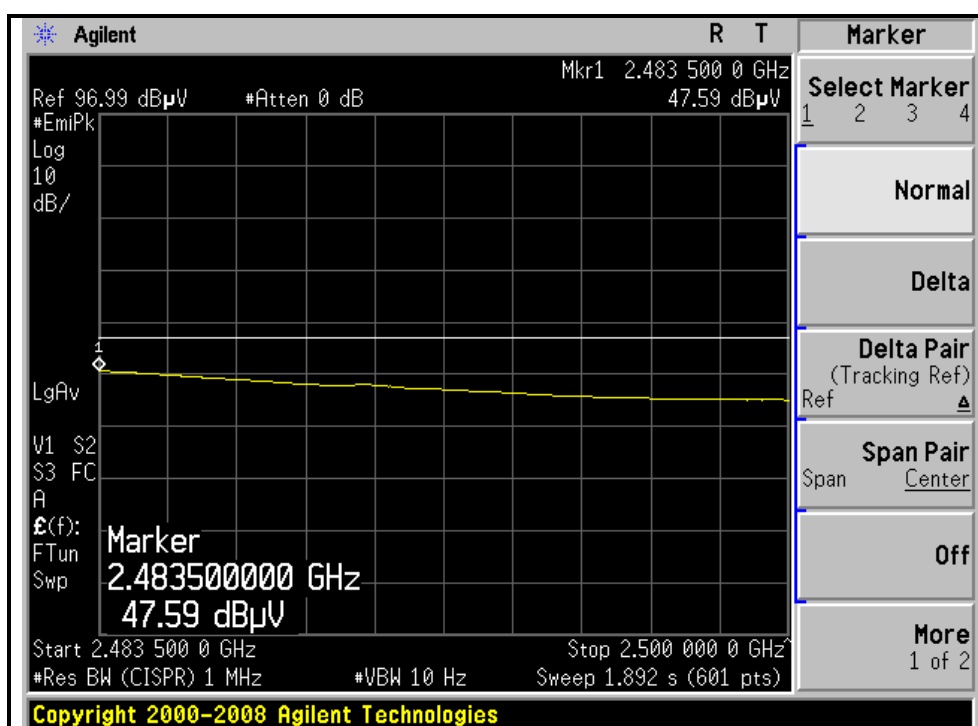
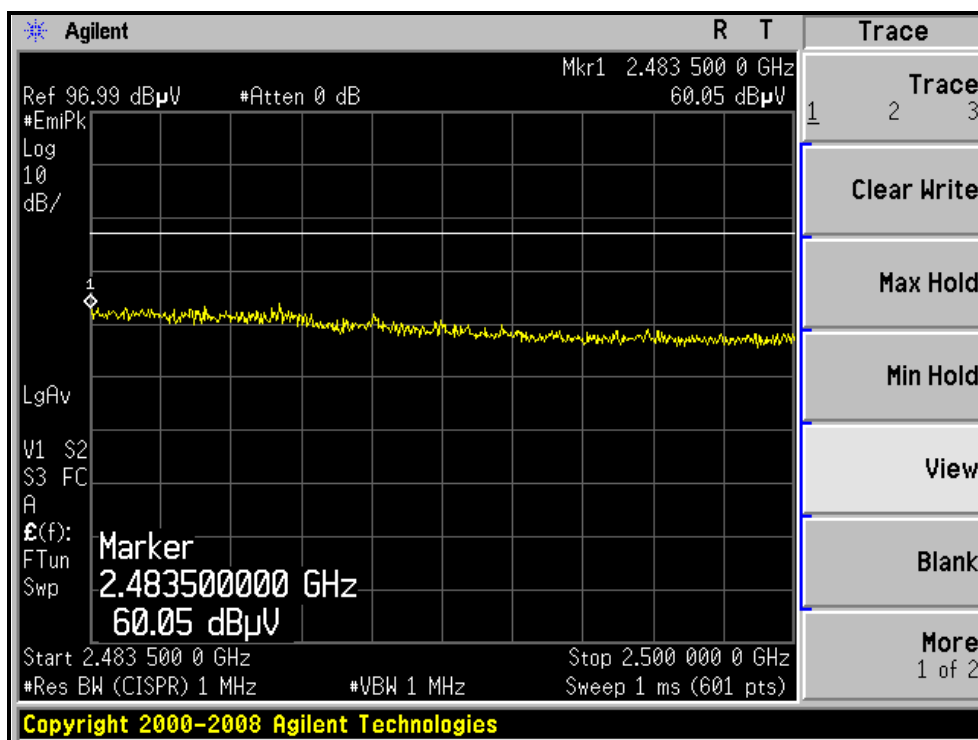
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL )



