FCC TEST REPORT

REPORT NO.:	RF110505E05 R1
MODEL NO.:	AR4100
FCC ID:	PPD-AR4100
IC ID:	4104A-AR4100
RECEIVED:	May 05, 2011
TESTED:	May 27 to June 07, 2011
ISSUED:	June 15, 2011

APPLICANT:	Qualcomm Atheros,Inc.
ADDRESS:	1700 Technology Drive, San Jose, CA 95110

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan
TEST LOCATION (2):	No.49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110505E05	Original release	June 10, 2011
RF110505E05 R1	Modified the brand name & model name of antenna	June 15, 2011

1. CERTIFICATION

PRODUCT:	Single Band 1x1 802.11bgn SiP
BRAND NAME:	Atheros
MODEL NO.:	AR4100
TEST SAMPLE:	R&D SAMPLE
APPLICANT:	Qualcomm Atheros,Inc.
TESTED:	May 27 to June 07, 2011
STANDARDS:	FCC Part 15, Subpart C (Section 15.247) ANSI C63.4-2003 ANSI C63.10-2009 Canada RSS-210 Issue 8 (2010-12) Canada RSS-Gen Issue 3 (2010-12)

The above equipment (Model: AR4100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and was in 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 : _____, **DATE:** *June 15, 2011*
(Midoli Peng, Specialist)

APPROVED BY : _____, **DATE:** *June 15, 2011*
(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 ; RSS-210; RSS-Gen					
Standard Section			Test Type and Limit	Result	REMARK
RSS-210	RSS-Gen	FCC Part 15			
-	7.2.4	15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.18dB at 24.000MHz
A8.2(a)	4.6	15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
A8.4(4)	4.8	15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
A8.5	4.9	15.247(d)	Transmitter Radiated Emissions FCC Limit: Table 15.209 RSS-Gen Limit: Table 5, 6	PASS	Meet the requirement of limit Minimum passing margin is -0.5dB at 2483.5MHz
-	6.1	-	Receiver Radiated Emissions RSS-Gen Limit: Table 2	PASS	Meet the requirement of limit Minimum passing margin is -1.4dB at 1331.70MHz
A8.2(b)	-	15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
A8.5	-	15.247(d)	Conducted Out-Band Emission Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit
	7.1.4	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)	3.81 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Single Band 1x1 802.11bgn SiP
MODEL NO.	AR4100
FCC ID	PPD-AR4100
IC ID	4104A-AR4100
POWER SUPPLY	The SiP is powered by 3.3V from host
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 (20MHz, 400ns GI):** 72.2 / 65 / 57.8 / 43.3 / 28.9 / 21.7 / 14.4 / 7.2Mbps
OPRTAING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
MAXIMUM OUTPUT POWER	802.11b: 134.9mW 802.11g: 251.2mW 802.11n (20MHz): 251.2mW
ANTENNA TYPE	See item 3.2
ANTENNA CONNECTOR	See item 3.2
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT is 1 * 1 spatial SISO without beam forming function.
2. The EUT complies with 802.11n standards and backwards compatible with 802.11b, 802.11g products.
3. The EUT was pre-tested under the following modes:

Test Mode	Data rate
Mode A	400ns GI
Mode B	**800ns GI**

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

4. For radiated : The EUT's antenna was pre-tested under the following modes:

Test Mode	Description
Mode A	**X-Y axis**
Mode B	Y-Z axis
Mode C	X-Z axis

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

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

3.2 DESCRIPTION OF ANTENNA

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

No.	Brand	Model	Gain(dBi) (included cable loss)	Antenna Type	Connector	Cable Loss(dB)	Cable Length
1	WNC	81.EBJ15.005	3.62	PIFA	IPEX	1.15	300mm
2	TAIYO YUDEN	AF216M245001-T	1.8	Chip	NA.	NA.	NA.
3	Murata	GJM0335C1ER5BB01D	2	PCB	NA.	NA.	NA.

3.3 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

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		

3.3.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	
A	√	√	√	√	With PIFA antenna
B	-	√	√	-	With Chip antenna
C	-	√	√	-	With PCB 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)
802.11g	1 to 11	6	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

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

☒ The receiving mode had show equal or better than Tx mode during the pre-scan and hence the Tx mode data is re-used for Receiving-mode worst-case data.

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

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

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

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

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

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

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE[3]1G	26deg. C, 66%RH, 1004 hPa	120Vac, 60Hz	Kent Liu
RE<1G	22deg. C, 69%RH, 1004 hPa	120Vac, 60Hz	Frank Liu
PLC	15deg. C, 67%RH, 1004 hPa	120Vac, 60Hz	Frank Liu
APCM	25deg. C, 60%RH, 1004 hPa	120Vac, 60Hz	Frank Liu

3.4 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 (Section 15.247)

ANSI C63.4-2003

ANSI C63.10-2009

Canada RSS-210 Issue 8 (2010-12)

Canada RSS-Gen Issue 3 (2010-12)

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.

3.5 DESCRIPTION OF SUPPORT UNITS

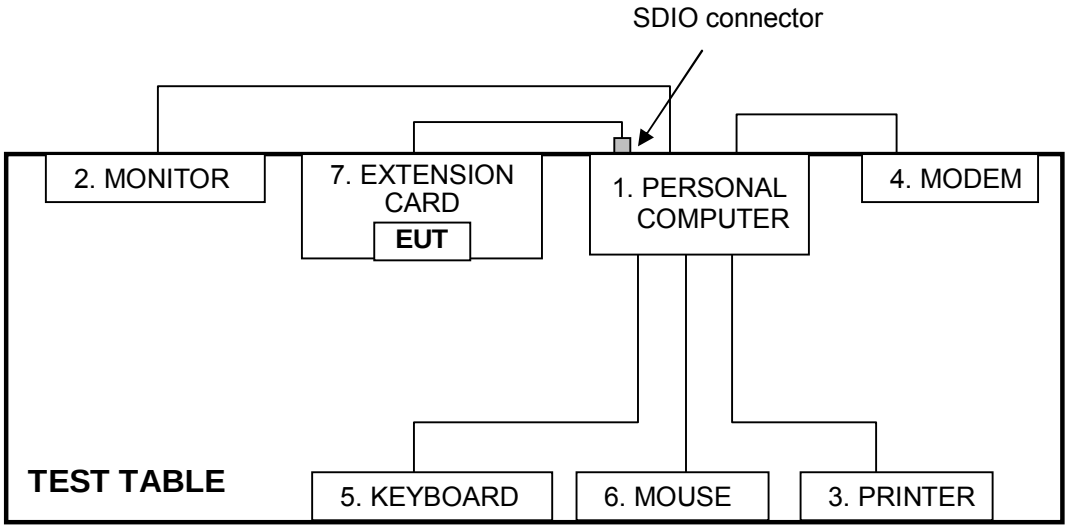
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	PERSONAL COMPUTER	DELL	DH8	8H90618	FCC DoC
2	MONITOR	DELL	U2410f	CN-082WXD-72872-OCN-09NL	FCC DoC
3	PRINTER	CANON	K10202	FASF84644	FCC DoC
4	MODEM	ACEEX	1414	0206026776	IFAXDM1414
5	KEYBOARD	DELL	SK-8115	MY-0DJ325-71619-99B-0471	FCC DoC
6	MOUSE	DELL	MOC5UO	I14066PK	FCC DoC
7	EXTENSION CARD	Atheros	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, with two cores.
3	1.8m braid shielded wire, terminated with USB connector via metallic frame, w/o core
4	1m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.5m foil shielded wire, USB Connector, w/o core.
6	1.5m foil shielded wire, USB Connector, with one core.
7	0.3m SDIO data cable.

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

3.6 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)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	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
Test Receiver	ESCS 30	100375	Mar. 09, 2011	Mar. 08, 2012
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 08, 2010	Sep. 07, 2011
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 03, 2010	Nov. 02, 2011
RF Cable (JYEBAO)	5DFB	COCCAB-002	Aug. 30, 2010	Aug. 29, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

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

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

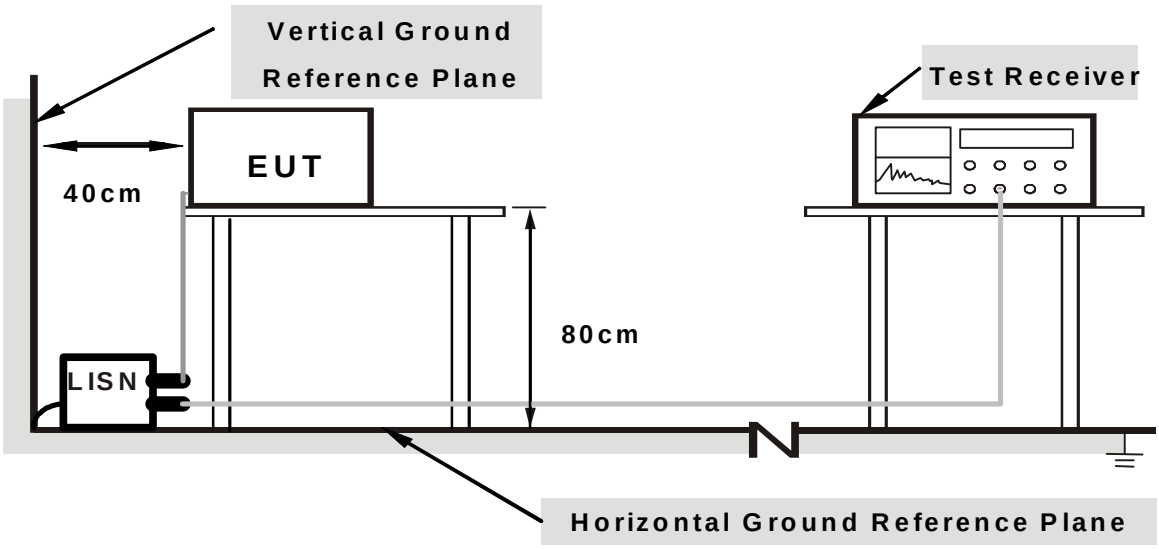
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

4.1.4 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

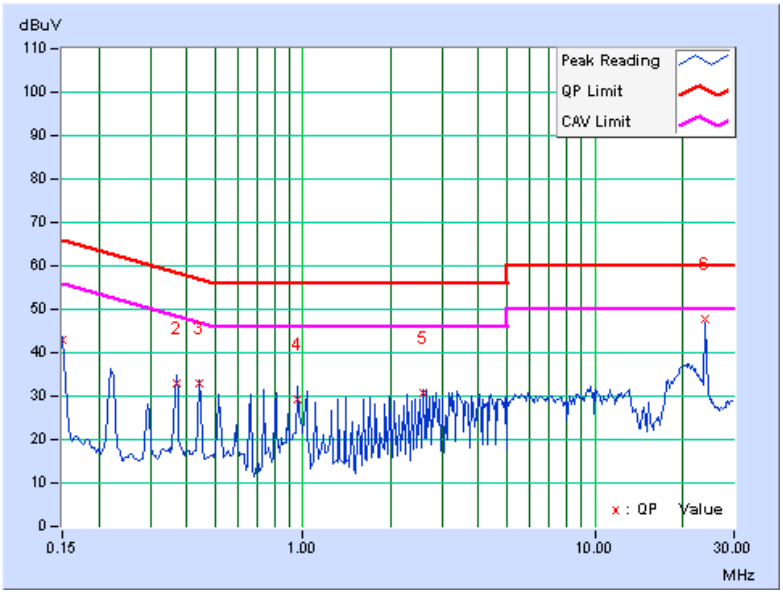
1. Connect the EUT with the support unit 1 (Personal Computer) which is placed on a testing table.
2. The communication partner run test program “art.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

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	0.150	0.10	42.84	-	42.94	-	66.00	56.00	-23.06	-
2	0.369	0.13	32.97	-	33.10	-	58.53	48.53	-25.43	-
3	0.443	0.13	32.99	-	33.12	-	57.01	47.01	-23.89	-
4	0.959	0.14	29.13	-	29.27	-	56.00	46.00	-26.73	-
5	2.578	0.17	30.46	-	30.63	-	56.00	46.00	-25.37	-
6	24.000	0.79	46.12	-	46.91	-	60.00	50.00	-13.09	-

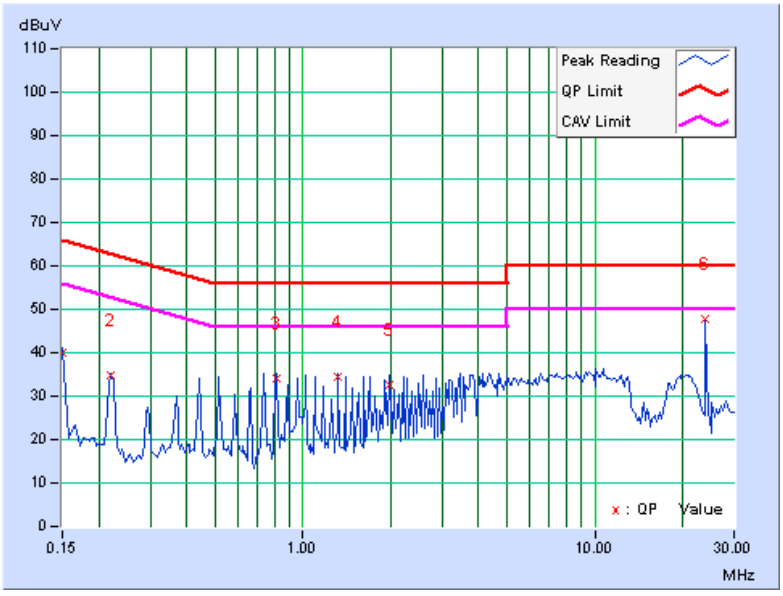
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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	0.12	39.94	-	40.06	-	66.00	56.00	-25.94	-
2	0.220	0.14	34.56	-	34.70	-	62.81	52.81	-28.11	-
3	0.810	0.16	33.73	-	33.89	-	56.00	46.00	-22.11	-
4	1.324	0.17	34.12	-	34.29	-	56.00	46.00	-21.71	-
5	1.984	0.19	32.56	-	32.75	-	56.00	46.00	-23.25	-
6	**24.000**	**1.72**	**46.10**	**-**	**47.82**	**-**	**60.00**	**50.00**	**-12.18**	**-**

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

For transmitter part:

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209(RSS-Gen table 5, 6) 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. 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.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.

For receiver part:

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in RSS-Gen table 2 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
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. 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011
Agilent Pre-Selector	N9039A	MY46520311	July 14, 2010	July 13, 2011
Agilent Signal Generator	N5181A	MY49060517	July 14, 2010	July 13, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 16, 2010	Nov. 15, 2011
Agilent Pre-Amplifier	8449B	3008A02578	July 05, 2010	July 04, 2011
Miteq Pre-Amplifier	AFS33-18002650-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 12, 2010	Nov. 11, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 27, 2010	Dec. 26, 2011
RF Cable	NA	CHGCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

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

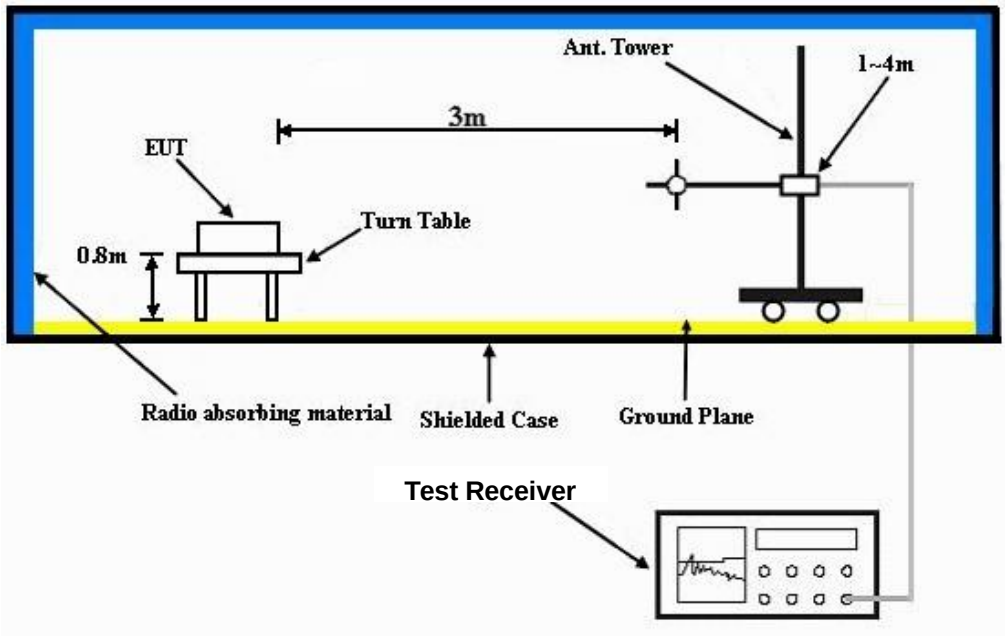
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz 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 4.1.6

4.2.7 TEST RESULTS (FOR TRANSMITTER PART)

4.2.7.1 TEST RESULTS (With PIFA Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	36.3 QP	40.0	-3.7	2.00 H	360	26.94	9.36
2	108.04	40.1 QP	43.5	-3.4	2.00 H	0	29.35	10.75
3	275.96	42.4 QP	46.0	-3.6	1.00 H	62	28.15	14.25
4	516.01	42.1 QP	46.0	-3.9	2.00 H	235	21.82	20.28
5	540.05	42.6 QP	46.0	-3.4	1.50 H	235	21.79	20.81
6	804.01	41.1 QP	46.0	-4.9	1.00 H	216	15.86	25.24
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	84.00	36.4 QP	40.0	-3.6	2.00 V	293	27.04	9.36
2	108.04	36.2 QP	43.5	-7.3	2.00 V	121	25.45	10.75
3	360.04	40.3 QP	46.0	-5.7	2.00 V	104	23.63	16.67
4	516.01	39.2 QP	46.0	-6.8	1.00 V	78	18.92	20.28
5	779.97	37.3 QP	46.0	-8.7	1.50 V	53	12.64	24.66
6	804.01	39.4 QP	46.0	-6.6	1.50 V	51	14.16	25.24

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	26deg. C, 66%RH 1004 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	2389.36	63.1 PK	74.0	-10.9	1.34 H	304	31.89	31.21
2	2389.36	53.2 AV	54.0	-0.8	1.34 H	304	21.99	31.21
3	*2412.00	111.3 PK			1.34 H	294	80.03	31.27
4	*2412.00	109.1 AV			1.34 H	294	77.83	31.27
5	4824.00	52.8 PK	74.0	-21.2	1.24 H	111	13.38	39.42
6	4824.00	49.3 AV	54.0	-4.7	1.24 H	111	9.88	39.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.32	57.9 PK	74.0	-16.1	1.41 V	57	26.70	31.20
2	2386.32	51.5 AV	54.0	-2.5	1.41 V	57	20.30	31.20
3	*2412.00	106.6 PK			1.41 V	57	75.33	31.27
4	*2412.00	104.5 AV			1.41 V	57	73.23	31.27
5	4824.00	54.5 PK	74.0	-19.5	1.15 V	32	15.08	39.42
6	4824.00	51.1 AV	54.0	-2.9	1.15 V	32	11.68	39.42

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	26deg. C, 66%RH 1004 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	112.4 PK			1.34 H	306	81.06	31.34
2	*2437.00	110.2 AV			1.34 H	306	78.86	31.34
3	4874.00	52.5 PK	74.0	-21.5	1.24 H	131	12.88	39.62
4	4874.00	49.5 AV	54.0	-4.5	1.24 H	131	9.88	39.62
5	7311.00	52.2 PK	74.0	-21.8	1.51 H	59	8.10	44.10
6	7311.00	41.3 AV	54.0	-12.7	1.51 H	59	-2.80	44.10
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	*2437.00	107.1 PK			1.43 V	109	75.76	31.34
2	*2437.00	105.2 AV			1.43 V	109	73.86	31.34
3	4874.00	56.7 PK	74.0	-17.3	1.13 V	62	17.08	39.62
4	4874.00	50.7 AV	54.0	-3.3	1.13 V	62	11.08	39.62
5	7311.00	53.6 PK	74.0	-20.4	1.24 V	241	9.50	44.10
6	7311.00	41.4 AV	54.0	-12.6	1.24 V	241	-2.70	44.10

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.

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	26deg. C, 66%RH 1004 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	110.2 PK			1.32 H	310	78.80	31.40
2	*2462.00	108.1 AV			1.32 H	310	76.70	31.40
3	2483.50	60.7 PK	74.0	-13.3	1.31 H	306	29.24	31.46
4	2483.50	52.7 AV	54.0	-1.3	1.31 H	306	21.24	31.46
5	4924.00	51.5 PK	74.0	-22.5	1.23 H	131	11.68	39.82
6	4924.00	48.1 AV	54.0	-5.9	1.23 H	131	8.28	39.82
7	7386.00	52.9 PK	74.0	-21.1	1.54 H	67	8.72	44.18
8	7386.00	41.5 AV	54.0	-12.5	1.54 H	67	-2.68	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.9 PK			1.42 V	45	72.50	31.40
2	*2462.00	101.8 AV			1.42 V	45	70.40	31.40
3	2483.50	57.9 PK	74.0	-16.1	1.42 V	45	26.44	31.46
4	2483.50	48.7 AV	54.0	-5.3	1.42 V	45	17.24	31.46
5	4924.00	56.4 PK	74.0	-17.6	1.13 V	43	16.58	39.82
6	4924.00	50.8 AV	54.0	-3.2	1.13 V	43	10.98	39.82
7	7386.00	53.2 PK	74.0	-20.8	1.25 V	242	9.02	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.25 V	242	-2.88	44.18

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

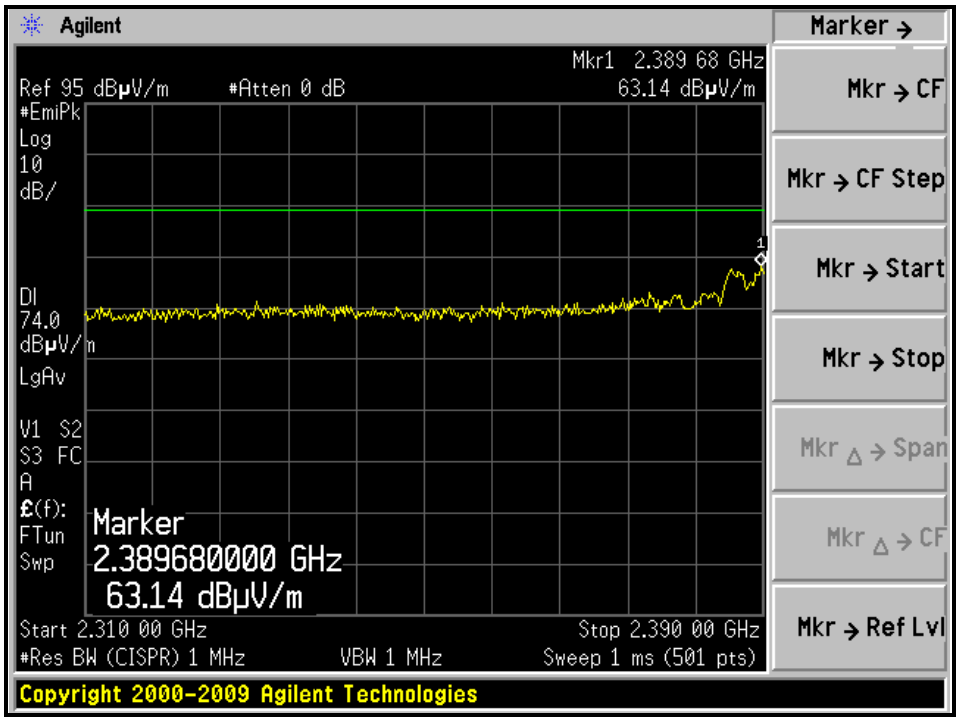
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

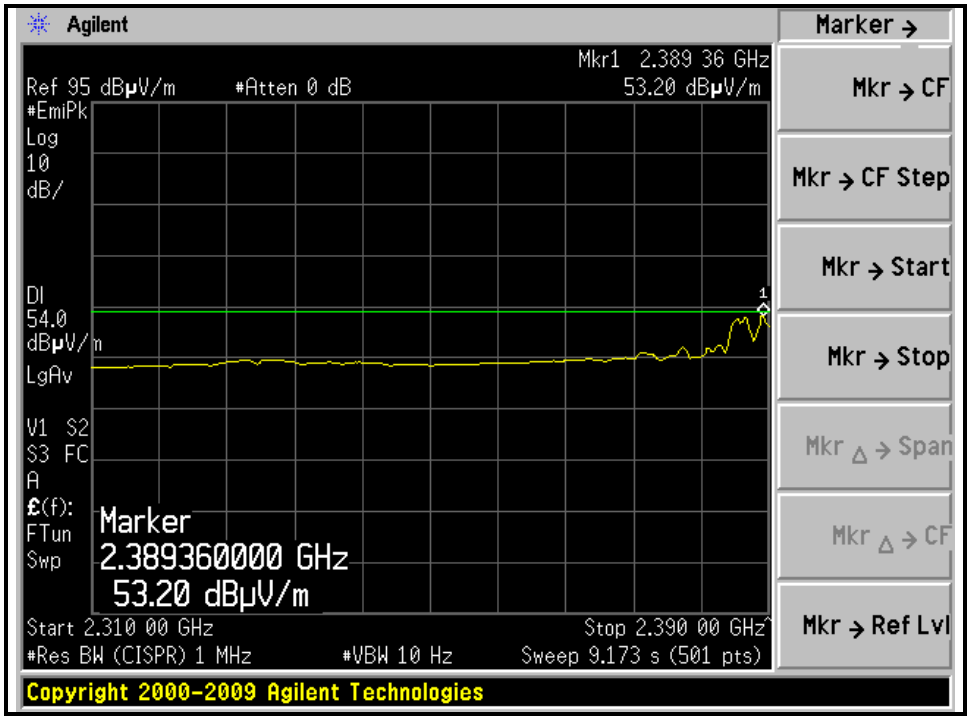
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

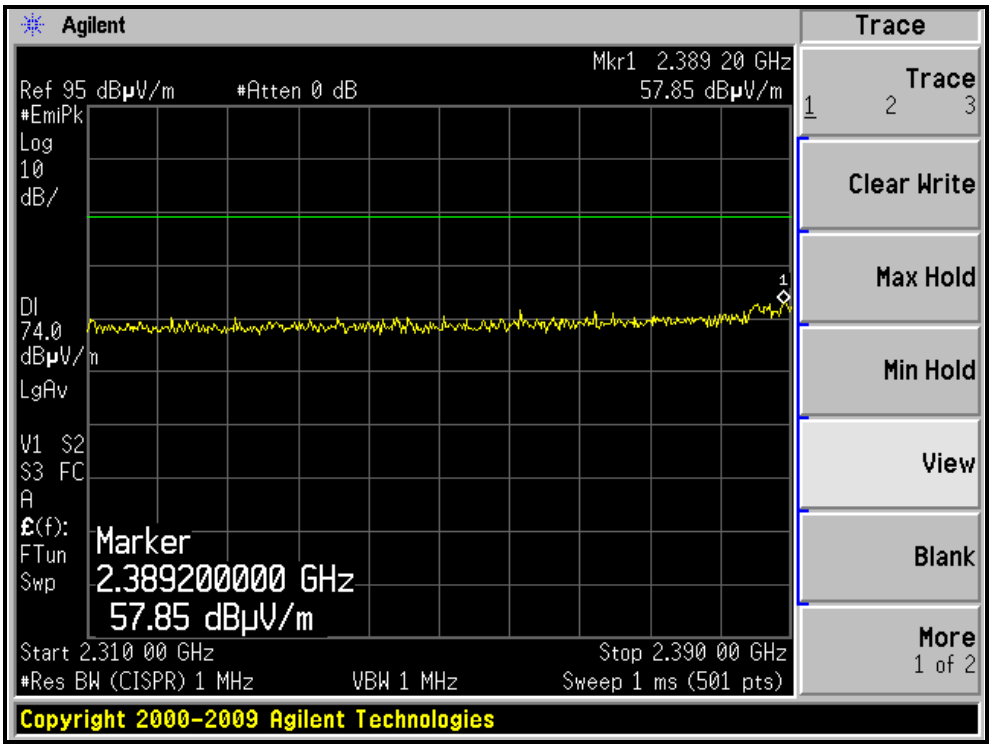
5. " * ": Fundamental frequency.

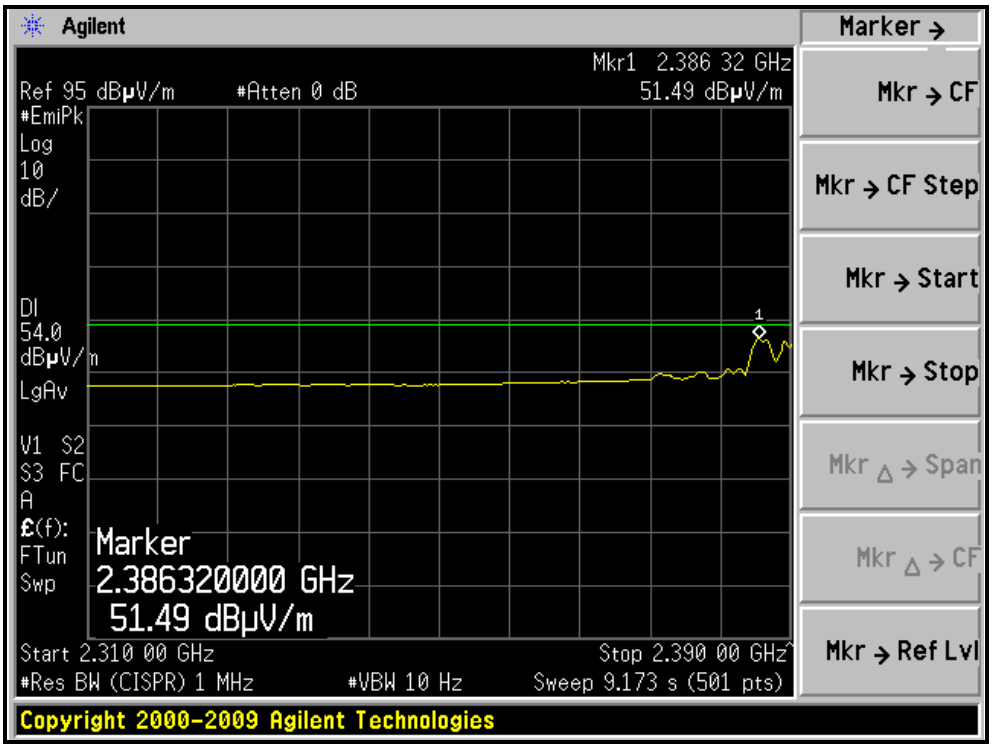
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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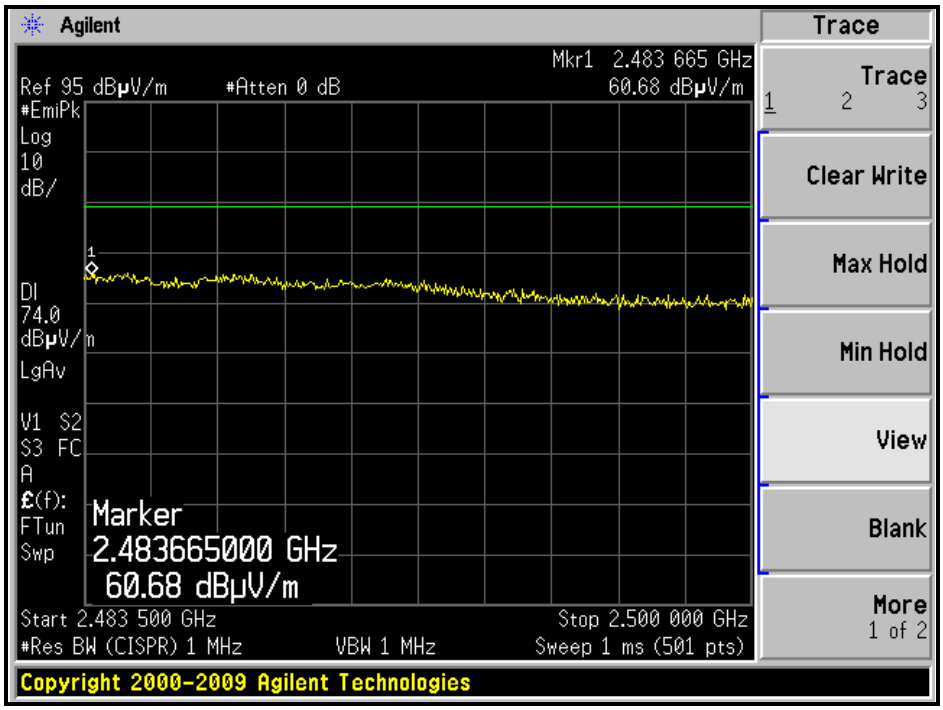
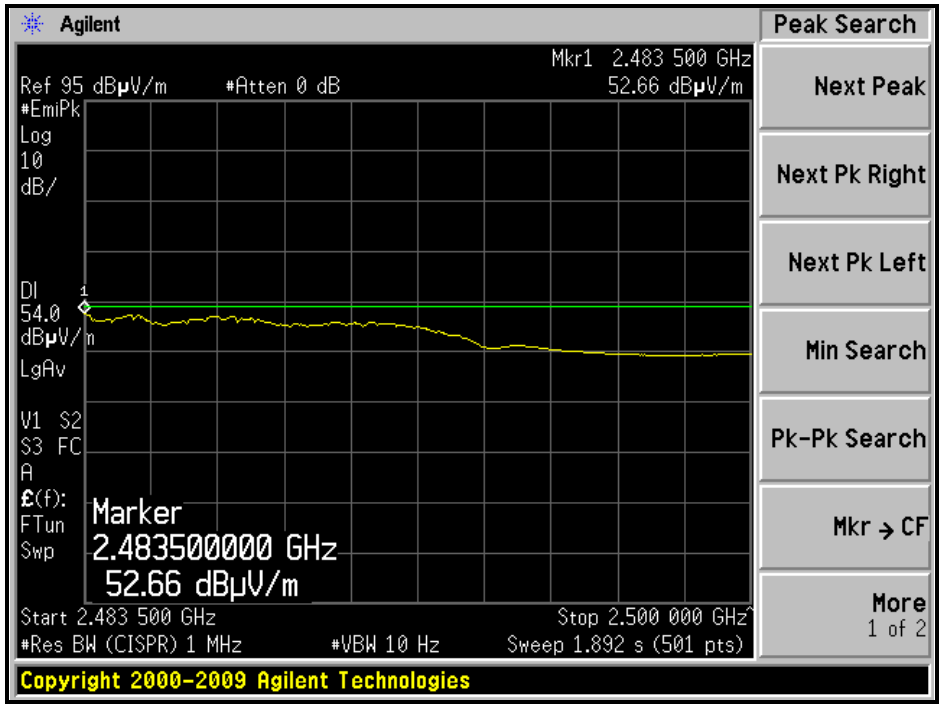
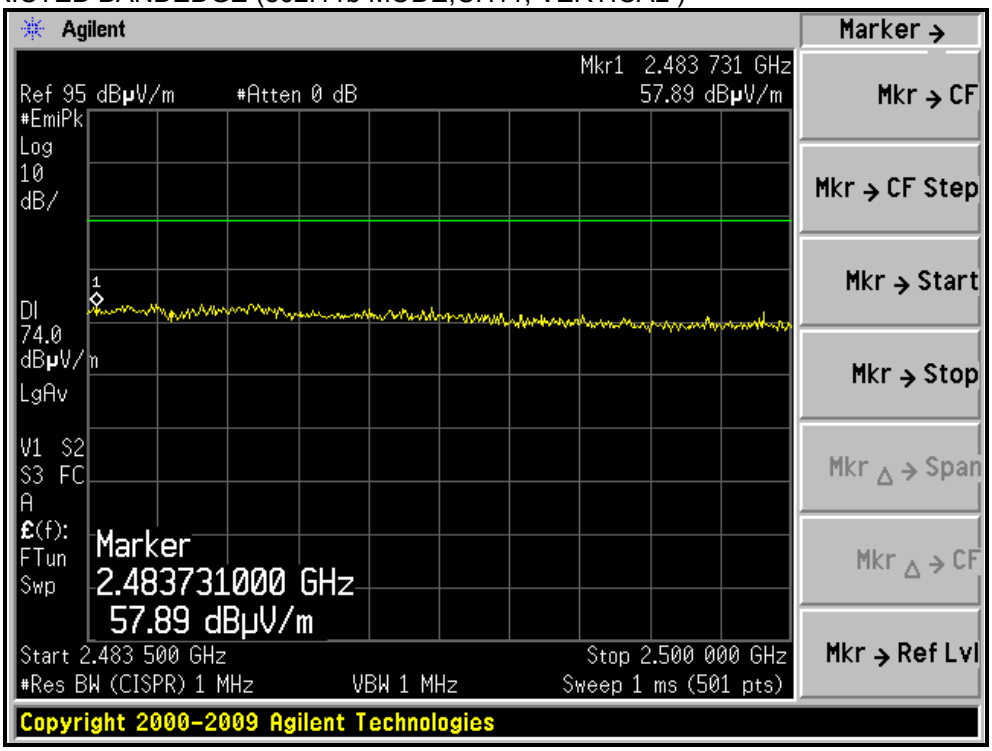
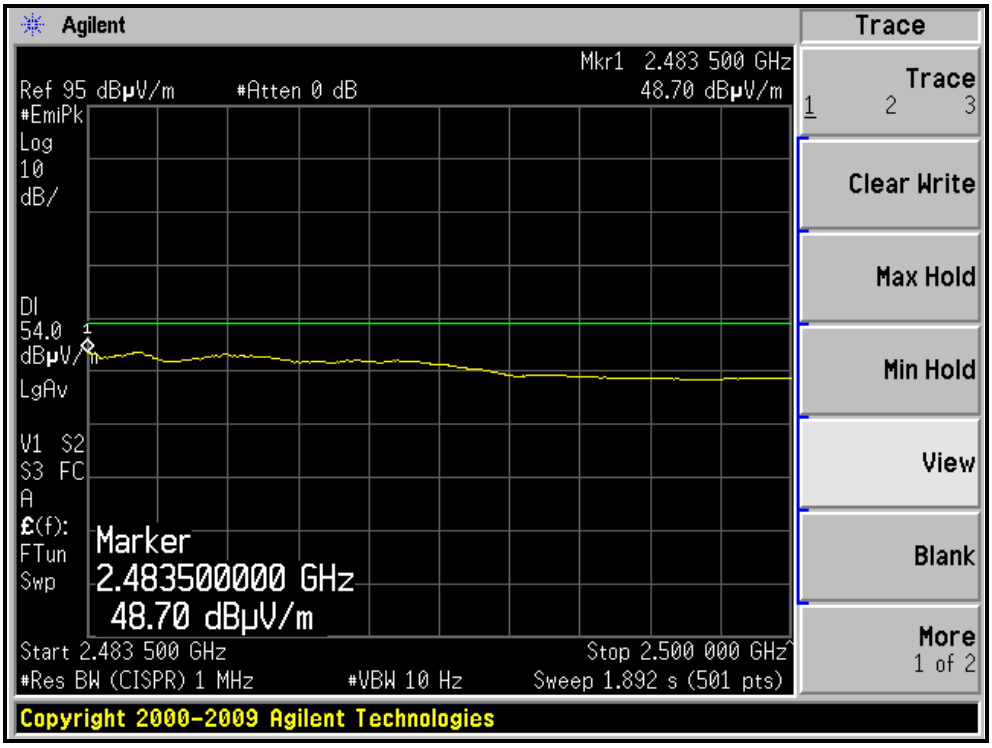




RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 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	70.6 PK	74.0	-3.4	1.36 H	309	39.39	31.21
2	2390.00	53.1 AV	54.0	-0.9	1.36 H	309	21.89	31.21
3	*2412.00	107.7 PK			1.36 H	309	76.43	31.27
4	*2412.00	97.5 AV			1.36 H	309	66.23	31.27
5	4824.00	48.6 PK	74.0	-25.4	1.21 H	139	9.18	39.42
6	4824.00	38.4 AV	54.0	-15.6	1.21 H	139	-1.02	39.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.8 PK	74.0	-11.2	1.01 V	14	31.59	31.21
2	2390.00	46.7 AV	54.0	-7.3	1.01 V	14	15.49	31.21
3	*2412.00	101.4 PK			1.01 V	14	70.13	31.27
4	*2412.00	91.4 AV			1.01 V	14	60.13	31.27
5	4824.00	50.7 PK	74.0	-23.3	1.11 V	63	11.28	39.42
6	4824.00	40.9 AV	54.0	-13.1	1.11 V	63	1.48	39.42

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	26deg. C, 66%RH 1004 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	115.2 PK			1.37 H	304	83.86	31.34
2	*2437.00	104.1 AV			1.37 H	304	72.76	31.34
3	2483.50	73.4 PK	74.0	-0.6	1.31 H	279	41.94	31.46
4	2483.50	51.2 AV	54.0	-2.8	1.31 H	279	19.74	31.46
5	4874.00	48.3 PK	74.0	-25.7	1.24 H	131	8.68	39.62
6	4874.00	38.2 AV	54.0	-15.8	1.24 H	131	-1.42	39.62
7	7311.00	52.7 PK	74.0	-21.3	1.54 H	54	8.60	44.10
8	7311.00	41.6 AV	54.0	-12.4	1.54 H	54	-2.50	44.10
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	*2437.00	109.2 PK			1.07 V	104	77.86	31.34
2	*2437.00	98.9 AV			1.07 V	104	67.56	31.34
3	4874.00	50.9 PK	74.0	-23.1	1.04 V	63	11.28	39.62
4	4874.00	40.8 AV	54.0	-13.2	1.04 V	63	1.18	39.62
5	7311.00	53.9 PK	74.0	-20.1	1.20 V	254	9.80	44.10
6	7311.00	41.3 AV	54.0	-12.7	1.20 V	254	-2.80	44.10

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

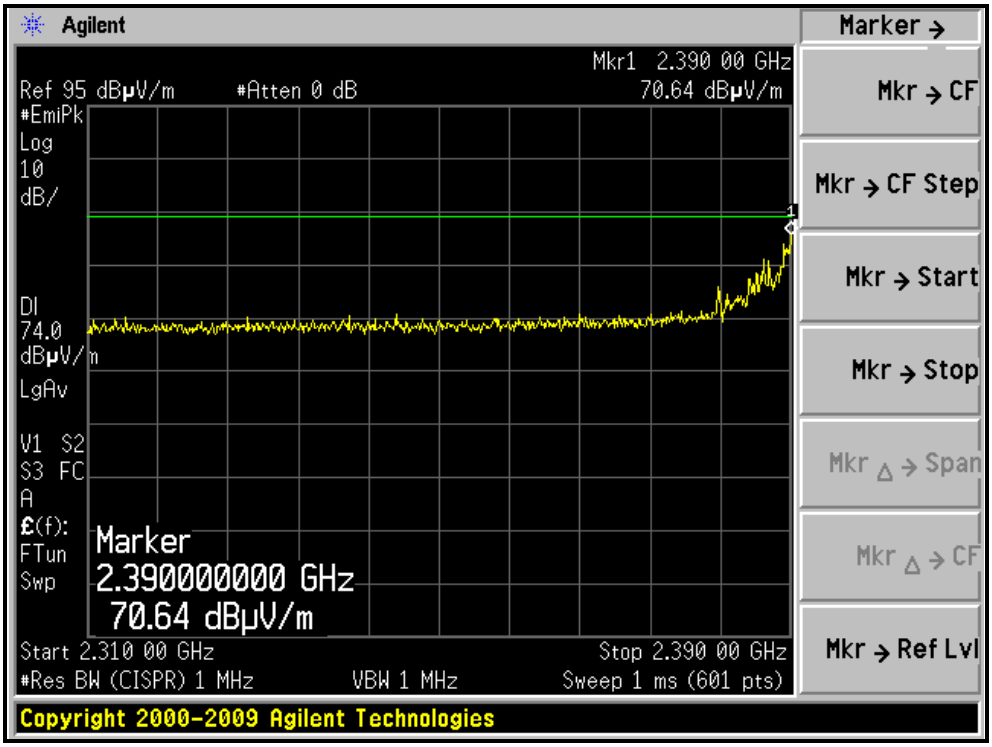
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

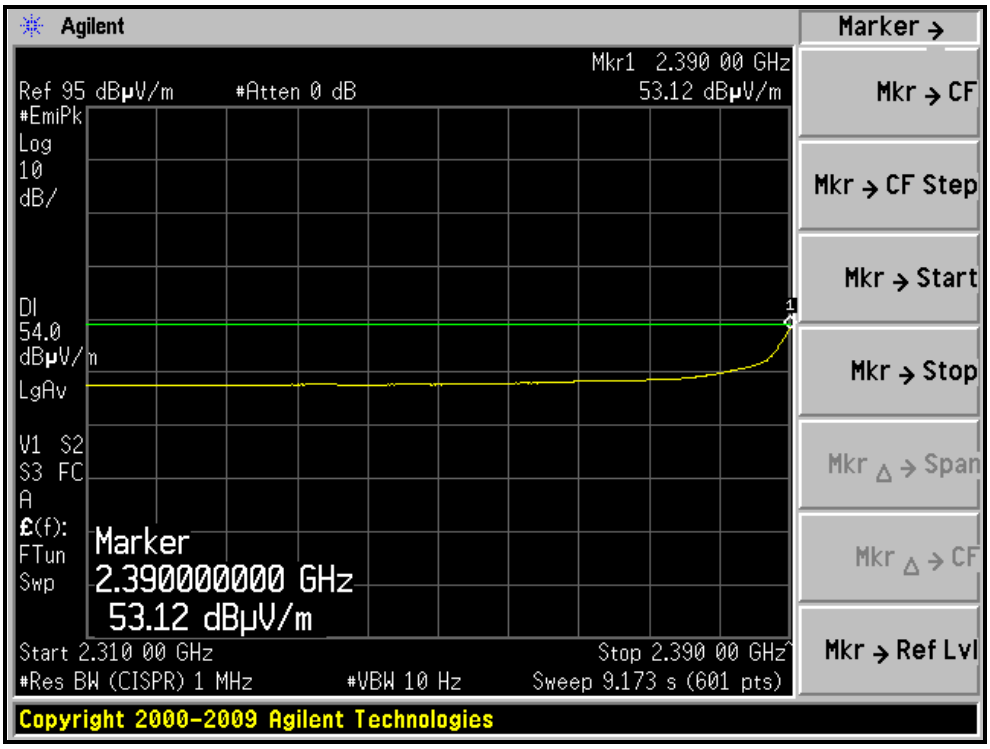
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 hPa	TESTED BY	Kent Liu

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	106.9 PK			1.32 H	316	75.50	31.40
2	*2462.00	96.4 AV			1.32 H	316	65.00	31.40
3	2483.50	71.6 PK	74.0	-2.4	1.32 H	316	40.14	31.46
4	2483.50	52.3 AV	54.0	-1.7	1.32 H	316	20.84	31.46
5	4924.00	48.3 PK	74.0	-25.7	1.30 H	124	8.48	39.82
6	4924.00	38.2 AV	54.0	-15.8	1.30 H	124	-1.62	39.82
7	7386.00	52.4 PK	74.0	-21.6	1.54 H	53	8.22	44.18
8	7386.00	41.6 AV	54.0	-12.4	1.54 H	53	-2.58	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.3 PK			1.41 V	103	69.90	31.40
2	*2462.00	91.2 AV			1.41 V	103	59.80	31.40
3	2483.50	63.6 PK	74.0	-10.4	1.41 V	103	32.14	31.46
4	2483.50	48.2 AV	54.0	-5.8	1.41 V	103	16.74	31.46
5	4924.00	51.2 PK	74.0	-22.8	1.04 V	63	11.38	39.82
6	4924.00	40.4 AV	54.0	-13.6	1.04 V	63	0.58	39.82
7	7386.00	53.9 PK	74.0	-20.1	1.20 V	249	9.72	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.20 V	249	-2.88	44.18

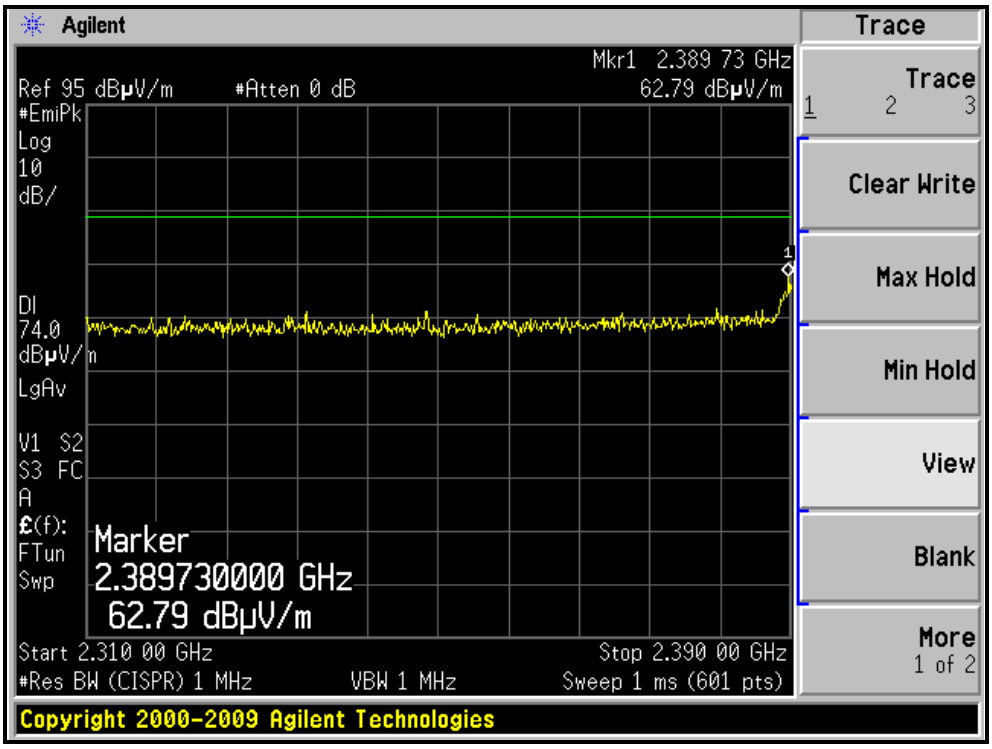
REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

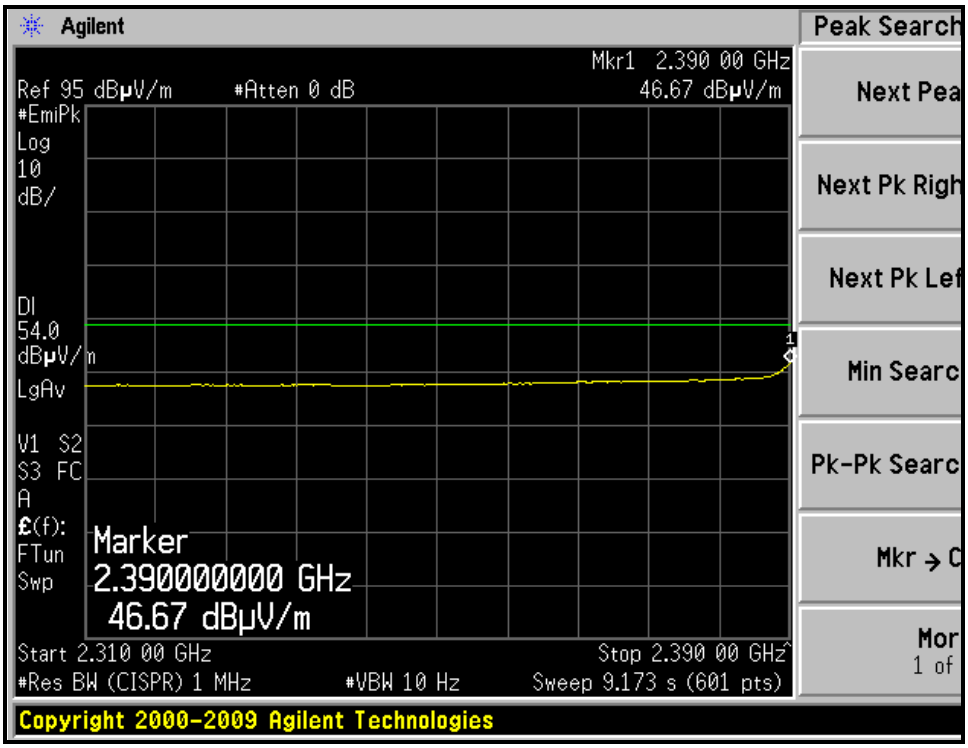
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



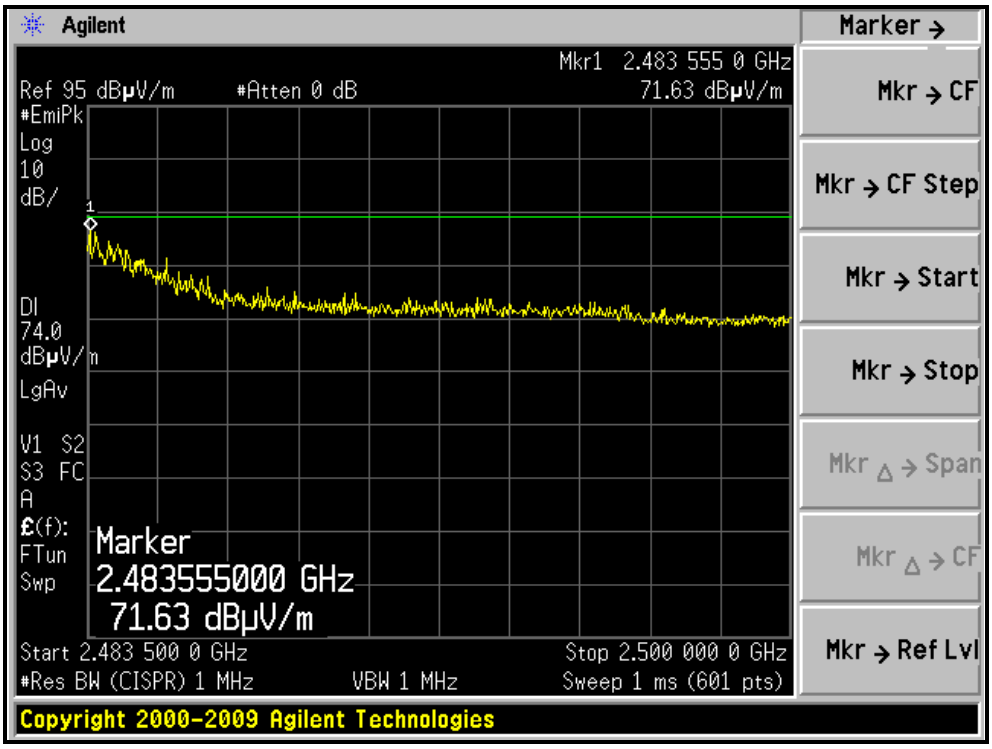


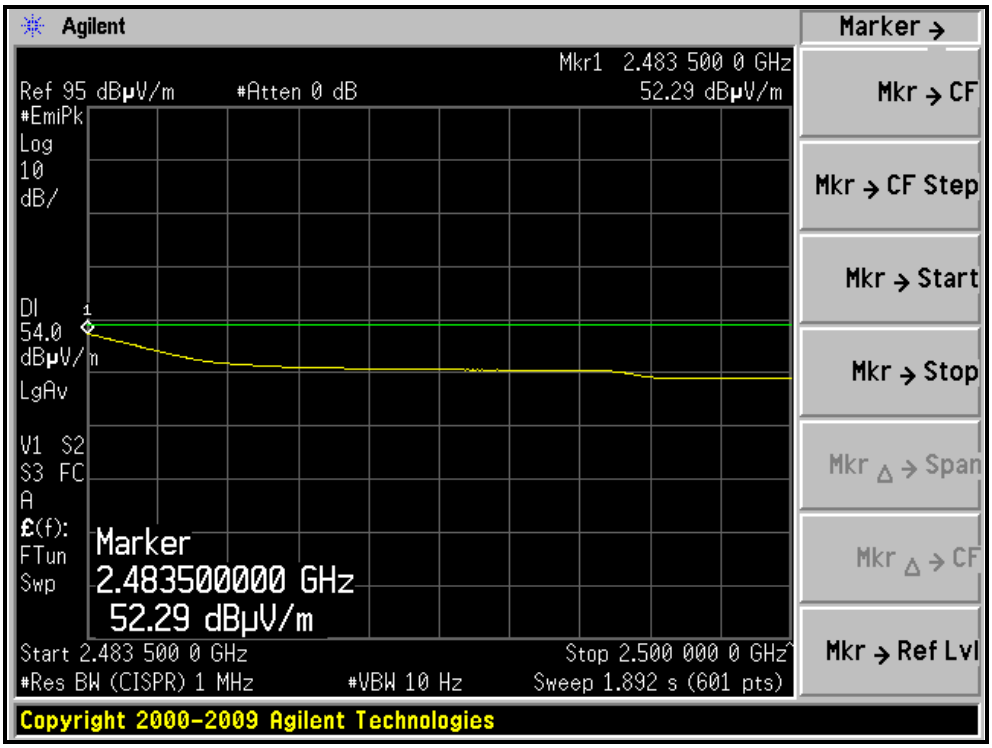
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



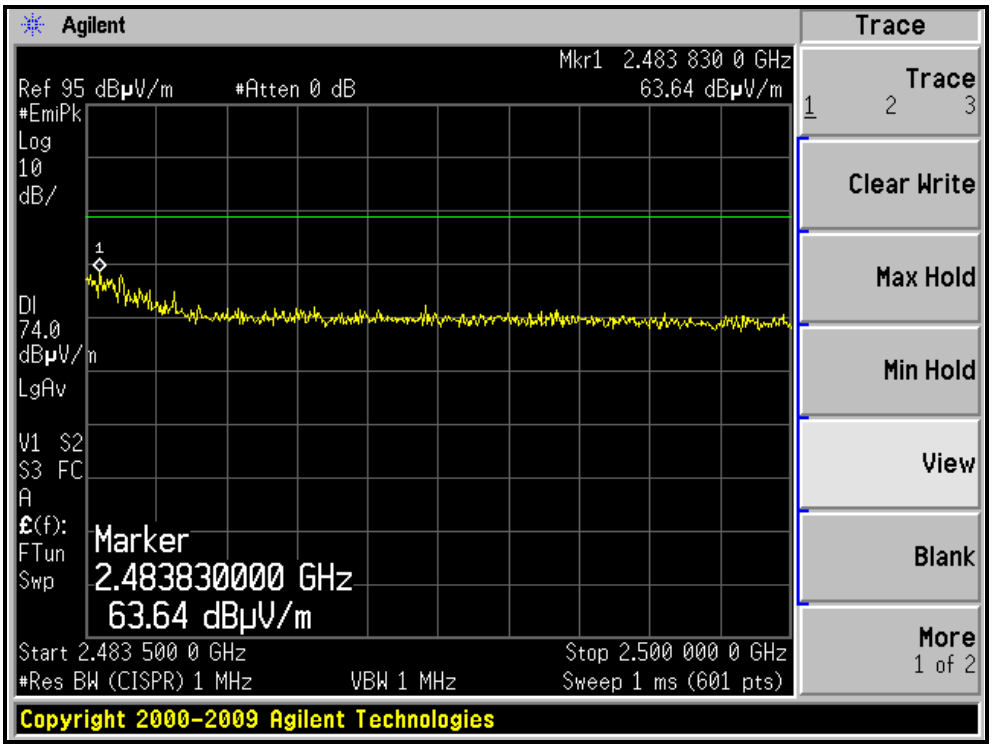


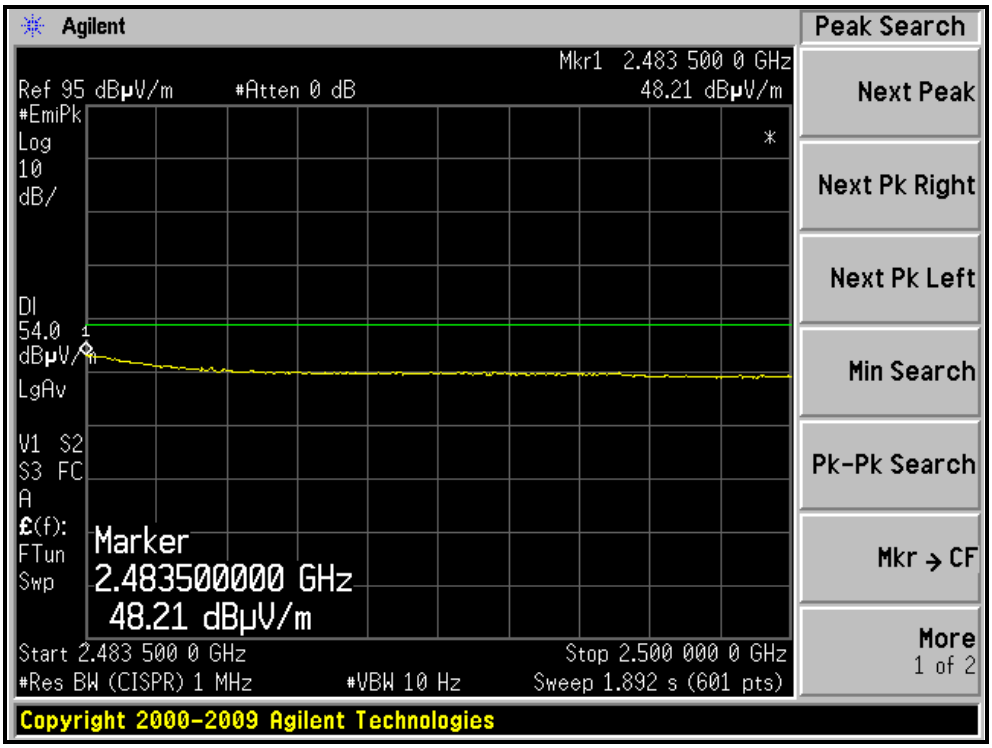
RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 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	71.4 PK	74.0	-2.6	1.35 H	308	40.19	31.21
2	2390.00	52.9 AV	54.0	-1.1	1.35 H	308	21.69	31.21
3	*2412.00	106.8 PK			1.35 H	308	75.53	31.27
4	*2412.00	96.2 AV			1.35 H	308	64.93	31.27
5	4824.00	48.2 PK	74.0	-25.8	1.34 H	122	8.78	39.42
6	4824.00	38.1 AV	54.0	-15.9	1.34 H	122	-1.32	39.42
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	61.5 PK	74.0	-12.5	1.46 V	103	30.29	31.21
2	2390.00	47.8 AV	54.0	-6.2	1.46 V	103	16.59	31.21
3	*2412.00	101.3 PK			1.46 V	103	70.03	31.27
4	*2412.00	91.4 AV			1.46 V	103	60.13	31.27
5	4824.00	51.1 PK	74.0	-22.9	1.24 V	243	11.68	39.42
6	4824.00	40.6 AV	54.0	-13.4	1.24 V	243	1.18	39.42

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	26deg. C, 66%RH 1004 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	110.4 PK			1.34 H	307	79.06	31.34
2	*2437.00	99.1 AV			1.34 H	307	67.76	31.34
3	4874.00	47.4 PK	74.0	-26.6	1.26 H	151	7.78	39.62
4	4874.00	37.2 AV	54.0	-16.8	1.26 H	151	-2.42	39.62
5	7311.00	52.6 PK	74.0	-21.4	1.54 H	57	8.50	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.54 H	57	-2.40	44.10
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	*2437.00	104.9 PK			1.44 V	123	73.56	31.34
2	*2437.00	94.7 AV			1.44 V	123	63.36	31.34
3	4874.00	51.1 PK	74.0	-22.9	1.26 V	249	11.48	39.62
4	4874.00	41.9 AV	54.0	-12.1	1.26 V	249	2.28	39.62
5	7311.00	54.3 PK	74.0	-19.7	1.53 V	104	10.20	44.10
6	7311.00	40.4 AV	54.0	-13.6	1.53 V	104	-3.70	44.10

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.

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	26deg. C, 66%RH 1004 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	106.4 PK			1.31 H	313	75.00	31.40
2	*2462.00	96.1 AV			1.31 H	313	64.70	31.40
3	2483.50	70.7 PK	74.0	-3.3	1.31 H	313	39.24	31.46
4	2483.50	53.2 AV	54.0	-0.8	1.31 H	313	21.74	31.46
5	4924.00	47.6 PK	74.0	-26.4	1.29 H	154	7.78	39.82
6	4924.00	38.4 AV	54.0	-15.6	1.29 H	154	-1.42	39.82
7	7386.00	52.6 PK	74.0	-21.4	1.54 H	57	8.42	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.54 H	57	-2.88	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.3 PK			1.46 V	103	69.90	31.40
2	*2462.00	91.2 AV			1.46 V	103	59.80	31.40
3	2483.50	66.7 PK	74.0	-7.3	1.46 V	103	35.24	31.46
4	2483.50	48.8 AV	54.0	-5.2	1.46 V	103	17.34	31.46
5	4924.00	51.3 PK	74.0	-22.7	1.24 V	254	11.48	39.82
6	4924.00	41.4 AV	54.0	-12.6	1.24 V	254	1.58	39.82
7	7386.00	54.3 PK	74.0	-19.7	1.57 V	109	10.12	44.18
8	7386.00	40.9 AV	54.0	-13.1	1.57 V	109	-3.28	44.18

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

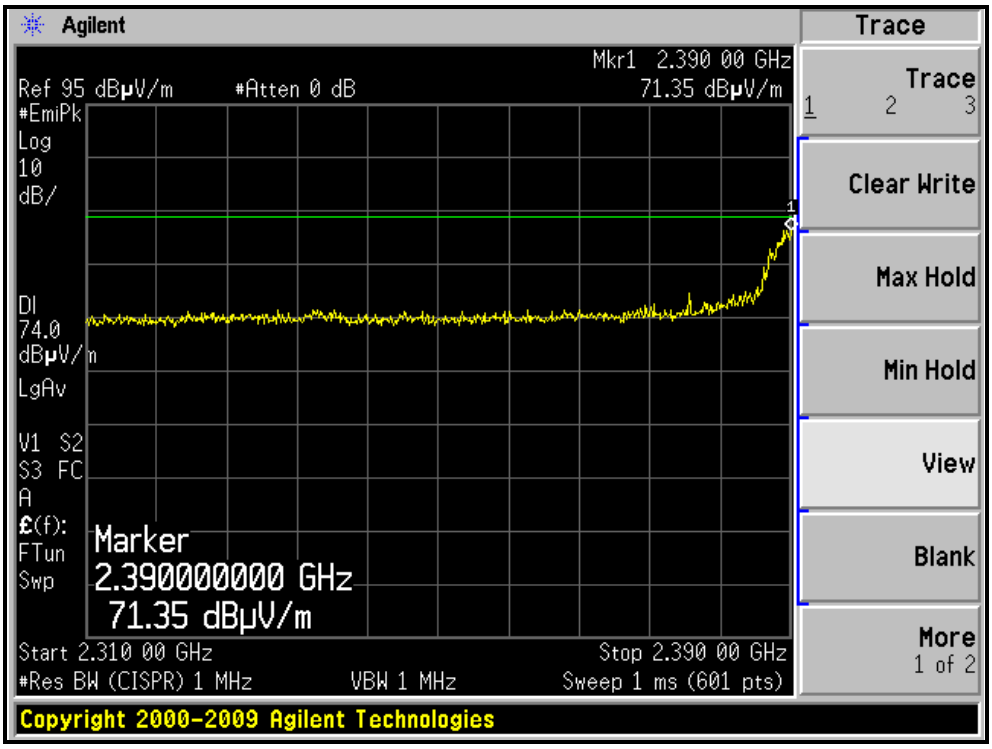
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

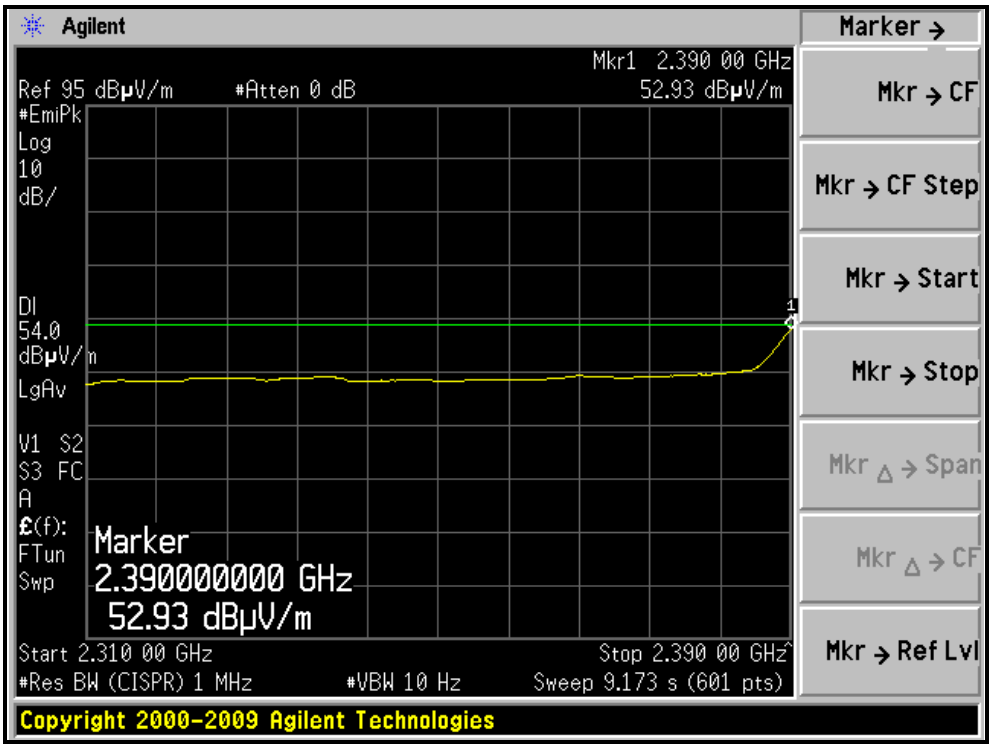
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

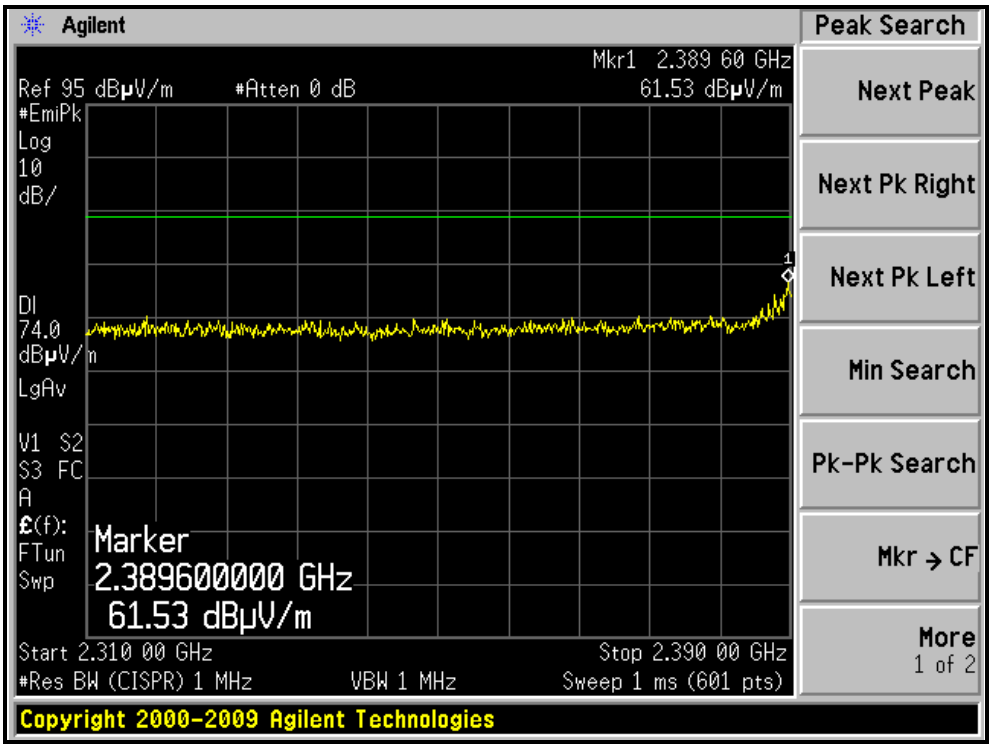
5. " * ": Fundamental frequency.

