FCC TEST REPORT

REPORT NO.:	RF990621E09
MODEL NO.:	RT5390
FCC ID:	VQF-RT5390
RECEIVED:	June 21, 2010
TESTED:	July 07 to 16, 2010
ISSUED:	July 19, 2010

APPLICANT:	Ralink Technology Corporation
ADDRESS:	5F, No. 36, Taiyuan street, Jhu-Bei City, Hsin-Chu County 302, Taiwan, R.O.C

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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1. CERTIFICATION

PRODUCT:	802.11b/g/n 1T1R WLAN Mini Card
BRAND NAME:	Ralink
MODEL NO.:	RT5390
TEST SAMPLE:	MASS-PRODUCTION
TESTED:	July 07 to 16, 2010
APPLICANT:	Ralink Technology Corporation
STANDARDS:	FCC Part 15, Subpart C (Section 15.247) ANSI C63.4-2003

The above equipment (Model: RT5390) 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 Liao , **DATE:** *July 19, 2010*
(Carol Liao, Specialist)

TECHNICAL ACCEPTANCE : , **DATE:** *July 19, 2010*
(Hank Chung, Deputy Manager)

APPROVED BY : , **DATE:** *July 19, 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 -6.70dB 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 Limit: max. 30dBm	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 -0.6dB at 2390.0MHz, 2483.64MHz and 2483.72MHz
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 IPEX 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)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11b/g/n 1T1R WLAN Mini Card
MODEL NO.	RT5390
FCC ID	VQF-RT5390
POWER SUPPLY	DC 3.3V±10% from host equipment
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
OPRTAING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
MAXIMUM OUTPUT POWER	802.11b: 91.2mW 802.11g: 239.9mW 802.11n (20MHz): 213.8mW 802.11n (40MHz): 218.8mW
ANTENNA TYPE	Please see note 2
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT has two different types could be chose and please refer the below table:

Type	Description
Type 1	Half size with 1 Antenna Connector
Type 2	Half size with 2 Antenna Connectors

From the above types, type 2 was selected as representative type for the test and its data was recorded in this report.

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

Set 1						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	JOYMAX	IWX-145XRSXX-999	3.7	200 mm	Dipole	IPEX
Chain (1)	JOYMAX	IWX-145XRSXX-999	3.7	200 mm	Dipole	IPEX
Set 2						
Chain	Manufacture	Model name	Antenna Gain (dBi)	Antenna Cable Length	Antenna Type	Connector
Chain (0)	ACON	APP6P-700119	3.5	225 mm	PIFA	IPEX
Chain (1)	ACON	APP6P-700119	3.5	225 mm	PIFA	IPEX

3. The PIFA antenna was pre-tested under the following test modes for three different axes placements:

Test Mode	Description
Mode A	X-Z plane
Mode B	X-Y plane
Mode C	Y-Z plane

From the above modes, the radiated emission worst case was found in Mode C. Therefore only the test data of the mode was recorded in this report.

4. The EUT incorporates a SISO function with 802.11b, 802.11g, 802.11n. Physically, the EUT provides one completed transmitter and one receiver.

5. The EUT is 1 * 1 spatial SISO without beam forming function. The antenna configuration is one transmitter antenna and one receiver antenna, as there are two Dipole antennas and two PIFA antennas.

6. The EUT complies with 802.11n standards and backwards compatible with 802.11b, 802.11g products.

7. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b and 802.11n technique devices to the network.

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

3.2 DESCRIPTION OF TEST MODES

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 ³ 1G	APCM	
A	√	√	√	√	With Dipole Antenna
B	√	√	√		With PIFA Antenna

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)	EUT CONFIGURE MODE
802.11g	1 to 11	1	OFDM	BPSK	6	A, 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	MODULATIO N TYPE	DATA RATE (Mbps)	EUT CONFIGURE MODE
802.11g	1 to 11	1	OFDM	BPSK	6	A, B

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	EUT CONFIGURE MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A, B
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	A, B
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	A, B
802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	A, B

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

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

※ TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	33deg. C, 60%RH, 1015 hPa	120Vac, 60Hz	Wen Yu
RE<1G	31deg. C, 60%RH, 1015 hPa	120Vac, 60Hz	Kent Liu
PLC	25deg. C, 60%RH, 1015 hPa	120Vac, 60Hz	Max Tseng
APCM	25deg. C, 60%RH, 1015 hPa	120Vac, 60Hz	Phoenix Huang

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

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

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

NOTE: The EUT 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

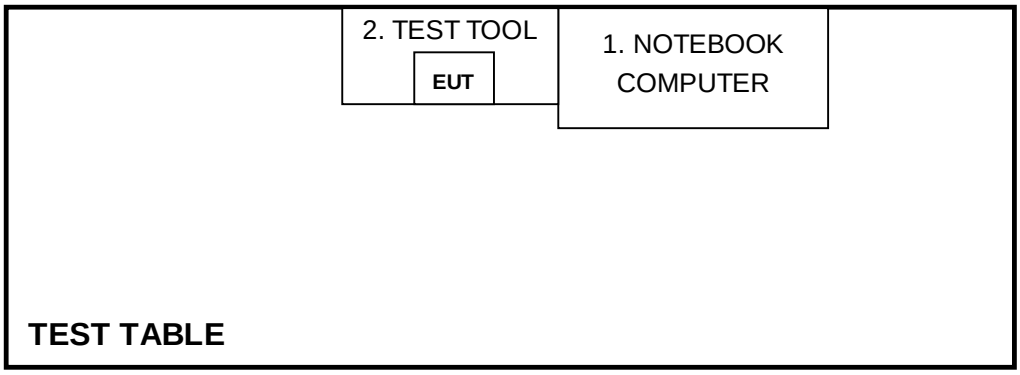
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	E6400	D814C A00 APCC	NA
2	TEST TOOL	Ralink	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
0.15-0.5 0.5-5 5-30	Quasi-peak	Average
	66 to 56 56 60	56 to 46 46 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
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 01, 2010	Feb. 28, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-523	Sep. 23,2009	Sep. 22, 2010
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 11, 2010	June 10, 2011
RF Cable (JYEBAO)	5DFB	COACAB-001	Dec. 14, 2009	Dec. 13, 2010
50 ohms Terminator	50	3	Oct. 28, 2009	Oct. 27, 2010
Software	BV ADT_ Cond_V7.3.7	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. A.
3 The VCCI Con A Registration No. is C-817.

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.

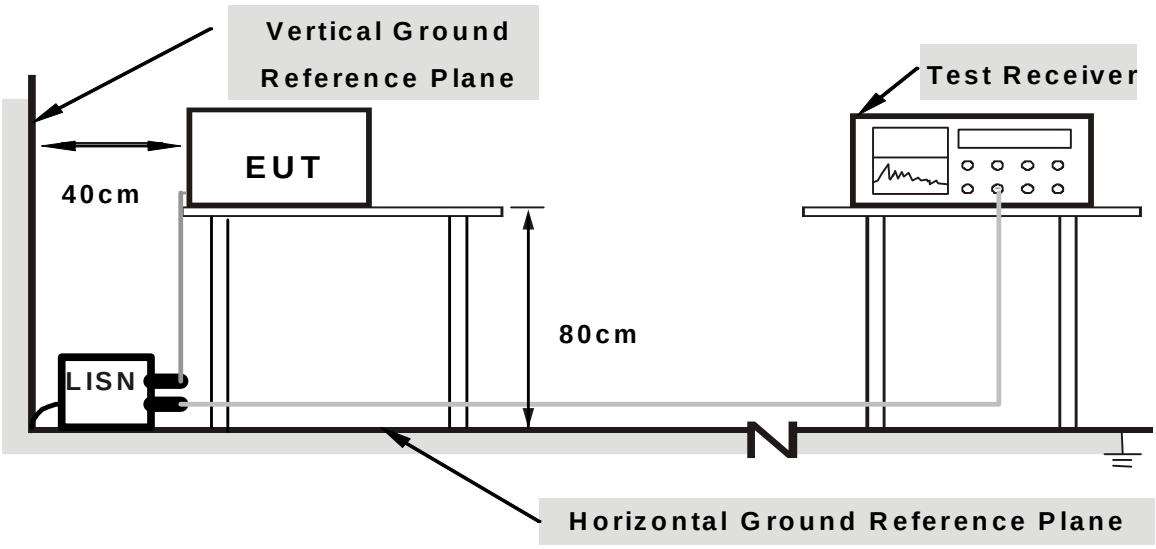
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

4.1.4 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

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table via support unit 2 (Test Tool).
2. The support unit 1 (Notebook Computer) runs test program “RT5390_QA Tool” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

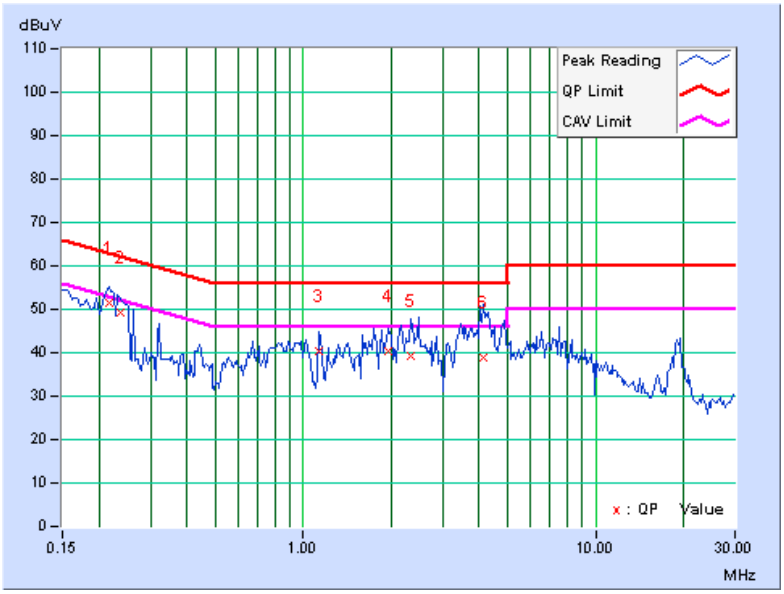
4.1.7 TEST RESULTS (With Dipole Antenna)

802.11g OFDM MODULATION:

PHASE	Line (L)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.216	0.04	51.46	-	51.50	-	62.96	52.96	-11.45	-
2	0.236	0.04	49.17	-	49.21	-	62.24	52.24	-13.03	-
3	1.129	0.21	40.18	-	40.39	-	56.00	46.00	-15.61	-
4	1.965	0.23	40.15	-	40.38	-	56.00	46.00	-15.62	-
5	2.328	0.22	39.20	-	39.42	-	56.00	46.00	-16.58	-
6	4.129	0.20	38.63	-	38.83	-	56.00	46.00	-17.17	-

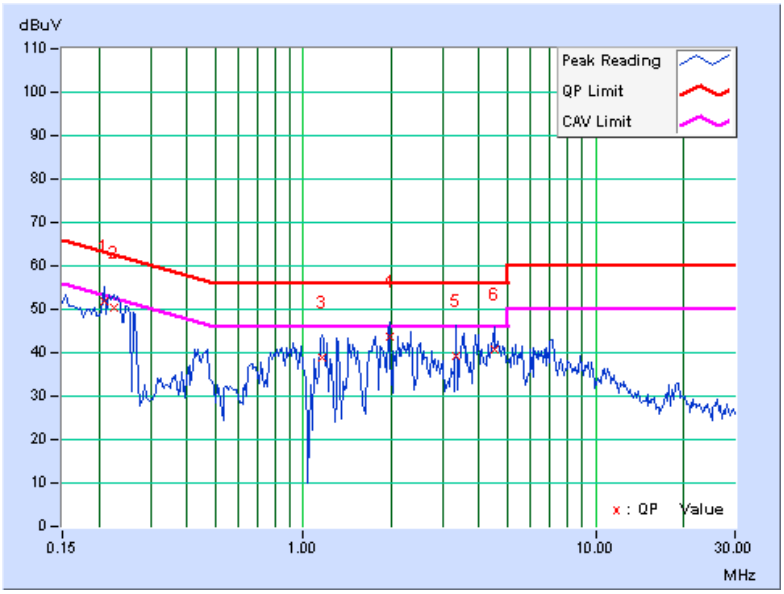
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.209	0.05	51.74	-	51.79	-	63.26	53.26	-11.47	-
2	0.224	0.05	50.31	-	50.36	-	62.66	52.66	-12.30	-
3	1.156	0.22	38.66	-	38.88	-	56.00	46.00	-17.12	-
4	1.973	0.24	43.36	-	43.60	-	56.00	46.00	-12.40	-
5	3.344	0.22	38.86	-	39.08	-	56.00	46.00	-16.92	-
6	4.504	0.24	40.43	-	40.67	-	56.00	46.00	-15.33	-

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.



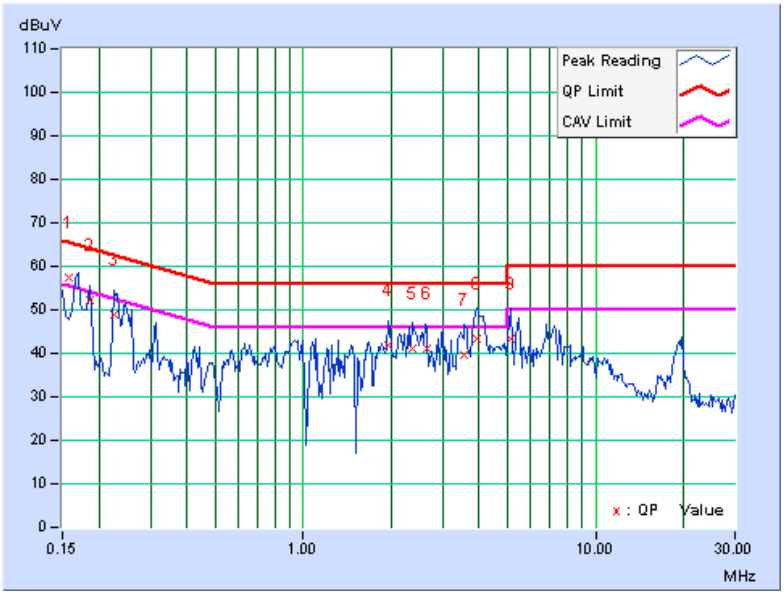
4.1.8 TEST RESULTS (With PIFA Antenna)

802.11g OFDM MODULATION:

PHASE	Line (L)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.157	0.04	57.43	39.64	57.47	39.68	65.62	55.62	-8.15	-15.94
2	0.185	0.04	52.33	-	52.37	-	64.25	54.25	-11.88	-
3	0.224	0.04	48.93	-	48.97	-	62.66	52.66	-13.69	-
4	1.941	0.23	41.68	-	41.91	-	56.00	46.00	-14.09	-
5	2.359	0.22	40.94	-	41.16	-	56.00	46.00	-14.84	-
6	2.656	0.22	41.05	-	41.27	-	56.00	46.00	-14.73	-
7	3.559	0.20	39.57	-	39.77	-	56.00	46.00	-16.23	-
8	3.914	0.19	43.28	-	43.47	-	56.00	46.00	-12.53	-
9	5.137	0.27	42.89	-	43.16	-	60.00	50.00	-16.84	-

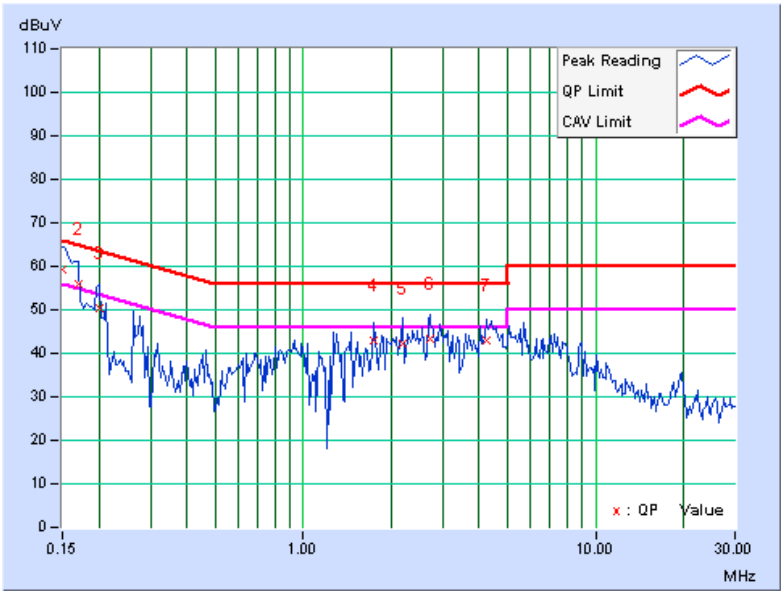
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.150**	**0.04**	**59.26**	**42.28**	**59.30**	**42.32**	**66.00**	**56.00**	**-6.70**	**-13.68**
2	0.170	0.05	55.82	36.97	55.87	37.02	64.98	54.98	-9.12	-17.97
3	0.201	0.05	50.27	-	50.32	-	63.58	53.58	-13.26	-
4	1.742	0.23	42.57	-	42.80	-	56.00	46.00	-13.20	-
5	2.191	0.24	42.16	-	42.40	-	56.00	46.00	-13.60	-
6	2.703	0.23	43.23	-	43.46	-	56.00	46.00	-12.54	-
7	4.223	0.22	42.66	-	42.88	-	56.00	46.00	-13.12	-

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
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010
Agilent PSA Spectrum Analyzer	E4446A	MY46180622	May 12 , 2010	May 11, 2011
HP Pre_Amplifier	8449B	300801923	Nov. 02, 2009	Nov. 01, 2010
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Aug. 28, 2009	Aug. 27, 2010
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	Apr. 28, 2010	Apr. 27, 2011
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 18, 2009	Dec. 17, 2010
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2010	Jan. 21, 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, 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 field 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

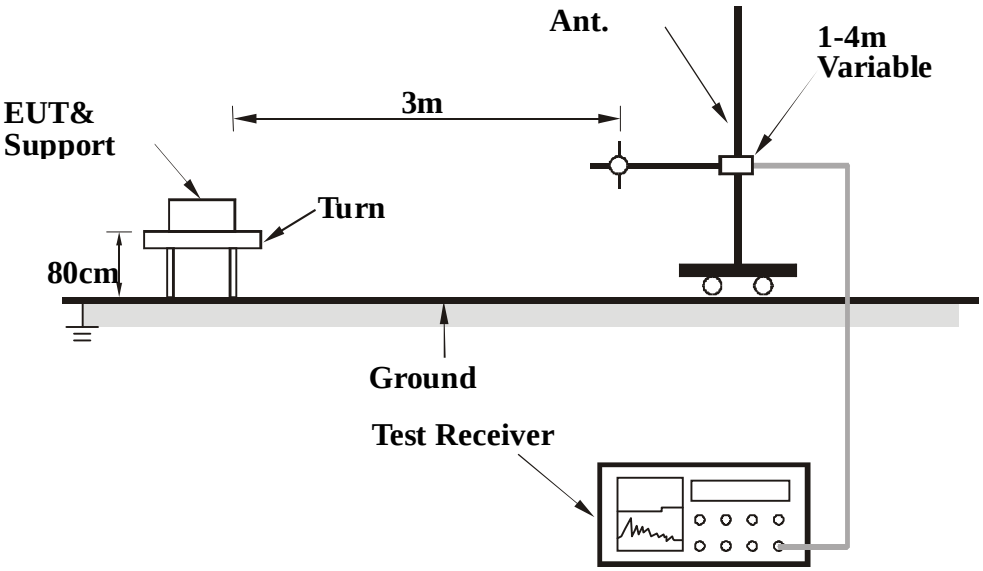
NOTE:

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

4.2.7 TEST RESULTS (With Dipole Antenna)

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	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	144.00	29.8 QP	43.5	-13.7	1.95 H	302	15.30	14.50
2	168.00	33.2 QP	43.5	-10.3	1.59 H	64	18.80	14.40
3	199.30	39.8 QP	43.5	-3.7	1.95 H	356	28.80	11.00
4	298.90	42.5 QP	46.0	-3.5	1.10 H	210	26.90	15.60
5	498.00	27.5 QP	46.0	-18.5	1.54 H	138	6.80	20.70
6	798.00	30.5 QP	46.0	-15.5	1.86 H	220	4.90	25.60
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	200.00	26.8 QP	43.5	-16.7	1.02 V	310	15.80	11.00
2	240.00	22.3 QP	46.0	-23.7	1.08 V	311	9.30	13.00
3	299.76	37.3 QP	46.0	-8.7	1.25 V	240	21.70	15.60
4	375.00	27.6 QP	46.0	-18.4	1.08 V	224	10.10	17.50
5	499.80	30.3 QP	46.0	-15.7	1.12 V	124	9.50	20.80
6	799.60	33.3 QP	46.0	-12.7	1.08 V	259	7.70	25.60

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

ABOVE 1GHz WORST-CASE DATA

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.73	55.6 PK	74.0	-18.4	1.57 H	170	25.50	30.10
2	2389.73	42.7 AV	54.0	-11.3	1.57 H	170	12.60	30.10
3	*2412.00	98.4 PK			1.60 H	162	68.30	30.10
4	*2412.00	95.3 AV			1.60 H	162	65.20	30.10
5	4824.00	46.3 PK	74.0	-27.7	1.59 H	50	10.90	35.40
6	4824.00	40.1 AV	54.0	-13.9	1.59 H	50	4.70	35.40
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	2358.27	57.8 PK	74.0	-16.2	1.38 V	86	27.90	29.90
2	2358.27	45.7 AV	54.0	-8.3	1.38 V	86	15.80	29.90
3	*2412.00	106.0 PK			1.38 V	79	75.90	30.10
4	*2412.00	103.1 AV			1.38 V	79	73.00	30.10
5	4824.00	52.2 PK	74.0	-21.8	1.18 V	2	16.80	35.40
6	4824.00	50.3 AV	54.0	-3.7	1.18 V	2	14.90	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	97.6 PK			1.48 H	167	67.40	30.20
2	*2437.00	94.2 AV			1.48 H	167	64.00	30.20
3	4874.00	45.0 PK	74.0	-29.0	1.65 H	50	9.50	35.50
4	4874.00	38.6 AV	54.0	-15.4	1.65 H	50	3.10	35.50
5	7311.00	48.5 PK	74.0	-25.5	1.20 H	20	6.50	42.00
6	7311.00	36.5 AV	54.0	-17.5	1.20 H	20	-5.50	42.00
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	104.4 PK			1.36 V	70	74.20	30.20
2	*2437.00	101.6 AV			1.36 V	70	71.40	30.20
3	4874.00	51.3 PK	74.0	-22.7	1.54 V	354	15.80	35.50
4	4874.00	48.6 AV	54.0	-5.4	1.54 V	354	13.10	35.50
5	7311.00	48.6 PK	74.0	-25.4	1.45 V	0	6.60	42.00
6	7311.00	36.6 AV	54.0	-17.4	1.45 V	0	-5.40	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	94.9 PK			1.49 H	170	64.60	30.30
2	*2462.00	91.3 AV			1.49 H	170	61.00	30.30
3	2500.00	55.0 PK	74.0	-19.0	1.49 H	171	24.50	30.50
4	2500.00	41.7 AV	54.0	-12.3	1.49 H	171	11.20	30.50
5	4924.00	45.1 PK	74.0	-28.9	1.60 H	51	9.50	35.60
6	4924.00	38.0 AV	54.0	-16.0	1.60 H	51	2.40	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.10 H	334	7.10	42.10
8	7386.00	36.7 AV	54.0	-17.3	1.10 H	334	-5.40	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	101.9 PK			1.32 V	80	71.60	30.30
2	*2462.00	99.1 AV			1.32 V	80	68.80	30.30
3	2483.85	55.0 PK	74.0	-19.0	1.33 V	80	24.60	30.40
4	2483.85	43.0 AV	54.0	-11.0	1.33 V	80	12.60	30.40
5	4924.00	51.3 PK	74.0	-22.7	1.92 V	0	15.70	35.60
6	4924.00	48.5 AV	54.0	-5.5	1.92 V	0	12.90	35.60
7	7386.00	50.1 PK	74.0	-23.9	1.54 V	26	8.00	42.10
8	7386.00	37.1 AV	54.0	-16.9	1.54 V	26	-5.00	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

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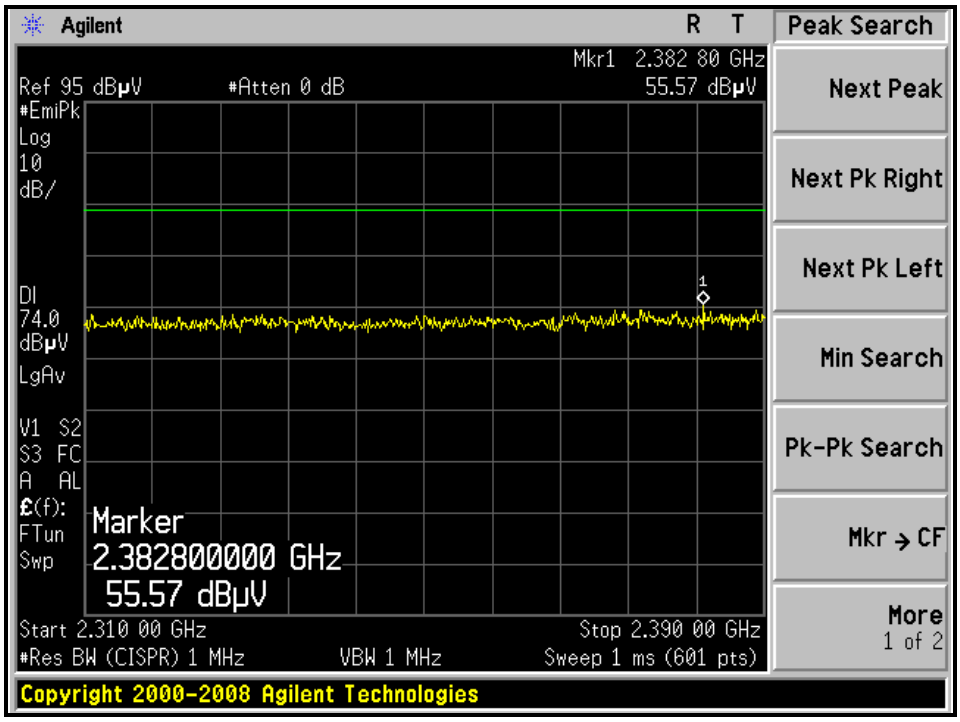

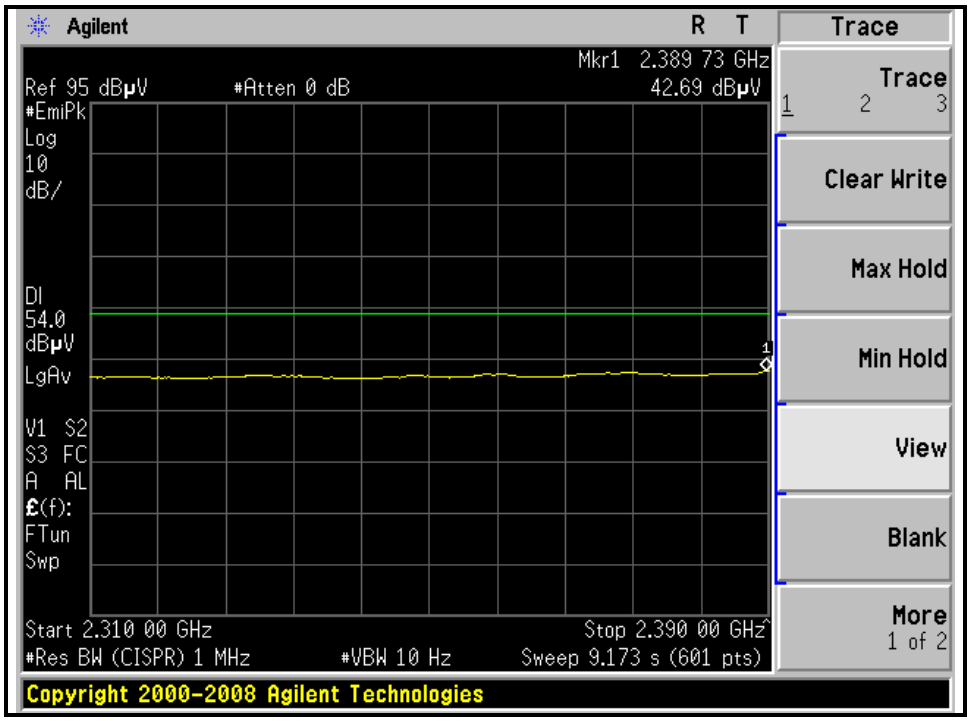

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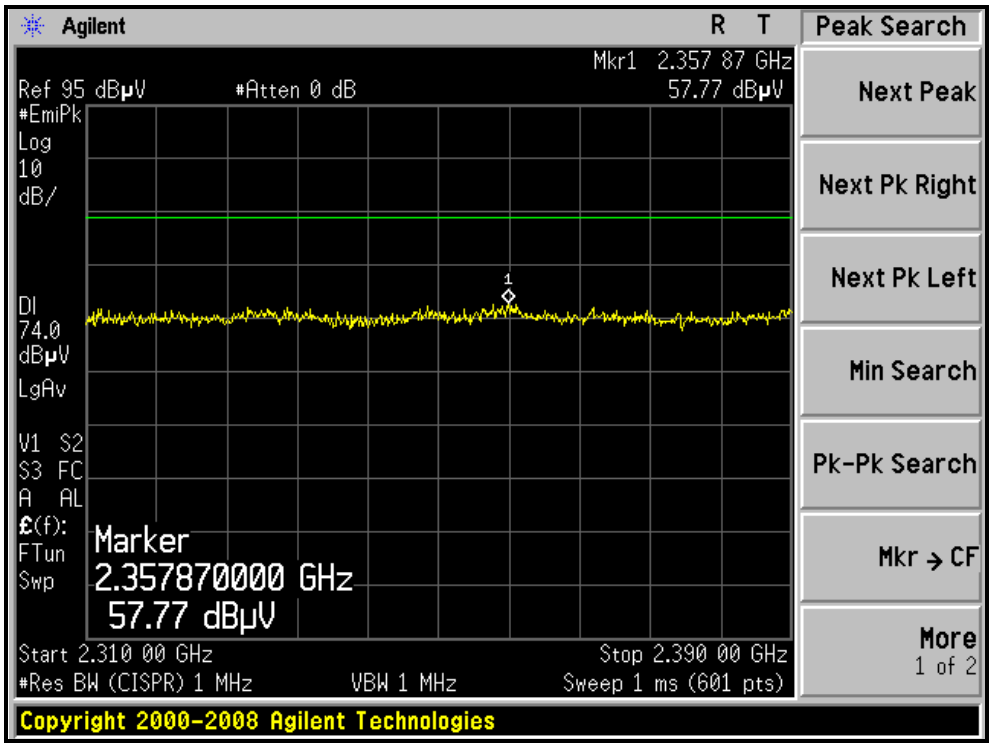

