

## **FCC TEST REPORT**

**REPORT NO.: RF110211E01** 

MODEL NO.: NA

FCC ID: U8G-P1215

**RECEIVED:** Feb. 11, 2011

**TESTED:** Feb. 15 to 16, 2011

**ISSUED:** Mar. 01, 2011

APPLICANT: Pismo Labs Technology Limited

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**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.)

Ltd., Taoyuan Branch Hsin Chu Laboratory

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# **Table of Contents**

RELE	ASE CONTROL RECORD	4
1.	CERTIFICATION	5
2.	SUMMARY OF TEST RESULTS	6
2.1	MEASUREMENT UNCERTAINTY	7
3.	GENERAL INFORMATION	8
3.1	GENERAL DESCRIPTION OF EUT	8
3.2	DESCRIPTION OF TEST MODES	10
3.2.1	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	11
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	13
3.4	DESCRIPTION OF SUPPORT UNITS	14
3.5	CONFIGURATION OF SYSTEM UNDER TEST	15
4.	TEST TYPES AND RESULTS	17
4.1	CONDUCTED EMISSION MEASUREMENT	17
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	
4.1.2	TEST INSTRUMENTS	17
4.1.3	TEST PROCEDURES	18
4.1.4	DEVIATION FROM TEST STANDARD	
4.1.5	TEST SETUP	19
4.1.6	EUT OPERATING CONDITIONS	
4.1.7	TEST RESULTS	20
4.2	RADIATED EMISSION MEASUREMENT	22
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	
4.2.2	TEST INSTRUMENTS	23
4.2.3	TEST PROCEDURES	24
4.2.4	DEVIATION FROM TEST STANDARD	24
4.2.5	TEST SETUP	25
4.2.6	EUT OPERATING CONDITIONS	
4.2.7	TEST RESULTS	26
4.3	6dB BANDWIDTH MEASUREMENT	55
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	55
4.3.2	TEST INSTRUMENTS	55
	TEST PROCEDURE	
4.3.4	DEVIATION FROM TEST STANDARD	55
	TEST SETUP	
4.3.6	EUT OPERATING CONDITIONS	55
4.3.7	TEST RESULTS	56
4.4	MAXIMUM PEAK OUTPUT POWER	
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	
4.4.2	INSTRUMENTS	60
4.4.3	TEST PROCEDURES	60



4.4.4	DEVIATION FROM TEST STANDARD	60
4.4.5	TEST SETUP	60
4.4.6	EUT OPERATING CONDITIONS	60
4.4.7	TEST RESULTS	61
4.5	POWER SPECTRAL DENSITY MEASUREMENT	62
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	62
4.5.2	TEST INSTRUMENTS	62
4.5.3	TEST PROCEDURE	62
4.5.4	DEVIATION FROM TEST STANDARD	62
4.5.5	TEST SETUP	62
4.5.6	EUT OPERATING CONDITION	
4.5.7	TEST RESULTS	63
4.6	CONDUCTED OUT-BAND EMISSION MEASUREMENT	67
4.6.1	LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT	67
4.6.2	TEST INSTRUMENTS	67
4.6.3	TEST PROCEDURE	67
4.6.4	DEVIATION FROM TEST STANDARD	67
4.6.5	EUT OPERATING CONDITION	67
4.6.6	TEST RESULTS	67
5.	INFORMATION ON THE TESTING LABORATORIES	76
6.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING C	
	THE EUT BY THE LAB	77



## **RELEASE CONTROL RECORD**

ISSUE NO.	SSUE NO. REASON FOR CHANGE	
Original release	NA	Mar. 01, 2011

Report No.: RF110211E01 4 Report Format Version 4.0.0



Report Format Version 4.0.0

### 1. CERTIFICATION

**PRODUCT:** Pepwave 500mW 802.11n platform

**BRAND NAME:** Pepwave

MODEL NO.: NA

**TEST SAMPLE:** ENGINEERING SAMPLE

APPLICANT: Pismo Labs Technology Limited

**TESTED:** Feb. 15 to 16, 2011

**STANDARDS:** FCC Part 15, Subpart C (Section 15.247)

ANSI C63.4-2003 ANSI C63.10-2009

The above equipment 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: Carol Gao, DATE: Mar. 01, 2011

(Carol Liao, Specialist)

APPROVED BY : , DATE: Mar. 01, 2011

Report No.: RF110211E01 5



## 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 -8.01dB at 0.150MHz			
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	PASS	Meet the requirement of limit.			
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 350.00 MHz & 2390.00 MHz			
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 Reverse SMA Plug 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	2.45 dB
Radiated emissions (30MHz-1GHz)	3.3 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.55 dB



## 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Pepwave 500mW 802.11n platform			
MODEL NO.	NA			
FCC ID	U8G-P1215			
POWER SUPPLY	DC 12V from power adapter			
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM			
MODULATION TECHNOLOGY	DSSS, OFDM			
TRANSFER RATE	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			
FREQUENCY RANGE	2412MHz ~ 2462MHz			
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)			
MAXIMUM OUTPUT POWER	802.11b: 912.0mW 802.11g: 977.2mW 802.11n (20MHz): 871.0mW 802.11n (40MHz): 955.0mW			
ANTENNA TYPE	Please see note			
DATA CABLE	RJ45 cable(Unshielded, 1.95m)			
I/O PORTS	RJ45 port x 1 (Ethernet (10,100 Mbps))			
ASSOCIATED DEVICES	Adapter x 1			



#### NOTE:

1. There is one antenna provided to this EUT, please refer to the following table:

Antenna Gain	enna Gain Antenna Type Connecter Type		Frequency range (MHz)
5.1dBi	5.1dBi Dipole		2400~2500

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

BRAND	DianYuan
MODEL	S024EM1200200
INPUT POWER	AC 100-240V, 50/60Hz, 600mA
	DC 12V, 2000mA DC Cable: 1.9m unshielded with one core

3. For radiated test: The EUT was pre-tested in chamber under the following modes:

Test Mode	Description
Mode A	Level-set (Put on tabletop)
Mode B	Tower-set (Wall-mounted)

From the above modes, the worse case was found in Mode B. Therefore only the test data of the mode was recorded in this report.

- 4. The EUT incorporates a SISO function with 802.11n.
- 5. The EUT is 1 \* 1 spatial SISO without beam forming function.
- 6. The EUT complies with 802.11n standards and backwards compatible with 802.11b, 802.11g products.
- 7. 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	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
3	2422MHz	7	2442MHz
4	4 2427MHz 8		2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		



#### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Where **PLC**: Power Line Conducted Emission

RE < 1G: Radiated Emission below 1GHz

RE 3 1G: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

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

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

MODE		AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20	MHz)	1 to 11	6	OFDM	BPSK	6.5

#### **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	TESTED	MODULATION	MODULATIO	DATA RATE
	CHANNEL	CHANNEL	TECHNOLOGY	N TYPE	(Mbps)
802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5



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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

### **CONDUCTED OUT-BAND EMISSION 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)
802.11b	1 to 11	1, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	13.5



#### **ANTENNA PORT CONDUCTED MEASUREMENT:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

#### **TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE <sup>3</sup> 1G	21deg. C, 67%RH, 1024 hPa	120Vac, 60Hz	Rex Huang
RE<1G	19deg. C, 62%RH, 1024 hPa	120Vac, 60Hz	Rex Huang
PLC	20deg. C, 70%RH, 1024 hPa	120Vac, 60Hz	Eric Lee
APCM	21deg. C, 60%RH, 1024 hPa	120Vac, 60Hz	Rex Huang

## 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247) ANSI C63.4-2003 ANSI C63.10-2009

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

**NOTE**: The EUT 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1 1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	NOTEBOOK COMPUTER (For conducted test)	DELL	PP32LA	GSLB32S	FCC DoC

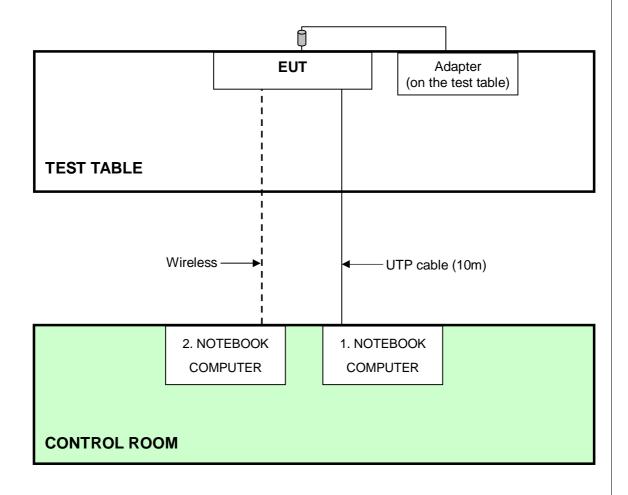
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m UTP cable
2	NA

