FCC TEST REPORT (15.247)

REPORT NO.:	RF990622C09
MODEL NO.:	MRLBB-1003
FCC ID:	RTP-MRLBB1003
RECEIVED:	June 22, 2010
TESTED:	July 09 to Oct. 01, 2010
ISSUED:	Oct. 11, 2010

APPLICANT:	Wistron NeWeb Corp.
ADDRESS:	20 Park Avenue II, Hsinchu Science Park,Hsinchu 308, Taiwan, R.O.C.

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

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1. CERTIFICATION

PRODUCT:	802.11n Radio Module
BRAND NAME:	HP
MODEL NO.:	MRLBB-1003
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	July 09 to Oct. 01, 2010
APPLICANT:	Wistron NeWeb Corp.
STANDARDS:	FCC Part 15, Subpart C (Section 15.247) ANSI C63.4-2003

The above equipment (Model: MRLBB-1003) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Carol Liao , **DATE:** Oct. 11, 2010
(Carol Liao, Specialist)

TECHNICAL ACCEPTANCE : , **DATE:** Oct. 11, 2010
(Hank Chung, Deputy Manager)

APPROVED BY : , **DATE:** Oct. 11, 2010
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 2.4GHz, 2412~2462MHz Band

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.48dB at 3.858MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 2390.00MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is U.FL or Reverse SMA not a standard connector.

For 5GHz, 5725~5850MHz Band

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.48dB at 3.858MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 11650.00MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is U.FL or Reverse SMA not a standard connector.

NOTE:

1. The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2400 ~ 2483.5MHz and 5.725~5.850GHz. For the 5.15~5.35GHz and 5.47~5.725GHz RF parameters was recorded in another test report.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.3 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.55 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11n Radio Module
MODEL NO.	MRLBB-1003
FCC ID	RTP-MRLBB1003
POWER SUPPLY	DC 3.3V from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11a/g: 54/48/36/24/18/12/9/6Mbps 802.11b:11/5.5/2/1Mbps 802.11n: MCS0 thru MCS23 (20/40MHz channels & 800/400ns GI), up to 450Mbps.
OPERATING FREQUENCY	**For 15.407** 802.11a: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz,5.50 ~ 5.70GHz
	For 15.247 802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	**For 15.407** 19 for 802.11a, 802.11n (20MHz) 9 for 802.11n (40MHz)
	For 15.247(2.4GHz) 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) **For 15.247(5GHz)** 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)

MAXIMUM OUTPUT POWER	**For 15.407** 802.11a: 8.5mW 802.11n (20MHz): 25.8mW 802.11n (40MHz): 43.4mW **For 15.247(2.4GHz)** 802.11b: 96.4mW 802.11g: 375.1mW 802.11n (20MHz): 533.3mW 802.11n (40MHz): 370.4mW **For 15.247(5GHz)** 802.11a: 257.6mW 802.11n (20MHz): 255.7mW 802.11n (40MHz): 257.4mW
ANTENNA TYPE	Please see note 1
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

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

No.	Brand name	Model name	Antenna Gain (dBi) (include cable loss)		Antenna Type	Connector	Point to point
			For 2.4GHz	For 5GHz			
1	WNC	5184-6684	5.41	7.02	PIFA	U.FL	-
2	Laird	J9169A	8.00	10.70	Directional	Reverse SMA	Yes
3	Laird	J9170A	10.90	13.50	Directional	Reverse SMA	Yes
4	Laird	J9171A	3.00	4.00	Omni	Reverse SMA	Yes
5	Laird	J9659	2.00	2.00	Omni	Reverse SMA	Yes

Note: 1. From the above antennas, **Antenna 1, 3 and 4** were selected as representative antennas for the test and their data were recorded in this report.
2. Antenna 3 only use in 2.4GHz and 5GHz(band 2-4)

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

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

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

3. The EUT incorporates a MIMO function with 802.11n. Physically, the EUT provides three completed transmitters and three completed receivers.
4. The EUT is 3 * 3 spatial MIMO (3Tx & 3Rx) without beam forming function. The antenna configurations are three transmitter antennas and three receiver antennas. Spatial multiplexing modes for simultaneous transmission using 3 antennas, and for simultaneous receiver using 3 antennas.

5. The EUT complies with 802.11n standards and backwards compatible with 802. 11a, 802.11b, 802.11g products.
6. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

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		

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

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

Operated in 5725 ~ 5850MHz band:

Five channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

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

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	
1	√	√	√		With Antenna 1: PIFA Antenna
2		√	√	√	With Antenna 3: Directional Antenna
3		√	√		With Antenna 4: Omni 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

ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)	TX CHAIN(2)
A	802.11 a	√	√	√
B	802.11 b	√	√	√
C	802.11 g	√	√	√
D	802.11n (20MHz) for MCS 0~23	√	√	√
E	802.11n (40MHz) for MCS 0~23	√	√	√

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

POWER LINE CONDUCTED EMISSION TEST:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
Worst Channel	-	-	-	-	-	-

RADIATED EMISSION TEST (BELOW 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
For 2.4GHz 802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5	D
For 5 GHz 802.11n (20MHz)	151 to 159	157	OFDM	BPSK	6.5	D

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	B
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C
For 2.4GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	D
For 2.4GHz 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	E
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5	D
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	E

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)	COMBINATION MODE
802.11b	1 to 11	1, 11	DSSS	DBPSK	1	B
802.11g	1 to 11	1, 11	OFDM	BPSK	6	C
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5	D
For 2.4 GHz 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	13.5	E
802.11a	149 to 165	149, 165	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	6.5	D
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	E

※ After verification, conducted out band emission as show worst chain in report by investigations.

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	B
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	D
For 2.4 GHz 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	13.5	E
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5	D
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	E

※ After verification, bandwidth as show worst chain in report by investigations.

※ TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 70%RH, 1011 hPa	120Vac, 60Hz	Eric Lee
RE<1G	24deg. C, 74%RH, 1011 hPa	120Vac, 60Hz	Frank Liu
PLC	26deg. C, 70%RH, 1011 hPa	120Vac, 60Hz	Timmy Hu
APCM	26deg. C, 71%RH, 1011 hPa	120Vac, 60Hz	Rex Huang

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

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

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

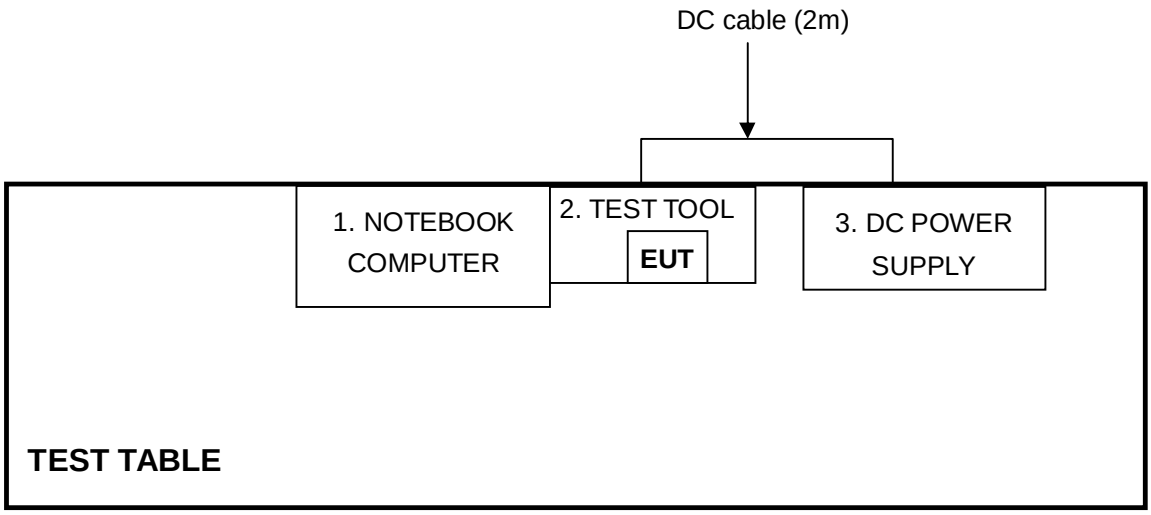
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER (for Conducted test)	DELL	PP21L	CN-0GD366-70 166-5B3-09ZX	QDS-BRCM1016
	NOTEBOOK COMPUTER (for other test items)	DELL	PP19L	CN-OHC416-70 166-5CA-0448	PIW632500516610
2	TEST TOOL	Wistron	NA	NA	NA
3	DC POWER SUPPLY (for Conducted test)	GOOD WILL INSTRUMENT CO., LTD.	GPC-3030D	7700087	NA
	DC POWER SUPPLY (for other test items)	Topward	6603D	795558	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	DC cable (2m)

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS (802.11b & g, 2400 ~ 2483.5MHz Band)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
0.15-0.5 0.5-5 5-30	Quasi-peak	Average
	66 to 56 56 60	56 to 46 46 50

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

4.1.2 TEST INSTRUMENTS

Test date: Oct. 01, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 01, 2010	Feb. 28, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-523	Sep. 22, 2010	Sep. 21, 2011
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 11, 2010	June 10, 2011
RF Cable (JYEBAO)	5DFB	COACAB-001	Dec. 14, 2009	Dec. 13, 2010
50 ohms Terminator	50	3	Oct. 28, 2009	Oct. 27, 2010
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

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

4.1.3 TEST PROCEDURES

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

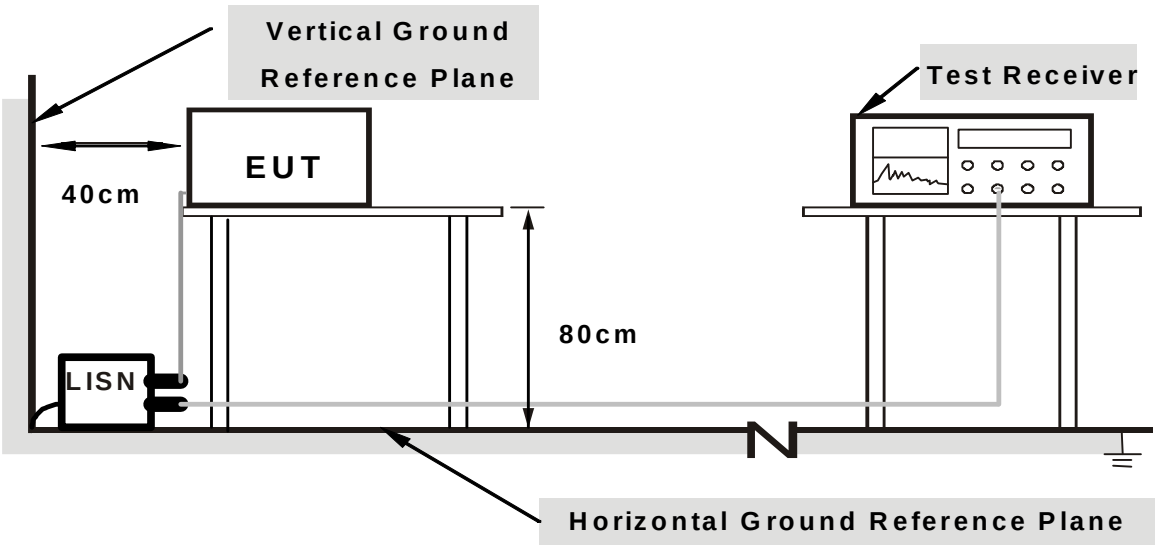
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.1.6 EUT OPERATING CONDITIONS

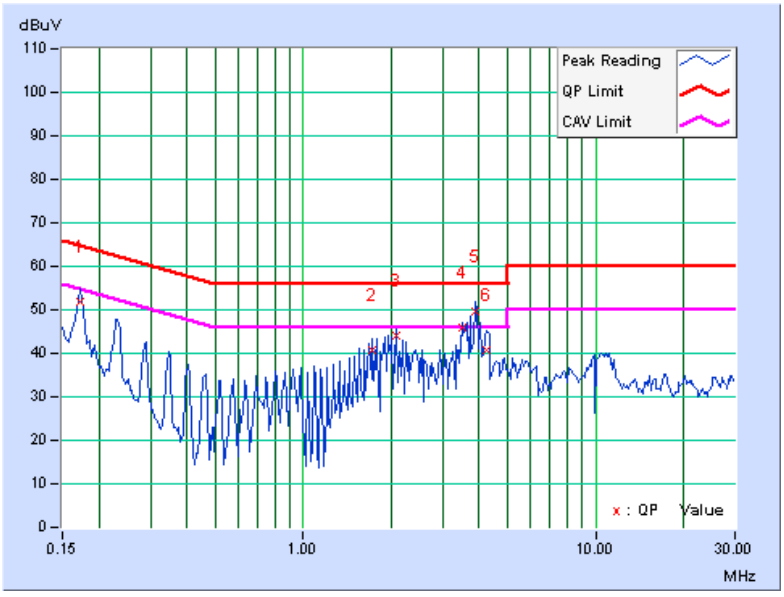
1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table via support unit 2 (Test Tool).
2. The support unit 1 (Notebook Computer) runs test program “art2 ver 1 8BIN” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

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	0.173	0.04	51.88	-	51.92	-	64.79	54.79	-12.87	-
2	1.730	0.11	40.52	-	40.63	-	56.00	46.00	-15.37	-
3	2.074	0.12	43.79	-	43.91	-	56.00	46.00	-12.09	-
4	3.512	0.13	45.90	33.57	46.03	33.70	56.00	46.00	-9.97	-12.30
5	**3.858**	**0.13**	**49.39**	**36.78**	**49.52**	**36.91**	**56.00**	**46.00**	**-6.48**	**-9.09**
6	4.258	0.14	40.42	-	40.56	-	56.00	46.00	-15.44	-

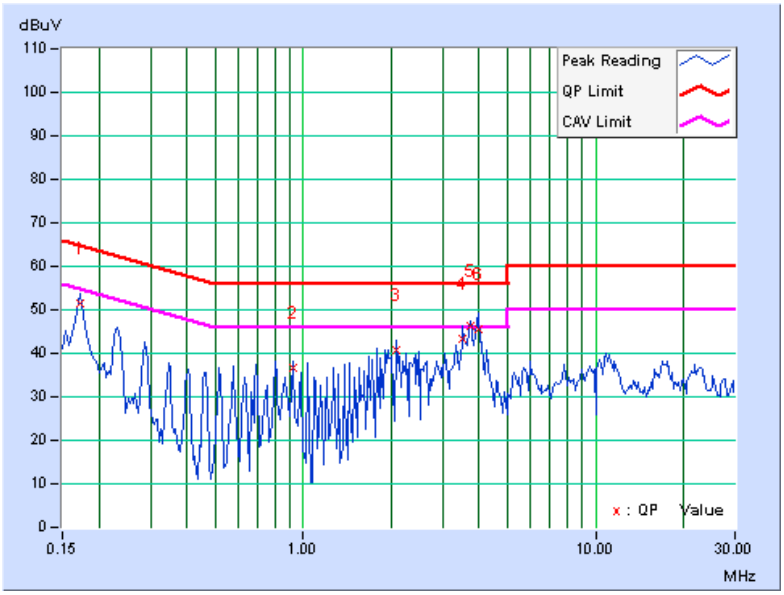
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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	0.173	0.05	51.50	-	51.55	-	64.79	54.79	-13.24	-
2	0.920	0.10	36.69	-	36.79	-	56.00	46.00	-19.21	-
3	2.074	0.13	40.50	-	40.63	-	56.00	46.00	-15.37	-
4	3.512	0.14	43.06	-	43.20	-	56.00	46.00	-12.80	-
5	3.742	0.14	46.07	36.15	46.21	36.29	56.00	46.00	-9.79	-9.71
6	3.973	0.14	45.29	-	45.43	-	56.00	46.00	-10.57	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.

4.2.2 TEST INSTRUMENTS

For Below 1GHz: Test date: July 09, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 03, 2009	Aug. 02, 2010
Agilent Pre-Selector	N9039A	MY46520311	July 15, 2009	July 14, 2010
Agilent Signal Generator	N5181A	MY49060517	July 15, 2009	July 14, 2010
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02578	July 05, 2010	July 04, 2011
Miteq Pre-Amplifier	AFS33-18002650-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Sep. 30, 2009	Sep. 29, 2010
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Sep. 30, 2009	Sep. 29, 2010
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHGCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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

For Above 1GHz: Test date: Sep. 16, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 23, 2010	Aug. 22, 2011
Agilent Pre-Selector	N9039A	MY46520310	Aug. 23, 2010	Aug. 22, 2011
Agilent Signal Generator	N5181A	MY49060347	July 30, 2010	July 29, 2011
LIG NEX1 Test Receiver	ER-265	L09068005	Aug. 30, 2010	Aug. 29, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02465	Mar. 01, 2010	Feb. 28, 2011
Miteq Pre-Amplifier	AFS33-18002650-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Sep. 30, 2009	Sep. 29, 2010
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Sep. 30, 2009	Sep. 29, 2010
RF CABLE	NA	RF104-205 RF104-207 RF104-208	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHHCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5. The CANADA Site Registration No. is IC 7450H-3.

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

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

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

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

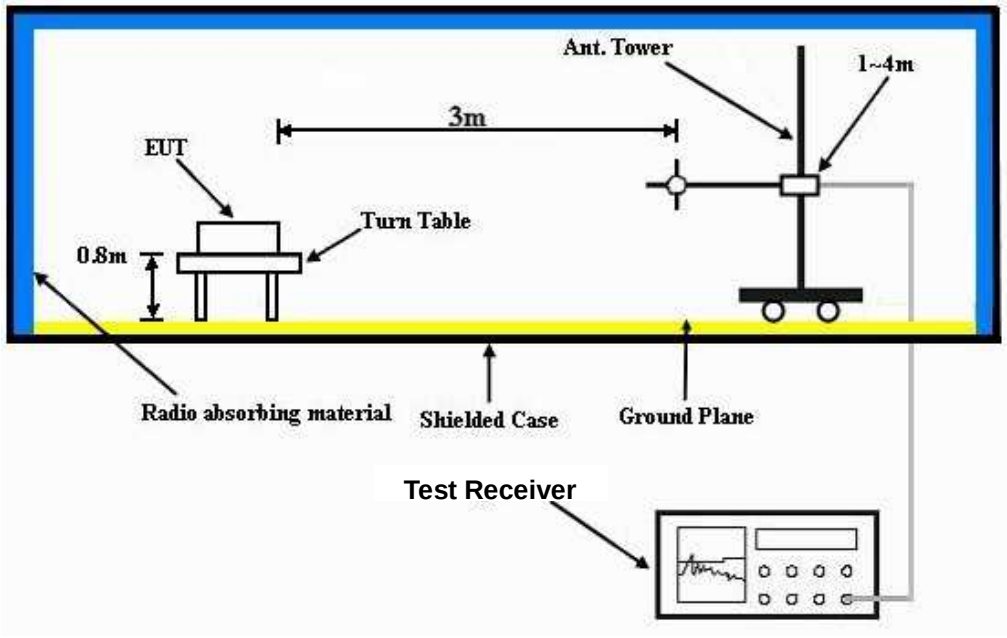
NOTE:

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

BELOW 1GHz WORST-CASE DATA：802.11n (20MHz) 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	24deg. C, 74%RH 1011 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	200.53	37.3 QP	43.5	-6.2	1.00 H	62	26.71	10.61
2	600.92	40.7 QP	46.0	-5.3	1.50 H	221	18.74	21.98
3	624.96	41.2 QP	46.0	-4.8	1.00 H	108	18.96	22.25
4	800.22	38.7 QP	46.0	-7.3	1.00 H	349	14.19	24.48
5	875.06	39.8 QP	46.0	-6.2	1.00 H	349	13.95	25.81
6	941.50	36.9 QP	46.0	-9.1	1.50 H	182	10.37	26.57
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	129.36	34.0 QP	43.5	-9.5	1.00 V	0	20.93	13.09
2	600.21	40.7 QP	46.0	-5.3	1.00 V	227	18.75	21.97
3	624.96	34.3 QP	46.0	-11.7	1.00 V	208	12.01	22.25
4	699.92	34.2 QP	46.0	-11.8	2.00 V	0	11.03	23.15
5	800.22	34.6 QP	46.0	-11.4	1.00 V	112	10.12	24.48
6	901.12	37.8 QP	46.0	-8.2	1.50 V	360	11.56	26.25

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.