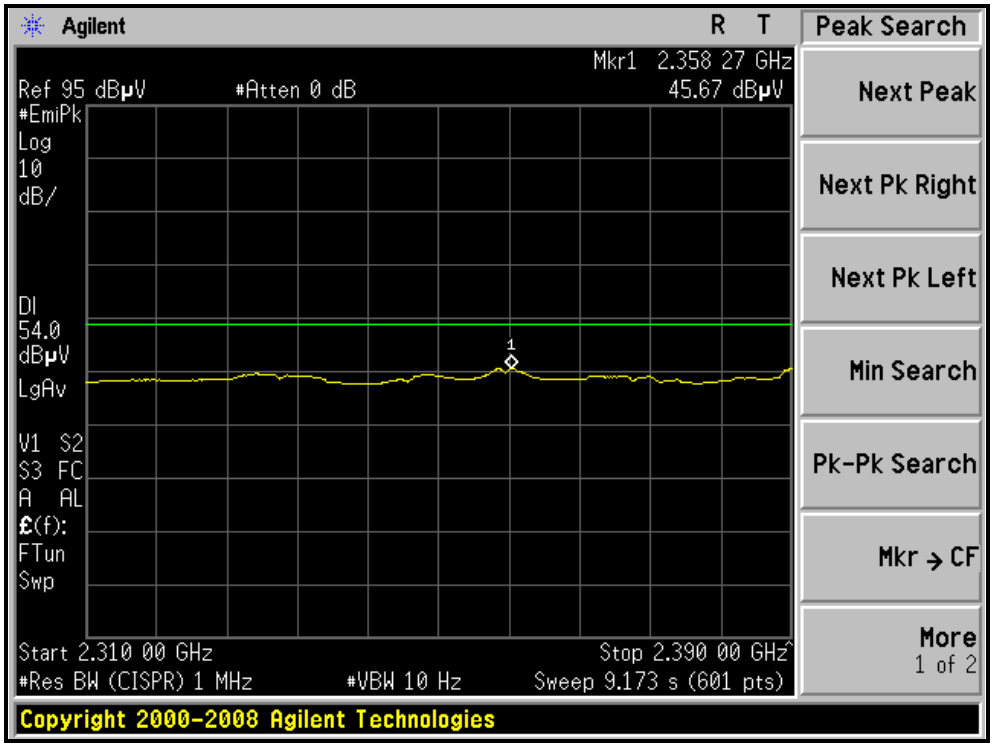

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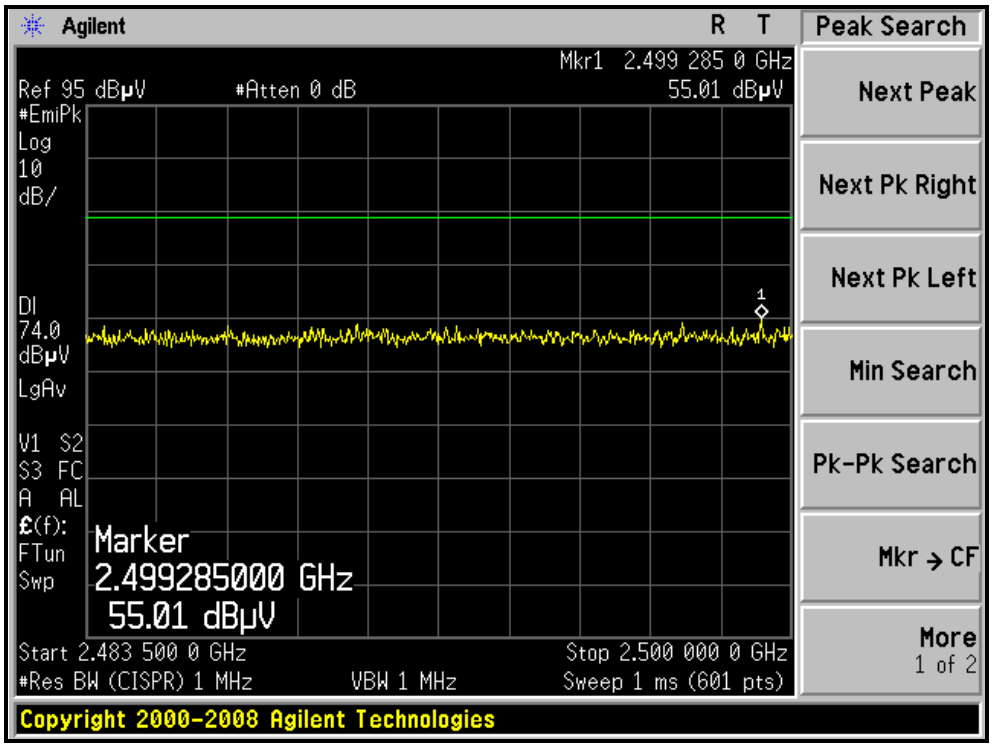

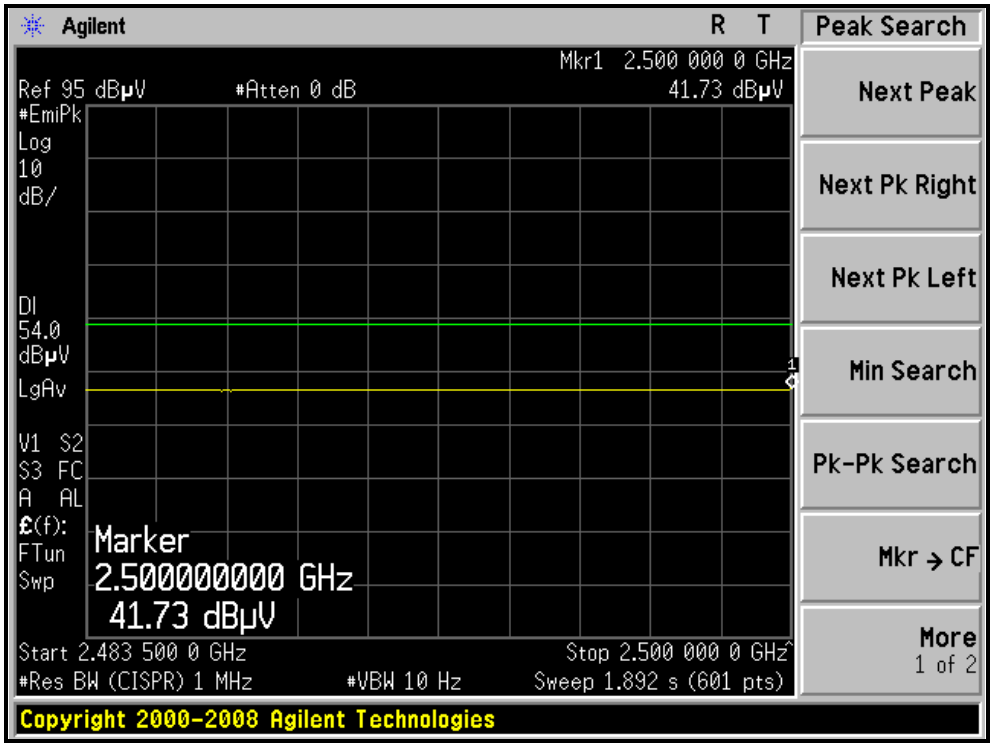

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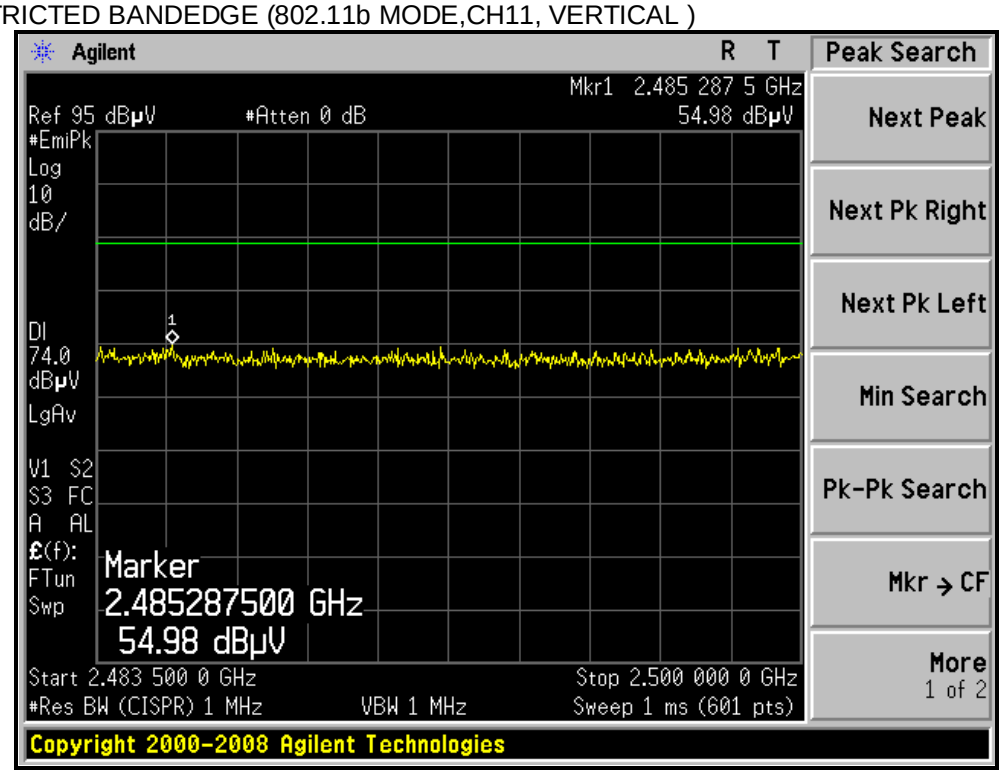
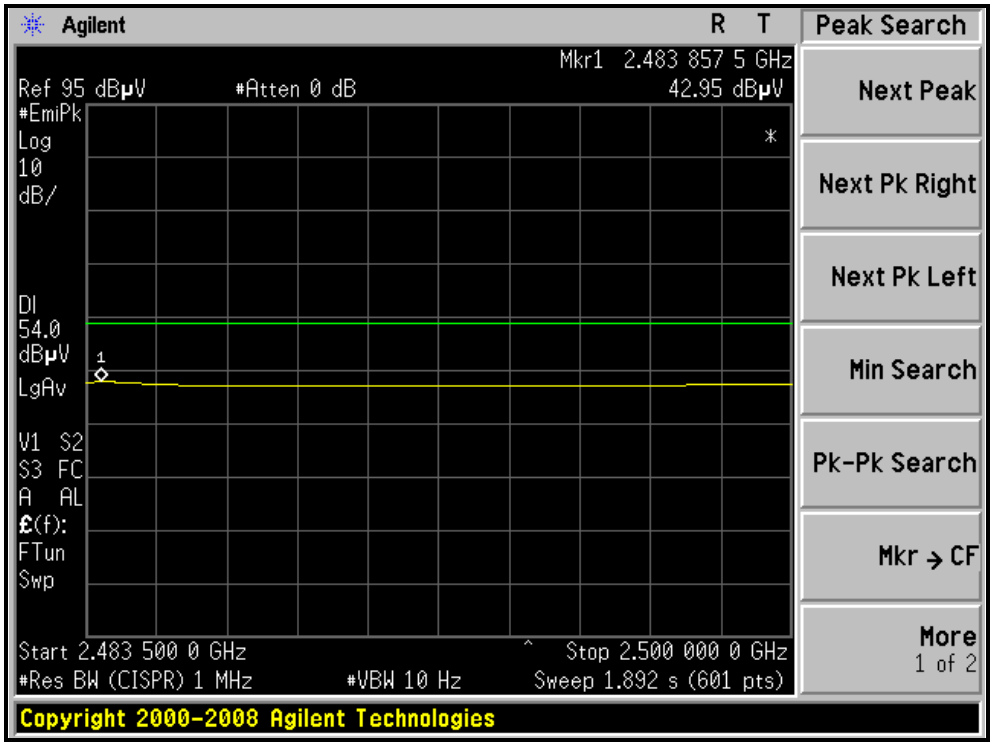




802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2360.00	56.5 PK	74.0	-17.5	1.56 H	168	26.60	29.90
2	2360.00	43.6 AV	54.0	-10.4	1.56 H	168	13.70	29.90
3	*2412.00	98.6 PK			1.47 H	166	68.50	30.10
4	*2412.00	89.0 AV			1.47 H	166	58.90	30.10
5	4824.00	42.1 PK	74.0	-31.9	1.31 H	24	6.70	35.40
6	4824.00	31.0 AV	54.0	-23.0	1.31 H	24	-4.40	35.40
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	69.8 PK	74.0	-4.2	1.04 V	271	39.70	30.10
2	2390.00	53.3 AV	54.0	-0.7	1.04 V	271	23.20	30.10
3	*2412.00	108.0 PK			1.04 V	282	77.90	30.10
4	*2412.00	99.0 AV			1.04 V	282	68.90	30.10
5	4824.00	42.5 PK	74.0	-31.5	1.40 V	153	7.10	35.40
6	4824.00	31.4 AV	54.0	-22.6	1.40 V	153	-4.00	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	97.5 PK			1.47 H	168	67.30	30.20
2	*2437.00	88.3 AV			1.47 H	168	58.10	30.20
3	4874.00	44.5 PK	74.0	-29.5	1.21 H	40	9.00	35.50
4	4874.00	31.9 AV	54.0	-22.1	1.21 H	40	-3.60	35.50
5	7311.00	49.1 PK	74.0	-24.9	1.30 H	63	7.10	42.00
6	7311.00	36.4 AV	54.0	-17.6	1.30 H	63	-5.60	42.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.7 PK			1.00 V	257	76.50	30.20
2	*2437.00	97.6 AV			1.00 V	257	67.40	30.20
3	4874.00	44.7 PK	74.0	-29.3	1.34 V	18	9.20	35.50
4	4874.00	32.3 AV	54.0	-21.7	1.34 V	18	-3.20	35.50
5	7311.00	49.3 PK	74.0	-24.7	1.35 V	2	7.30	42.00
6	7311.00	36.5 AV	54.0	-17.5	1.35 V	2	-5.50	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	94.7 PK			1.50 H	169	64.40	30.30
2	*2462.00	84.9 AV			1.50 H	169	54.60	30.30
3	2499.34	54.5 PK	74.0	-19.5	1.51 H	170	24.00	30.50
4	2499.34	41.7 AV	54.0	-12.3	1.51 H	170	11.20	30.50
5	4924.00	42.5 PK	74.0	-31.5	1.14 H	156	6.90	35.60
6	4924.00	30.8 AV	54.0	-23.2	1.14 H	156	-4.80	35.60
7	7386.00	49.5 PK	74.0	-24.5	1.23 H	280	7.40	42.10
8	7386.00	36.7 AV	54.0	-17.3	1.23 H	280	-5.40	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	104.4 PK			1.04 V	169	74.10	30.30
2	*2462.00	92.7 AV			1.04 V	169	62.40	30.30
3	2484.20	55.4 PK	74.0	-18.6	1.31 V	148	25.00	30.40
4	2484.20	42.2 AV	54.0	-11.8	1.31 V	148	11.80	30.40
5	4924.00	42.7 PK	74.0	-31.3	1.03 V	147	7.10	35.60
6	4924.00	31.1 AV	54.0	-22.9	1.03 V	147	-4.50	35.60
7	7386.00	49.8 PK	74.0	-24.2	1.14 V	277	7.70	42.10
8	7386.00	36.9 AV	54.0	-17.1	1.14 V	277	-5.20	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

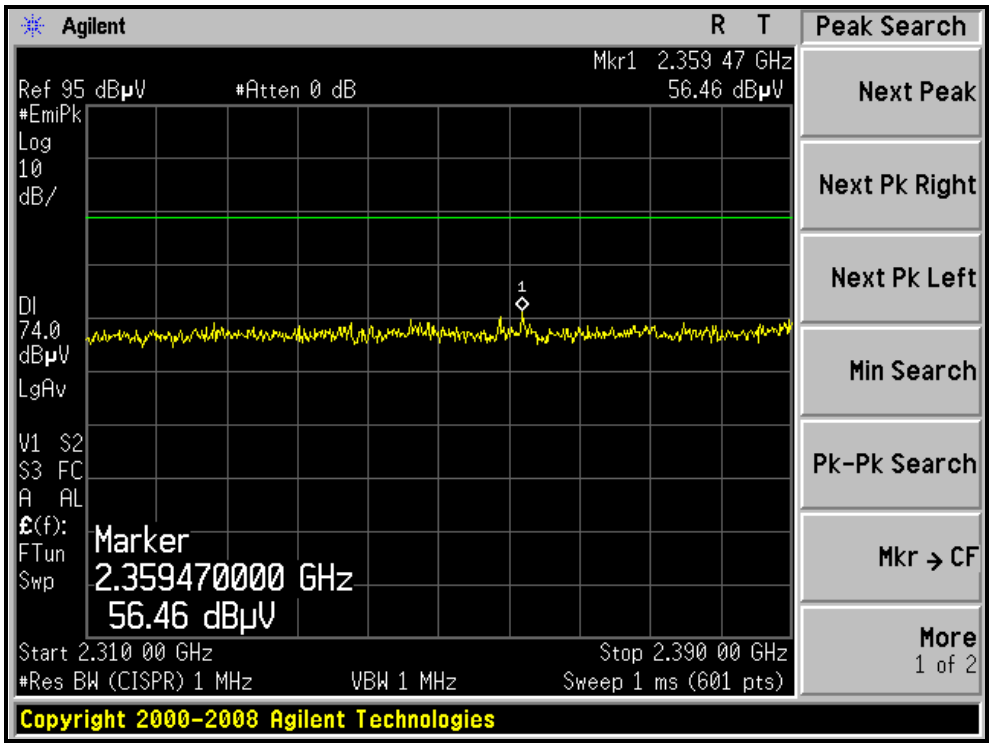
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

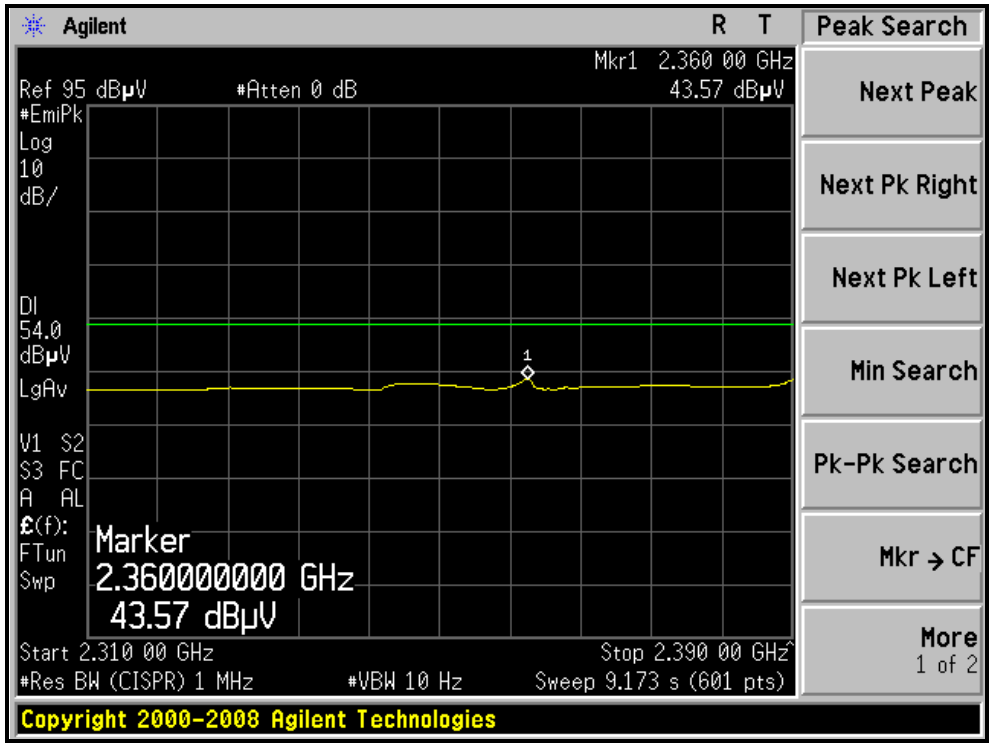
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

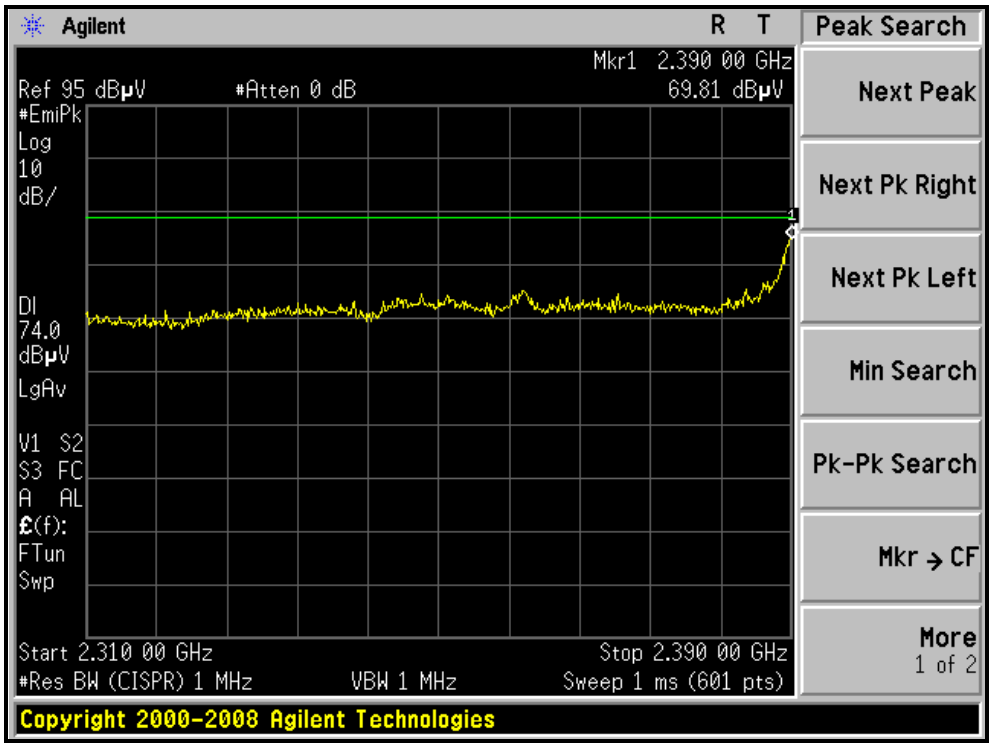
5. " * ": Fundamental frequency.

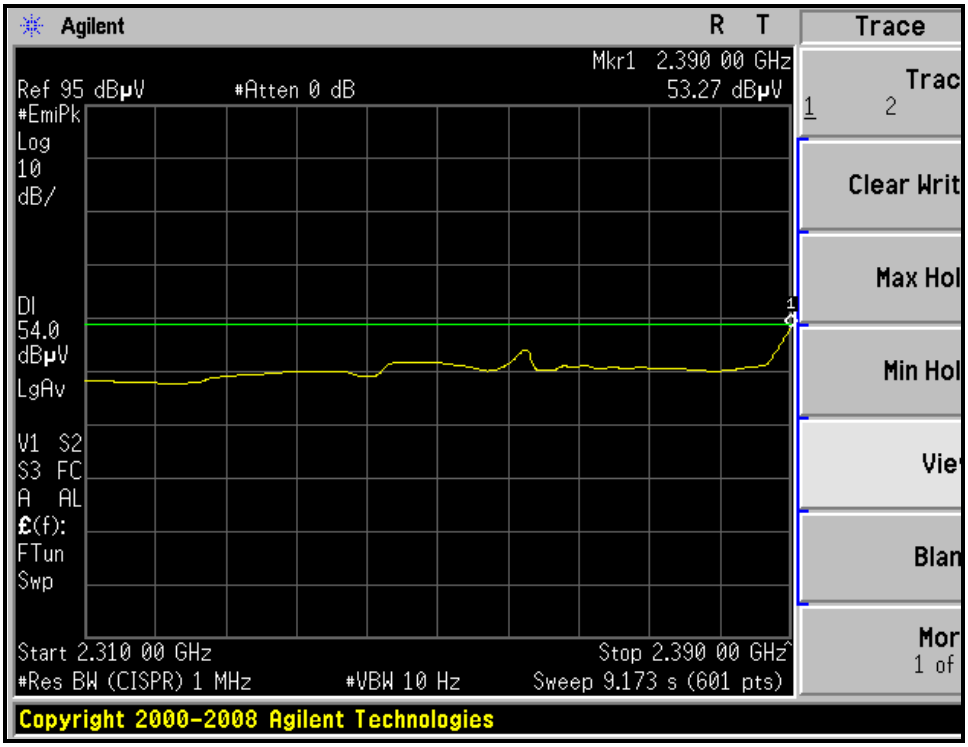
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





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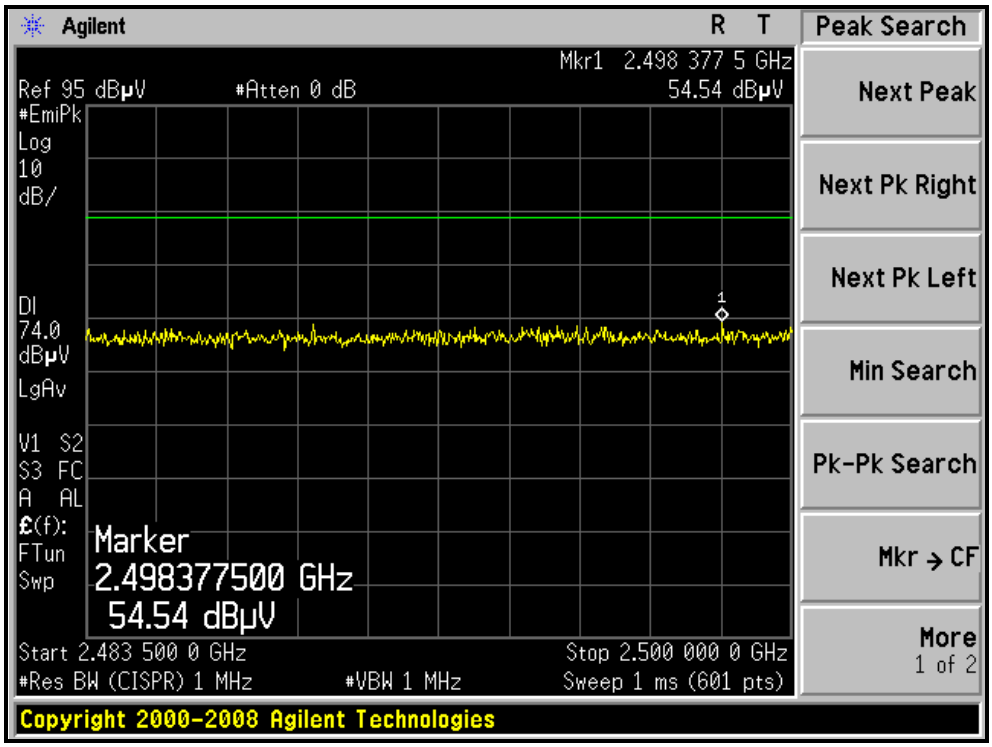
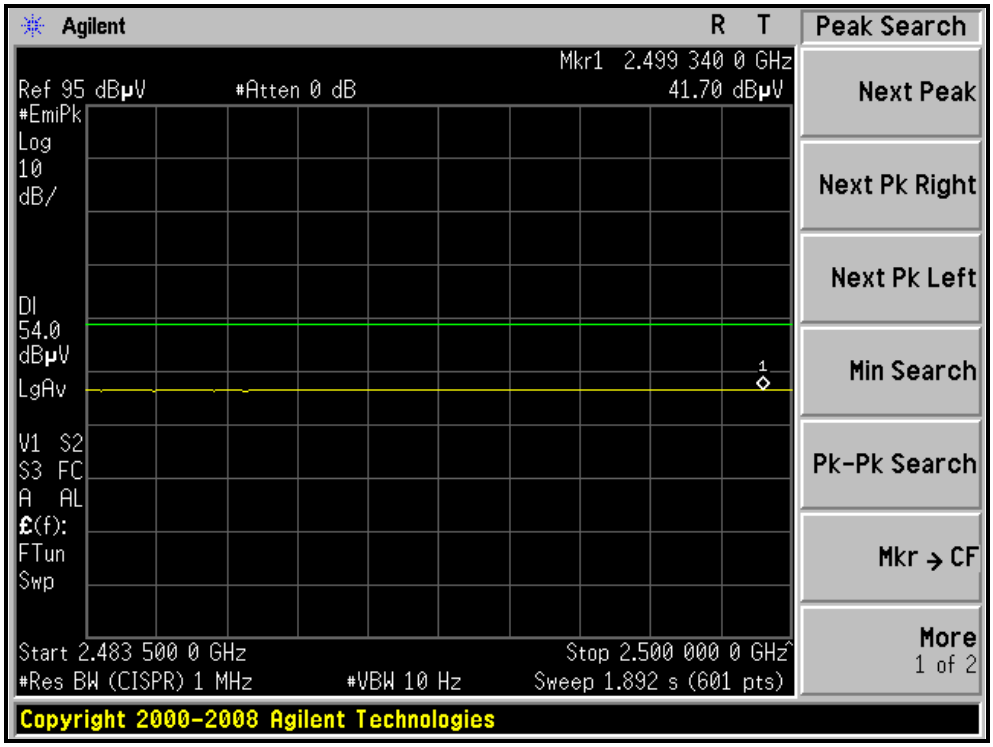
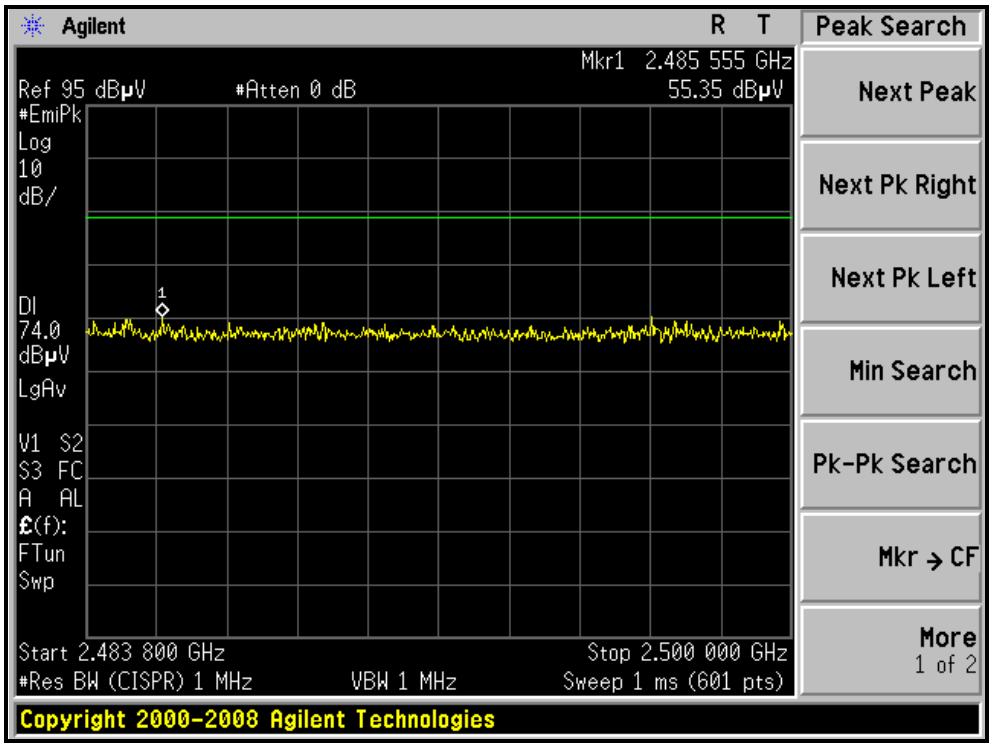
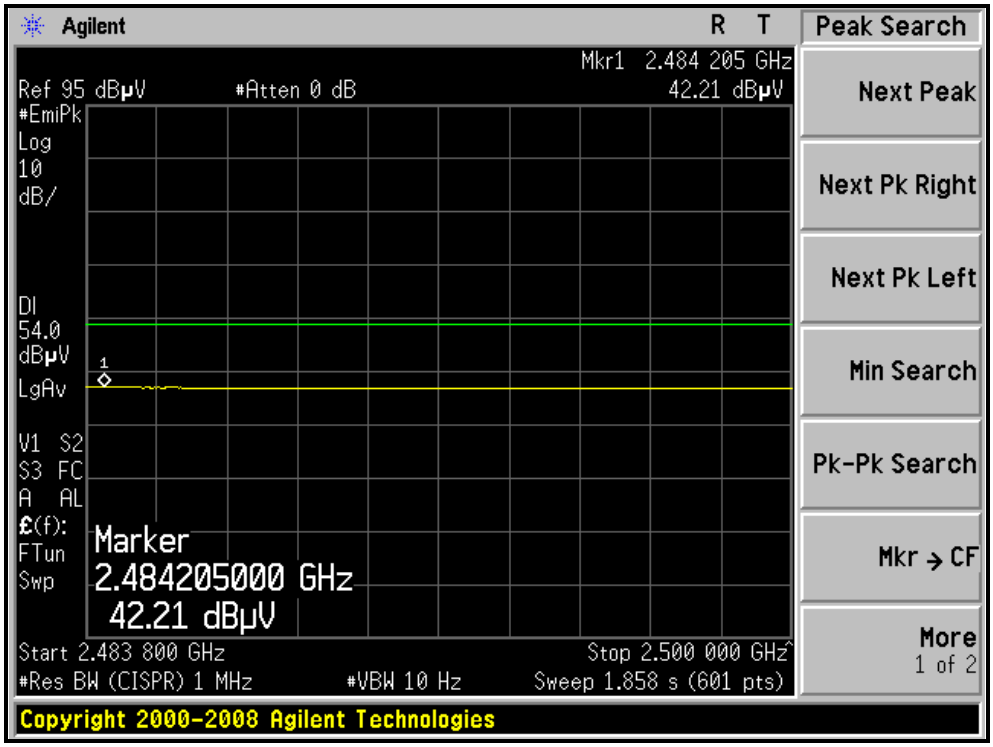