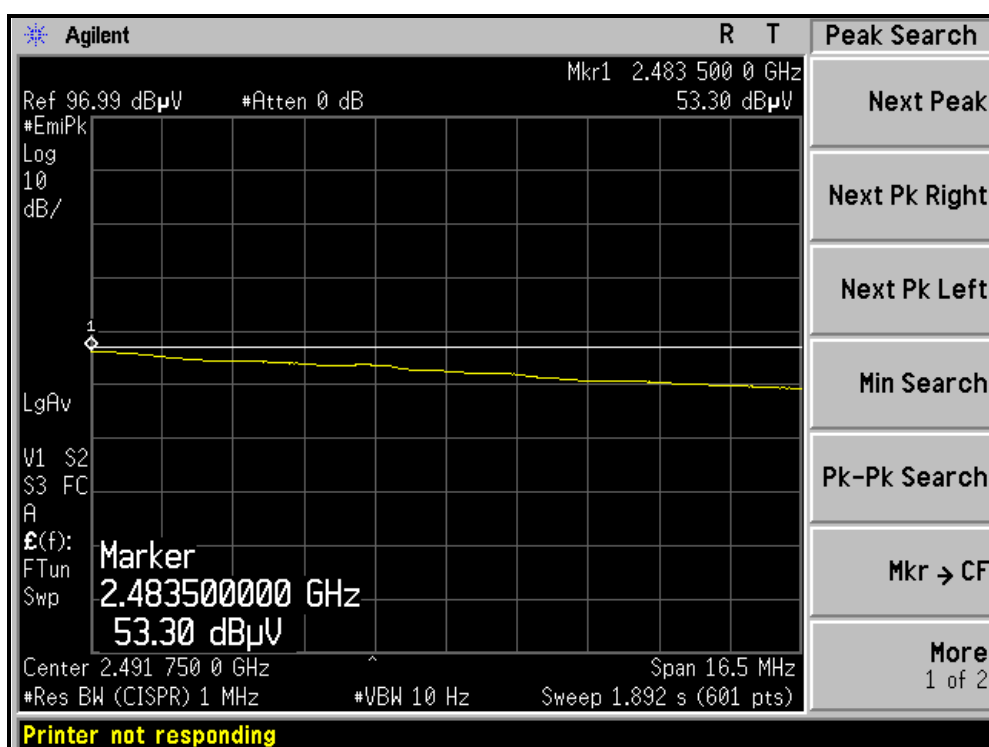
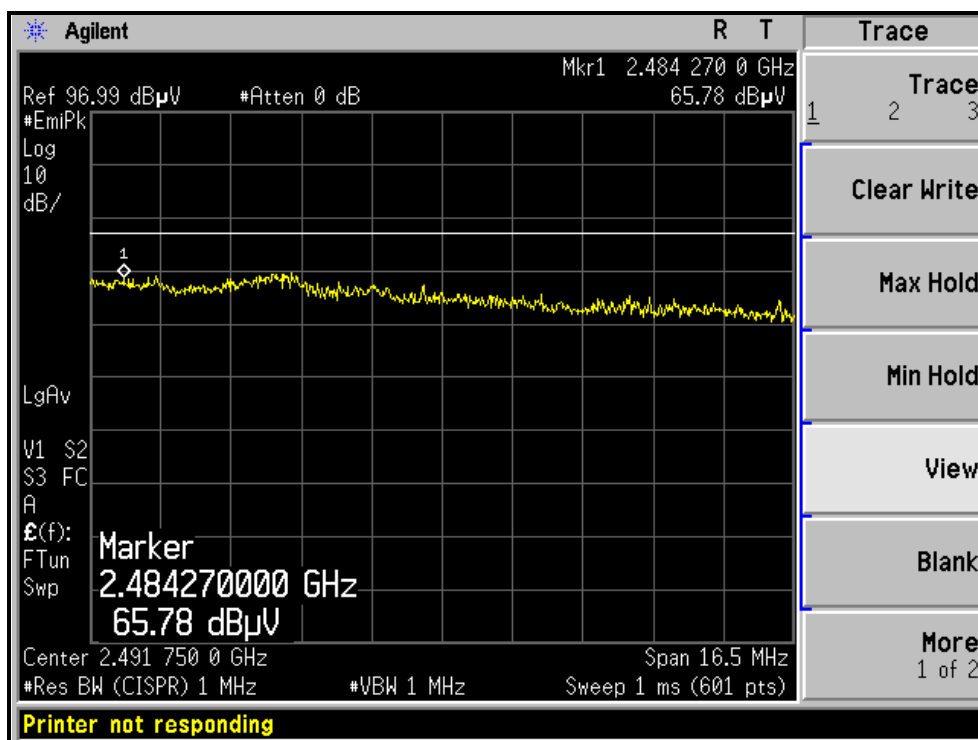
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL )



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



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



### 4.3 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.

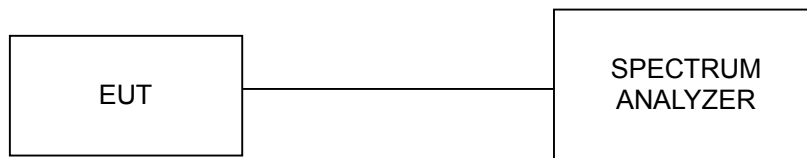
#### 4.3.3 TEST PROCEDURE

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

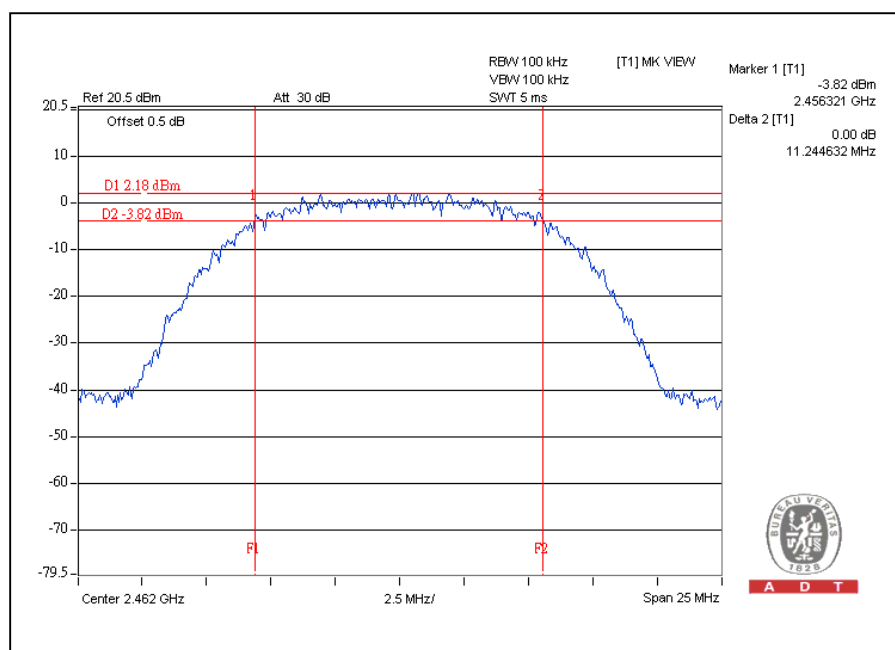
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

## 4.3.7 TEST RESULTS

### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	11.23	0.5	PASS
6	2437	11.23	0.5	PASS
11	2462	11.24	0.5	PASS