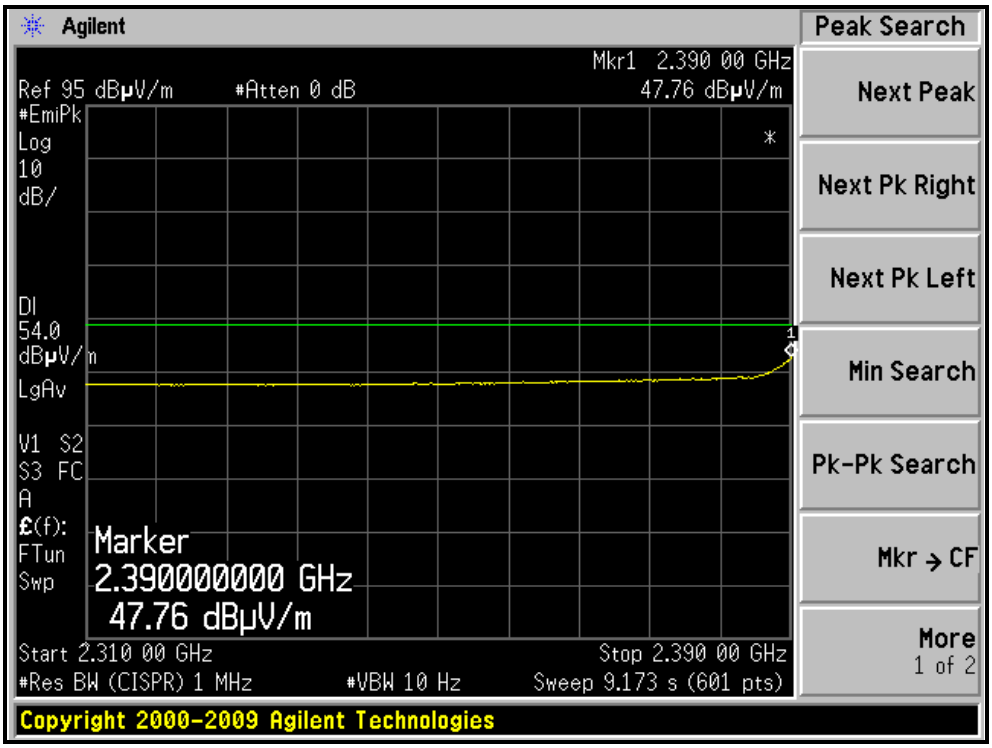
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



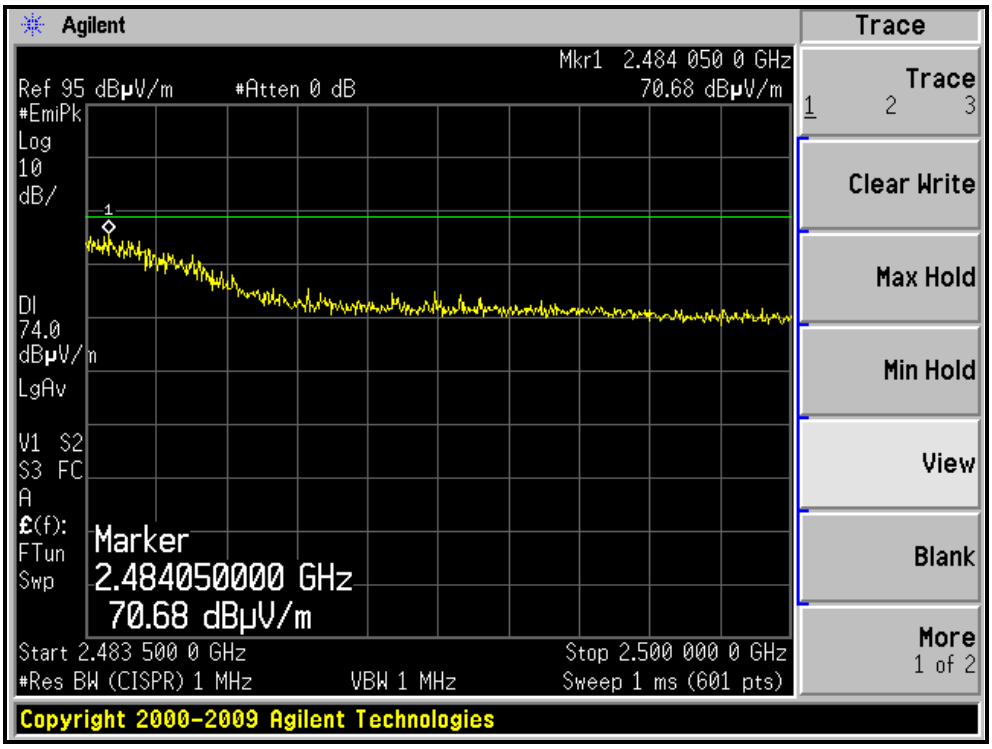


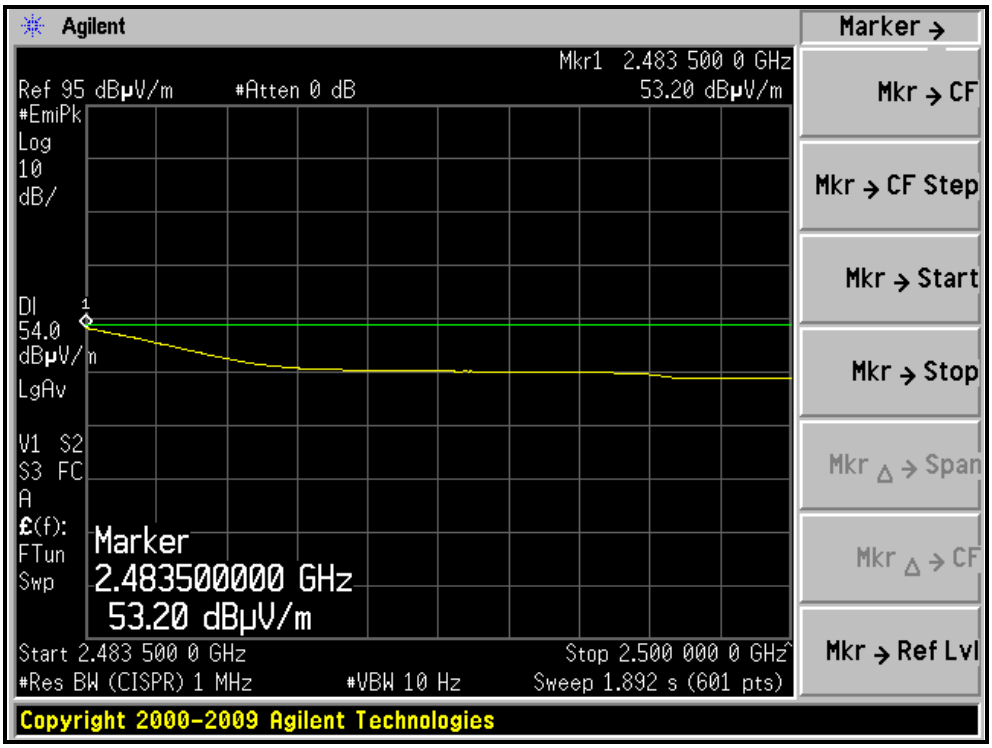
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



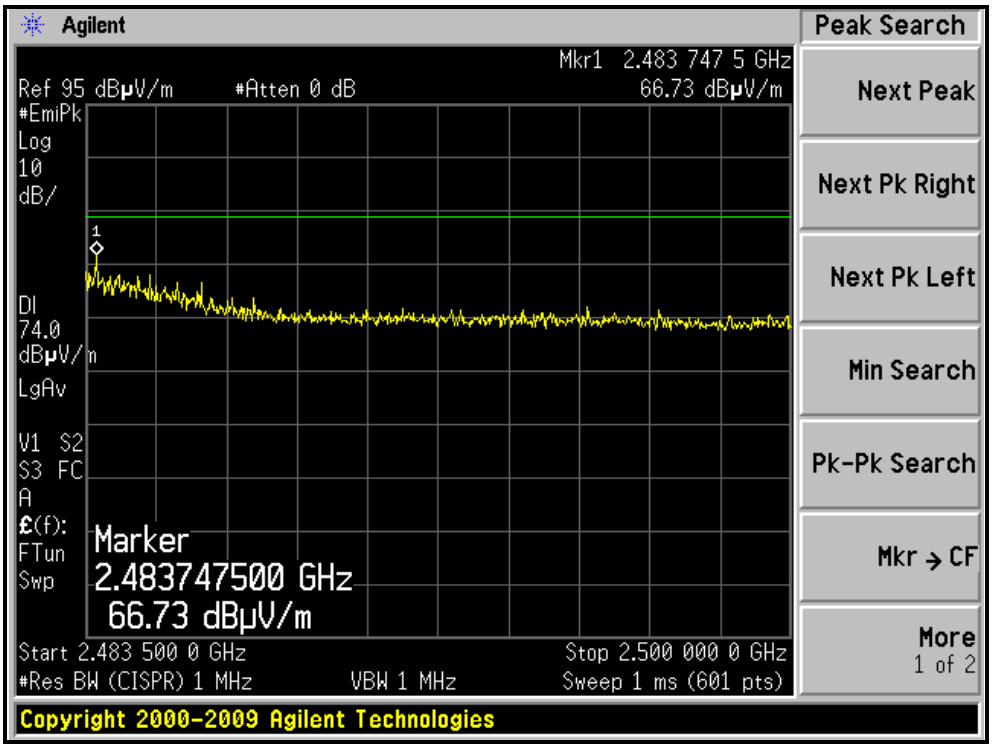


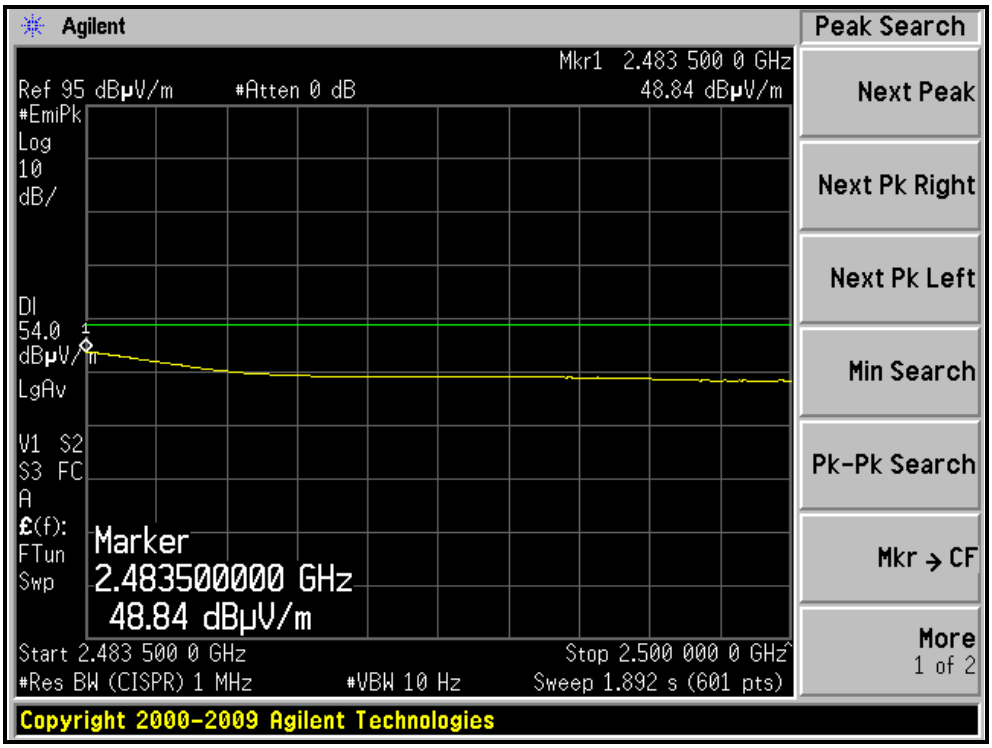
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





4.2.7.2 TEST RESULTS (With Chip Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	35.4 QP	40.0	-4.6	1.00 H	211	26.08	9.36
2	108.04	39.2 QP	43.5	-4.3	1.00 H	46	28.48	10.75
3	275.96	40.4 QP	46.0	-5.6	1.00 H	87	26.15	14.25
4	516.01	40.6 QP	46.0	-5.4	1.00 H	135	20.29	20.28
5	540.05	40.4 QP	46.0	-5.7	1.00 H	299	19.54	20.81
6	804.01	40.9 QP	46.0	-5.1	1.00 H	124	15.66	25.24
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	84.00	35.4 QP	40.0	-4.6	1.00 V	153	26.05	9.36
2	108.04	35.0 QP	43.5	-8.5	1.00 V	109	24.25	10.75
3	360.04	41.3 QP	46.0	-4.7	1.00 V	127	24.63	16.67
4	516.01	38.3 QP	46.0	-7.8	1.00 V	144	17.97	20.28
5	779.97	36.2 QP	46.0	-9.8	1.00 V	182	11.56	24.66
6	804.01	39.2 QP	46.0	-6.8	1.50 V	94	13.99	25.24

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	26deg. C, 66%RH 1004 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	53.4 PK	74.0	-20.6	1.49 H	233	22.19	31.21
2	2390.00	45.2 AV	54.0	-8.8	1.49 H	233	13.99	31.21
3	*2412.00	98.3 PK			1.49 H	233	67.03	31.27
4	*2412.00	95.8 AV			1.49 H	233	64.53	31.27
5	4824.00	50.5 PK	74.0	-23.5	1.12 H	104	11.08	39.42
6	4824.00	45.4 AV	54.0	-8.6	1.12 H	104	5.98	39.42
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	54.6 PK	74.0	-19.4	1.25 V	193	23.39	31.21
2	2390.00	43.9 AV	54.0	-10.1	1.25 V	193	12.69	31.21
3	*2412.00	89.9 PK			1.25 V	193	58.63	31.27
4	*2412.00	87.0 AV			1.25 V	193	55.73	31.27
5	4824.00	47.3 PK	74.0	-26.7	1.00 V	62	7.88	39.42
6	4824.00	37.2 AV	54.0	-16.8	1.00 V	62	-2.22	39.42

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	26deg. C, 66%RH 1004 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	99.9 PK			1.43 H	239	68.56	31.34
2	*2437.00	97.7 AV			1.43 H	239	66.36	31.34
3	4874.00	48.7 PK	74.0	-25.3	1.12 H	109	9.08	39.62
4	4874.00	38.6 AV	54.0	-15.4	1.12 H	109	-1.02	39.62
5	7311.00	59.6 PK	74.0	-14.4	1.04 H	59	15.50	44.10
6	7311.00	48.6 AV	54.0	-5.4	1.04 H	59	4.50	44.10
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	*2437.00	91.4 PK			1.24 V	183	60.06	31.34
2	*2437.00	87.7 AV			1.24 V	183	56.36	31.34
3	4874.00	46.7 PK	74.0	-27.3	1.00 V	34	7.08	39.62
4	4874.00	36.7 AV	54.0	-17.3	1.00 V	34	-2.92	39.62
5	7311.00	60.4 PK	74.0	-13.6	1.00 V	63	16.30	44.10
6	7311.00	48.5 AV	54.0	-5.5	1.00 V	63	4.40	44.10

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.

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	26deg. C, 66%RH 1004 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	99.6 PK			1.46 H	237	68.20	31.40
2	*2462.00	97.1 AV			1.46 H	237	65.70	31.40
3	2486.85	59.4 PK	74.0	-14.6	1.46 H	237	27.93	31.47
4	2486.85	49.4 AV	54.0	-4.6	1.46 H	237	17.93	31.47
5	4924.00	53.1 PK	74.0	-20.9	1.11 H	103	13.28	39.82
6	4924.00	43.2 AV	54.0	-10.8	1.11 H	103	3.38	39.82
7	7386.00	54.9 PK	74.0	-19.1	1.00 H	59	10.72	44.18
8	7386.00	43.5 AV	54.0	-10.5	1.00 H	59	-0.68	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	90.9 PK			1.20 V	193	59.50	31.40
2	*2462.00	86.4 AV			1.20 V	193	55.00	31.40
3	2487.26	55.2 PK	74.0	-18.8	1.20 V	193	23.73	31.47
4	2487.26	44.7 AV	54.0	-9.3	1.20 V	193	13.23	31.47
5	4924.00	51.3 PK	74.0	-22.7	1.00 V	63	11.48	39.82
6	4924.00	41.2 AV	54.0	-12.8	1.00 V	63	1.38	39.82
7	7386.00	55.2 PK	74.0	-18.8	1.00 V	12	11.02	44.18
8	7386.00	43.3 AV	54.0	-10.7	1.00 V	12	-0.88	44.18

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

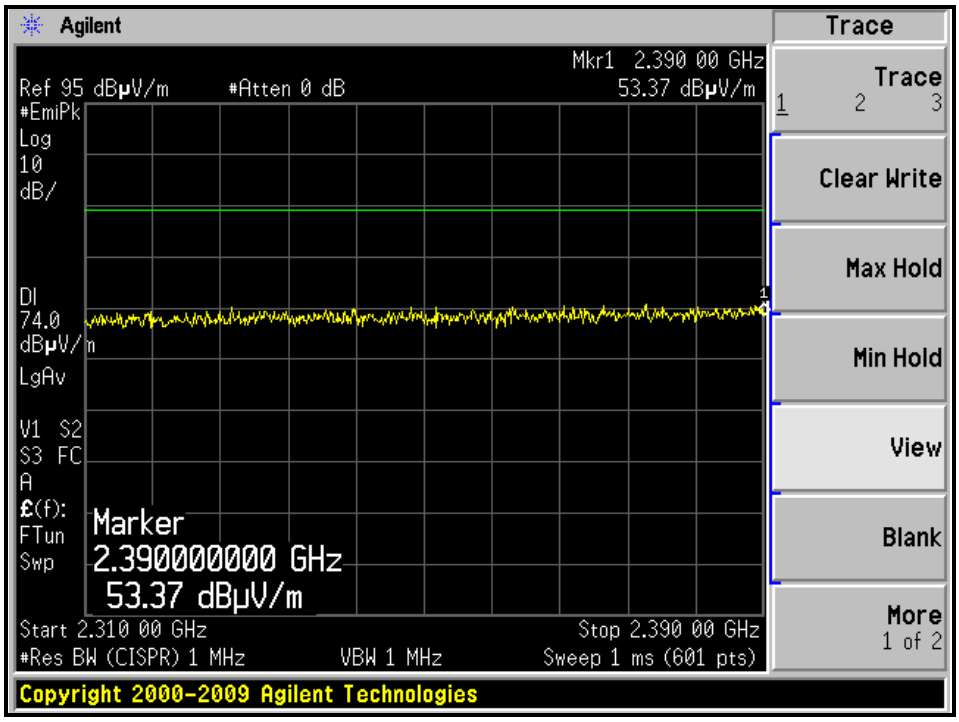
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

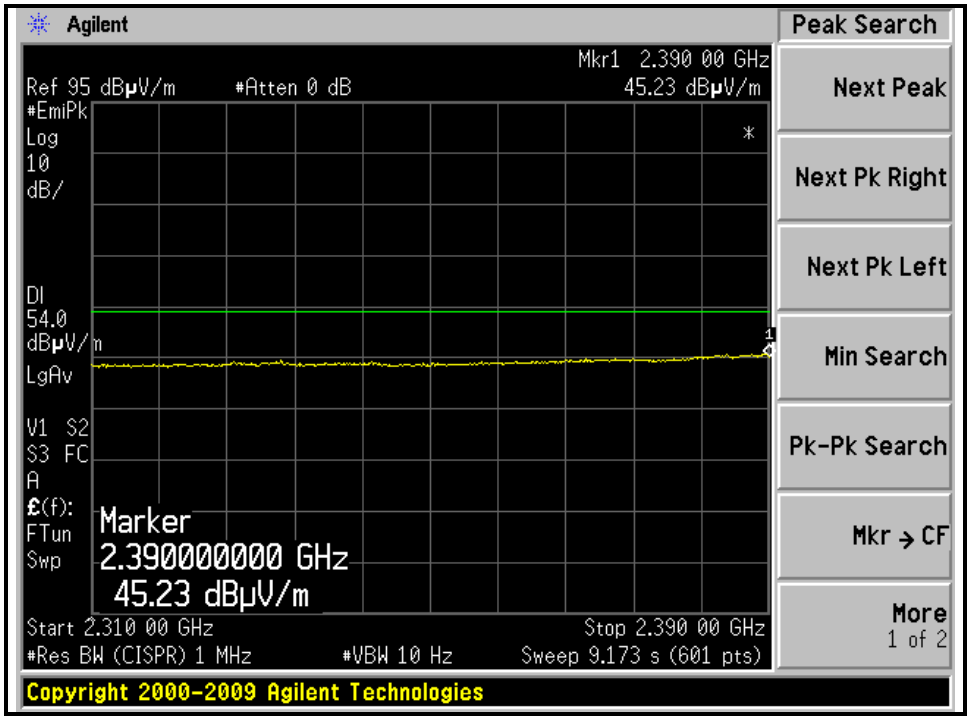
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

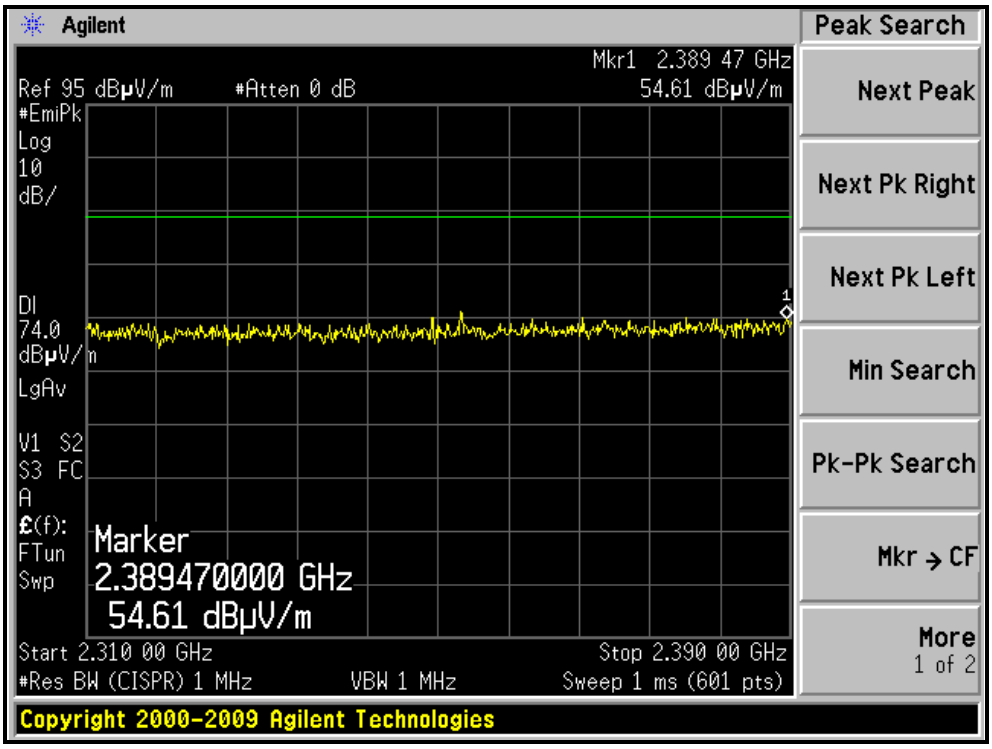
5. " * ": Fundamental frequency.

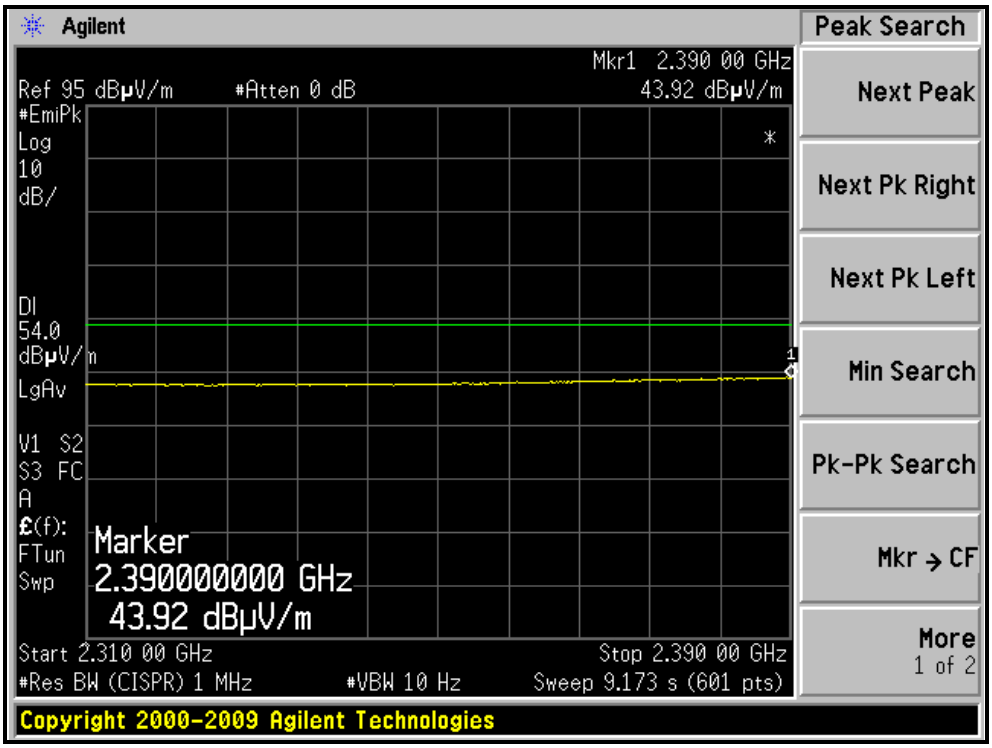
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)



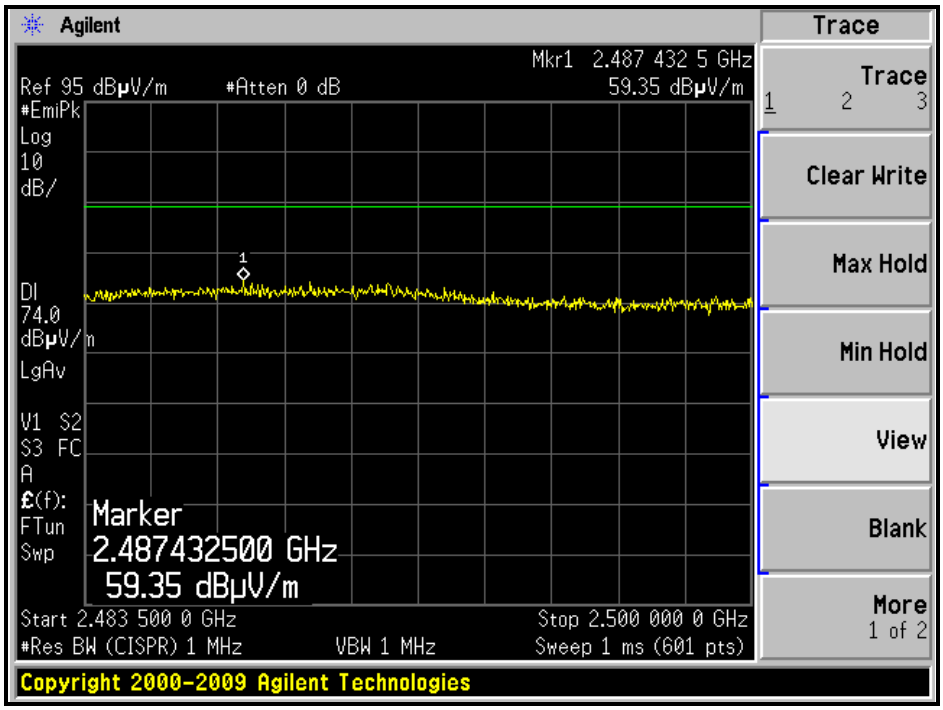


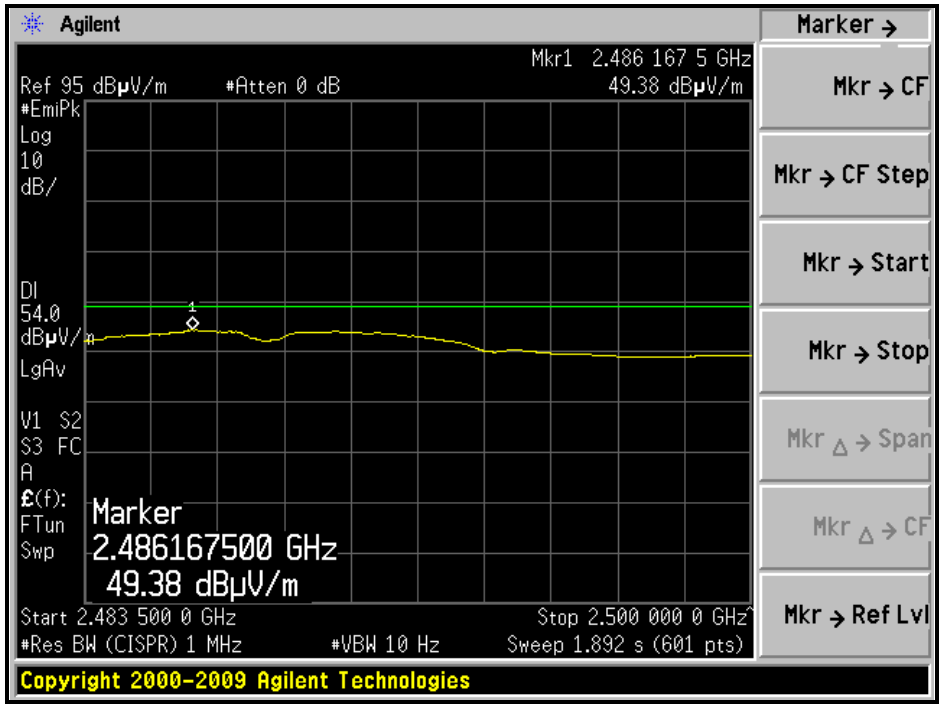
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)



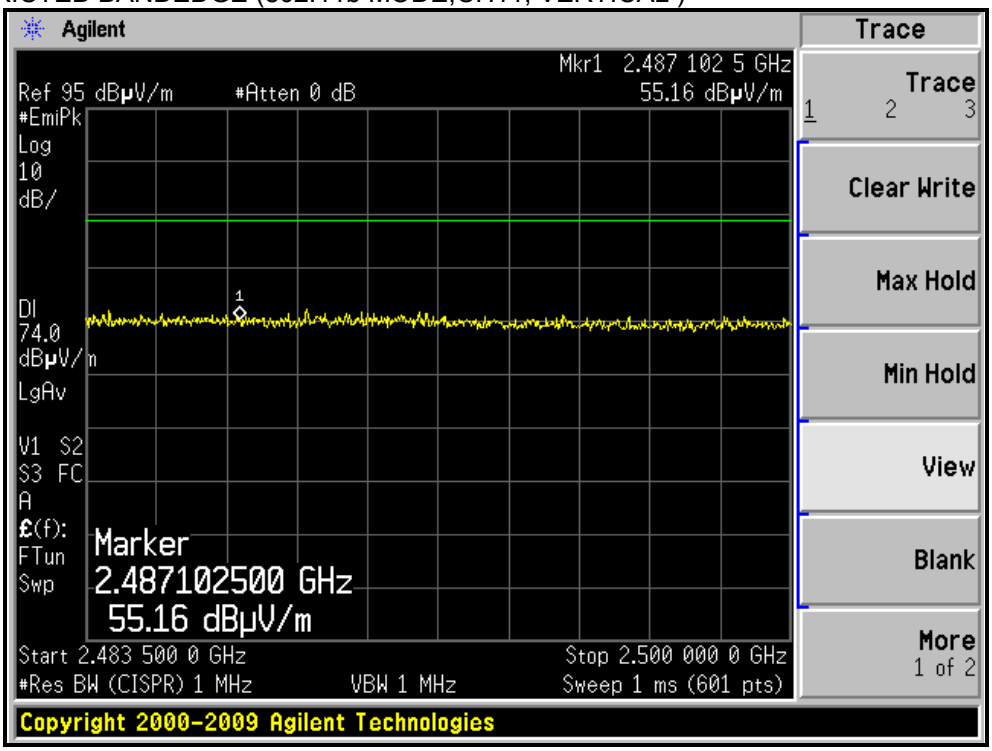


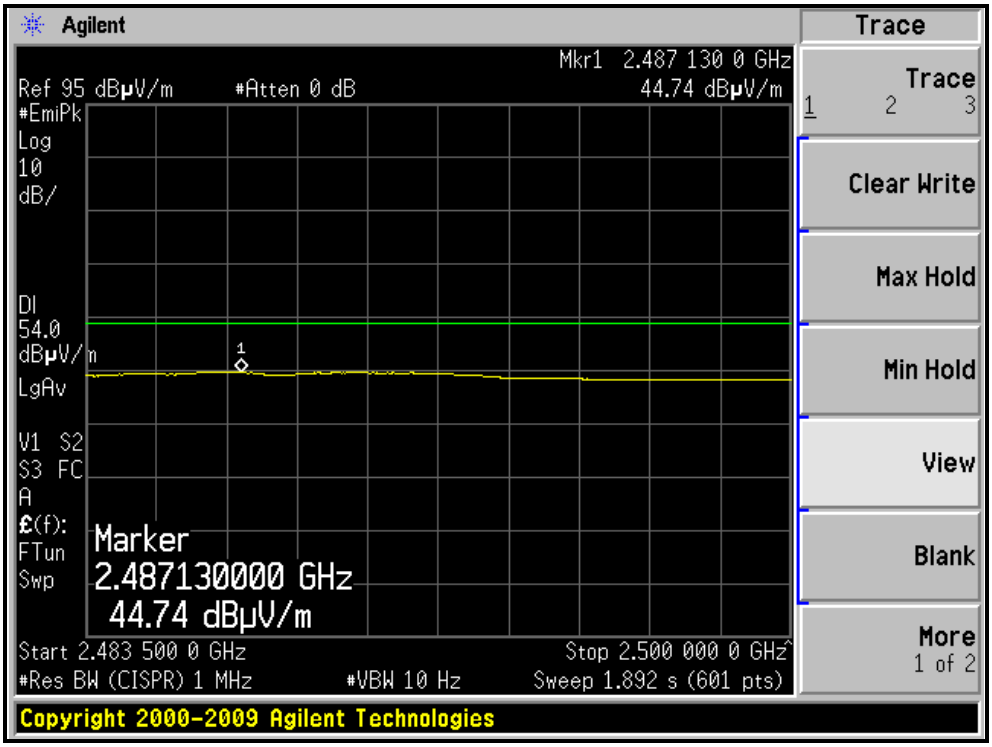
RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 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	56.4 PK	74.0	-17.6	1.46 H	234	25.19	31.21
2	2390.00	44.3 AV	54.0	-9.7	1.46 H	234	13.09	31.21
3	*2412.00	94.6 PK			1.46 H	234	63.33	31.27
4	*2412.00	84.3 AV			1.46 H	234	53.03	31.27
5	4824.00	48.2 PK	74.0	-25.8	1.11 H	104	8.78	39.42
6	4824.00	36.3 AV	54.0	-17.7	1.11 H	104	-3.12	39.42
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	57.6 PK	74.0	-16.4	1.24 V	193	26.39	31.21
2	2390.00	43.8 AV	54.0	-10.2	1.24 V	193	12.59	31.21
3	*2412.00	84.1 PK			1.24 V	193	52.83	31.27
4	*2412.00	74.3 AV			1.24 V	193	43.03	31.27
5	4824.00	46.1 PK	74.0	-27.9	1.00 V	59	6.68	39.42
6	4824.00	36.2 AV	54.0	-17.8	1.00 V	59	-3.22	39.42

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	26deg. C, 66%RH 1004 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	97.4 PK			1.43 H	236	66.06	31.34
2	*2437.00	87.3 AV			1.43 H	236	55.96	31.34
3	4874.00	48.4 PK	74.0	-25.6	1.13 H	103	8.78	39.62
4	4874.00	36.2 AV	54.0	-17.8	1.13 H	103	-3.42	39.62
5	7311.00	52.6 PK	74.0	-21.4	1.00 H	64	8.50	44.10
6	7311.00	41.4 AV	54.0	-12.6	1.00 H	64	-2.70	44.10
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	*2437.00	87.4 PK			1.24 V	179	56.06	31.34
2	*2437.00	77.9 AV			1.24 V	179	46.56	31.34
3	4874.00	46.4 PK	74.0	-27.6	1.00 V	53	6.78	39.62
4	4874.00	36.2 AV	54.0	-17.8	1.00 V	53	-3.42	39.62
5	7311.00	52.4 PK	74.0	-21.6	1.00 V	64	8.30	44.10
6	7311.00	41.3 AV	54.0	-12.7	1.00 V	64	-2.80	44.10

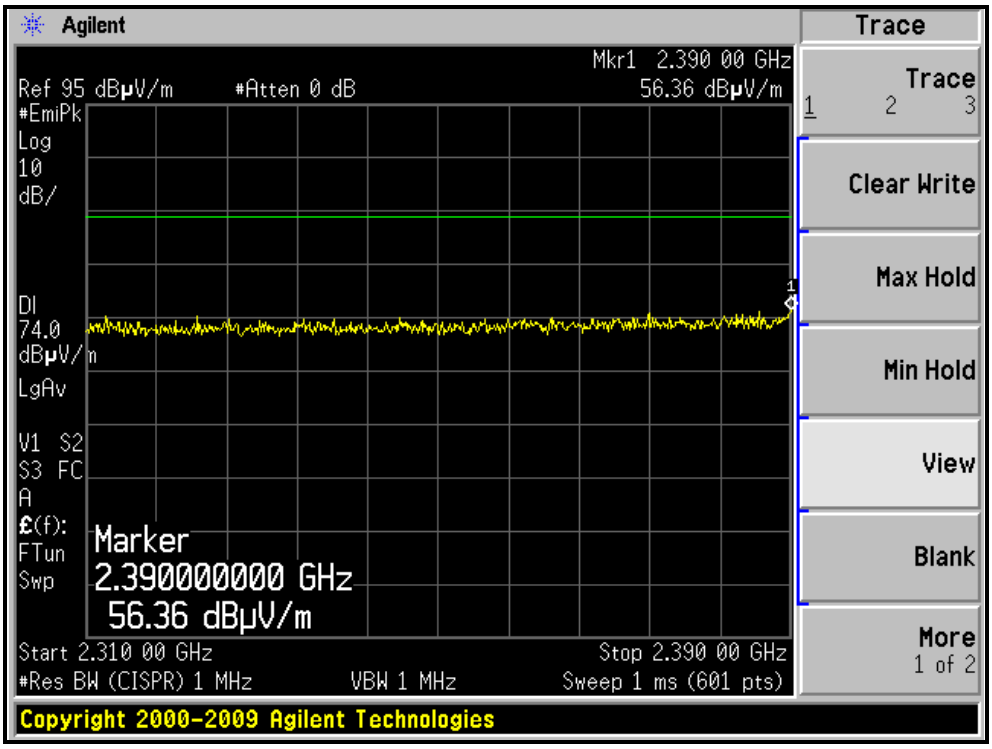
REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

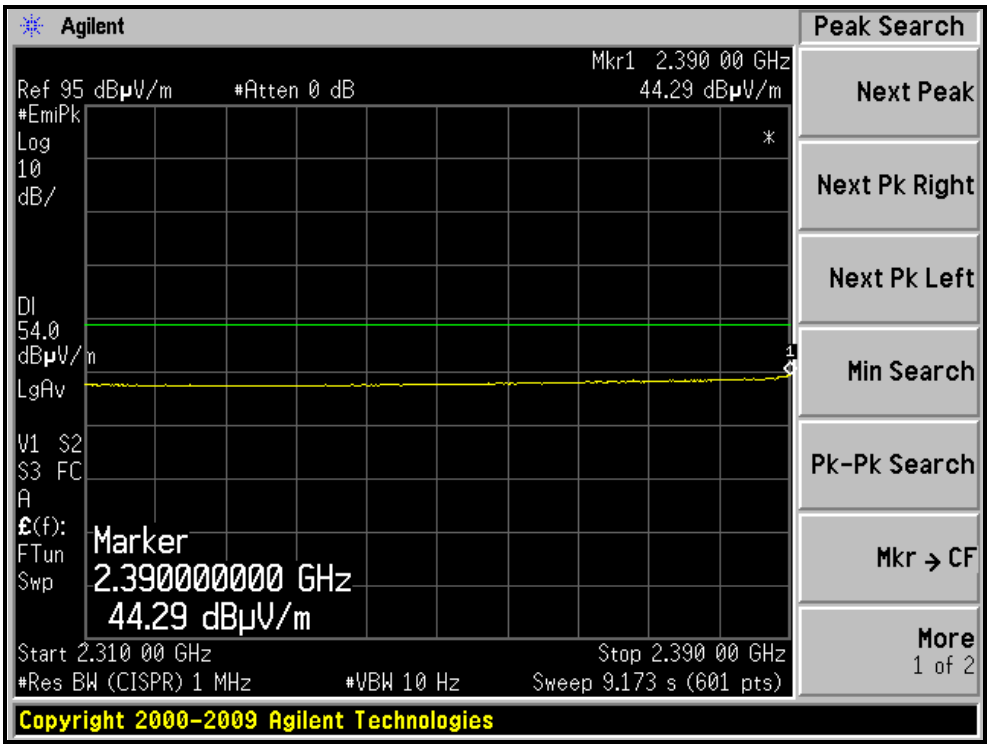
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 hPa	TESTED BY	Kent Liu

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	94.3 PK			1.44 H	236	62.90	31.40
2	*2462.00	84.1 AV			1.44 H	236	52.70	31.40
3	2483.50	58.2 PK	74.0	-15.8	1.44 H	236	26.74	31.46
4	2483.50	45.7 AV	54.0	-8.3	1.44 H	236	14.24	31.46
5	4924.00	48.3 PK	74.0	-25.7	1.13 H	104	8.48	39.82
6	4924.00	36.4 AV	54.0	-17.6	1.13 H	104	-3.42	39.82
7	7386.00	52.4 PK	74.0	-21.6	1.00 H	62	8.22	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.00 H	62	-2.88	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	84.3 PK			1.24 V	169	52.90	31.40
2	*2462.00	74.2 AV			1.24 V	169	42.80	31.40
3	2483.50	54.1 PK	74.0	-19.9	1.24 V	169	22.64	31.46
4	2483.50	43.5 AV	54.0	-10.5	1.24 V	169	12.04	31.46
5	4924.00	46.9 PK	74.0	-27.1	1.00 V	59	7.08	39.82
6	4924.00	36.5 AV	54.0	-17.5	1.00 V	59	-3.32	39.82
7	7386.00	52.7 PK	74.0	-21.3	1.00 V	63	8.52	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.00 V	63	-2.88	44.18

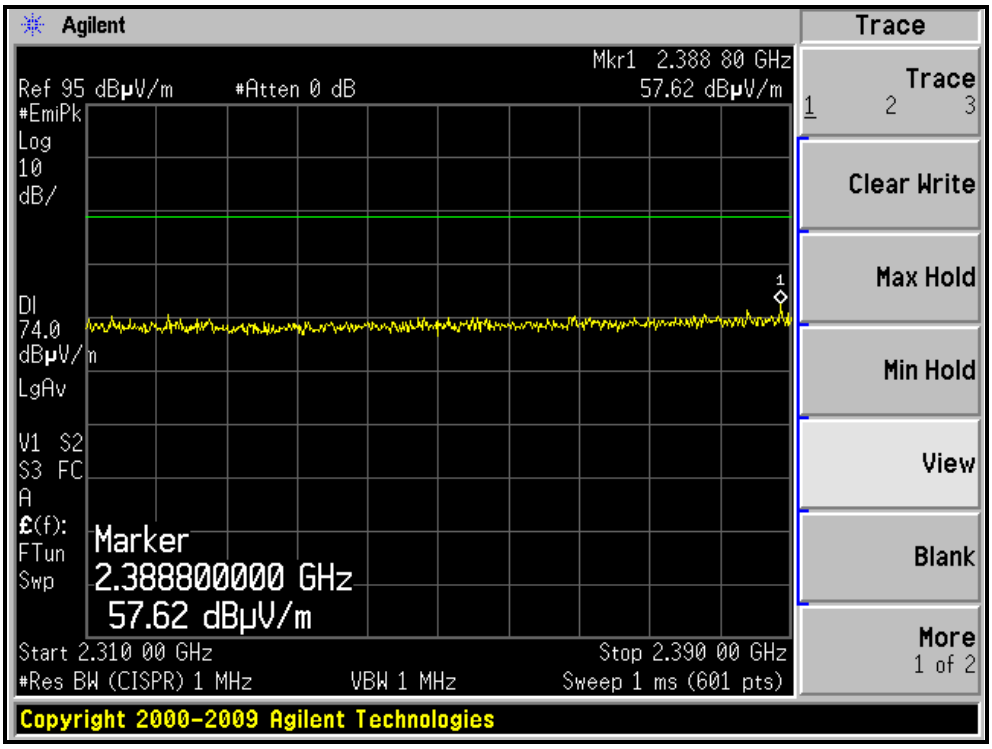
REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