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.0 PK	74.0	-18.0	2.07 H	158	25.90	30.10
2	2390.00	43.3 AV	54.0	-10.7	2.07 H	158	13.20	30.10
3	*2412.00	96.8 PK			2.01 H	158	66.70	30.10
4	*2412.00	87.3 AV			2.01 H	158	57.20	30.10
5	4824.00	41.8 PK	74.0	-32.2	1.44 H	36	6.40	35.40
6	4824.00	30.8 AV	54.0	-23.2	1.44 H	36	-4.60	35.40
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**	**73.4 PK**	**74.0**	**-0.6**	**1.03 V**	**282**	**43.30**	**30.10**
2	**2390.00**	**53.4 AV**	**54.0**	**-0.6**	**1.03 V**	**282**	**23.30**	**30.10**
3	*2412.00	107.2 PK			1.03 V	282	77.10	30.10
4	*2412.00	98.1 AV			1.03 V	282	68.00	30.10
5	4824.00	43.5 PK	74.0	-30.5	1.29 V	103	8.10	35.40
6	4824.00	31.5 AV	54.0	-22.5	1.29 V	103	-3.90	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	96.8 PK			1.41 H	159	66.60	30.20
2	*2437.00	87.3 AV			1.41 H	159	57.10	30.20
3	4874.00	42.5 PK	74.0	-31.5	1.32 H	230	7.00	35.50
4	4874.00	31.0 AV	54.0	-23.0	1.32 H	230	-4.50	35.50
5	7311.00	51.2 PK	74.0	-22.8	1.32 H	149	9.20	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.32 H	149	-4.70	42.00
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	104.3 PK			1.36 V	97	74.10	30.20
2	*2437.00	94.7 AV			1.36 V	97	64.50	30.20
3	4874.00	42.7 PK	74.0	-31.3	1.78 V	346	7.20	35.50
4	4874.00	31.4 AV	54.0	-22.6	1.78 V	346	-4.10	35.50
5	7311.00	51.2 PK	74.0	-22.8	1.39 V	314	9.20	42.00
6	7311.00	37.5 AV	54.0	-16.5	1.39 V	314	-4.50	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	94.0 PK			1.46 H	170	63.70	30.30
2	*2462.00	85.0 AV			1.46 H	170	54.70	30.30
3	2498.85	54.6 PK	74.0	-19.4	1.46 H	174	24.10	30.50
4	2498.85	41.7 AV	54.0	-12.3	1.46 H	174	11.20	30.50
5	4924.00	42.9 PK	74.0	-31.1	1.26 H	224	7.30	35.60
6	4924.00	30.8 AV	54.0	-23.2	1.26 H	224	-4.80	35.60
7	7386.00	50.1 PK	74.0	-23.9	1.44 H	200	8.00	42.10
8	7386.00	36.8 AV	54.0	-17.2	1.44 H	200	-5.30	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	106.2 PK			1.33 V	280	75.90	30.30
2	*2462.00	92.7 AV			1.33 V	280	62.40	30.30
3	2483.50	62.2 PK	74.0	-11.8	1.24 V	71	31.80	30.40
4	2483.50	46.7 AV	54.0	-7.3	1.24 V	71	16.30	30.40
5	4924.00	43.1 PK	74.0	-30.9	1.66 V	34	7.50	35.60
6	4924.00	31.0 AV	54.0	-23.0	1.66 V	34	-4.60	35.60
7	7386.00	50.9 PK	74.0	-23.1	1.40 V	321	8.80	42.10
8	7386.00	37.2 AV	54.0	-16.8	1.40 V	321	-4.90	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

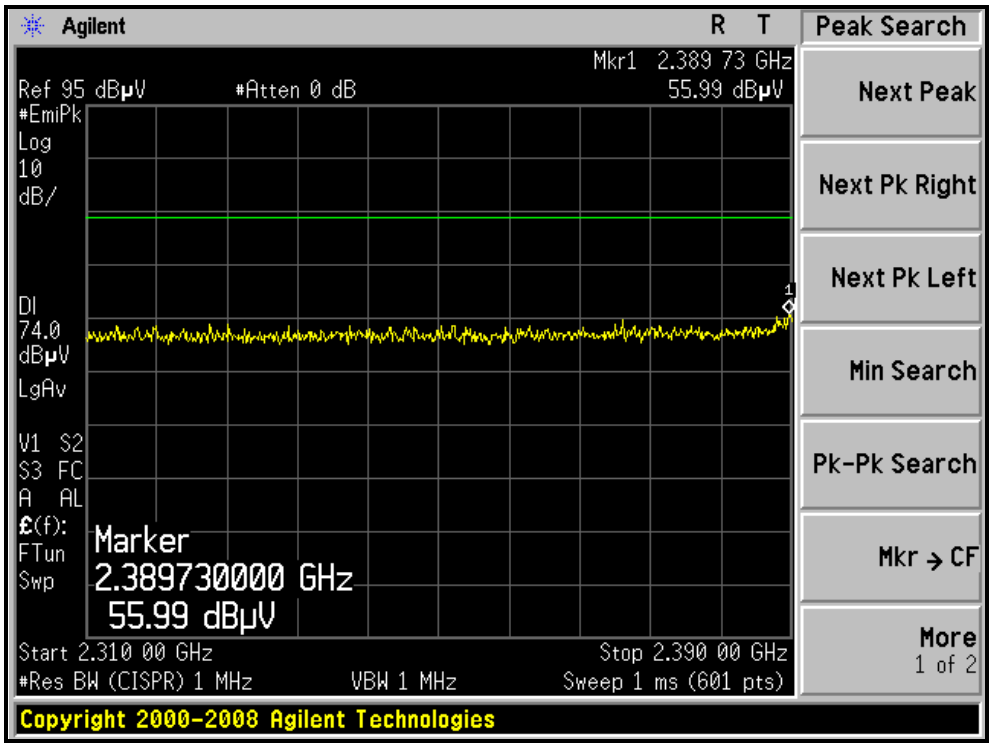
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

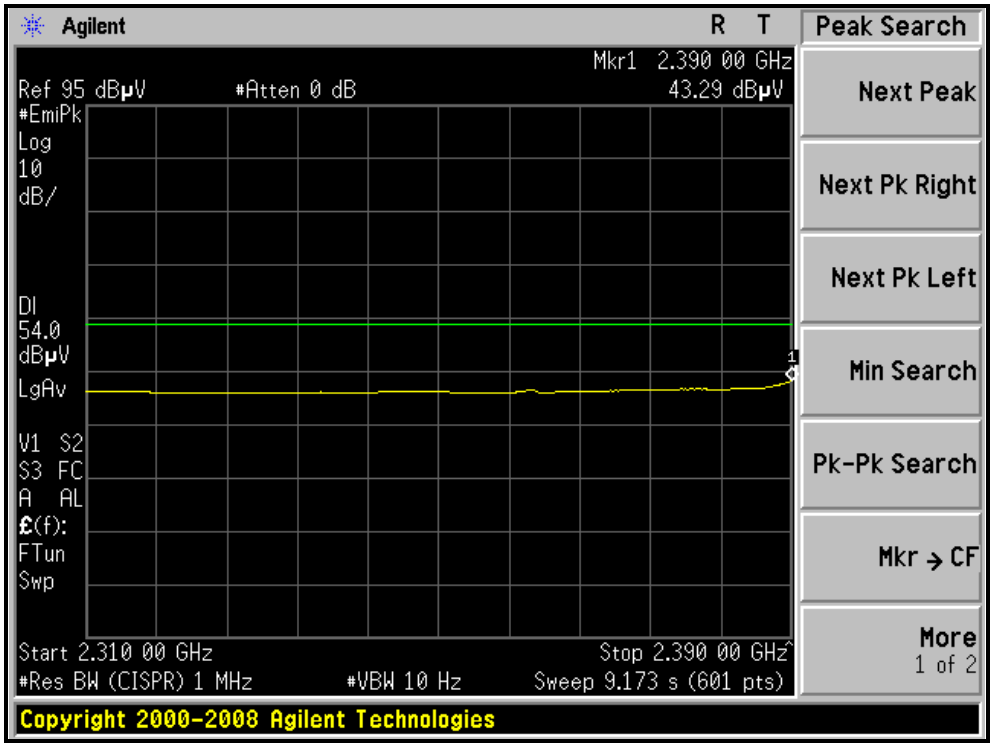
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

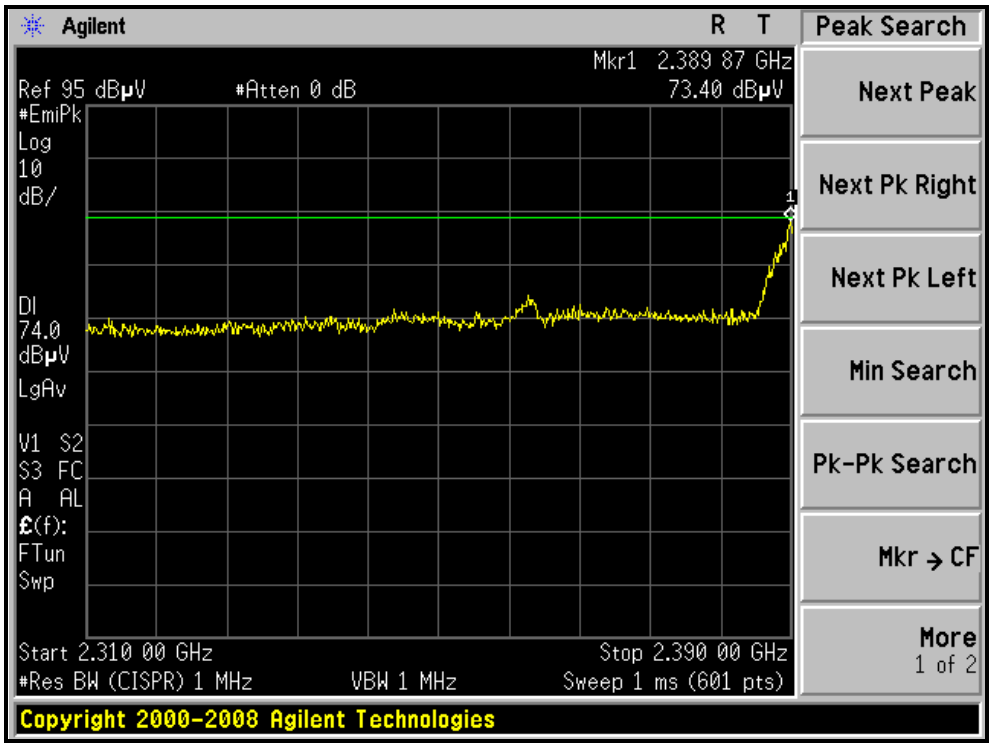
5. " * ": Fundamental frequency.

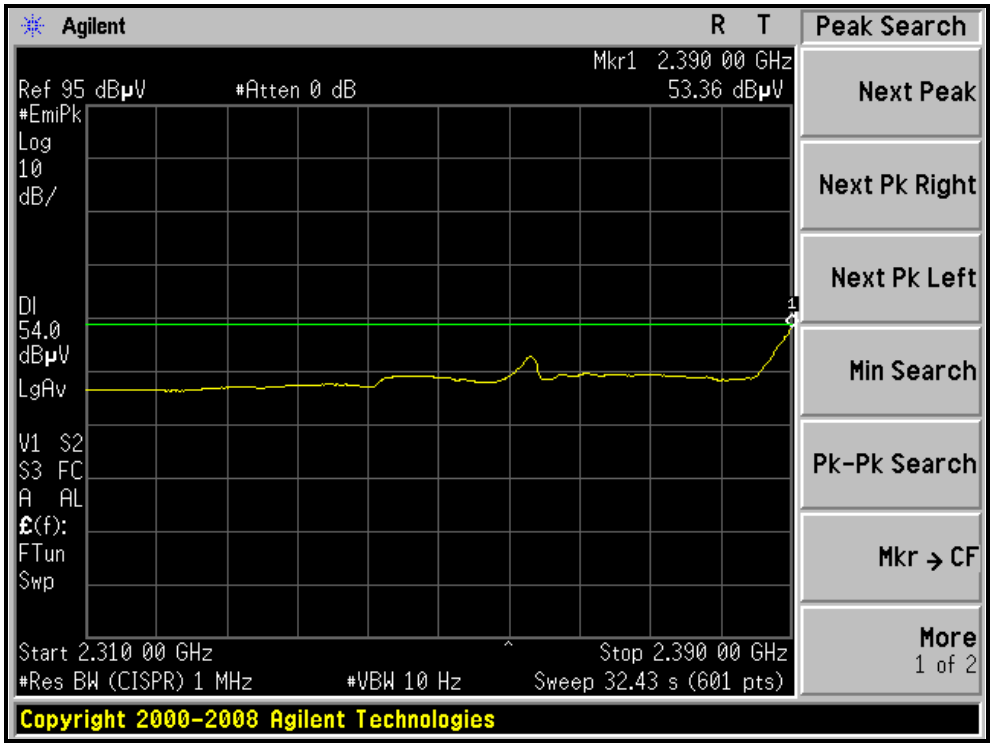
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



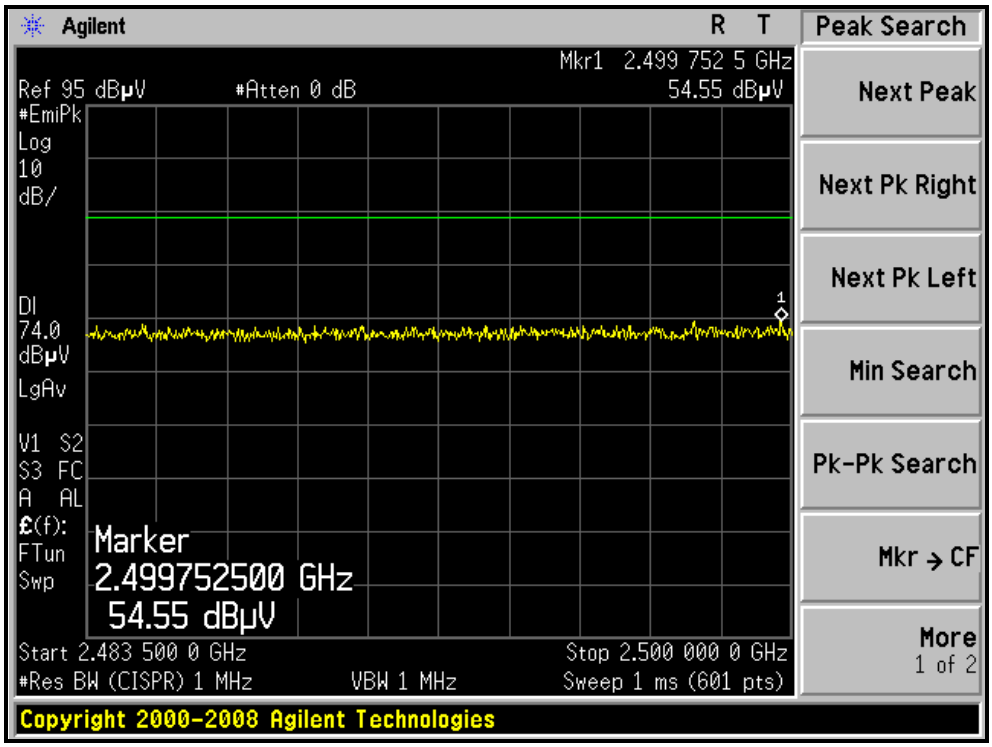


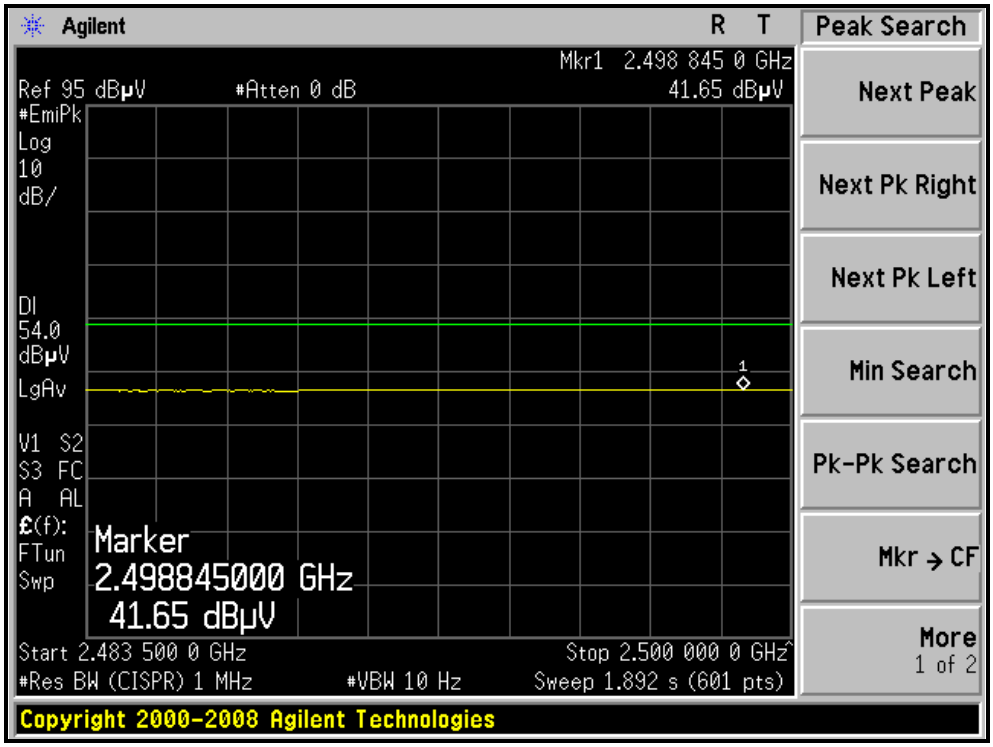
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



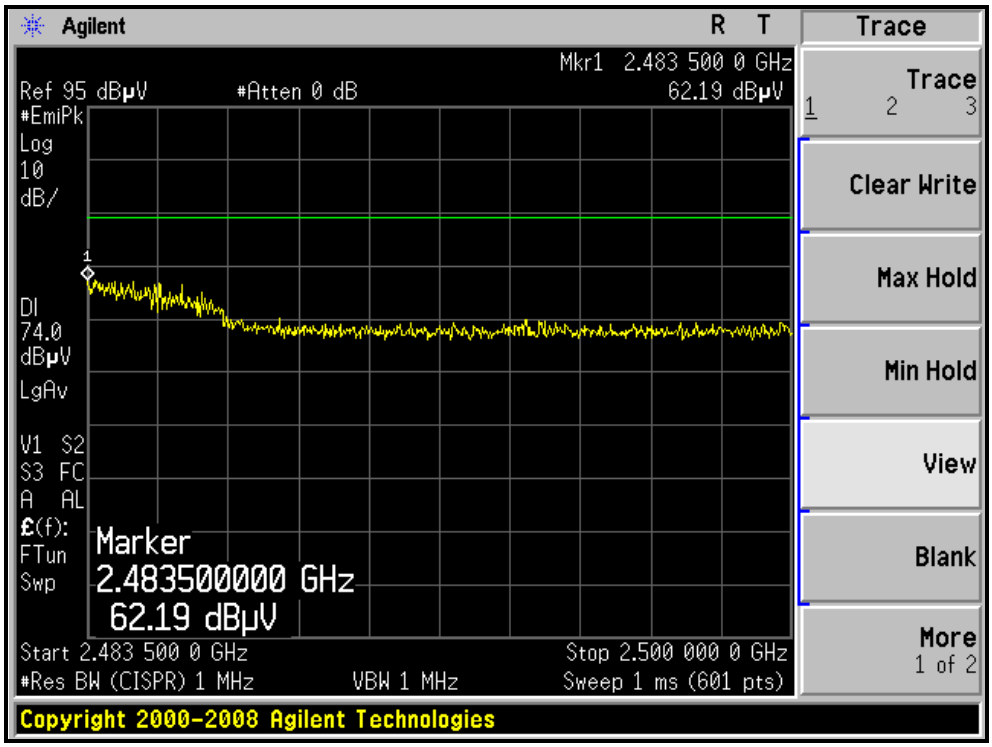


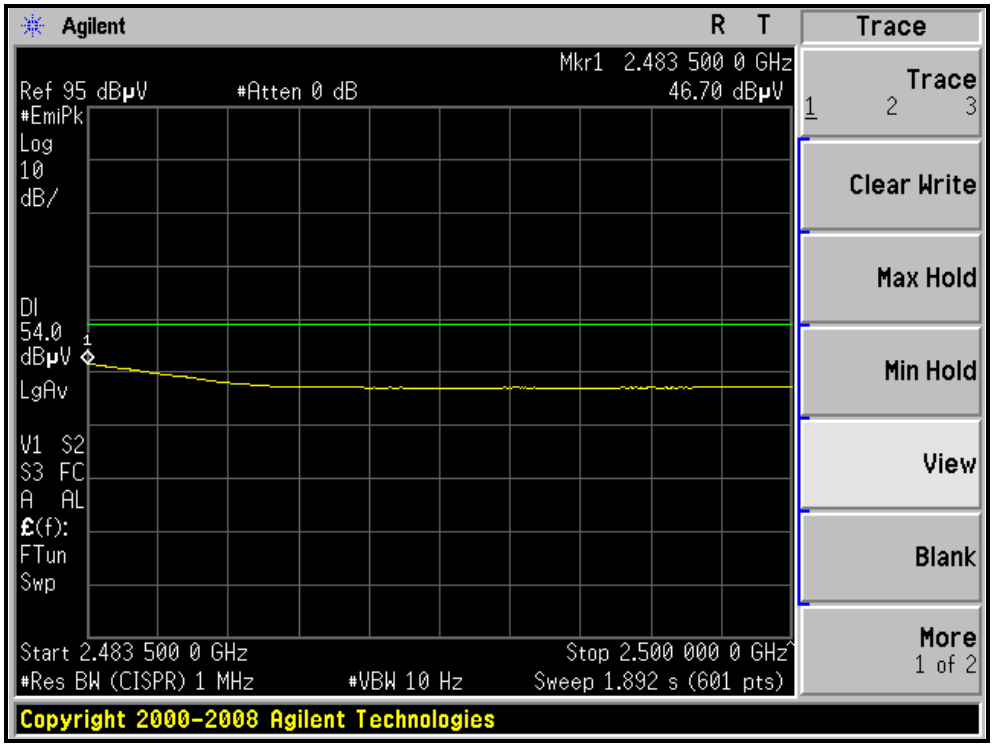
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.7 PK	74.0	-15.3	1.58 H	170	28.60	30.10
2	2390.00	44.7 AV	54.0	-9.3	1.58 H	170	14.60	30.10
3	*2422.00	92.7 PK			1.59 H	171	62.50	30.20
4	*2422.00	83.3 AV			1.59 H	171	53.10	30.20
5	4844.00	43.2 PK	74.0	-30.8	1.22 H	103	7.70	35.50
6	4844.00	30.8 AV	54.0	-23.2	1.22 H	103	-4.70	35.50
7	7266.00	51.0 PK	74.0	-23.0	1.44 H	98	9.10	41.90
8	7266.00	36.7 AV	54.0	-17.3	1.44 H	98	-5.20	41.90
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	69.6 PK	74.0	-4.4	1.02 V	272	39.50	30.10
2	2390.00	53.0 AV	54.0	-1.0	1.02 V	272	22.90	30.10
3	*2422.00	100.2 PK			1.02 V	283	70.00	30.20
4	*2422.00	90.4 AV			1.02 V	283	60.20	30.20
5	4844.00	43.1 PK	74.0	-30.9	1.20 V	152	7.60	35.50
6	4844.00	31.2 AV	54.0	-22.8	1.20 V	152	-4.30	35.50
7	7266.00	51.2 PK	74.0	-22.8	1.13 V	25	9.30	41.90
8	7266.00	37.5 AV	54.0	-16.5	1.13 V	25	-4.40	41.90

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	94.0 PK			1.60 H	170	63.80	30.20
2	*2437.00	84.4 AV			1.60 H	170	54.20	30.20
3	4874.00	42.3 PK	74.0	-31.7	1.49 H	15	6.80	35.50
4	4874.00	31.1 AV	54.0	-22.9	1.49 H	15	-4.40	35.50
5	7311.00	49.3 PK	74.0	-24.7	1.32 H	72	7.30	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.32 H	72	-5.10	42.00
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	100.7 PK			1.01 V	152	70.50	30.20
2	*2437.00	92.1 AV			1.01 V	152	61.90	30.20
3	4874.00	42.8 PK	74.0	-31.2	1.29 V	114	7.30	35.50
4	4874.00	31.6 AV	54.0	-22.4	1.29 V	114	-3.90	35.50
5	7311.00	50.7 PK	74.0	-23.3	1.39 V	309	8.70	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.39 V	309	-4.70	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	33deg. C, 60%RH 1015 hPa	TESTED BY	Wen Yu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	93.1 PK			1.41 H	159	62.80	30.30
2	*2452.00	83.3 AV			1.41 H	159	53.00	30.30
3	2484.16	54.9 PK	74.0	-19.1	1.69 H	163	24.50	30.40
4	2484.16	42.2 AV	54.0	-11.8	1.69 H	163	11.80	30.40
5	4904.00	42.6 PK	74.0	-31.4	1.37 H	23	7.00	35.60
6	4904.00	31.0 AV	54.0	-23.0	1.37 H	23	-4.60	35.60
7	7356.00	48.7 PK	74.0	-25.3	1.09 H	143	6.70	42.00
8	7356.00	36.6 AV	54.0	-17.4	1.09 H	143	-5.40	42.00
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	101.4 PK			1.03 V	296	71.10	30.30
2	*2452.00	92.2 AV			1.03 V	296	61.90	30.30
3	2483.64	65.8 PK	74.0	-8.2	1.03 V	296	35.40	30.40
4	**2483.64**	**53.4 AV**	**54.0**	**-0.6**	**1.03 V**	**296**	**23.00**	**30.40**
5	4904.00	42.9 PK	74.0	-31.1	1.13 V	149	7.30	35.60
6	4904.00	31.3 AV	54.0	-22.7	1.13 V	149	-4.30	35.60
7	7356.00	49.2 PK	74.0	-24.8	1.15 V	15	7.20	42.00
8	7356.00	37.1 AV	54.0	-16.9	1.15 V	15	-4.90	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

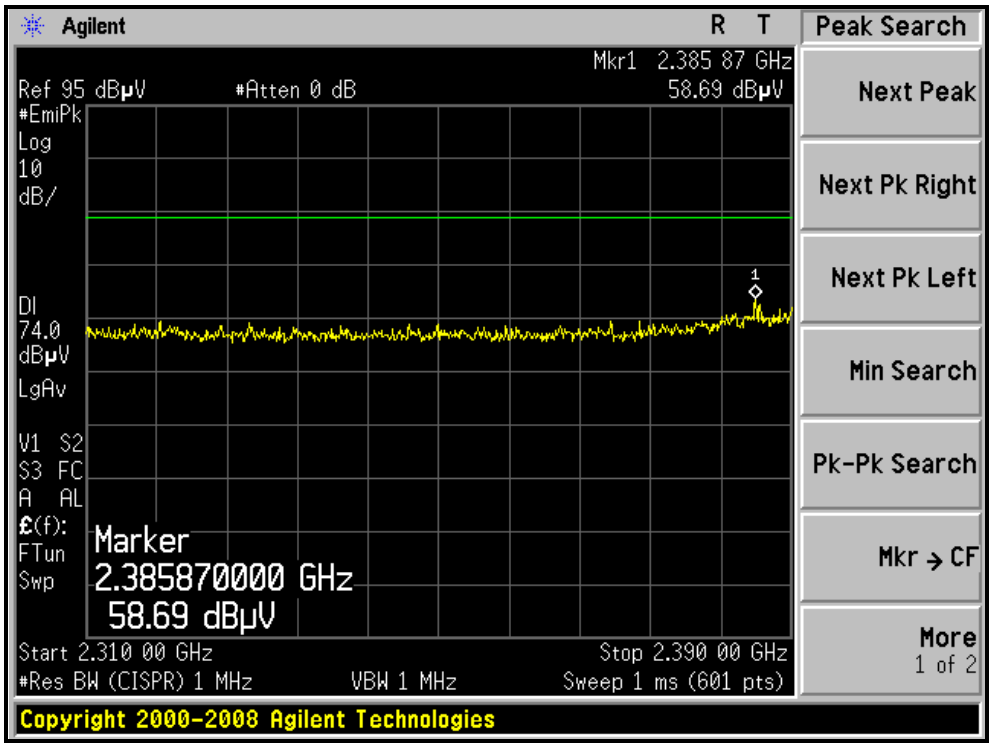
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