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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.5 PK	74.0	-11.5	1.37 H	59	31.29	31.21
2	2390.00	44.4 AV	54.0	-9.6	1.37 H	59	13.19	31.21
3	*2412.00	105.8 PK			1.37 H	57	74.53	31.27
4	*2412.00	103.5 AV			1.37 H	57	72.23	31.27
5	4824.00	45.9 PK	74.0	-28.1	1.23 H	67	6.48	39.42
6	4824.00	34.0 AV	54.0	-20.0	1.23 H	67	-5.42	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	2389.73	59.5 PK	74.0	-14.5	1.46 V	132	28.29	31.21
2	2389.73	43.2 AV	54.0	-10.8	1.46 V	132	11.99	31.21
3	*2412.00	99.6 PK			1.46 V	132	68.33	31.27
4	*2412.00	97.2 AV			1.46 V	132	65.93	31.27
5	4824.00	47.2 PK	74.0	-26.8	1.20 V	89	7.78	39.42
6	4824.00	35.3 AV	54.0	-18.7	1.20 V	89	-4.12	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.9 PK			1.57 H	64	72.56	31.34
2	*2437.00	101.6 AV			1.57 H	64	70.26	31.34
3	4874.00	46.2 PK	74.0	-27.8	1.17 H	50	6.58	39.62
4	4874.00	34.1 AV	54.0	-19.9	1.17 H	50	-5.52	39.62
5	7311.00	52.8 PK	74.0	-21.2	1.07 H	329	8.70	44.10
6	7311.00	46.1 AV	54.0	-7.9	1.07 H	329	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	97.8 PK			1.93 V	298	66.46	31.34
2	*2437.00	95.1 AV			1.93 V	298	63.76	31.34
3	4874.00	47.8 PK	74.0	-26.2	1.11 V	287	8.18	39.62
4	4874.00	35.5 AV	54.0	-18.5	1.11 V	287	-4.12	39.62
5	7311.00	54.2 PK	74.0	-19.8	1.10 V	310	10.13	44.10
6	7311.00	48.5 AV	54.0	-5.5	1.10 V	310	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.2 PK			1.38 H	139	72.80	31.40
2	*2462.00	101.7 AV			1.38 H	139	70.30	31.40
3	2483.50	68.5 PK	74.0	-5.5	1.39 H	46	37.04	31.46
4	2483.50	44.8 AV	54.0	-9.2	1.39 H	46	13.34	31.46
5	4924.00	46.3 PK	74.0	-27.7	1.21 H	68	6.48	39.82
6	4924.00	34.3 AV	54.0	-19.7	1.21 H	68	-5.52	39.82
7	7386.00	52.5 PK	74.0	-21.5	1.14 H	305	8.32	44.18
8	7386.00	45.9 AV	54.0	-8.1	1.14 H	305	1.72	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	97.8 PK			1.64 V	239	66.40	31.40
2	*2462.00	95.2 AV			1.64 V	239	63.80	31.40
3	2483.58	58.7 PK	74.0	-15.3	1.64 V	284	27.24	31.46
4	2483.58	43.1 AV	54.0	-10.9	1.64 V	284	11.64	31.46
5	4924.00	47.9 PK	74.0	-26.1	1.12 V	294	8.08	39.82
6	4924.00	35.7 AV	54.0	-18.3	1.12 V	294	-4.12	39.82
7	7386.00	54.6 PK	74.0	-19.4	1.08 V	304	10.42	44.18
8	7386.00	48.6 AV	54.0	-5.4	1.08 V	304	4.42	44.18

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

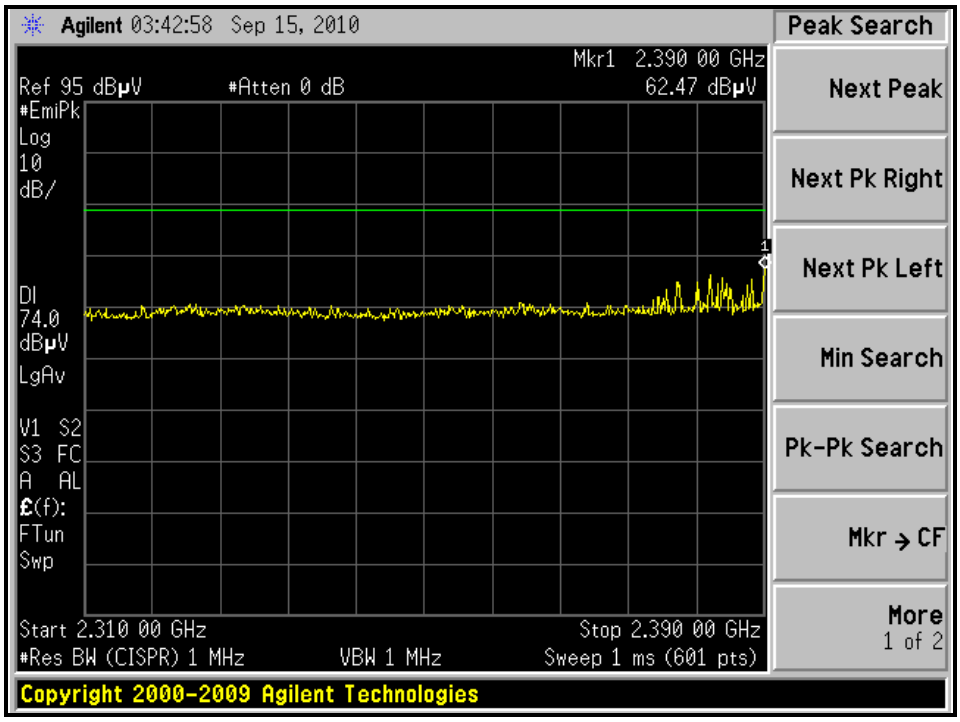
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

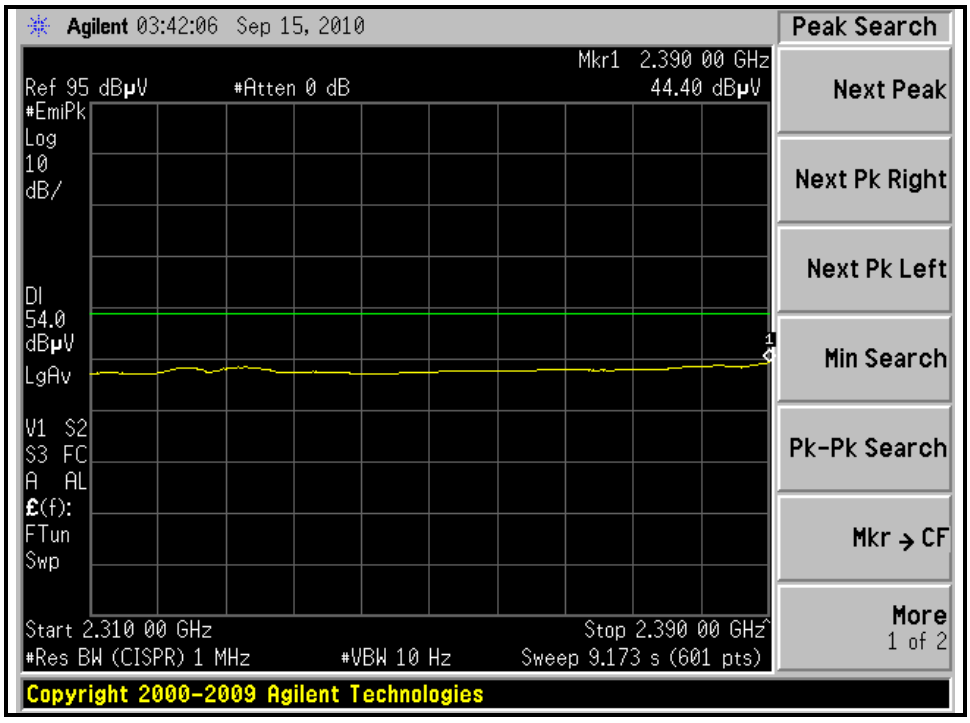
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





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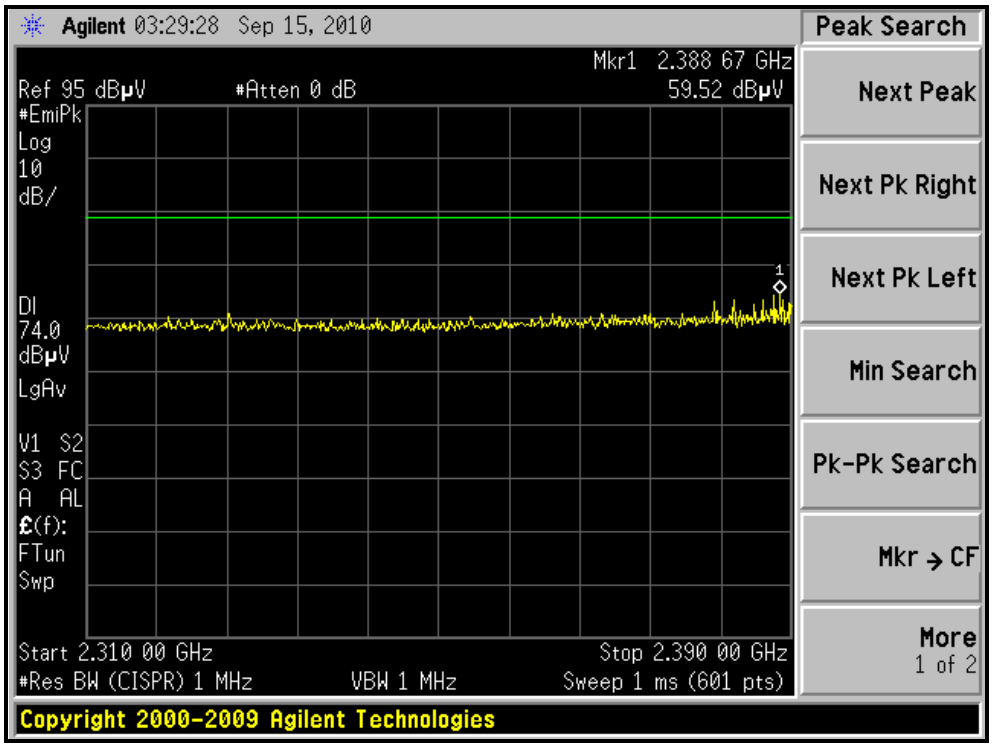

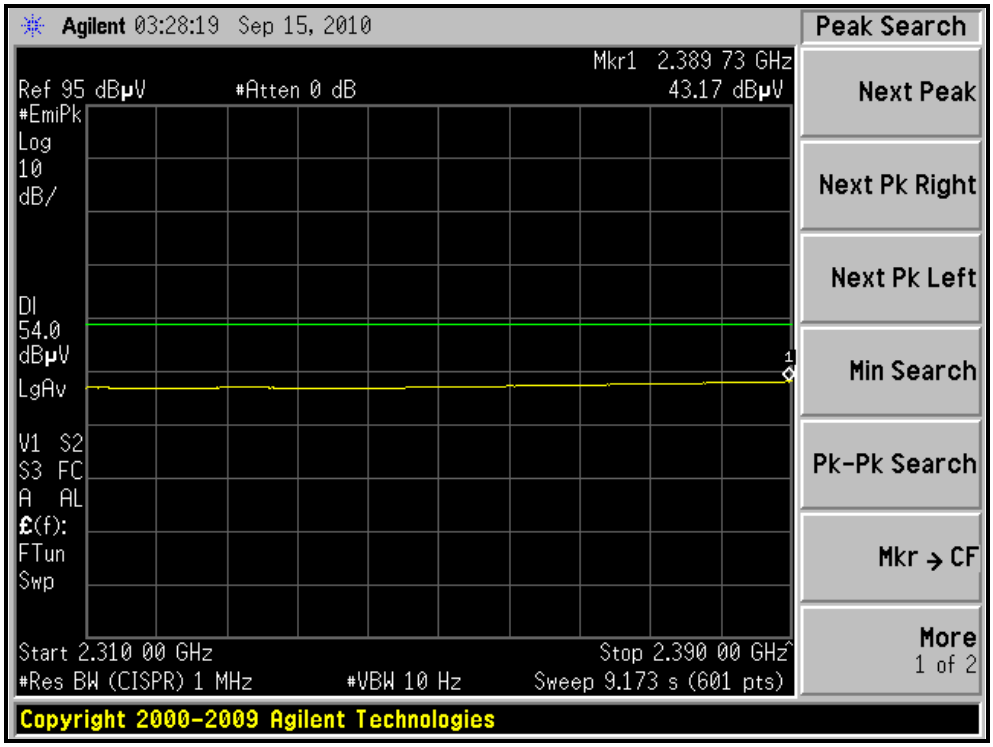

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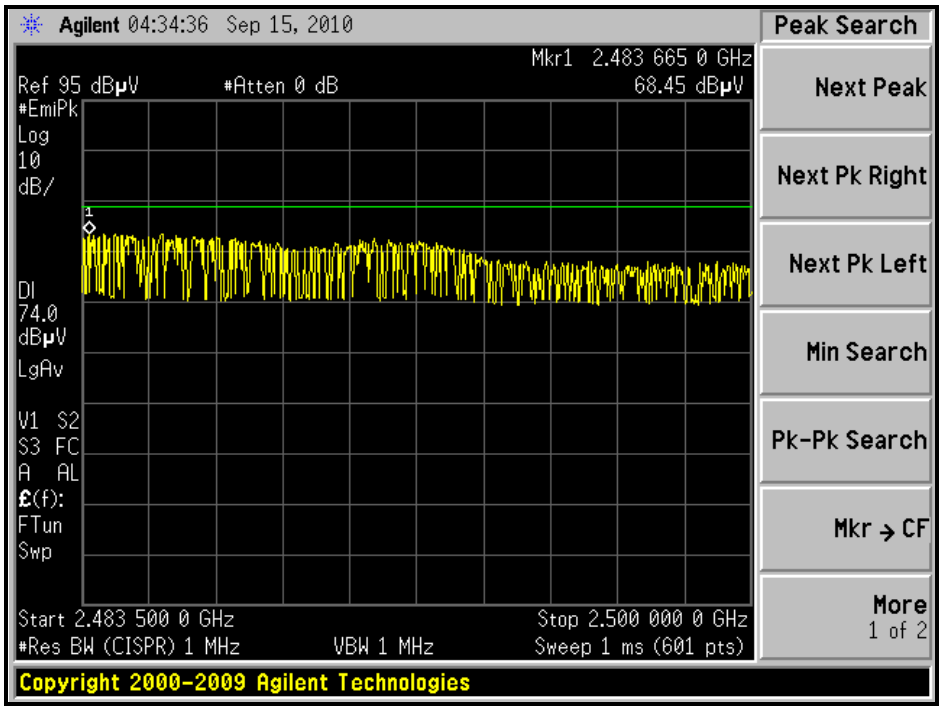
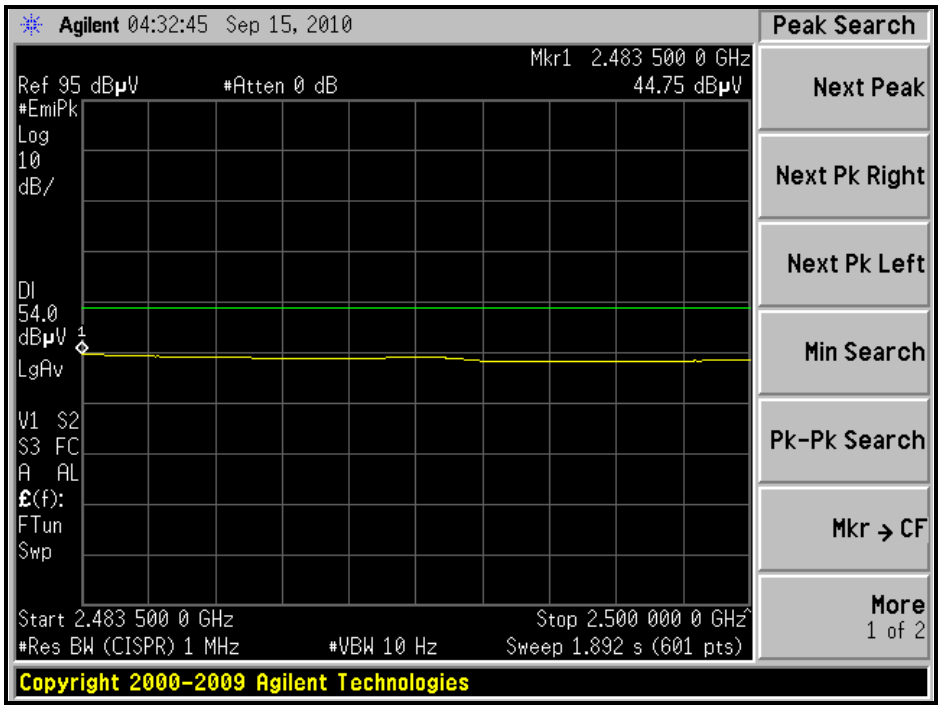
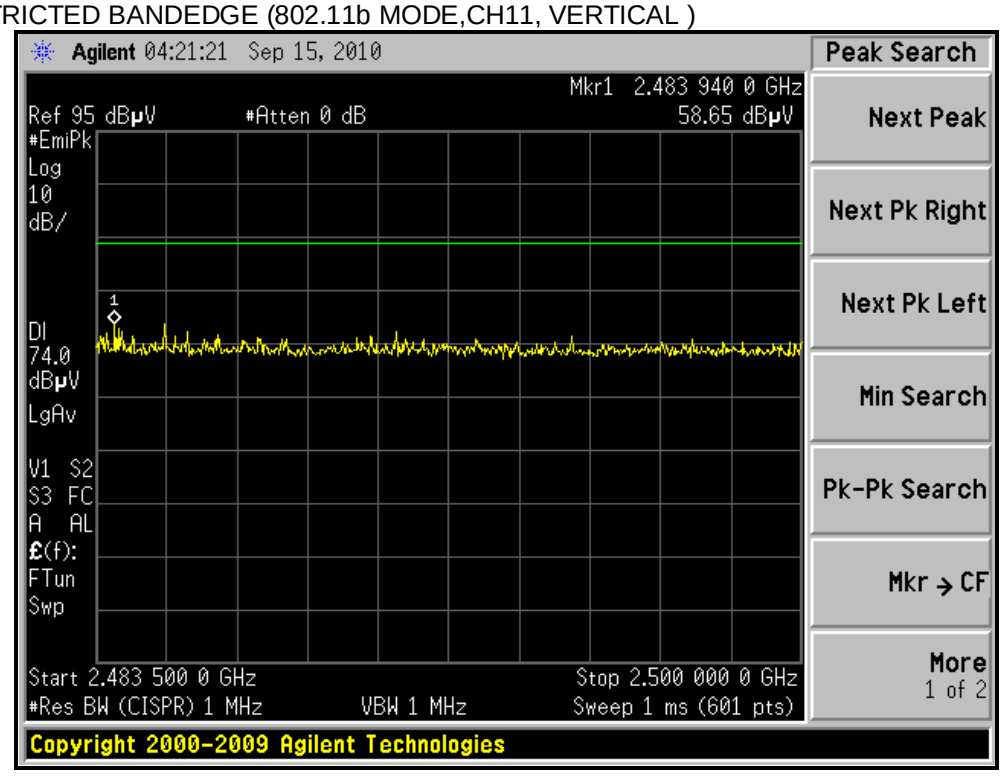
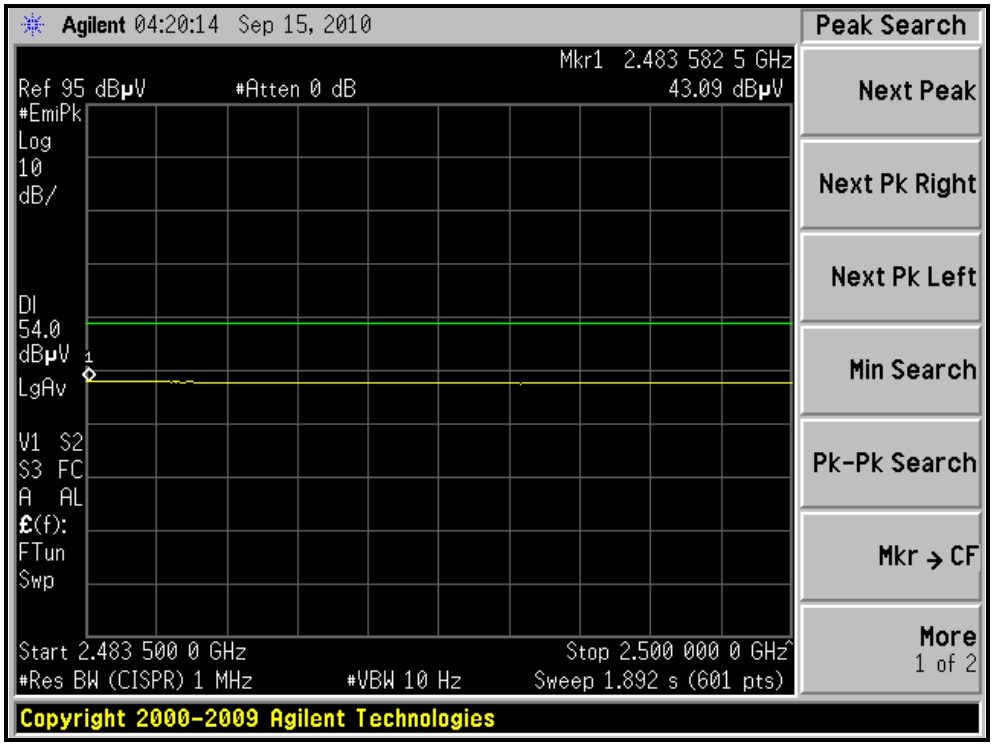




RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.5 PK	74.0	-13.5	1.39 H	146	29.30	31.20
2	2390.00	45.5 AV	54.0	-8.5	1.39 H	146	14.30	31.20
3	*2412.00	106.7 PK			1.39 H	55	75.40	31.30
4	*2412.00	96.5 AV			1.39 H	55	65.20	31.30
5	4824.00	46.2 PK	74.0	-27.8	1.30 H	78	6.80	39.40
6	4824.00	34.3 AV	54.0	-19.7	1.30 H	78	-5.10	39.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.73	55.9 PK	74.0	-18.1	1.45 V	131	24.70	31.20
2	2389.73	43.3 AV	54.0	-10.7	1.45 V	131	12.10	31.20
3	*2412.00	101.5 PK			1.46 V	124	70.20	31.30
4	*2412.00	91.8 AV			1.46 V	124	60.50	31.30
5	4824.00	48.1 PK	74.0	-25.9	1.44 V	65	8.70	39.40
6	4824.00	35.7 AV	54.0	-18.3	1.44 V	65	-3.70	39.40

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.8 PK			1.35 H	60	77.50	31.30
2	*2437.00	98.5 AV			1.35 H	60	67.20	31.30
3	4874.00	47.0 PK	74.0	-27.0	1.28 H	69	7.40	39.60
4	4874.00	34.7 AV	54.0	-19.3	1.28 H	69	-4.90	39.60
5	7311.00	50.4 PK	74.0	-23.6	1.01 H	223	6.30	44.10
6	7311.00	39.2 AV	54.0	-14.8	1.01 H	223	-4.90	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	102.5 PK			1.44 V	93	71.20	31.30
2	*2437.00	92.9 AV			1.44 V	93	61.60	31.30
3	4874.00	47.9 PK	74.0	-26.1	1.35 V	77	8.30	39.60
4	4874.00	35.8 AV	54.0	-18.2	1.35 V	77	-3.80	39.60
5	7311.00	51.2 PK	74.0	-22.8	1.14 V	269	7.10	44.10
6	7311.00	39.8 AV	54.0	-14.2	1.14 V	269	-4.30	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.