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



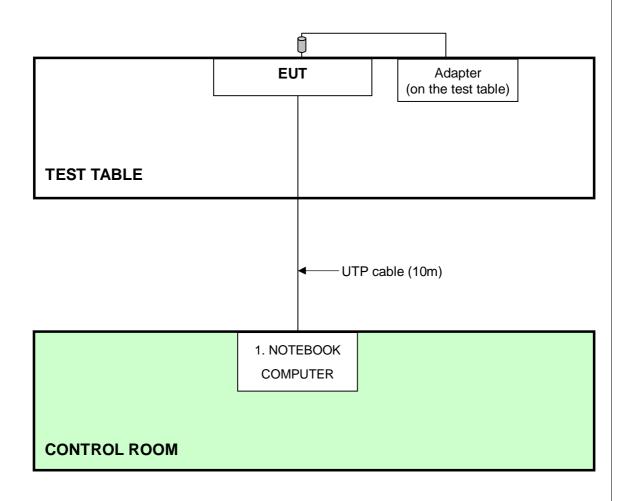
## 3.5 CONFIGURATION OF SYSTEM UNDER TEST

## For conducted 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 (dBµV)
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

#### NOTE:

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

## 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2010	Mar. 08, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 08, 2010	Sep. 07, 2011
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 03, 2010	Nov. 02, 2011
RF Cable (JYEBAO)	5DFB	COCCAB-002	Aug. 30, 2010	Aug. 29, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

#### Note:

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



#### 4.1.3 TEST PROCEDURES

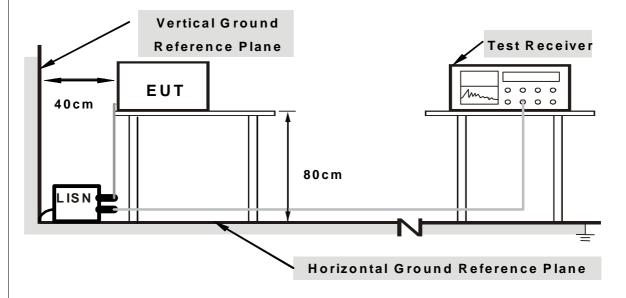
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

4	1 4	DE/	$/I\Delta T$	ION	$FR \cap M$	TEST	STAND	$\Delta RD$
4.	ı. <del>4</del>	レレ	<i>v</i> 1/~ 1	IVIV		$I \perp O I$	SIAIND	AIND

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

- 1. Turn on the power of all equipment.
- 2. Support units 1~2 (Notebook Computer) run a test program "Ping.exe" to enable of EUT via one UTP cable and wireless continuously.

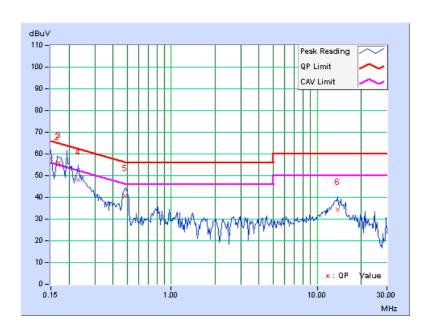


## 4.1.7 TEST RESULTS

	Freq.	Corr.		ding lue		sion vel	Limit		Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	57.75	43.09	57.85	43.19	66.00	56.00	-8.15	-12.81
2	0.166	0.11	54.99	-	55.10	-	65.18	55.18	-10.07	-
3	0.171	0.12	55.63	43.87	55.75	43.99	64.93	54.93	-9.18	-10.94
4	0.232	0.13	48.08	-	48.21	-	62.38	52.38	-14.17	-
5	0.482	0.13	40.44	-	40.57	-	56.30	46.30	-15.73	-
6	13.734	0.54	33.76	-	34.30	-	60.00	50.00	-25.70	-

**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.



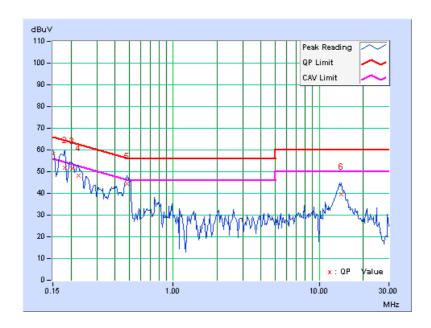


PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Mar	gin
No		Factor	[dB	dB (uV)] [dB (uV)] [dB (uV		[dB (uV)]		(dl	B)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.12	57.87	42.59	57.99	42.71	66.00	56.00	-8.01	-13.29
2	0.181	0.13	51.83	-	51.96	-	64.43	54.43	-12.47	-
3	0.205	0.14	51.48	-	51.62	-	63.42	53.42	-11.80	-
4	0.224	0.14	48.12	-	48.26	-	62.66	52.66	-14.40	-
5	0.482	0.15	44.38	-	44.53	-	56.30	46.30	-11.77	-
6	14.266	1.08	38.67	-	39.75	-	60.00	50.00	-20.25	-

**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.



## 4.2.2 TEST INSTRUMENTS

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. 16, 2010	Nov. 15, 2011
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. 27, 2010	Dec. 26, 2011
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.



#### 4.2.3 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 height of antenna 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:

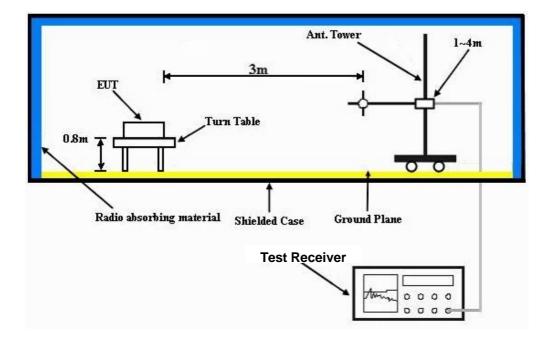
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency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

#### 4.2.4 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

- 1. Turn on the power of all equipment.
- 2. The support unit 1 (Notebook Computer) runs test program "Art R0.9B21" to enable EUT under transmission/receiving condition continuously via one UTP cable.



## 4.2.7 TEST RESULTS

## BELOW 1GHz WORST-CASE DATA: 802.11n (20MHz) OFDM MODULATION

<b>EUT TEST CONDITION</b>		MEASUREMENT DETAIL		
CHANNEL Channel 6		FREQUENCY RANGE	Below 1000MHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	19deg. C, 62%RH 1024 hPa	TESTED BY	Frank Liu	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	160.74	41.5 QP	43.5	-2.0	1.75 H	105	26.90	14.62
2	242.92	37.1 QP	46.0	-8.9	1.25 H	288	24.08	13.05
3	281.29	41.7 QP	46.0	-4.3	1.00 H	47	27.04	14.69
4	350.00	45.5 QP	46.0	-0.5	1.05 H	175	28.95	16.55
5	374.97	35.8 QP	46.0	-10.2	1.00 H	160	18.69	17.12
6	875.06	37.0 QP	46.0	-9.0	1.75 H	48	10.59	26.37
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	37.34	36.4 QP	40.0	-3.6	1.00 V	146	22.71	13.67
2	45.69	35.3 QP	40.0	-4.7	1.00 V	182	20.93	14.35
3	350.01	43.7 QP	46.0	-2.4	1.25 V	360	27.09	16.56
4	374.97	36.1 QP	46.0	-9.9	1.25 V	21	18.97	17.12
5	700.04	41.0 QP	46.0	-5.0	1.50 V	181	17.30	23.67
6	874.95	37.3 QP	46.0	-8.7	1.50 V	99	10.91	26.37

- 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	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	2386.27	57.9 PK	74.0	-16.1	1.00 H	26	26.26	31.64		
2	2386.27	47.5 AV	54.0	-6.5	1.00 H	26	15.86	31.64		
3	*2412.00	101.9 PK			1.00 H	26	70.17	31.73		
4	*2412.00	99.6 AV			1.00 H	26	67.87	31.73		
5	4824.00	50.4 PK	74.0	-23.6	1.28 H	55	11.43	38.97		
6	4824.00	44.3 AV	54.0	-9.7	1.28 H	55	5.33	38.97		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	2386.13	62.8 PK	74.0	-11.2	1.50 V	90	31.16	31.64		
2	2386.13	53.1 AV	54.0	-0.9	1.50 V	90	21.46	31.64		
3	*2412.00	108.9 PK			1.50 V	90	77.17	31.73		
4	*2412.00	106.8 AV			1.50 V	90	75.07	31.73		
5	4824.00	54.0 PK	74.0	-20.0	1.00 V	154	15.03	38.97		
6	4824.00	48.7 AV	54.0	-5.3	1.00 V	154	9.73	38.97		

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



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 6		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	105.0 PK			1.00 H	39	73.19	31.81		
2	*2437.00	99.5 AV			1.00 H	39	67.69	31.81		
3	4874.00	55.5 PK	74.0	-18.5	1.37 H	293	16.36	39.14		
4	4874.00	52.1 AV	54.0	-1.9	1.37 H	293	12.96	39.14		
5	7311.00	56.1 PK	74.0	-17.9	1.42 H	203	9.47	46.63		
6	7311.00	43.9 AV	54.0	-10.1	1.42 H	203	-2.73	46.63		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	110.0 PK			1.50 V	97	78.19	31.81		
2	*2437.00	108.9 AV			1.50 V	97	77.09	31.81		
3	4874.00	56.4 PK	74.0	-17.6	1.00 V	246	17.26	39.14		
4	4874.00	52.9 AV	54.0	-1.1	1.00 V	246	13.76	39.14		
5	7311.00	57.6 PK	74.0	-16.4	1.26 V	56	10.97	46.63		
6	7311.00	47.6 AV	54.0	-6.4	1.26 V	56	0.97	46.63		