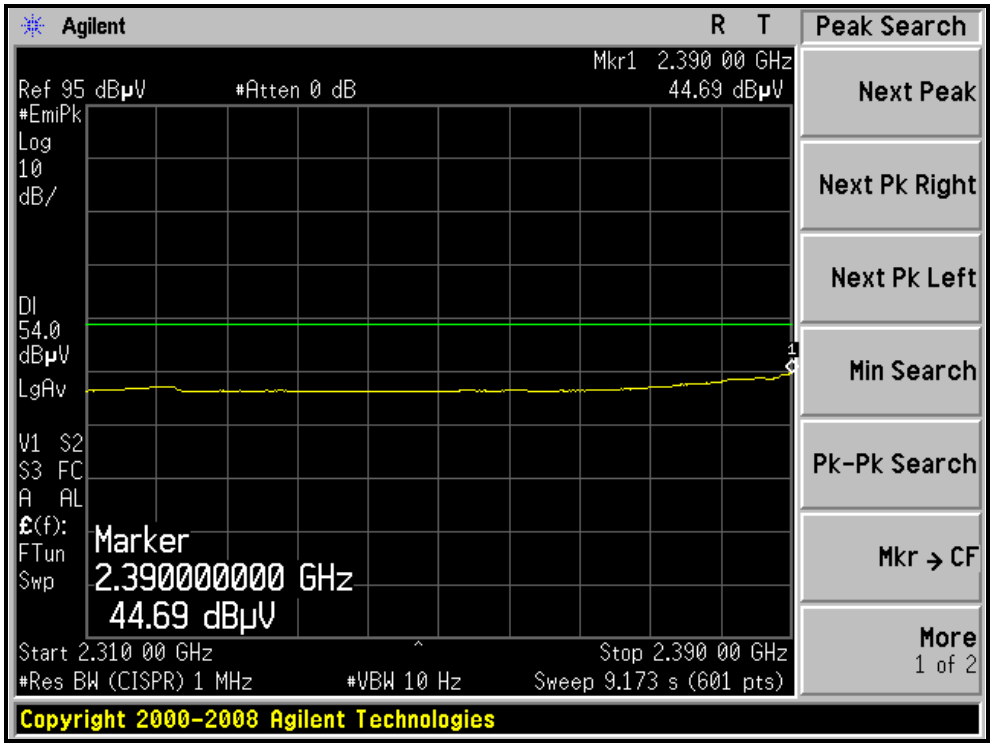
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

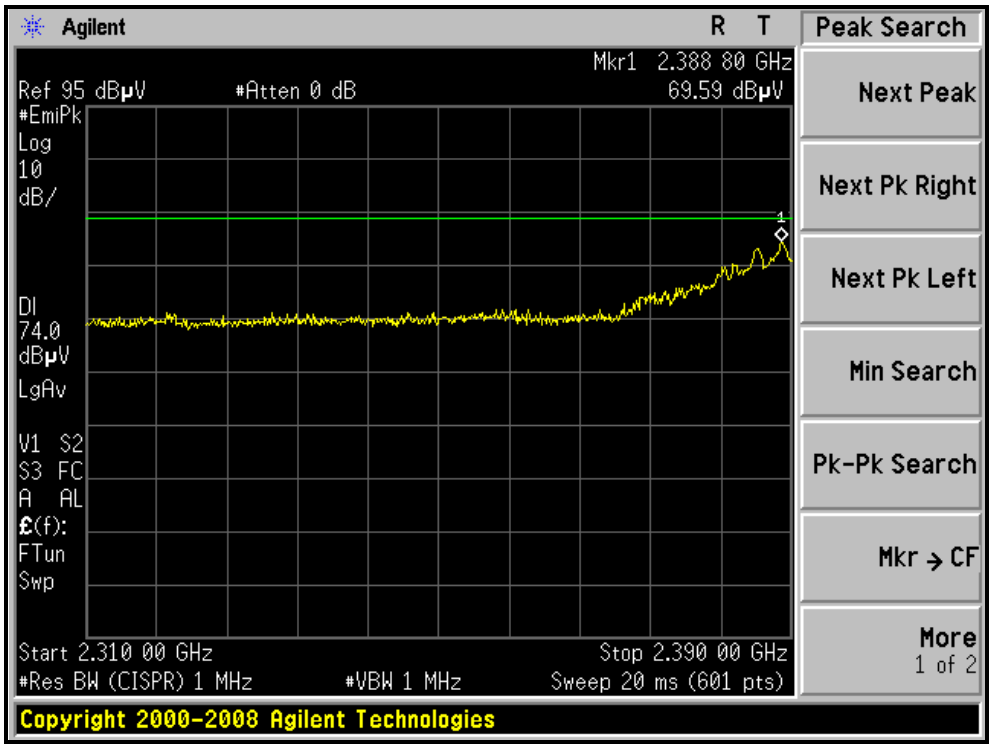
5. " * ": Fundamental frequency.

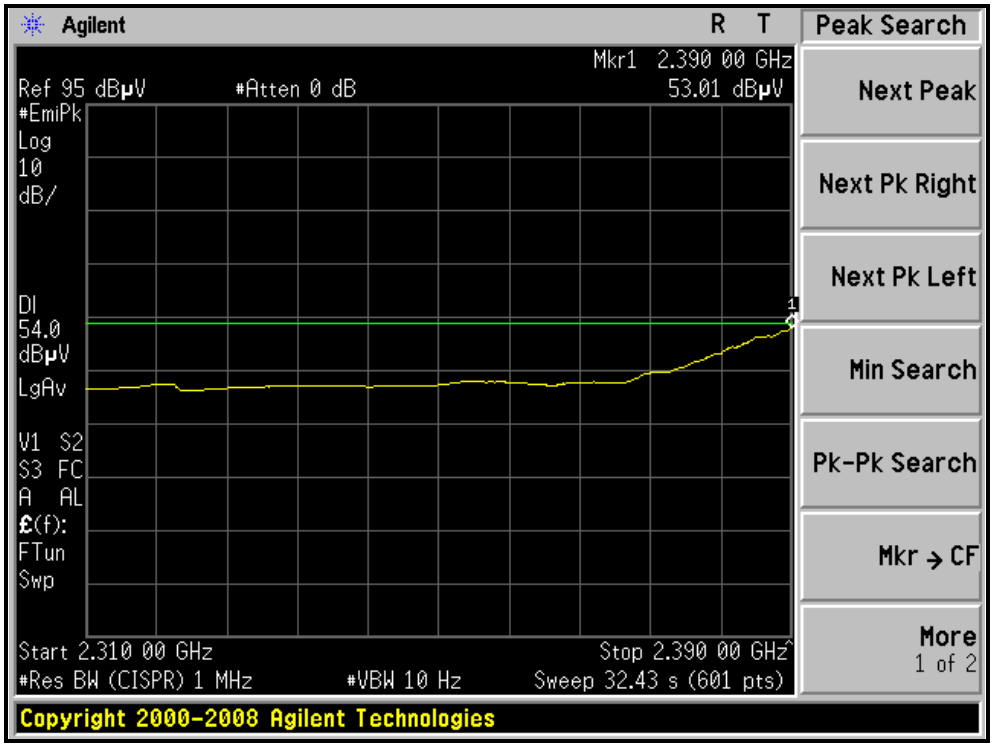
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



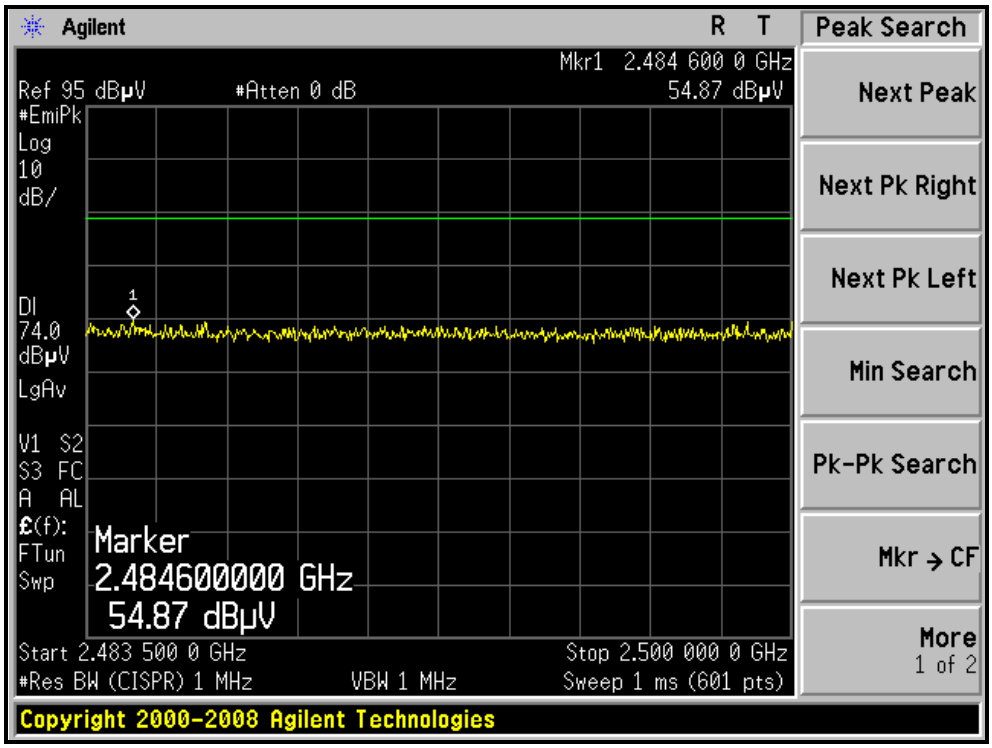


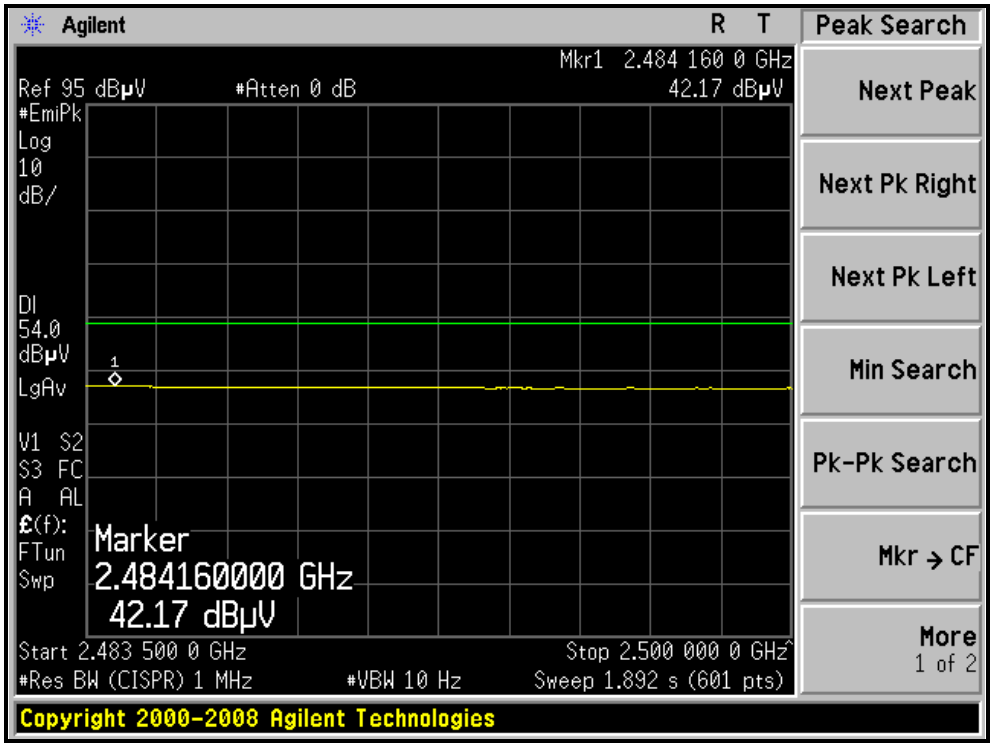
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



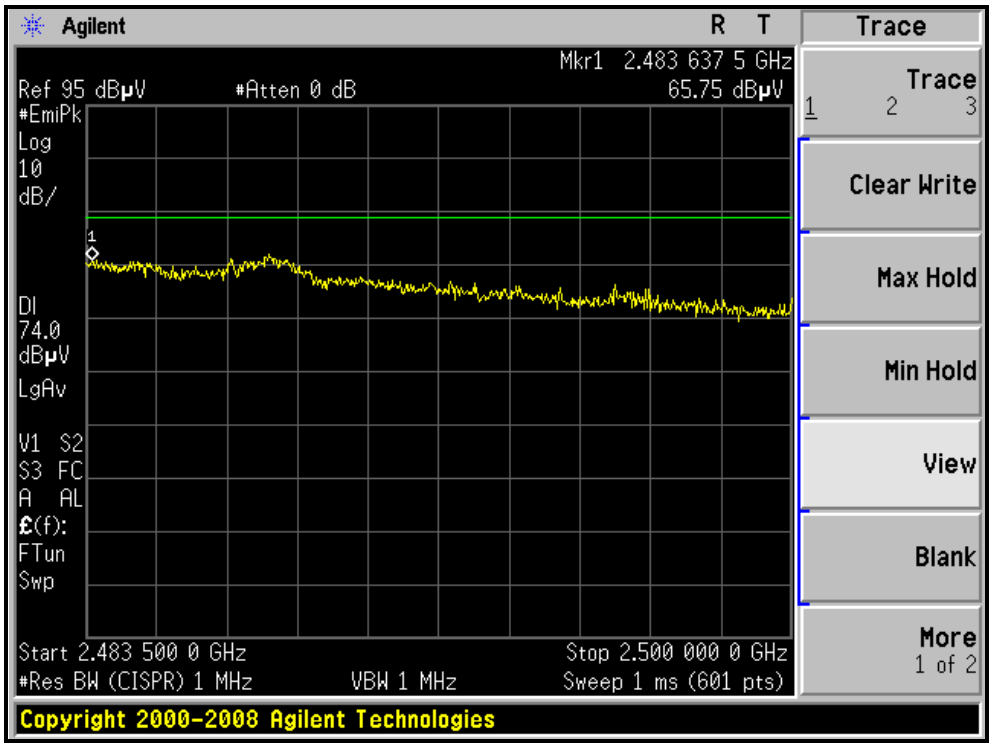


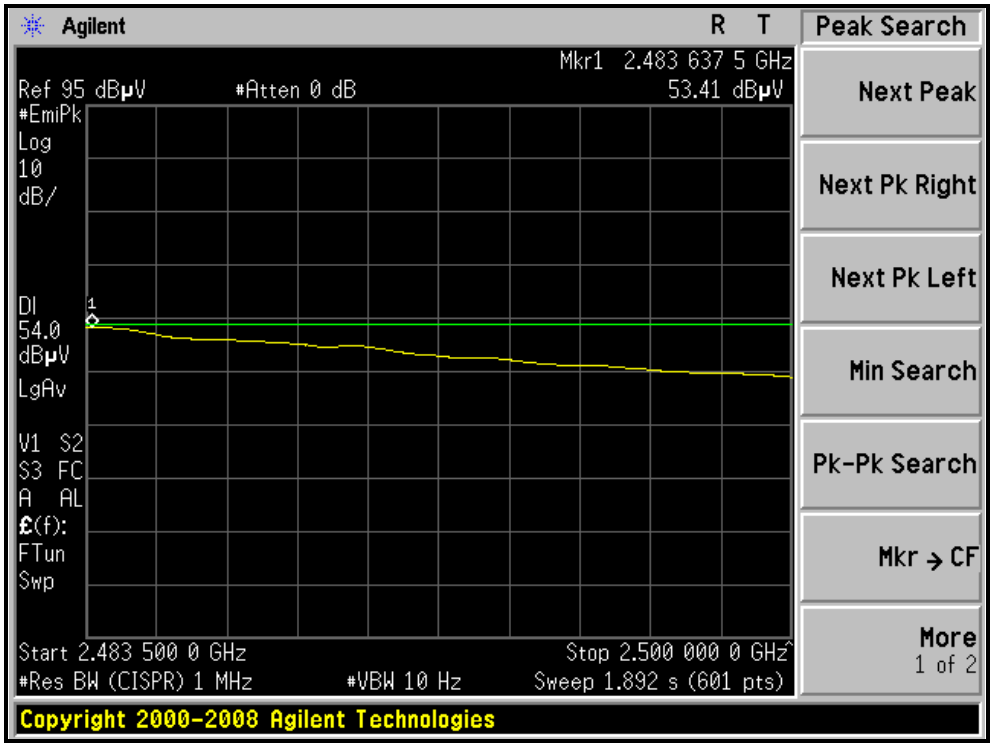
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, HORIZONTAL)





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





4.2.8 TEST RESULTS (With PIFA Antenna)

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	31deg. C, 60%RH 1012 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	144.00	29.3 QP	43.5	-14.2	2.00 H	329	14.80	14.50
2	168.00	32.2 QP	43.5	-11.3	1.74 H	167	17.80	14.40
3	199.25	40.0 QP	43.5	-3.5	1.97 H	325	29.00	11.00
4	298.75	42.9 QP	46.0	-3.1	1.13 H	184	27.30	15.60
5	498.07	27.1 QP	46.0	-18.9	1.64 H	135	6.40	20.70
6	798.03	29.9 QP	46.0	-16.1	1.09 H	118	4.30	25.60
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	200.00	27.2 QP	43.5	-16.3	1.00 V	297	16.20	11.00
2	240.00	23.3 QP	46.0	-22.7	1.00 V	295	10.30	13.00
3	299.76	37.9 QP	46.0	-8.1	1.17 V	243	22.30	15.60
4	375.00	27.0 QP	46.0	-19.0	1.00 V	98	9.50	17.50
5	499.61	29.8 QP	46.0	-16.2	1.09 V	108	9.10	20.70
6	799.46	31.3 QP	46.0	-14.7	1.00 V	223	5.70	25.60

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

ABOVE 1GHz WORST-CASE DATA

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.1 PK	74.0	-17.9	1.41 H	93	26.00	30.10
2	2390.00	45.0 AV	54.0	-9.0	1.41 H	93	14.90	30.10
3	*2412.00	101.6 PK			1.28 H	289	71.50	30.10
4	*2412.00	98.4 AV			1.28 H	289	68.30	30.10
5	4824.00	50.8 PK	74.0	-23.2	1.43 H	198	15.40	35.40
6	4824.00	48.0 AV	54.0	-6.0	1.43 H	198	12.60	35.40
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	55.3 PK	74.0	-18.7	1.01 V	150	25.20	30.10
2	2390.00	41.0 AV	54.0	-13.0	1.01 V	150	10.90	30.10
3	*2412.00	97.5 PK			1.31 V	333	67.40	30.10
4	*2412.00	94.3 AV			1.31 V	333	64.20	30.10
5	4824.00	53.3 PK	74.0	-20.7	1.02 V	285	17.90	35.40
6	4824.00	51.7 AV	54.0	-2.3	1.02 V	285	16.30	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.7 PK			1.26 H	285	71.50	30.20
2	*2437.00	98.5 AV			1.26 H	285	68.30	30.20
3	4874.00	52.5 PK	74.0	-21.5	1.61 H	323	17.00	35.50
4	4874.00	50.3 AV	54.0	-3.7	1.61 H	323	14.80	35.50
5	7311.00	48.8 PK	74.0	-25.2	1.21 H	174	6.80	42.00
6	7311.00	37.6 AV	54.0	-16.4	1.21 H	174	-4.40	42.00
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	97.6 PK			1.32 V	336	67.40	30.20
2	*2437.00	94.4 AV			1.32 V	336	64.20	30.20
3	4874.00	52.8 PK	74.0	-21.2	1.31 V	278	17.30	35.50
4	4874.00	50.8 AV	54.0	-3.2	1.31 V	278	15.30	35.50
5	7311.00	48.4 PK	74.0	-25.6	1.00 V	50	6.40	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.00 V	50	-4.70	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

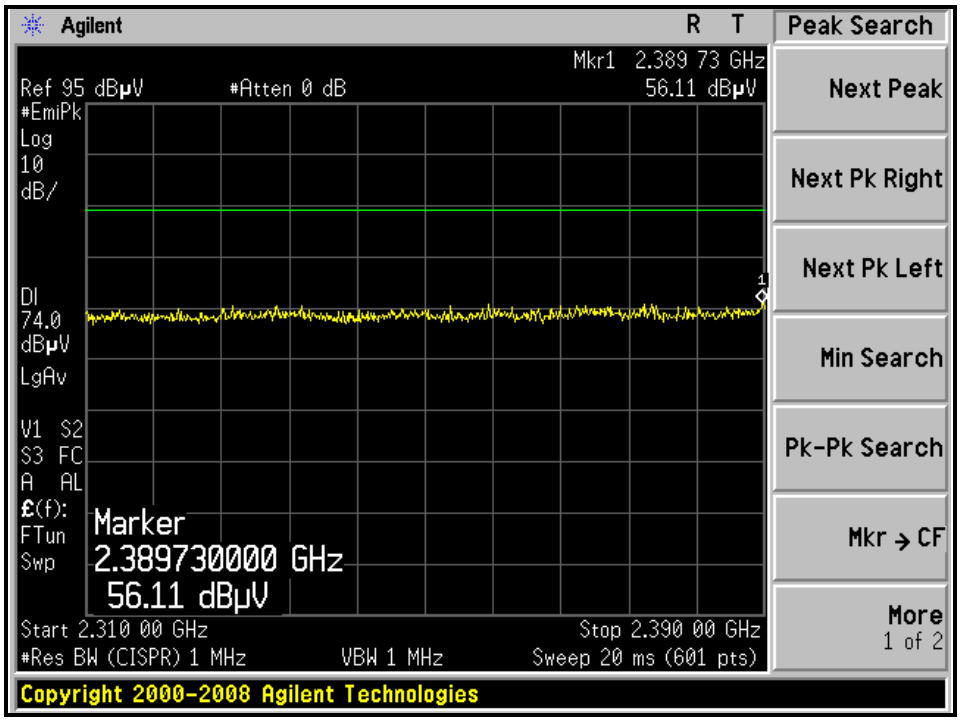
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

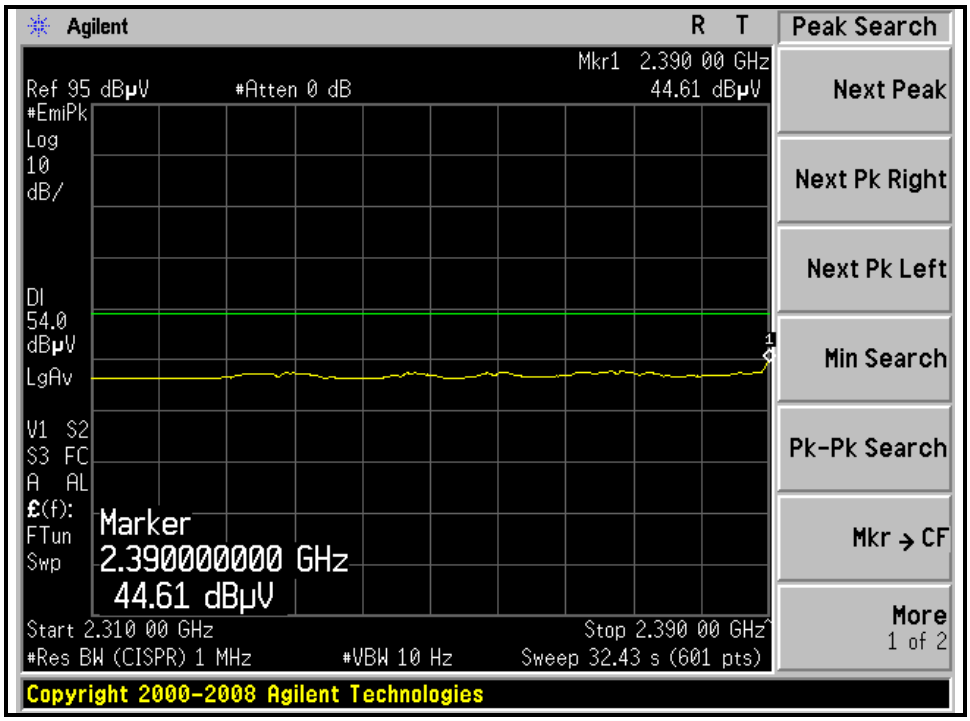
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.1 PK			1.43 H	104	77.80	30.30
2	*2462.00	105.0 AV			1.43 H	104	74.70	30.30
3	2483.50	60.7 PK	74.0	-13.3	1.43 H	269	30.30	30.40
4	2483.50	49.5 AV	54.0	-4.5	1.43 H	269	19.10	30.40
5	4924.00	52.3 PK	74.0	-21.7	1.70 H	319	16.70	35.60
6	4924.00	50.2 AV	54.0	-3.8	1.70 H	319	14.60	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.00 H	86	7.10	42.10
8	7386.00	37.9 AV	54.0	-16.1	1.00 H	86	-4.20	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.0 PK			1.58 V	331	71.70	30.30
2	*2462.00	98.7 AV			1.58 V	331	68.40	30.30
3	2483.50	57.4 PK	74.0	-16.6	1.53 V	355	27.00	30.40
4	2483.50	45.1 AV	54.0	-8.9	1.53 V	355	14.70	30.40
5	4924.00	52.5 PK	74.0	-21.5	1.31 V	286	16.90	35.60
6	4924.00	50.4 AV	54.0	-3.6	1.31 V	286	14.80	35.60
7	7386.00	49.0 PK	74.0	-25.0	1.00 V	43	6.90	42.10
8	7386.00	37.7 AV	54.0	-16.3	1.00 V	43	-4.40	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

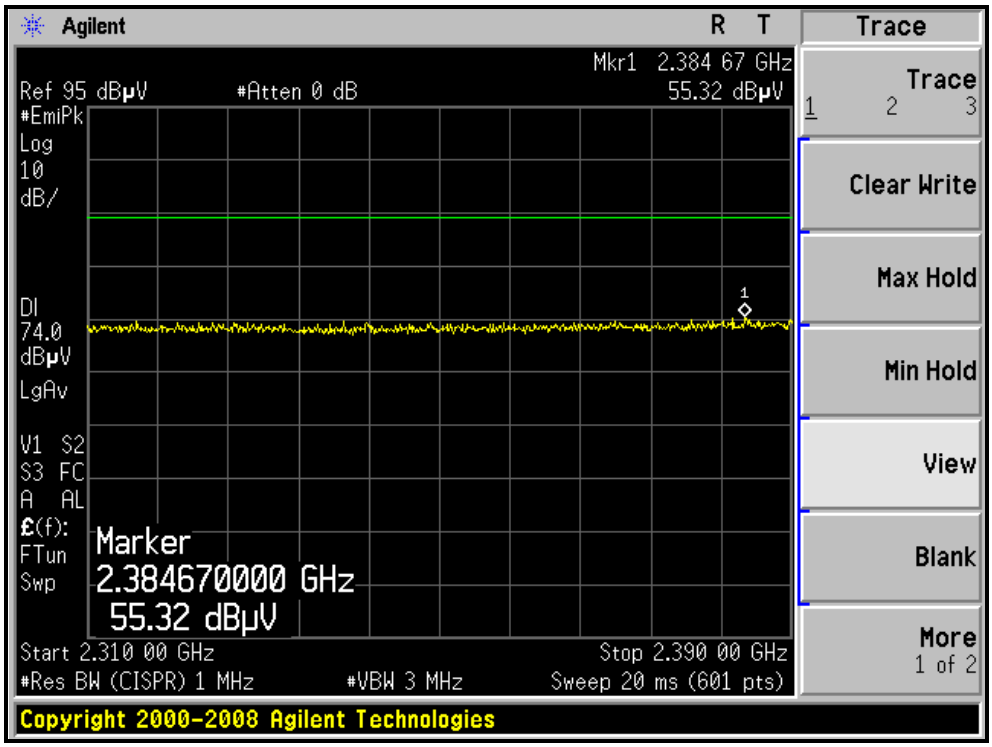
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

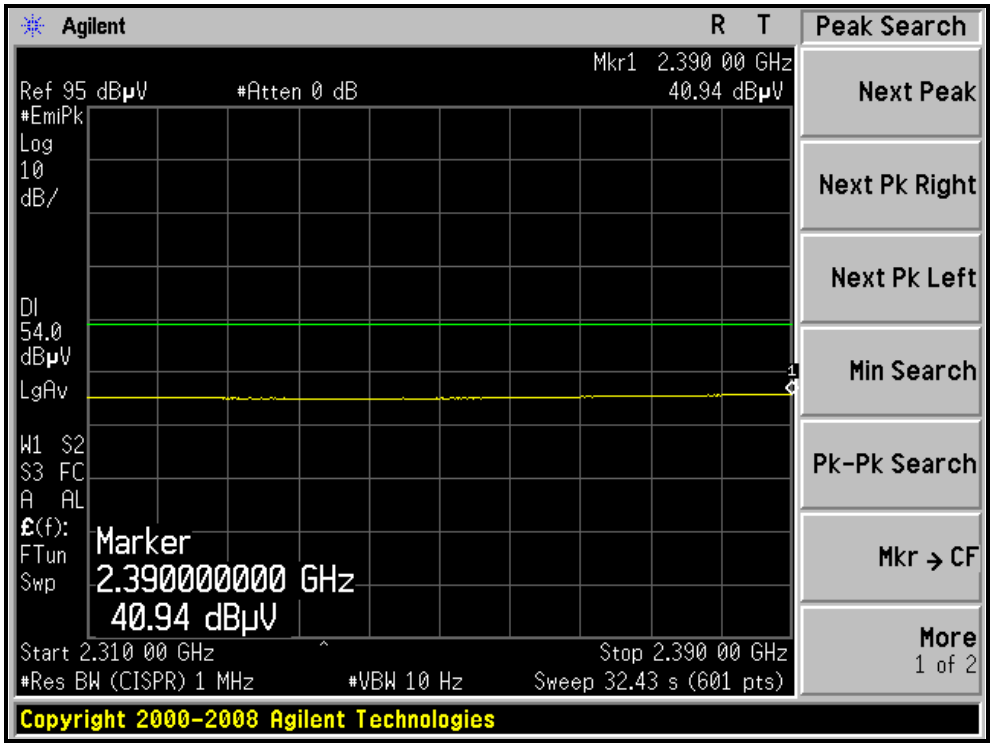
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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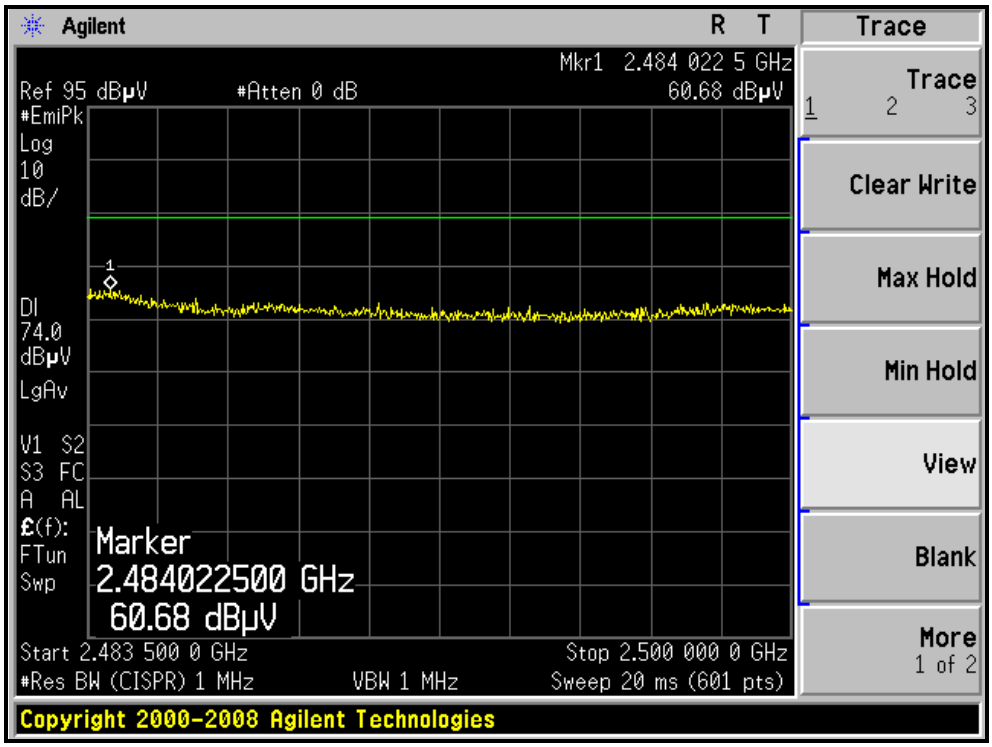