## CH11

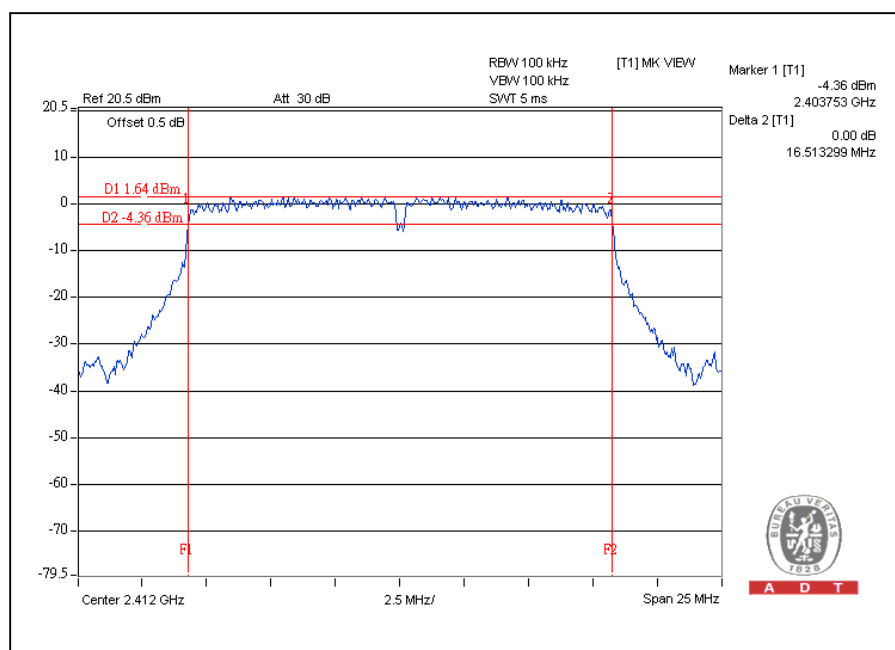




# 802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.51	0.5	PASS
6	2437	16.48	0.5	PASS
11	2462	16.47	0.5	PASS

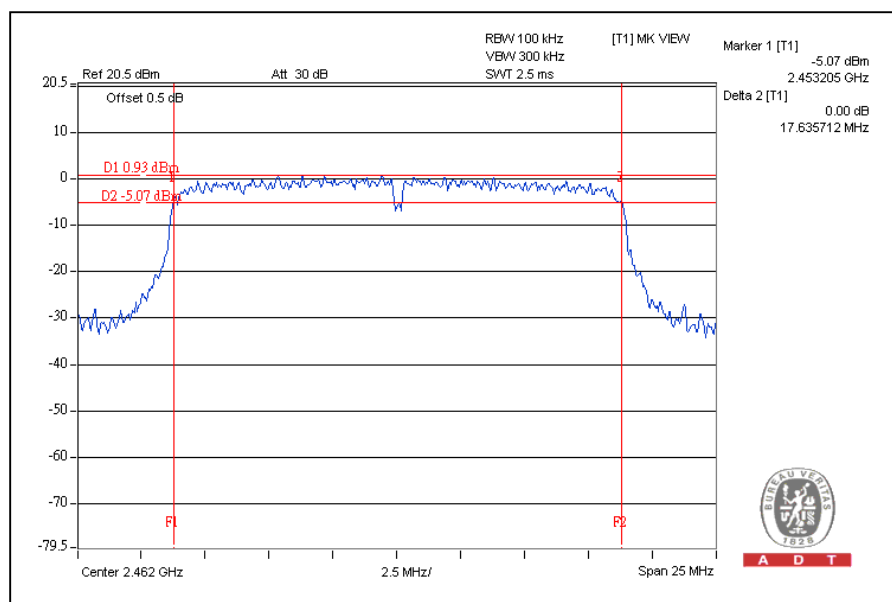
## CH1



# 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.63	0.5	PASS
6	2437	17.62	0.5	PASS
11	2462	17.64	0.5	PASS

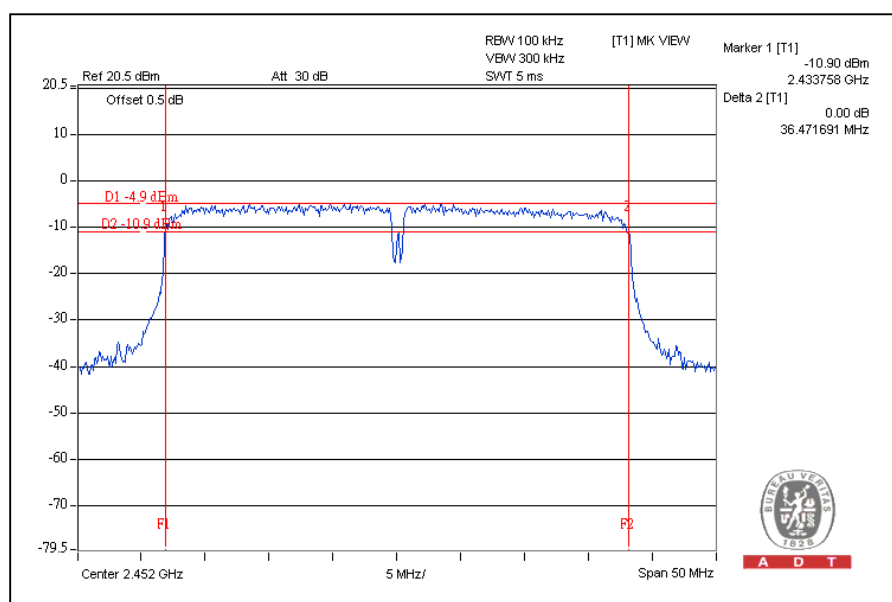
## CH11



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

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.37	0.5	PASS
4	2437	36.40	0.5	PASS
7	2452	36.47	0.5	PASS

### CH11



#### 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.

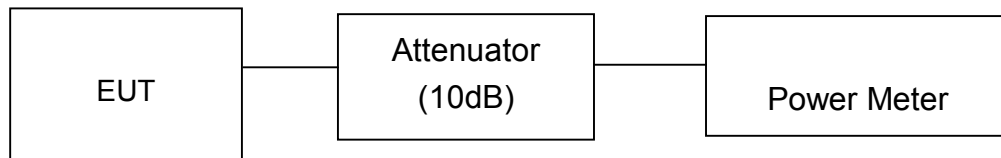
##### 4.4.3 TEST PROCEDURES

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	15.2	33.1	24	PASS
6	2437	15.3	33.9	24	PASS
11	2462	16.1	40.7	24	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	23.2	208.9	24	PASS
6	2437	23.1	204.2	24	PASS
11	2462	23.2	208.9	24	PASS

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

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	22.9	195.0	24	PASS
6	2437	22.9	195.0	24	PASS
11	2462	22.1	162.2	24	PASS

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

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	22.3	169.8	24	PASS
4	2437	22.6	182.0	24	PASS
7	2462	20.6	114.8	24	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

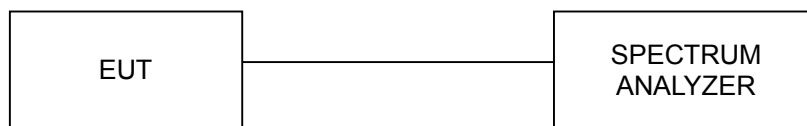
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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 4.2.6