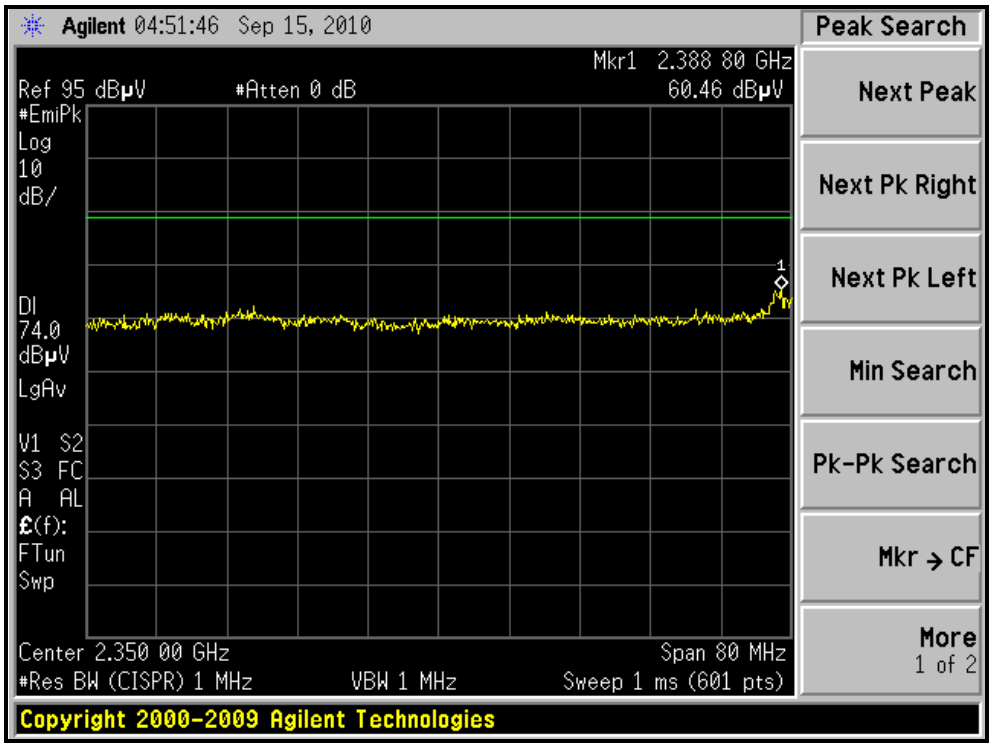
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

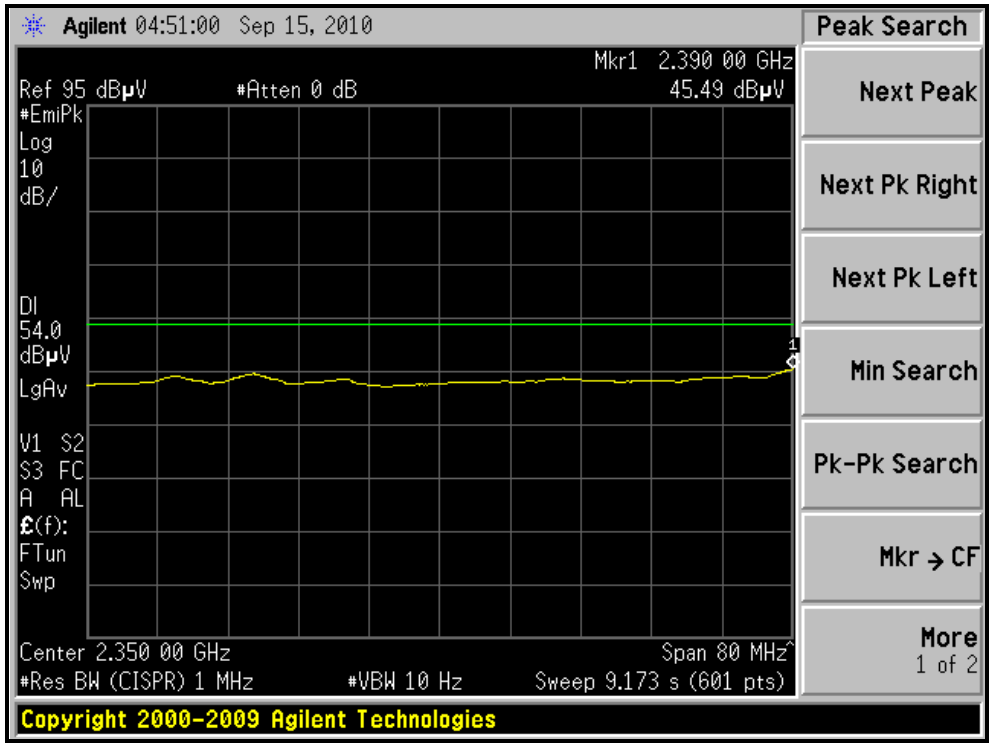
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.3 PK			1.34 H	134	73.90	31.40
2	*2462.00	95.1 AV			1.34 H	134	63.70	31.40
3	2483.53	62.9 PK	74.0	-11.1	1.51 H	69	31.44	31.46
4	2483.53	45.3 AV	54.0	-8.7	1.51 H	69	13.84	31.46
5	4924.00	46.2 PK	74.0	-27.8	1.53 H	242	6.38	39.82
6	4924.00	34.5 AV	54.0	-19.5	1.53 H	242	-5.32	39.82
7	7386.00	50.4 PK	74.0	-23.6	1.69 H	335	6.22	44.18
8	7386.00	39.1 AV	54.0	-14.9	1.69 H	335	-5.08	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	99.3 PK			1.38 V	119	67.90	31.40
2	*2462.00	89.5 AV			1.38 V	119	58.10	31.40
3	2483.64	57.8 PK	74.0	-16.2	1.39 V	118	26.34	31.46
4	2483.64	43.2 AV	54.0	-10.8	1.39 V	118	11.74	31.46
5	4924.00	46.9 PK	74.0	-27.1	1.23 V	68	7.08	39.82
6	4924.00	35.6 AV	54.0	-18.4	1.23 V	68	-4.22	39.82
7	7386.00	51.1 PK	74.0	-22.9	1.14 V	147	6.92	44.18
8	7386.00	39.8 AV	54.0	-14.2	1.14 V	147	-4.38	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)





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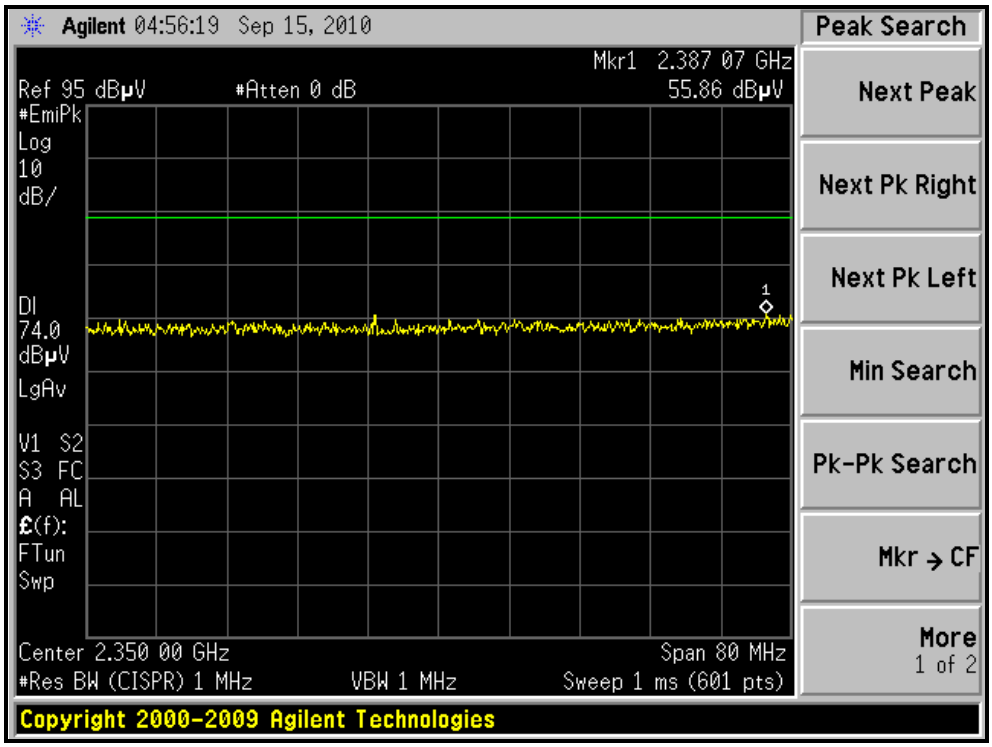

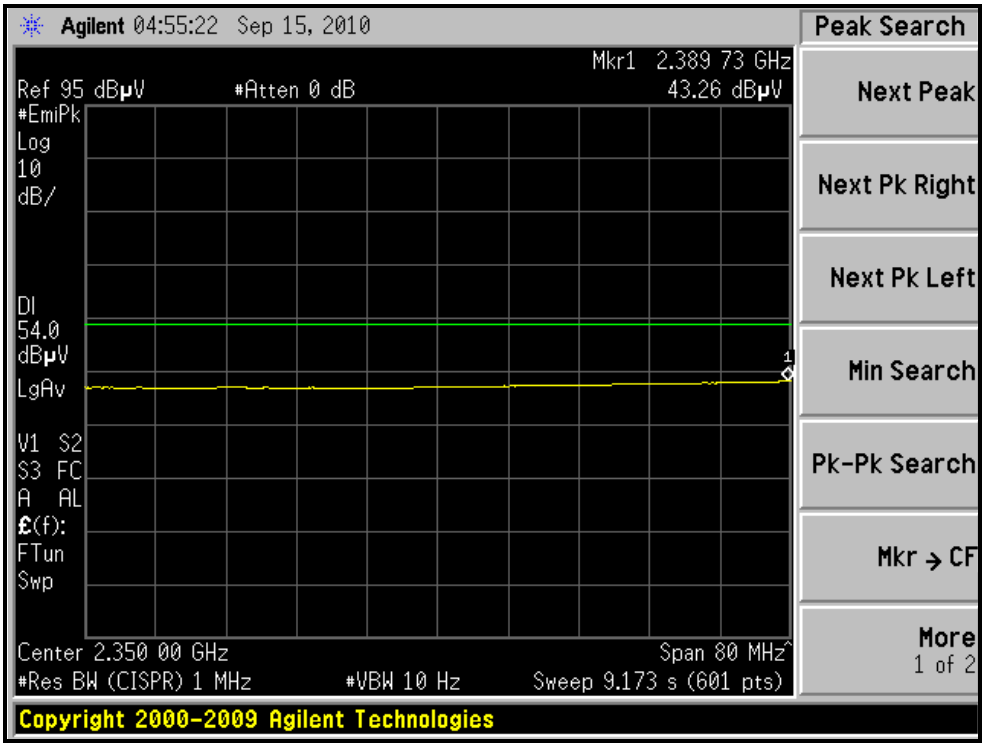

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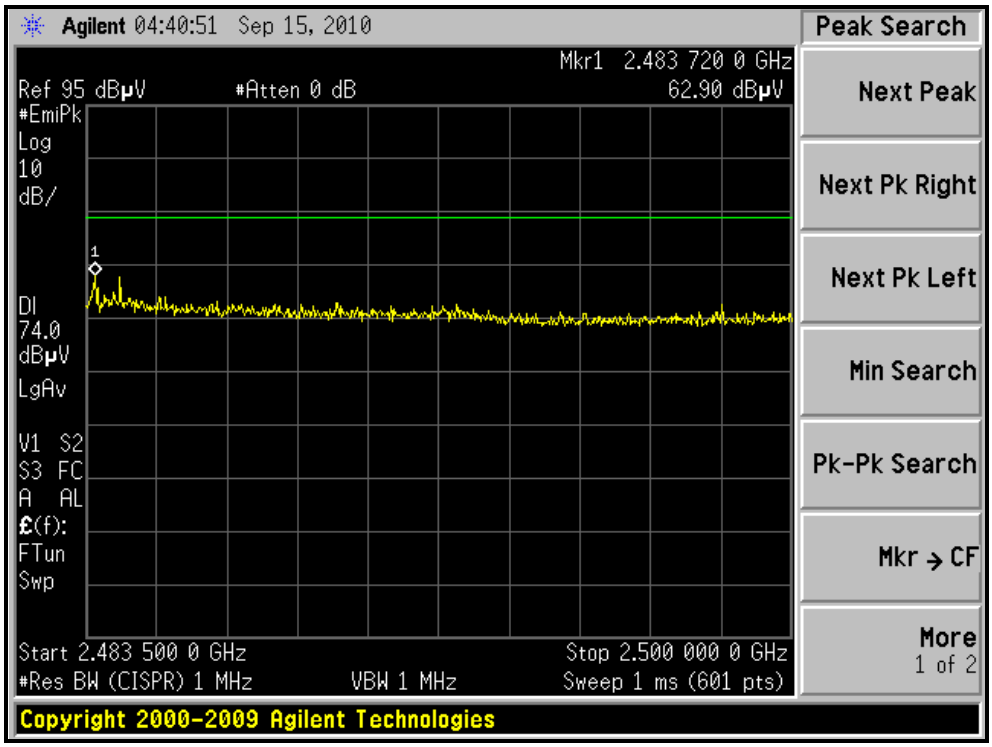
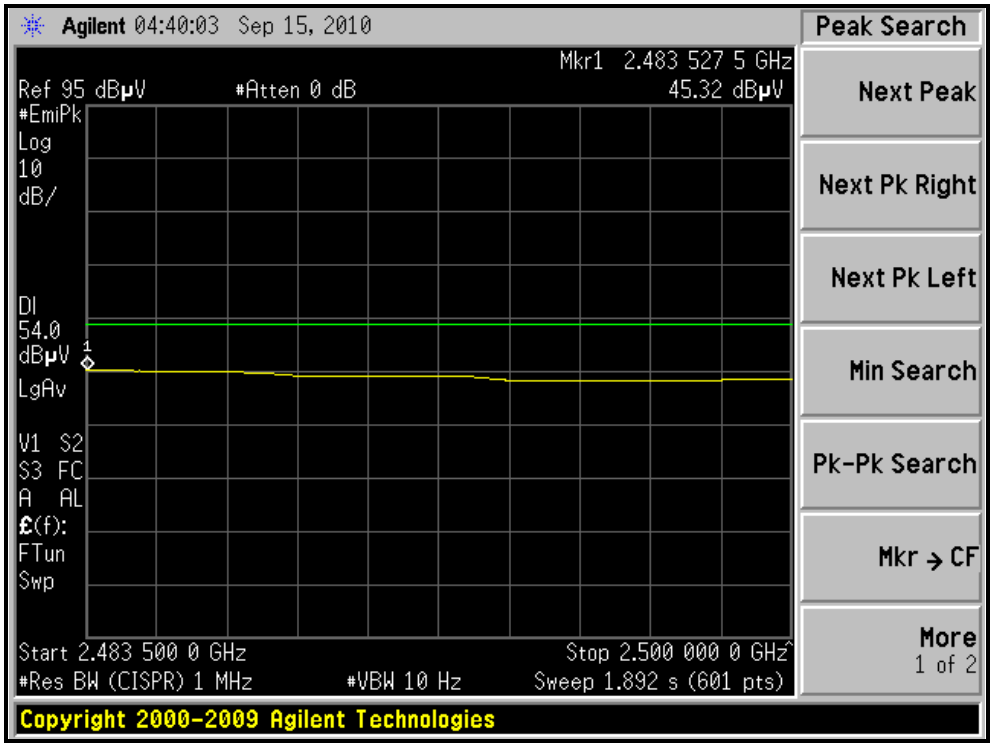
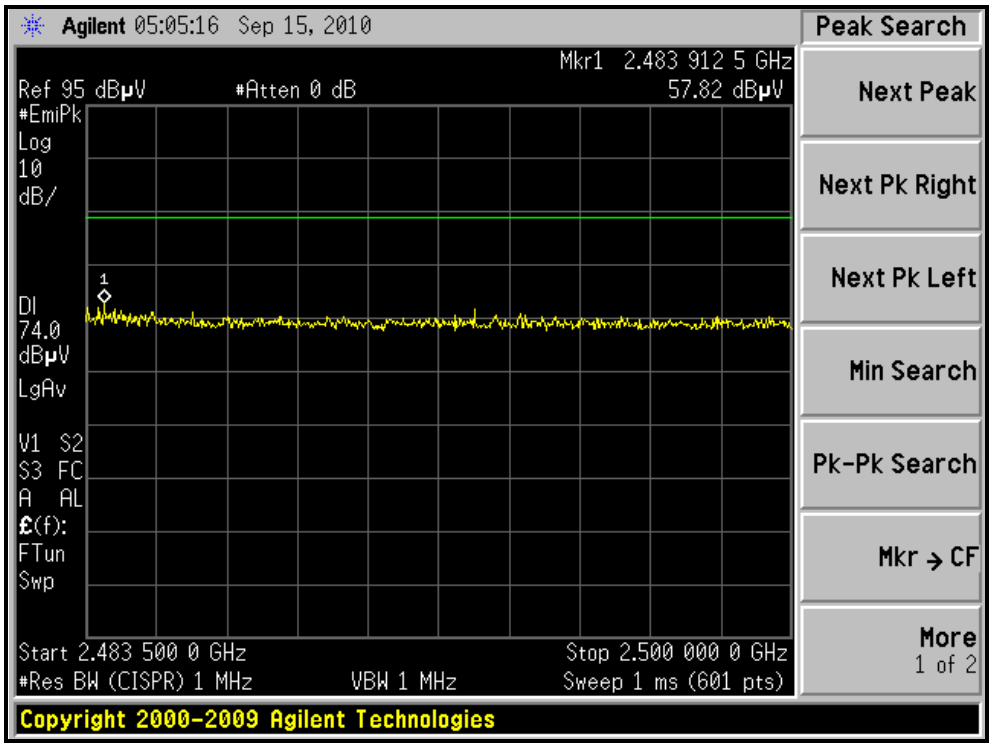
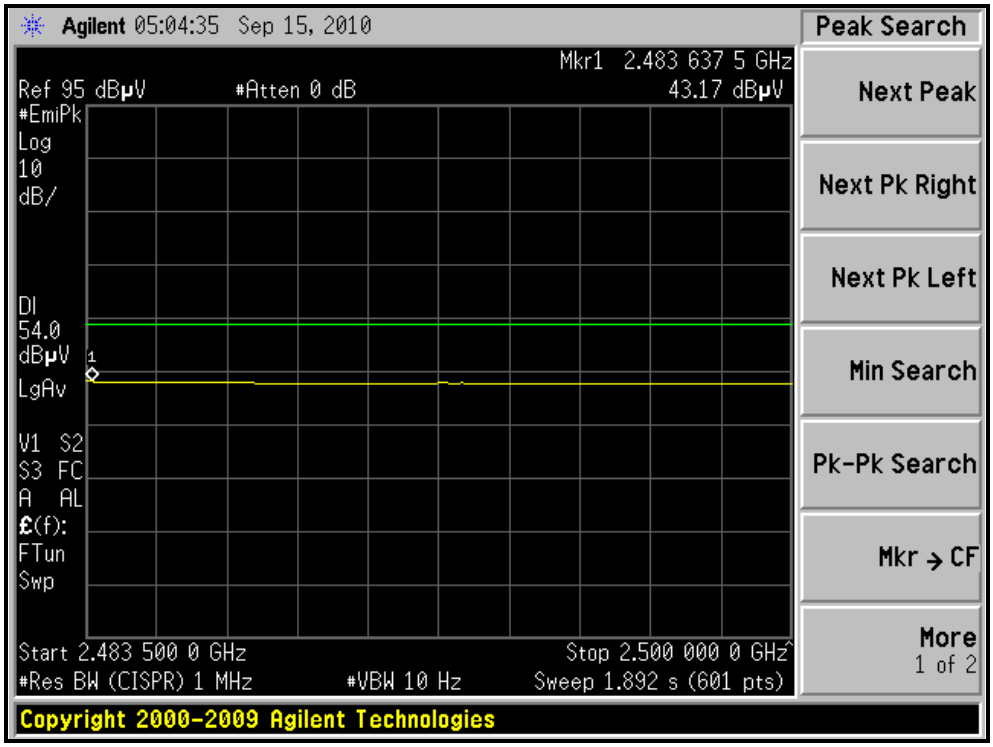




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.6 PK	74.0	-13.4	1.40 H	156	29.40	31.20
2	2390.00	46.0 AV	54.0	-8.0	1.40 H	156	14.80	31.20
3	*2412.00	105.7 PK			1.40 H	156	74.40	31.30
4	*2412.00	94.9 AV			1.40 H	156	63.60	31.30
5	4824.00	46.1 PK	74.0	-27.9	1.20 H	88	6.70	39.40
6	4824.00	34.9 AV	54.0	-19.1	1.20 H	88	-4.50	39.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.87	56.8 PK	74.0	-17.2	1.46 V	93	25.59	31.21
2	2389.87	43.8 AV	54.0	-10.2	1.46 V	93	12.59	31.21
3	*2412.00	100.7 PK			1.46 V	119	69.43	31.27
4	*2412.00	90.5 AV			1.46 V	119	59.23	31.27
5	4824.00	46.5 PK	74.0	-27.5	1.20 V	146	7.08	39.42
6	4824.00	35.6 AV	54.0	-18.4	1.20 V	146	-3.82	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.4 PK			1.37 H	138	77.10	31.30
2	*2437.00	98.2 AV			1.37 H	138	66.90	31.30
3	4874.00	46.3 PK	74.0	-27.7	1.68 H	62	6.70	39.60
4	4874.00	35.1 AV	54.0	-18.9	1.68 H	62	-4.50	39.60
5	7311.00	51.2 PK	74.0	-22.8	1.14 H	83	7.10	44.10
6	7311.00	39.4 AV	54.0	-14.6	1.14 H	83	-4.70	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	104.4 PK			1.40 V	322	73.10	31.30
2	*2437.00	94.2 AV			1.40 V	322	62.90	31.30
3	4874.00	46.8 PK	74.0	-27.2	1.31 V	155	7.20	39.60
4	4874.00	35.8 AV	54.0	-18.2	1.31 V	155	-3.80	39.60
5	7311.00	51.7 PK	74.0	-22.3	1.23 V	99	7.60	44.10
6	7311.00	39.7 AV	54.0	-14.3	1.23 V	99	-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	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.8 PK			1.49 H	49	72.40	31.40
2	*2462.00	93.5 AV			1.49 H	49	62.10	31.40
3	2483.50	59.8 PK	74.0	-14.2	1.49 H	71	28.30	31.50
4	2483.50	45.2 AV	54.0	-8.8	1.49 H	71	13.70	31.50
5	4924.00	46.5 PK	74.0	-27.5	1.48 H	300	6.70	39.80
6	4924.00	35.2 AV	54.0	-18.8	1.48 H	300	-4.60	39.80
7	7386.00	51.4 PK	74.0	-22.6	1.15 H	219	7.20	44.20
8	7386.00	39.2 AV	54.0	-14.8	1.15 H	219	-5.00	44.20
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	98.5 PK			1.45 V	94	67.10	31.40
2	*2462.00	87.5 AV			1.45 V	94	56.10	31.40
3	2483.67	55.8 PK	74.0	-18.2	1.45 V	92	24.30	31.50
4	2483.67	43.1 AV	54.0	-10.9	1.45 V	92	11.60	31.50
5	4924.00	46.7 PK	74.0	-27.3	1.25 V	143	6.90	39.80
6	4924.00	35.7 AV	54.0	-18.3	1.25 V	143	-4.10	39.80
7	7386.00	51.8 PK	74.0	-22.2	1.19 V	150	7.60	44.20
8	7386.00	39.8 AV	54.0	-14.2	1.19 V	150	-4.40	44.20