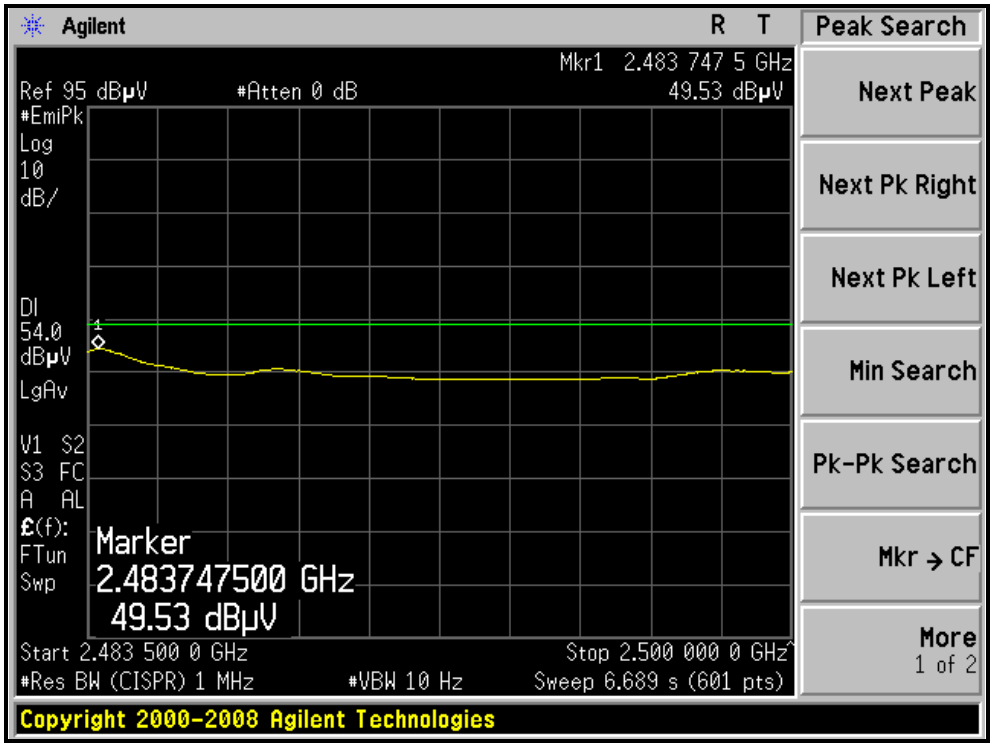

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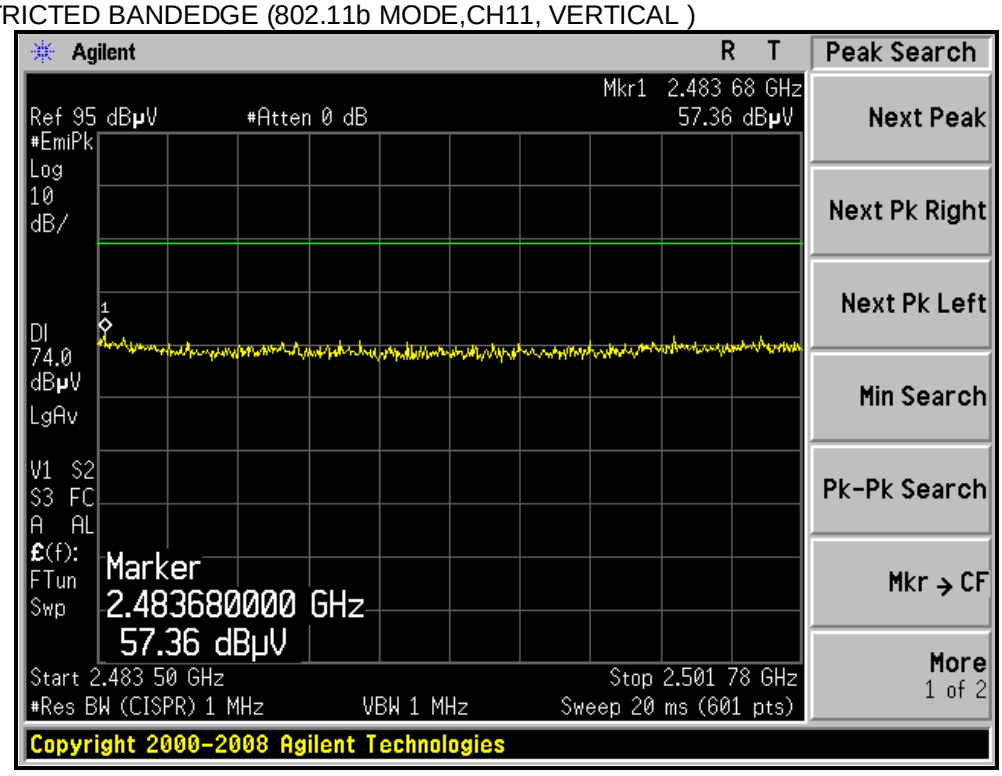
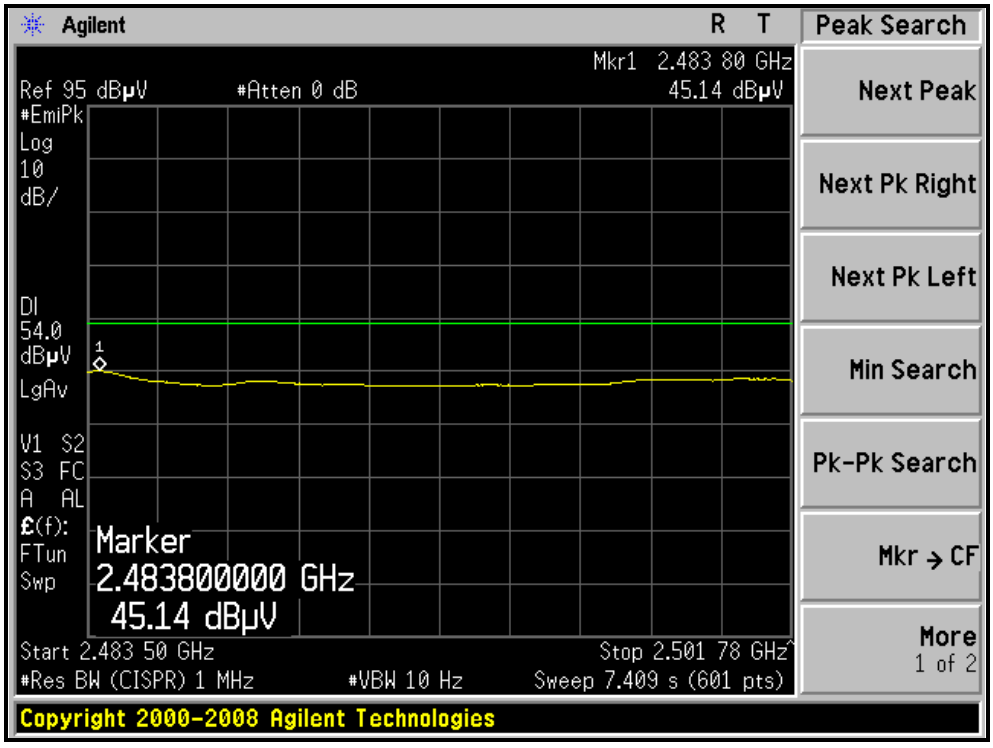




802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	1.56 H	13	36.50	30.10
2	2390.00	49.7 AV	54.0	-4.3	1.56 H	13	19.60	30.10
3	*2412.00	104.2 PK			1.44 H	10	74.10	30.10
4	*2412.00	95.3 AV			1.44 H	10	65.20	30.10
5	4824.00	49.5 PK	74.0	-24.5	1.27 H	216	14.10	35.40
6	4824.00	36.1 AV	54.0	-17.9	1.27 H	216	0.70	35.40
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	55.0 PK	74.0	-19.0	1.46 V	37	24.90	30.10
2	2390.00	42.6 AV	54.0	-11.4	1.46 V	37	12.50	30.10
3	*2412.00	98.8 PK			1.62 V	20	68.70	30.10
4	*2412.00	85.8 AV			1.62 V	20	55.70	30.10
5	4824.00	49.4 PK	74.0	-24.6	1.14 V	78	14.00	35.40
6	4824.00	36.5 AV	54.0	-17.5	1.14 V	78	1.10	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.4 PK			1.43 H	276	76.20	30.20
2	*2437.00	91.8 AV			1.43 H	276	61.60	30.20
3	4874.00	48.5 PK	74.0	-25.5	1.31 H	175	13.00	35.50
4	4874.00	36.2 AV	54.0	-17.8	1.31 H	175	0.70	35.50
5	7311.00	48.5 PK	74.0	-25.5	1.00 H	76	6.50	42.00
6	7311.00	36.7 AV	54.0	-17.3	1.00 H	76	-5.30	42.00
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	100.1 PK			1.61 V	0	69.90	30.20
2	*2437.00	83.5 AV			1.61 V	0	53.30	30.20
3	4874.00	48.9 PK	74.0	-25.1	1.17 V	86	13.40	35.50
4	4874.00	36.4 AV	54.0	-17.6	1.17 V	86	0.90	35.50
5	7311.00	48.1 PK	74.0	-25.9	1.00 V	30	6.10	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.00 V	30	-5.10	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

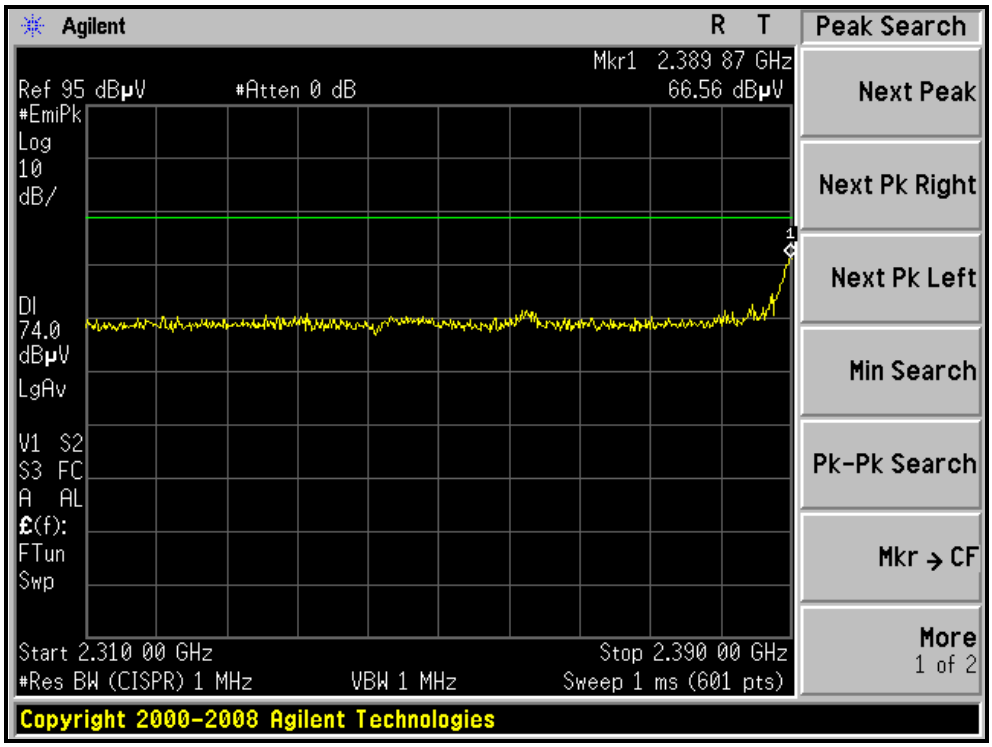
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

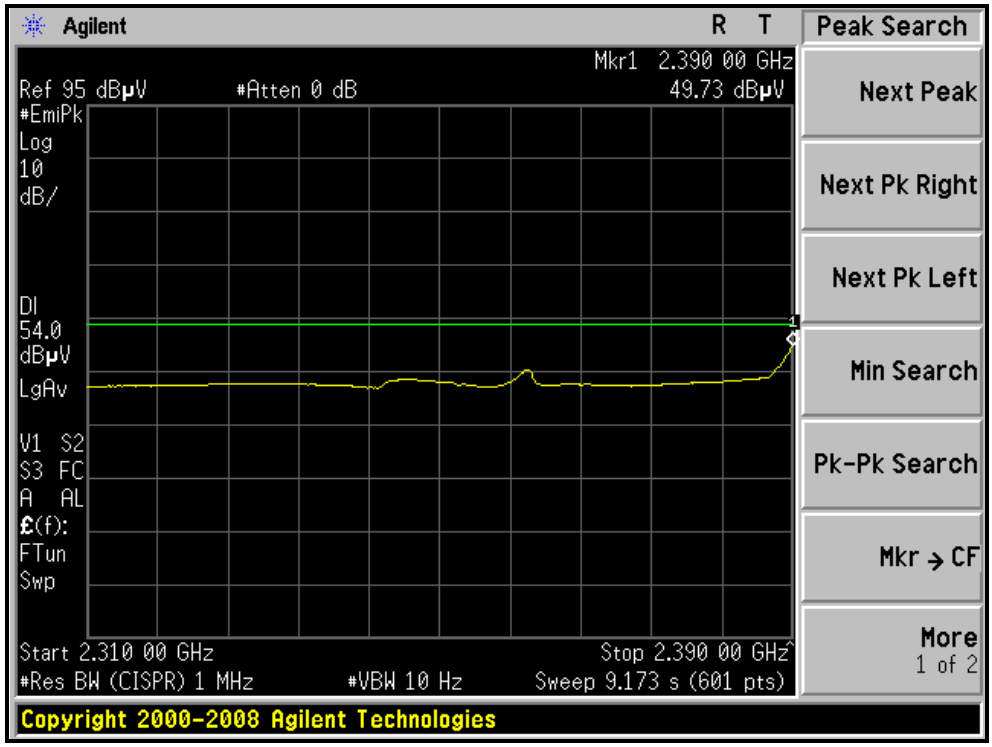
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.0 PK			1.44 H	9	76.70	30.30
2	*2462.00	97.8 AV			1.44 H	9	67.50	30.30
3	2483.50	71.1 PK	74.0	-2.9	1.44 H	17	40.70	30.40
4	2483.50	49.3 AV	54.0	-4.7	1.44 H	17	18.90	30.40
5	4924.00	49.3 PK	74.0	-24.7	1.34 H	156	13.70	35.60
6	4924.00	36.7 AV	54.0	-17.3	1.34 H	156	1.10	35.60
7	7386.00	48.6 PK	74.0	-25.4	1.00 H	54	6.50	42.10
8	7386.00	37.4 AV	54.0	-16.6	1.00 H	54	-4.70	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	101.4 PK			1.54 V	45	71.10	30.30
2	*2462.00	87.2 AV			1.54 V	45	56.90	30.30
3	2483.50	73.2 PK	74.0	-0.8	1.52 V	10	42.80	30.40
4	2483.50	43.9 AV	54.0	-10.1	1.52 V	10	13.50	30.40
5	4924.00	49.5 PK	74.0	-24.5	1.19 V	83	13.90	35.60
6	4924.00	36.8 AV	54.0	-17.2	1.19 V	83	1.20	35.60
7	7386.00	48.7 PK	74.0	-25.3	1.00 V	45	6.60	42.10
8	7386.00	37.2 AV	54.0	-16.8	1.00 V	45	-4.90	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

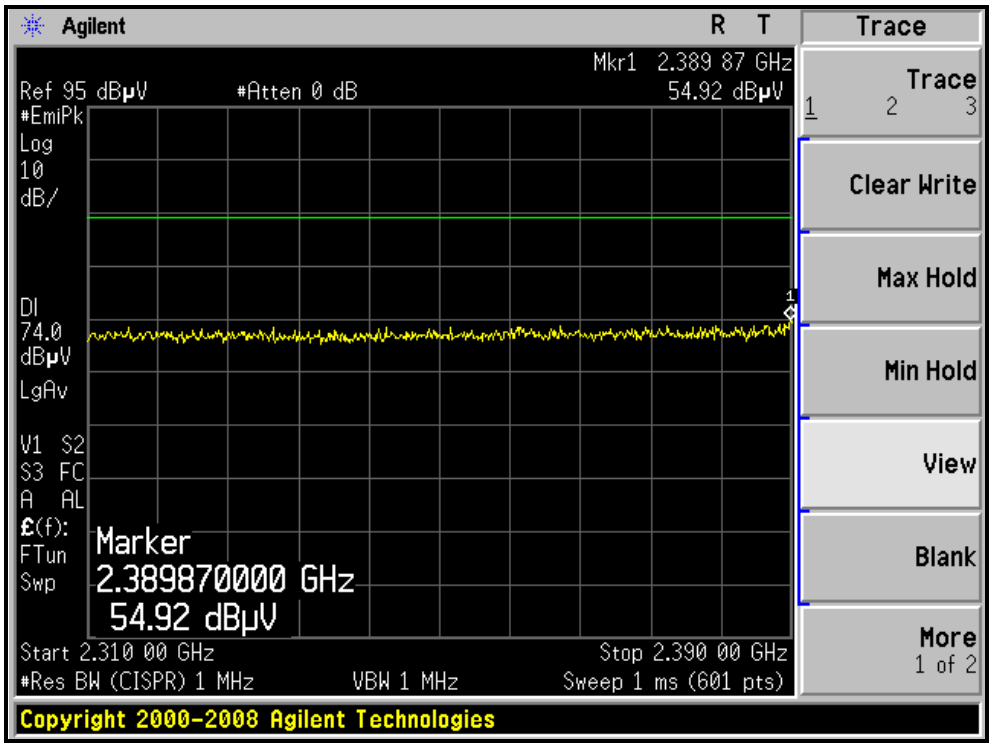
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

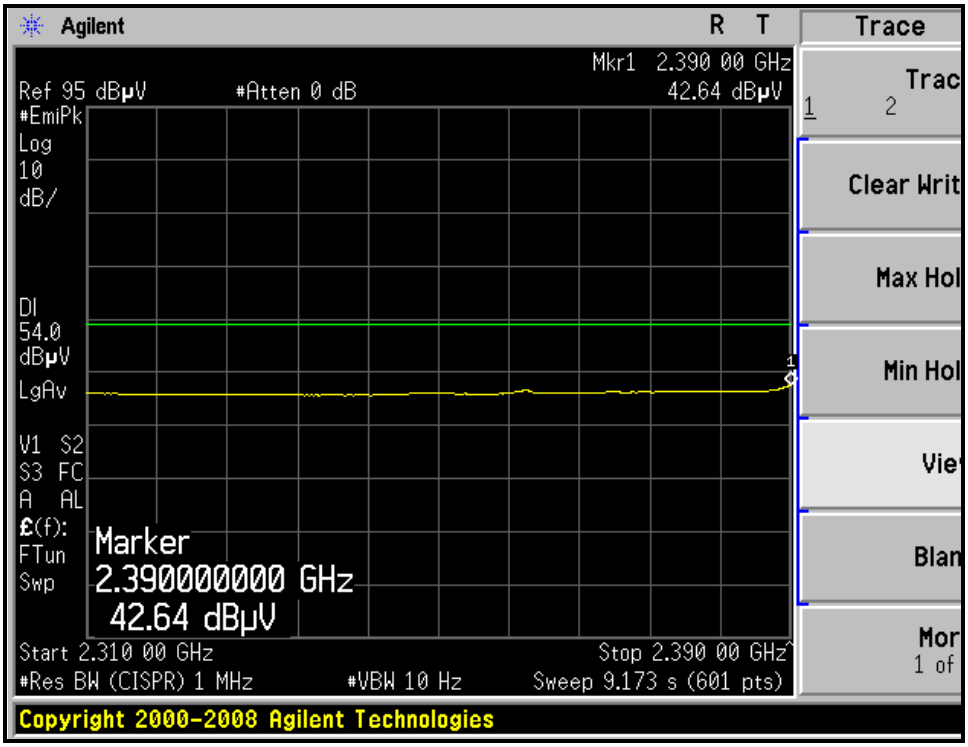
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





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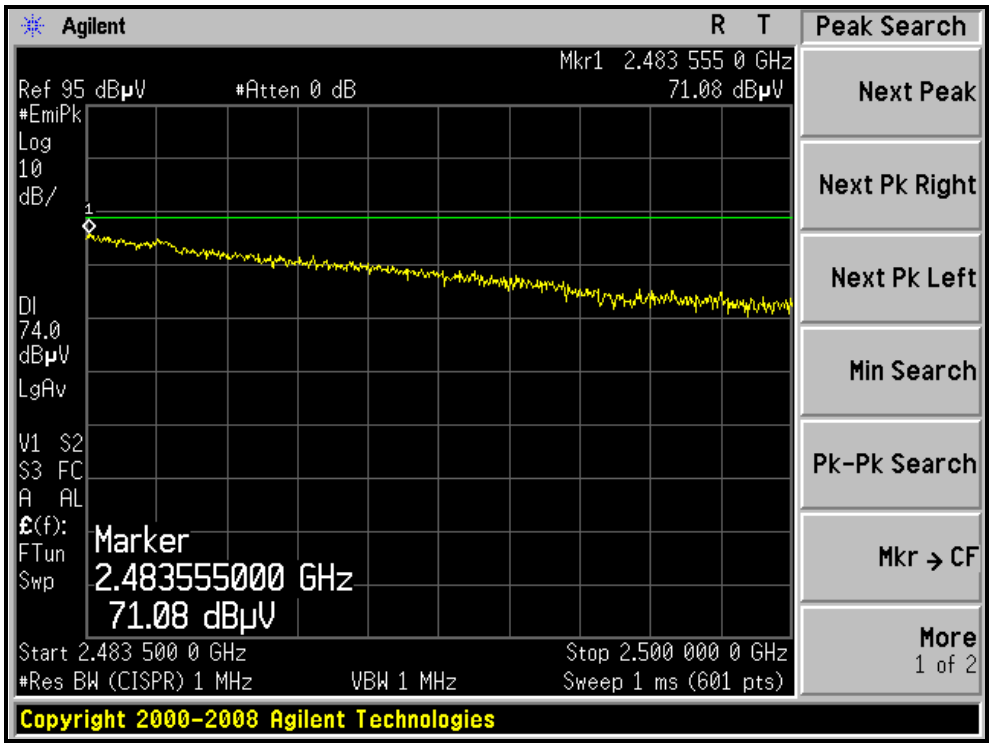
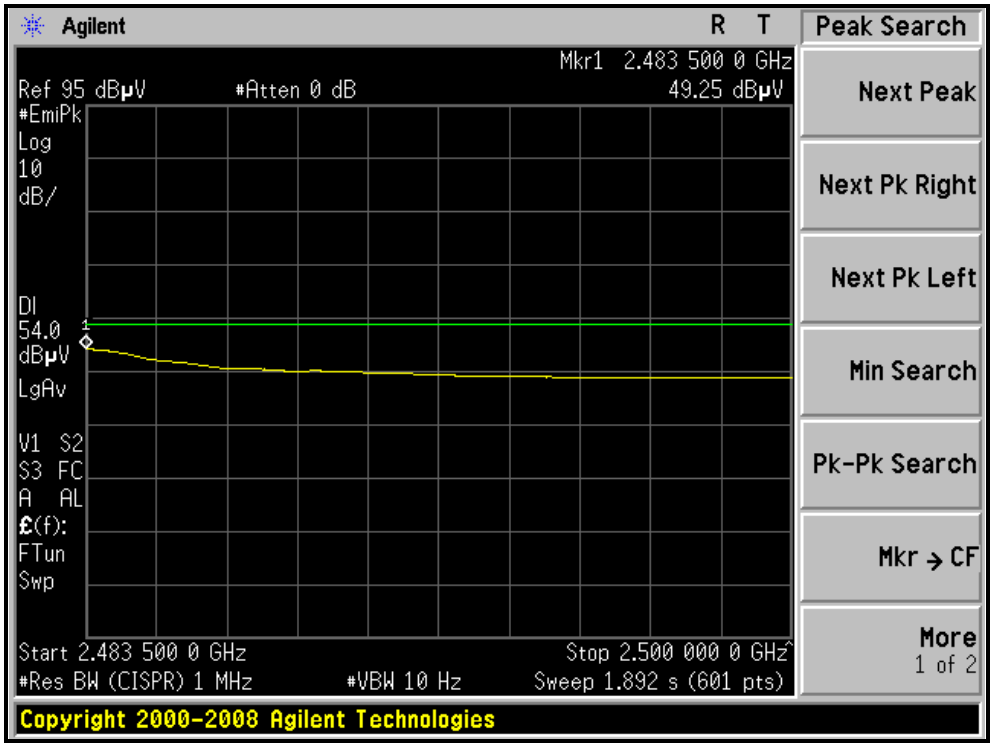
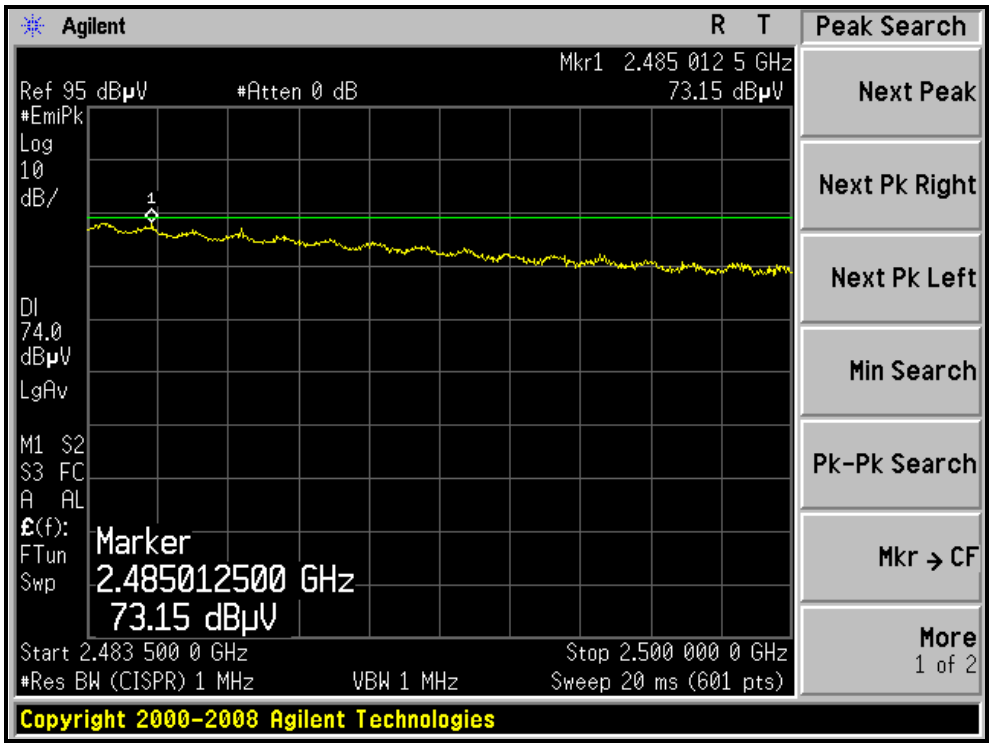
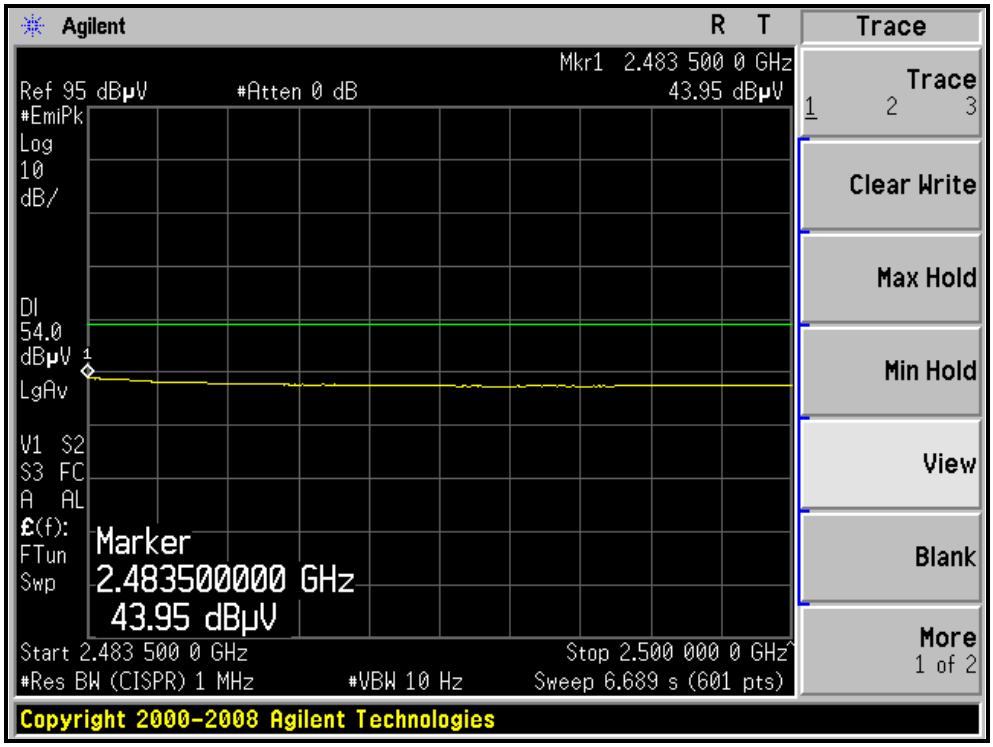