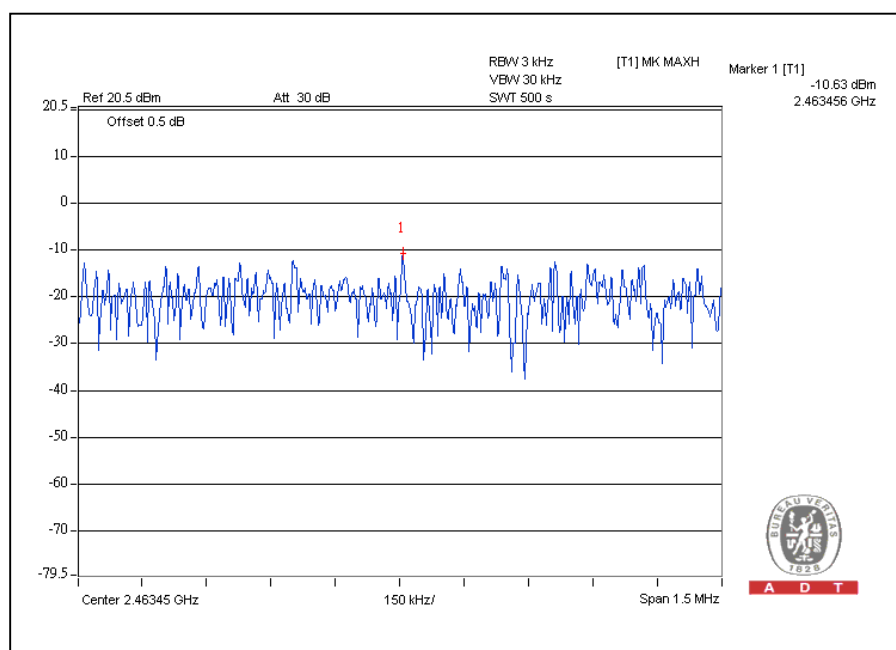


## 4.5.7 TEST RESULTS

### 802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-11.8	8	PASS
6	2437	-11.6	8	PASS
11	2462	-10.6	8	PASS

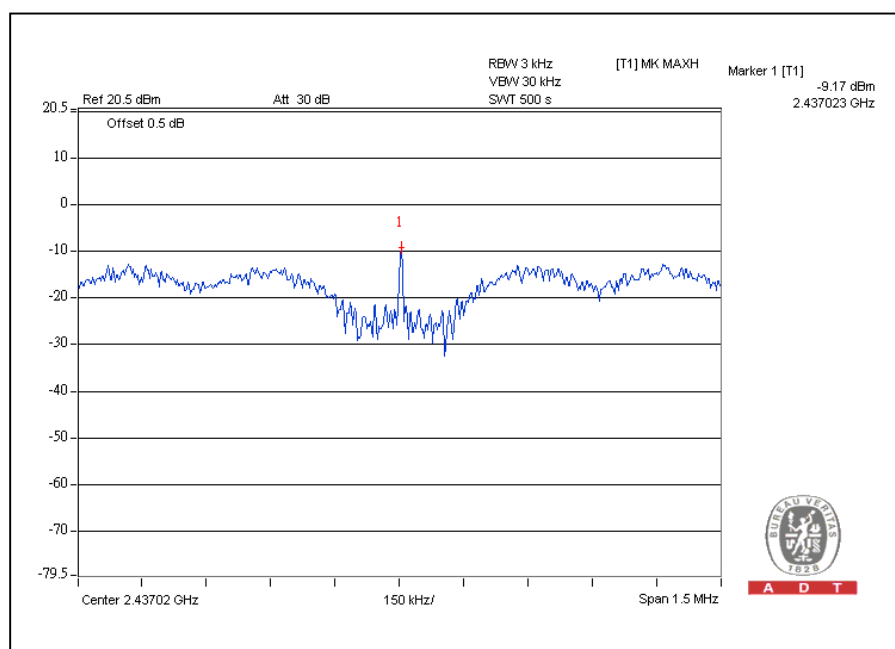
## CH11



## 802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-9.8	8	PASS
6	2437	-9.2	8	PASS
11	2462	-10.7	8	PASS

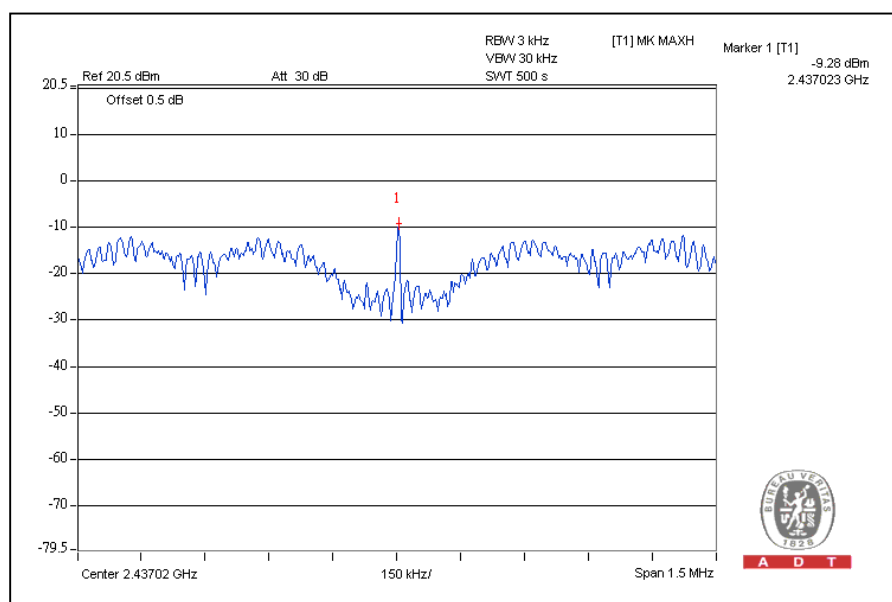
## CH6



## 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-9.9	8	PASS
6	2437	-9.3	8	PASS
11	2462	-10.6	8	PASS

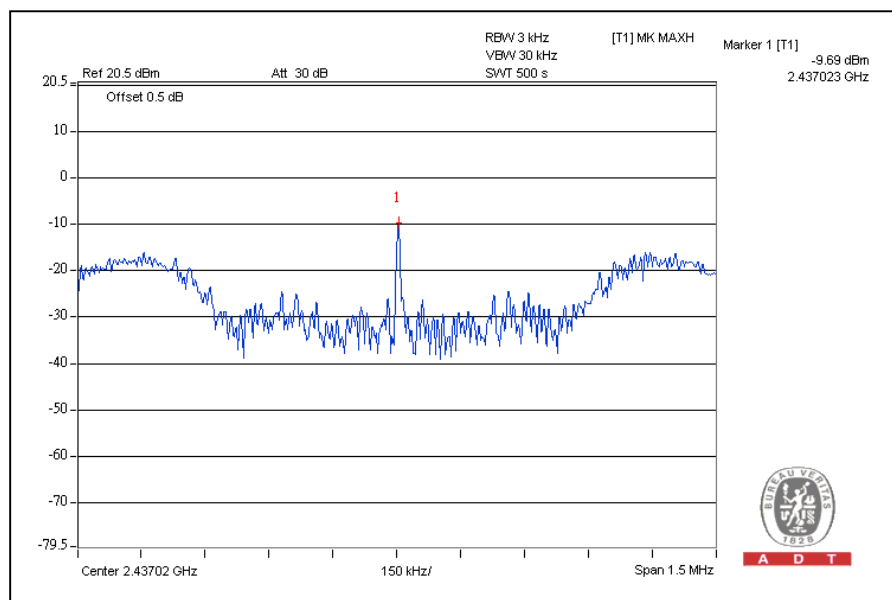
CH6



## 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2422	-11.2	8	PASS
4	2437	-9.7	8	PASS
7	2452	-14.2	8	PASS

## CH4



## 4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

### 4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.6.2 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 measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (RBW = 100kHz and VBW = 300kHz) are attached on the following pages.