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

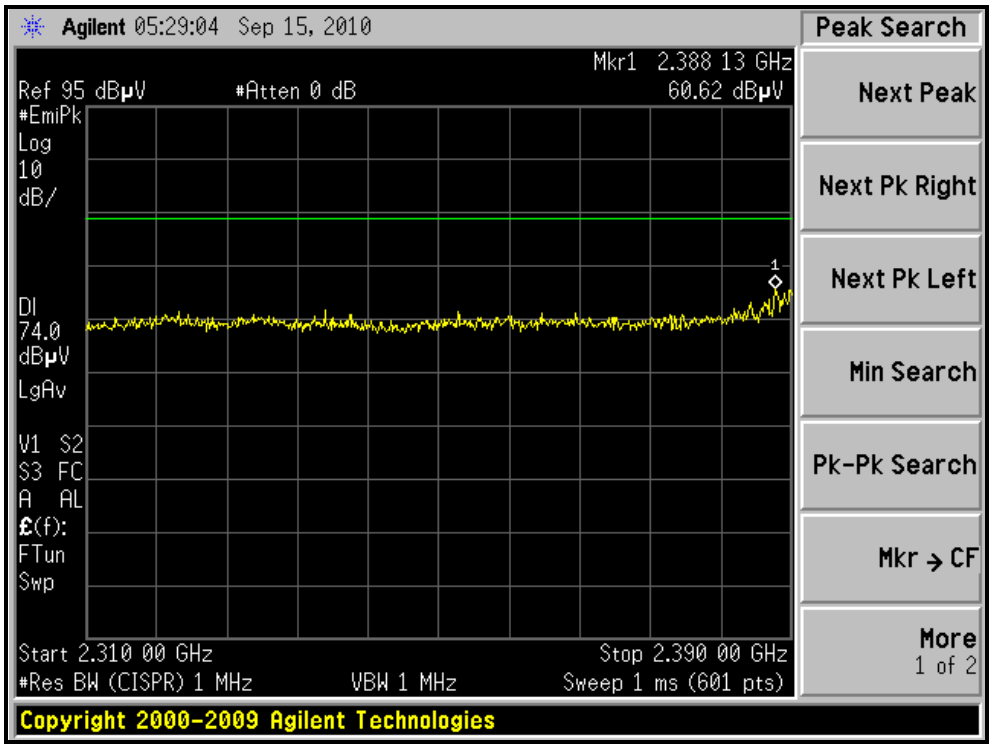
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

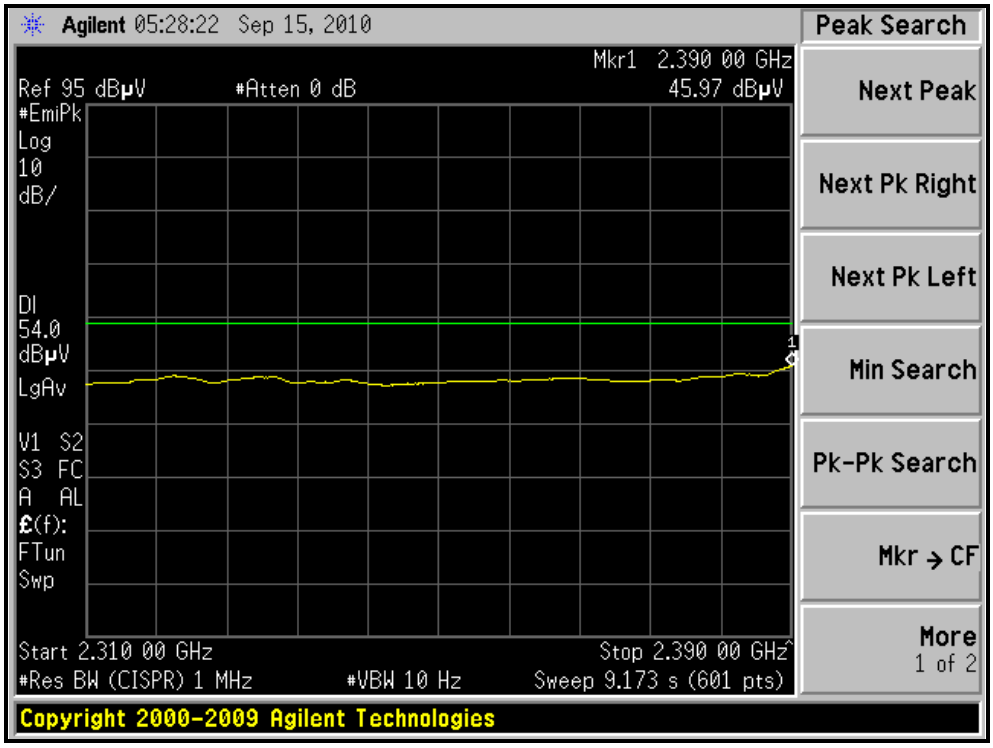
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

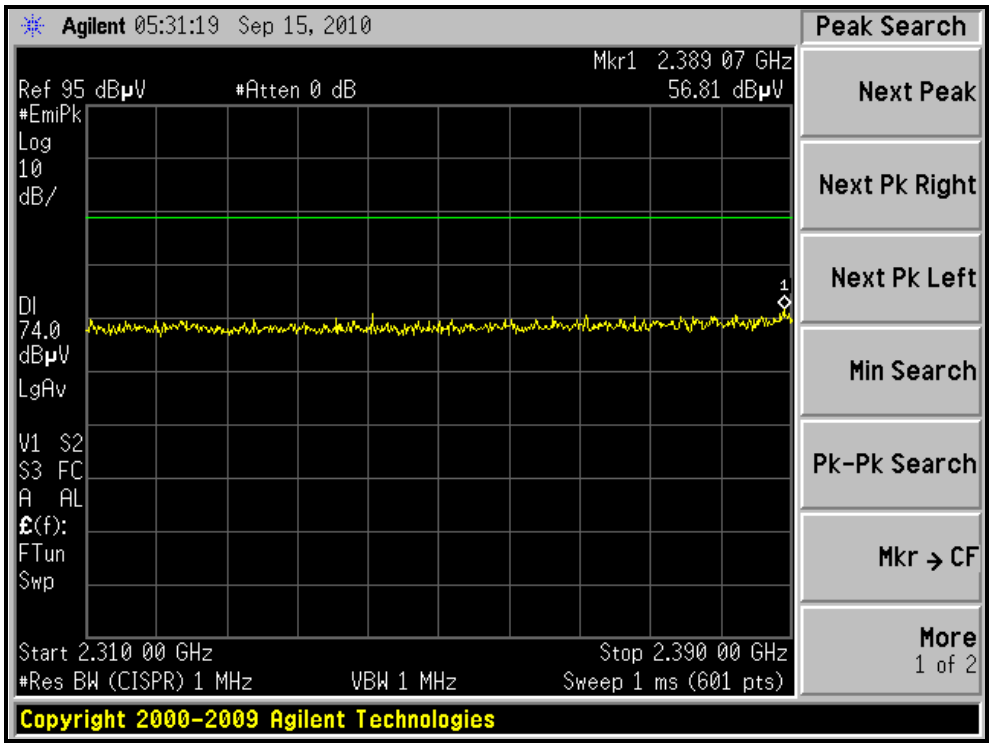
5. " * ": Fundamental frequency.

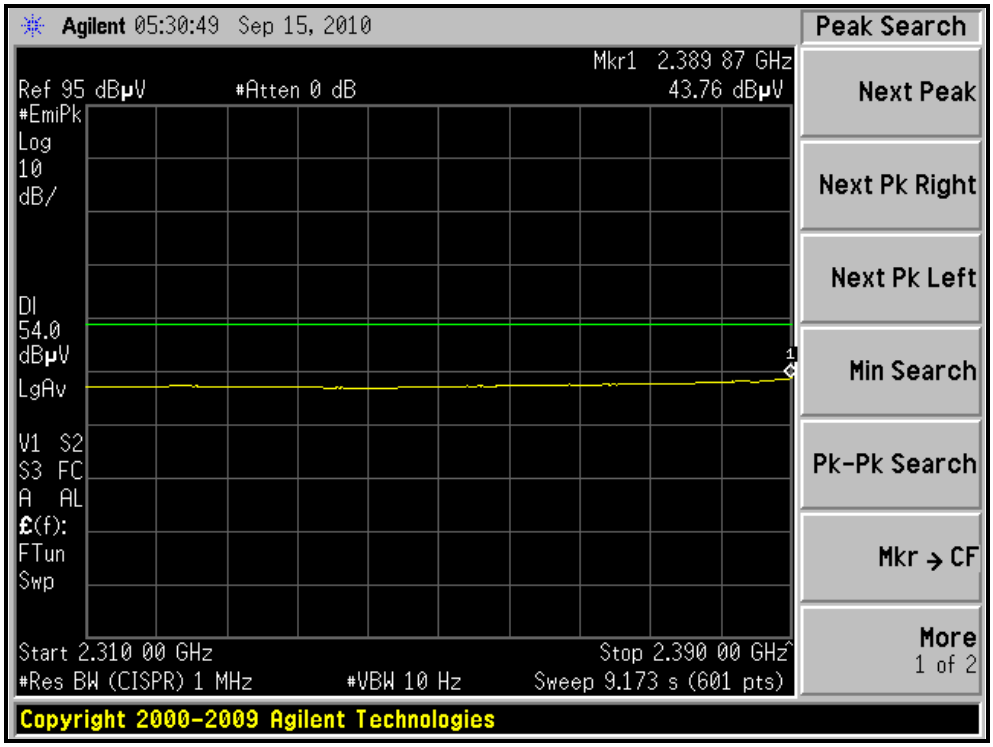
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



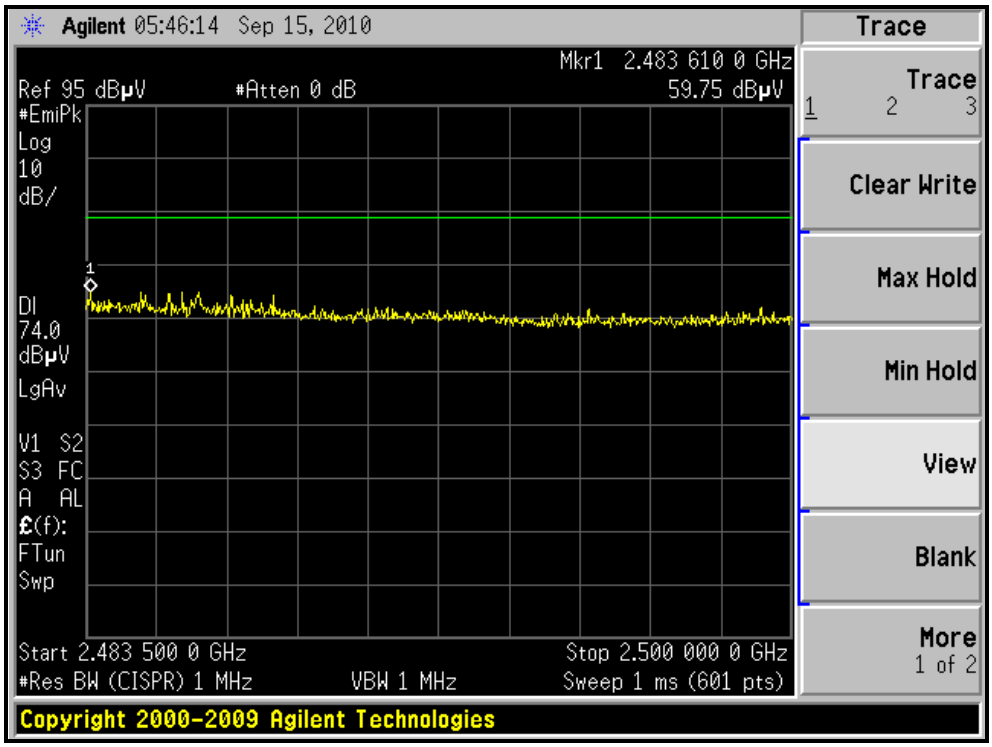


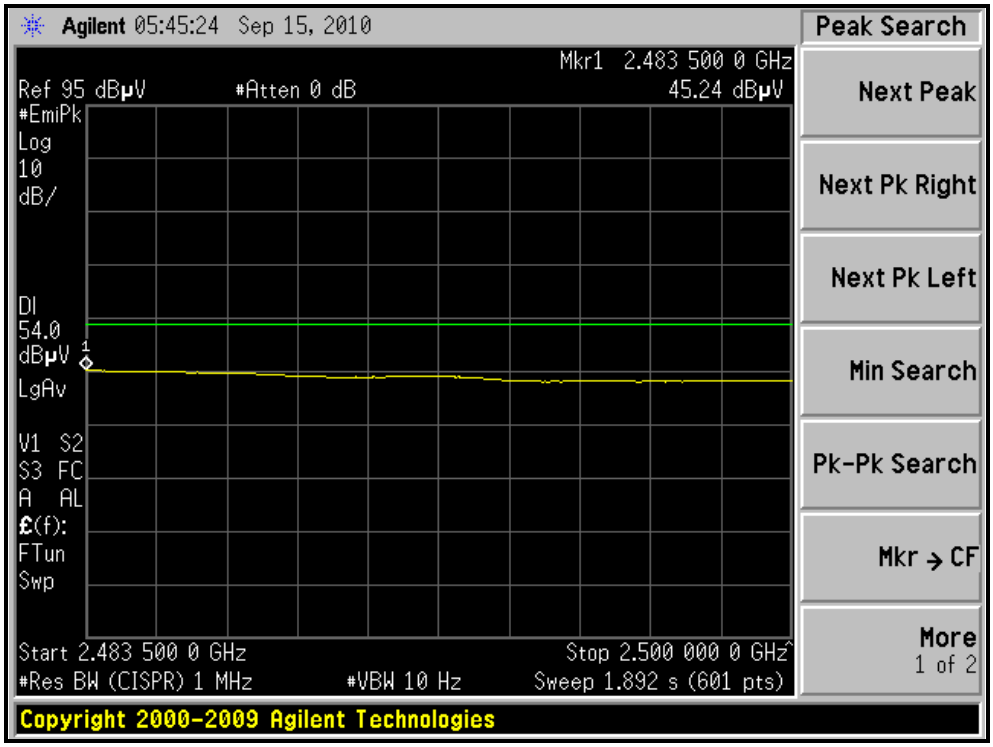
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



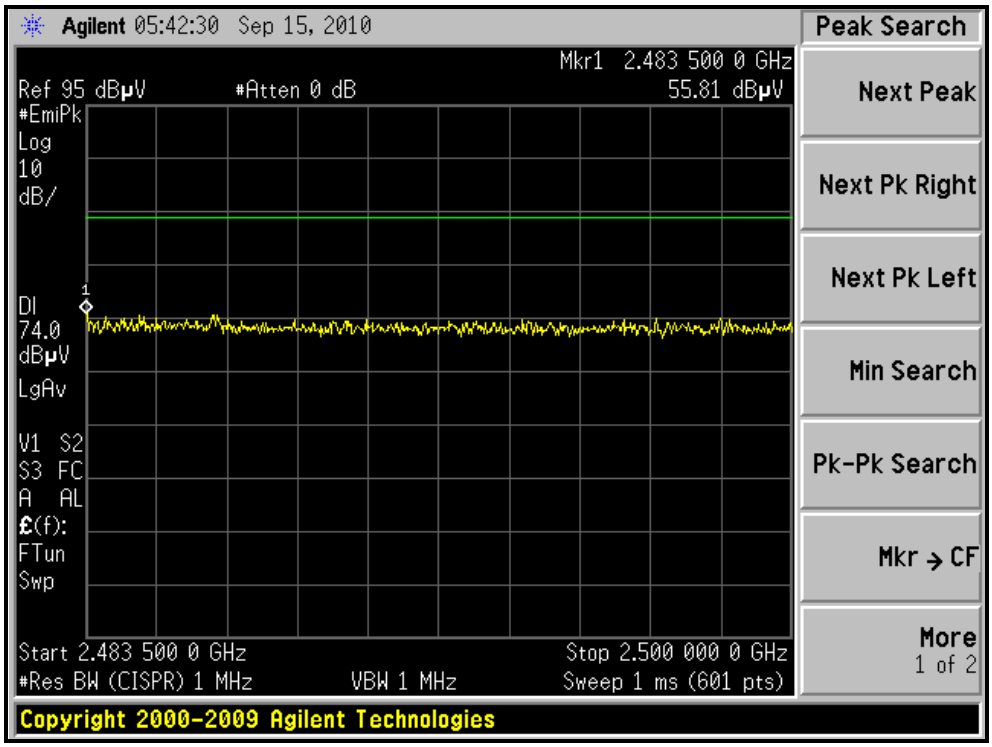


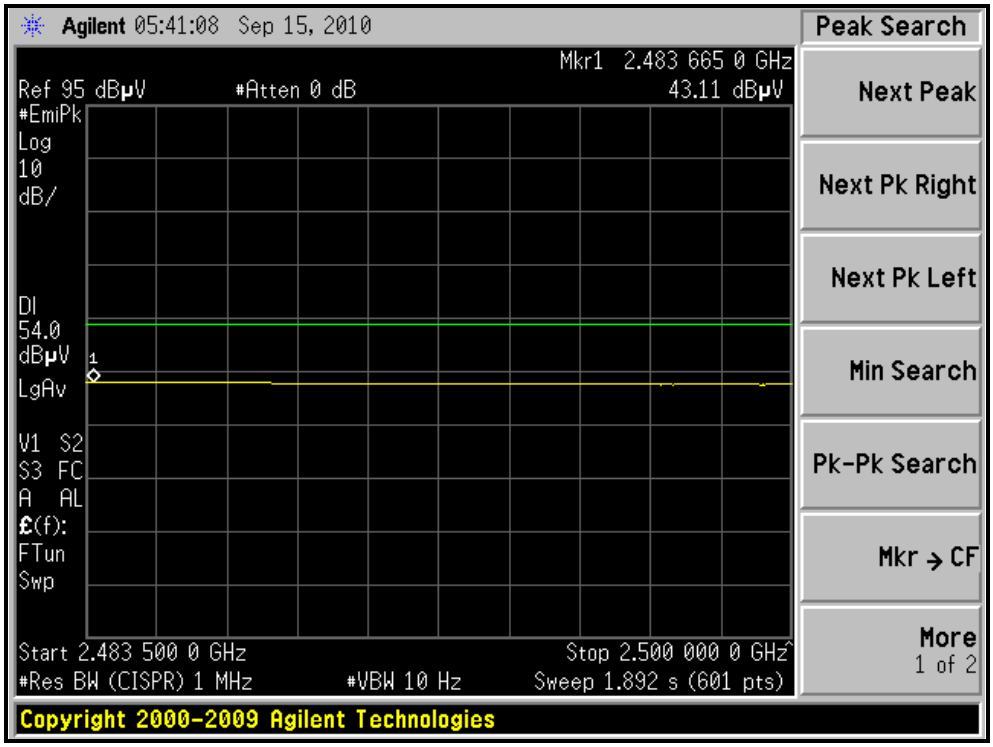
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.9 PK	74.0	-10.1	1.20 H	181	32.70	31.20
2	2390.00	47.4 AV	54.0	-6.6	1.20 H	181	16.20	31.20
3	*2422.00	100.5 PK			1.43 H	10	69.20	31.30
4	*2422.00	89.8 AV			1.43 H	10	58.50	31.30
5	4844.00	46.2 PK	74.0	-27.8	1.38 H	141	6.70	39.50
6	4844.00	35.1 AV	54.0	-18.9	1.38 H	141	-4.40	39.50
7	7266.00	51.1 PK	74.0	-22.9	1.20 H	4	7.00	44.10
8	7266.00	39.1 AV	54.0	-14.9	1.20 H	4	-5.00	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	2390.00	57.8 PK	74.0	-16.2	1.35 V	332	26.60	31.20
2	2390.00	44.2 AV	54.0	-9.8	1.35 V	332	13.00	31.20
3	*2422.00	96.7 PK			1.40 V	100	65.40	31.30
4	*2422.00	85.9 AV			1.40 V	100	54.60	31.30
5	4844.00	46.5 PK	74.0	-27.5	1.22 V	158	7.00	39.50
6	4844.00	35.3 AV	54.0	-18.7	1.22 V	158	-4.20	39.50
7	7266.00	51.3 PK	74.0	-22.7	1.65 V	27	7.20	44.10
8	7266.00	39.3 AV	54.0	-14.7	1.65 V	27	-4.80	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 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.0 PK			1.39 H	149	74.70	31.30
2	*2437.00	94.7 AV			1.39 H	149	63.40	31.30
3	4874.00	46.1 PK	74.0	-27.9	1.44 H	291	6.50	39.60
4	4874.00	35.2 AV	54.0	-18.8	1.44 H	291	-4.40	39.60
5	7311.00	51.4 PK	74.0	-22.6	1.18 H	20	7.30	44.10
6	7311.00	39.3 AV	54.0	-14.7	1.18 H	20	-4.80	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	99.0 PK			1.43 V	123	67.70	31.30
2	*2437.00	88.6 AV			1.43 V	123	57.30	31.30
3	4874.00	46.7 PK	74.0	-27.3	1.28 V	271	7.10	39.60
4	4874.00	35.6 AV	54.0	-18.4	1.28 V	271	-4.00	39.60
5	7311.00	51.3 PK	74.0	-22.7	1.14 V	100	7.20	44.10
6	7311.00	39.5 AV	54.0	-14.5	1.14 V	100	-4.60	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 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.7 PK			1.38 H	149	68.30	31.40
2	*2452.00	89.5 AV			1.38 H	149	58.10	31.40
3	2483.50	63.9 PK	74.0	-10.1	1.36 H	62	32.40	31.50
4	2483.50	46.2 AV	54.0	-7.8	1.36 H	62	14.70	31.50
5	4904.00	46.2 PK	74.0	-27.8	1.51 H	284	6.50	39.70
6	4904.00	35.1 AV	54.0	-18.9	1.51 H	284	-4.60	39.70
7	7356.00	51.3 PK	74.0	-22.7	1.22 H	17	7.10	44.20
8	7356.00	39.1 AV	54.0	-14.9	1.22 H	17	-5.10	44.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	91.2 PK			1.44 V	326	59.80	31.40
2	*2452.00	80.9 AV			1.44 V	326	49.50	31.40
3	2483.50	59.1 PK	74.0	-14.9	1.40 V	107	27.60	31.50
4	2483.50	43.9 AV	54.0	-10.1	1.40 V	107	12.40	31.50
5	4904.00	46.6 PK	74.0	-27.4	1.27 V	155	6.90	39.70
6	4904.00	35.8 AV	54.0	-18.2	1.27 V	155	-3.90	39.70
7	7356.00	52.3 PK	74.0	-21.7	1.20 V	267	8.10	44.20
8	7356.00	39.7 AV	54.0	-14.3	1.20 V	267	-4.50	44.20