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.7 PK	74.0	-4.3	1.57 H	14	39.60	30.10
2	2390.00	52.1 AV	54.0	-1.9	1.57 H	14	22.00	30.10
3	*2412.00	103.8 PK			1.44 H	11	73.70	30.10
4	*2412.00	94.4 AV			1.44 H	11	64.30	30.10
5	4824.00	49.3 PK	74.0	-24.7	1.31 H	262	13.90	35.40
6	4824.00	35.8 AV	54.0	-18.2	1.31 H	262	0.40	35.40
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	61.0 PK	74.0	-13.0	1.59 V	321	30.90	30.10
2	2390.00	43.3 AV	54.0	-10.7	1.59 V	321	13.20	30.10
3	*2412.00	97.9 PK			1.51 V	243	67.80	30.10
4	*2412.00	84.3 AV			1.51 V	243	54.20	30.10
5	4824.00	48.7 PK	74.0	-25.3	1.15 V	76	13.30	35.40
6	4824.00	36.1 AV	54.0	-17.9	1.15 V	76	0.70	35.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.3 PK			1.31 H	241	77.10	30.20
2	*2437.00	98.8 AV			1.31 H	241	68.60	30.20
3	4874.00	48.0 PK	74.0	-26.0	1.29 H	253	12.50	35.50
4	4874.00	35.2 AV	54.0	-18.8	1.29 H	253	-0.30	35.50
5	7311.00	49.5 PK	74.0	-24.5	1.00 H	247	7.50	42.00
6	7311.00	37.3 AV	54.0	-16.7	1.00 H	247	-4.70	42.00
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	100.2 PK			1.24 V	311	70.00	30.20
2	*2437.00	85.9 AV			1.24 V	311	55.70	30.20
3	4874.00	48.9 PK	74.0	-25.1	1.17 V	79	13.40	35.50
4	4874.00	35.6 AV	54.0	-18.4	1.17 V	79	0.10	35.50
5	7311.00	49.1 PK	74.0	-24.9	1.00 V	281	7.10	42.00
6	7311.00	37.5 AV	54.0	-16.5	1.00 V	281	-4.50	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.6 PK			1.45 H	10	77.30	30.30
2	*2462.00	98.1 AV			1.45 H	10	67.80	30.30
3	2483.50	72.7 PK	74.0	-1.3	1.44 H	18	42.30	30.40
4	2483.50	52.9 AV	54.0	-1.1	1.44 H	18	22.50	30.40
5	4924.00	48.7 PK	74.0	-25.3	1.23 H	177	13.10	35.60
6	4924.00	35.9 AV	54.0	-18.1	1.23 H	177	0.30	35.60
7	7386.00	49.2 PK	74.0	-24.8	1.00 H	65	7.10	42.10
8	7386.00	37.4 AV	54.0	-16.6	1.00 H	65	-4.70	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	100.6 PK			1.51 V	47	70.30	30.30
2	*2462.00	86.4 AV			1.51 V	47	56.10	30.30
3	2483.50	73.1 PK	74.0	-0.9	1.52 V	10	42.70	30.40
4	2483.50	45.4 AV	54.0	-8.6	1.52 V	10	15.00	30.40
5	4924.00	49.2 PK	74.0	-24.8	1.16 V	83	13.60	35.60
6	4924.00	36.3 AV	54.0	-17.7	1.16 V	83	0.70	35.60
7	7386.00	49.6 PK	74.0	-24.4	1.00 V	174	7.50	42.10
8	7386.00	37.7 AV	54.0	-16.3	1.00 V	174	-4.40	42.10

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

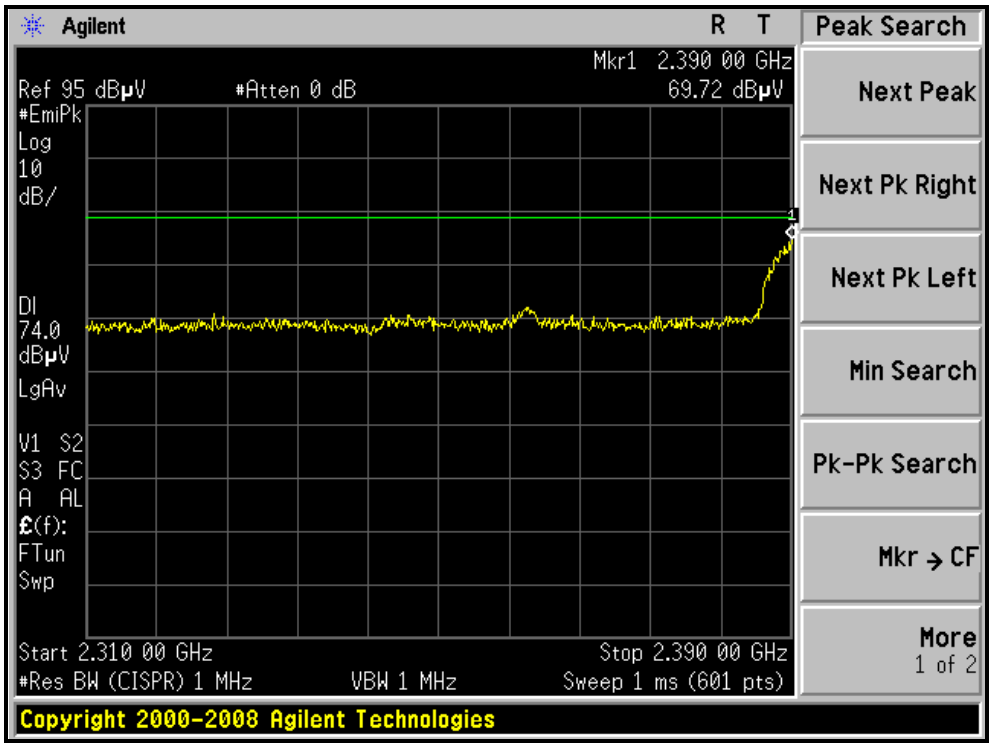
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

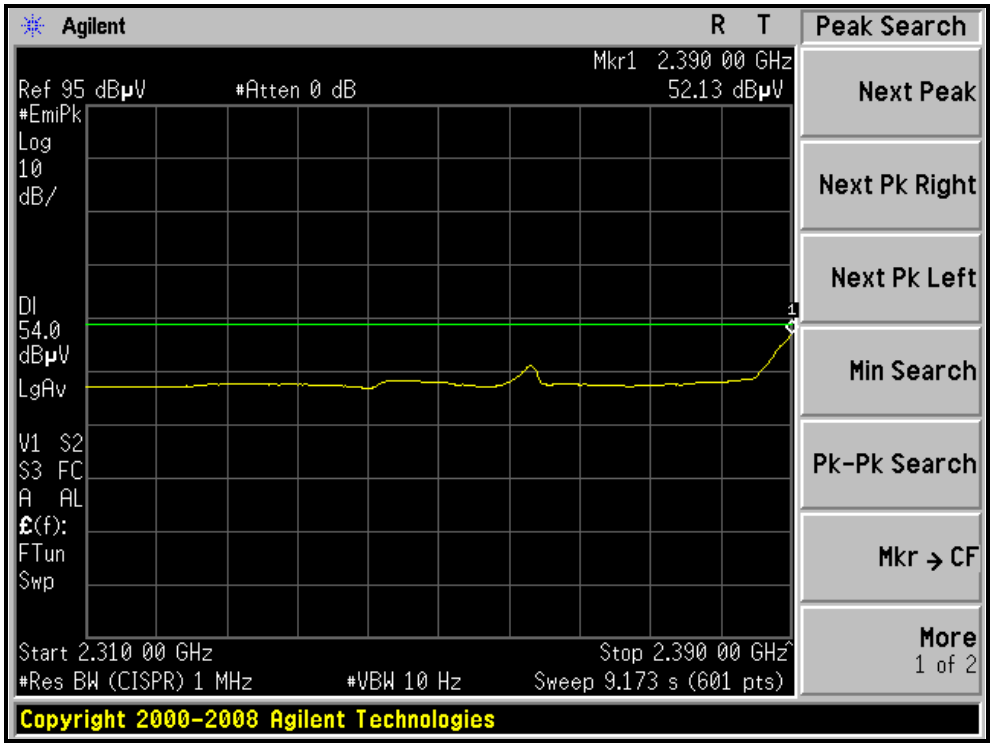
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

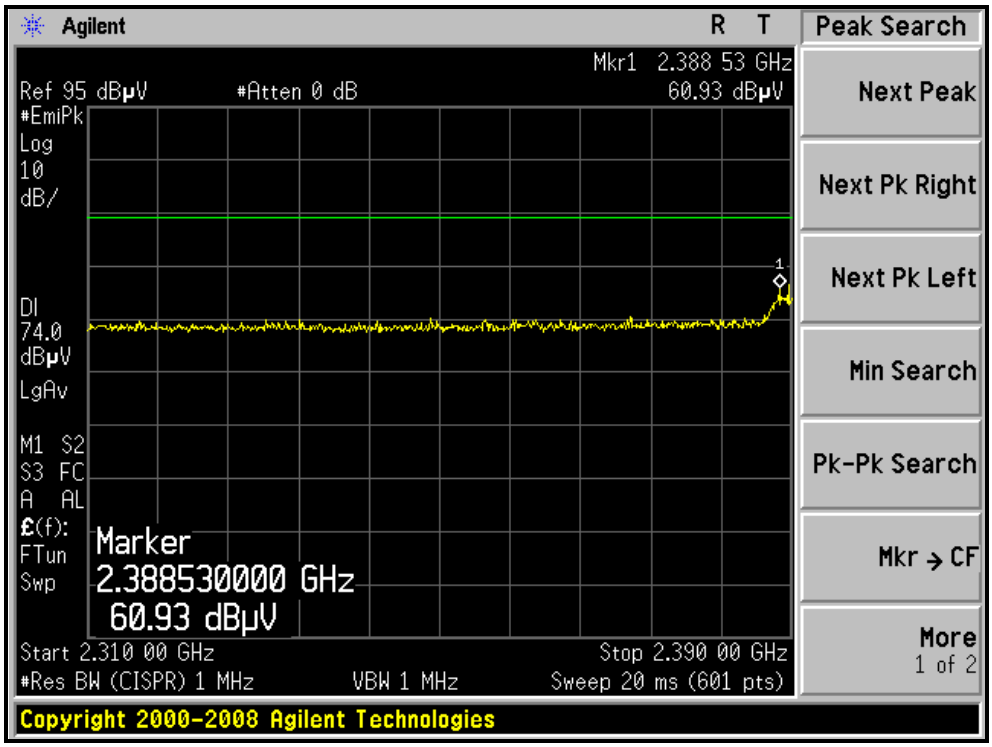
5. " * ": Fundamental frequency.

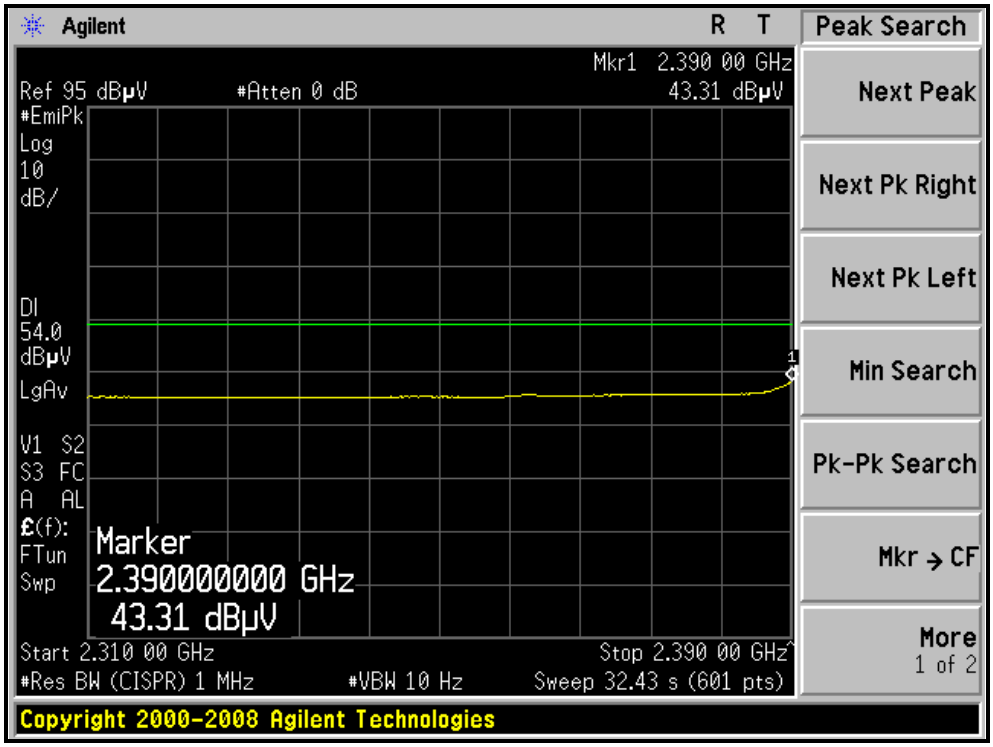
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



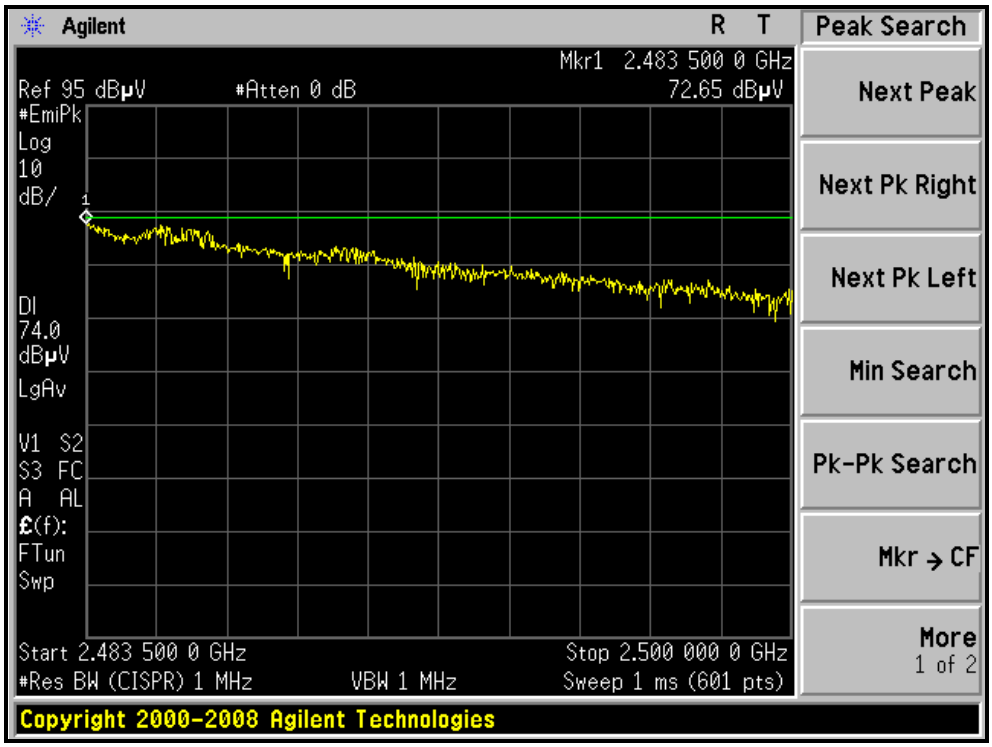


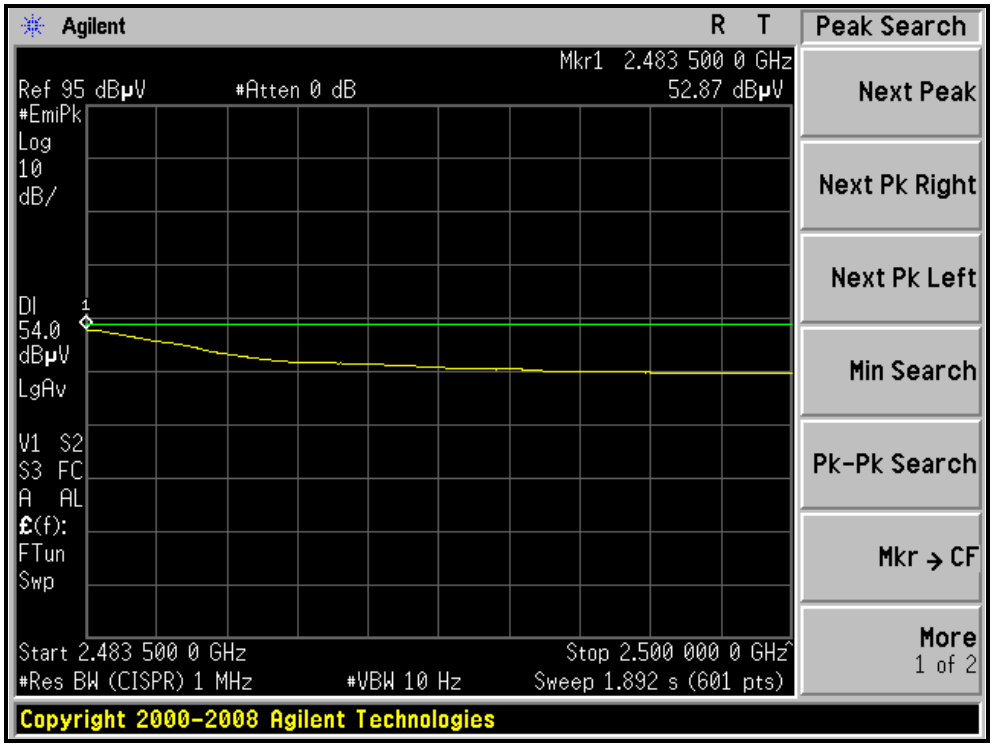
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



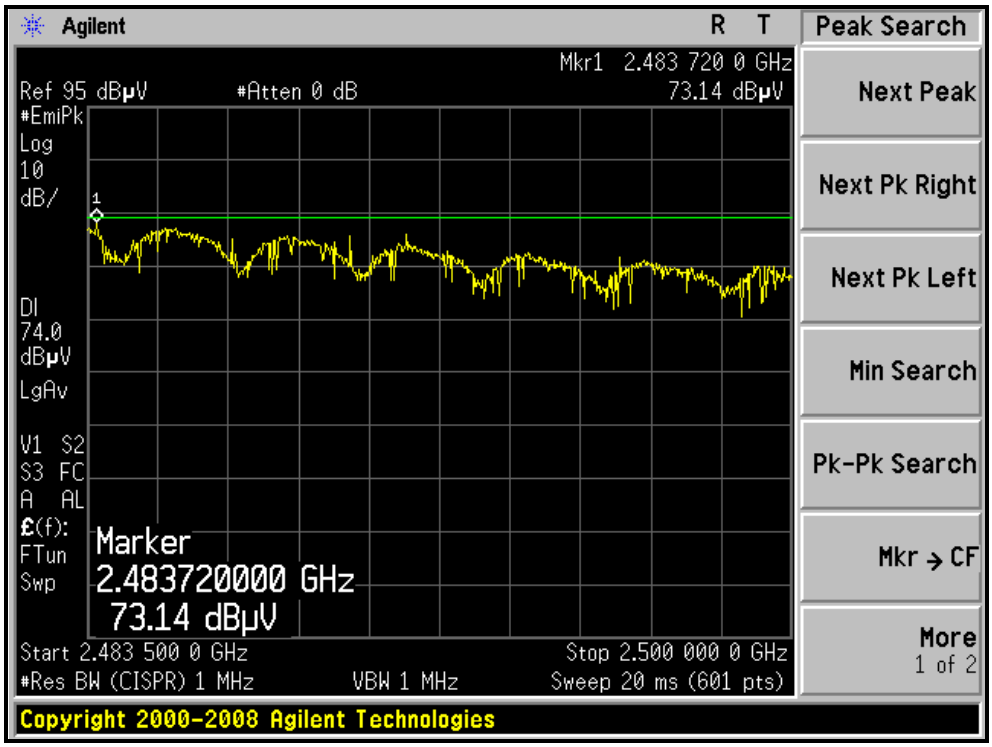


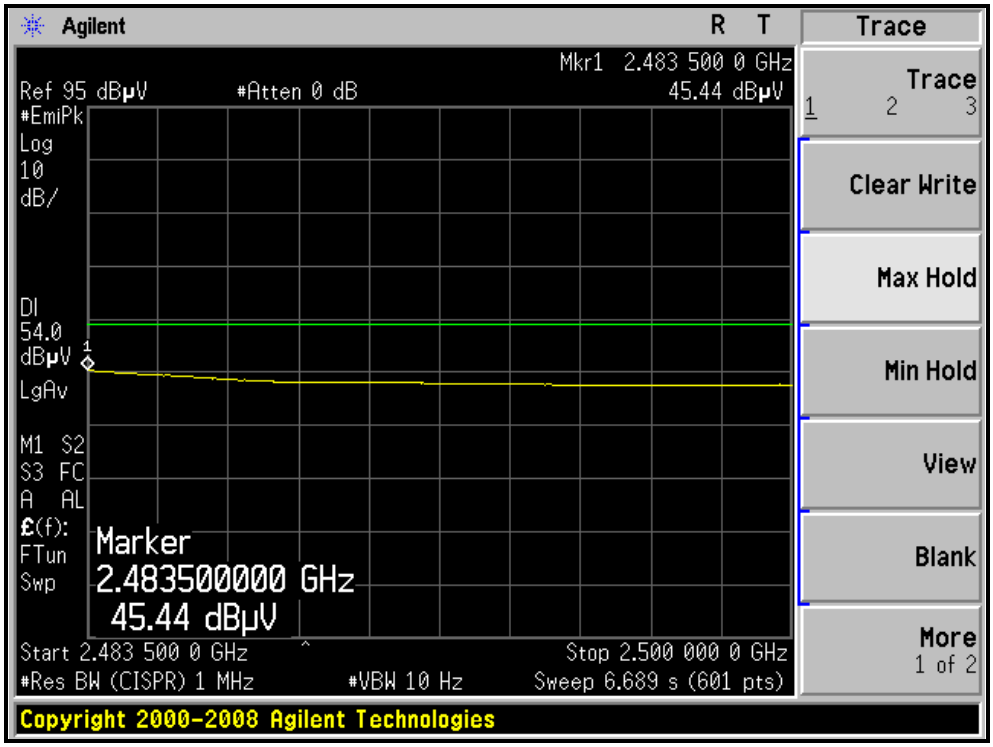
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





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	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.7 PK	74.0	-5.3	1.56 H	13	38.60	30.10
2	2390.00	52.6 AV	54.0	-1.4	1.56 H	13	22.50	30.10
3	*2422.00	101.3 PK			1.43 H	10	71.10	30.20
4	*2422.00	91.4 AV			1.43 H	10	61.20	30.20
5	4844.00	47.1 PK	74.0	-26.9	1.21 H	48	11.60	35.50
6	4844.00	34.2 AV	54.0	-19.8	1.21 H	48	-1.30	35.50
7	7266.00	48.1 PK	74.0	-25.9	1.00 H	126	6.20	41.90
8	7266.00	36.5 AV	54.0	-17.5	1.00 H	126	-5.40	41.90
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	61.9 PK	74.0	-12.1	1.32 V	48	31.80	30.10
2	2390.00	44.0 AV	54.0	-10.0	1.32 V	48	13.90	30.10
3	*2422.00	95.1 PK			1.36 V	236	64.90	30.20
4	*2422.00	86.1 AV			1.36 V	236	55.90	30.20
5	4844.00	47.6 PK	74.0	-26.4	1.14 V	79	12.10	35.50
6	4844.00	34.5 AV	54.0	-19.5	1.14 V	79	-1.00	35.50
7	7266.00	48.4 PK	74.0	-25.6	1.00 V	23	6.50	41.90
8	7266.00	36.7 AV	54.0	-17.3	1.00 V	23	-5.20	41.90

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.5 PK			1.44 H	271	74.30	30.20
2	*2437.00	86.6 AV			1.44 H	271	56.40	30.20
3	4874.00	47.7 PK	74.0	-26.3	1.25 H	66	12.20	35.50
4	4874.00	34.3 AV	54.0	-19.7	1.25 H	66	-1.20	35.50
5	7311.00	48.7 PK	74.0	-25.3	1.00 H	249	6.70	42.00
6	7311.00	36.8 AV	54.0	-17.2	1.00 H	249	-5.20	42.00
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	100.0 PK			1.33 V	236	69.80	30.20
2	*2437.00	89.8 AV			1.33 V	236	59.60	30.20
3	4874.00	47.8 PK	74.0	-26.2	1.19 V	86	12.30	35.50
4	4874.00	34.6 AV	54.0	-19.4	1.19 V	86	-0.90	35.50
5	7311.00	48.9 PK	74.0	-25.1	1.00 V	65	6.90	42.00
6	7311.00	36.9 AV	54.0	-17.1	1.00 V	65	-5.10	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	31deg. C, 60%RH 1015 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	103.5 PK			1.44 H	9	73.20	30.30
2	*2452.00	94.5 AV			1.44 H	9	64.20	30.30
3	2483.72	70.6 PK	74.0	-3.4	1.44 H	19	40.20	30.40
4	**2483.72**	**53.4 AV**	**54.0**	**-0.6**	**1.44 H**	**19**	**23.00**	**30.40**
5	4904.00	48.5 PK	74.0	-25.5	1.23 H	73	12.90	35.60
6	4904.00	35.4 AV	54.0	-18.6	1.23 H	73	-0.20	35.60
7	7356.00	49.2 PK	74.0	-24.8	1.00 H	252	7.20	42.00
8	7356.00	37.6 AV	54.0	-16.4	1.00 H	252	-4.40	42.00
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	99.0 PK			1.28 V	351	68.70	30.30
2	*2452.00	82.7 AV			1.28 V	351	52.40	30.30
3	2484.50	72.0 PK	74.0	-2.0	1.24 V	355	41.60	30.40
4	2484.50	46.3 AV	54.0	-7.7	1.24 V	355	15.90	30.40
5	4904.00	48.3 PK	74.0	-25.7	1.21 V	84	12.70	35.60
6	4904.00	35.2 AV	54.0	-18.8	1.21 V	84	-0.40	35.60
7	7356.00	49.1 PK	74.0	-24.9	1.00 V	67	7.10	42.00
8	7356.00	37.4 AV	54.0	-16.6	1.00 V	67	-4.60	42.00

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

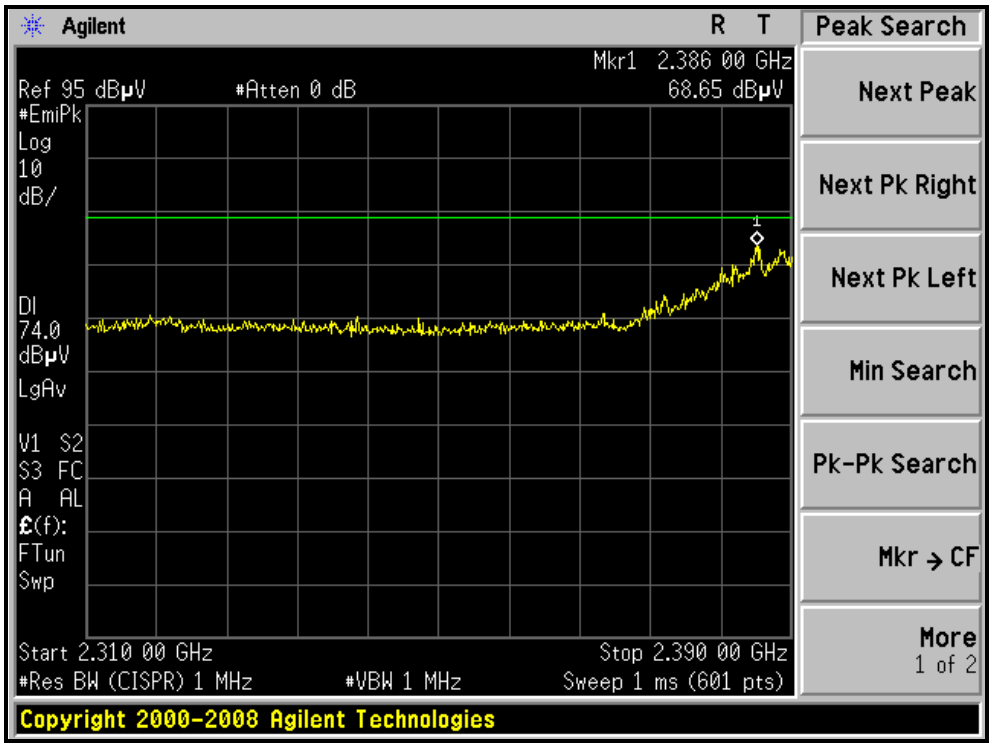
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

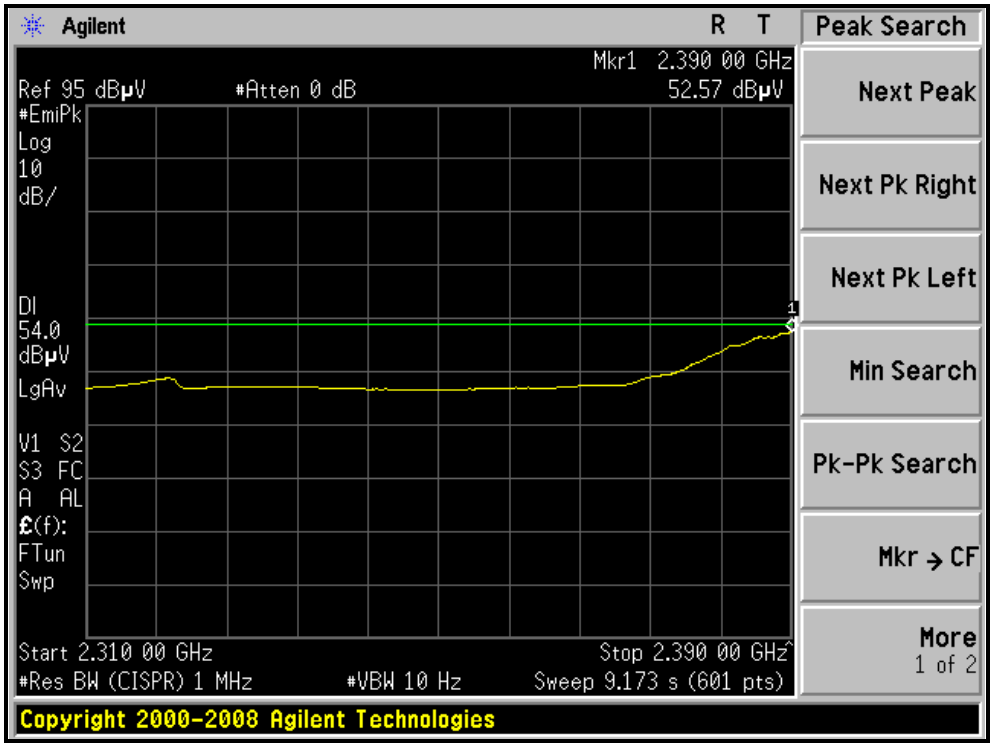
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

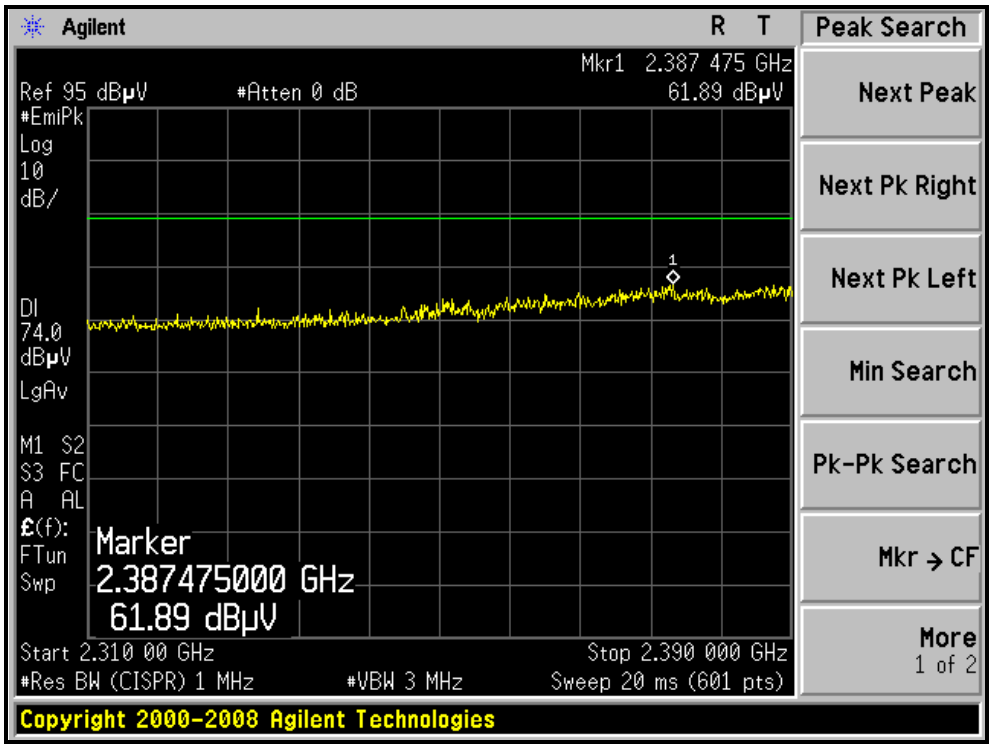
5. " * ": Fundamental frequency.