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



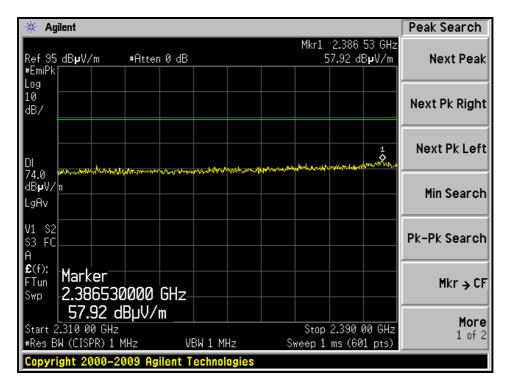
EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 11		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

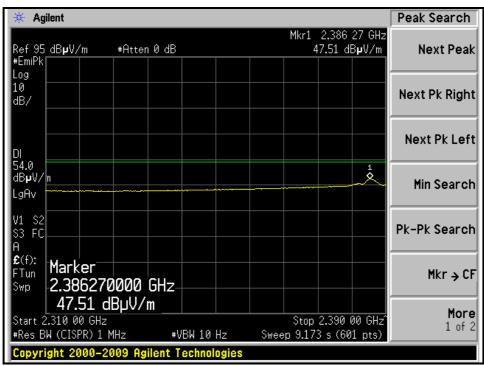
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NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2462.00	100.7 PK			1.00 H	35	68.81	31.89		
2	*2462.00	98.4 AV			1.00 H	35	66.51	31.89		
3	2487.79	57.7 PK	74.0	-16.3	1.00 H	35	25.72	31.98		
4	2487.79	46.4 AV	54.0	-7.6	1.00 H	35	14.42	31.98		
5	4924.00	53.2 PK	74.0	-20.8	1.29 H	46	13.89	39.31		
6	4924.00	49.6 AV	54.0	-4.4	1.29 H	46	10.29	39.31		
7	7386.00	53.9 PK	74.0	-20.1	1.32 H	254	7.30	46.60		
8	7386.00	42.4 AV	54.0	-11.6	1.32 H	254	-4.20	46.60		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	109.6 PK			1.52 V	107	77.71	31.89		
2	*2462.00	107.4 AV			1.52 V	107	75.51	31.89		
3	2487.70	63.1 PK	74.0	-10.9	1.52 V	107	31.12	31.98		
4	2487.70	53.3 AV	54.0	-0.7	1.52 V	107	21.32	31.98		
5	4924.00	54.7 PK	74.0	-19.3	1.00 V	103	15.39	39.31		
6	4924.00	51.0 AV	54.0	-3.0	1.00 V	103	11.69	39.31		
7	7386.00	54.3 PK	74.0	-19.7	1.24 V	62	7.70	46.60		
8	7386.00	43.1 AV	54.0	-10.9	1.24 V	62	-3.50	46.60		

- 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.



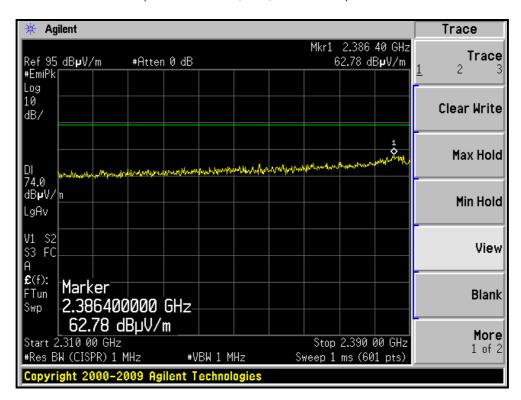
#### RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL)

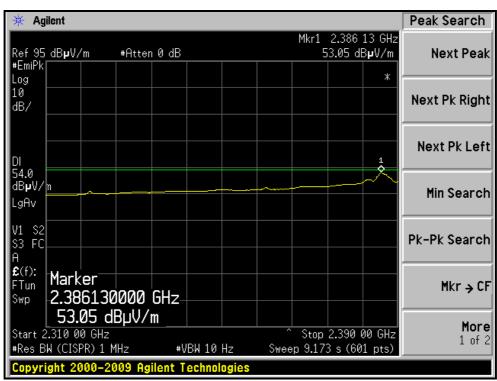






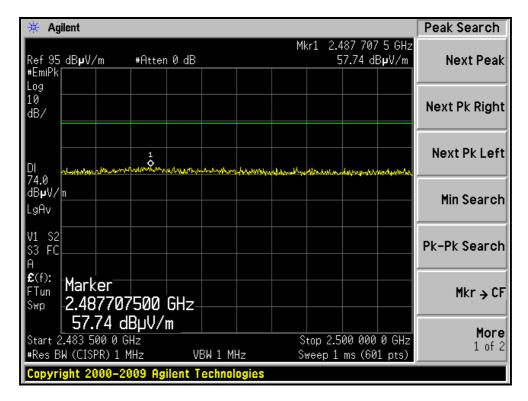
#### RESTRICTED BANDEDGE (802.11b MODE, CH1, VERTICAL)

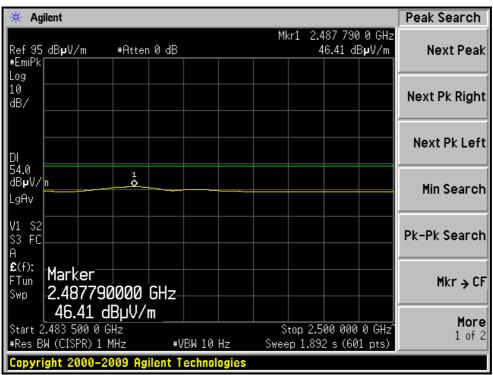






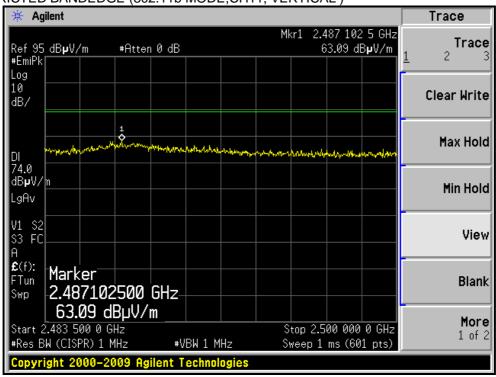
#### RESTRICTED BANDEDGE (802.11b MODE, CH11, HORIZONTAL)

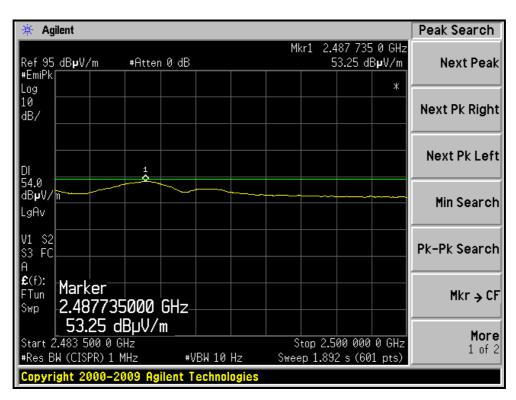






#### RESTRICTED BANDEDGE (802.11b MODE, CH11, VERTICAL)







## **802.11g OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 1		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	2390.00	58.9 PK	74.0	-15.1	1.00 H	29	27.24	31.66		
2	2390.00	46.3 AV	54.0	-7.7	1.00 H	29	14.64	31.66		
3	*2412.00	102.2 PK			1.00 H	29	70.47	31.73		
4	*2412.00	92.3 AV			1.00 H	29	60.57	31.73		
5	4824.00	46.2 PK	74.0	-27.8	1.27 H	56	7.23	38.97		
6	4824.00	34.1 AV	54.0	-19.9	1.27 H	56	-4.87	38.97		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 3 M			
I I I I I I I ANTENNA I I RAW VALUE I						CORRECTION FACTOR (dB/m)				
1	2390.00	65.4 PK	74.0	-8.6	1.50 V	90	33.74	31.66		
2	2390.00	53.2 AV	54.0	-0.8	1.50 V	90	21.54	31.66		
3	*2412.00	109.3 PK			1.50 V	90	77.57	31.73		
4	*2412.00	98.7 AV			1.50 V	90	66.97	31.73		
5	4824.00	49.8 PK	74.0	-24.2	1.00 V	153	10.83	38.97		
6	4824.00	36.6 AV	54.0	-17.4	1.00 V	153	-2.37	38.97		

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



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2437.00	102.5 PK			1.00 H	38	70.69	31.81		
2	*2437.00	92.4 AV			1.00 H	38	60.59	31.81		
3	4874.00	46.6 PK	74.0	-27.4	1.24 H	62	7.46	39.14		
4	4874.00	34.7 AV	54.0	-19.3	1.24 H	62	-4.44	39.14		
5	7311.00	54.0 PK	74.0	-20.0	1.36 H	261	7.37	46.63		
6	7311.00	42.3 AV	54.0	-11.7	1.36 H	261	-4.33	46.63		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	110.4 PK			1.52 V	98	78.59	31.81		
2	*2437.00	99.8 AV			1.52 V	98	67.99	31.81		
3	4874.00	50.2 PK	74.0	-23.8	1.00 V	234	11.06	39.14		
4	4874.00	37.4 AV	54.0	-16.6	1.00 V	234	-1.74	39.14		
5	7311.00	54.1 PK	74.0	-19.9	1.26 V	53	7.47	46.63		
6	7311.00	42.9 AV	54.0	-11.1	1.26 V	53	-3.73	46.63		