#### 4.6.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.6.5 EUT OPERATING CONDITION

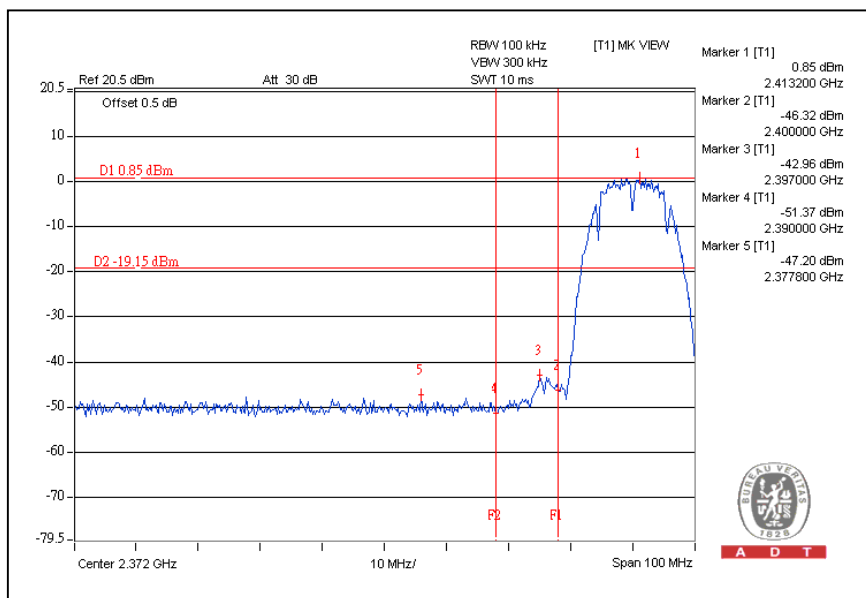
Same as Item 4.2.6

#### 4.6.6 TEST RESULTS

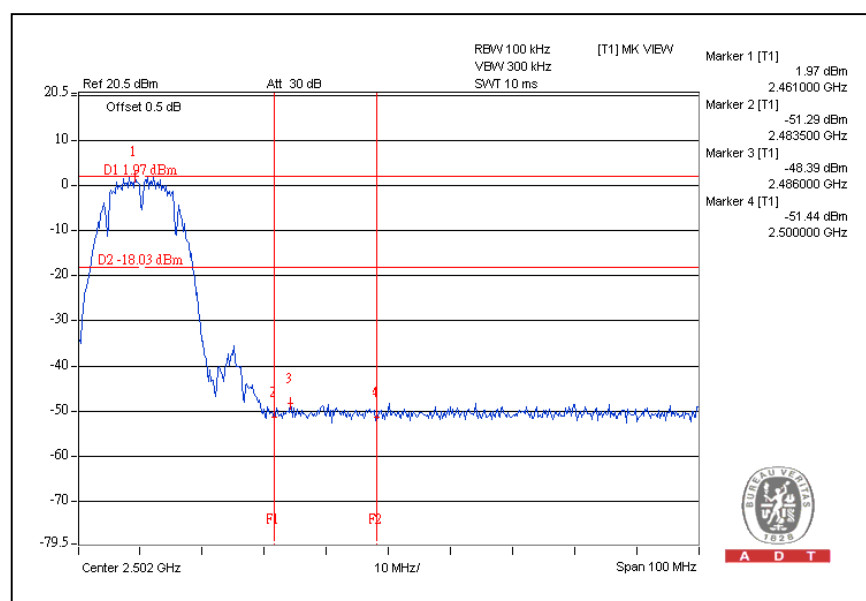
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