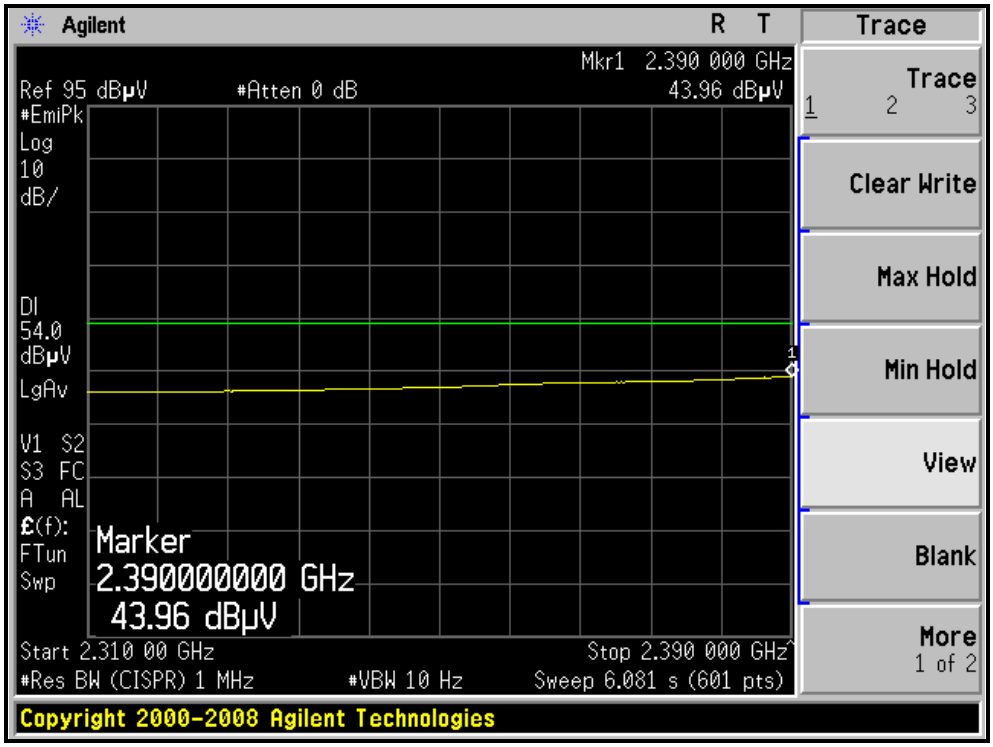
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



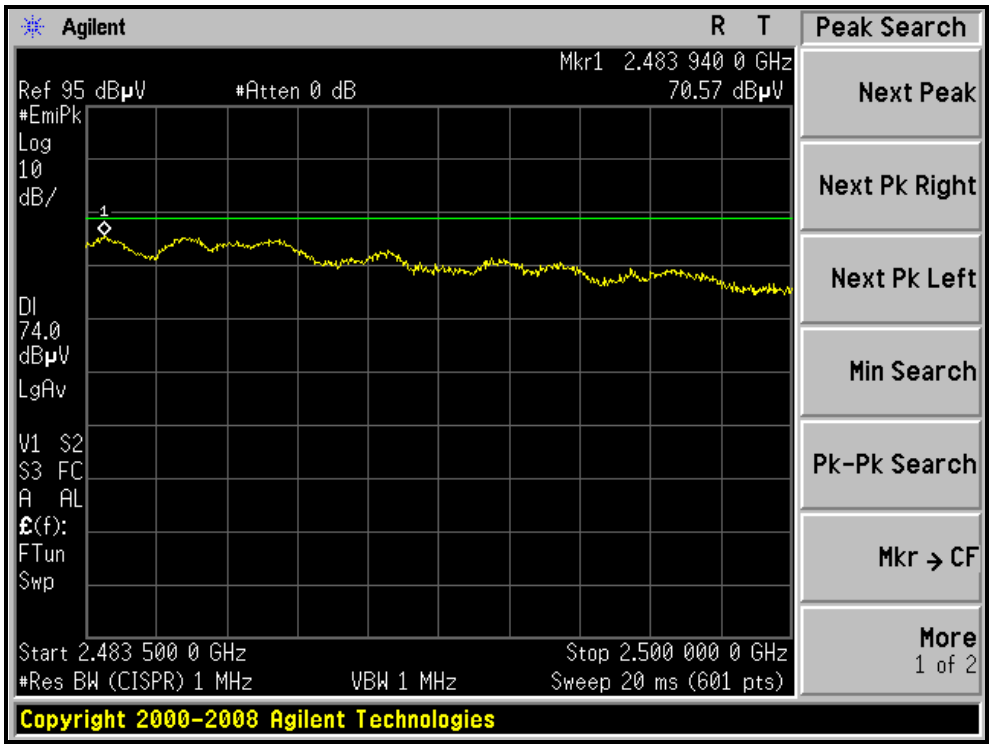


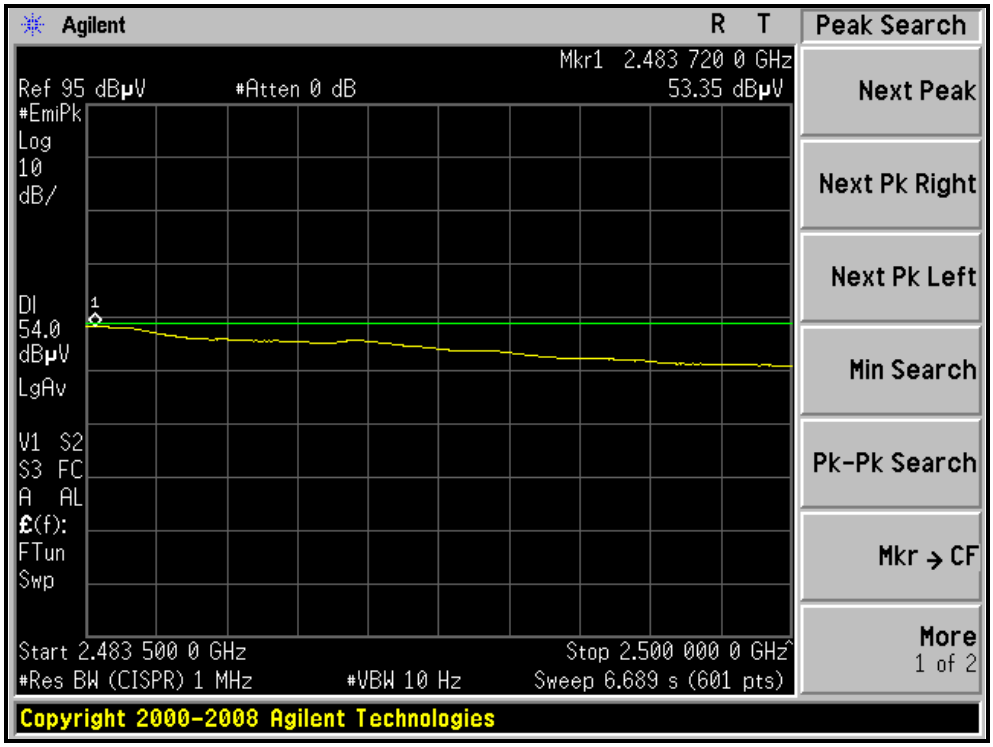
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



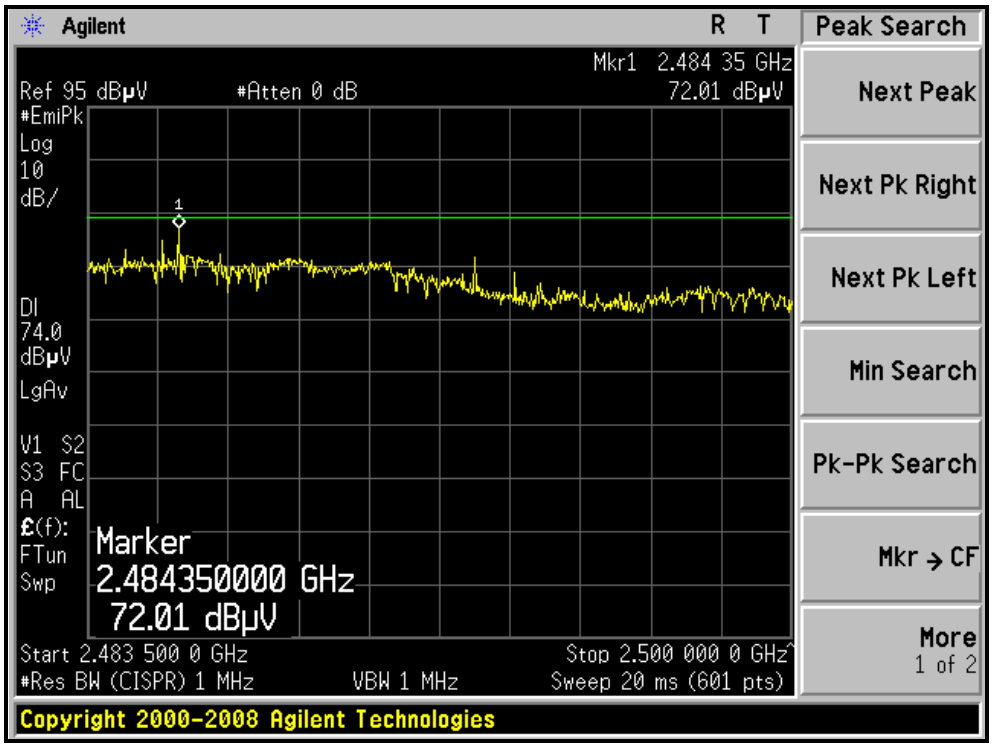


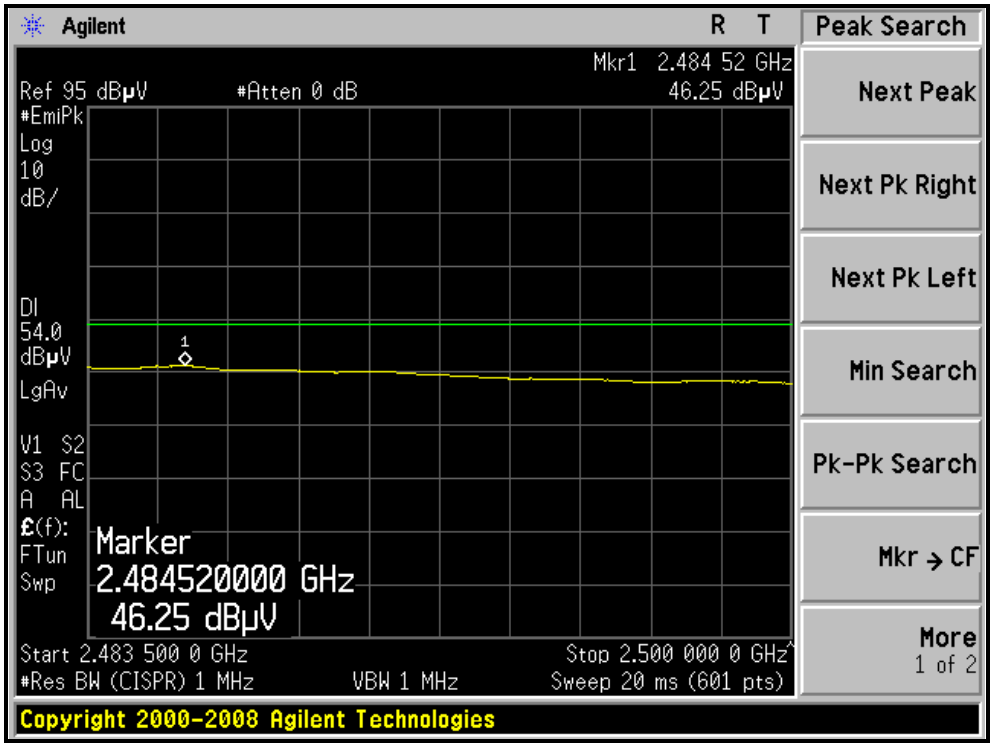
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, HORIZONTAL)





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

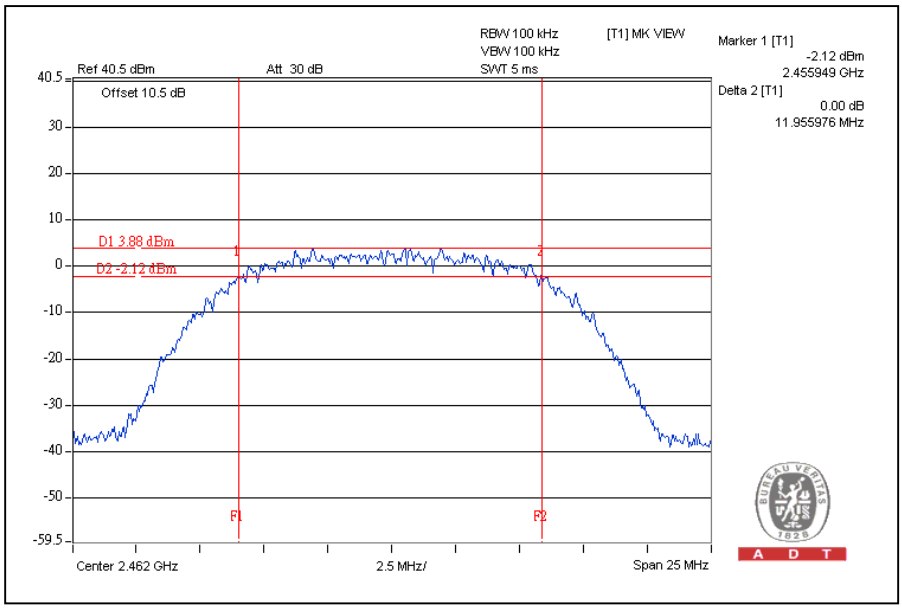
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	11.76	0.5	PASS
6	2437	11.93	0.5	PASS
11	2462	11.95	0.5	PASS

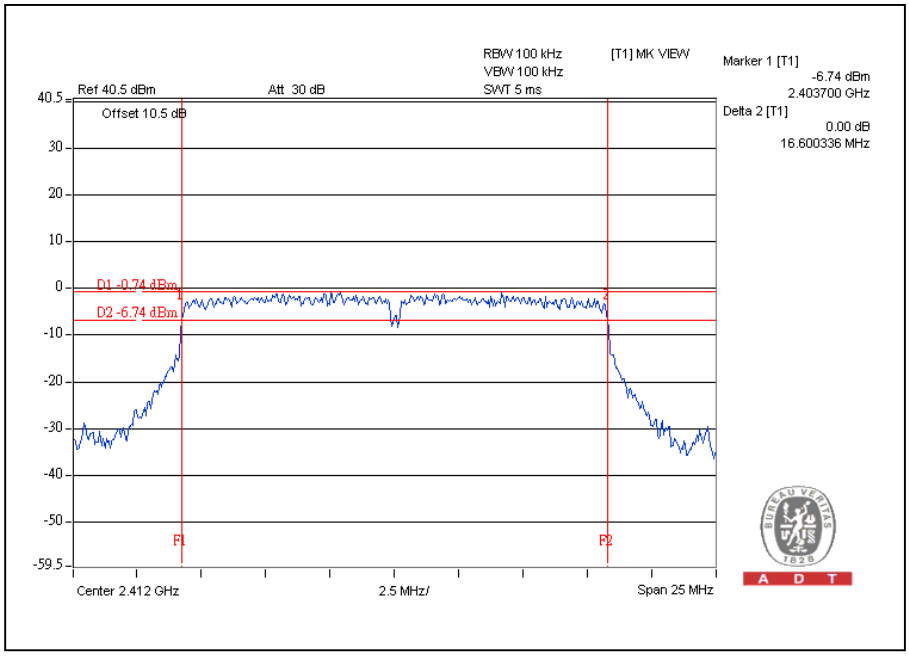
CH11



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.60	0.5	PASS
6	2437	16.59	0.5	PASS
11	2462	16.55	0.5	PASS

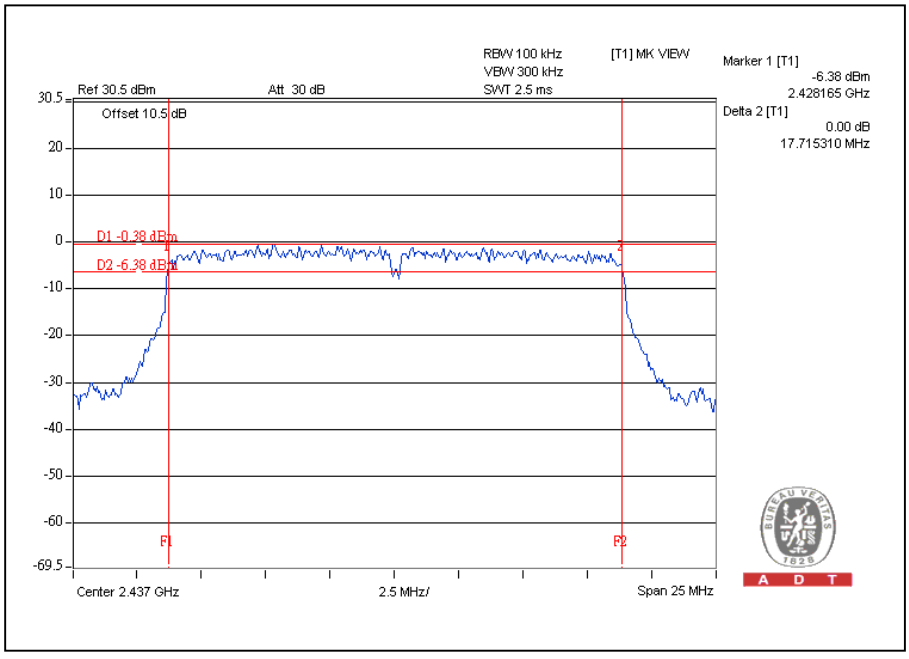
CH1



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.69	0.5	PASS
6	2437	17.71	0.5	PASS
11	2462	17.71	0.5	PASS

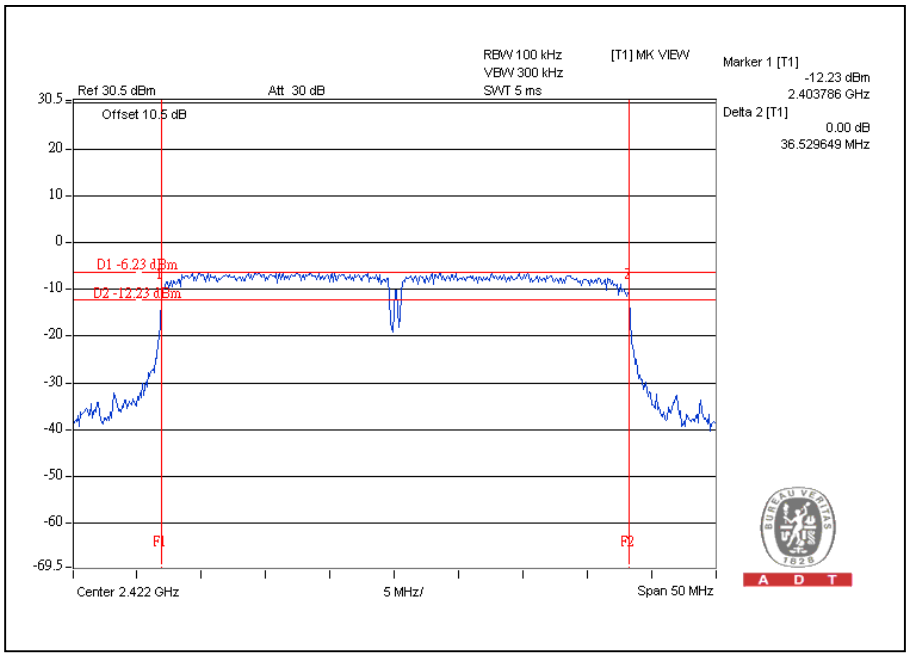
CH6



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.52	0.5	PASS
4	2437	36.49	0.5	PASS
7	2452	36.43	0.5	PASS

CH1



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 24, 2010	April 23, 2011
Pulse Power Sensor	MA2411B	0738172	April 24, 2010	April 23, 2011

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

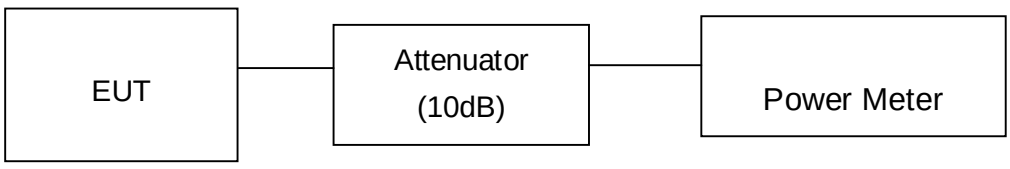
4.4.3 TEST PROCEDURES

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 (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	19.6	91.2	30	PASS
6	2437	19.2	83.2	30	PASS
11	2462	18.9	77.6	30	PASS

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER OUTPUT (mW)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	23.8	239.9	30	PASS
6	2437	23.7	234.4	30	PASS
11	2462	22.4	173.8	30	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	23.3	213.8	30	PASS
6	2437	23.2	208.9	30	PASS
11	2462	22.0	158.5	30	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	2422	21.4	138.0	30	PASS
4	2437	23.4	218.8	30	PASS
7	2452	22.3	169.8	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

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

NOTE:

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

4.5.3 TEST PROCEDURE

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

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP

4.5.6 EUT OPERATING CONDITION

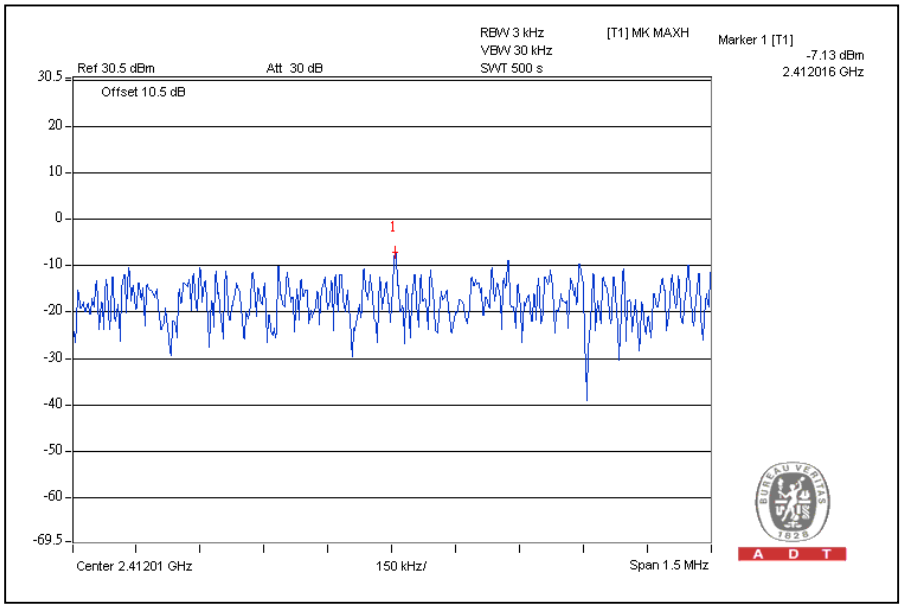
Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-7.1	8	PASS
6	2437	-7.9	8	PASS
11	2462	-9.0	8	PASS

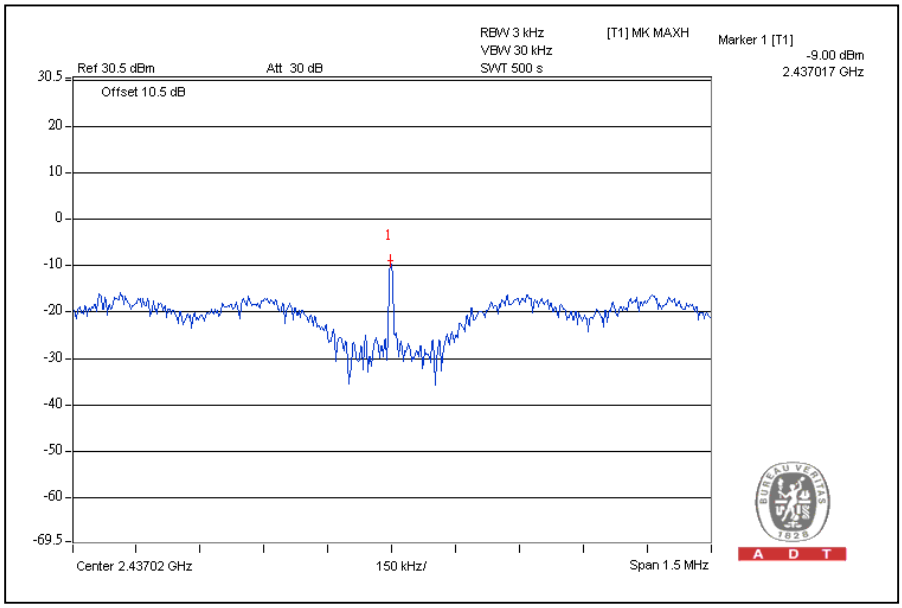
CH1



802.11g 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	-9.0	8	PASS
11	2462	-11.5	8	PASS

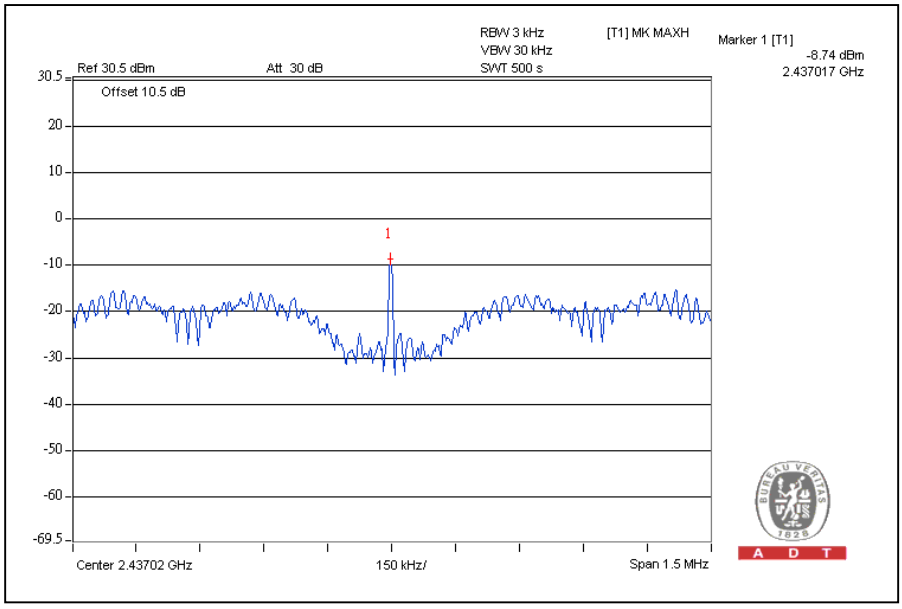
CH6



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-9.8	8	PASS
6	2437	-8.7	8	PASS
11	2462	-11.5	8	PASS

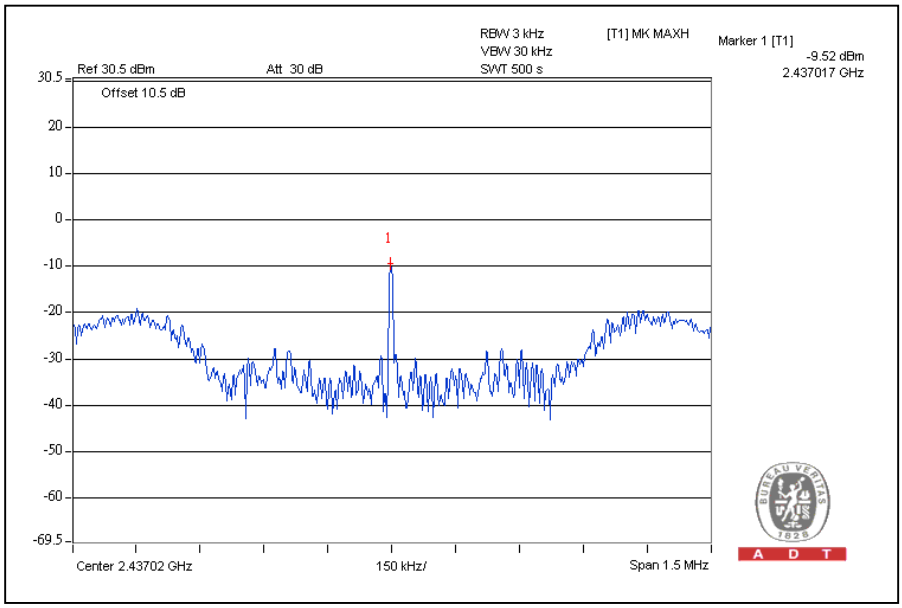
CH6



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2422	-12.6	8	PASS
4	2437	-9.5	8	PASS
7	2452	-11.7	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 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 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