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



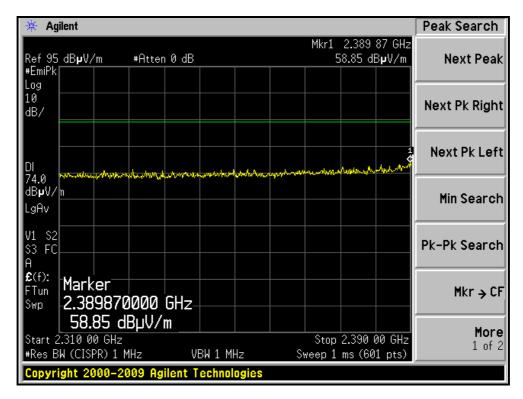
EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 11		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

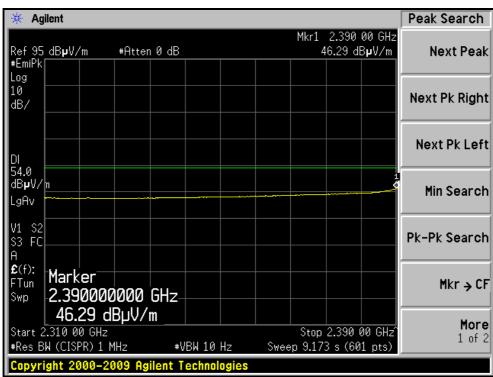
	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)		
1	*2462.00	102.3 PK			1.00 H	36	70.41	31.89		
2	*2462.00	92.1 AV			1.00 H	36	60.21	31.89		
3	2483.50	61.5 PK	74.0	-12.5	1.00 H	36	29.53	31.97		
4	2483.50	46.5 AV	54.0	-7.5	1.00 H	36	14.53	31.97		
5	4924.00	46.7 PK	74.0	-27.3	1.20 H	53	7.39	39.31		
6	4924.00	34.6 AV	54.0	-19.4	1.20 H	53	-4.71	39.31		
7	7386.00	53.9 PK	74.0	-20.1	1.38 H	245	7.30	46.60		
8	7386.00	42.2 AV	54.0	-11.8	1.38 H	245	-4.40	46.60		
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	112.0 PK			1.52 V	107	80.11	31.89		
2	*2462.00	101.1 AV			1.52 V	107	69.21	31.89		
3	2483.50	68.4 PK	74.0	-5.6	1.52 V	107	36.43	31.97		
4	2483.50	53.1 AV	54.0	-0.9	1.52 V	107	21.13	31.97		
5	4924.00	50.5 PK	74.0	-23.5	1.00 V	105	11.19	39.31		
6	4924.00	37.6 AV	54.0	-16.4	1.00 V	105	-1.71	39.31		
7	7386.00	54.0 PK	74.0	-20.0	1.23 V	64	7.40	46.60		
8	7386.00	42.7 AV	54.0	-11.3	1.23 V	64	-3.90	46.60		

- 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.



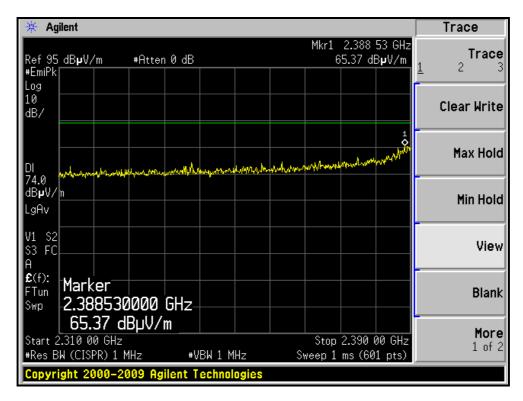
#### RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL)

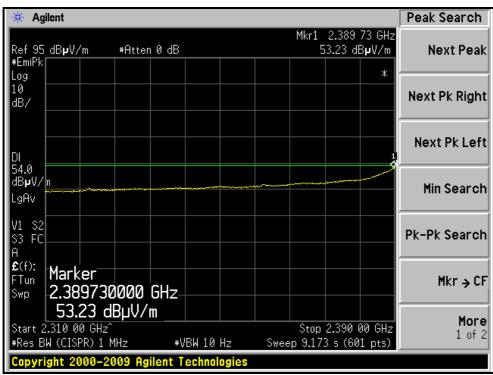






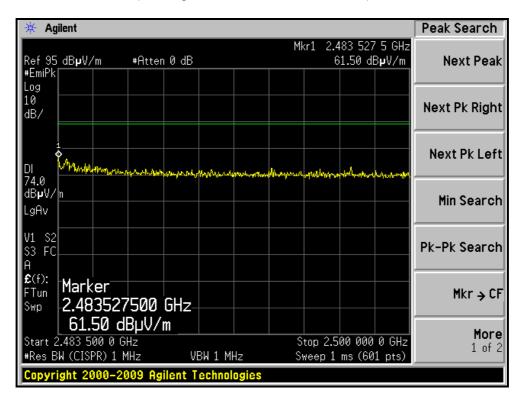
#### RESTRICTED BANDEDGE (802.11g MODE, CH1, VERTICAL)

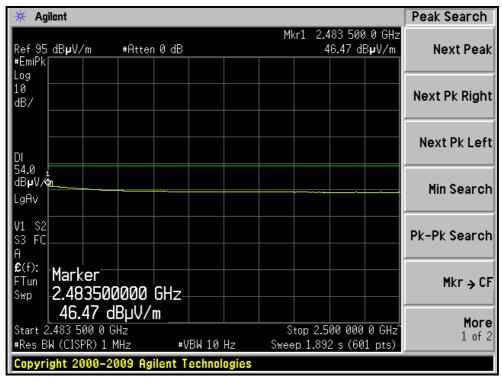






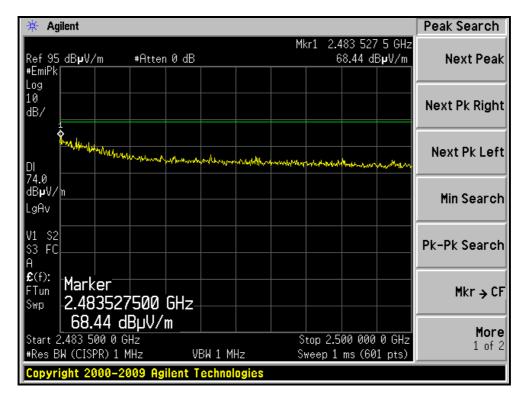
#### RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL)

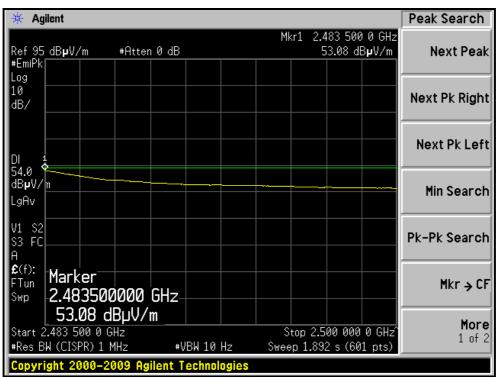






#### RESTRICTED BANDEDGE (802.11g MODE, CH11, VERTICAL)







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

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
1	2390.00	58.6 PK	74.0	-15.4	1.00 H	33	26.94	31.66	
2	2390.00	46.7 AV	54.0	-7.3	1.00 H	33	15.04	31.66	
3	*2412.00	102.5 PK			1.00 H	33	70.77	31.73	
4	*2412.00	92.2 AV			1.00 H	33	60.47	31.73	
5	4824.00	45.9 PK	74.0	-28.1	1.24 H	62	6.93	38.97	
6	4824.00	33.9 AV	54.0	-20.1	1.24 H	62	-5.07	38.97	
		ANTENNA	POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 3 M		
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)	
1	2390.00	68.9 PK	74.0	-5.1	1.50 V	91	37.24	31.66	
2	2390.00	53.5 AV	54.0	-0.5	1.50 V	91	21.84	31.66	
3	*2412.00	109.1 PK			1.50 V	91	77.37	31.73	
4	*2412.00	98.8 AV			1.50 V	91	67.07	31.73	
5	4824.00	49.4 PK	74.0	-24.6	1.00 V	157	10.43	38.97	
6	4824.00	37.1 AV	54.0	-16.9	1.00 V	157	-1.87	38.97	

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



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	102.2 PK			1.00 H	37	70.39	31.81
2	*2437.00	91.9 AV			1.00 H	37	60.09	31.81
3	4874.00	46.5 PK	74.0	-27.5	1.38 H	52	7.36	39.14
4	4874.00	34.4 AV	54.0	-19.6	1.38 H	52	-4.74	39.14
5	7311.00	53.7 PK	74.0	-20.3	1.23 H	254	7.07	46.63
6	7311.00	41.9 AV	54.0	-12.1	1.23 H	254	-4.73	46.63
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	110.4 PK			1.50 V	98	78.59	31.81
2	*2437.00	99.2 AV			1.50 V	98	67.39	31.81
3	4874.00	50.5 PK	74.0	-23.5	1.00 V	262	11.36	39.14
4	4874.00	38.2 AV	54.0	-15.8	1.00 V	262	-0.94	39.14
5	7311.00	54.2 PK	74.0	-19.8	1.22 V	66	7.57	46.63
6	7311.00	42.3 AV	54.0	-11.7	1.22 V	66	-4.33	46.63