## 802.11b DSSS MODULATION:

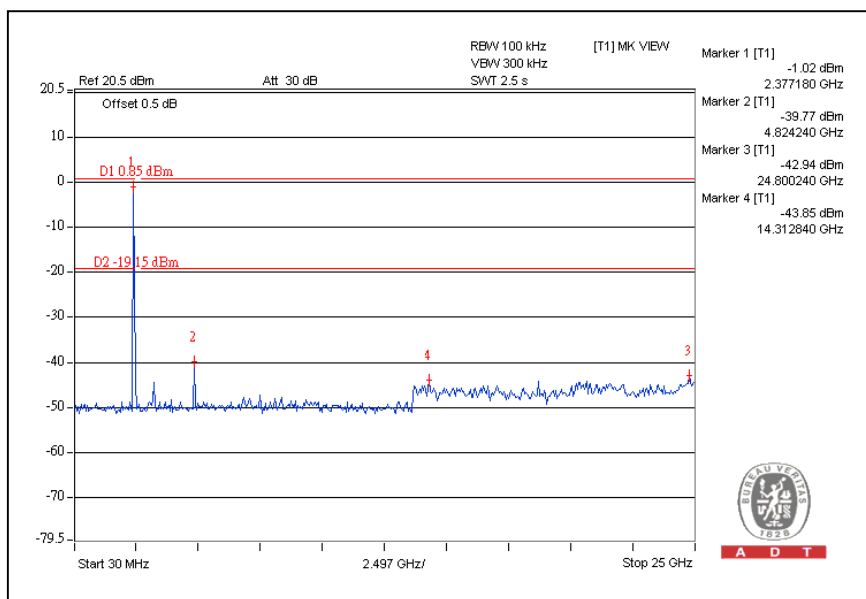
### CH1



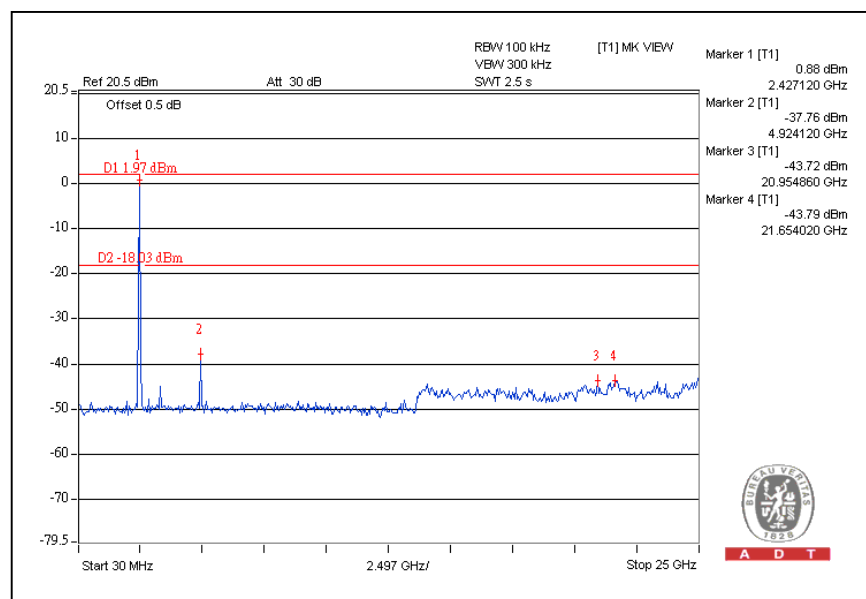
### CH11



# CH1



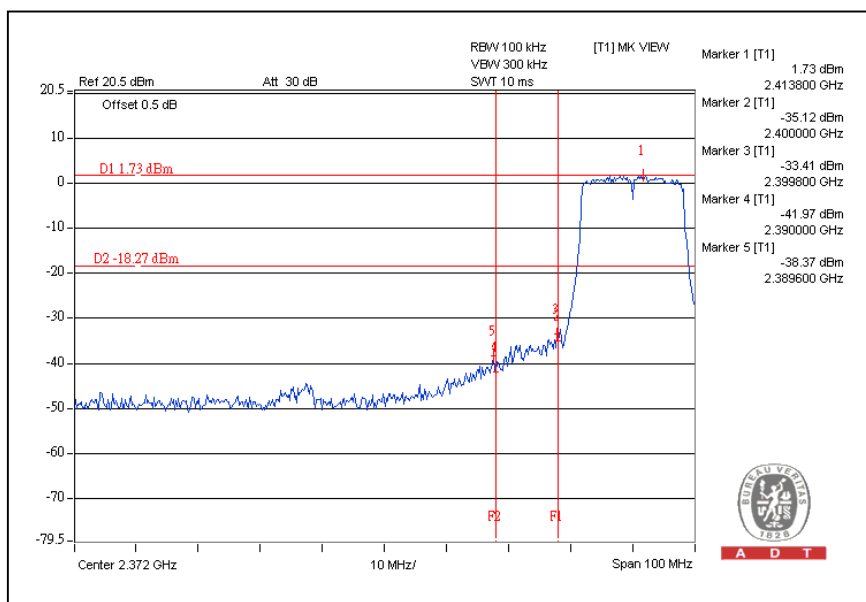
# CH11



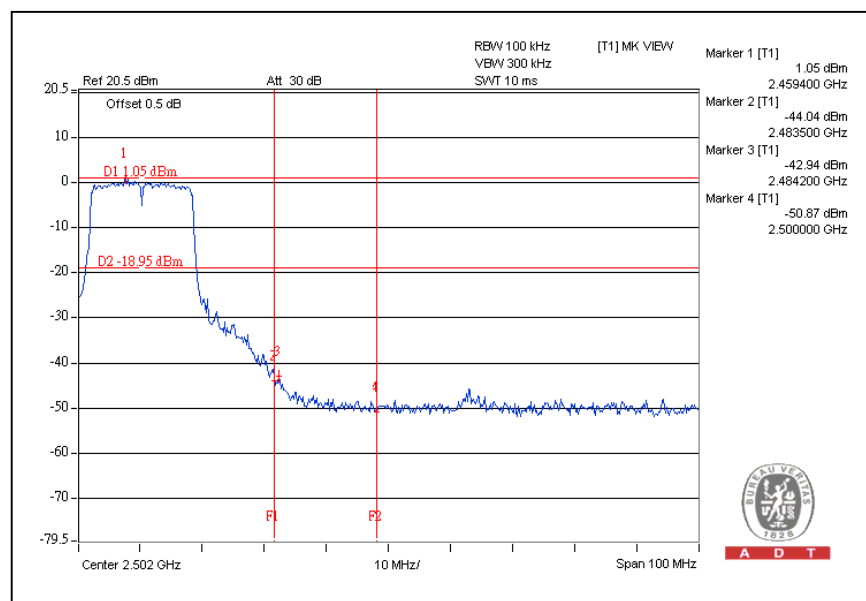


# 802.11g OFDM MODULATION:

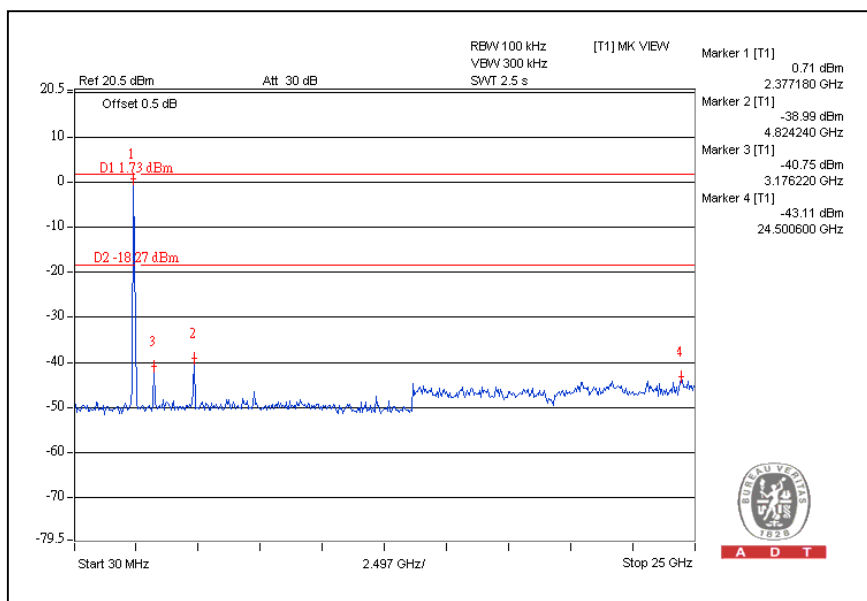