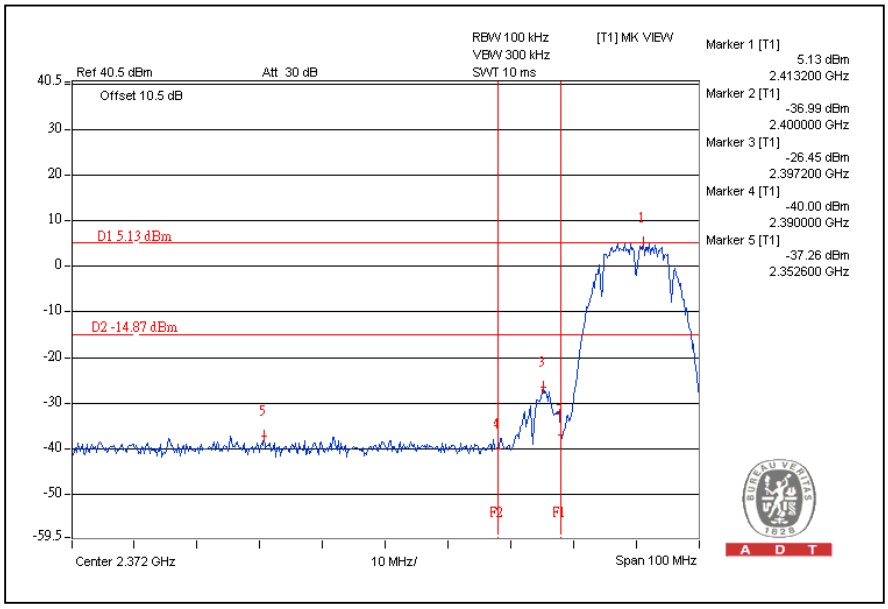
Same as Item 4.3.6

4.6.6 TEST RESULTS

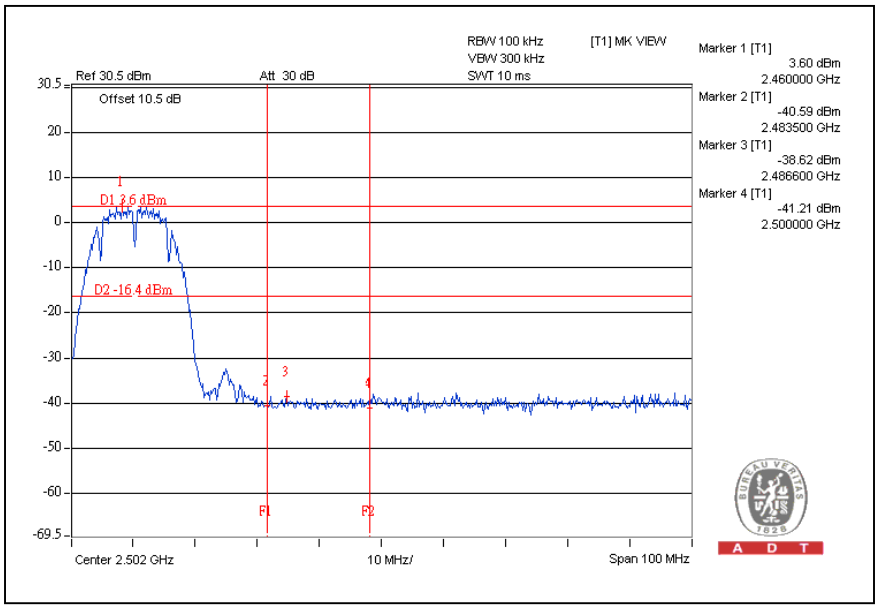
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

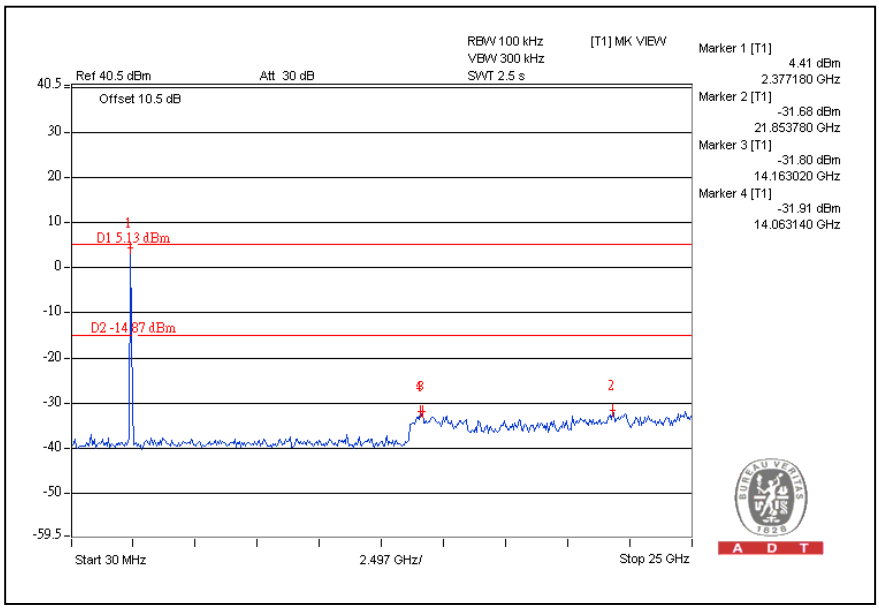
CH1



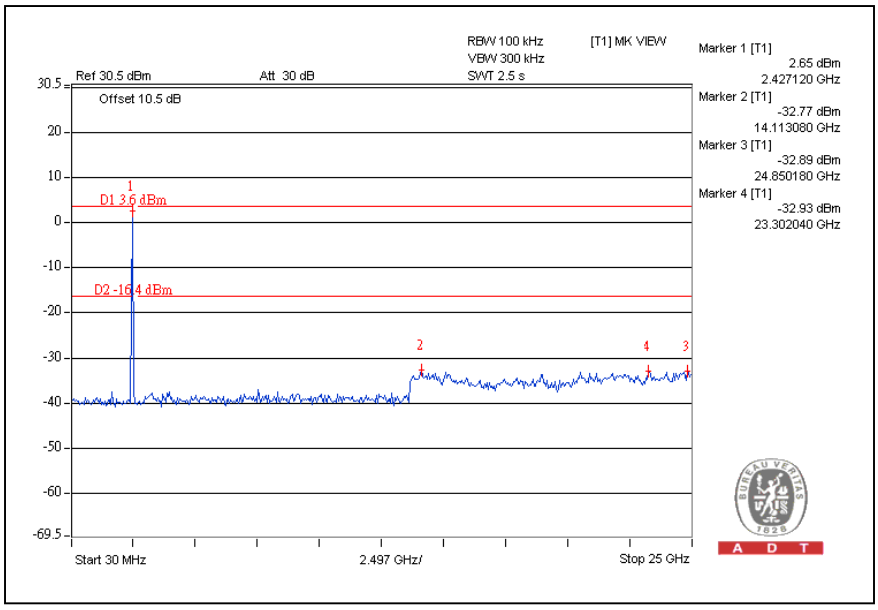
CH11



CH1

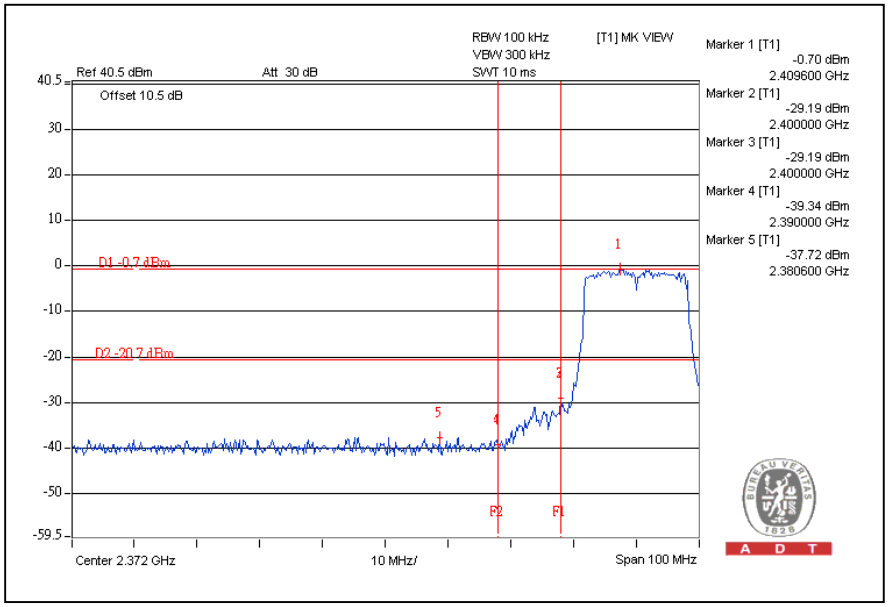

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
4.41 dBm
2.377180 GHz
Marker 2 [T1]
-31.68 dBm
21.853780 GHz
Marker 3 [T1]
-31.80 dBm
14.163020 GHz
Marker 4 [T1]
-31.91 dBm
14.063140 GHz
Ref 40.5 dBm
Att 30 dB
Offset 10.5 dB
D1 5.13 dBm
D2 -14.87 dBm
40.5
30
20
10
0
-10
-20
-30
-40
-50
-59.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

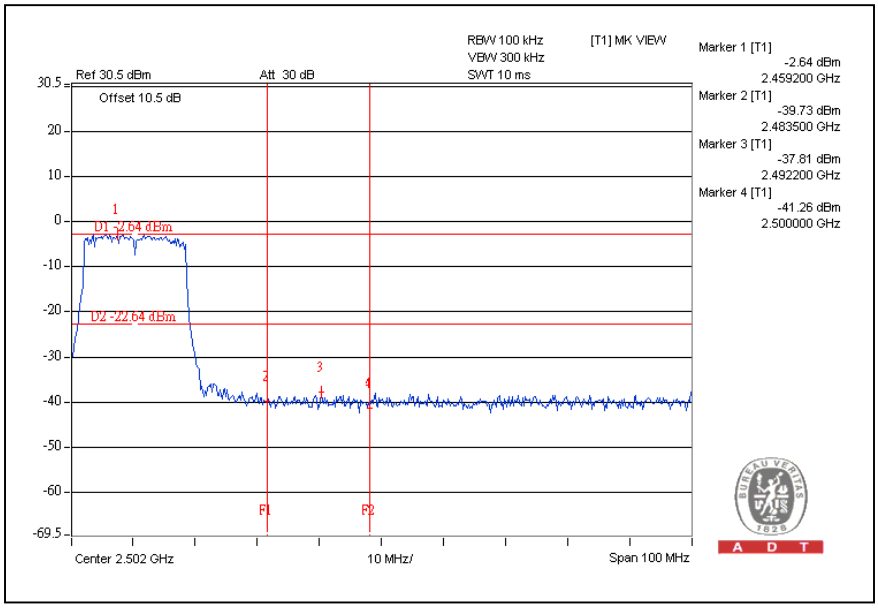

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
2.65 dBm
2.427120 GHz
Marker 2 [T1]
-32.77 dBm
14.113080 GHz
Marker 3 [T1]
-32.89 dBm
24.850180 GHz
Marker 4 [T1]
-32.93 dBm
23.302040 GHz
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
D1 3.6 dBm
D2 -16.4 dBm
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g OFDM MODULATION:

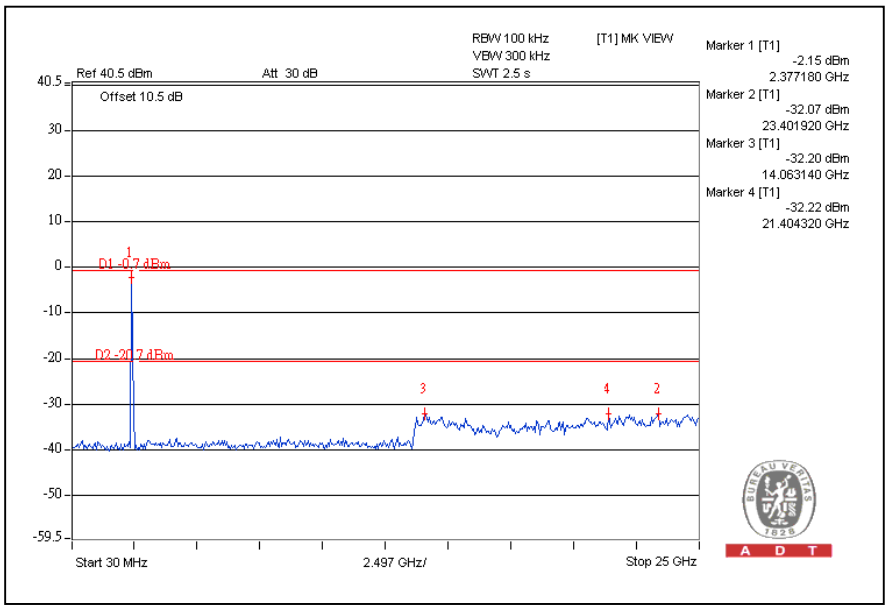
CH1



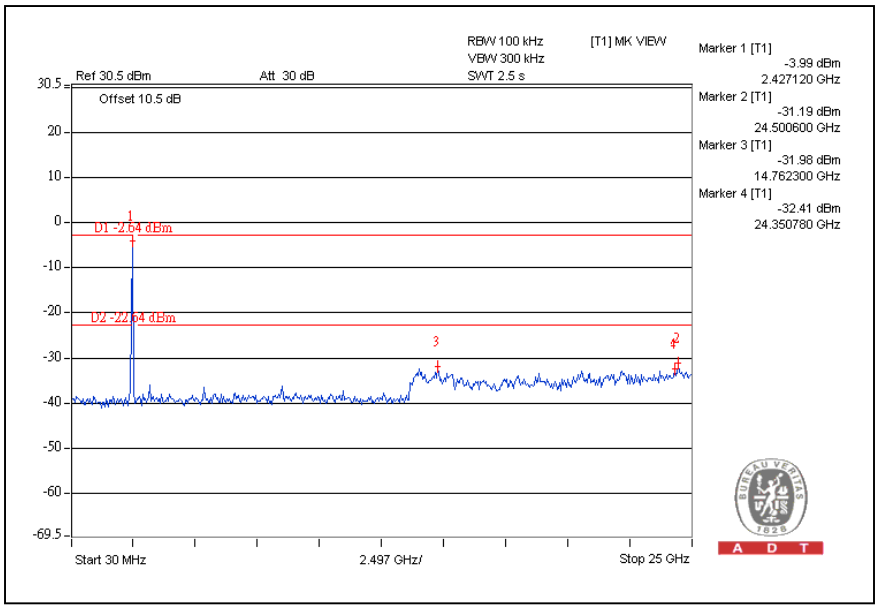
CH11



CH1

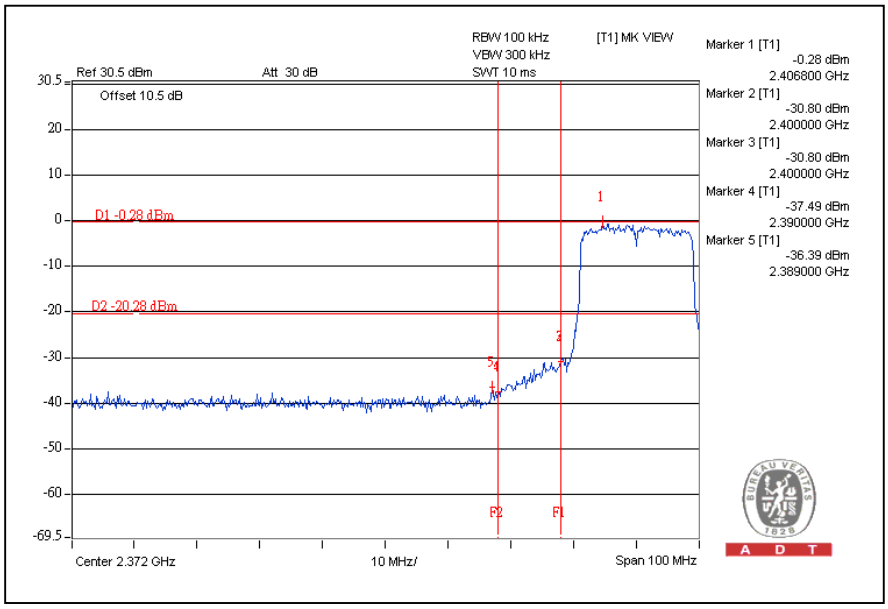

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 40.5 dBm
Att 30 dB
Offset 10.5 dB
Marker 1 [T1]
-2.15 dBm
2.377180 GHz
Marker 2 [T1]
-32.07 dBm
23.401920 GHz
Marker 3 [T1]
-32.20 dBm
14.063140 GHz
Marker 4 [T1]
-32.22 dBm
21.404320 GHz
40.5
30
20
10
0
-10
-20
-30
-40
-50
-59.5
D1 -0.7 dBm
D2 -20.7 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

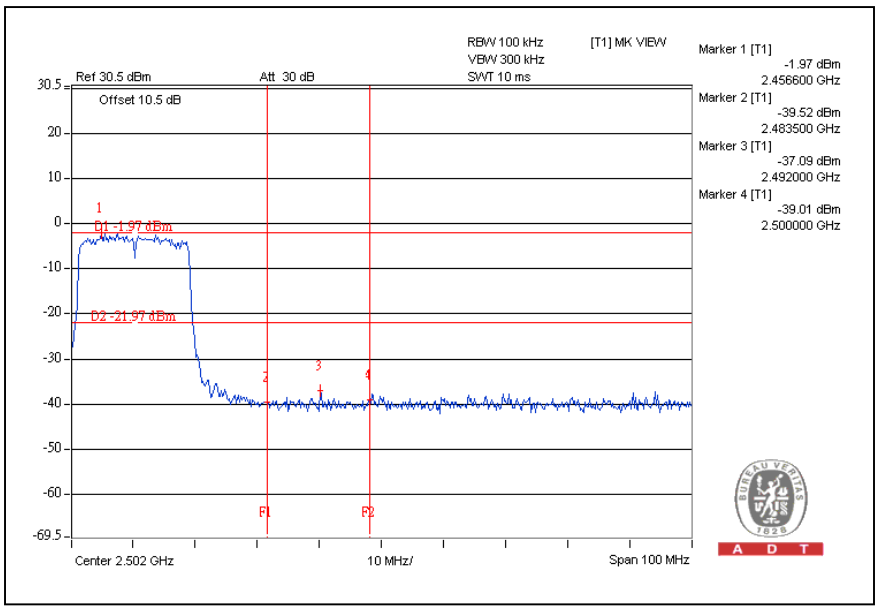

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
Marker 1 [T1]
-3.99 dBm
2.427120 GHz
Marker 2 [T1]
-31.19 dBm
24.500600 GHz
Marker 3 [T1]
-31.98 dBm
14.762300 GHz
Marker 4 [T1]
-32.41 dBm
24.350780 GHz
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
D1 -2.64 dBm
D2 -22.64 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (20MHz) OFDM MODULATION:

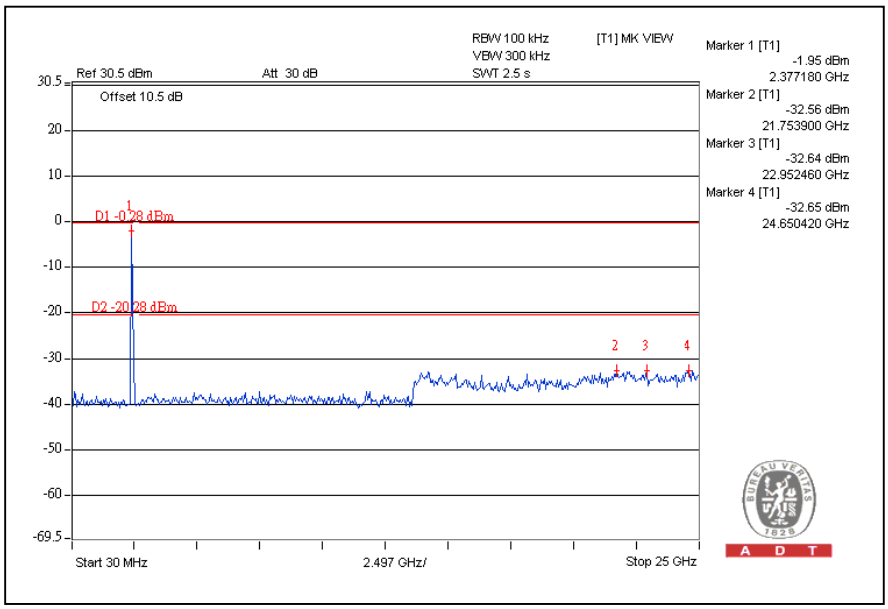
CH1



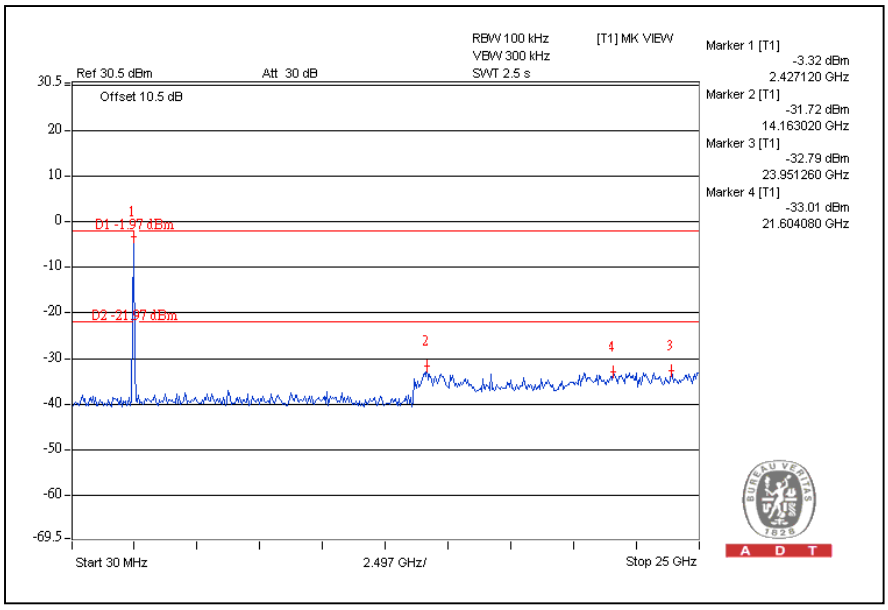
CH11



CH1

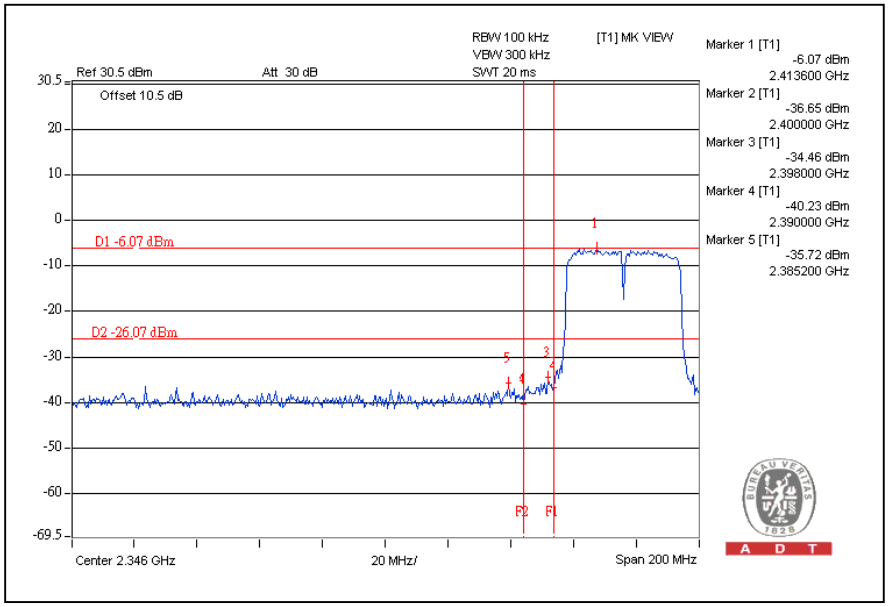

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
Marker 1 [T1]
-1.95 dBm
2.377180 GHz
Marker 2 [T1]
-32.56 dBm
21.753900 GHz
Marker 3 [T1]
-32.64 dBm
22.952460 GHz
Marker 4 [T1]
-32.65 dBm
24.650420 GHz
D1 -0.28 dBm
D2 -20.28 dBm
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

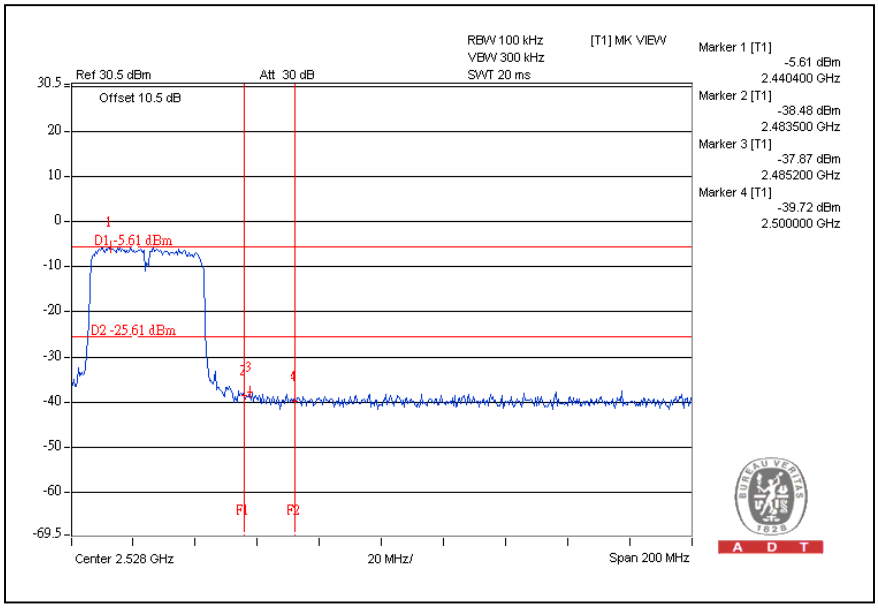

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
Marker 1 [T1]
-3.32 dBm
2.427120 GHz
Marker 2 [T1]
-31.72 dBm
14.163020 GHz
Marker 3 [T1]
-32.79 dBm
23.951260 GHz
Marker 4 [T1]
-33.01 dBm
21.604080 GHz
D1 -1.97 dBm
D2 -21.97 dBm
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (40MHz) OFDM MODULATION:

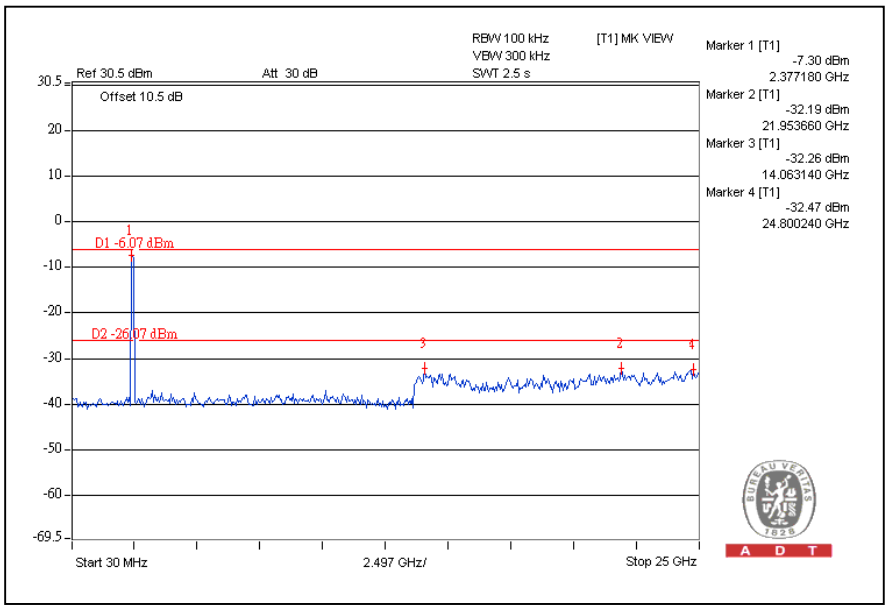
CH1



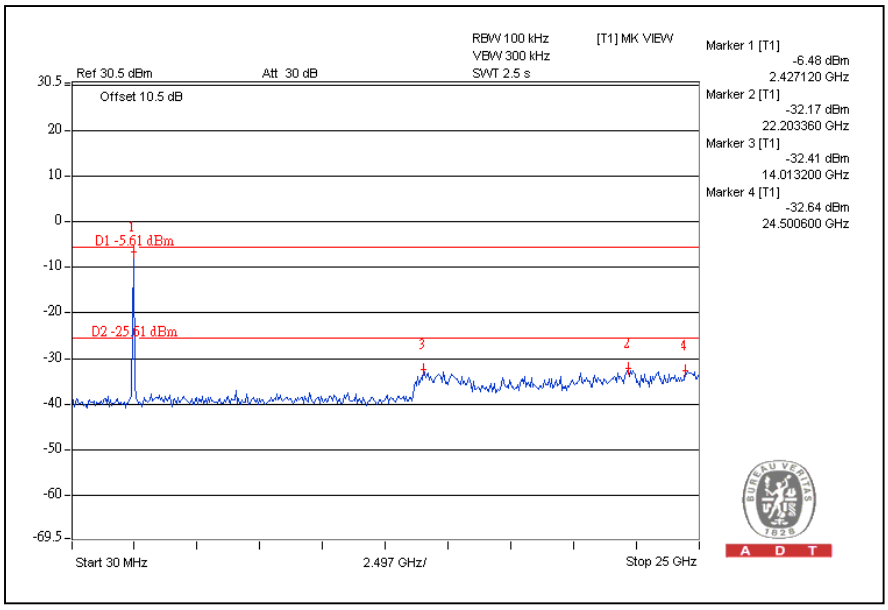
CH7



CH1


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
D1 -6.07 dBm
D2 -26.07 dBm
Marker 1 [T1]
-7.30 dBm
2.377180 GHz
Marker 2 [T1]
-32.19 dBm
21.953660 GHz
Marker 3 [T1]
-32.26 dBm
14.063140 GHz
Marker 4 [T1]
-32.47 dBm
24.800240 GHz
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH7


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
D1 -5.61 dBm
D2 -25.61 dBm
Marker 1 [T1]
-6.48 dBm
2.427120 GHz
Marker 2 [T1]
-32.17 dBm
22.203360 GHz
Marker 3 [T1]
-32.41 dBm
14.013200 GHz
Marker 4 [T1]
-32.64 dBm
24.500600 GHz
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

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. 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
Web Site: www.adt.com.tw

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 ---