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



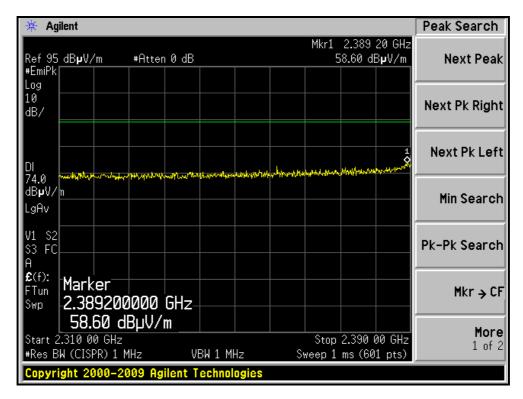
EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

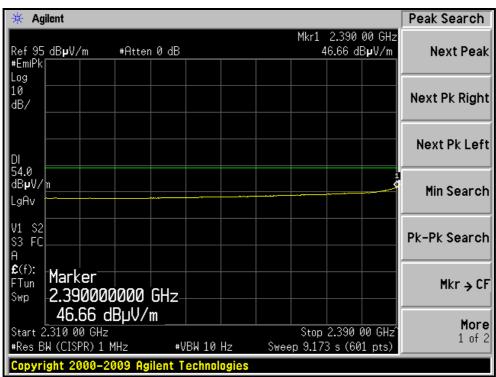
		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	AT 3 M	
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.2 PK			1.00 H	35	70.31	31.89
2	*2462.00	92.0 AV			1.00 H	35	60.11	31.89
3	2483.50	61.3 PK	74.0	-12.7	1.00 H	35	29.33	31.97
4	2483.50	47.3 AV	54.0	-6.7	1.00 H	35	15.33	31.97
5	4924.00	46.9 PK	74.0	-27.1	1.42 H	46	7.59	39.31
6	4924.00	34.7 AV	54.0	-19.3	1.42 H	46	-4.61	39.31
7	7386.00	53.9 PK	74.0	-20.1	1.22 H	257	7.30	46.60
8	7386.00	42.1 AV	54.0	-11.9	1.22 H	257	-4.50	46.60
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	111.0 PK			1.53 V	105	79.11	31.89
2	*2462.00	100.6 AV			1.53 V	105	68.71	31.89
3	2483.50	71.0 PK	74.0	-3.0	1.53 V	105	39.03	31.97
4	2483.50	53.3 AV	54.0	-0.7	1.53 V	105	21.33	31.97
5	4924.00	49.8 PK	74.0	-24.2	1.00 V	101	10.49	39.31
6	4924.00	37.6 AV	54.0	-16.4	1.00 V	101	-1.71	39.31
7	7386.00	54.5 PK	74.0	-19.5	1.24 V	59	7.90	46.60
8	7386.00	42.4 AV	54.0	-11.6	1.24 V	59	-4.20	46.60

- 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.



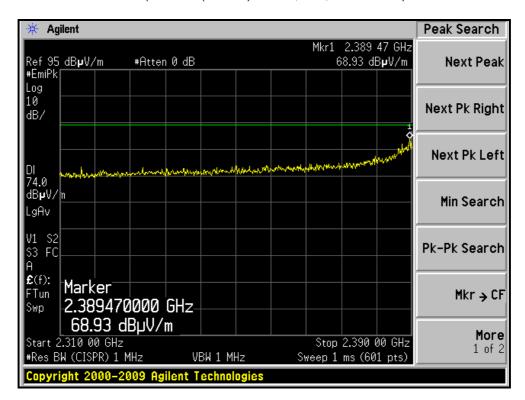
#### RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)

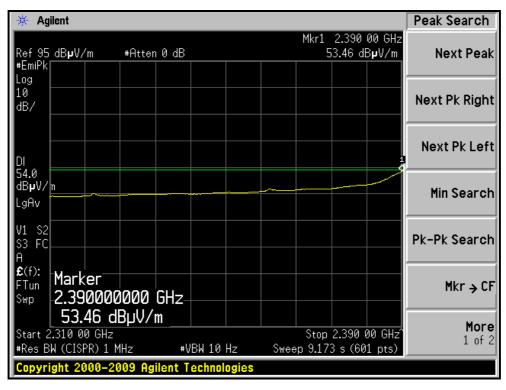






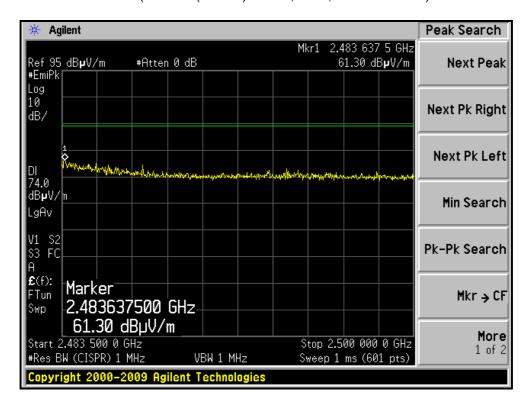
#### RESTRICTED BANDEDGE (802.11n (20MHz) MODE, CH1, VERTICAL)

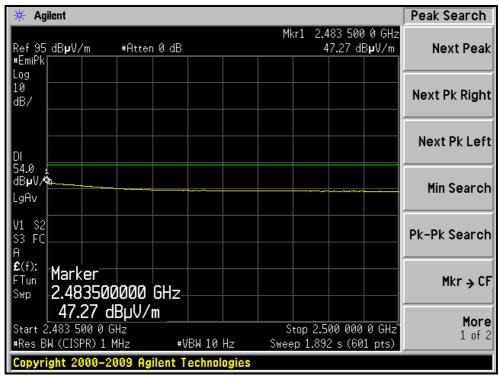






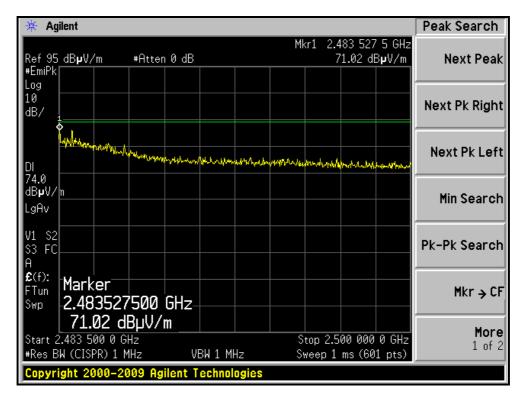
#### RESTRICTED BANDEDGE (802.11n (20MHz) MODE, CH11, HORIZONTAL)

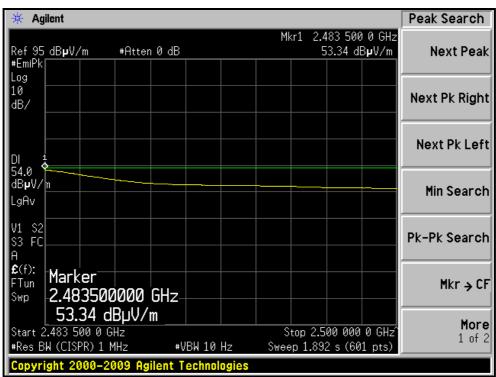






#### RESTRICTED BANDEDGE (802.11n (20MHz) MODE, CH11, VERTICAL)







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

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
		ANIENNA	POLARITY	& IESI DIS	I ANCE: HO	RIZONTAL	AI 3 M	1	
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	63.3 PK	74.0	-10.7	1.00 H	32	31.64	31.66	
2	2390.00	48.0 AV	54.0	-6.0	1.00 H	32	16.34	31.66	
3	*2422.00	97.5 PK			1.00 H	32	65.74	31.76	
4	*2422.00	87.5 AV			1.00 H	32	55.74	31.76	
5	4844.00	46.0 PK	74.0	-28.0	1.25 H	61	6.96	39.04	
6	4844.00	33.8 AV	54.0	-20.2	1.25 H	61	-5.24	39.04	
7	7266.00	53.6 PK	74.0	-20.4	1.36 H	28	6.93	46.67	
8	7266.00	41.7 AV	54.0	-12.3	1.36 H	28	-4.97	46.67	
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 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	68.4 PK	74.0	-5.6	1.50 V	91	36.74	31.66	
2	2390.00	53.5 AV	54.0	-0.5	1.50 V	91	21.84	31.66	
3	*2422.00	104.3 PK			1.50 V	91	72.54	31.76	
4	*2422.00	93.8 AV			1.50 V	91	62.04	31.76	
5	4844.00	46.8 PK	74.0	-27.2	1.00 V	151	7.76	39.04	
6	4844.00	34.1 AV	54.0	-19.9	1.00 V	151	-4.94	39.04	
7	7266.00	53.7 PK	74.0	-20.3	1.23 V	53	7.03	46.67	
8	7266.00	41.9 AV	54.0	-12.1	1.23 V	53	-4.77	46.67	