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

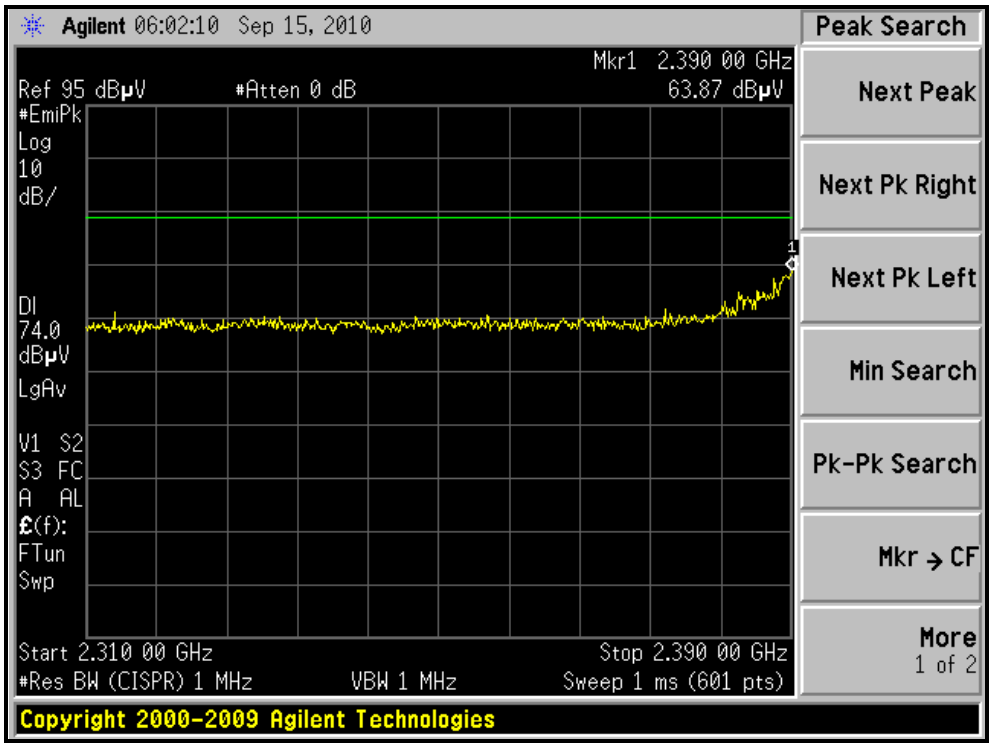
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

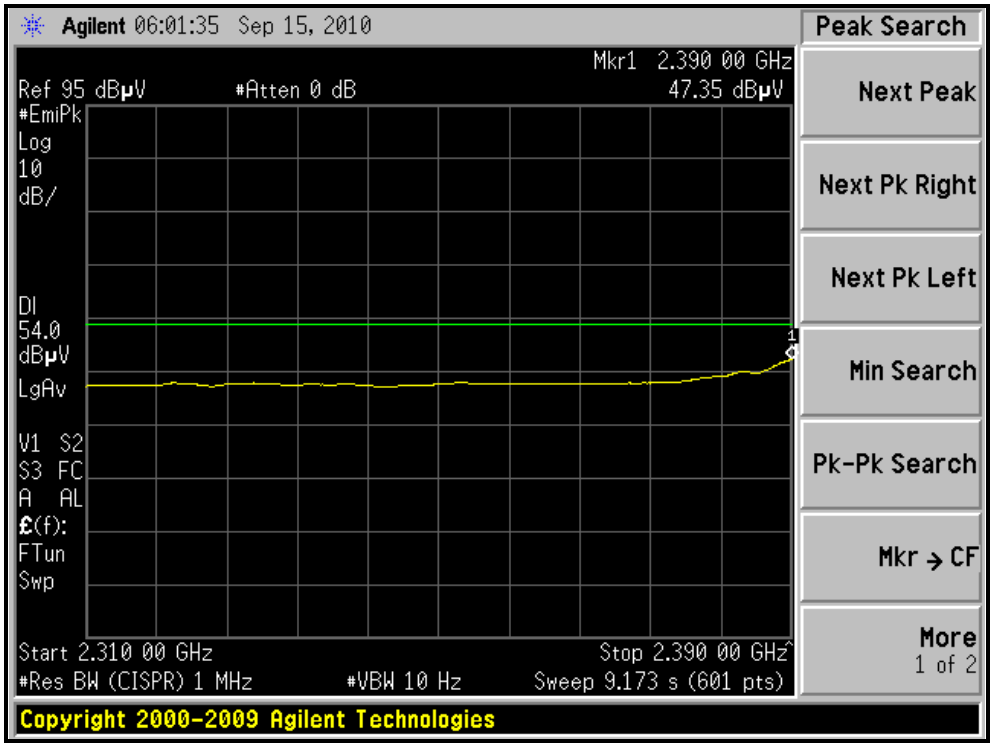
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

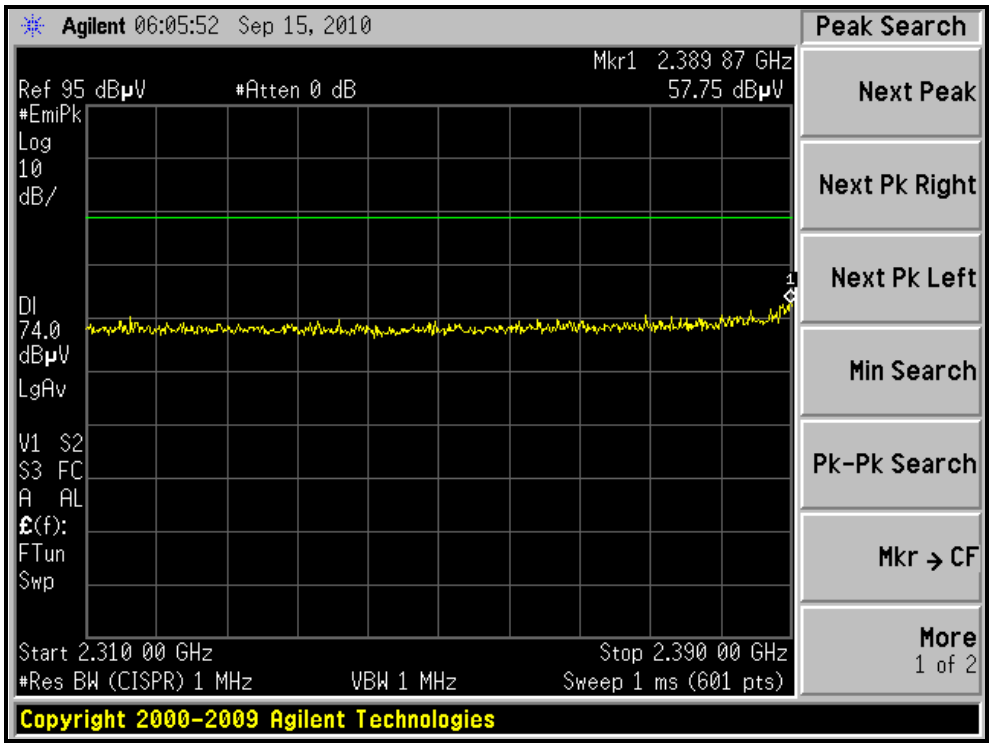
5. " * ": Fundamental frequency.

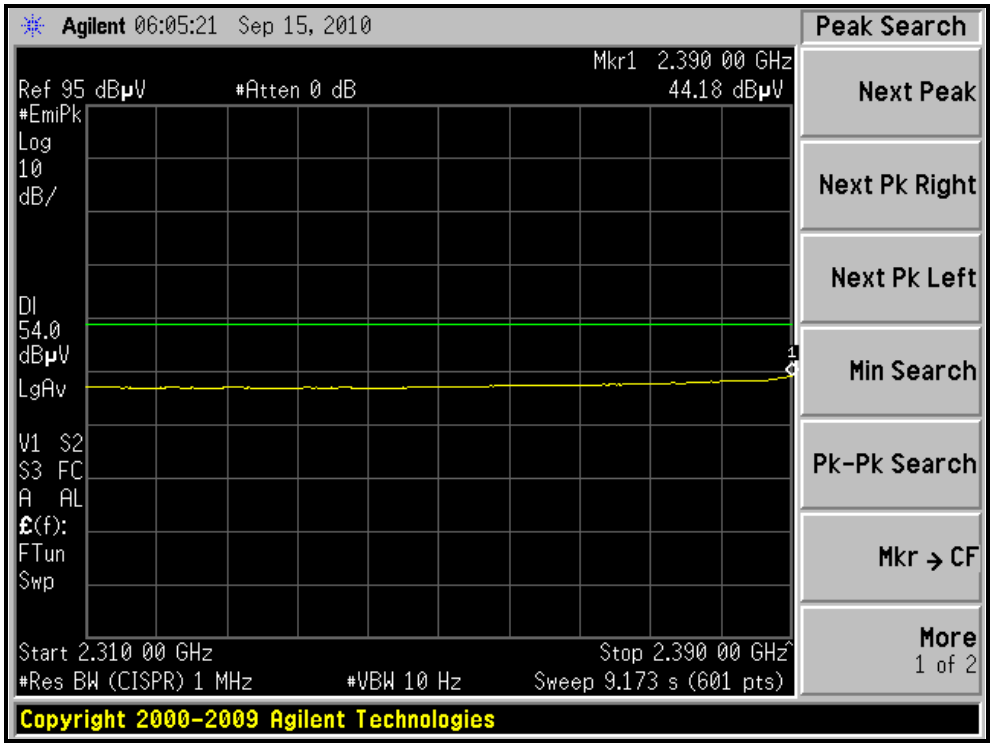
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



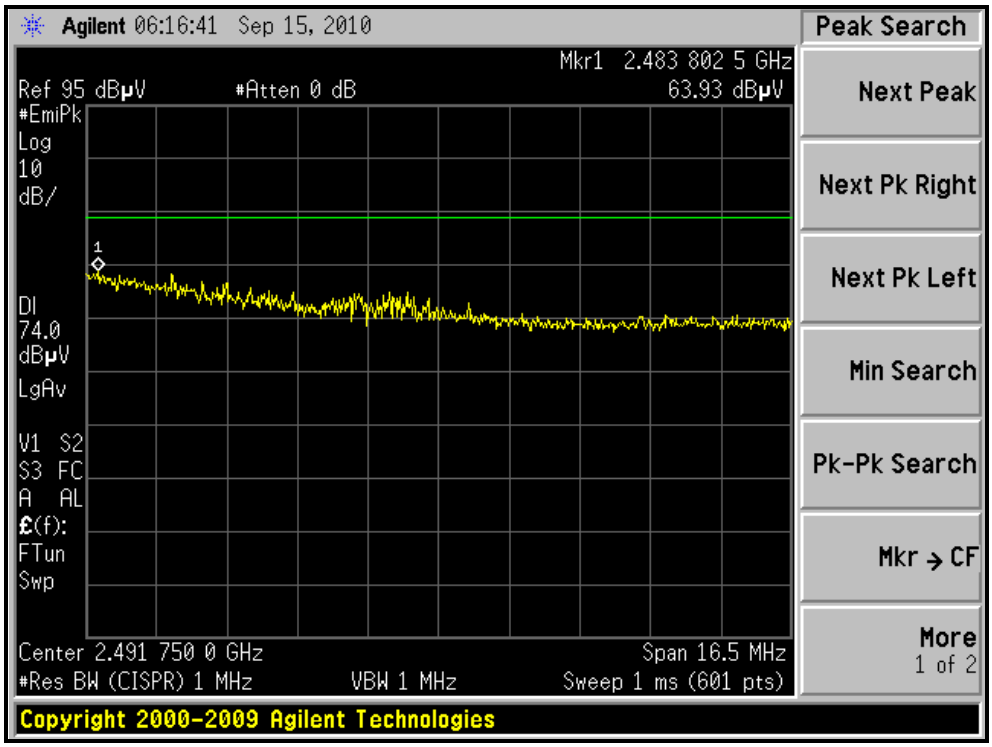


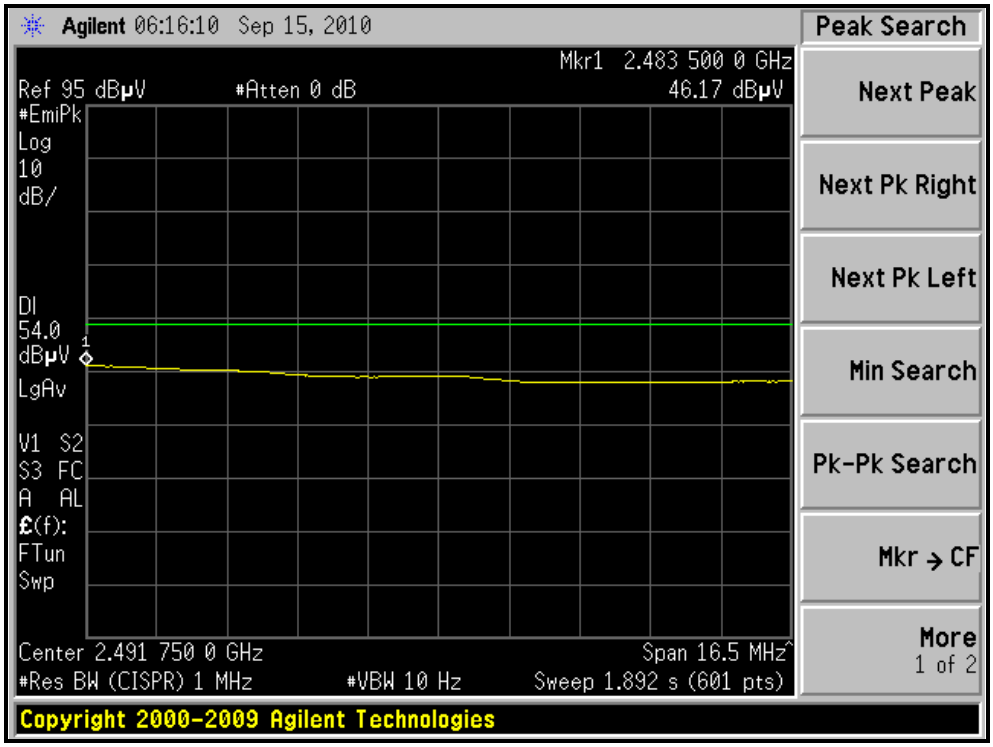
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



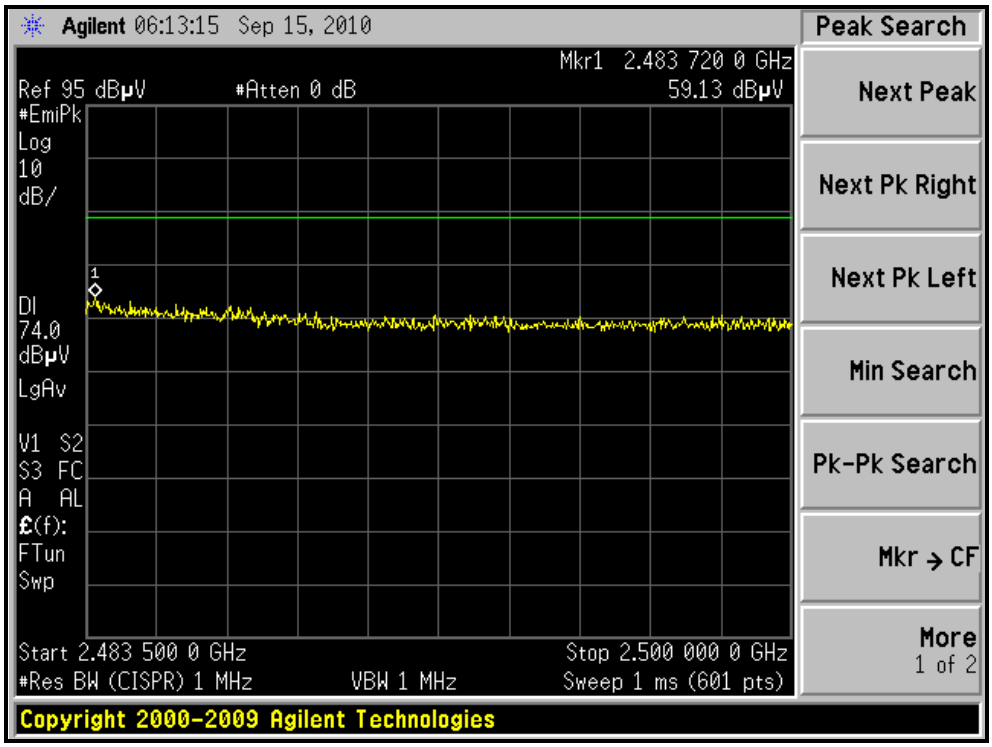


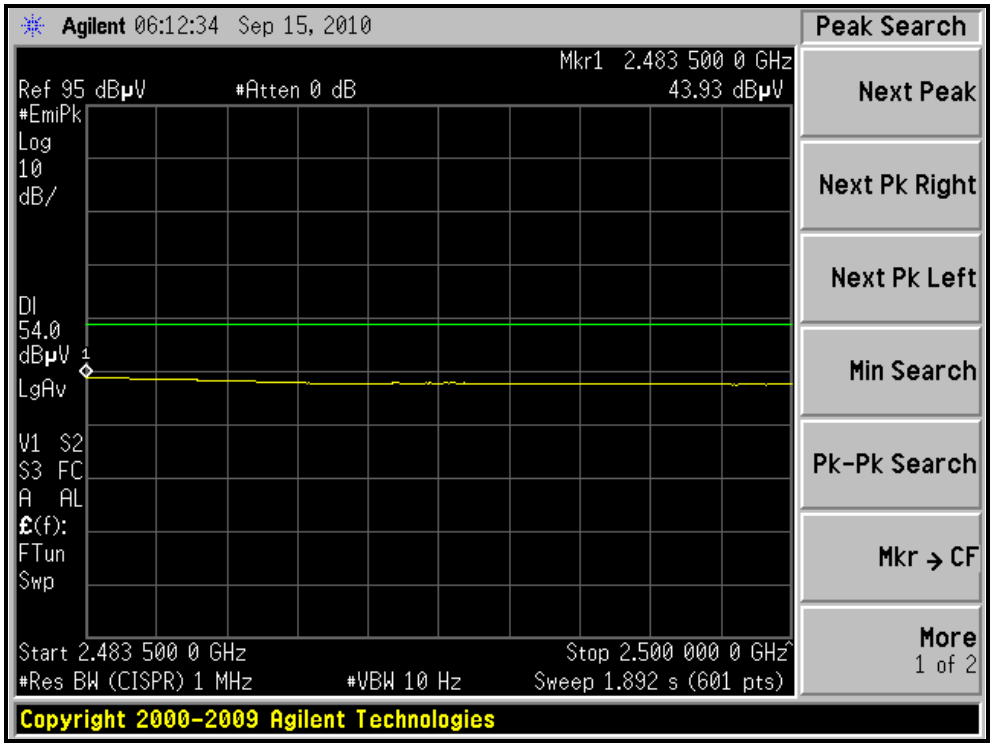
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, HORIZONTAL)





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





4.2.8 TEST RESULTS (With Directional Antenna)

BELOW 1GHz WORST-CASE DATA：802.11n (20MHz) 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	24deg. C, 74%RH 1011 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	210.33	36.3 QP	43.5	-7.2	1.03 H	70	25.19	11.12
2	612.92	41.6 QP	46.0	-4.4	1.50 H	220	19.47	22.11
3	625.06	39.2 QP	46.0	-6.8	1.25 H	110	16.98	22.25
4	815.22	37.4 QP	46.0	-8.6	1.75 H	360	12.63	24.75
5	875.06	39.8 QP	46.0	-6.2	1.00 H	349	13.95	25.81
6	950.50	37.0 QP	46.0	-9.0	1.75 H	180	10.36	26.64
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	135.26	35.1 QP	43.5	-8.4	1.05 V	10	21.58	13.48
2	612.96	34.3 QP	46.0	-11.7	1.00 V	208	12.15	22.11
3	650.01	40.3 QP	46.0	-5.7	1.00 V	220	17.79	22.53
4	700.92	36.2 QP	46.0	-9.8	1.80 V	18	13.04	23.16
5	812.22	36.2 QP	46.0	-9.8	1.09 V	150	11.50	24.70
6	900.12	39.8 QP	46.0	-6.2	1.50 V	15	13.57	26.24