## CH 1



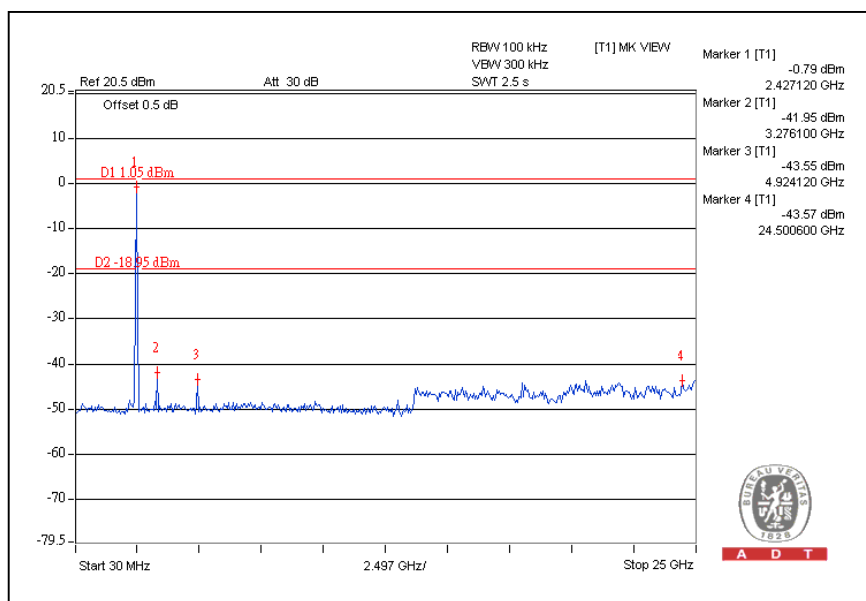
## CH11



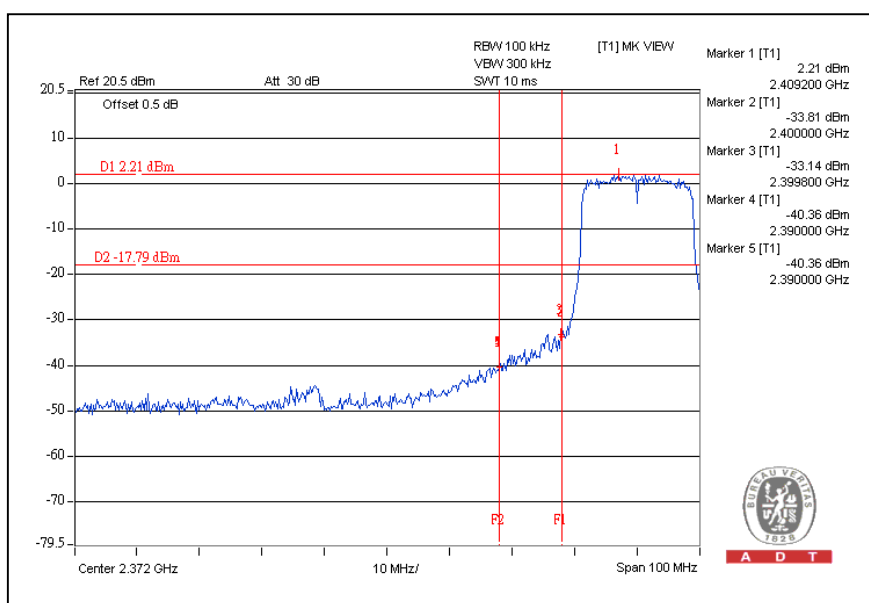
# CH1



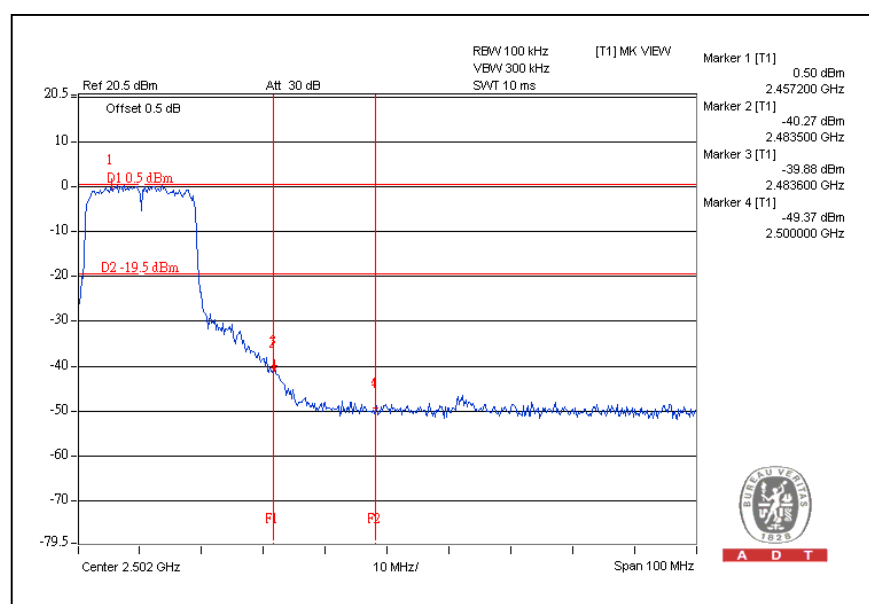
# CH11



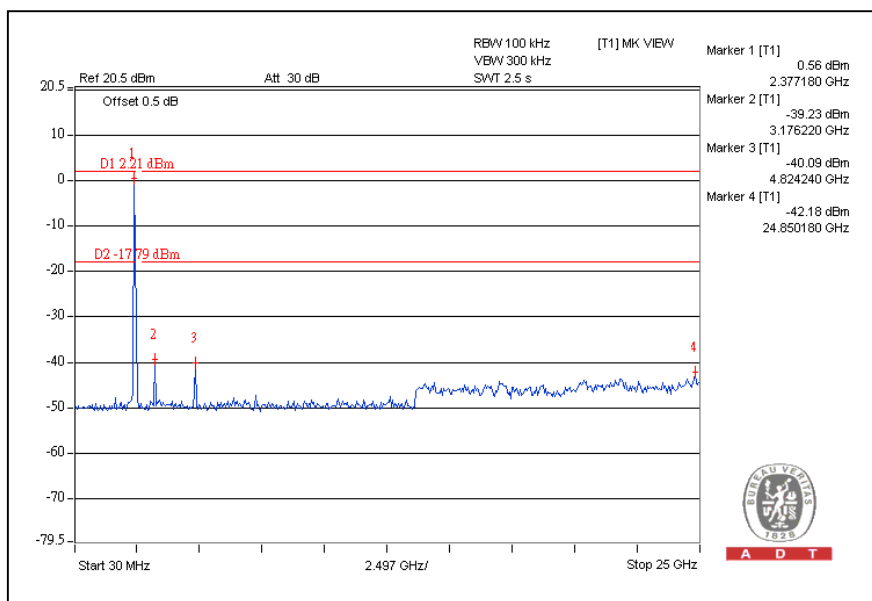
**802.11n (20MHz) OFDM MODULATION:**  
CH1