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



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

		ANITENIA	DOL ADITY	A TEAT BIG	TANIOE !!	DIZONE	AT 0 14	
		ANTENNA	POLARITY	& TEST DIS	I ANCE: HO	RIZONTAL	AI 3 M	1
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	100.4 PK			1.00 H	35	68.59	31.81
2	*2437.00	90.2 AV			1.00 H	35	58.39	31.81
3	4874.00	46.7 PK	74.0	-27.3	1.21 H	42	7.56	39.14
4	4874.00	34.6 AV	54.0	-19.4	1.21 H	42	-4.54	39.14
5	7311.00	53.8 PK	74.0	-20.2	1.38 H	156	7.17	46.63
6	7311.00	41.9 AV	54.0	-12.1	1.38 H	156	-4.73	46.63
		ANTENNA	A POLARIT	Y & TEST DI	STANCE: V	ERTICAL A	T 3 M	
NO.	FREQ. (MHz)		LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE	RAW VALUE (dBuV)	CORRECTION FACTOR
		(dBuV/m)			(,	(Degree)	(ubuv)	(dB/m)
1	2390.00	66.4 PK	74.0	-7.6	1.50 V	(Degree) 91	34.74	(dB/m) 31.66
2	2390.00 2390.00		74.0 54.0	-7.6 -3.0	` '	, ,	, ,	` ,
		66.4 PK			1.50 V	91	34.74	31.66
2	2390.00	66.4 PK 51.0 AV			1.50 V 1.50 V	91 91	34.74 19.34	31.66 31.66
2	2390.00	66.4 PK 51.0 AV 108.4 PK			1.50 V 1.50 V 1.52 V	91 91 107	34.74 19.34 76.59	31.66 31.66 31.81
3 4	2390.00 *2437.00 *2437.00	66.4 PK 51.0 AV 108.4 PK 98.1 AV	54.0	-3.0	1.50 V 1.50 V 1.52 V 1.52 V	91 91 107 107	34.74 19.34 76.59 66.29	31.66 31.66 31.81 31.81
2 3 4 5	2390.00 *2437.00 *2437.00 2483.50	66.4 PK 51.0 AV 108.4 PK 98.1 AV 67.8 PK	74.0	-3.0 -6.2	1.50 V 1.50 V 1.52 V 1.52 V 1.52 V	91 91 107 107	34.74 19.34 76.59 66.29 35.83	31.66 31.66 31.81 31.81 31.97
2 3 4 5 6	2390.00 *2437.00 *2437.00 2483.50 2483.50	66.4 PK 51.0 AV 108.4 PK 98.1 AV 67.8 PK 51.0 AV	74.0 54.0	-3.0 -6.2 -3.0	1.50 V 1.50 V 1.52 V 1.52 V 1.52 V 1.52 V	91 91 107 107 107	34.74 19.34 76.59 66.29 35.83 19.03	31.66 31.66 31.81 31.81 31.97 31.97
2 3 4 5 6 7	2390.00 *2437.00 *2437.00 2483.50 2483.50 4874.00	66.4 PK 51.0 AV 108.4 PK 98.1 AV 67.8 PK 51.0 AV 49.4 PK	74.0 54.0 74.0	-3.0 -6.2 -3.0 -24.6	1.50 V 1.50 V 1.52 V 1.52 V 1.52 V 1.52 V 1.00 V	91 91 107 107 107 107 256	34.74 19.34 76.59 66.29 35.83 19.03 10.26	31.66 31.66 31.81 31.81 31.97 31.97 39.14

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



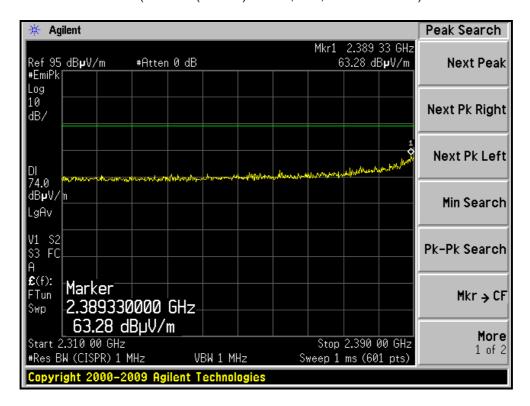
EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	21deg. C, 67%RH 1024 hPa	TESTED BY	Rex Huang	

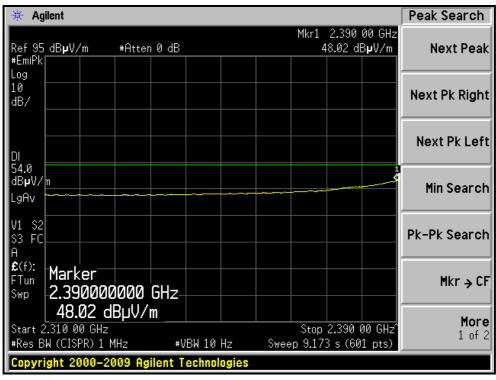
		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	AT 3 M	
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	96.5 PK			1.00 H	36	64.64	31.86
2	*2452.00	85.9 AV			1.00 H	36	54.04	31.86
3	2483.50	62.2 PK	74.0	-11.8	1.00 H	36	30.23	31.97
4	2483.50	47.4 AV	54.0	-6.6	1.00 H	36	15.43	31.97
5	4904.00	46.3 PK	74.0	-27.7	1.25 H	53	7.06	39.24
6	4904.00	34.1 AV	54.0	-19.9	1.25 H	53	-5.14	39.24
7	7356.00	54.0 PK	74.0	-20.0	1.41 H	242	7.39	46.61
8	7356.00	42.1 AV	54.0	-11.9	1.41 H	242	-4.51	46.61
		ANTENNA	A POLARITY	Y & TEST DI	STANCE: V	ERTICAL A	T 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	104.3 PK			1.52 V	107	72.44	31.86
2	*2452.00	93.7 AV			1.52 V	107	61.84	31.86
3	2483.50	70.4 PK	74.0	-3.6	1.52 V	107	38.43	31.97
4	2483.50	53.4 AV	54.0	-0.6	1.52 V	107	21.43	31.97
5	4904.00	47.4 PK	74.0	-26.6	1.00 V	104	8.16	39.24
6	4904.00	34.7 AV	54.0	-19.3	1.00 V	104	-4.54	39.24
7	7356.00	54.2 PK	74.0	-19.8	1.21 V	56	7.59	46.61
8	7356.00	42.3 AV	54.0	-11.7	1.21 V	56	-4.31	46.61

- 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.



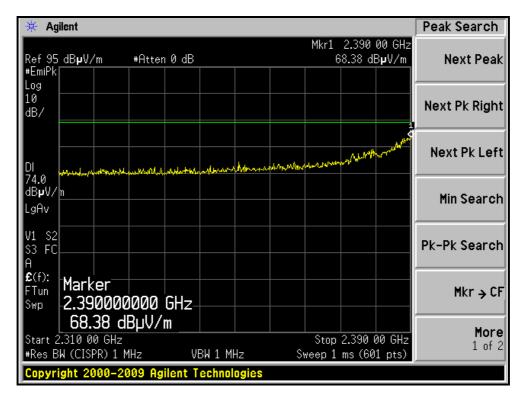
#### RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, HORIZONTAL)

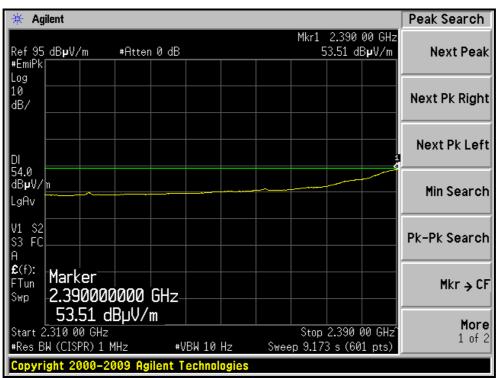






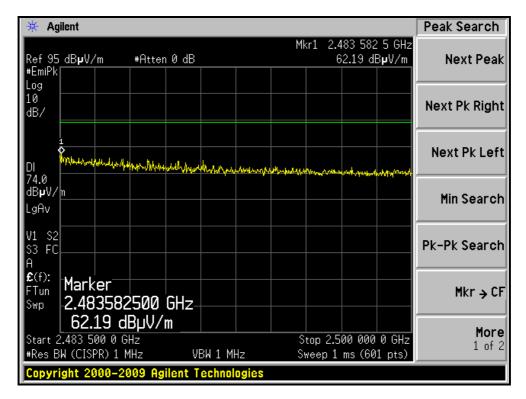
#### RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, VERTICAL)