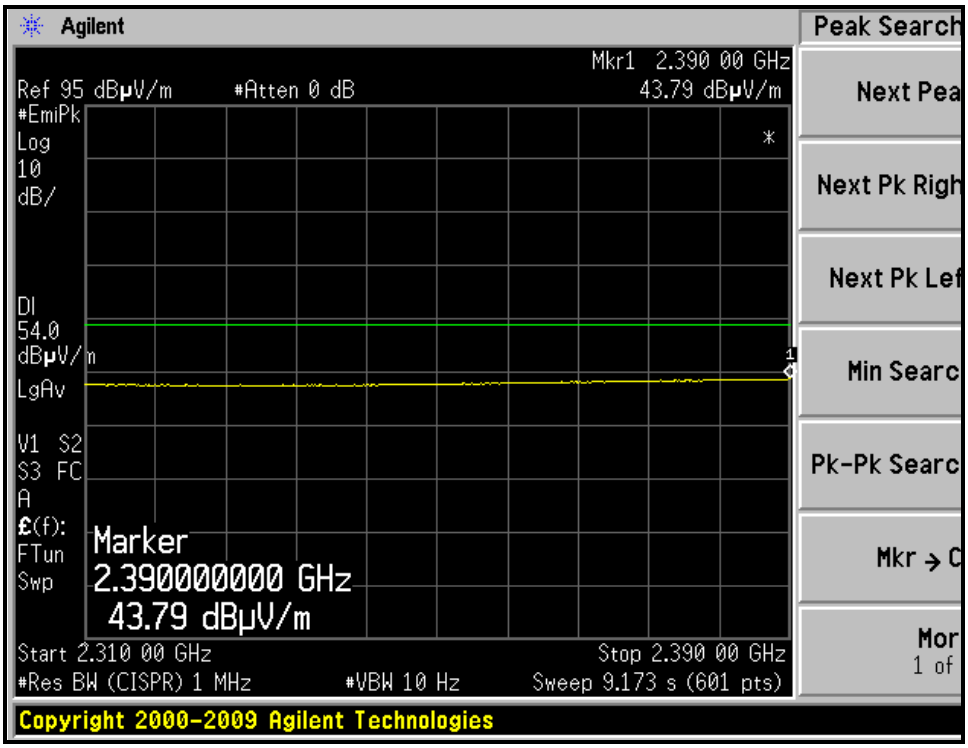
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





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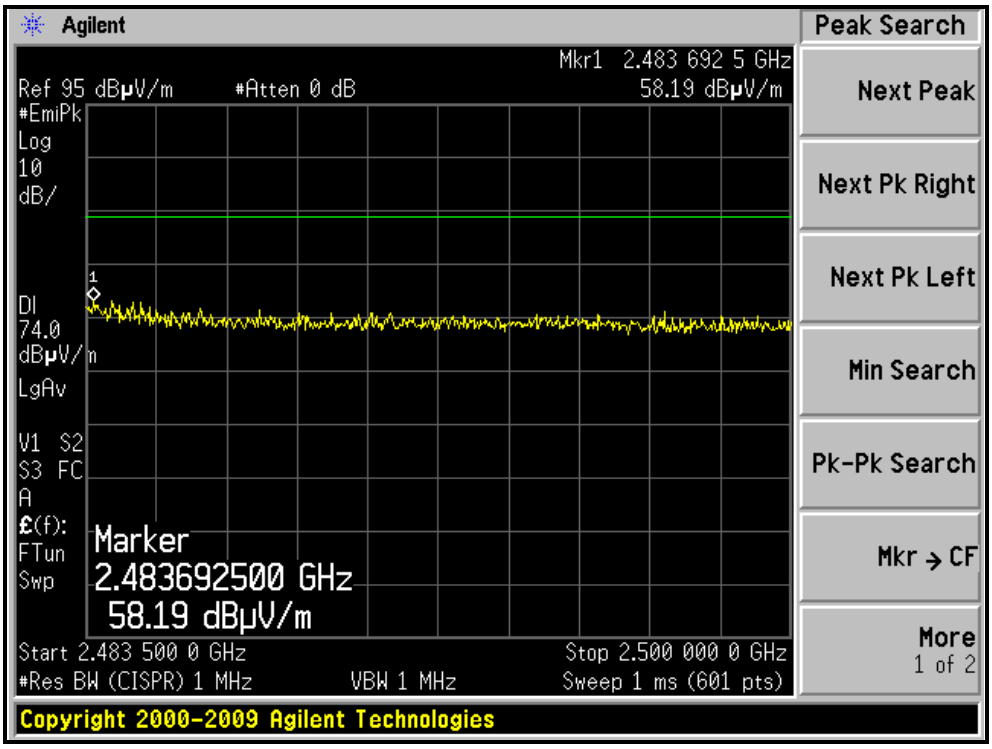
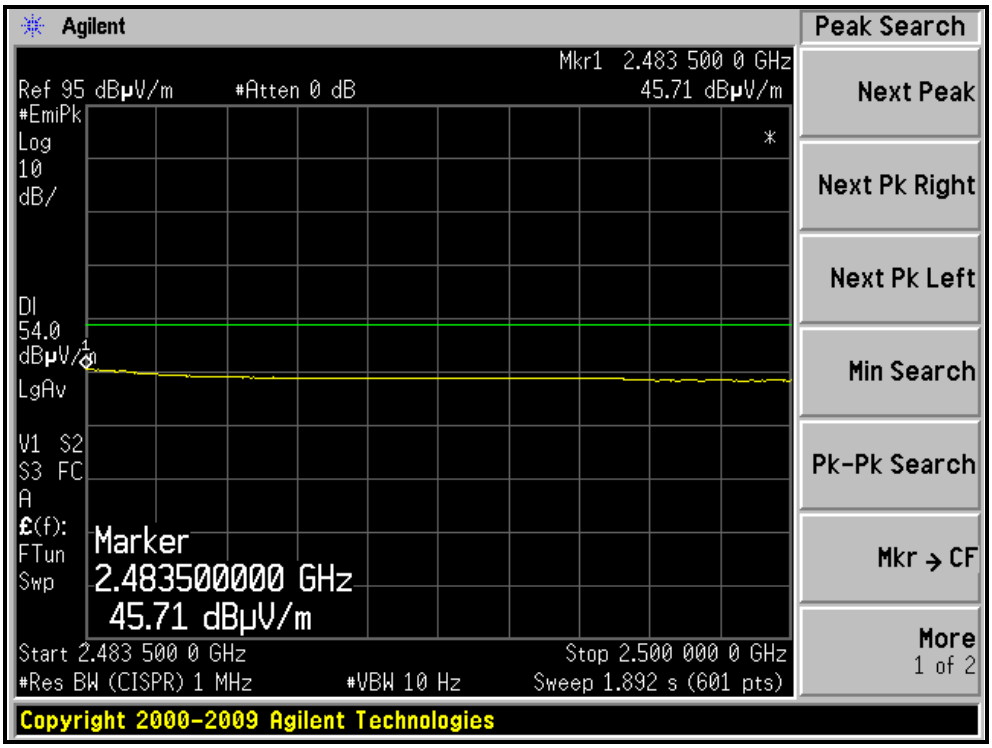
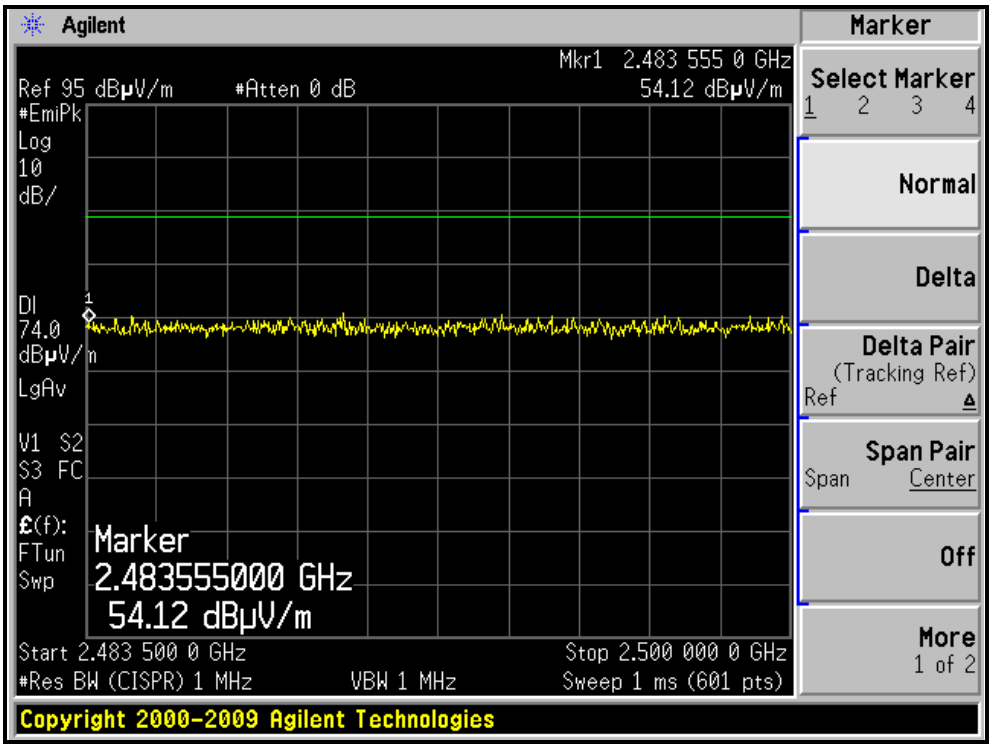
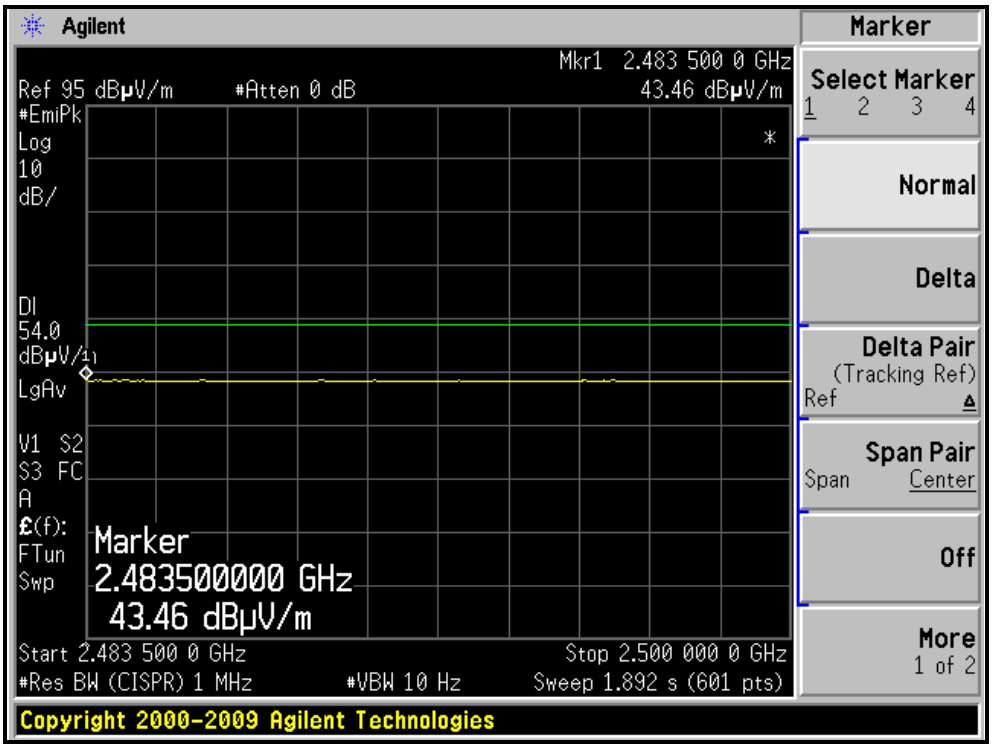




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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	26deg. C, 66%RH 1004 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	1.44 H	237	24.89	31.21
2	2390.00	45.0 AV	54.0	-9.0	1.44 H	237	13.79	31.21
3	*2412.00	94.4 PK			1.44 H	237	63.13	31.27
4	*2412.00	84.3 AV			1.44 H	237	53.03	31.27
5	4824.00	48.2 PK	74.0	-25.8	1.12 H	109	8.78	39.42
6	4824.00	36.3 AV	54.0	-17.7	1.12 H	109	-3.12	39.42
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	1.24 V	164	24.09	31.21
2	2390.00	43.6 AV	54.0	-10.4	1.24 V	164	12.39	31.21
3	*2412.00	84.3 PK			1.24 V	164	53.03	31.27
4	*2412.00	74.1 AV			1.24 V	164	42.83	31.27
5	4824.00	46.7 PK	74.0	-27.3	1.00 V	62	7.28	39.42
6	4824.00	36.4 AV	54.0	-17.6	1.00 V	62	-3.02	39.42

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	26deg. C, 66%RH 1004 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	97.3 PK			1.42 H	236	65.96	31.34
2	*2437.00	87.9 AV			1.42 H	236	56.56	31.34
3	4874.00	48.2 PK	74.0	-25.8	1.14 H	109	8.58	39.62
4	4874.00	36.4 AV	54.0	-17.6	1.14 H	109	-3.22	39.62
5	7311.00	52.4 PK	74.0	-21.6	1.00 H	73	8.30	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.00 H	73	-2.40	44.10
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	*2437.00	87.3 PK			1.24 V	163	55.96	31.34
2	*2437.00	77.4 AV			1.24 V	163	46.06	31.34
3	4874.00	55.9 PK	74.0	-18.1	1.00 V	54	16.28	39.62
4	4874.00	43.9 AV	54.0	-10.1	1.00 V	54	4.28	39.62
5	7311.00	52.4 PK	74.0	-21.6	1.00 V	62	8.30	44.10
6	7311.00	41.6 AV	54.0	-12.4	1.00 V	62	-2.50	44.10

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.

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	26deg. C, 66%RH 1004 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	94.6 PK			1.42 H	231	63.20	31.40
2	*2462.00	84.3 AV			1.42 H	231	52.90	31.40
3	2483.50	61.4 PK	74.0	-12.6	1.42 H	231	29.94	31.46
4	2483.50	46.1 AV	54.0	-7.9	1.42 H	231	14.64	31.46
5	4924.00	48.4 PK	74.0	-25.6	1.12 H	103	8.58	39.82
6	4924.00	36.4 AV	54.0	-17.6	1.12 H	103	-3.42	39.82
7	7386.00	52.6 PK	74.0	-21.4	1.00 H	59	8.42	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.00 H	59	-2.88	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	84.3 PK			1.24 V	153	52.90	31.40
2	*2462.00	74.2 AV			1.24 V	153	42.80	31.40
3	2483.50	54.4 PK	74.0	-19.6	1.24 V	153	22.94	31.46
4	2483.50	44.0 AV	54.0	-10.0	1.24 V	153	12.54	31.46
5	4924.00	55.6 PK	74.0	-18.4	1.00 V	59	15.78	39.82
6	4924.00	43.2 AV	54.0	-10.8	1.00 V	59	3.38	39.82
7	7386.00	52.6 PK	74.0	-21.4	1.00 V	63	8.42	44.18
8	7386.00	41.4 AV	54.0	-12.6	1.00 V	63	-2.78	44.18

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

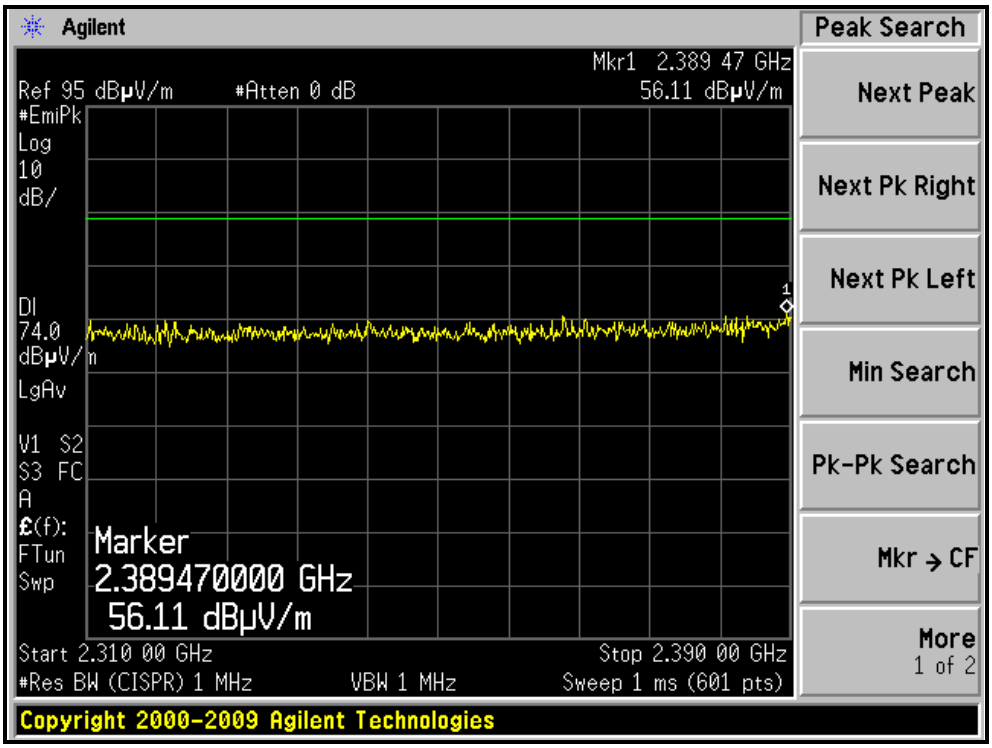
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

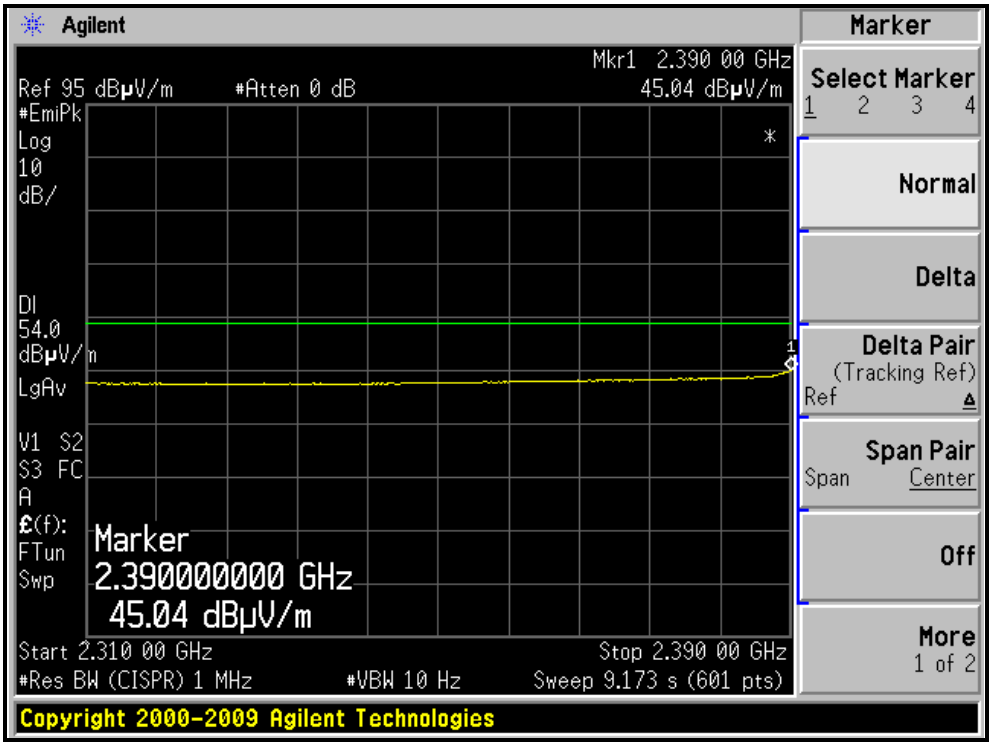
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

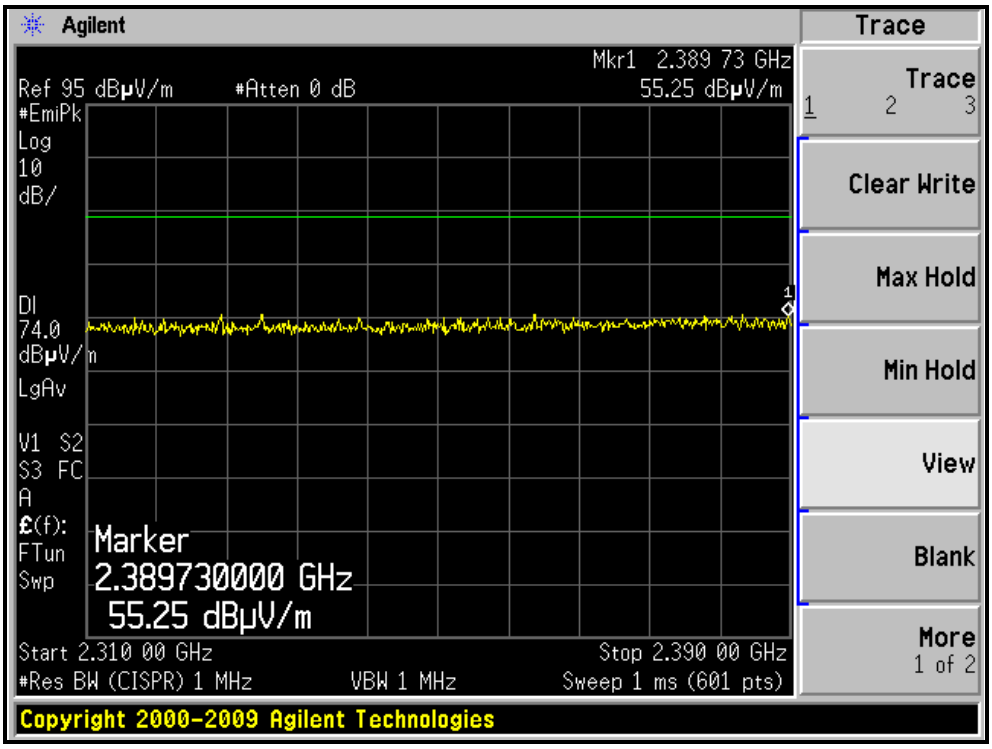
5. " * ": Fundamental frequency.

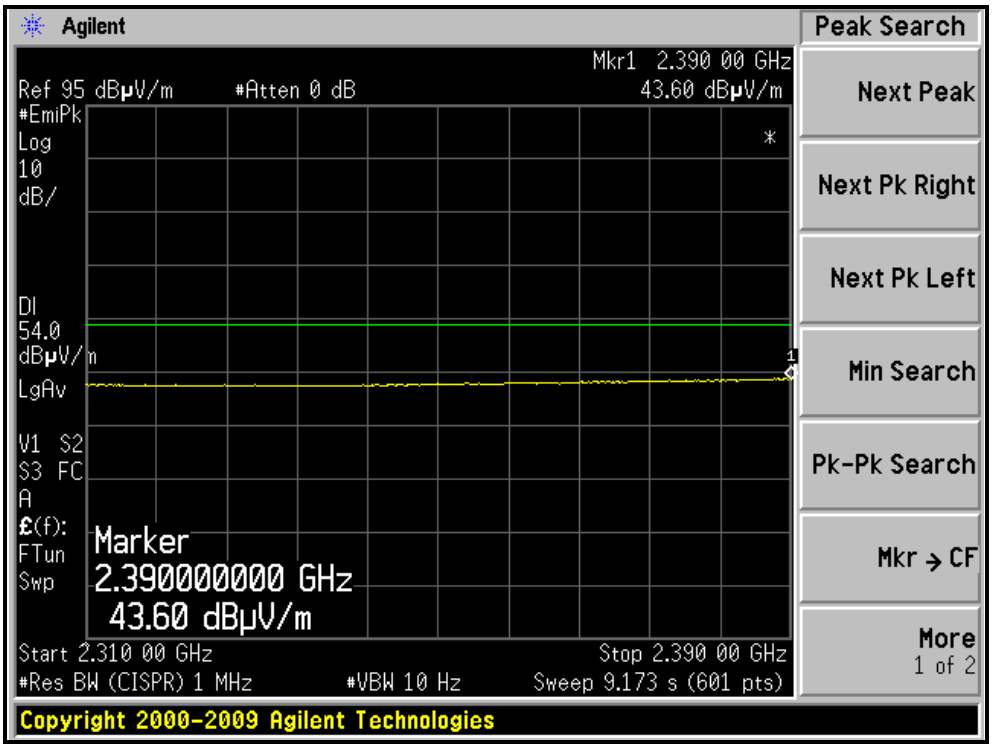
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



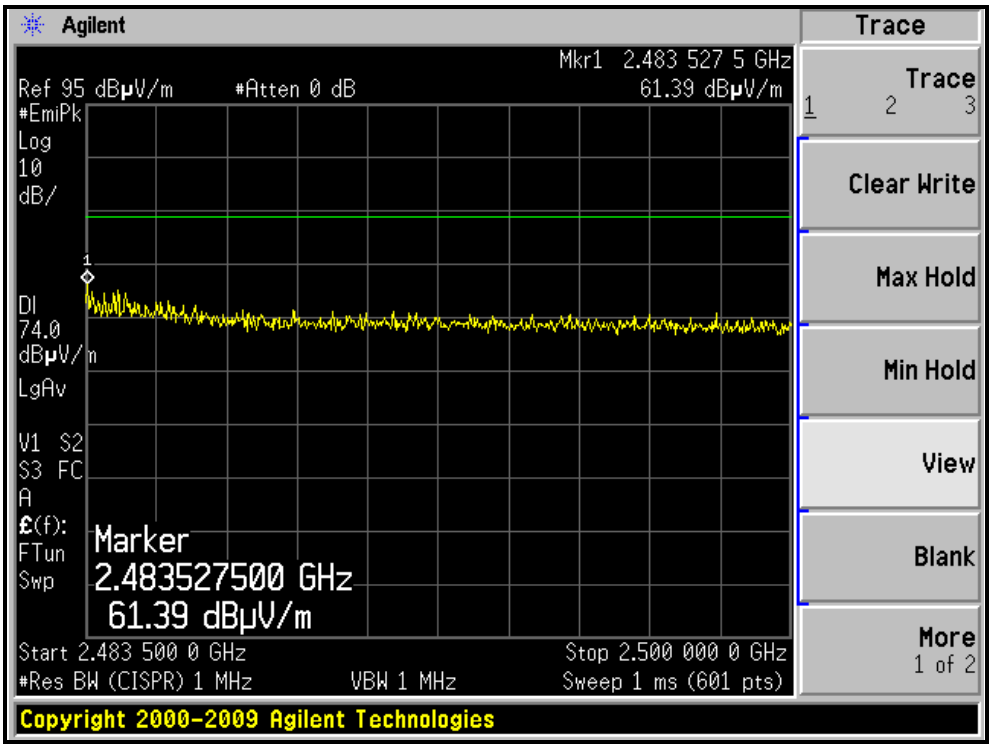


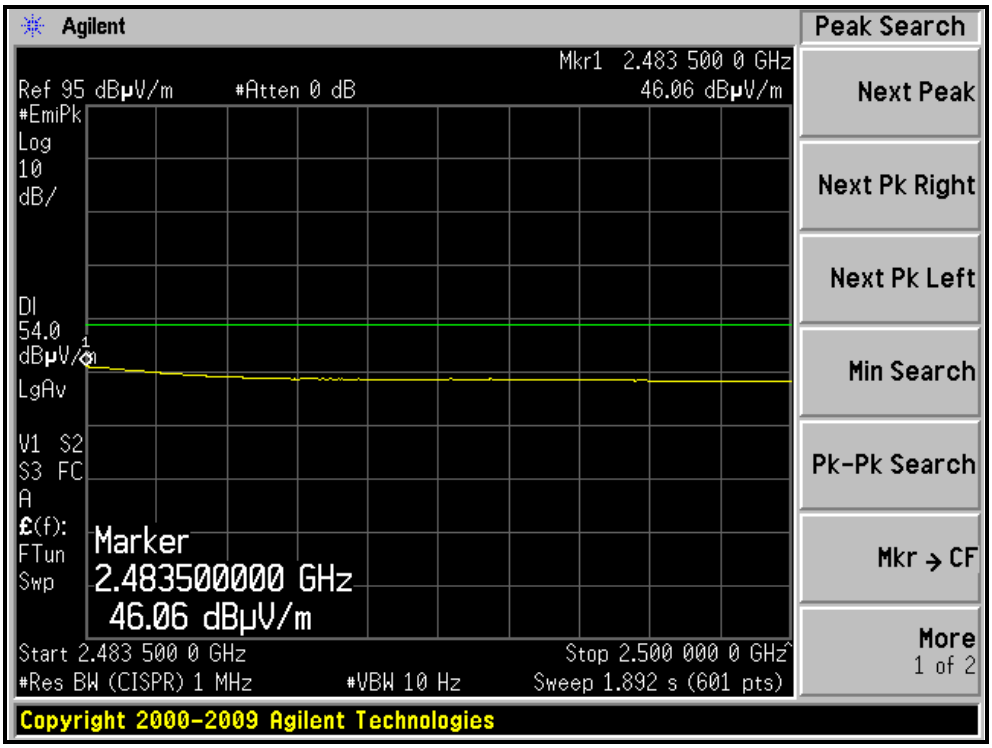
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



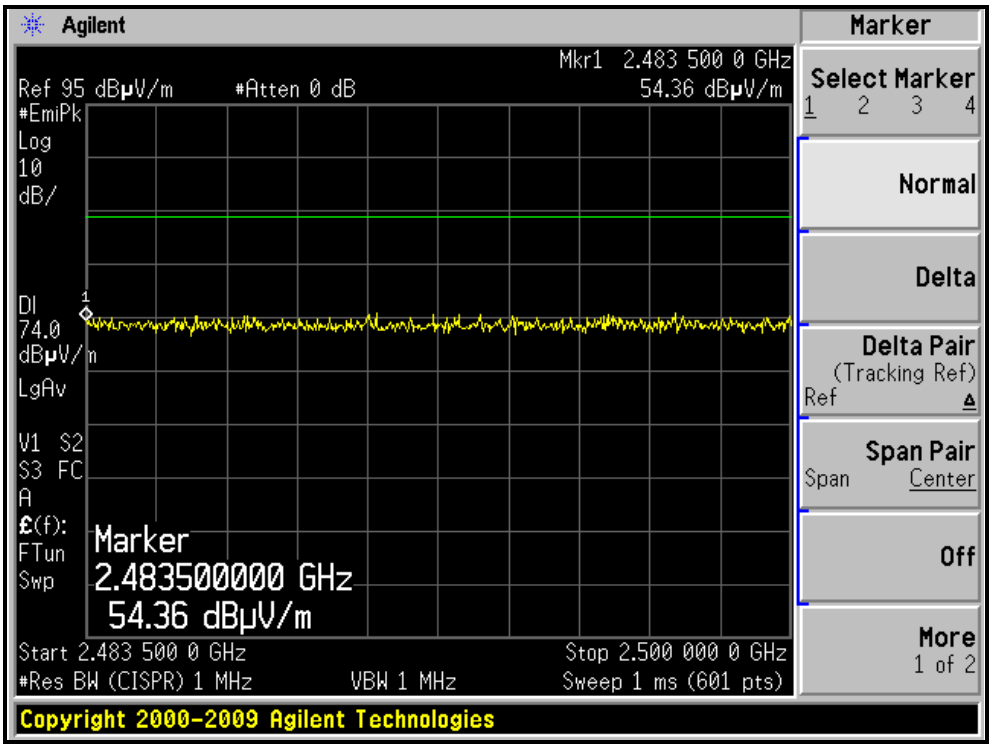


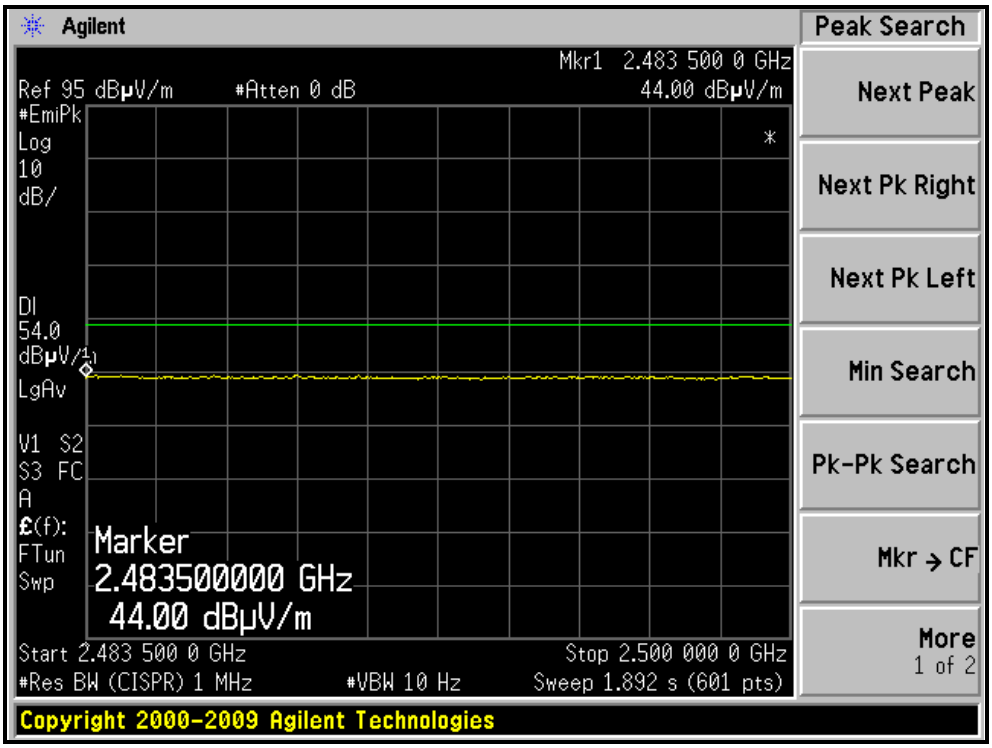
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





4.2.7.3 TEST RESULTS (With PCB Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	35.1 QP	40.0	-4.9	1.00 H	157	25.76	9.36
2	108.04	38.3 QP	43.5	-5.2	1.00 H	185	27.59	10.75
3	275.96	41.1 QP	46.0	-4.9	1.00 H	121	26.86	14.25
4	516.01	41.3 QP	46.0	-4.7	1.00 H	103	20.98	20.28
5	540.05	41.4 QP	46.0	-4.6	1.00 H	44	20.56	20.81
6	804.01	41.3 QP	46.0	-4.8	1.00 H	99	16.01	25.24
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	84.00	35.3 QP	40.0	-4.7	1.00 V	137	25.90	9.36
2	108.04	34.4 QP	43.5	-9.1	1.00 V	143	23.62	10.75
3	360.04	42.7 QP	46.0	-3.3	1.00 V	156	26.00	16.67
4	516.01	37.3 QP	46.0	-8.8	1.00 V	129	16.97	20.28
5	779.97	35.3 QP	46.0	-10.7	1.00 V	137	10.68	24.66
6	804.01	38.1 QP	46.0	-7.9	1.42 V	133	12.89	25.24

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	26deg. C, 66%RH 1004 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	61.9 PK	74.0	-12.1	1.48 H	237	30.69	31.21
2	2390.00	52.1 AV	54.0	-1.9	1.48 H	237	20.89	31.21
3	*2412.00	111.6 PK			1.48 H	237	80.33	31.27
4	*2412.00	109.1 AV			1.48 H	237	77.83	31.27
5	4824.00	58.6 PK	74.0	-15.4	1.28 H	273	19.18	39.42
6	4824.00	49.6 AV	54.0	-4.4	1.28 H	273	10.18	39.42
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	57.2 PK	74.0	-16.8	1.04 V	61	25.99	31.21
2	2390.00	44.3 AV	54.0	-9.7	1.04 V	61	13.09	31.21
3	*2412.00	101.7 PK			1.04 V	61	70.43	31.27
4	*2412.00	99.2 AV			1.04 V	61	67.93	31.27
5	4824.00	58.5 PK	74.0	-15.5	1.39 V	41	19.08	39.42
6	4824.00	50.4 AV	54.0	-3.6	1.39 V	41	10.98	39.42

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	26deg. C, 66%RH 1004 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	112.1 PK			1.42 H	263	80.76	31.34
2	*2437.00	110.2 AV			1.42 H	263	78.86	31.34
3	4874.00	55.7 PK	74.0	-18.3	1.26 H	273	16.08	39.62
4	4874.00	46.4 AV	54.0	-7.6	1.26 H	273	6.78	39.62
5	7311.00	55.7 PK	74.0	-18.3	1.24 H	66	11.60	44.10
6	7311.00	44.6 AV	54.0	-9.4	1.24 H	66	0.50	44.10
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	*2437.00	103.2 PK			1.04 V	62	71.86	31.34
2	*2437.00	100.4 AV			1.04 V	62	69.06	31.34
3	4874.00	55.6 PK	74.0	-18.4	1.37 V	43	15.98	39.62
4	4874.00	47.4 AV	54.0	-6.6	1.37 V	43	7.78	39.62
5	7311.00	56.4 PK	74.0	-17.6	1.24 V	59	12.30	44.10
6	7311.00	44.7 AV	54.0	-9.3	1.24 V	59	0.60	44.10

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.