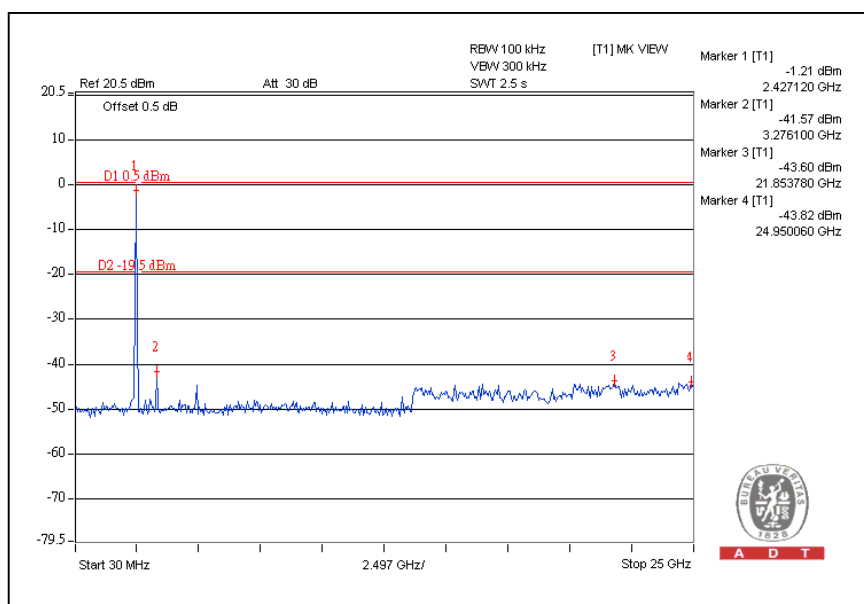
## CH11



# CH1

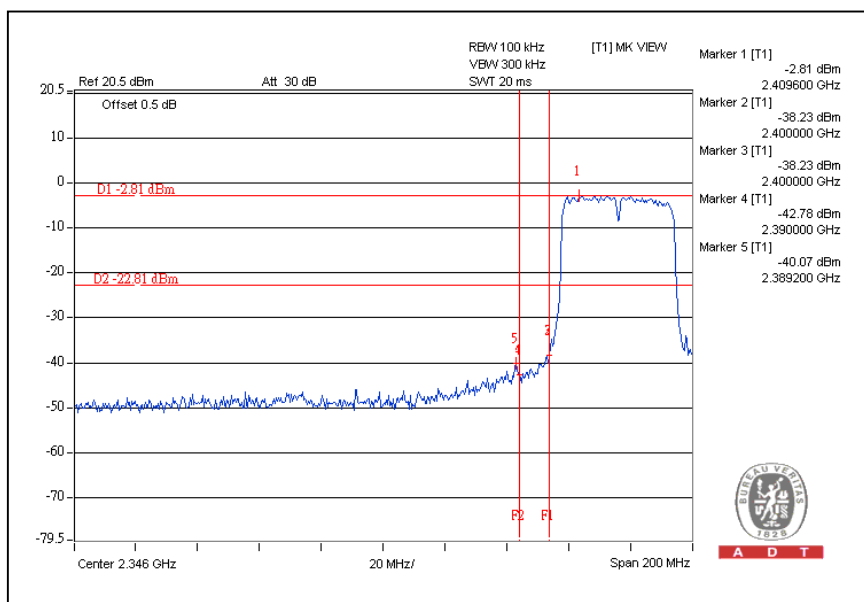


# CH11

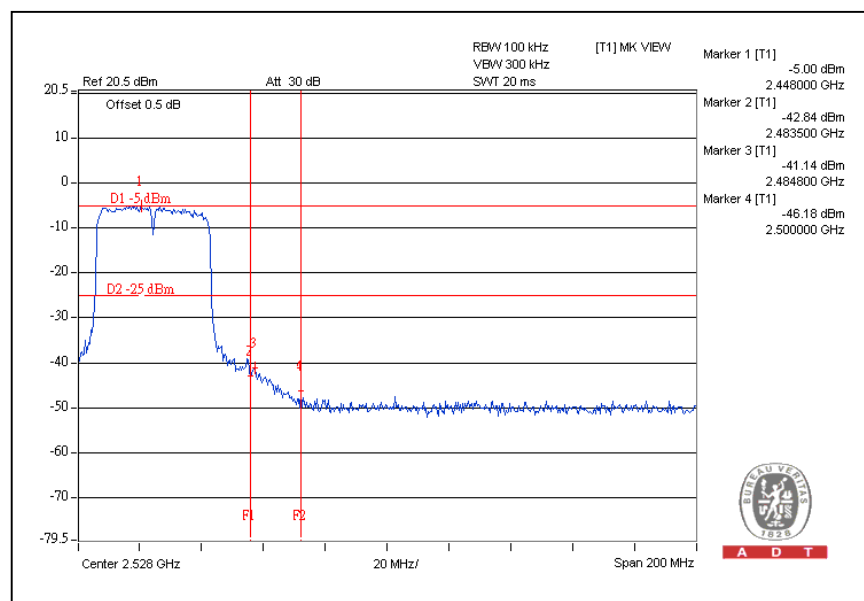


# 802.11n (40MHz) OFDM MODULATION:

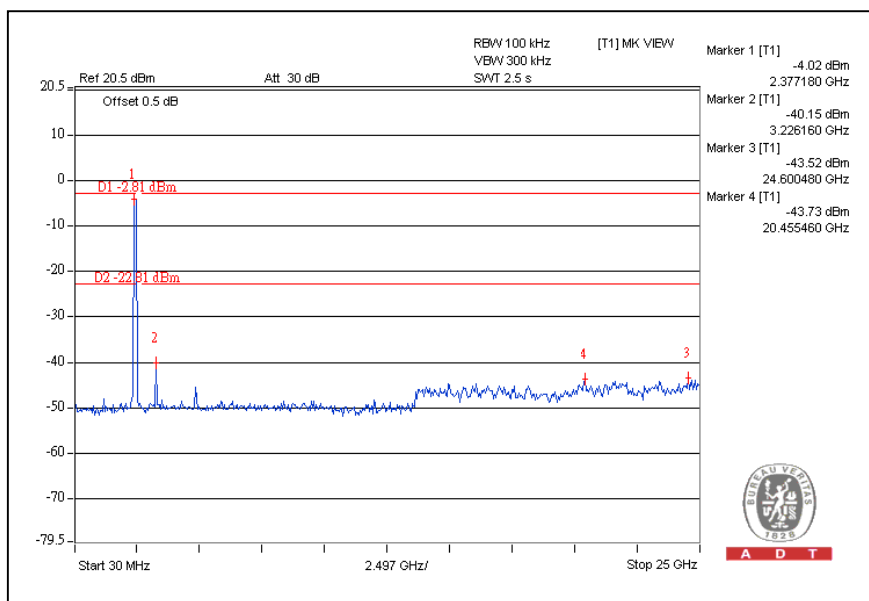
CH1



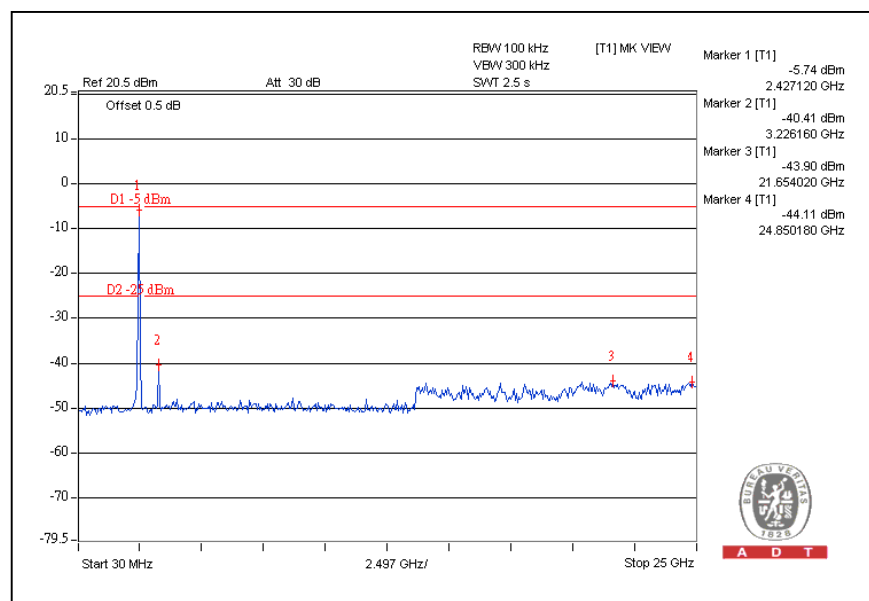
CH7



# CH1



# CH7



**A D T**

## 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.



A D T

## **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 ---**