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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.2 PK	74.0	-11.8	1.07 H	180	31.00	31.20
2	2390.00	52.0 AV	54.0	-2.0	1.07 H	180	20.80	31.20
3	*2412.00	111.6 PK			1.07 H	180	80.30	31.30
4	*2412.00	108.5 AV			1.07 H	180	77.20	31.30
5	4824.00	48.8 PK	74.0	-25.2	1.06 H	182	9.40	39.40
6	4824.00	37.9 AV	54.0	-16.1	1.06 H	182	-1.50	39.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.8 PK	74.0	-7.2	1.20 V	180	35.60	31.20
2	**2390.00**	**53.5 AV**	**54.0**	**-0.5**	**1.20 V**	**180**	**22.30**	**31.20**
3	*2412.00	113.7 PK			1.16 V	175	82.40	31.30
4	*2412.00	111.8 AV			1.16 V	175	80.50	31.30
5	4824.00	51.6 PK	74.0	-22.4	1.34 V	182	12.20	39.40
6	4824.00	44.3 AV	54.0	-9.7	1.34 V	182	4.90	39.40

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	112.1 PK			1.08 H	181	80.80	31.30
2	*2437.00	109.0 AV			1.08 H	181	77.70	31.30
3	4874.00	49.2 PK	74.0	-24.8	1.05 H	177	9.60	39.60
4	4874.00	39.1 AV	54.0	-14.9	1.05 H	177	-0.50	39.60
5	7311.00	57.3 PK	74.0	-16.7	1.10 H	141	13.20	44.10
6	7311.00	48.8 AV	54.0	-5.2	1.10 H	141	4.70	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	114.8 PK			1.14 V	187	83.50	31.30
2	*2437.00	112.4 AV			1.14 V	187	81.10	31.30
3	4874.00	50.3 PK	74.0	-23.7	1.30 V	182	10.70	39.60
4	4874.00	42.9 AV	54.0	-11.1	1.30 V	182	3.30	39.60
5	7311.00	58.9 PK	74.0	-15.1	1.14 V	142	14.80	44.10
6	7311.00	52.9 AV	54.0	-1.1	1.14 V	142	8.80	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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.1 PK			1.10 H	179	79.70	31.40
2	*2462.00	108.1 AV			1.10 H	179	76.70	31.40
3	2483.50	61.7 PK	74.0	-12.3	1.28 H	182	30.20	31.50
4	2483.50	48.9 AV	54.0	-5.1	1.28 H	182	17.40	31.50
5	4924.00	48.6 PK	74.0	-25.4	1.07 H	175	8.80	39.80
6	4924.00	38.1 AV	54.0	-15.9	1.07 H	175	-1.70	39.80
7	7386.00	57.2 PK	74.0	-16.8	1.10 H	143	13.00	44.20
8	7386.00	48.6 AV	54.0	-5.4	1.10 H	143	4.40	44.20
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	113.2 PK			1.15 V	176	81.80	31.40
2	*2462.00	111.4 AV			1.15 V	176	80.00	31.40
3	2483.50	64.5 PK	74.0	-9.5	1.14 V	176	33.00	31.50
4	2483.50	52.7 AV	54.0	-1.3	1.14 V	176	21.20	31.50
5	4924.00	49.8 PK	74.0	-24.2	1.30 V	182	10.00	39.80
6	4924.00	40.9 AV	54.0	-13.1	1.30 V	182	1.10	39.80
7	7386.00	58.9 PK	74.0	-15.1	1.13 V	144	14.70	44.20
8	7386.00	52.5 AV	54.0	-1.5	1.13 V	144	8.30	44.20

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

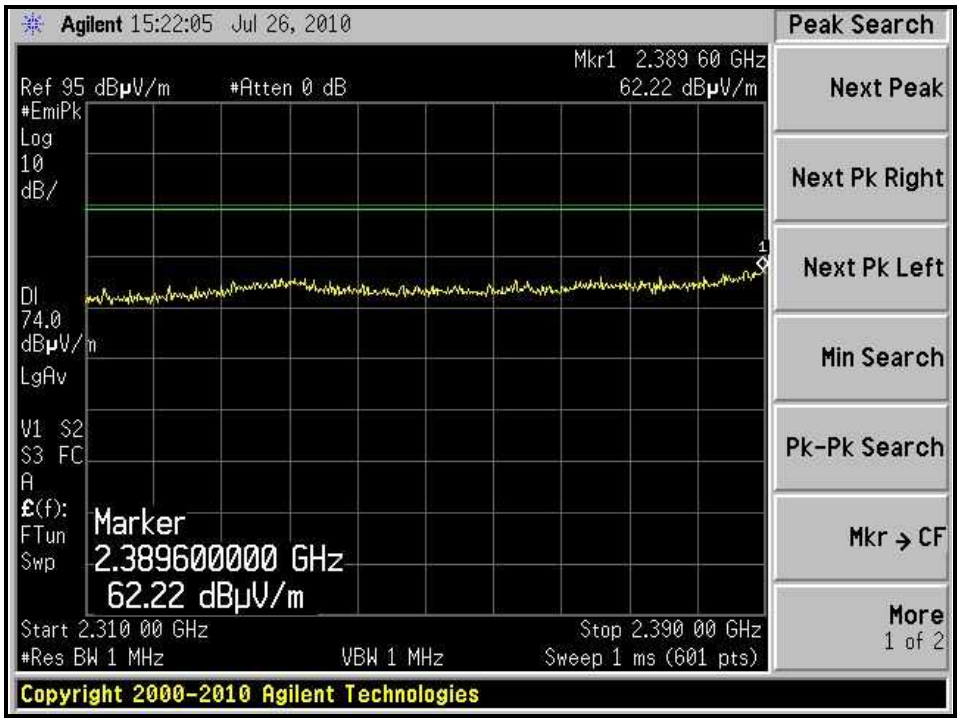
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

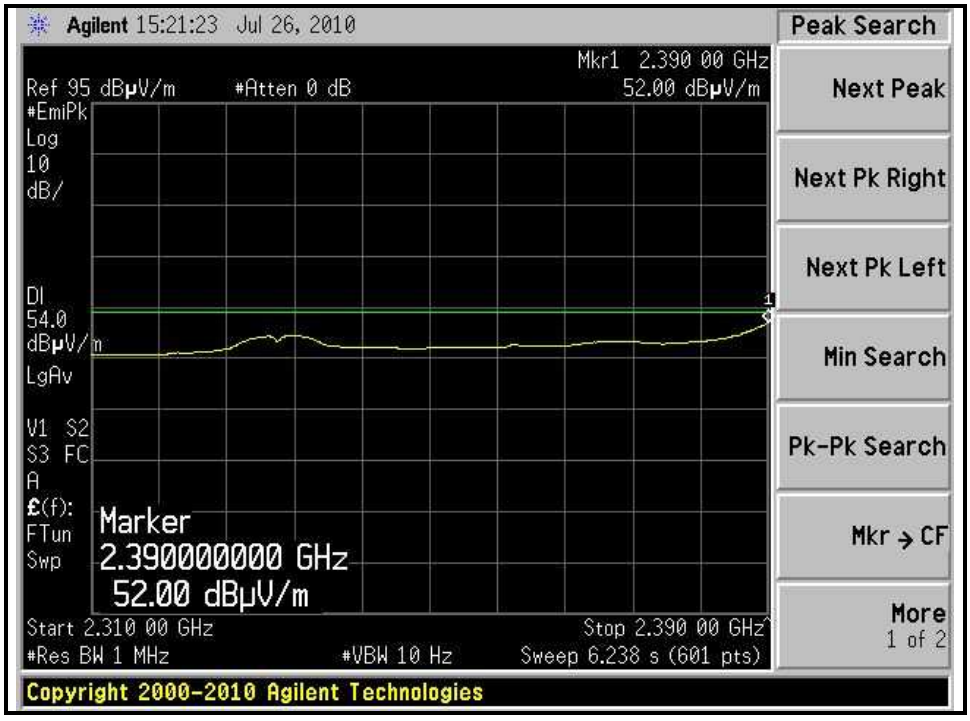
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

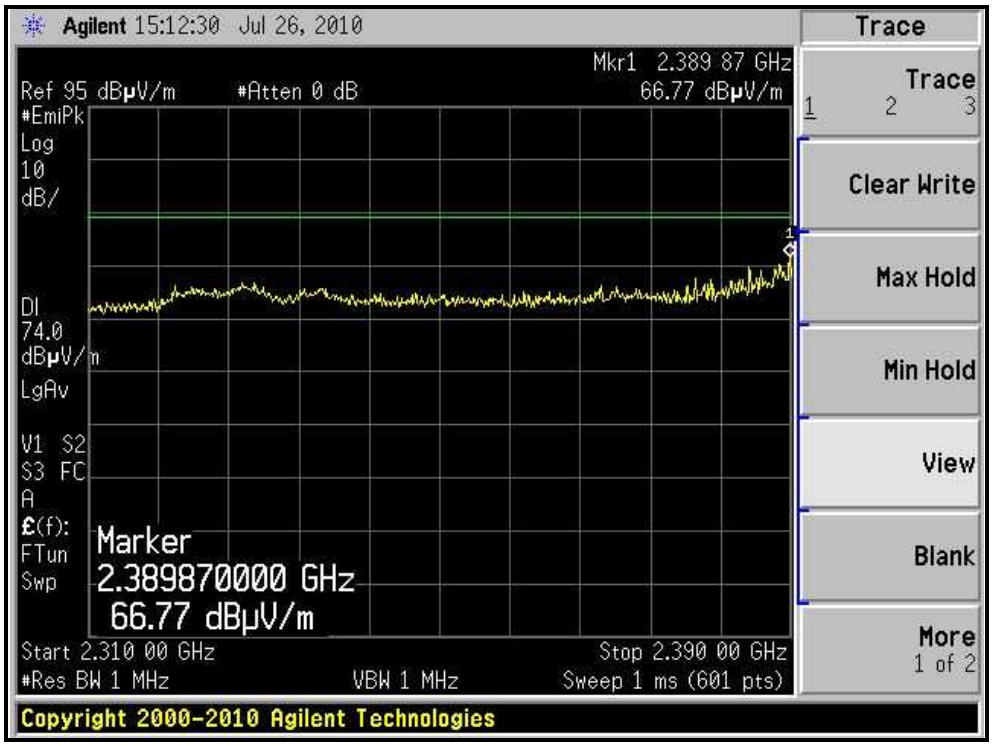
5. " * ": Fundamental frequency.

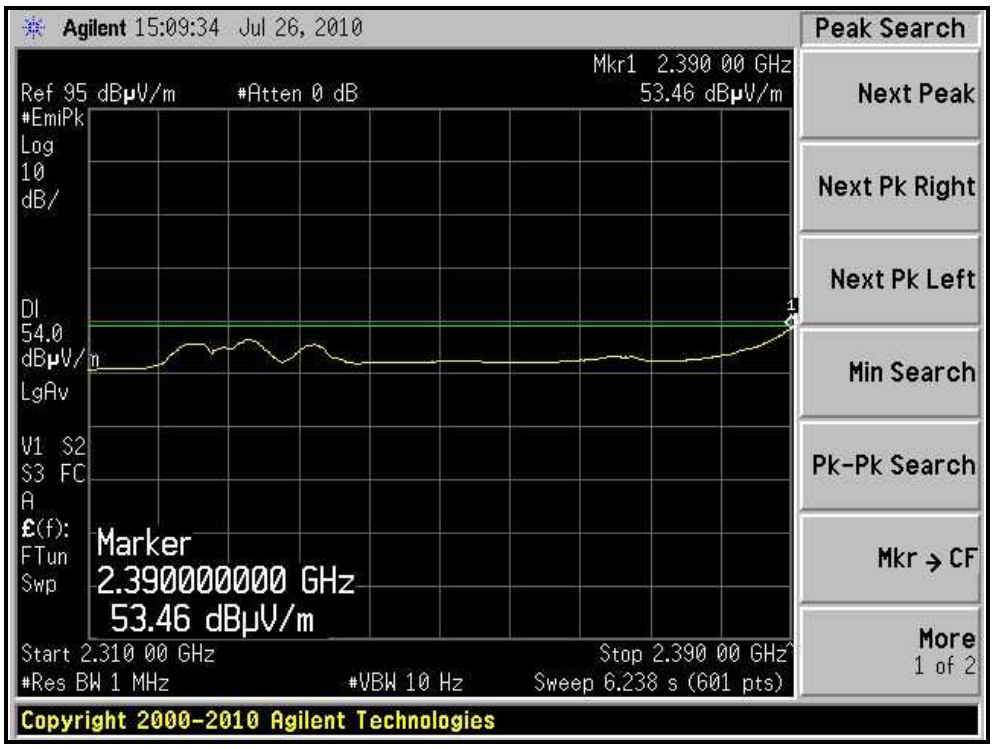
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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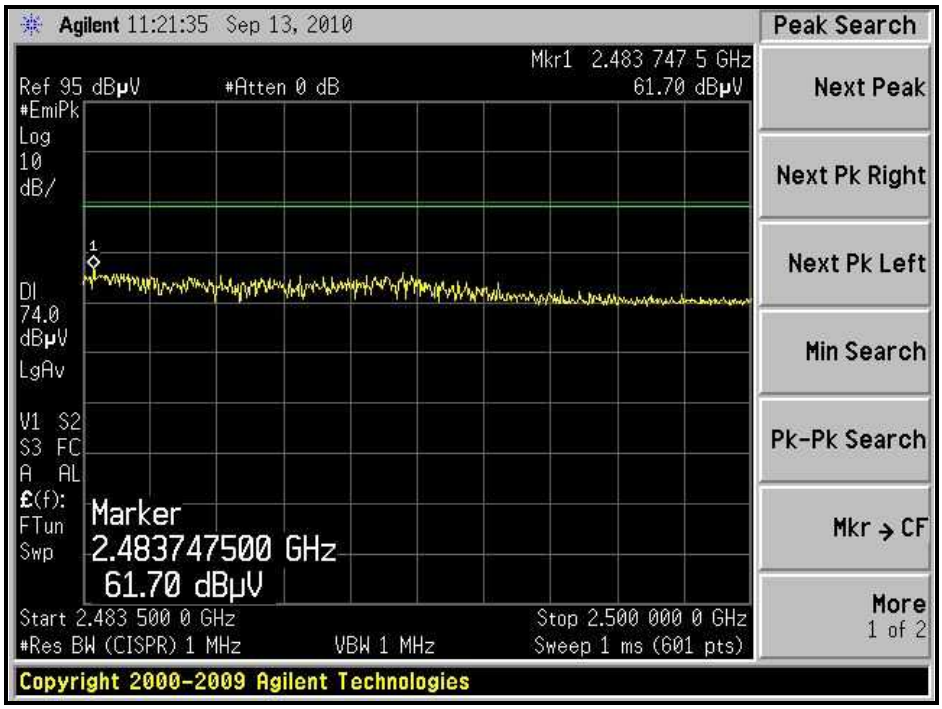
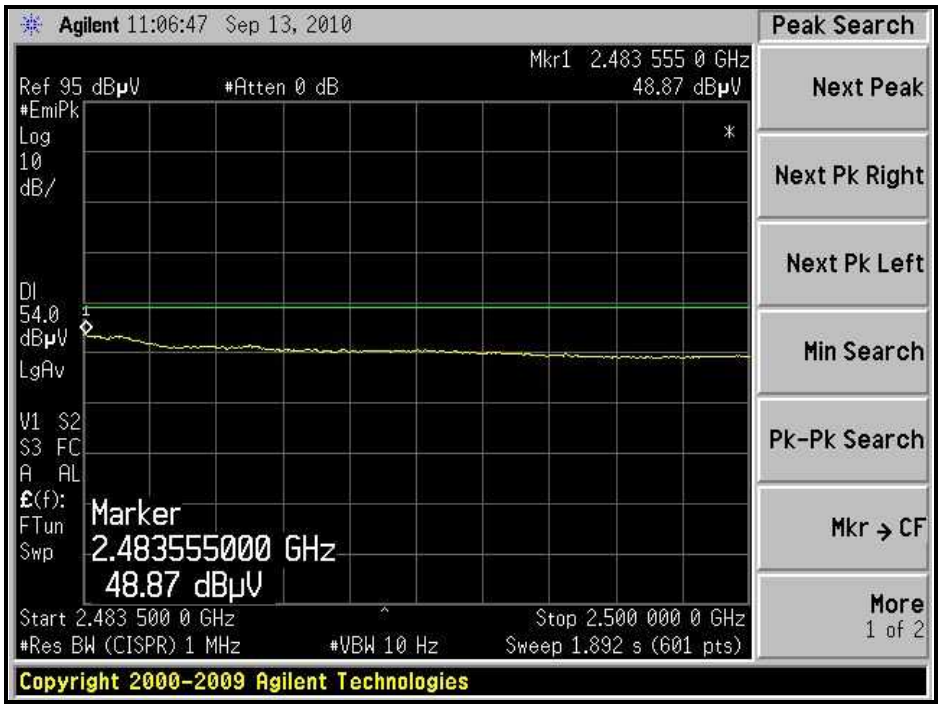
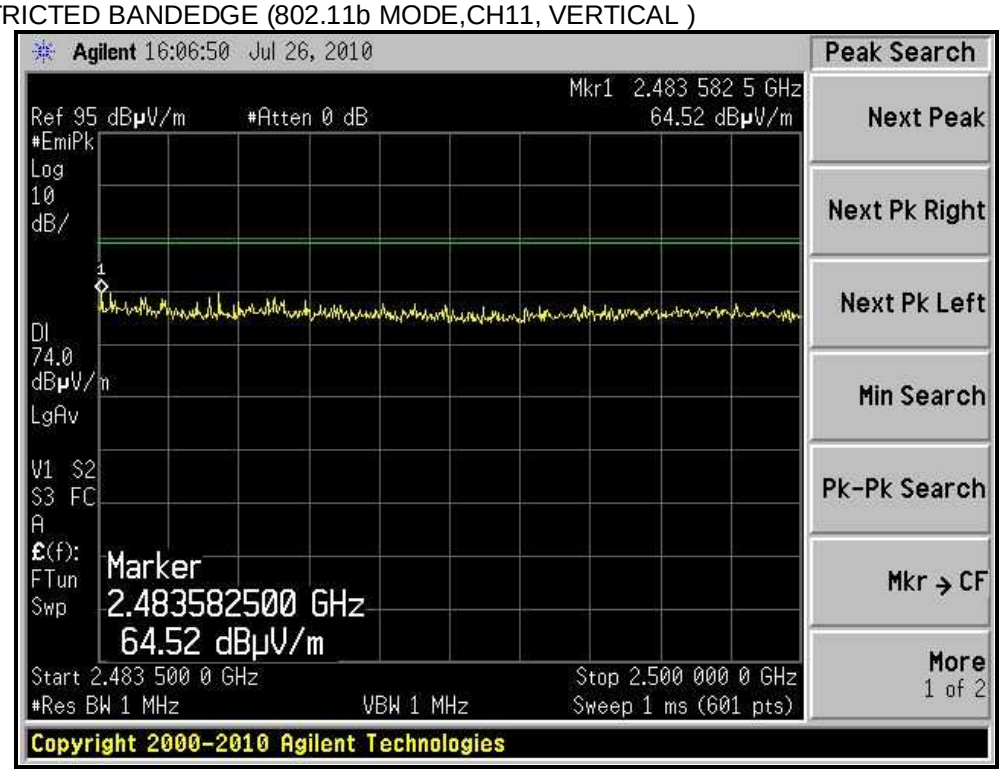
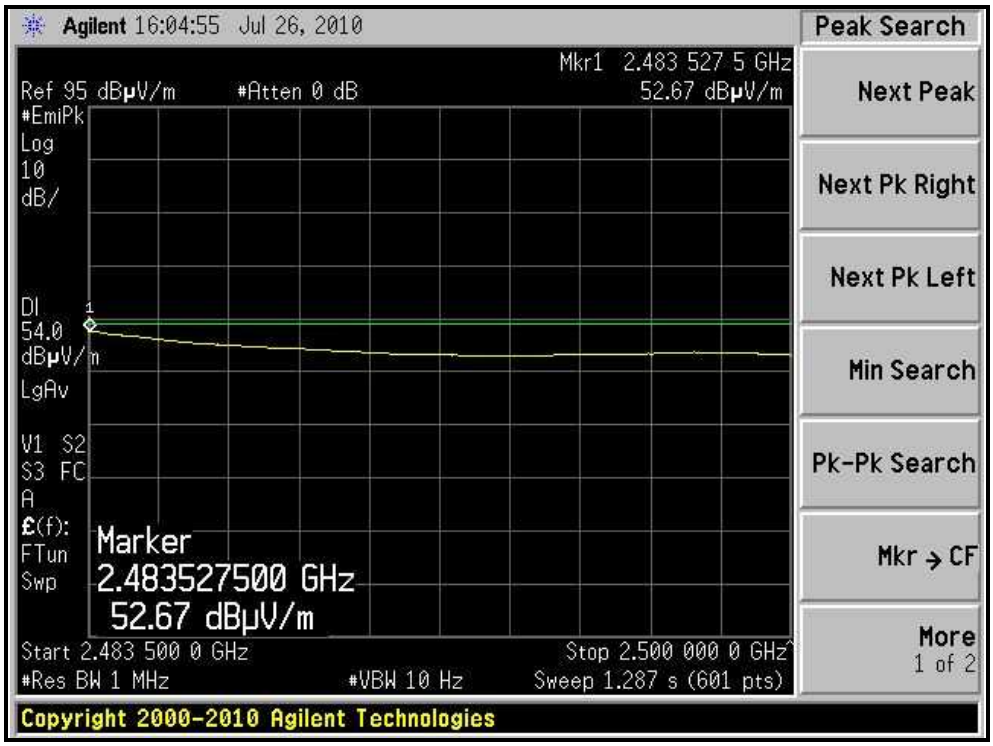




RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.4 PK	74.0	-6.6	1.26 H	179	36.20	31.20
2	2390.00	50.5 AV	54.0	-3.5	1.26 H	179	19.30	31.20
3	*2412.00	113.3 PK			1.25 H	180	82.00	31.30
4	*2412.00	102.2 AV			1.25 H	180	70.90	31.30
5	4824.00	46.1 PK	74.0	-27.9	1.19 H	281	6.70	39.40
6	4824.00	34.9 AV	54.0	-19.1	1.19 H	281	-4.50	39.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.0 PK	74.0	-2.0	1.17 V	175	40.80	31.20
2	2390.00	53.1 AV	54.0	-0.9	1.17 V	175	21.90	31.20
3	*2412.00	115.6 PK			1.16 V	180	84.30	31.30
4	*2412.00	105.0 AV			1.16 V	180	73.70	31.30
5	4824.00	46.8 PK	74.0	-27.2	1.11 V	254	7.40	39.40
6	4824.00	35.6 AV	54.0	-18.4	1.11 V	254	-3.80	39.40

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	117.9 PK			1.24 H	181	86.60	31.30
2	*2437.00	106.4 AV			1.24 H	181	75.10	31.30
3	4874.00	46.2 PK	74.0	-27.8	1.29 H	281	6.60	39.60
4	4874.00	34.8 AV	54.0	-19.2	1.29 H	281	-4.80	39.60
5	7311.00	51.3 PK	74.0	-22.7	1.40 H	300	7.20	44.10
6	7311.00	40.2 AV	54.0	-13.8	1.40 H	300	-3.90	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	2390.00	66.9 PK	74.0	-7.1	1.16 V	182	35.70	31.20
2	2390.00	52.6 AV	54.0	-1.4	1.16 V	182	21.40	31.20
3	*2437.00	119.8 PK			1.16 V	181	88.50	31.30
4	*2437.00	108.6 AV			1.16 V	181	77.30	31.30
5	2484.50	66.0 PK	74.0	-8.0	1.14 V	174	34.50	31.50
6	2484.50	53.3 AV	54.0	-0.7	1.14 V	174	21.80	31.50
7	4874.00	46.9 PK	74.0	-27.1	1.18 V	91	7.30	39.60
8	4874.00	35.7 AV	54.0	-18.3	1.18 V	91	-3.90	39.60
9	7311.00	52.5 PK	74.0	-21.5	1.20 V	144	8.40	44.10
10	7311.00	40.6 AV	54.0	-13.4	1.20 V	144	-3.50	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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.3 PK			1.29 H	178	79.90	31.40
2	*2462.00	100.2 AV			1.29 H	178	68.80	31.40
3	2484.40	67.3 PK	74.0	-6.7	1.30 H	180	35.80	31.50
4	2484.40	48.4 AV	54.0	-5.6	1.30 H	180	16.90	31.50
5	4924.00	46.2 PK	74.0	-27.8	1.24 H	278	6.40	39.80
6	4924.00	35.1 AV	54.0	-18.9	1.24 H	278	-4.70	39.80
7	7386.00	51.6 PK	74.0	-22.4	1.38 H	292	7.40	44.20
8	7386.00	40.1 AV	54.0	-13.9	1.38 H	292	-4.10	44.20
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	114.2 PK			1.15 V	185	82.80	31.40
2	*2462.00	103.4 AV			1.15 V	185	72.00	31.40
3	2483.50	73.2 PK	74.0	-0.8	1.14 V	175	41.70	31.50
4	2483.50	52.7 AV	54.0	-1.3	1.14 V	175	21.20	31.50
5	4924.00	46.9 PK	74.0	-27.1	1.10 V	241	7.10	39.80
6	4924.00	35.5 AV	54.0	-18.5	1.10 V	241	-4.30	39.80
7	7386.00	52.3 PK	74.0	-21.7	1.29 V	351	8.10	44.20
8	7386.00	40.4 AV	54.0	-13.6	1.29 V	351	-3.80	44.20

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

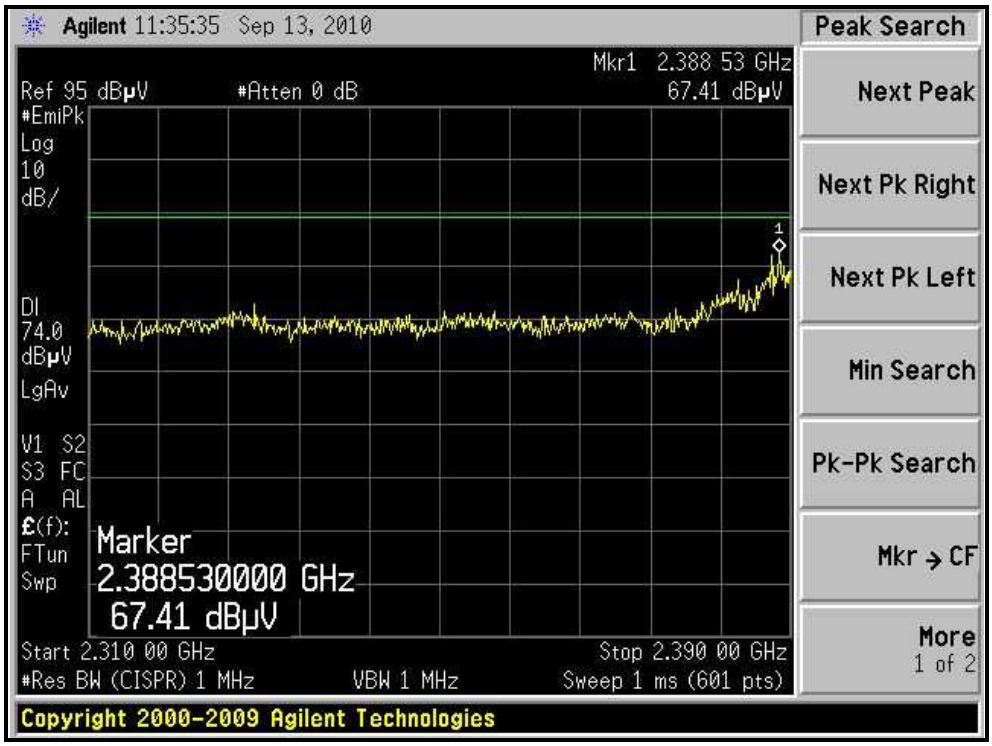
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

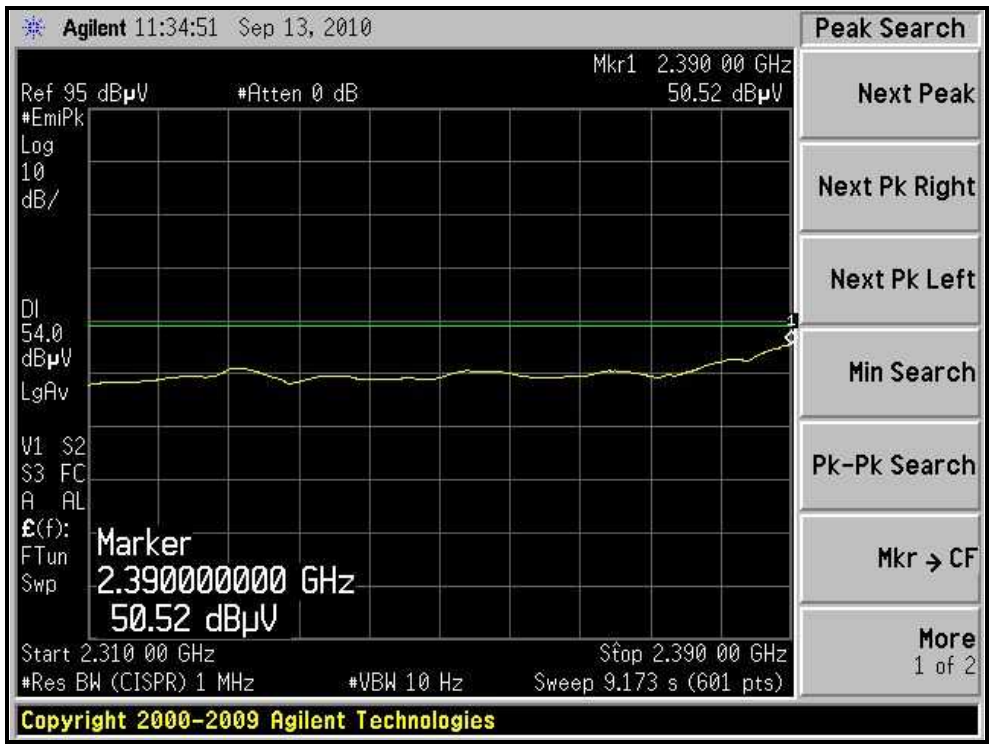
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

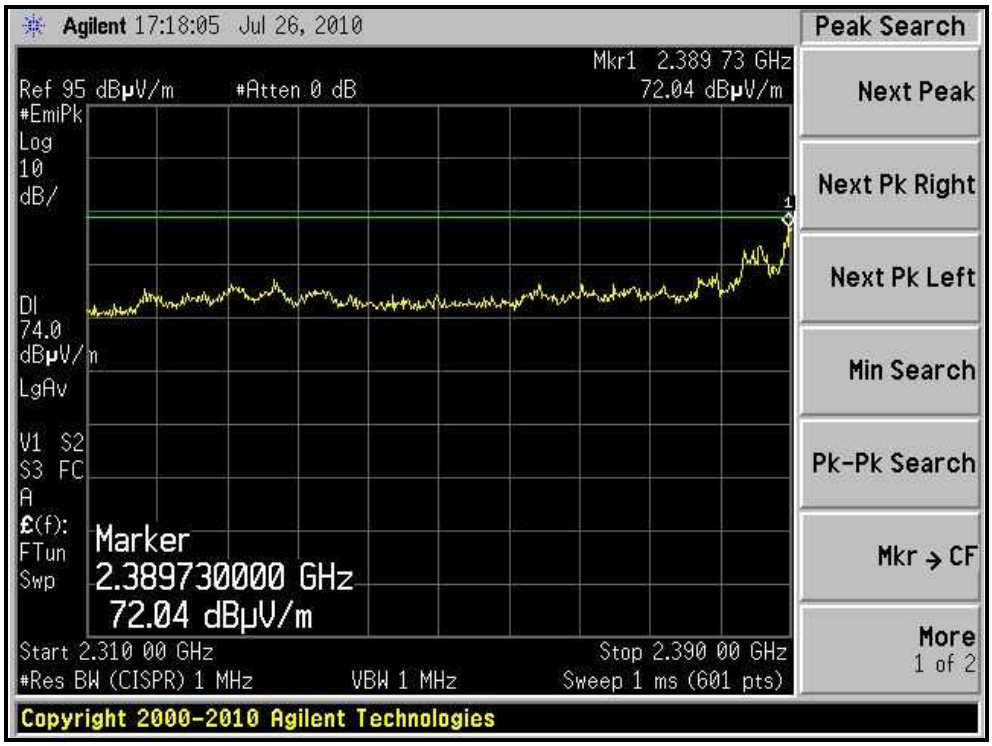
5. " * ": Fundamental frequency.

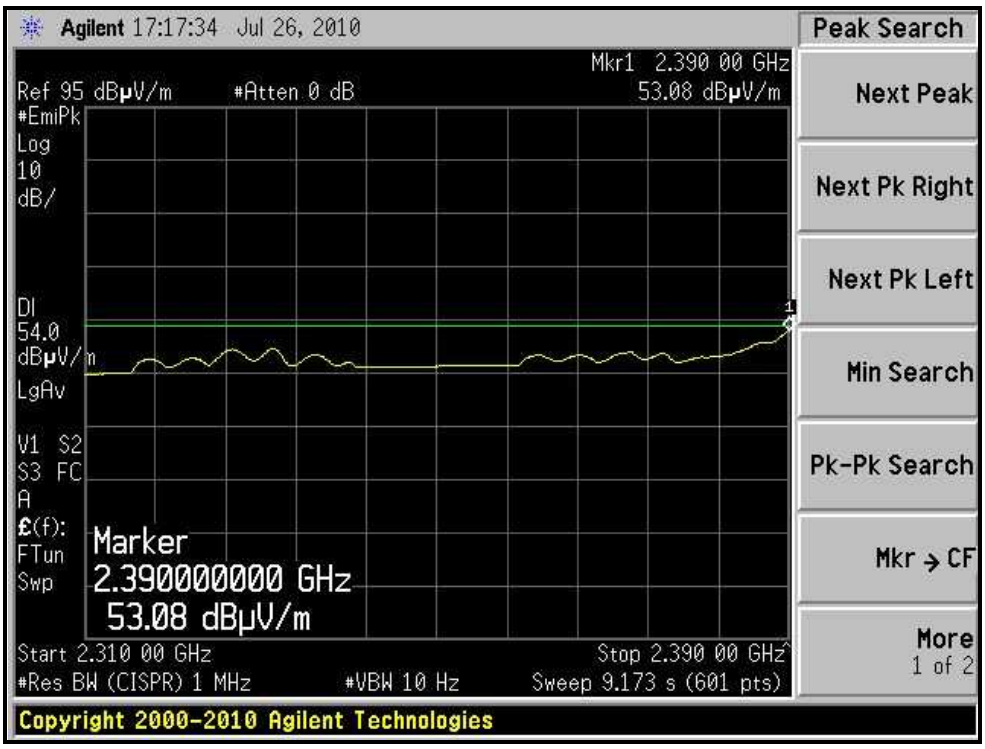
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





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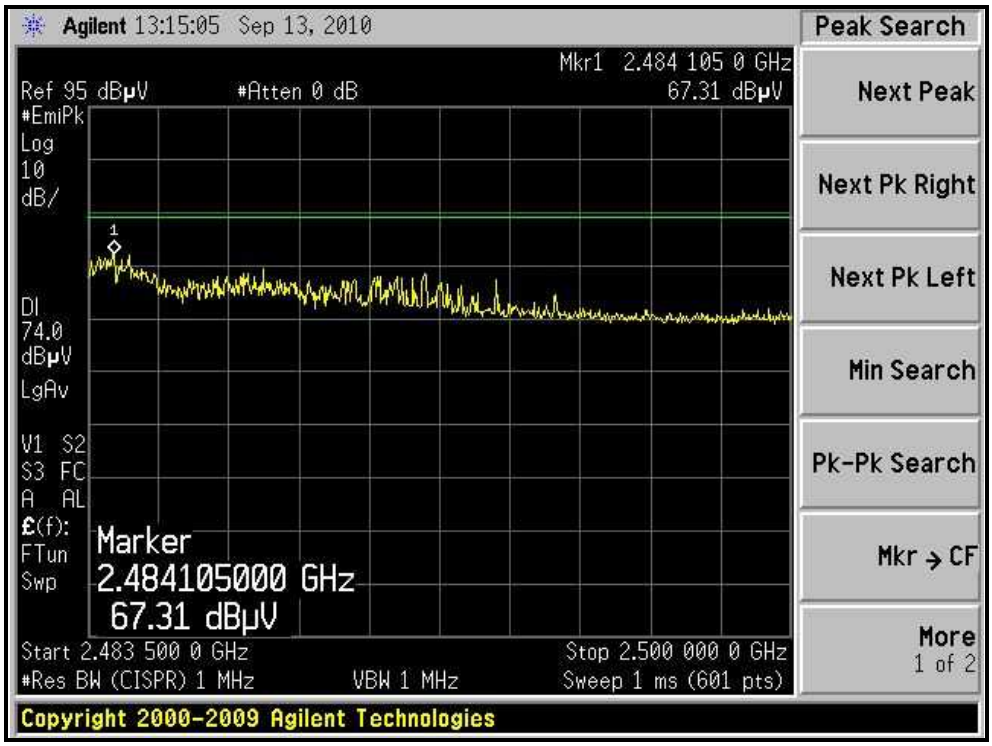
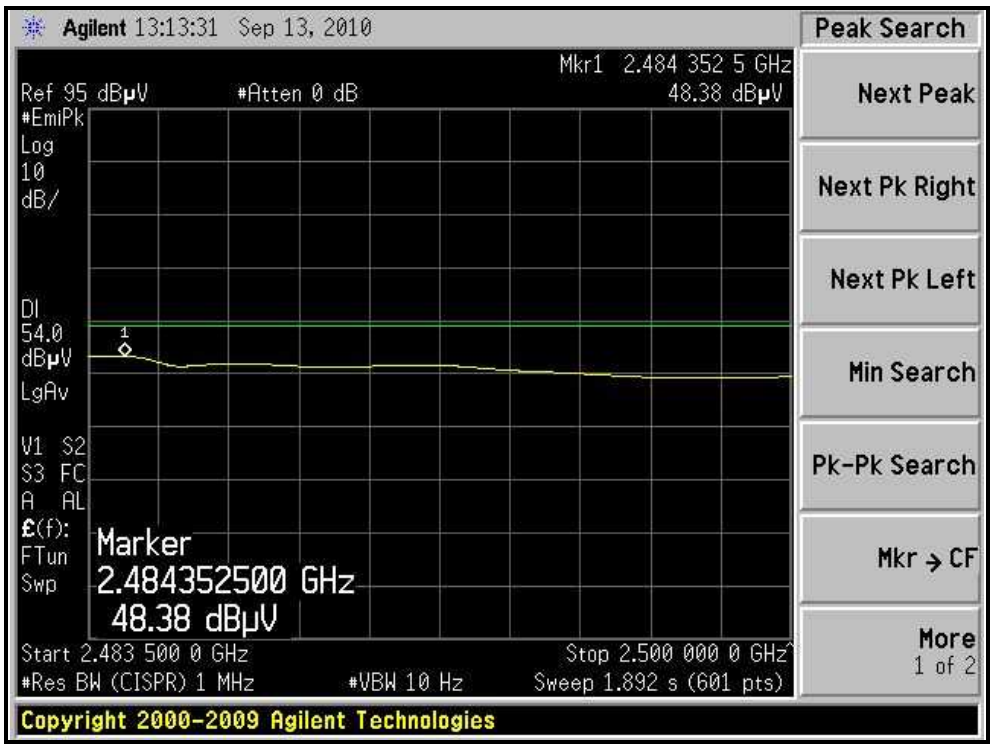
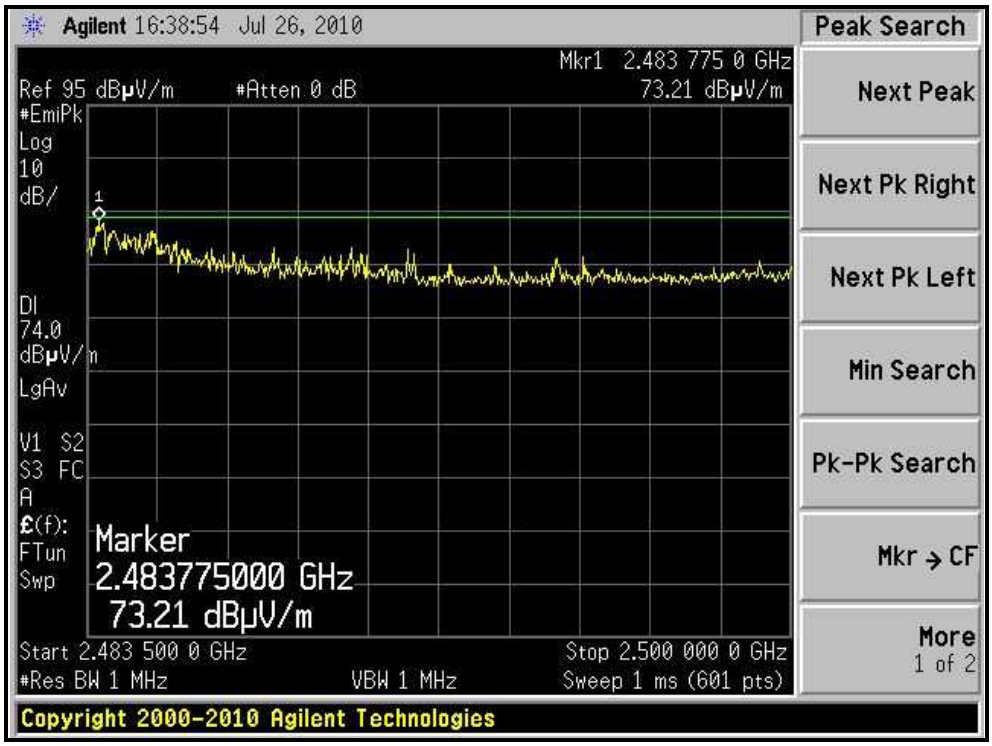
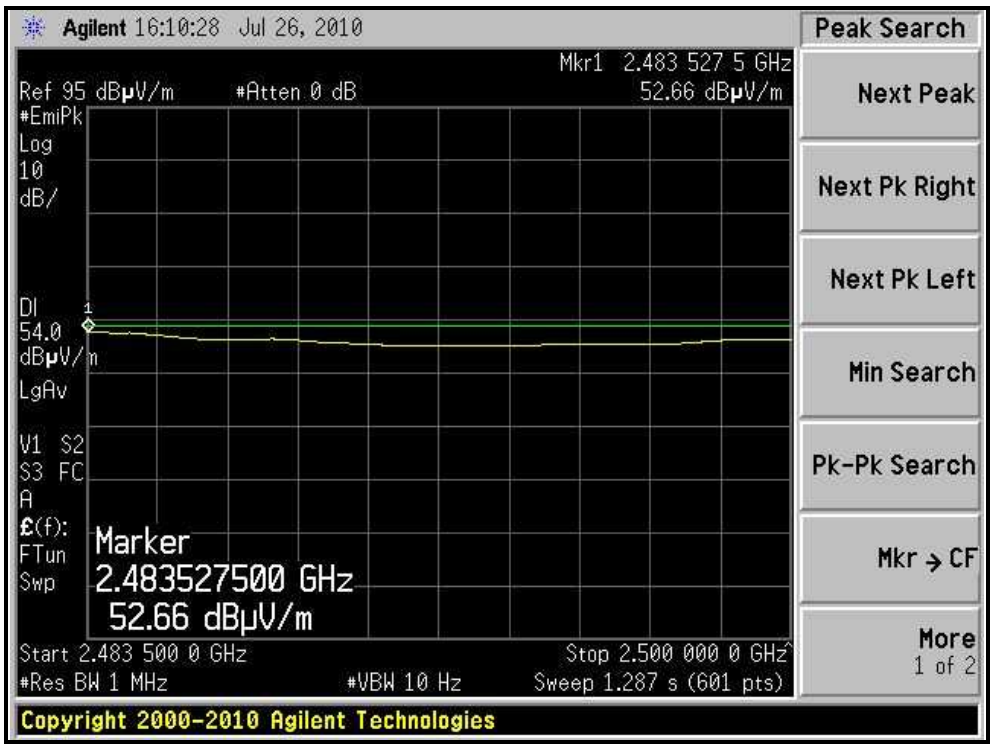