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	26deg. C, 66%RH 1004 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	111.1 PK			1.42 H	266	79.70	31.40
2	*2462.00	109.2 AV			1.42 H	266	77.80	31.40
3	2483.50	61.3 PK	74.0	-12.7	1.42 H	266	29.84	31.46
4	2483.50	52.7 AV	54.0	-1.3	1.42 H	266	21.24	31.46
5	4924.00	55.3 PK	74.0	-18.7	1.23 H	254	15.48	39.82
6	4924.00	46.7 AV	54.0	-7.3	1.23 H	254	6.88	39.82
7	7386.00	55.9 PK	74.0	-18.1	1.24 H	67	11.72	44.18
8	7386.00	44.5 AV	54.0	-9.5	1.24 H	67	0.32	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.2 PK			1.04 V	59	70.80	31.40
2	*2462.00	99.4 AV			1.04 V	59	68.00	31.40
3	2483.50	57.7 PK	74.0	-16.3	1.04 V	59	26.24	31.46
4	2483.50	47.1 AV	54.0	-6.9	1.04 V	59	15.64	31.46
5	4924.00	55.8 PK	74.0	-18.2	1.34 V	43	15.98	39.82
6	4924.00	47.2 AV	54.0	-6.8	1.34 V	43	7.38	39.82
7	7386.00	56.2 PK	74.0	-17.8	1.25 V	242	12.02	44.18
8	7386.00	44.3 AV	54.0	-9.7	1.25 V	242	0.12	44.18

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

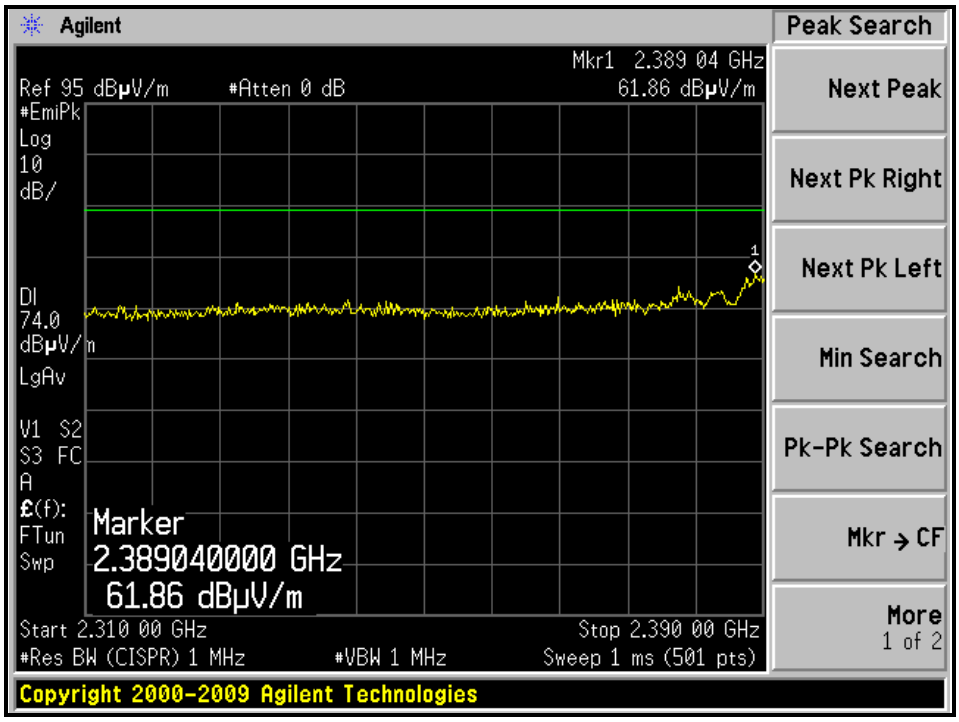
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

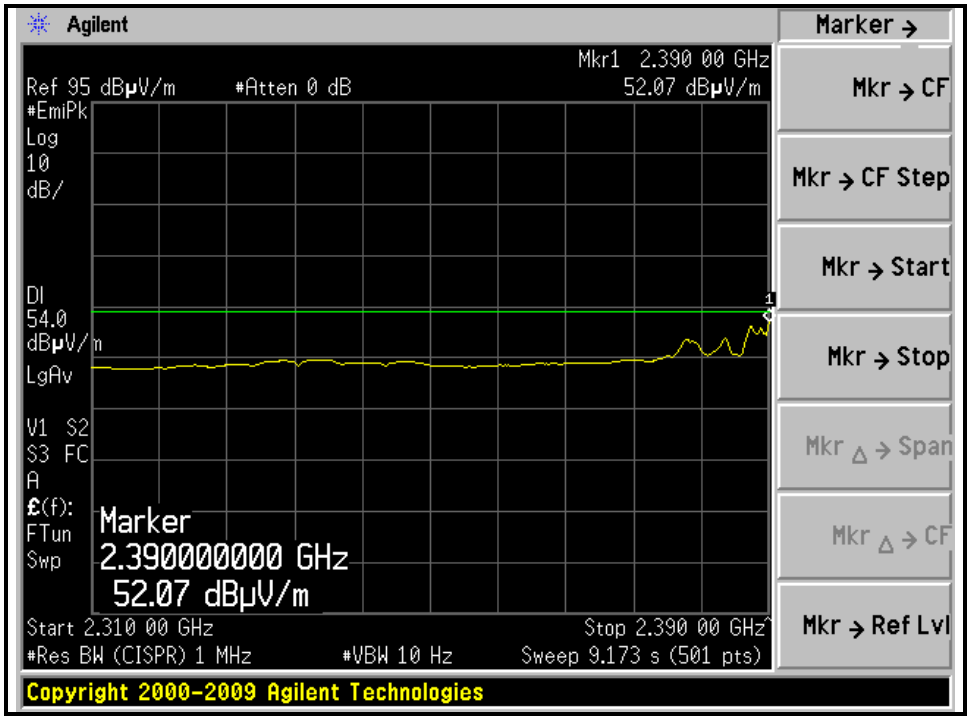
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





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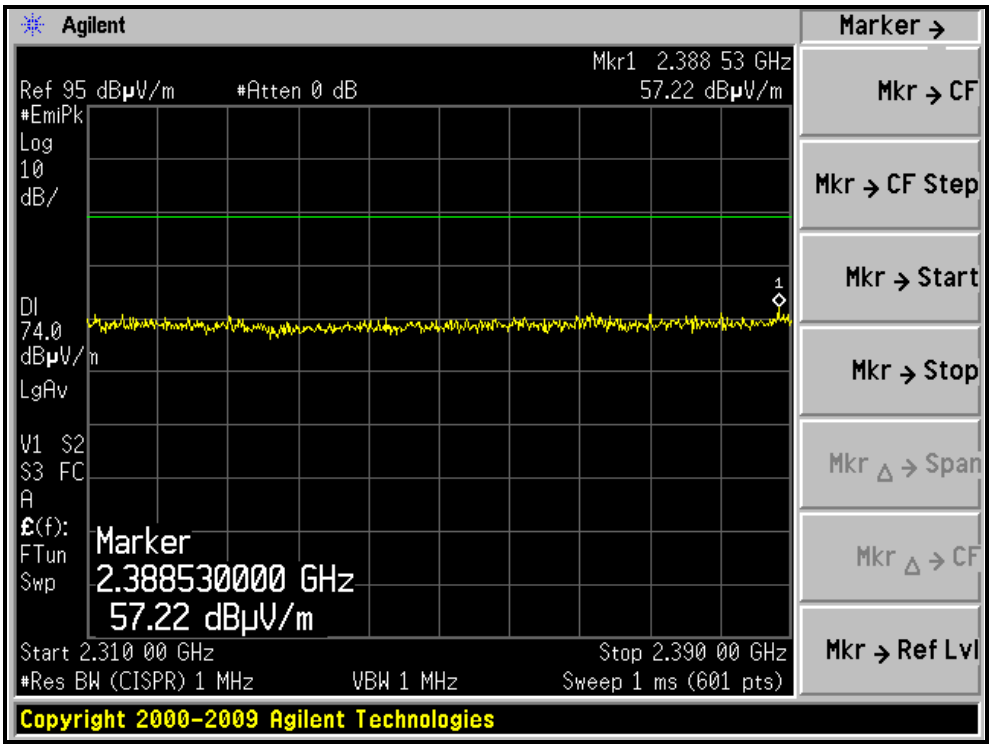

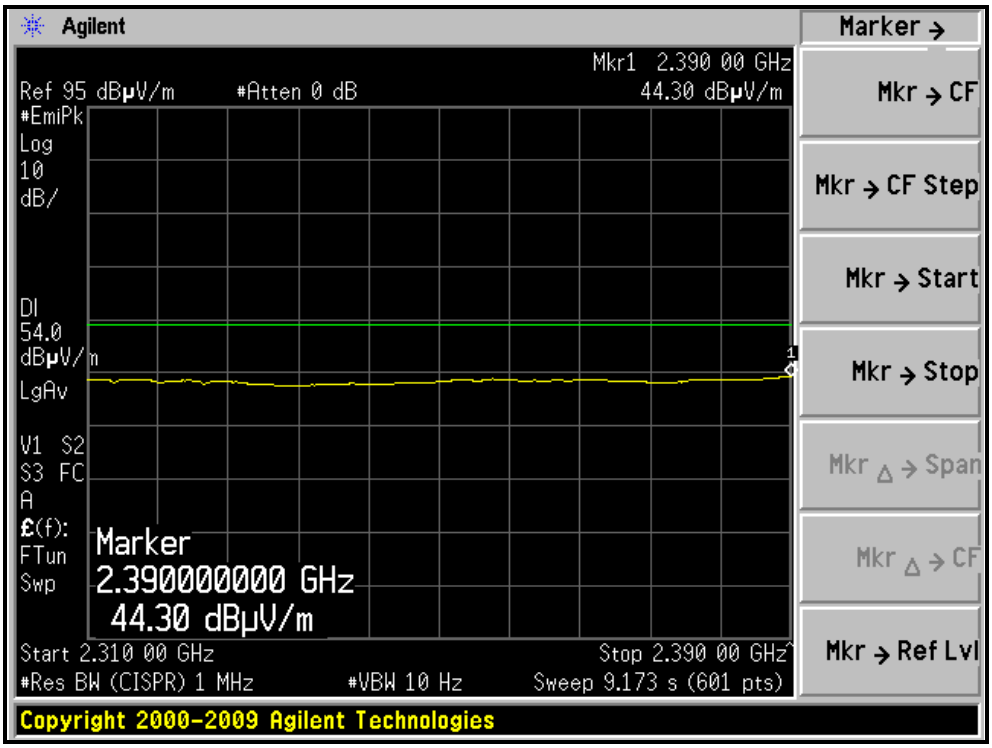

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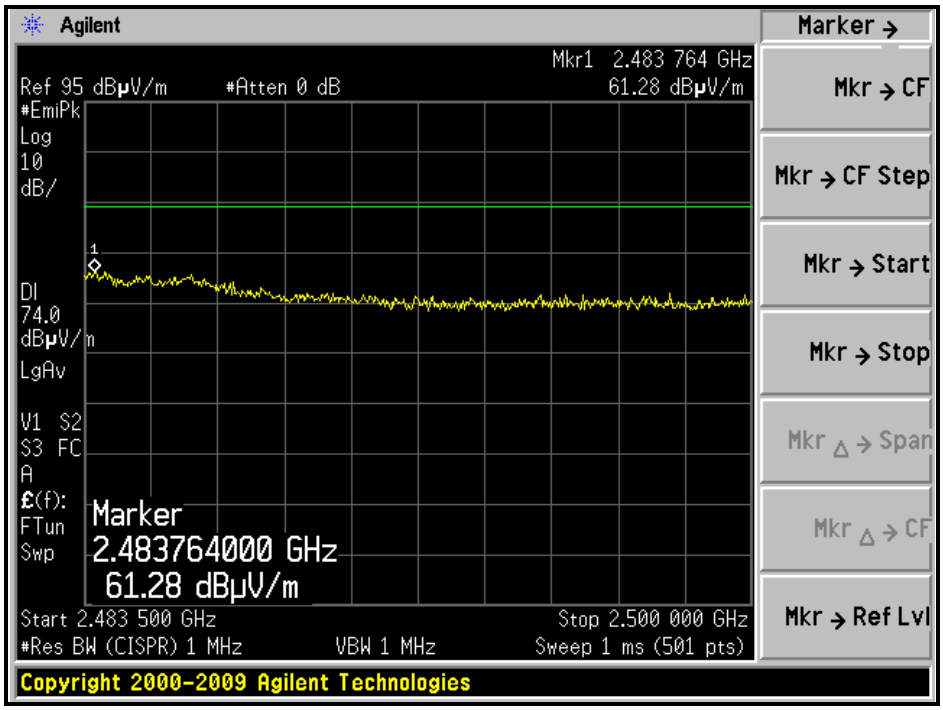

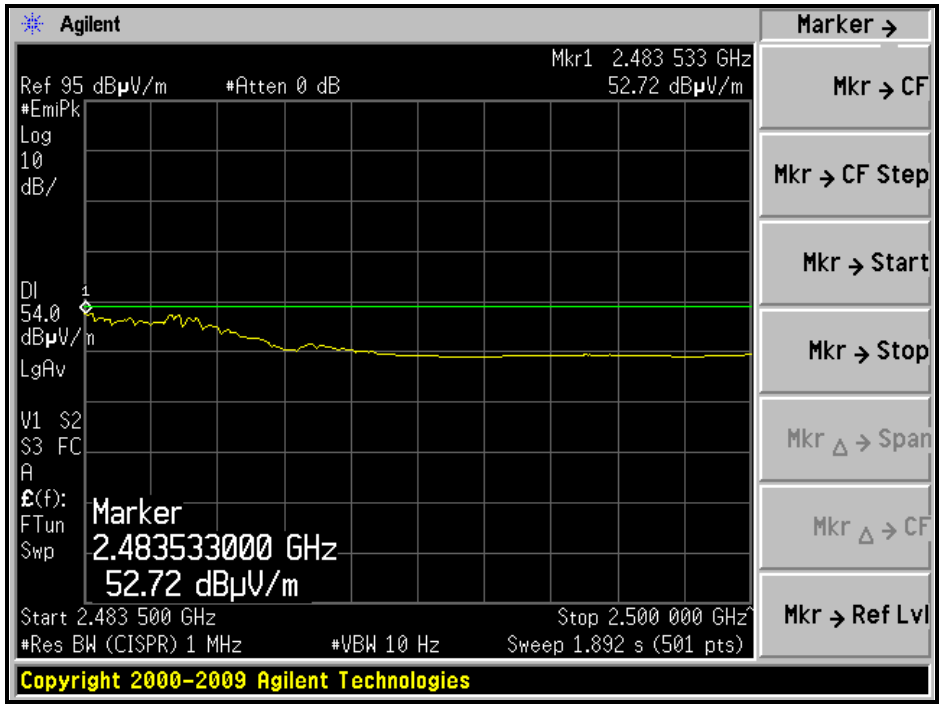

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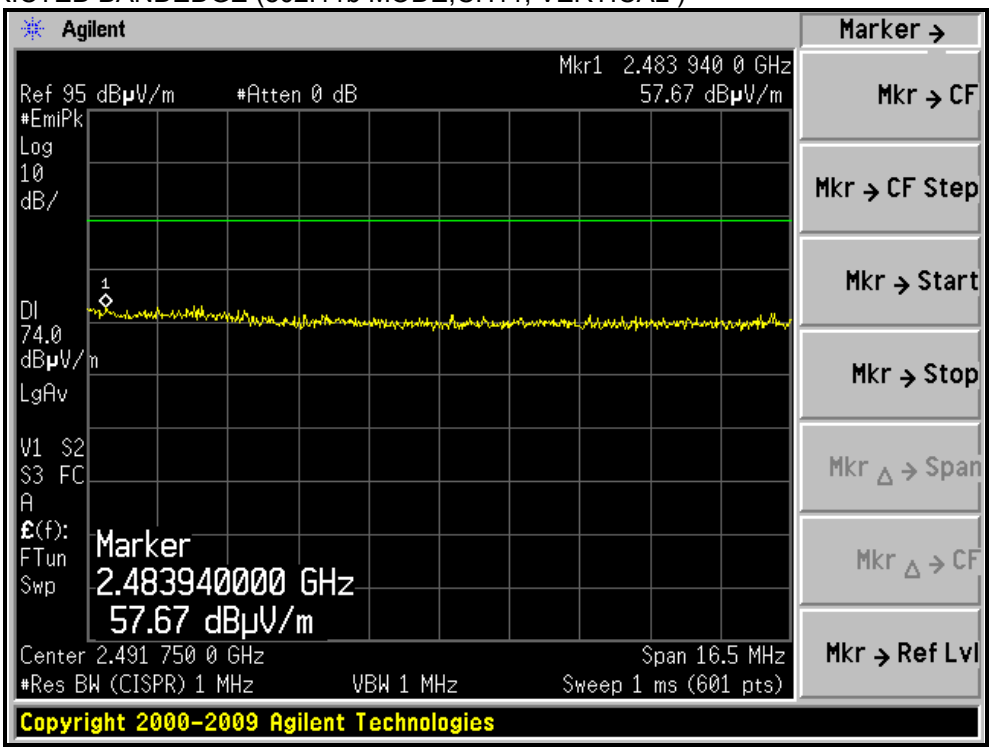
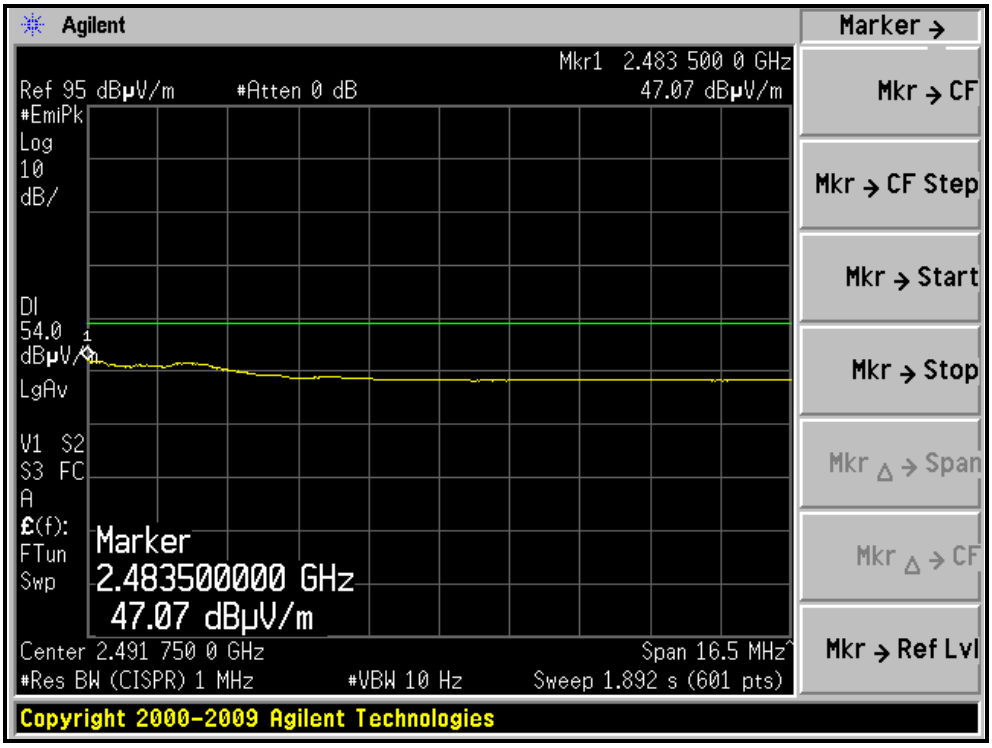




802.11g OFDM MODULATION

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	26deg. C, 66%RH 1004 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	65.1 PK	74.0	-8.9	1.55 H	235	33.89	31.21
2	2390.00	49.1 AV	54.0	-4.9	1.55 H	235	17.89	31.21
3	*2412.00	104.5 PK			1.55 H	235	73.23	31.27
4	*2412.00	94.6 AV			1.55 H	235	63.33	31.27
5	4824.00	45.1 PK	74.0	-28.9	1.21 H	259	5.68	39.42
6	4824.00	36.2 AV	54.0	-17.8	1.21 H	259	-3.22	39.42
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	58.0 PK	74.0	-16.0	1.06 V	69	26.79	31.21
2	2390.00	44.9 AV	54.0	-9.1	1.06 V	69	13.69	31.21
3	*2412.00	94.2 PK			1.06 V	69	62.93	31.27
4	*2412.00	84.3 AV			1.06 V	69	53.03	31.27
5	4824.00	45.4 PK	74.0	-28.6	1.31 V	69	5.98	39.42
6	4824.00	36.3 AV	54.0	-17.7	1.31 V	69	-3.12	39.42

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	26deg. C, 66%RH 1004 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	108.4 PK			1.52 H	233	77.06	31.34
2	*2437.00	98.3 AV			1.52 H	233	66.96	31.34
3	4874.00	45.6 PK	74.0	-28.4	1.26 H	243	5.98	39.62
4	4874.00	36.7 AV	54.0	-17.3	1.26 H	243	-2.92	39.62
5	7311.00	52.6 PK	74.0	-21.4	1.21 H	62	8.50	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.21 H	62	-2.40	44.10
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	*2437.00	98.2 PK			1.04 V	57	66.86	31.34
2	*2437.00	88.4 AV			1.04 V	57	57.06	31.34
3	4874.00	45.3 PK	74.0	-28.7	1.24 V	59	5.68	39.62
4	4874.00	36.4 AV	54.0	-17.6	1.24 V	59	-3.22	39.62
5	7311.00	53.4 PK	74.0	-20.6	1.26 V	254	9.30	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.26 V	254	-2.40	44.10

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.

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	26deg. C, 66%RH 1004 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	107.5 PK			1.45 H	239	76.10	31.40
2	*2462.00	96.9 AV			1.45 H	239	65.50	31.40
3	2483.50	70.8 PK	74.0	-3.2	1.45 H	239	39.34	31.46
4	2483.50	53.4 AV	54.0	-0.6	1.45 H	239	21.94	31.46
5	4924.00	45.6 PK	74.0	-28.4	1.24 H	247	5.78	39.82
6	4924.00	36.4 AV	54.0	-17.6	1.24 H	247	-3.42	39.82
7	7386.00	52.3 PK	74.0	-21.7	1.26 H	62	8.12	44.18
8	7386.00	41.7 AV	54.0	-12.3	1.26 H	62	-2.48	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	96.3 PK			1.04 V	57	64.90	31.40
2	*2462.00	86.2 AV			1.04 V	57	54.80	31.40
3	2483.50	61.0 PK	74.0	-13.0	1.04 V	57	29.54	31.46
4	2483.50	45.1 AV	54.0	-8.9	1.04 V	57	13.64	31.46
5	4924.00	45.3 PK	74.0	-28.7	1.24 V	55	5.48	39.82
6	4924.00	36.4 AV	54.0	-17.6	1.24 V	55	-3.42	39.82
7	7386.00	53.2 PK	74.0	-20.8	1.21 V	254	9.02	44.18
8	7386.00	41.3 AV	54.0	-12.7	1.21 V	254	-2.88	44.18

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

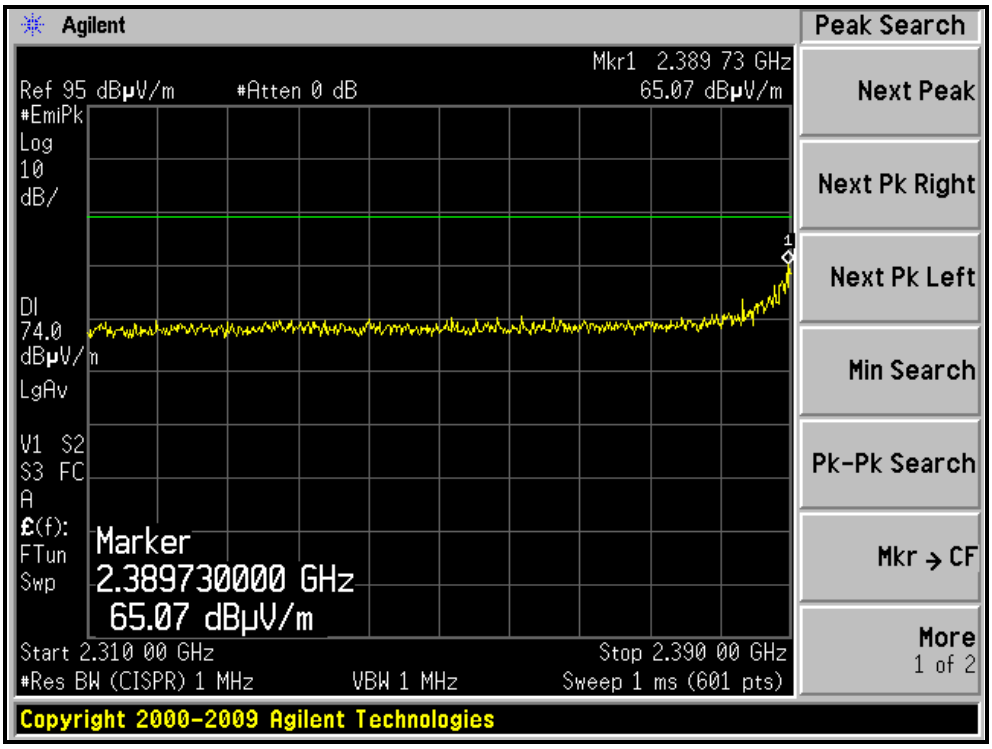
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

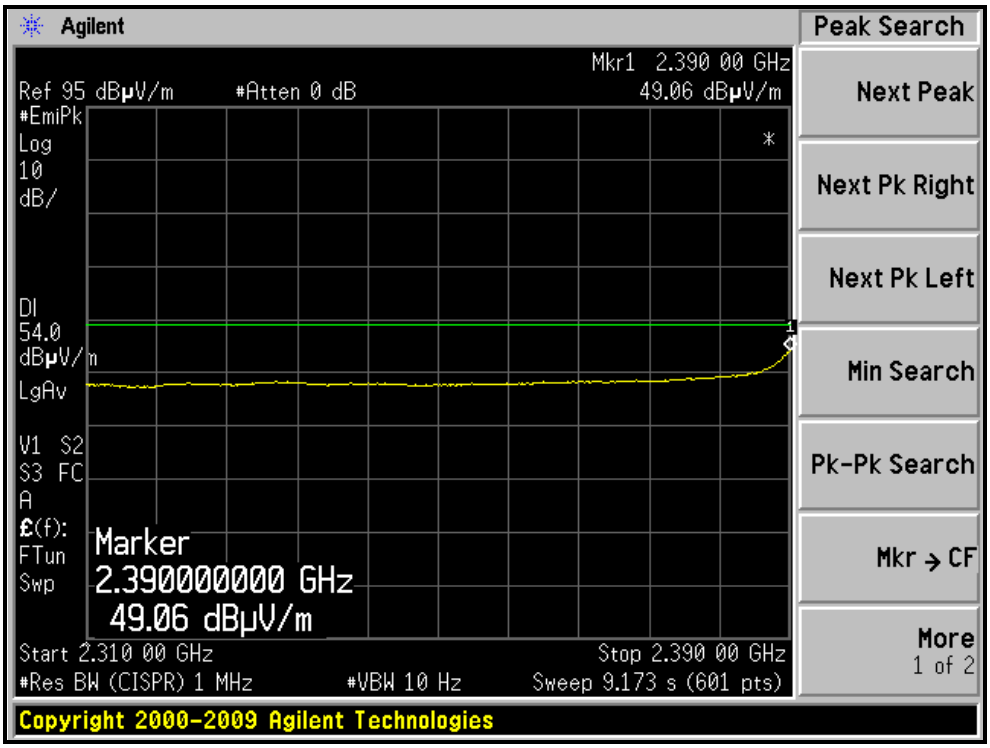
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

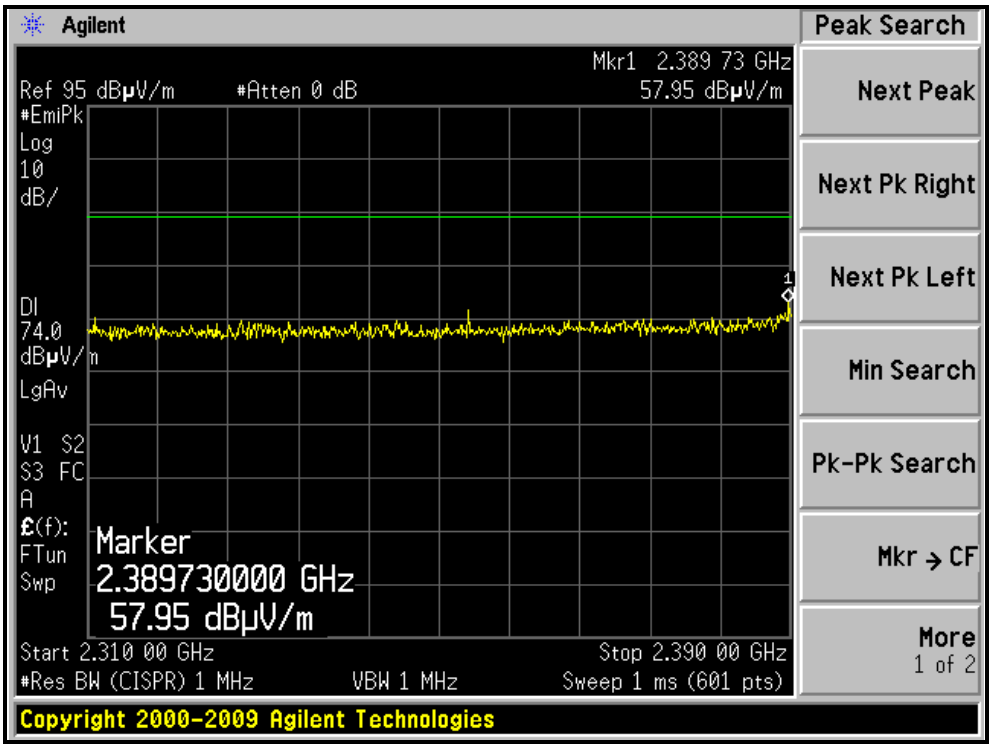
5. " * ": Fundamental frequency.

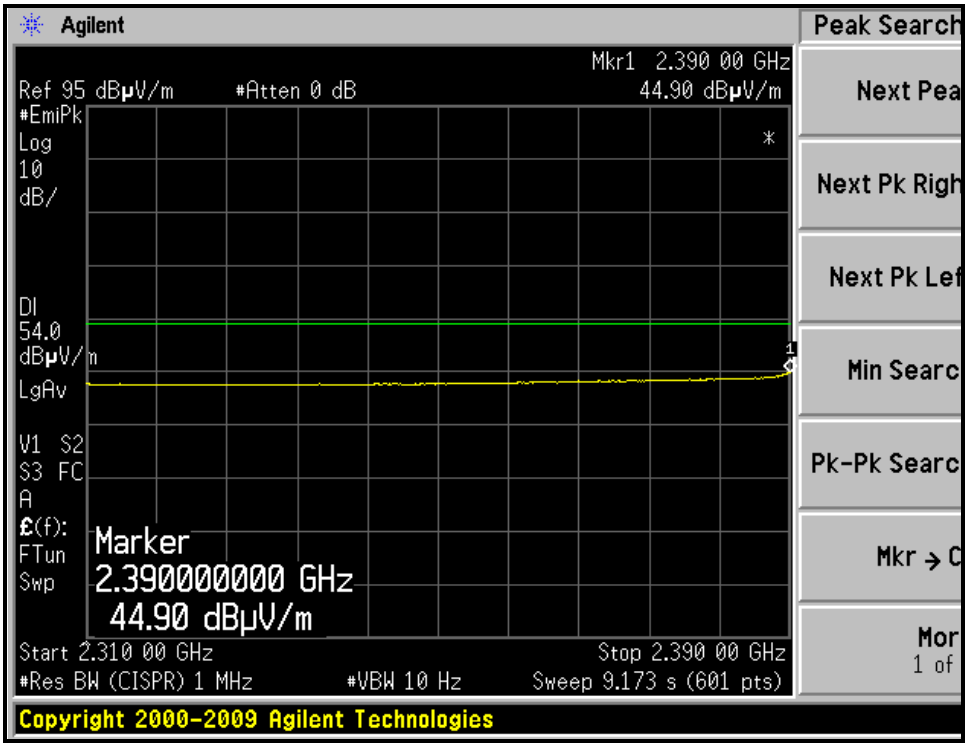
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



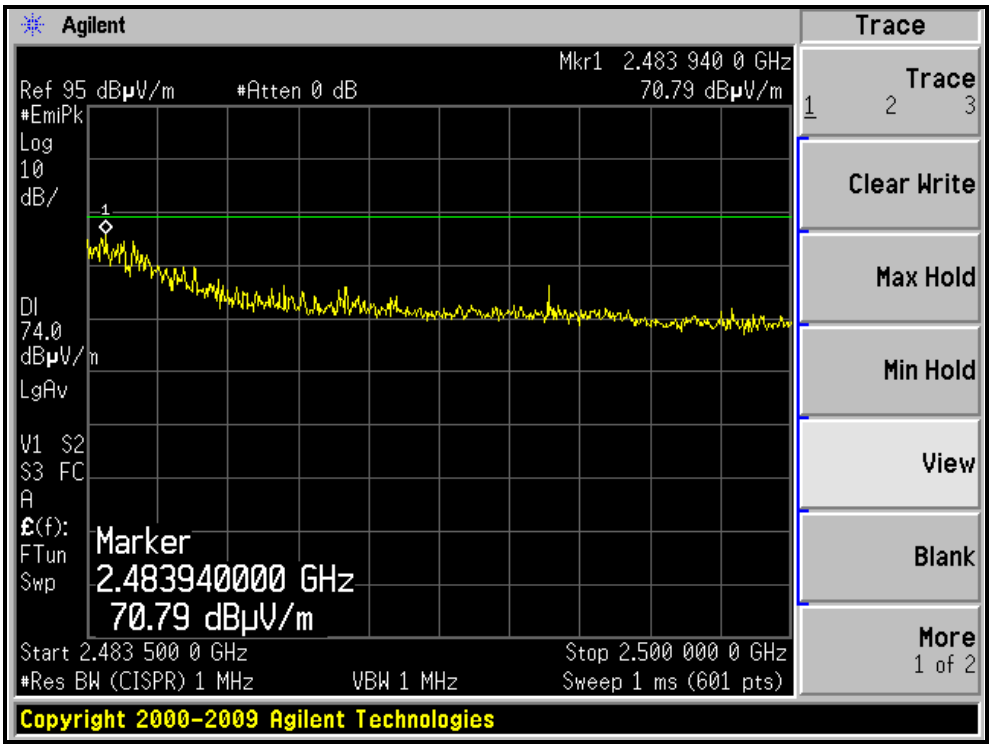


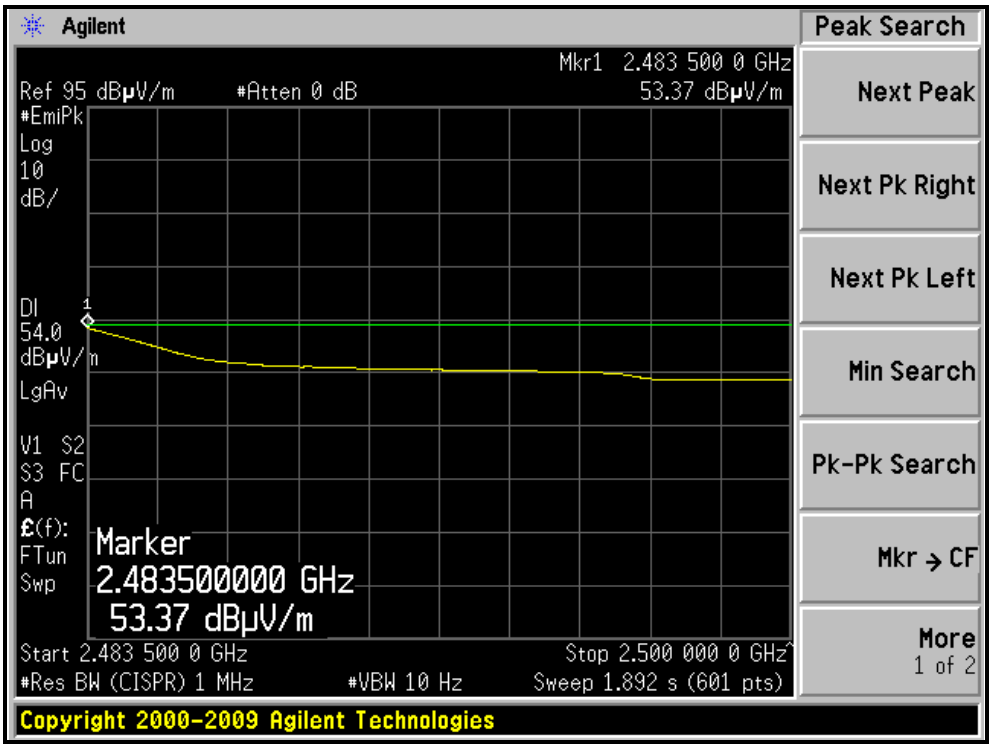
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



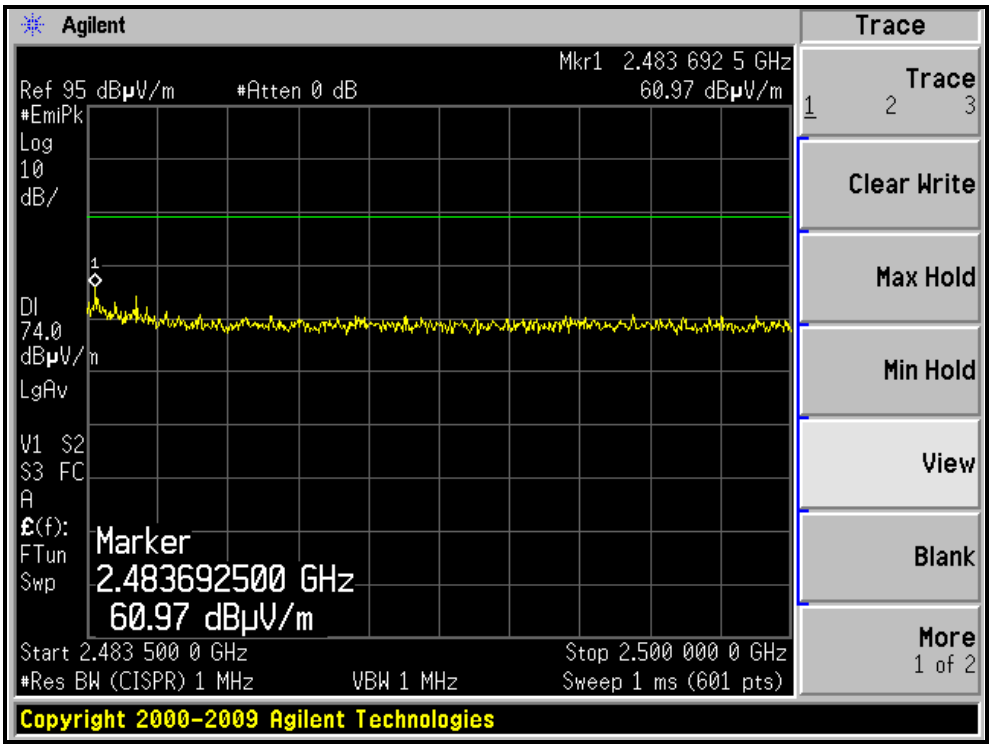


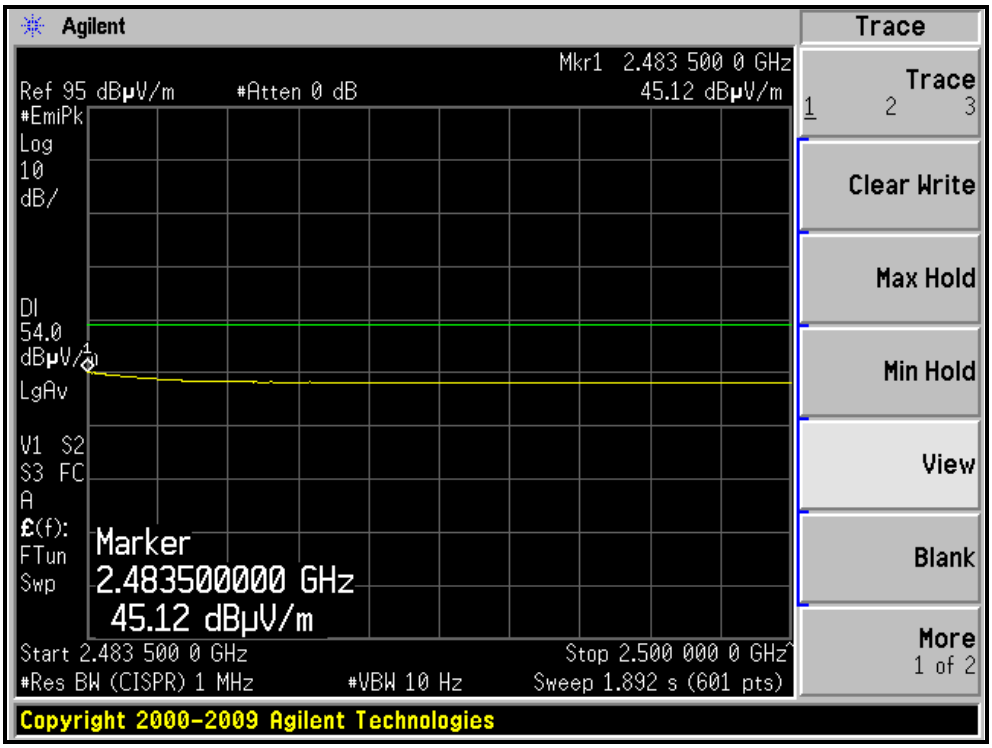
RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 66%RH 1004 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	64.6 PK	74.0	-9.4	1.55 H	227	33.39	31.21
2	2390.00	49.3 AV	54.0	-4.7	1.55 H	227	18.09	31.21
3	*2412.00	104.3 PK			1.55 H	227	73.03	31.27
4	*2412.00	94.5 AV			1.55 H	227	63.23	31.27
5	4824.00	45.8 PK	74.0	-28.2	1.21 H	244	6.38	39.42
6	4824.00	36.7 AV	54.0	-17.3	1.21 H	244	-2.72	39.42
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	58.3 PK	74.0	-15.7	1.03 V	62	27.09	31.21
2	2390.00	45.4 AV	54.0	-8.6	1.03 V	62	14.19	31.21
3	*2412.00	94.2 PK			1.03 V	62	62.93	31.27
4	*2412.00	84.2 AV			1.03 V	62	52.93	31.27
5	4824.00	45.1 PK	74.0	-28.9	1.21 V	43	5.68	39.42
6	4824.00	36.2 AV	54.0	-17.8	1.21 V	43	-3.22	39.42

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	26deg. C, 66%RH 1004 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	108.3 PK			1.59 H	247	76.96	31.34
2	*2437.00	98.4 AV			1.59 H	247	67.06	31.34
3	4874.00	45.9 PK	74.0	-28.1	1.51 H	219	6.28	39.62
4	4874.00	36.7 AV	54.0	-17.3	1.51 H	219	-2.92	39.62
5	7311.00	52.8 PK	74.0	-21.2	1.26 H	243	8.70	44.10
6	7311.00	42.1 AV	54.0	-11.9	1.26 H	243	-2.00	44.10
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	*2437.00	98.1 PK			1.01 V	64	66.76	31.34
2	*2437.00	88.2 AV			1.01 V	64	56.86	31.34
3	4874.00	45.3 PK	74.0	-28.7	1.26 V	54	5.68	39.62
4	4874.00	36.6 AV	54.0	-17.4	1.26 V	54	-3.02	39.62
5	7311.00	53.2 PK	74.0	-20.8	1.21 V	239	9.10	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.21 V	239	-2.40	44.10

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.