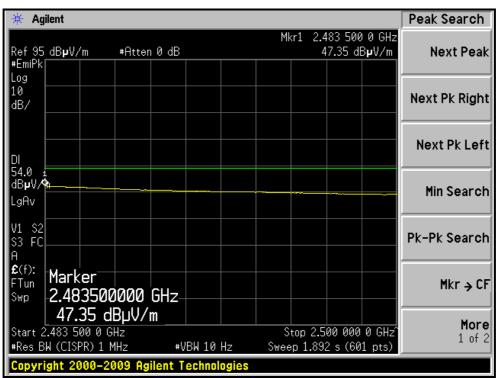






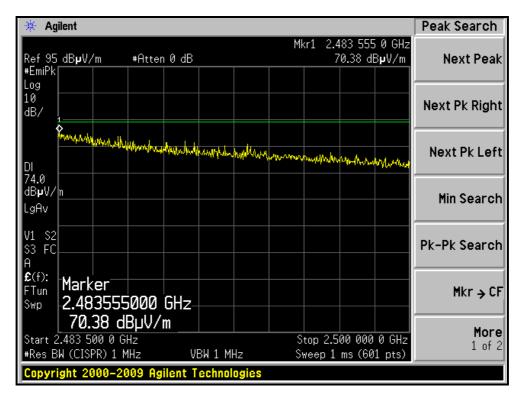
#### RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, HORIZONTAL)

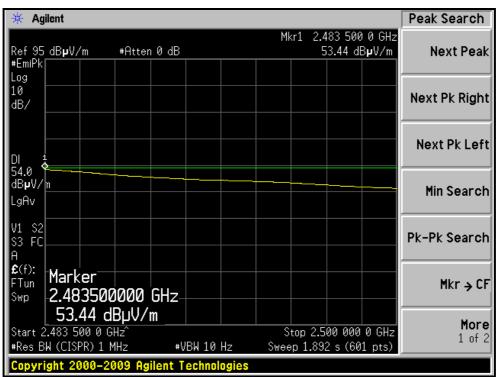






#### RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH9, VERTICAL)







#### 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
Spectrum Analyzer	FSP 40	100060	May 17, 2010	May 16, 2011

#### 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

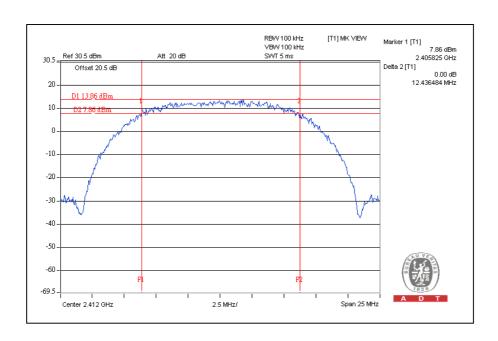
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



# 4.3.7 TEST RESULTS

# **802.11b DSSS MODULATION:**

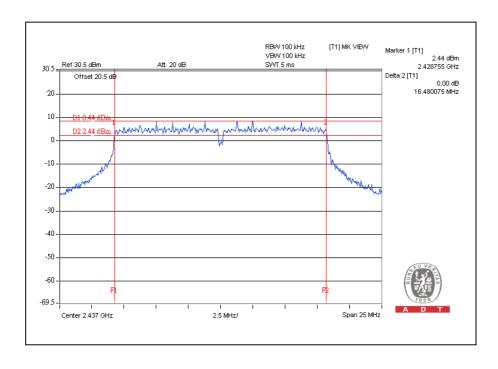
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.43	0.5	PASS
6	2437	12.04	0.5	PASS
11	2462	11.32	0.5	PASS





# **802.11g OFDM MODULATION:**

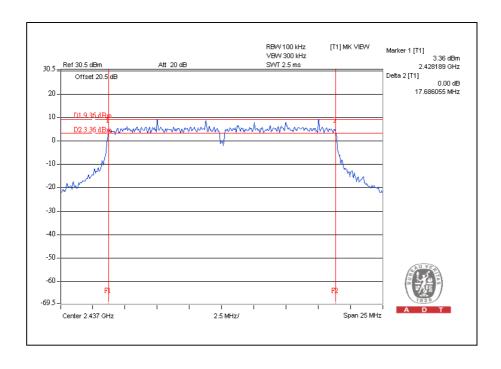
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.47	0.5	PASS
6	2437	16.48	0.5	PASS
11	2462	16.46	0.5	PASS





# 802.11n (20MHz) OFDM MODULATION:

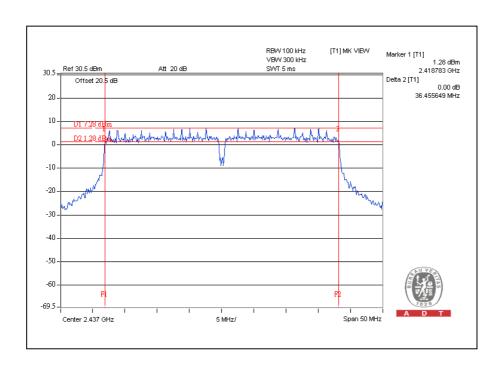
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.65	0.5	PASS
6	2437	17.68	0.5	PASS
11	2462	17.68	0.5	PASS





# 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	36.25	0.5	PASS
6	2437	36.45	0.5	PASS
9	2452	36.22	0.5	PASS





#### 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 &	MODEL NO.	SERIAL NO.	CALIBRATED	CALIBRATED
MANUFACTURER	MODEL NO.	OLIVIAL IVO.	DATE	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.

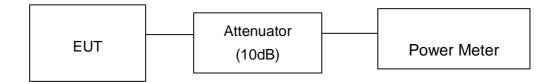
#### 4.4.3 TEST PROCEDURES

- 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 4.3.6



# 4.4.7 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	524.8	27.2	30	PASS
6	2437	912.0	29.6	30	PASS
11	2462	407.4	26.1	30	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	912.0	29.6	30	PASS
6	2437	891.3	29.5	30	PASS
11	2462	977.2	29.9	30	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	831.8	29.2	30	PASS
6	2437	871.0	29.4	30	PASS
11	2462	776.2	28.9	30	PASS

# 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
3	2422	575.4	27.6	30	PASS
6	2437	955.0	29.8	30	PASS
9	2452	389.0	25.9	30	PASS



#### 4.5 POWER SPECTRAL DENSITY MEASUREMENT

#### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

#### 4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	FSP 40	100060	May 17, 2010	May 16, 2011

#### NOTE:

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

#### 4.5.3 TEST PROCEDURE

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

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

#### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.5.5 TEST SETUP



#### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

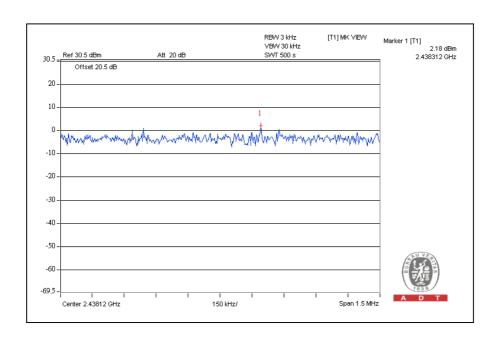


# 4.5.7 TEST RESULTS

# **802.11b DSSS MODULATION:**

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-0.5	8	PASS
6	2437	2.2	8	PASS
11	2462	-0.5	8	PASS

# CH6

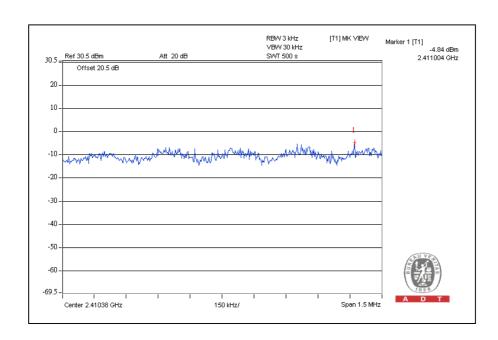


63



# **802.11g OFDM MODULATION:**

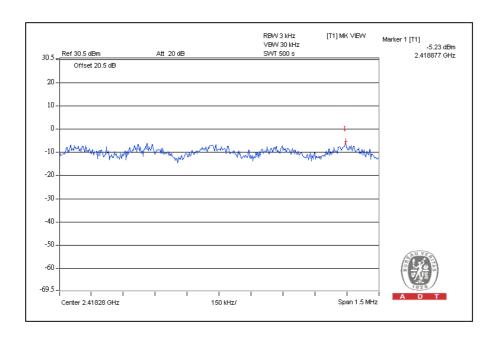
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-4.8	8	PASS
6	2437	-5.1	8	PASS
11	2462	-4.9	8	PASS





# 802.11n (20MHz) OFDM MODULATION:

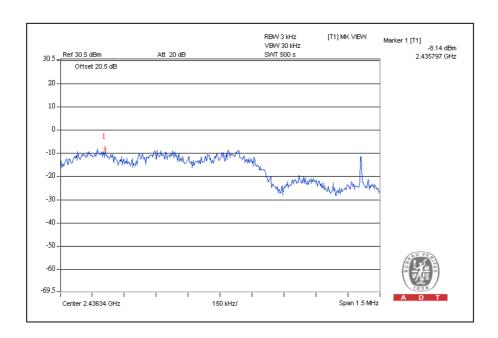
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-5.2	8	PASS
6	2437	-5.7	8	PASS
11	2462	-6.0	8	PASS





# 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
3	2422	-9.7	8	PASS
6	2437	-8.1	8	PASS
9	2452	-12.3	8	PASS





#### 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
Spectrum Analyzer	FSP 40	100060	May 17, 2010	May 16, 2011

#### NOTE:

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

#### 4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW of spectrum analyzer to 100kHz and VBW of spectrum analyzer to 300kHz with suitable frequency span including 100 MHz or 200 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (RBW = 100kHz, 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 4.3.6

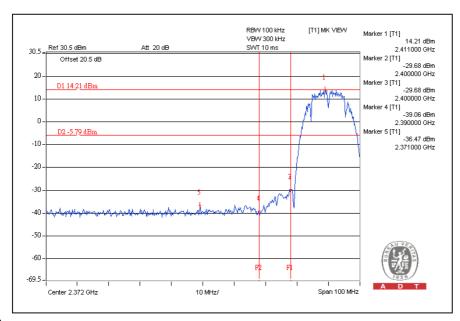
#### 4.6.6 TEST RESULTS

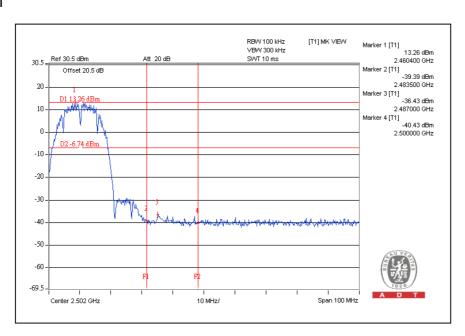
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).