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	26deg. C, 66%RH 1004 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	106.3 PK			1.44 H	231	74.90	31.40
2	*2462.00	96.4 AV			1.44 H	231	65.00	31.40
3	2483.50	71.1 PK	74.0	-2.9	1.44 H	231	39.64	31.46
4	**2483.50**	**53.5 AV**	**54.0**	**-0.5**	**1.44 H**	**231**	**22.04**	**31.46**
5	4924.00	45.7 PK	74.0	-28.3	1.51 H	244	5.88	39.82
6	4924.00	36.4 AV	54.0	-17.6	1.51 H	244	-3.42	39.82
7	7386.00	53.2 PK	74.0	-20.8	1.24 H	243	9.02	44.18
8	7386.00	42.6 AV	54.0	-11.4	1.24 H	243	-1.58	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	96.4 PK			1.04 V	66	65.00	31.40
2	*2462.00	86.3 AV			1.04 V	66	54.90	31.40
3	2483.50	59.6 PK	74.0	-14.4	1.04 V	66	28.14	31.46
4	2483.50	45.9 AV	54.0	-8.1	1.04 V	66	14.44	31.46
5	4924.00	45.3 PK	74.0	-28.7	1.24 V	53	5.48	39.82
6	4924.00	37.1 AV	54.0	-16.9	1.24 V	53	-2.72	39.82
7	7386.00	53.2 PK	74.0	-20.8	1.21 V	237	9.02	44.18
8	7386.00	41.9 AV	54.0	-12.1	1.21 V	237	-2.28	44.18

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

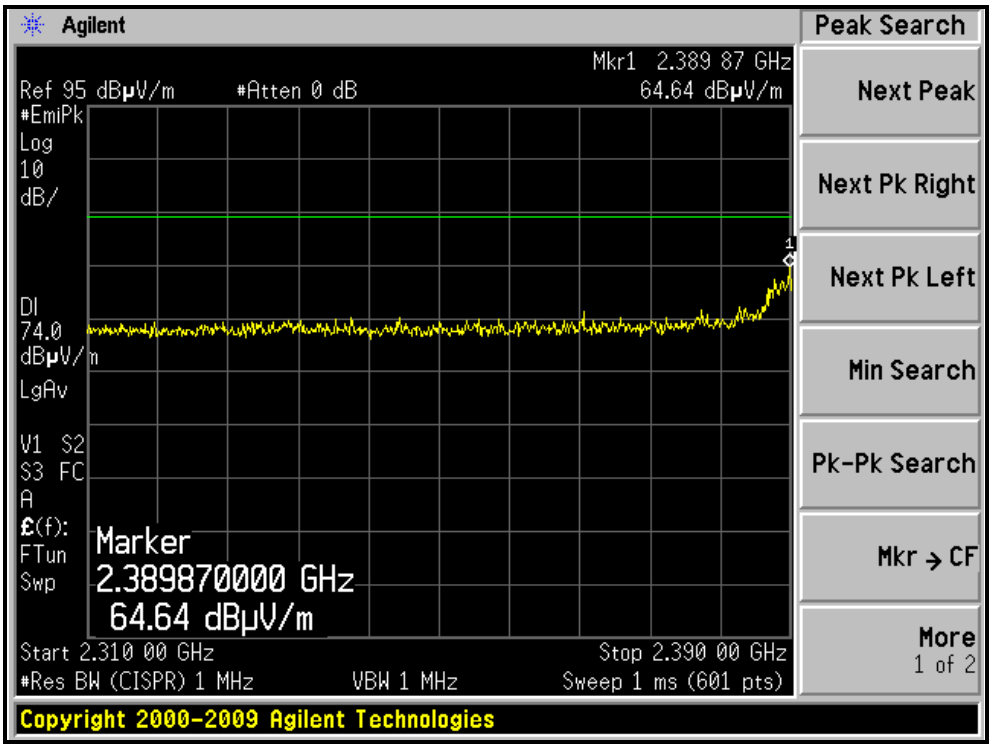
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

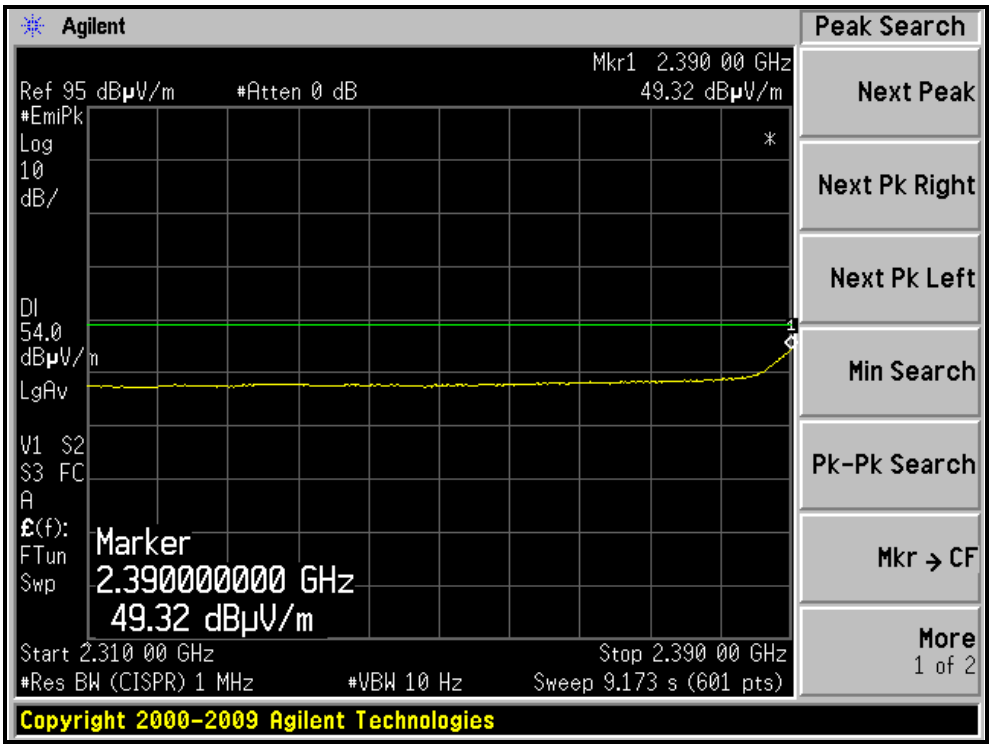
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

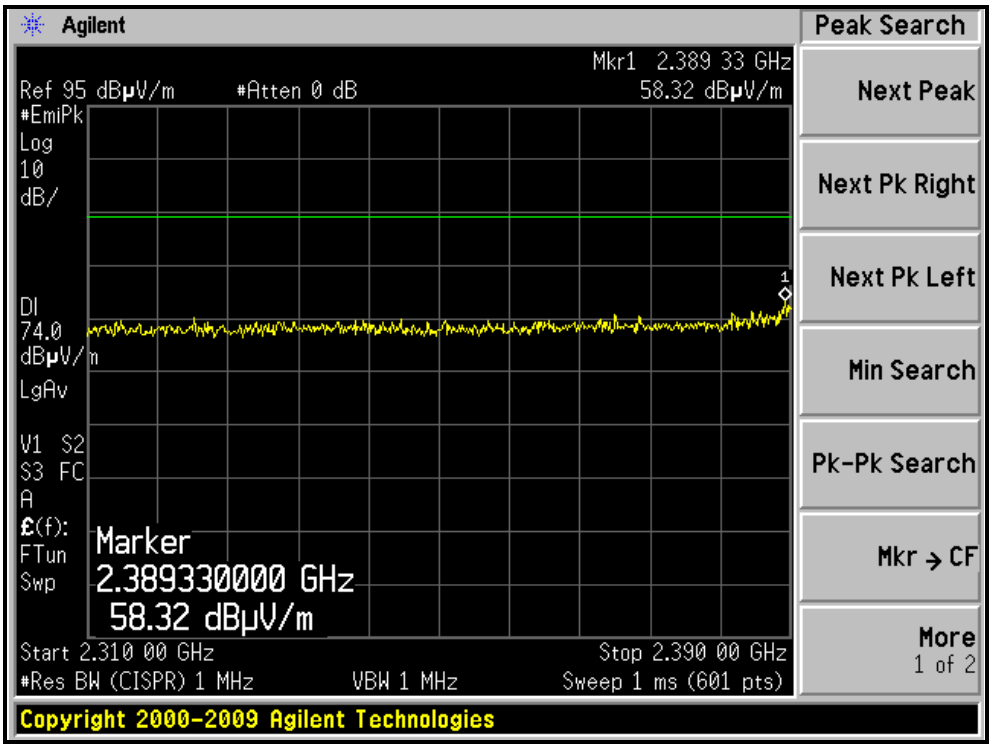
5. " * ": Fundamental frequency.

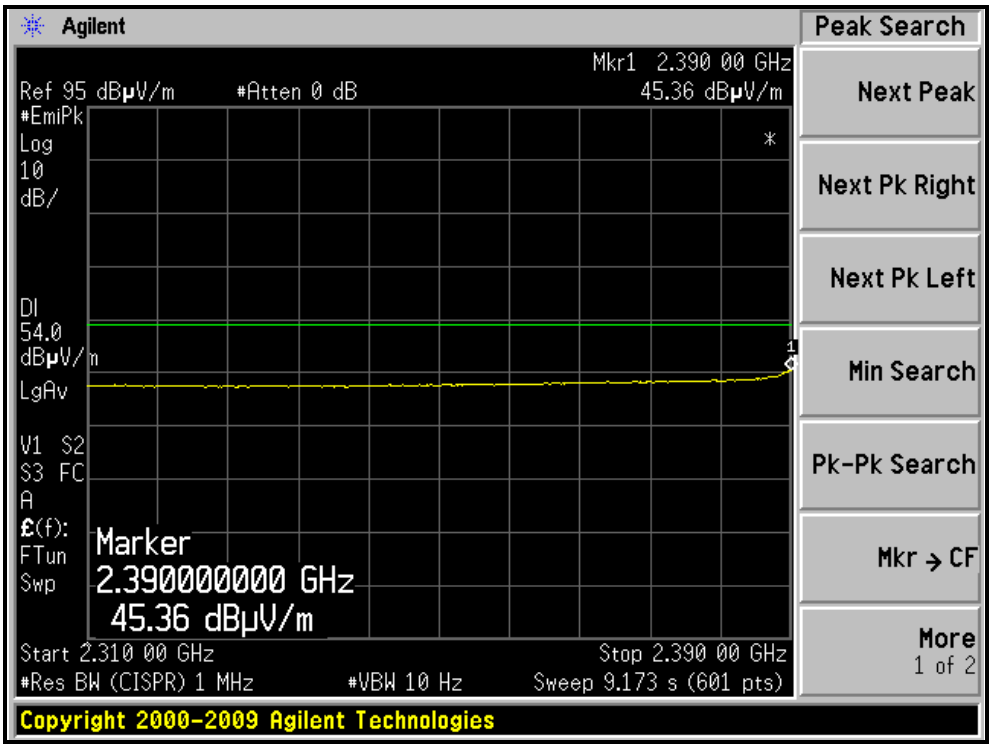
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



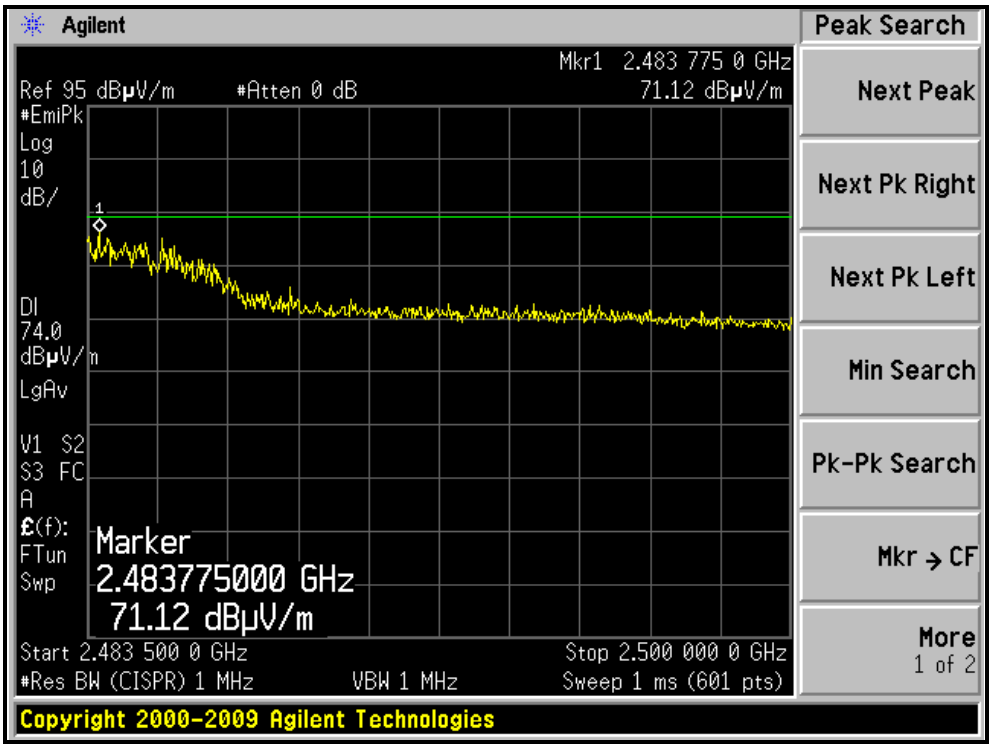


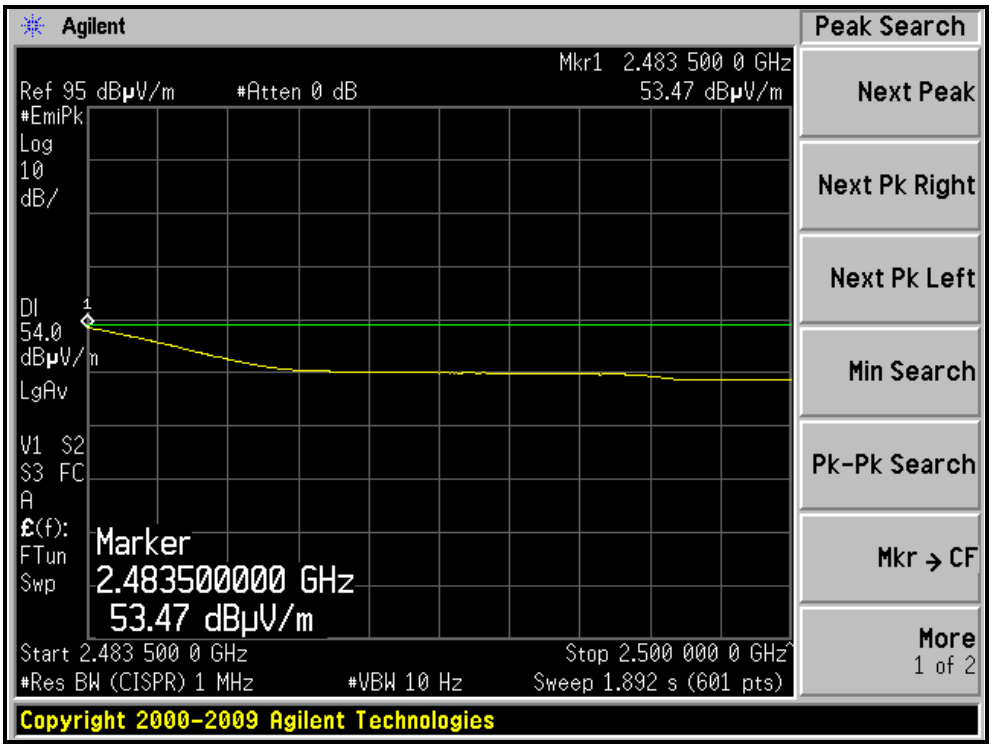
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



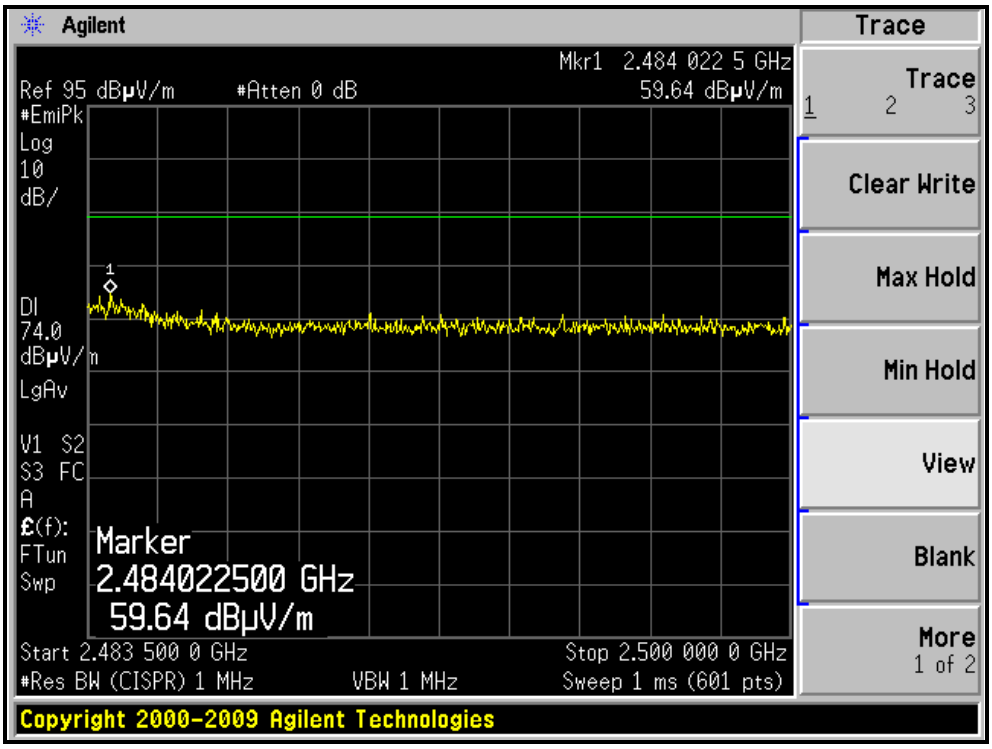


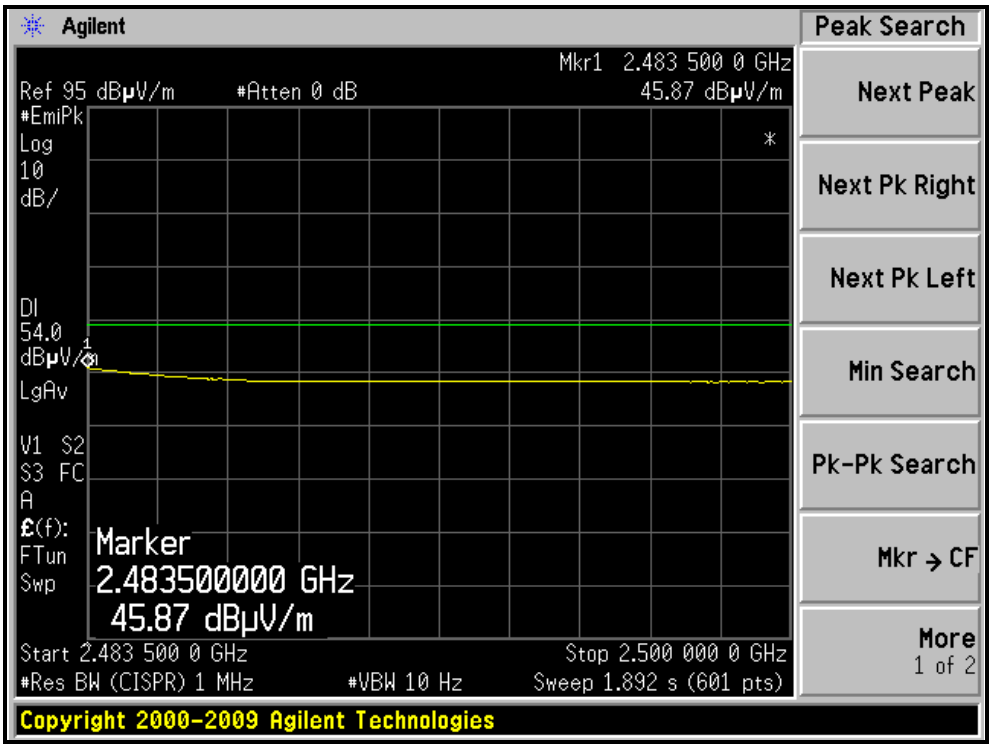
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





4.2.8 TEST RESULTS (FOR RECEIVER PART)

4.2.8.1 TEST RESULTS (With PIFA Antenna)

BELOW 1GHz DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	36.3 QP	40.0	-3.7	2.00 H	360	26.94	9.36
2	108.04	40.1 QP	43.5	-3.4	2.00 H	0	29.35	10.75
3	275.96	42.4 QP	46.0	-3.6	1.00 H	62	28.15	14.25
4	516.01	42.1 QP	46.0	-3.9	2.00 H	235	21.82	20.28
5	540.05	42.6 QP	46.0	-3.4	1.50 H	235	21.79	20.81
6	804.01	41.1 QP	46.0	-4.9	1.00 H	216	15.86	25.24
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	84.00	36.4 QP	40.0	-3.6	2.00 V	293	27.04	9.36
2	108.04	36.2 QP	43.5	-7.3	2.00 V	121	25.45	10.75
3	360.04	40.3 QP	46.0	-5.7	2.00 V	104	23.63	16.67
4	516.01	39.2 QP	46.0	-6.8	1.00 V	78	18.92	20.28
5	779.97	37.3 QP	46.0	-8.7	1.50 V	53	12.64	24.66
6	804.01	39.4 QP	46.0	-6.6	1.50 V	51	14.16	25.24

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 DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.7 PK	74.0	-10.3	1.00 H	49	36.30	27.40
2	1331.70	51.4 AV	54.0	-2.6	1.00 H	49	24.00	27.40
3	3216.00	44.0 PK	74.0	-30.0	1.00 H	62	10.34	33.66
4	3216.00	39.9 AV	54.0	-14.1	1.00 H	62	6.24	33.66
5	6432.00	53.4 PK	74.0	-20.6	1.04 H	54	9.75	43.65
6	6432.00	40.8 AV	54.0	-13.2	1.04 H	54	-2.85	43.65
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	1331.70	62.4 PK	74.0	-11.6	1.00 V	25	35.00	27.40
2	1331.70	50.7 AV	54.0	-3.3	1.00 V	25	23.30	27.40
3	3216.00	42.3 PK	74.0	-31.7	1.24 V	311	8.64	33.66
4	3216.00	38.1 AV	54.0	-15.9	1.24 V	311	4.44	33.66
5	6432.00	53.1 PK	74.0	-20.9	1.02 V	69	9.45	43.65
6	6432.00	40.4 AV	54.0	-13.6	1.02 V	69	-3.25	43.65

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.7 PK	74.0	-10.3	1.00 H	23	36.30	27.40
2	1331.70	52.3 AV	54.0	-1.7	1.00 H	23	24.90	27.40
3	3249.33	43.4 PK	74.0	-30.6	1.08 H	63	9.65	33.75
4	3249.33	39.3 AV	54.0	-14.7	1.08 H	63	5.55	33.75
5	6498.67	53.7 PK	74.0	-20.3	1.04 H	53	9.85	43.85
6	6498.67	40.7 AV	54.0	-13.3	1.04 H	53	-3.15	43.85
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	1331.70	63.1 PK	74.0	-10.9	1.00 V	41	35.70	27.40
2	1331.70	50.1 AV	54.0	-3.9	1.00 V	41	22.70	27.40
3	3249.33	42.3 PK	74.0	-31.7	1.21 V	343	8.55	33.75
4	3249.33	38.3 AV	54.0	-15.7	1.21 V	343	4.55	33.75
5	6498.67	53.2 PK	74.0	-20.8	1.07 V	26	9.35	43.85
6	6498.67	40.4 AV	54.0	-13.6	1.07 V	26	-3.45	43.85

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.9 PK	74.0	-10.1	1.00 H	44	36.50	27.40
2	**1331.70**	**52.6 AV**	**54.0**	**-1.4**	**1.00 H**	**44**	**25.20**	**27.40**
3	3282.67	43.6 PK	74.0	-30.4	1.00 H	73	9.75	33.85
4	3282.67	39.7 AV	54.0	-14.3	1.00 H	73	5.85	33.85
5	6565.33	53.4 PK	74.0	-20.6	1.03 H	49	9.15	44.25
6	6565.33	40.4 AV	54.0	-13.6	1.03 H	49	-3.85	44.25
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	1331.70	63.1 PK	74.0	-10.9	1.00 V	30	35.70	27.40
2	1331.70	50.4 AV	54.0	-3.6	1.00 V	30	23.00	27.40
3	3282.67	42.7 PK	74.0	-31.3	1.21 V	351	8.85	33.85
4	3282.67	38.4 AV	54.0	-15.6	1.21 V	351	4.55	33.85
5	6565.33	53.4 PK	74.0	-20.6	1.00 V	44	9.15	44.25
6	6565.33	40.6 AV	54.0	-13.4	1.00 V	44	-3.65	44.25

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

4.2.8.2 TEST RESULTS (With Chip Antenna)

BELOW 1GHz DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	35.4 QP	40.0	-4.6	1.00 H	211	26.08	9.36
2	108.04	39.2 QP	43.5	-4.3	1.00 H	46	28.48	10.75
3	275.96	40.4 QP	46.0	-5.6	1.00 H	87	26.15	14.25
4	516.01	40.6 QP	46.0	-5.4	1.00 H	135	20.29	20.28
5	540.05	40.4 QP	46.0	-5.7	1.00 H	299	19.54	20.81
6	804.01	40.9 QP	46.0	-5.1	1.00 H	124	15.66	25.24
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	84.00	35.4 QP	40.0	-4.6	1.00 V	153	26.05	9.36
2	108.04	35.0 QP	43.5	-8.5	1.00 V	109	24.25	10.75
3	360.04	41.3 QP	46.0	-4.7	1.00 V	127	24.63	16.67
4	516.01	38.3 QP	46.0	-7.8	1.00 V	144	17.97	20.28
5	779.97	36.2 QP	46.0	-9.8	1.00 V	182	11.56	24.66
6	804.01	39.2 QP	46.0	-6.8	1.50 V	94	13.99	25.24

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 DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.7 PK	74.0	-10.3	1.00 H	49	36.30	27.40
2	1331.70	51.4 AV	54.0	-2.6	1.00 H	49	24.00	27.40
3	3216.00	44.0 PK	74.0	-30.0	1.00 H	62	10.34	33.66
4	3216.00	39.9 AV	54.0	-14.1	1.00 H	62	6.24	33.66
5	6432.00	53.4 PK	74.0	-20.6	1.04 H	54	9.75	43.65
6	6432.00	40.8 AV	54.0	-13.2	1.04 H	54	-2.85	43.65
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	1331.70	62.4 PK	74.0	-11.6	1.00 V	25	35.00	27.40
2	1331.70	50.7 AV	54.0	-3.3	1.00 V	25	23.30	27.40
3	3216.00	42.3 PK	74.0	-31.7	1.24 V	311	8.64	33.66
4	3216.00	38.1 AV	54.0	-15.9	1.24 V	311	4.44	33.66
5	6432.00	53.1 PK	74.0	-20.9	1.02 V	69	9.45	43.65
6	6432.00	40.4 AV	54.0	-13.6	1.02 V	69	-3.25	43.65

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.9 PK	74.0	-10.1	1.00 H	11	36.50	27.40
2	1331.70	51.9 AV	54.0	-2.1	1.00 H	11	24.50	27.40
3	3249.33	43.9 PK	74.0	-30.1	1.00 H	66	10.15	33.75
4	3249.33	39.7 AV	54.0	-14.3	1.00 H	66	5.95	33.75
5	6498.67	53.2 PK	74.0	-20.8	1.02 H	64	9.35	43.85
6	6498.67	40.7 AV	54.0	-13.3	1.02 H	64	-3.15	43.85
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	1331.70	62.9 PK	74.0	-11.1	1.00 V	38	35.50	27.40
2	1331.70	50.2 AV	54.0	-3.8	1.00 V	38	22.80	27.40
3	3249.33	42.9 PK	74.0	-31.1	1.26 V	344	9.15	33.75
4	3249.33	38.4 AV	54.0	-15.6	1.26 V	344	4.65	33.75
5	6498.67	53.1 PK	74.0	-20.9	1.04 V	43	9.25	43.85
6	6498.67	40.2 AV	54.0	-13.8	1.04 V	43	-3.65	43.85

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	63.7 PK	74.0	-10.3	1.00 H	23	36.30	27.40
2	1331.70	52.3 AV	54.0	-1.7	1.00 H	23	24.90	27.40
3	3282.67	43.4 PK	74.0	-30.6	1.08 H	63	9.55	33.85
4	3282.67	39.3 AV	54.0	-14.7	1.08 H	63	5.45	33.85
5	6565.33	53.7 PK	74.0	-20.3	1.04 H	53	9.45	44.25
6	6565.33	40.7 AV	54.0	-13.3	1.04 H	53	-3.55	44.25
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	1331.70	63.1 PK	74.0	-10.9	1.00 V	41	35.70	27.40
2	1331.70	50.1 AV	54.0	-3.9	1.00 V	41	22.70	27.40
3	3282.67	42.3 PK	74.0	-31.7	1.21 V	343	8.45	33.85
4	3282.67	38.3 AV	54.0	-15.7	1.21 V	343	4.45	33.85
5	6565.33	53.2 PK	74.0	-20.8	1.07 V	26	8.95	44.25
6	6565.33	40.4 AV	54.0	-13.6	1.07 V	26	-3.85	44.25

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

4.2.8.3 TEST RESULTS (With PCB Antenna)

BELOW 1GHz DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 69%RH 1004 hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.00	35.1 QP	40.0	-4.9	1.00 H	157	25.76	9.36
2	108.04	38.3 QP	43.5	-5.2	1.00 H	185	27.59	10.75
3	275.96	41.1 QP	46.0	-4.9	1.00 H	121	26.86	14.25
4	516.01	41.3 QP	46.0	-4.7	1.00 H	103	20.98	20.28
5	540.05	41.4 QP	46.0	-4.6	1.00 H	44	20.56	20.81
6	804.01	41.3 QP	46.0	-4.8	1.00 H	99	16.01	25.24
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	84.00	35.3 QP	40.0	-4.7	1.00 V	137	25.90	9.36
2	108.04	34.4 QP	43.5	-9.1	1.00 V	143	23.62	10.75
3	360.04	42.7 QP	46.0	-3.3	1.00 V	156	26.00	16.67
4	516.01	37.3 QP	46.0	-8.8	1.00 V	129	16.97	20.28
5	779.97	35.3 QP	46.0	-10.7	1.00 V	137	10.68	24.66
6	804.01	38.1 QP	46.0	-7.9	1.42 V	133	12.89	25.24

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 DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	60.8 PK	74.0	-13.2	1.00 H	281	33.40	27.40
2	1331.70	49.6 AV	54.0	-4.4	1.00 H	281	22.20	27.40
3	3216.00	43.2 PK	74.0	-30.8	1.65 H	0	9.54	33.66
4	3216.00	39.1 AV	54.0	-14.9	1.65 H	0	5.44	33.66
5	6432.00	53.4 PK	74.0	-20.6	1.31 H	26	9.75	43.65
6	6432.00	40.9 AV	54.0	-13.1	1.31 H	26	-2.75	43.65
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	1331.70	54.8 PK	74.0	-19.2	1.00 V	61	27.40	27.40
2	1331.70	44.1 AV	54.0	-9.9	1.00 V	61	16.70	27.40
3	3216.00	42.4 PK	74.0	-31.6	1.21 V	29	8.74	33.66
4	3216.00	37.9 AV	54.0	-16.1	1.21 V	29	4.24	33.66
5	6432.00	53.6 PK	74.0	-20.4	1.04 V	33	9.95	43.65
6	6432.00	40.3 AV	54.0	-13.7	1.04 V	33	-3.35	43.65

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	60.7 PK	74.0	-13.3	1.00 H	279	33.30	27.40
2	1331.70	49.4 AV	54.0	-4.6	1.00 H	279	22.00	27.40
3	3249.33	43.4 PK	74.0	-30.6	1.62 H	29	9.65	33.75
4	3249.33	39.4 AV	54.0	-14.6	1.62 H	29	5.65	33.75
5	6498.67	53.6 PK	74.0	-20.4	1.31 H	32	9.75	43.85
6	6498.67	41.2 AV	54.0	-12.8	1.31 H	32	-2.65	43.85
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	1331.70	54.9 PK	74.0	-19.1	1.00 V	59	27.50	27.40
2	1331.70	44.3 AV	54.0	-9.7	1.00 V	59	16.90	27.40
3	3249.33	42.7 PK	74.0	-31.3	1.24 V	43	8.95	33.75
4	3249.33	38.3 AV	54.0	-15.7	1.24 V	43	4.55	33.75
5	6498.67	53.4 PK	74.0	-20.6	1.00 V	39	9.55	43.85
6	6498.67	40.6 AV	54.0	-13.4	1.00 V	39	-3.25	43.85

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH 1004 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	1331.70	60.4 PK	74.0	-13.6	1.00 H	284	33.00	27.40
2	1331.70	49.3 AV	54.0	-4.7	1.00 H	284	21.90	27.40
3	3282.67	43.7 PK	74.0	-30.3	1.64 H	32	9.85	33.85
4	3282.67	39.6 AV	54.0	-14.4	1.64 H	32	5.75	33.85
5	6565.33	53.5 PK	74.0	-20.5	1.34 H	62	9.25	44.25
6	6565.33	41.1 AV	54.0	-12.9	1.34 H	62	-3.15	44.25
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	1331.70	54.7 PK	74.0	-19.3	1.00 V	54	27.30	27.40
2	1331.70	44.6 AV	54.0	-9.4	1.00 V	54	17.20	27.40
3	3282.67	42.1 PK	74.0	-31.9	1.24 V	37	8.25	33.85
4	3282.67	38.6 AV	54.0	-15.4	1.24 V	37	4.75	33.85
5	6565.33	53.2 PK	74.0	-20.8	1.00 V	46	8.95	44.25
6	6565.33	40.7 AV	54.0	-13.3	1.00 V	46	-3.55	44.25

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

4.3 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	100036	Dec. 08, 2010	Dec. 07, 2011

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

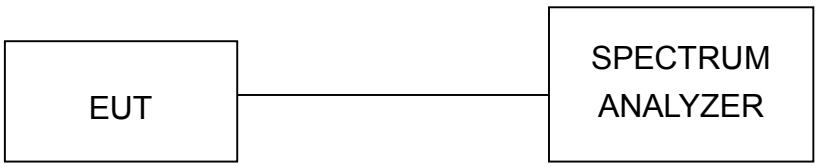
4.3.3 TEST PROCEDURE

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 300kHz 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

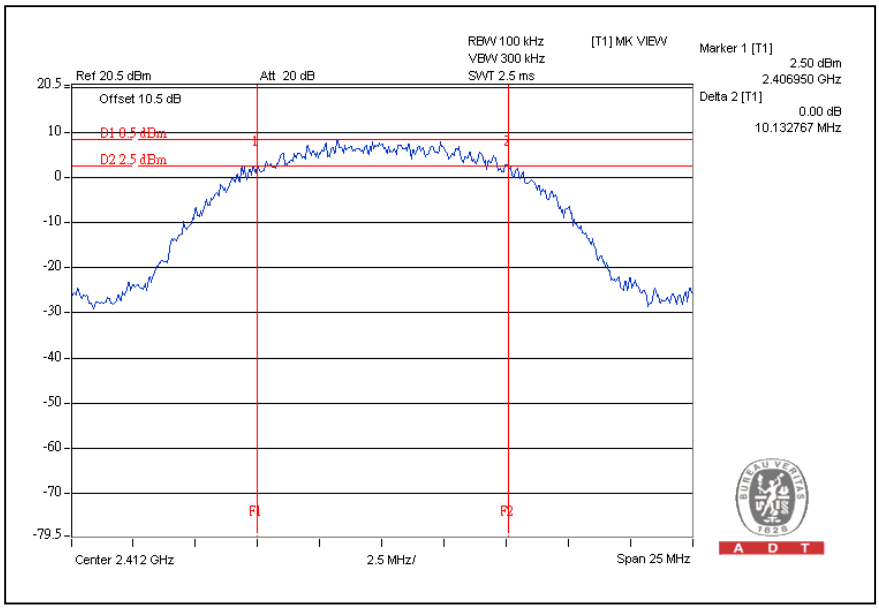
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