# **802.11b DSSS MODULATION:**

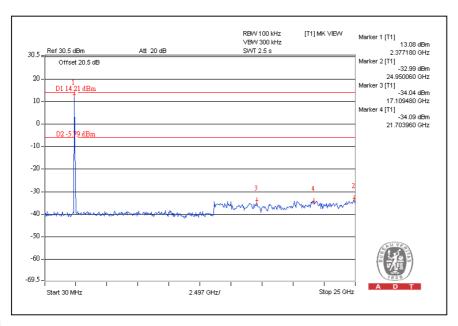
# CH1

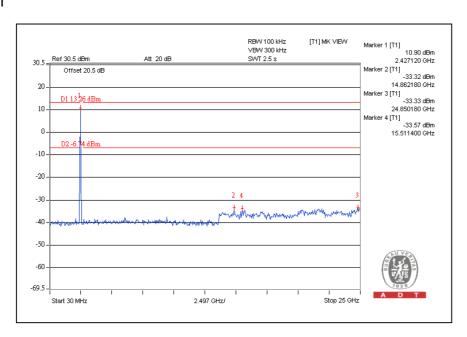






# CH1

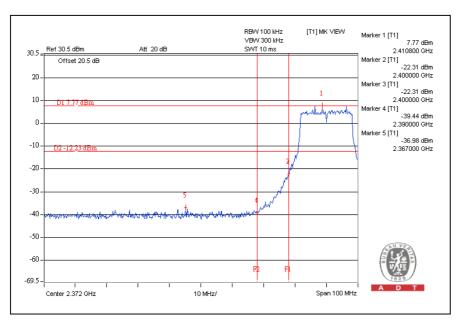


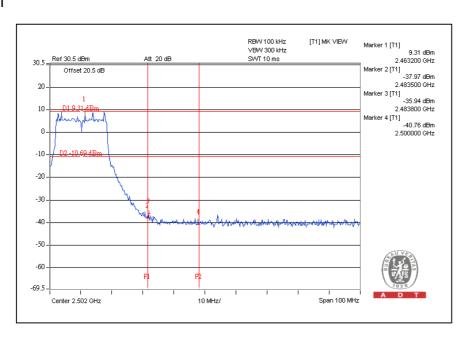




# **802.11g OFDM MODULATION:**

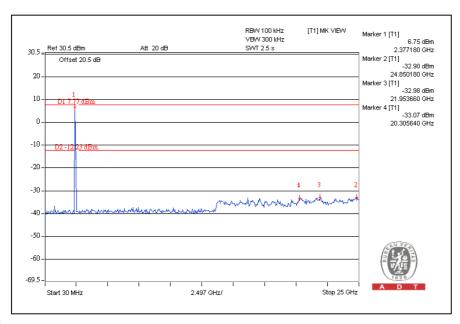
#### CH1

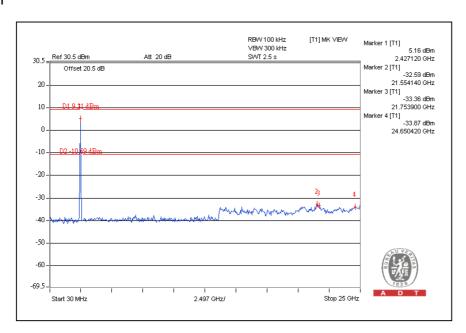






# CH1

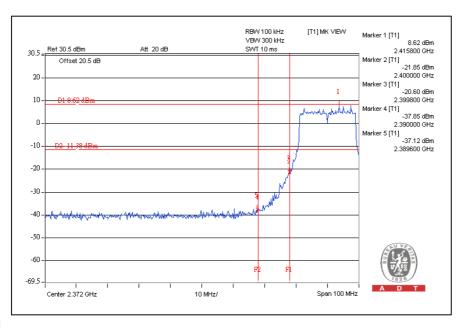


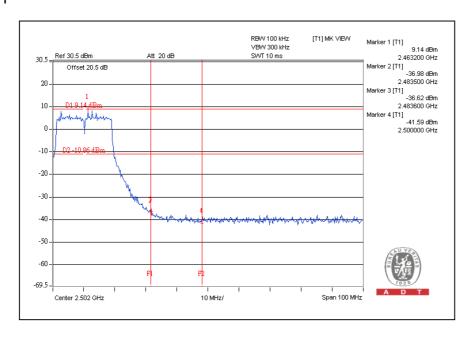




# 802.11n (20MHz) OFDM MODULATION:

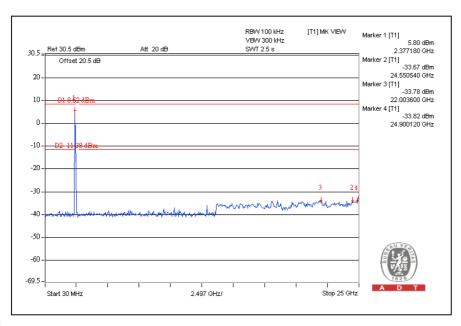
#### CH1

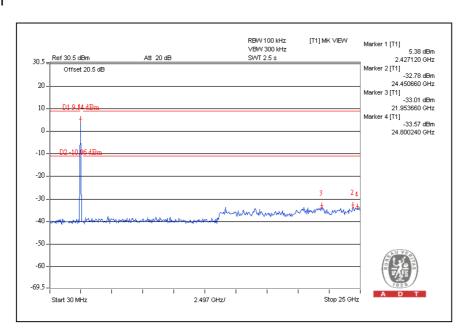






# CH1

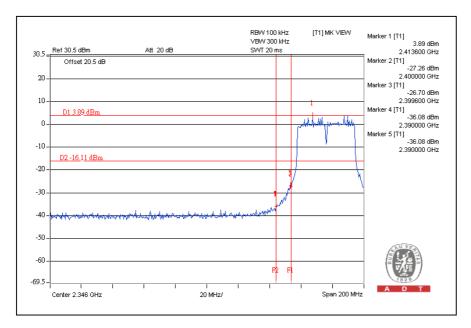


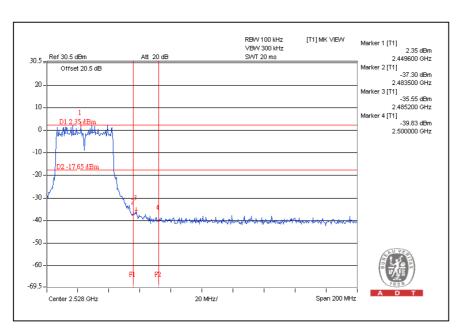




# 802.11n (40MHz) OFDM MODULATION:

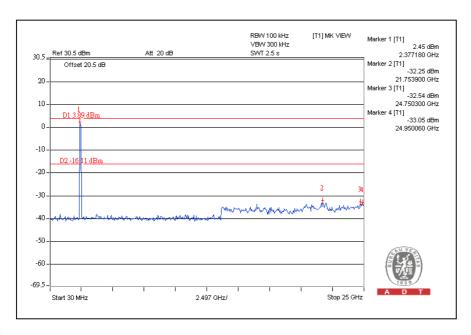
#### CH3

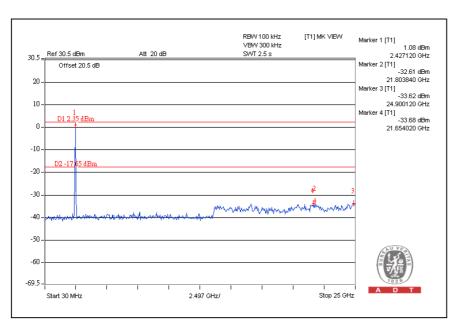






# CH3







# **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: <a href="www.adt.com.tw/index.5.phtml">www.adt.com.tw/index.5.phtml</a>. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab: Hsin Chu EMC/RF Lab:

Tel: 886-2-26052180 Tel: 886-3-5935343 Fax: 886-2-26052943 Fax: 886-3-5935342

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

Tel: 886-3-3183232 Fax: 886-3-3185050

Email: <a href="mailto:service@adt.com.tw">service@adt.com.tw</a>
Web Site: <a href="mailto:www.adt.com.tw">www.adt.com.tw</a>

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



# 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