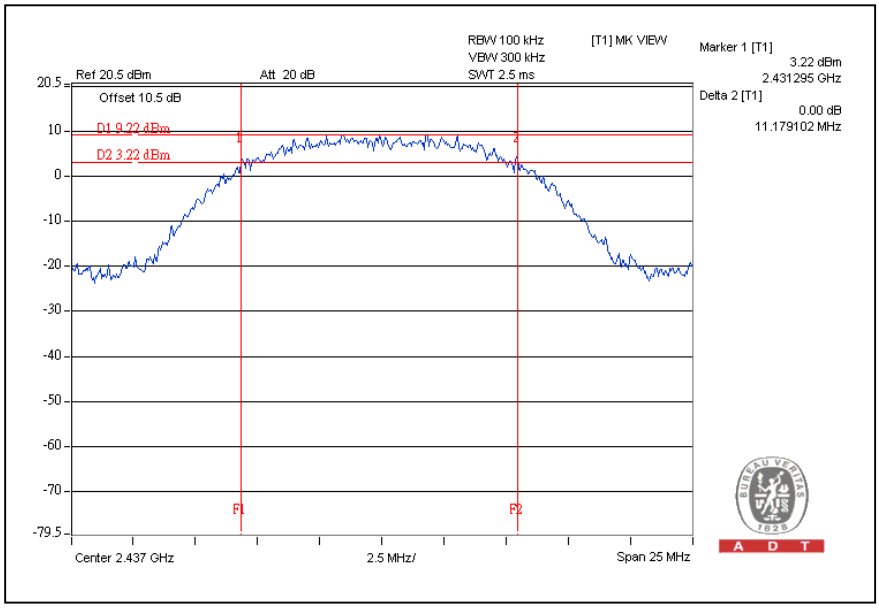
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.13	0.5	PASS
6	2437	11.17	0.5	PASS
11	2462	10.85	0.5	PASS

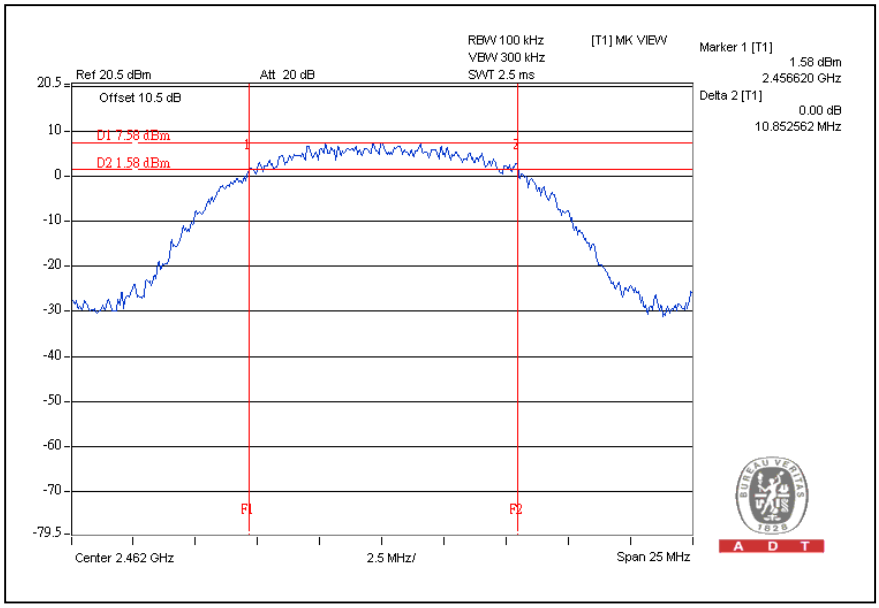
CH1



CH6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
3.22 dBm
2.431295 GHz
Delta 2 [T1]
0.00 dB
11.179102 MHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 9.22 dBm
D2 3.22 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz

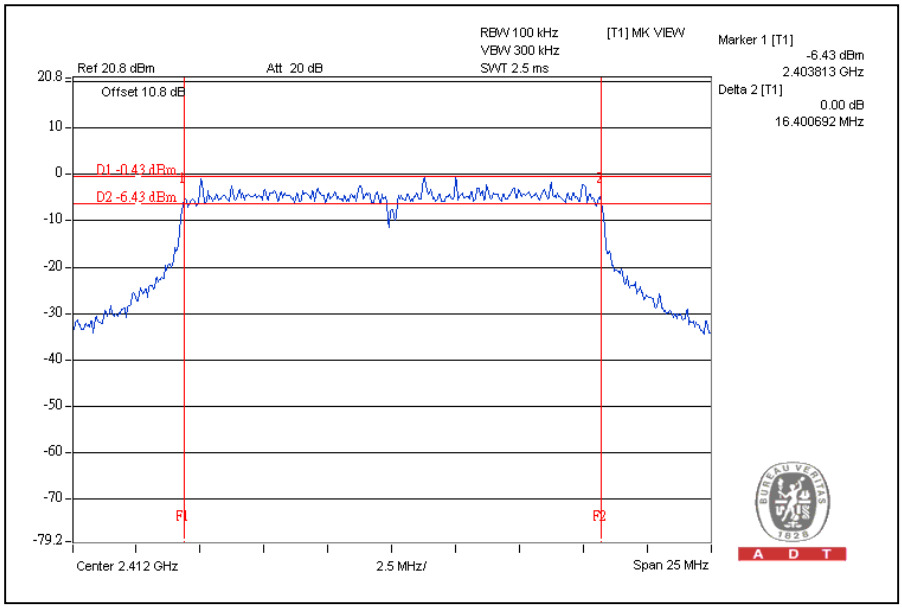
CH11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
1.58 dBm
2.456620 GHz
Delta 2 [T1]
0.00 dB
10.852562 MHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 7.58 dBm
D2 1.58 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz

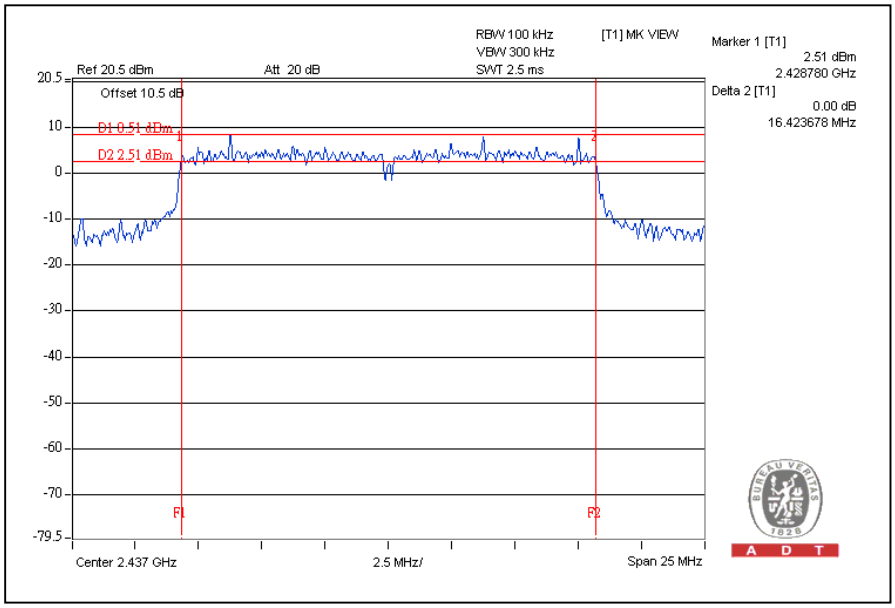
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.40	0.5	PASS
6	2437	16.42	0.5	PASS
11	2462	16.42	0.5	PASS

CH1



CH6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VBW 300 kHz
SWT 2.5 ms
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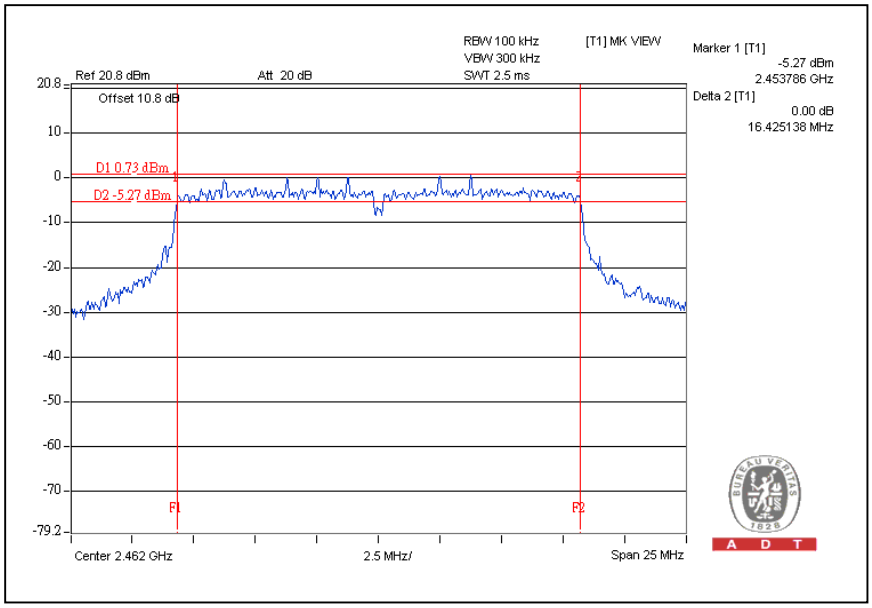
Marker 1 [T1]
2.51 dBm
2.428780 GHz
Delta 2 [T1]
0.00 dB
16.423678 MHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 0.51 dBm
D2 2.51 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz

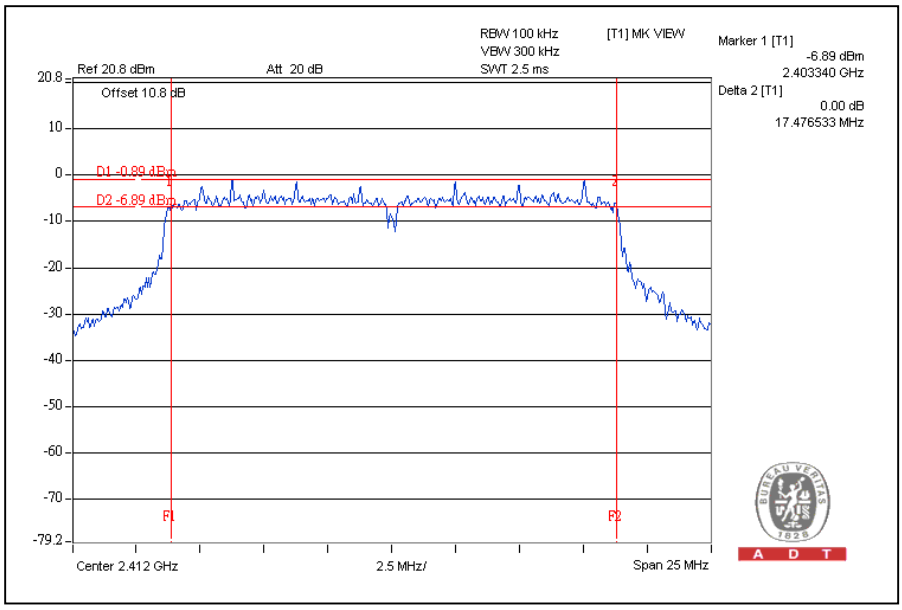
CH11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-5.27 dBm
2.453786 GHz
Delta 2 [T1]
0.00 dB
16.425138 MHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
D1 0.73 dBm
D2 -5.27 dBm
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz

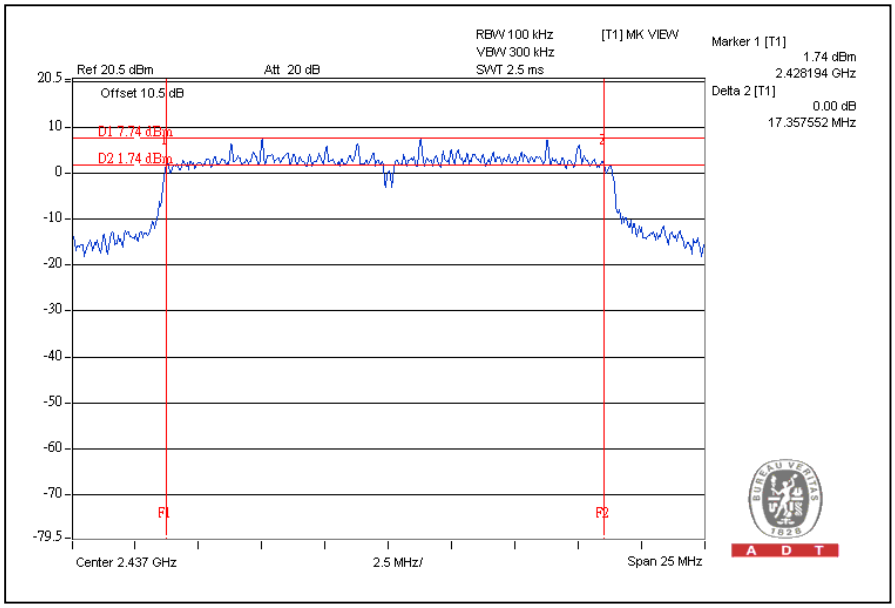
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.47	0.5	PASS
6	2437	17.35	0.5	PASS
11	2462	17.64	0.5	PASS

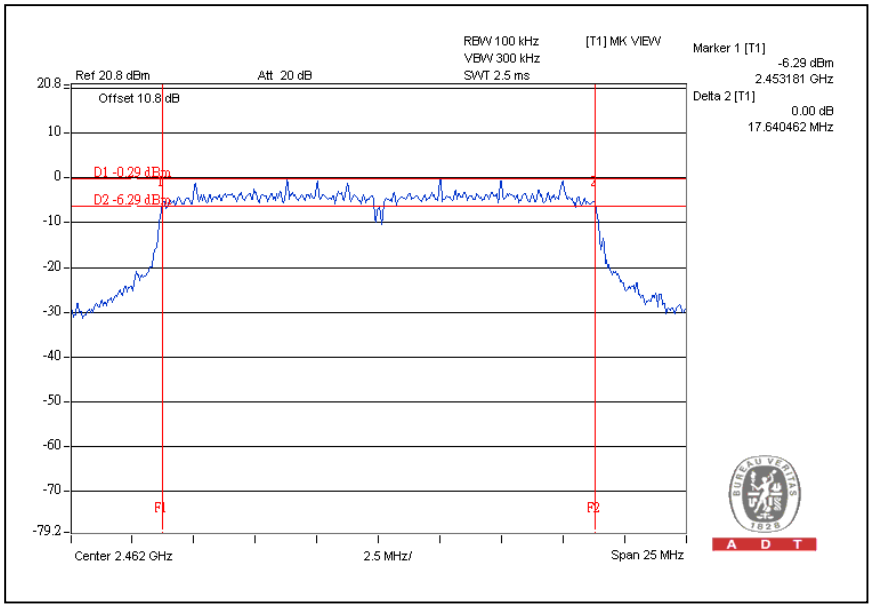
CH1



CH6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
1.74 dBm
2.428194 GHz
Delta 2 [T1]
0.00 dB
17.357552 MHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 7.74 dBm
D2 1.74 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.437 GHz
2.5 MHz/
Span 25 MHz

CH11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-6.29 dBm
2.453181 GHz
Delta 2 [T1]
0.00 dB
17.640462 MHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
D1 -0.29 dBm
D2 -6.29 dBm
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
F1
F2
Center 2.462 GHz
2.5 MHz/
Span 25 MHz

4.4 99% BANDWIDTH MEASUREMENT

4.4.1 TEST INSTRUMENTS

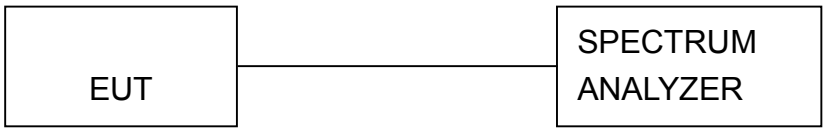
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 08, 2010	Dec. 07, 2011

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

4.4.2 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 300kHz RBW and 1MHz VBW.

4.4.3 TEST SETUP



4.4.4 EUT OPERATING CONDITIONS

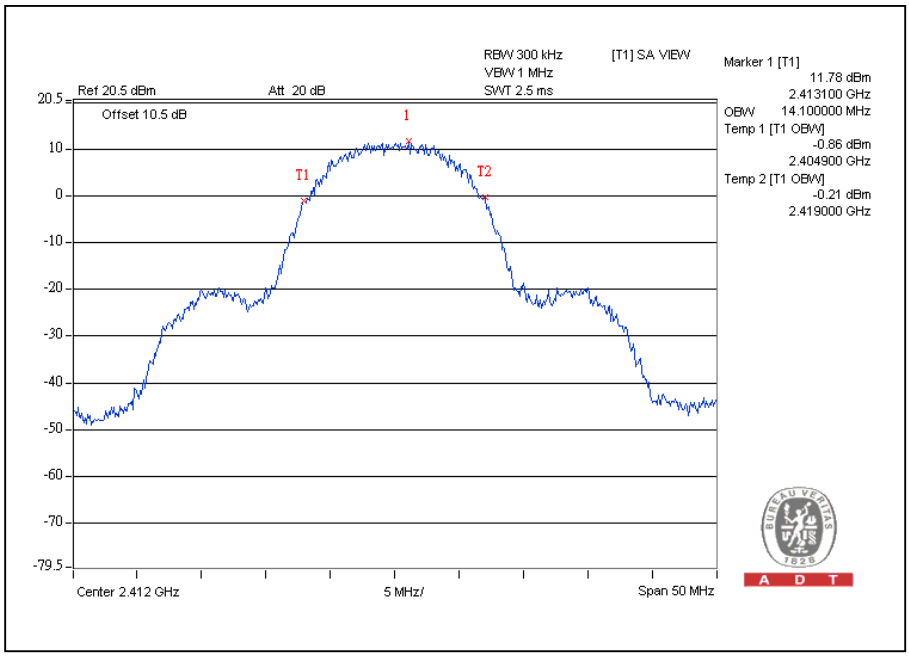
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.5 TEST RESULTS

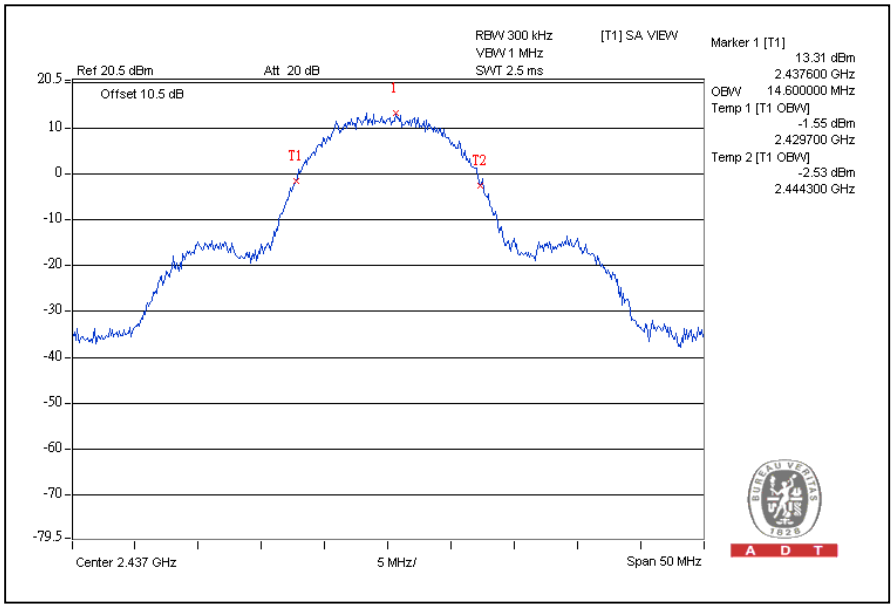
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	14.1
6	2437	14.6
11	2462	14.0

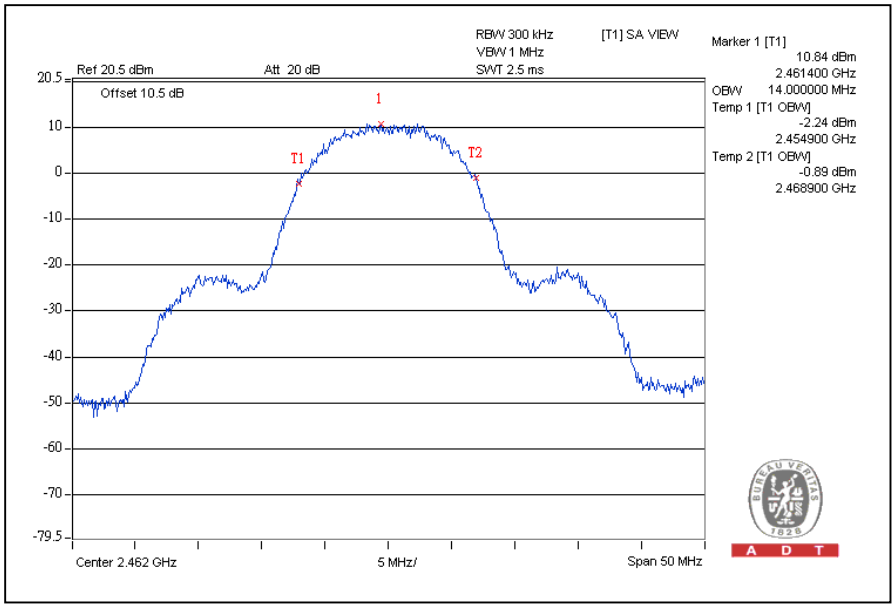
CH1



CH6


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
13.31 dBm
2.437600 GHz
OBW 14.600000 MHz
Temp 1 [T1 OBW]
-1.55 dBm
2.429700 GHz
Temp 2 [T1 OBW]
-2.53 dBm
2.444300 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
T1
T2
Center 2.437 GHz
5 MHz/
Span 50 MHz

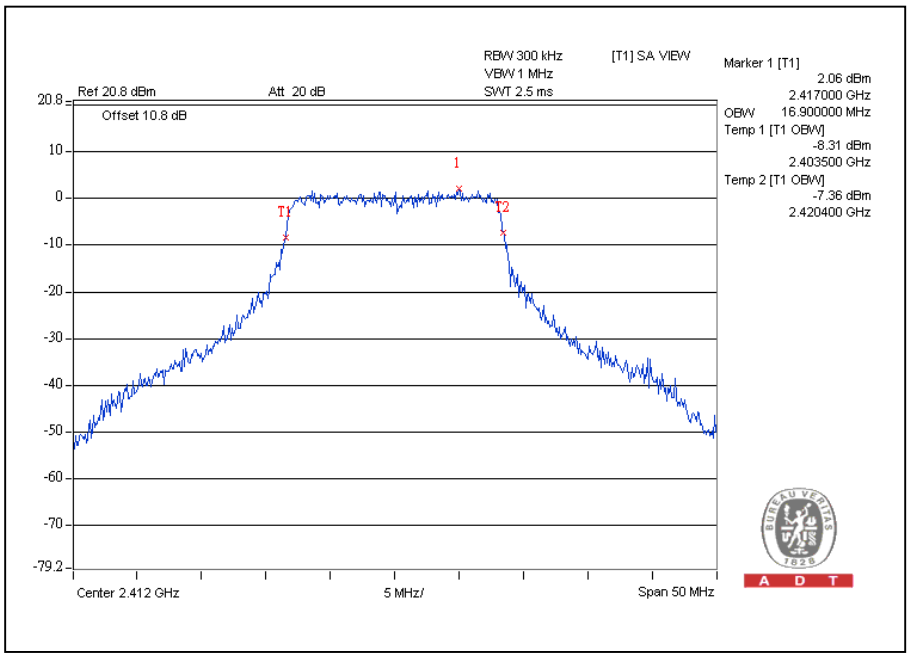
CH11


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
10.84 dBm
2.461400 GHz
OBW 14.000000 MHz
Temp 1 [T1 OBW]
-2.24 dBm
2.454900 GHz
Temp 2 [T1 OBW]
-0.89 dBm
2.468900 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
T1
T2
Center 2.462 GHz
5 MHz/
Span 50 MHz

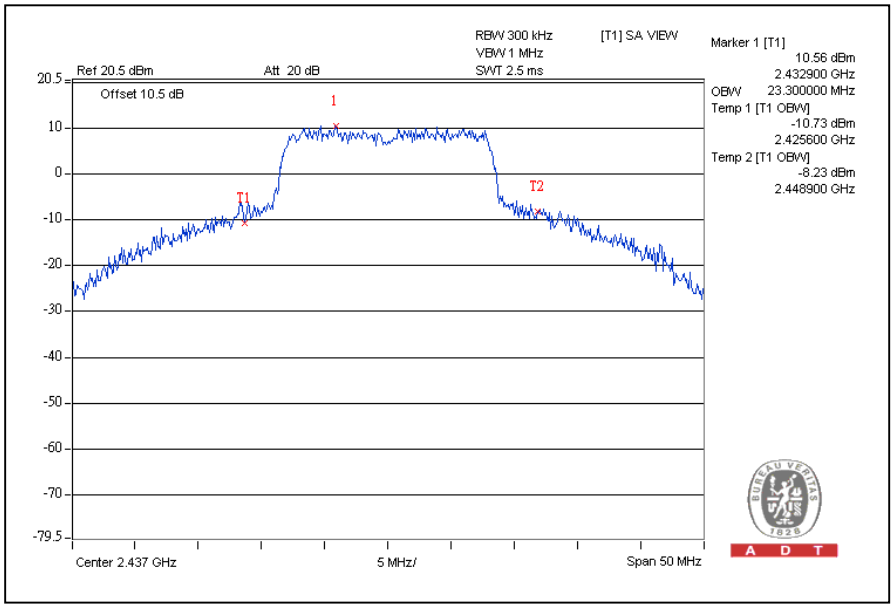
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	16.9
6	2437	23.3
11	2462	17.0

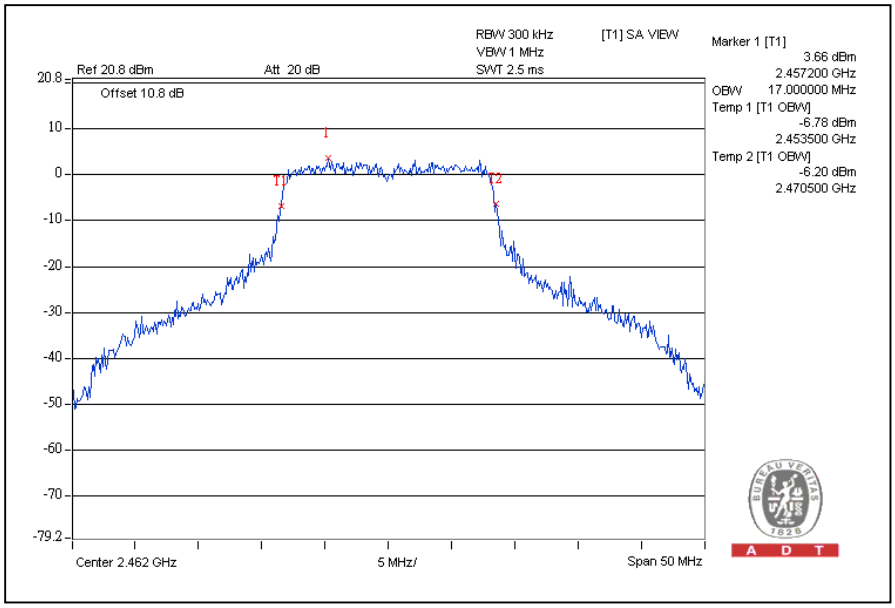
CH1



CH6


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
10.56 dBm
2.432900 GHz
OBW 23.300000 MHz
Temp 1 [T1 OBW]
-10.73 dBm
2.425600 GHz
Temp 2 [T1 OBW]
-8.23 dBm
2.448900 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.437 GHz
5 MHz/
Span 50 MHz

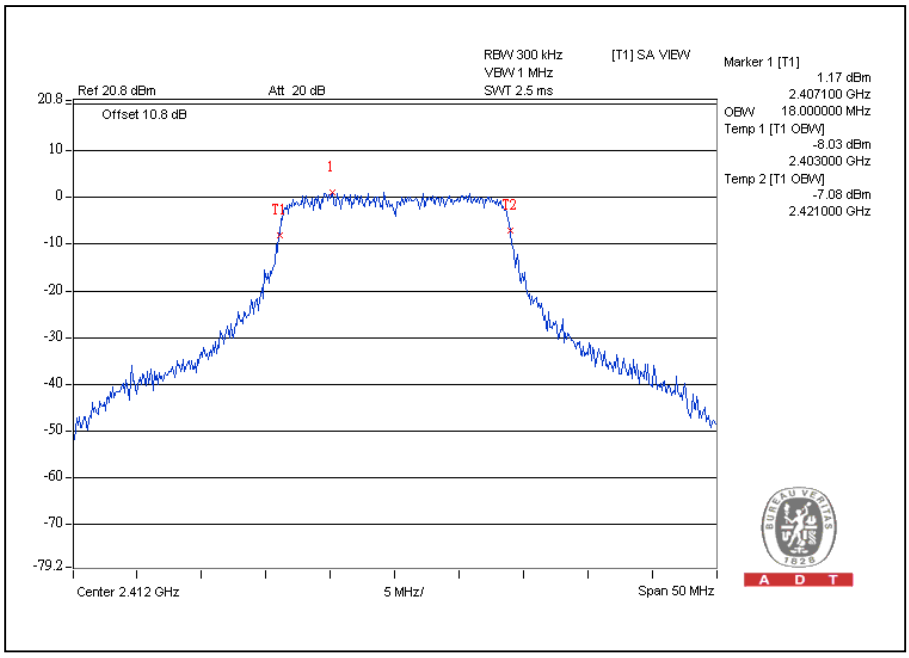
CH11


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
3.66 dBm
2.457200 GHz
OBW 17.000000 MHz
Temp 1 [T1 OBW]
-6.78 dBm
2.453500 GHz
Temp 2 [T1 OBW]
-6.20 dBm
2.470500 GHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Center 2.462 GHz
5 MHz/
Span 50 MHz

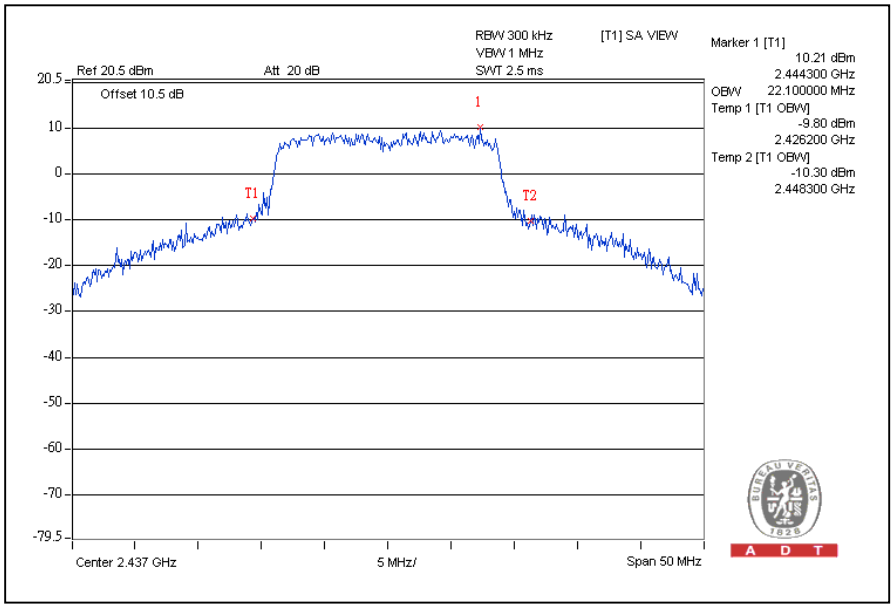
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	18.0
6	2437	22.1
11	2462	18.0

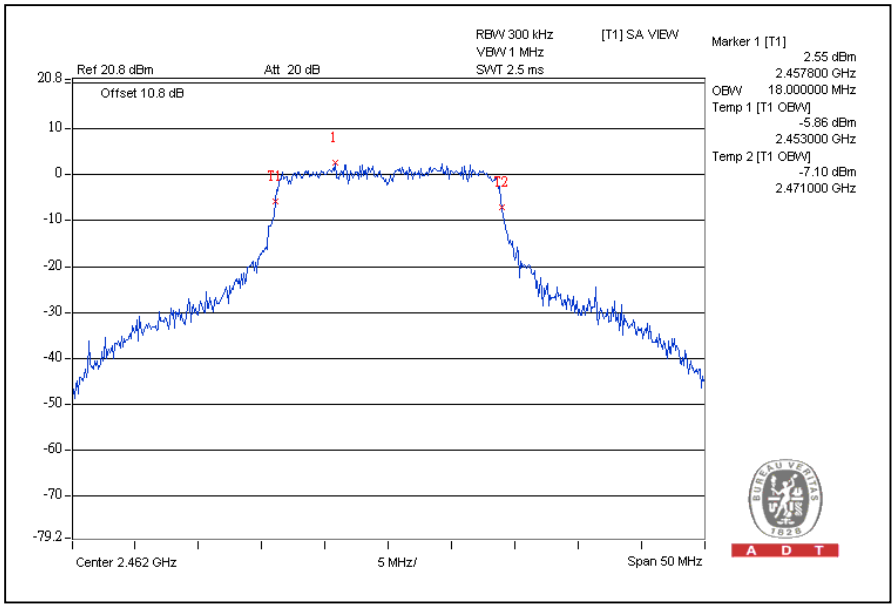
CH1



CH6


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
10.21 dBm
2.444300 GHz
OBW 22.100000 MHz
Temp 1 [T1 OBW]
-9.80 dBm
2.426200 GHz
Temp 2 [T1 OBW]
-10.30 dBm
2.448300 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
T1
T2
1
Center 2.437 GHz
5 MHz/
Span 50 MHz

CH11


RBW 300 kHz
VBW 1 MHz
SWT 2.5 ms
[T1] SA VIEW
Marker 1 [T1]
2.55 dBm
2.457800 GHz
OBW 18.000000 MHz
Temp 1 [T1 OBW]
-5.86 dBm
2.453000 GHz
Temp 2 [T1 OBW]
-7.10 dBm
2.471000 GHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
T1
T2
1
Center 2.462 GHz
5 MHz/
Span 50 MHz

4.5 MAXIMUM PEAK OUTPUT POWER

4.5.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.5.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Anritsu Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
Pulse Power Sensor	MA2411B	0738172	May 03, 2011	May 02, 2012

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

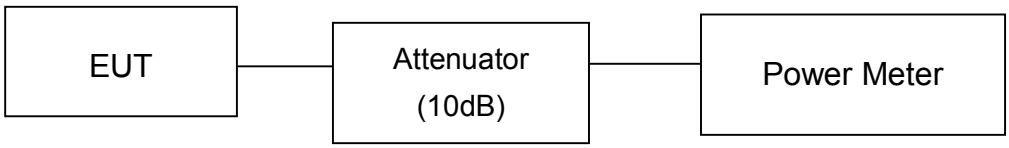
4.5.3 TEST PROCEDURES

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.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	100.0	20.0	30	PASS
6	2437	134.9	21.3	30	PASS
11	2462	95.5	19.8	30	PASS

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	79.4	19.0	30	PASS
6	2437	251.2	24.0	30	PASS
11	2462	74.1	18.7	30	PASS

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	72.4	18.6	30	PASS
6	2437	251.2	24.0	30	PASS
11	2462	79.4	19.0	30	PASS

4.6 AVERAGE OUTPUT POWER

4.6.1 FOR REFERENCE.

4.6.2 TEST INSTRUMENTS

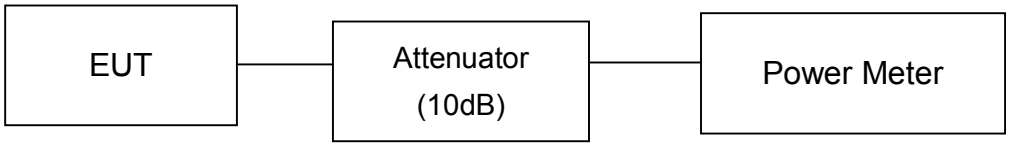
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Anritsu Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
Pulse Power Sensor	MA2411B	0738172	May 03, 2011	May 02, 2012

NOTE: 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 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 average power level.

4.6.4 TEST SETUP



4.6.5 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.6.6 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	18.3
6	2437	19.8
11	2462	18.0

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	11.8
6	2437	19.6
11	2462	12.1

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	10.7
6	2437	19.2
11	2462	11.6

4.7 POWER SPECTRAL DENSITY MEASUREMENT

4.7.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 08, 2010	Dec. 07, 2011

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

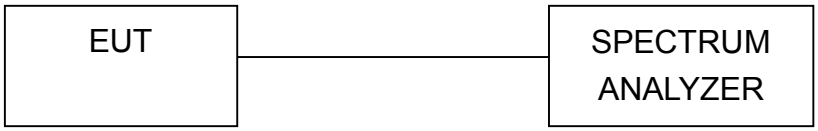
4.7.3 TEST PROCEDURE

1. 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.
2. The measurement include through a combiner with both chain and each chain when operate simultaneously.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



4.7.6 EUT OPERATING CONDITION

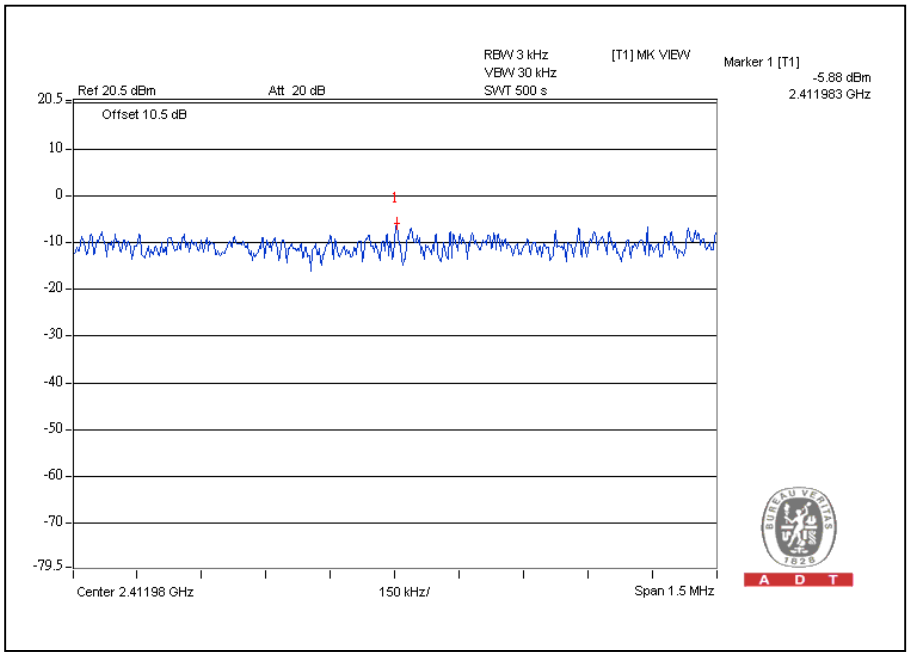
Same as Item 4.3.6

4.7.7 TEST RESULTS

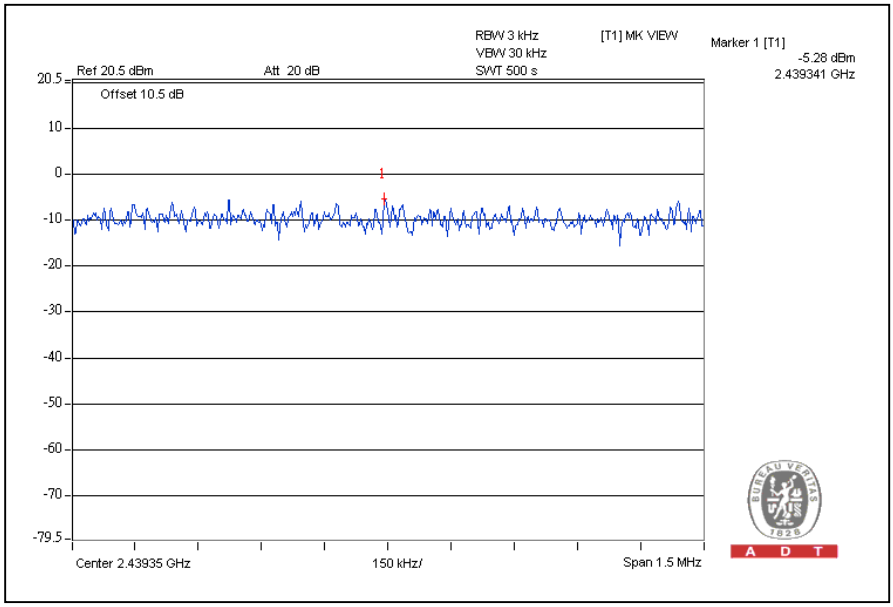
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-5.9	8	PASS
6	2437	-5.3	8	PASS
11	2462	-5.5	8	PASS

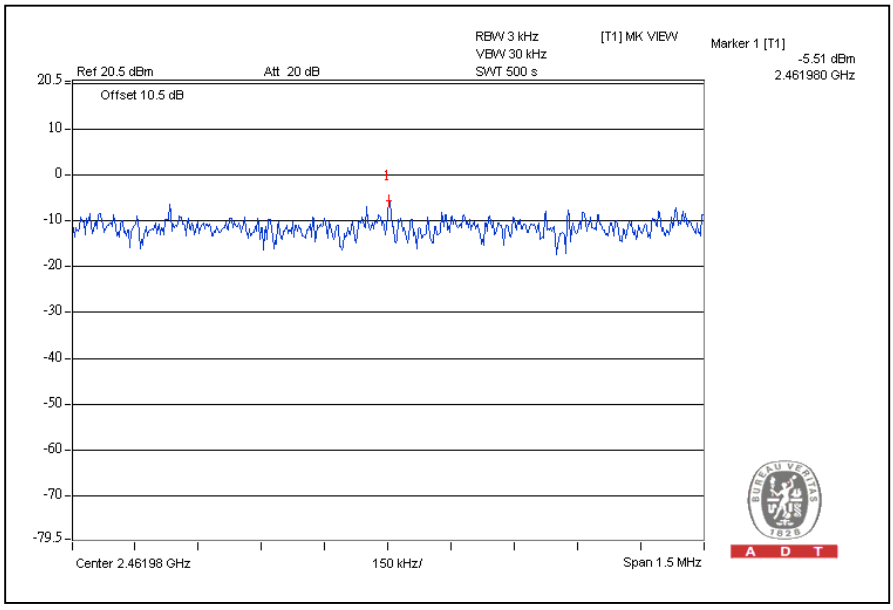
CH1



CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-5.28 dBm
2.439341 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.43935 GHz
150 kHz/
Span 1.5 MHz

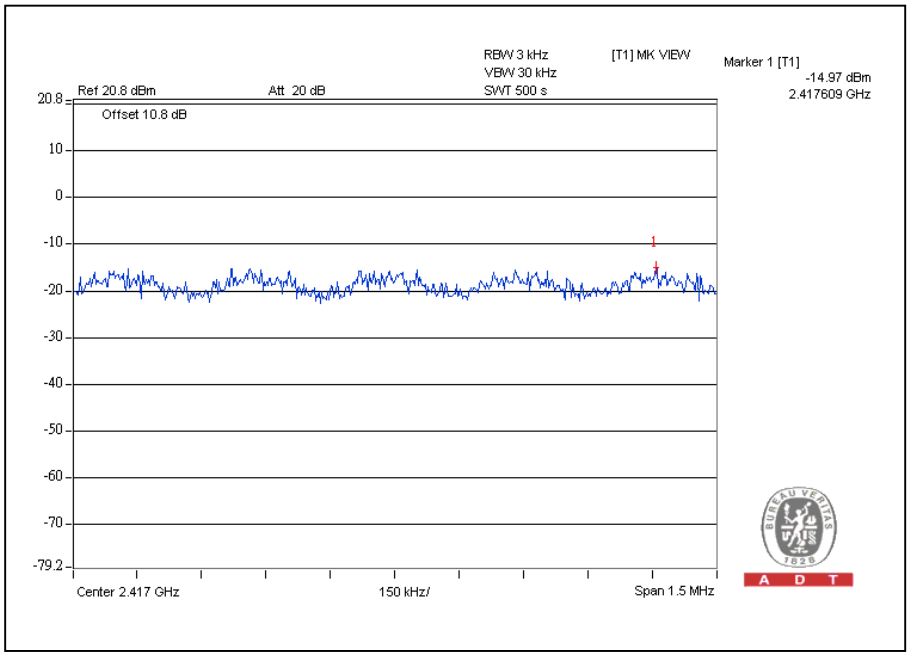
CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-5.51 dBm
2.461980 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.46198 GHz
150 kHz/
Span 1.5 MHz

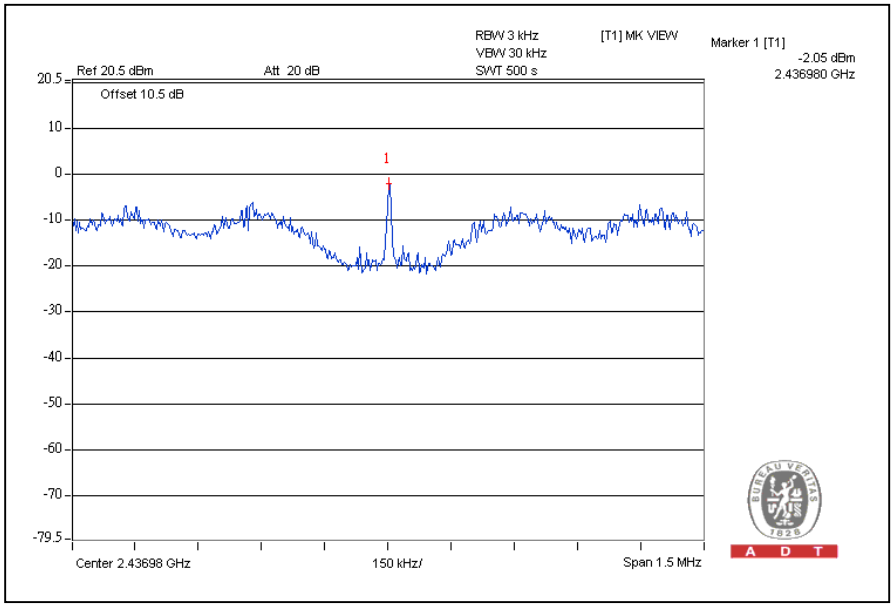
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-15.0	8	PASS
6	2437	-2.1	8	PASS
11	2462	-11.5	8	PASS

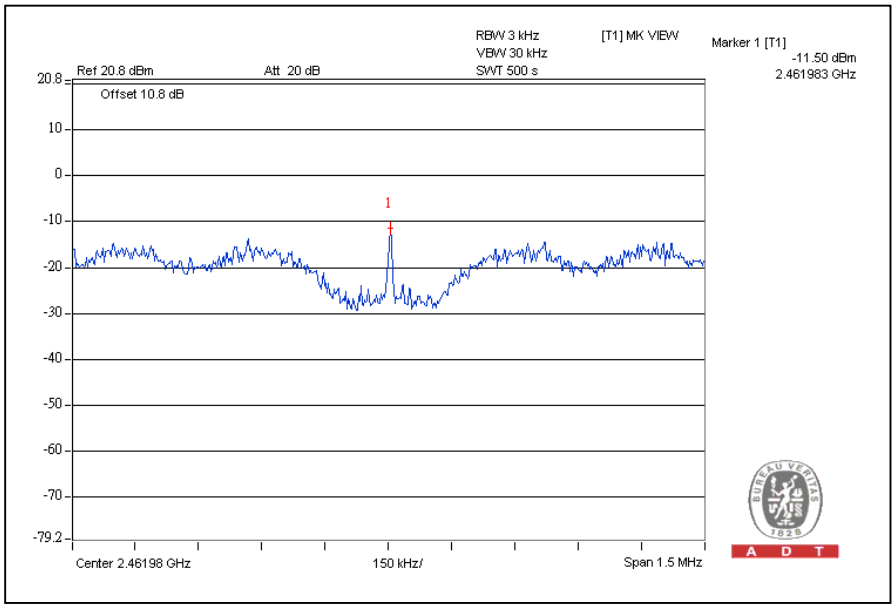
CH1



CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-2.05 dBm
2.436980 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.43698 GHz
150 kHz/
Span 1.5 MHz

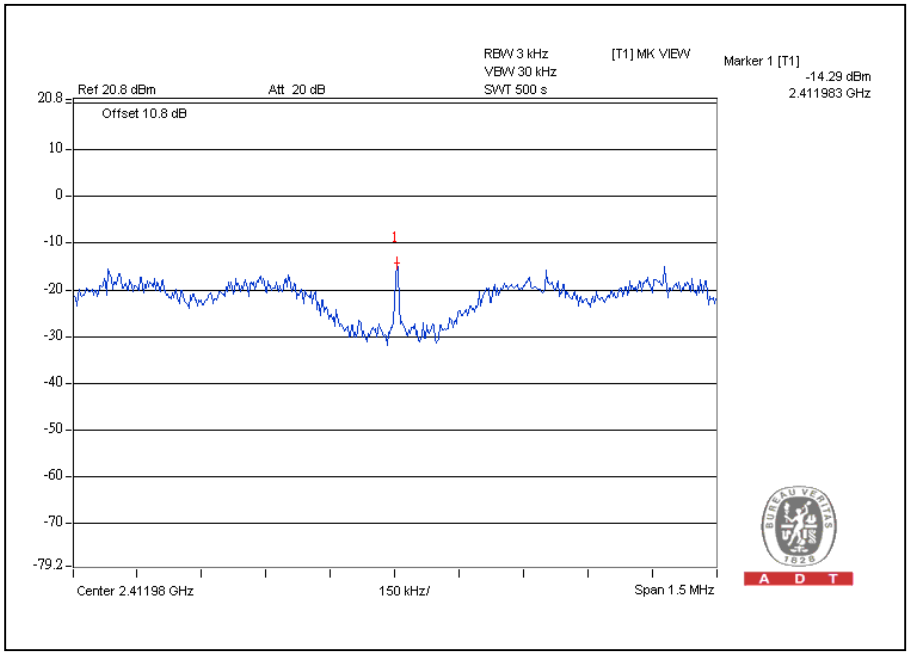
CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-11.50 dBm
2.461983 GHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Center 2.46198 GHz
150 kHz/
Span 1.5 MHz

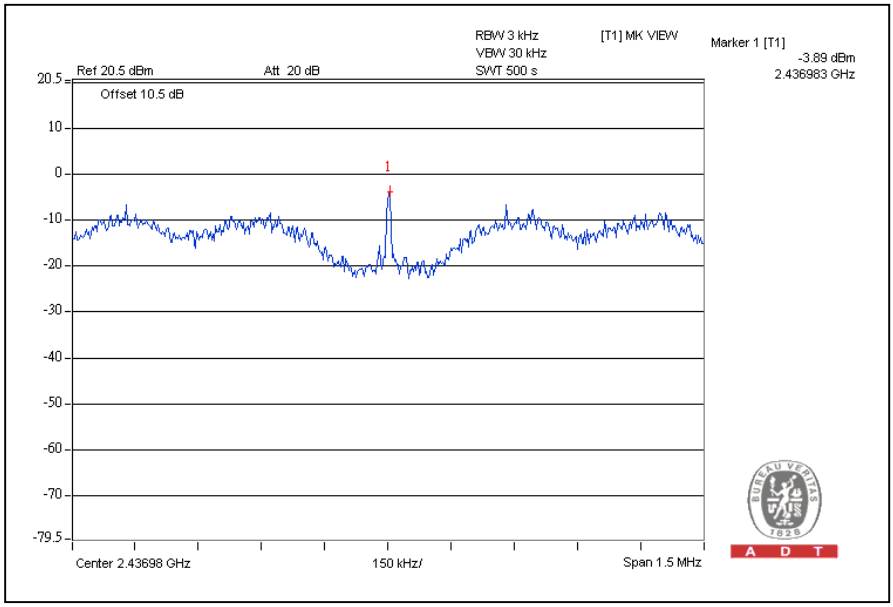
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-14.3	8	PASS
6	2437	-3.9	8	PASS
11	2462	-11.6	8	PASS

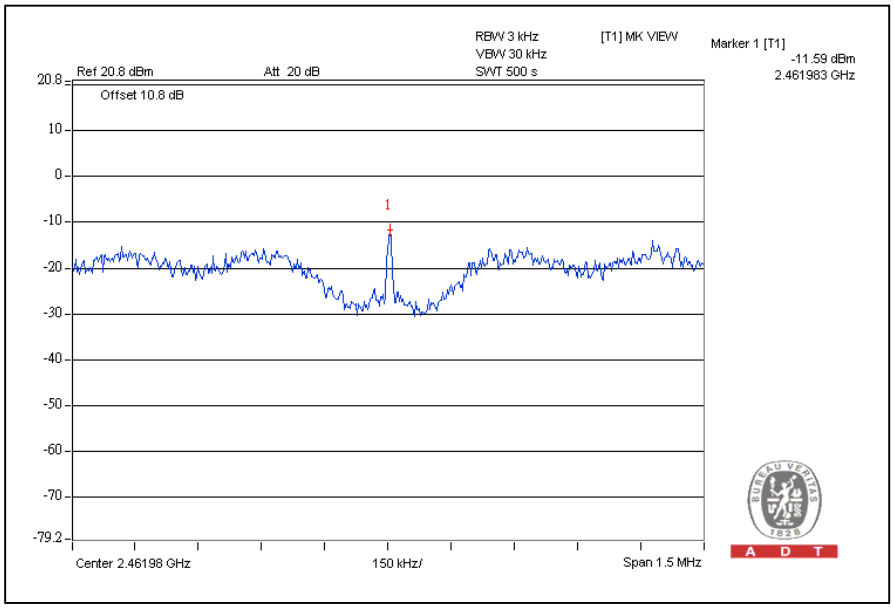
CH1



CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-3.89 dBm
2.436983 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.43698 GHz
150 kHz/
Span 1.5 MHz

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK VIEW
Marker 1 [T1]
-11.59 dBm
2.461983 GHz
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Center 2.46198 GHz
150 kHz/
Span 1.5 MHz

4.8 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.8.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.8.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 08, 2010	Dec. 07, 2011

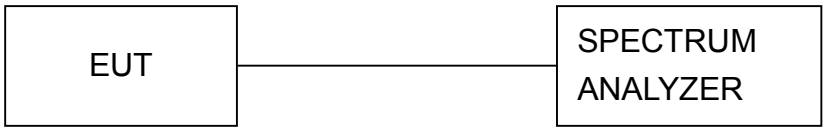
NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.8.3 TEST PROCEDURE

1. 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.

4.8.4 TEST SETUP



4.8.5 DEVIATION FROM TEST STANDARD

No deviation

4.8.6 EUT OPERATING CONDITION

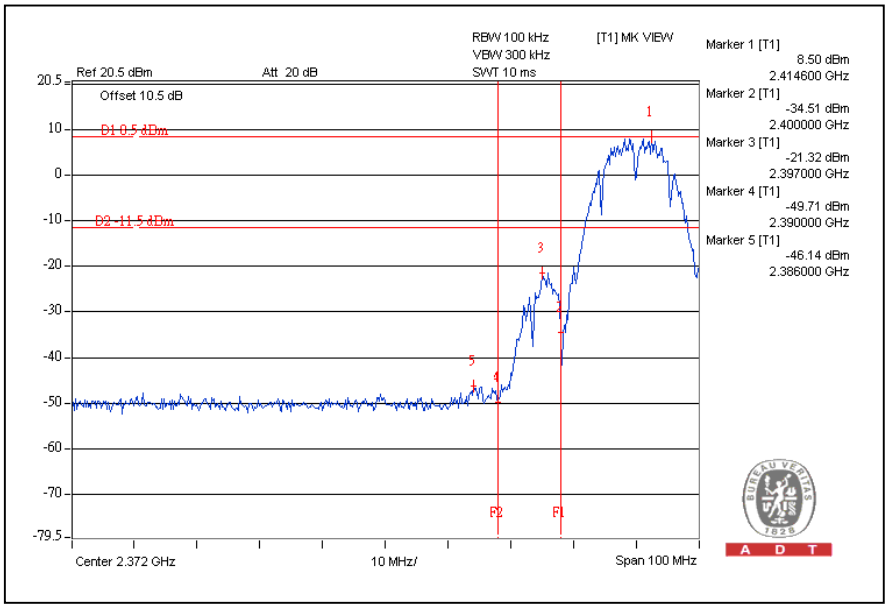
Same as Item 4.3.6

4.8.7 TEST RESULTS

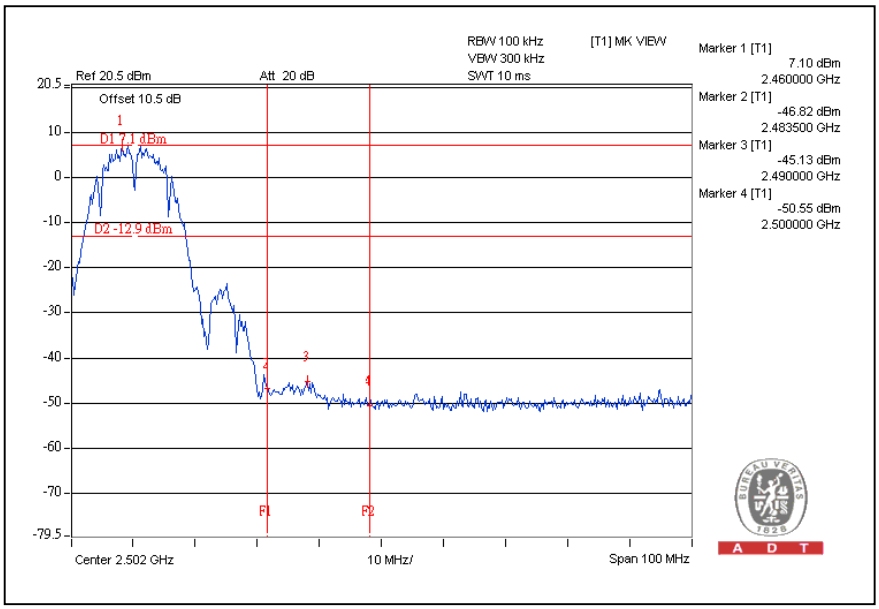
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

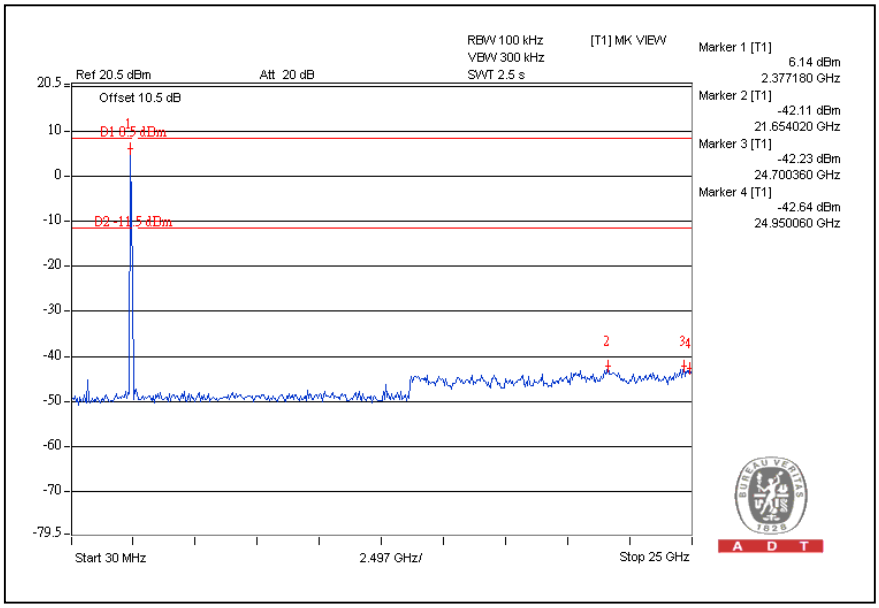
CH1



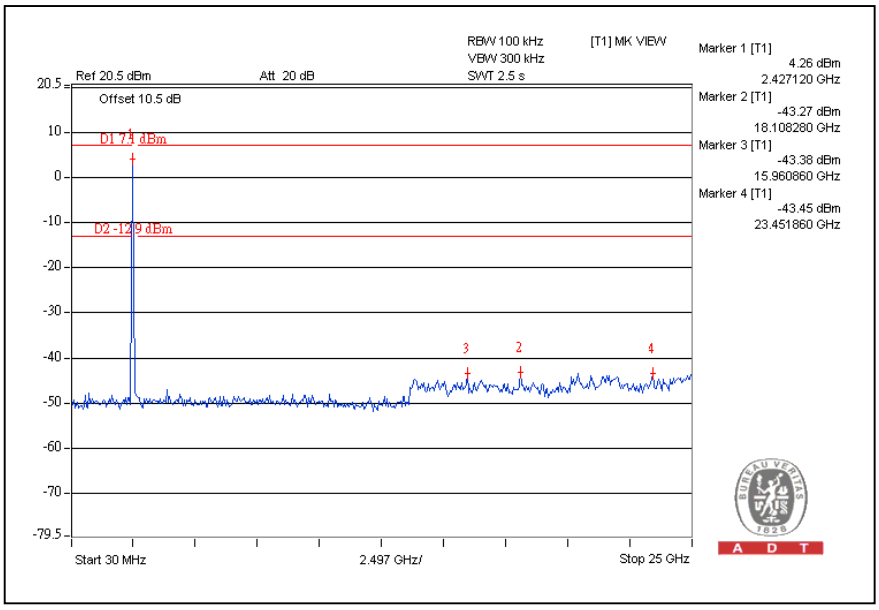
CH11



CH1

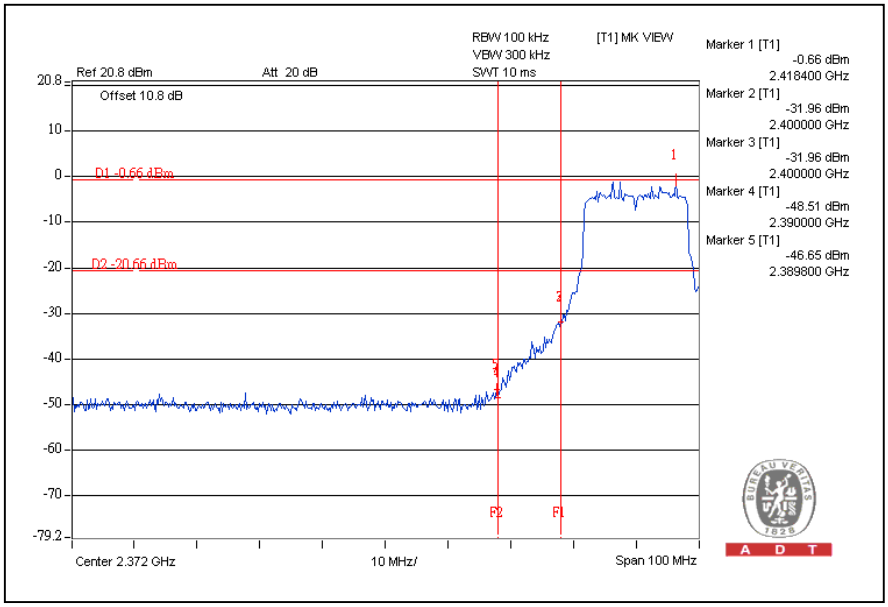

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 0.5 dBm
D2 -11.5 dBm
Marker 1 [T1]
6.14 dBm
2.377180 GHz
Marker 2 [T1]
-42.11 dBm
21.654020 GHz
Marker 3 [T1]
-42.23 dBm
24.700360 GHz
Marker 4 [T1]
-42.64 dBm
24.950060 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

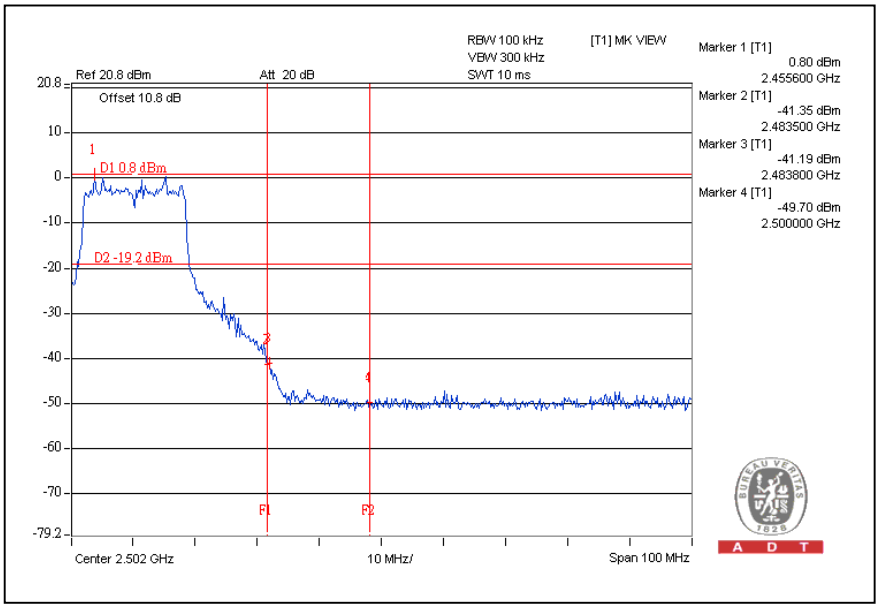

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 7.4 dBm
D2 -12.6 dBm
Marker 1 [T1]
4.26 dBm
2.427120 GHz
Marker 2 [T1]
-43.27 dBm
18.108280 GHz
Marker 3 [T1]
-43.38 dBm
15.960860 GHz
Marker 4 [T1]
-43.45 dBm
23.451860 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g OFDM MODULATION:

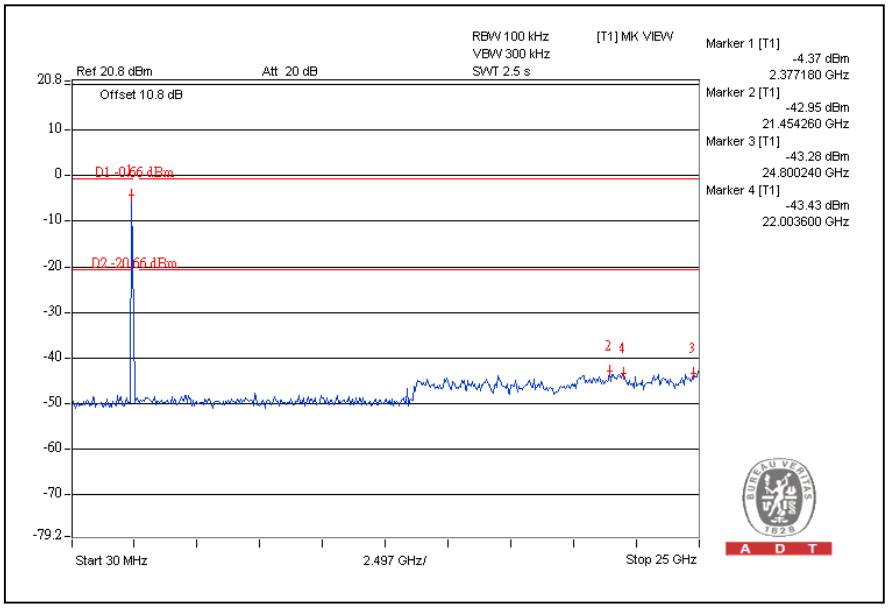
CH1



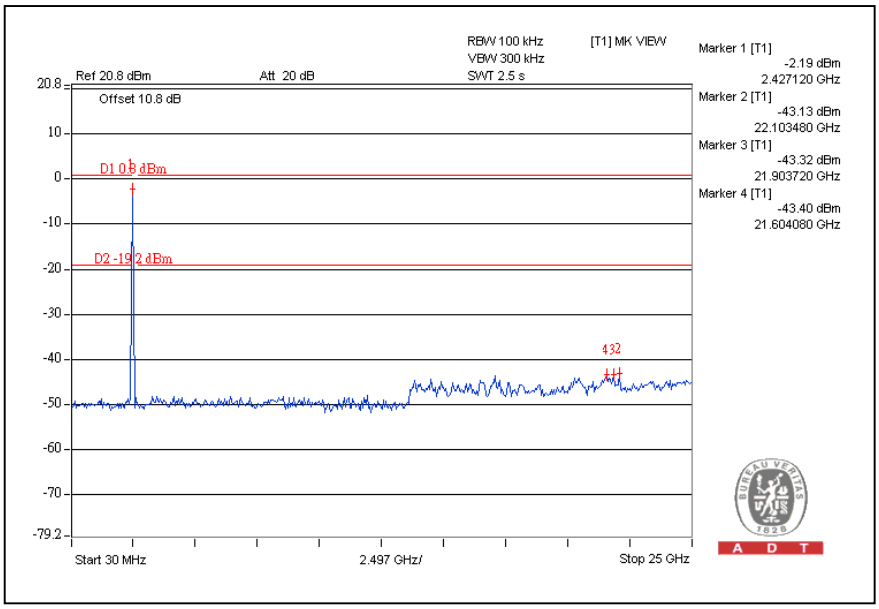
CH11



CH1

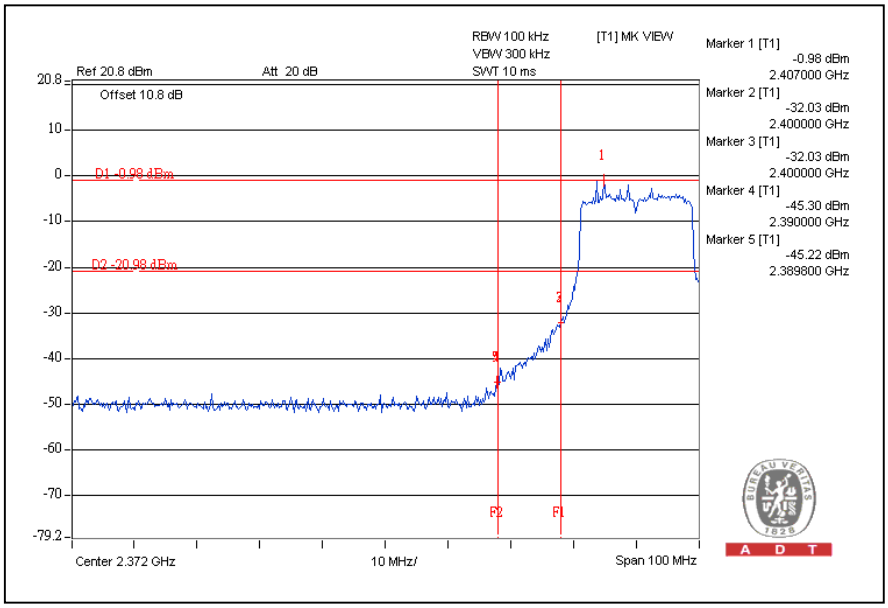

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
Marker 1 [T1]
-4.37 dBm
2.377180 GHz
Marker 2 [T1]
-42.95 dBm
21.454260 GHz
Marker 3 [T1]
-43.28 dBm
24.800240 GHz
Marker 4 [T1]
-43.43 dBm
22.003600 GHz
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

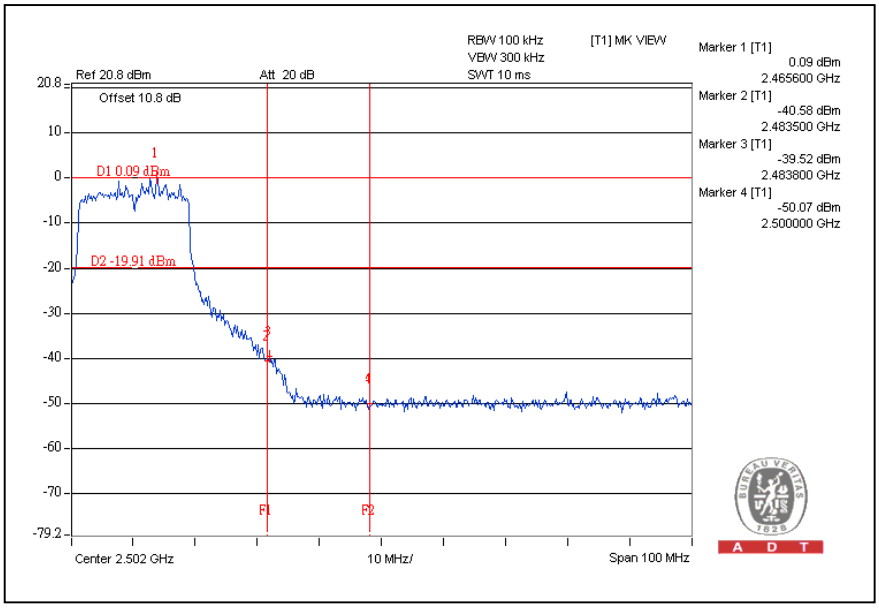

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
Marker 1 [T1]
-2.19 dBm
2.427120 GHz
Marker 2 [T1]
-43.13 dBm
22.103480 GHz
Marker 3 [T1]
-43.32 dBm
21.903720 GHz
Marker 4 [T1]
-43.40 dBm
21.604080 GHz
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (20MHz) OFDM MODULATION:

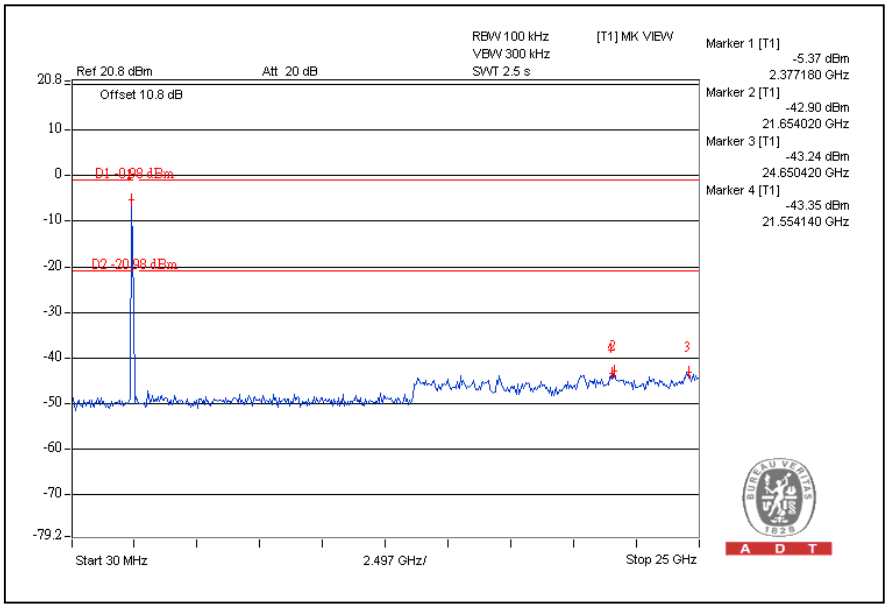
CH1



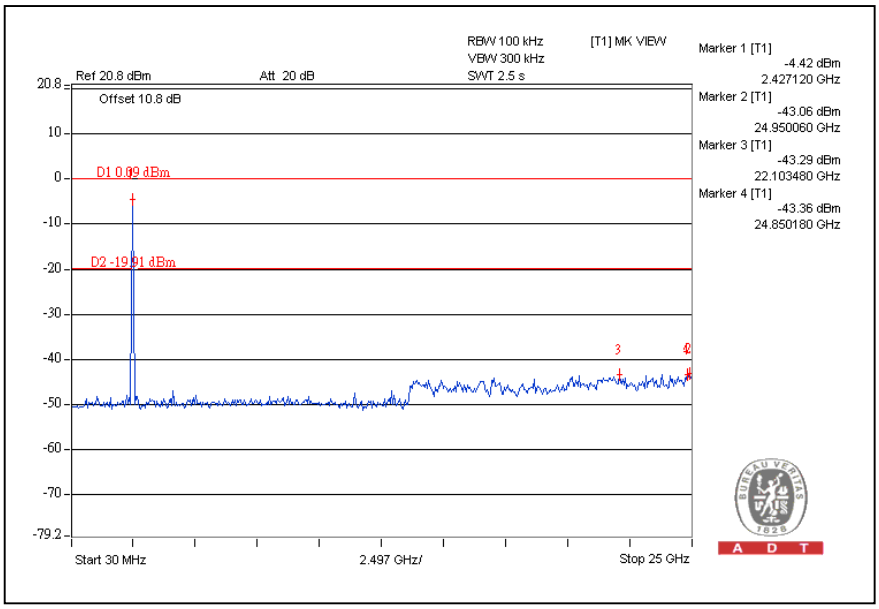
CH11



CH1


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
D1 -0.09 dBm
D2 -20.09 dBm
Marker 1 [T1]
-5.37 dBm
2.377180 GHz
Marker 2 [T1]
-42.90 dBm
21.654020 GHz
Marker 3 [T1]
-43.24 dBm
24.650420 GHz
Marker 4 [T1]
-43.35 dBm
21.554140 GHz
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.8 dBm
Att 20 dB
Offset 10.8 dB
D1 0.09 dBm
D2 -19.91 dBm
Marker 1 [T1]
-4.42 dBm
2.427120 GHz
Marker 2 [T1]
-43.06 dBm
24.950060 GHz
Marker 3 [T1]
-43.29 dBm
22.103480 GHz
Marker 4 [T1]
-43.36 dBm
24.850180 GHz
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2
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

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---