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.1 PK	74.0	-3.9	1.25 V	179	38.90	31.20
2	2390.00	50.1 AV	54.0	-3.9	1.25 V	179	18.90	31.20
3	*2412.00	110.5 PK			1.24 V	181	79.20	31.30
4	*2412.00	100.9 AV			1.24 V	181	69.60	31.30
5	4824.00	40.1 PK	74.0	-33.9	1.33 V	88	0.70	39.40
6	4824.00	34.7 AV	54.0	-19.3	1.33 V	88	-4.70	39.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.2 PK	74.0	-0.8	1.18 H	177	42.00	31.20
2	2390.00	52.9 AV	54.0	-1.1	1.18 H	177	21.70	31.20
3	*2412.00	114.9 PK			1.15 H	181	83.60	31.30
4	*2412.00	104.1 AV			1.15 H	181	72.80	31.30
5	4824.00	46.7 PK	74.0	-27.3	1.20 H	94	7.30	39.40
6	4824.00	35.2 AV	54.0	-18.8	1.20 H	94	-4.20	39.40

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	115.1 PK			1.23 H	180	83.80	31.30
2	*2437.00	105.4 AV			1.23 H	180	74.10	31.30
3	4874.00	45.9 PK	74.0	-28.1	1.14 H	65	6.30	39.60
4	4874.00	34.2 AV	54.0	-19.8	1.14 H	65	-5.40	39.60
5	7311.00	51.6 PK	74.0	-22.4	1.28 H	114	7.50	44.10
6	7311.00	38.7 AV	54.0	-15.3	1.28 H	114	-5.40	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	2390.00	70.5 PK	74.0	-3.5	1.18 V	182	39.30	31.20
2	2390.00	51.7 AV	54.0	-2.3	1.18 V	182	20.50	31.20
3	*2437.00	119.2 PK			1.16 V	177	87.90	31.30
4	*2437.00	108.6 AV			1.16 V	177	77.30	31.30
5	2483.50	71.2 PK	74.0	-2.8	1.14 V	175	39.70	31.50
6	2483.50	53.1 AV	54.0	-0.9	1.14 V	175	21.60	31.50
7	4874.00	46.8 PK	74.0	-27.2	1.12 V	248	7.20	39.60
8	4874.00	35.4 AV	54.0	-18.6	1.12 V	248	-4.20	39.60
9	7311.00	52.4 PK	74.0	-21.6	1.40 V	358	8.30	44.10
10	7311.00	40.6 AV	54.0	-13.4	1.40 V	358	-3.50	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	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	119.2 PK			1.25 H	178	87.80	31.40
2	*2462.00	98.6 AV			1.25 H	178	67.20	31.40
3	2483.80	68.8 PK	74.0	-5.2	1.25 H	180	37.30	31.50
4	2483.80	48.3 AV	54.0	-5.7	1.25 H	180	16.80	31.50
5	4924.00	46.1 PK	74.0	-27.9	1.29 H	114	6.30	39.80
6	4924.00	34.5 AV	54.0	-19.5	1.29 H	114	-5.30	39.80
7	7386.00	51.9 PK	74.0	-22.1	1.31 H	122	7.70	44.20
8	7386.00	38.9 AV	54.0	-15.1	1.31 H	122	-5.30	44.20
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	113.9 PK			1.14 V	182	82.50	31.40
2	*2462.00	102.6 AV			1.14 V	182	71.20	31.40
3	2483.50	73.0 PK	74.0	-1.0	1.14 V	174	41.50	31.50
4	2483.50	52.8 AV	54.0	-1.2	1.14 V	174	21.30	31.50
5	4924.00	46.8 PK	74.0	-27.2	1.14 V	243	7.00	39.80
6	4924.00	35.3 AV	54.0	-18.7	1.14 V	243	-4.50	39.80
7	7386.00	52.4 PK	74.0	-21.6	1.40 V	115	8.20	44.20
8	7386.00	40.5 AV	54.0	-13.5	1.40 V	115	-3.70	44.20

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

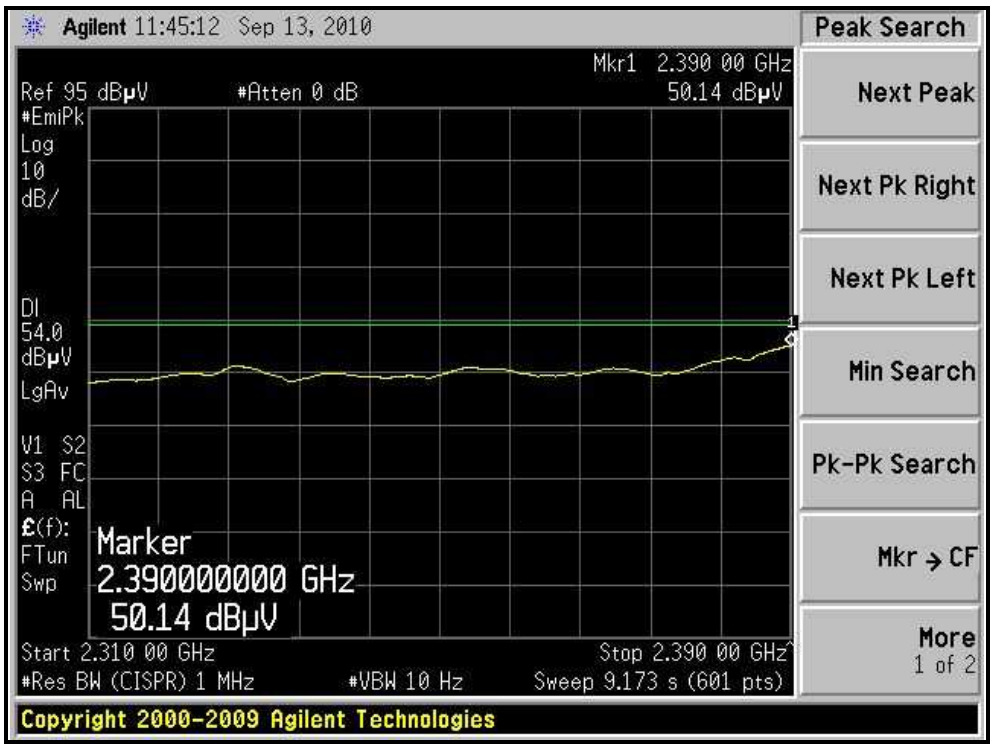
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

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

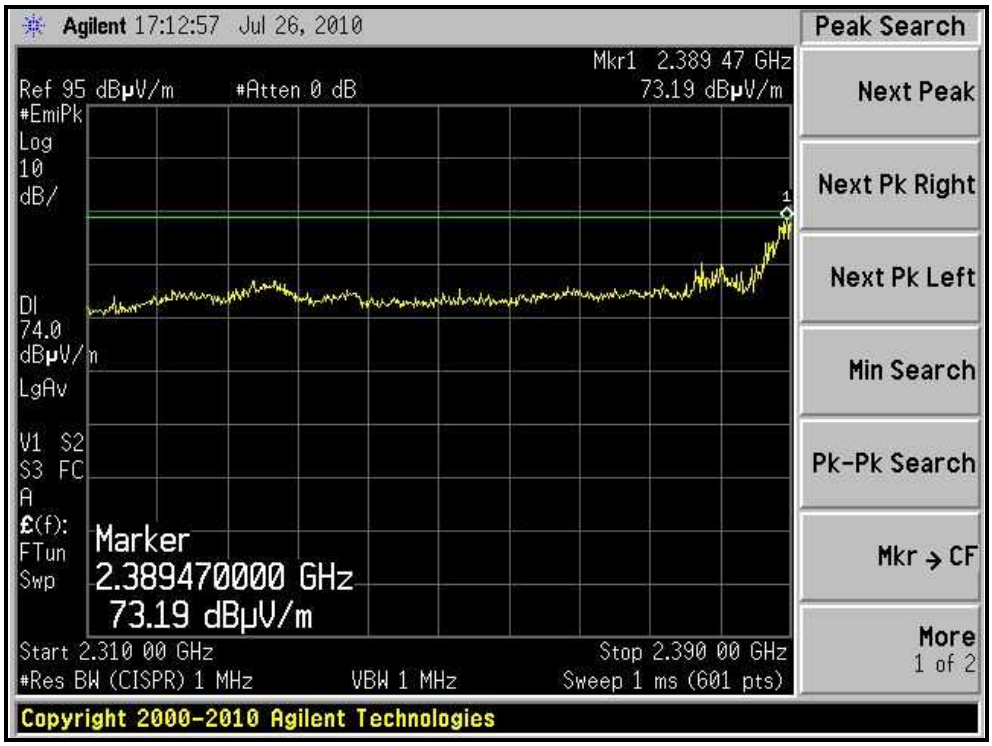
4. Margin value = Emission level – Limit value.

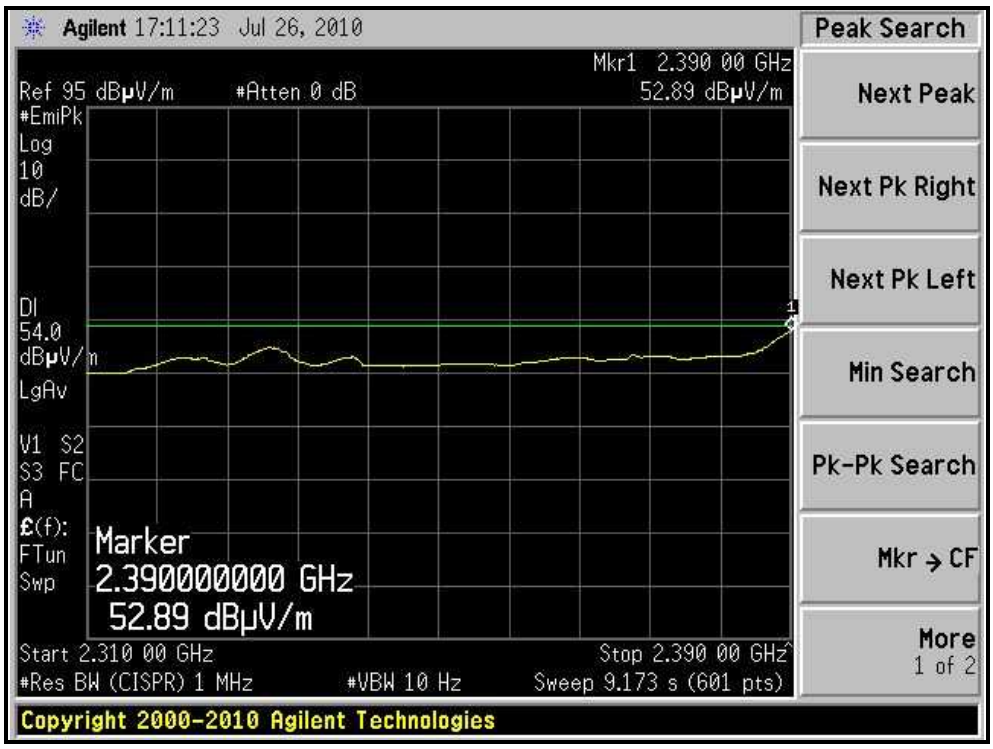
5. " * ": Fundamental frequency.

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

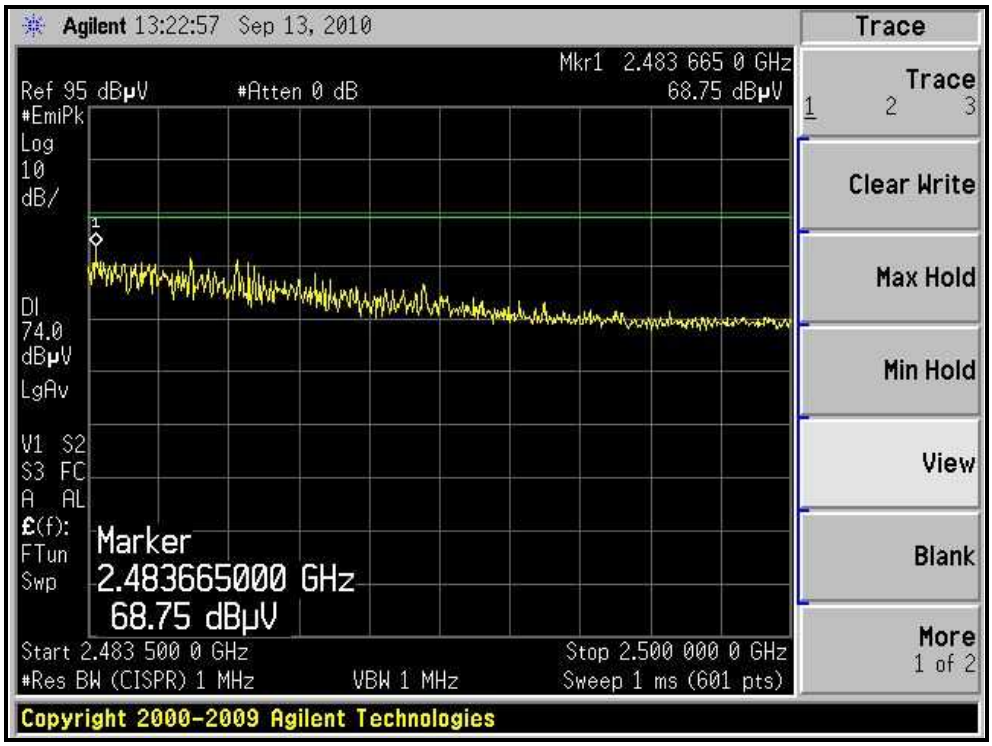


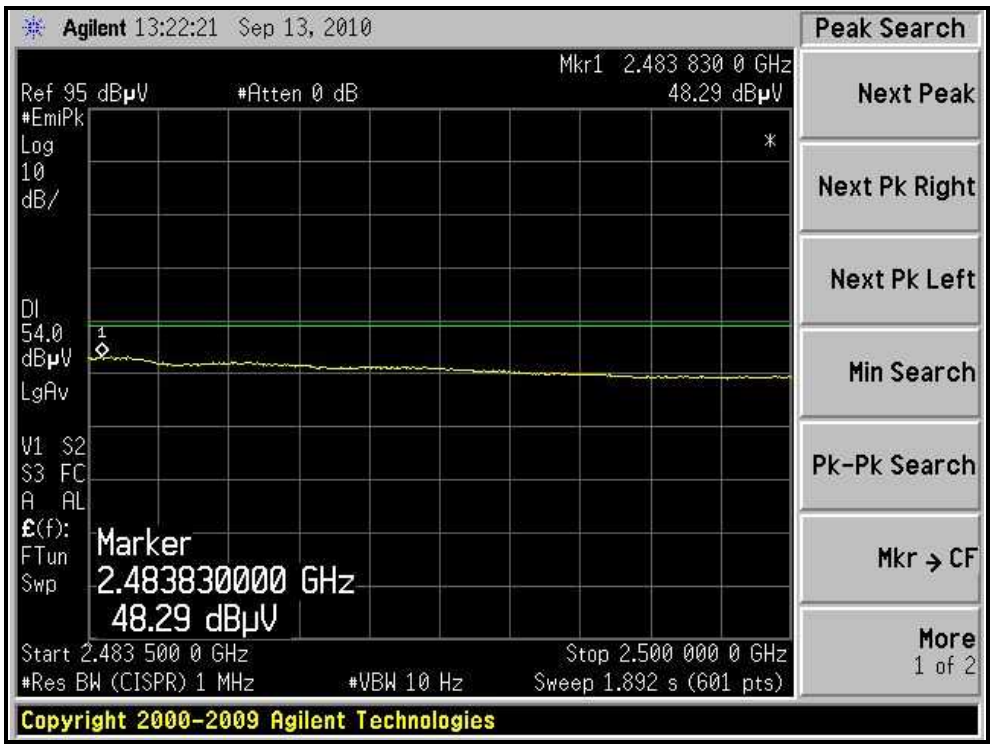
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



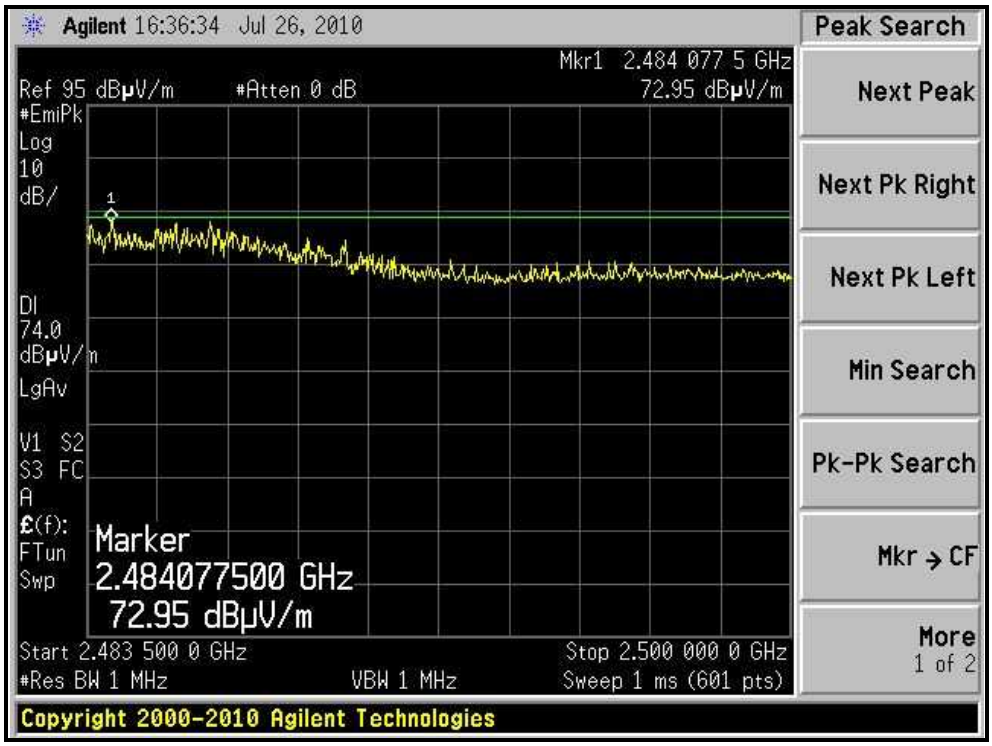


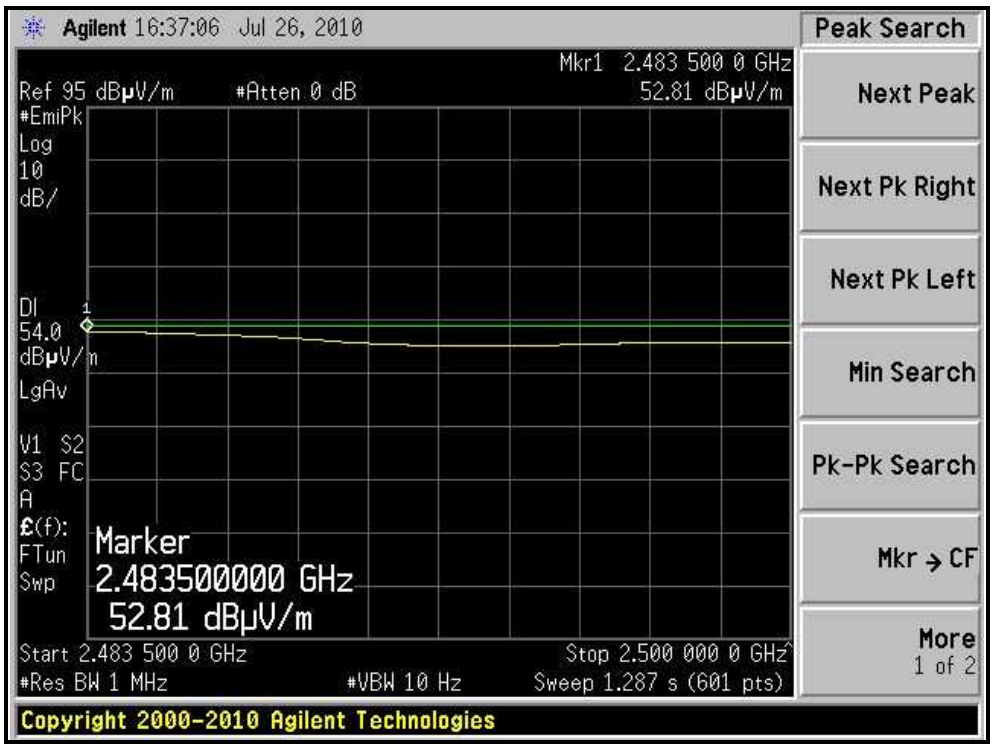
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.4 PK	74.0	-6.6	1.20 H	180	36.20	31.20
2	2390.00	48.9 AV	54.0	-5.1	1.20 H	180	17.70	31.20
3	*2422.00	103.9 PK			1.15 H	178	72.60	31.30
4	*2422.00	93.4 AV			1.15 H	178	62.10	31.30
5	4844.00	45.6 PK	74.0	-28.4	1.10 H	140	6.10	39.50
6	4844.00	34.1 AV	54.0	-19.9	1.10 H	140	-5.40	39.50
7	7266.00	51.1 PK	74.0	-22.9	1.31 H	351	7.00	44.10
8	7266.00	38.9 AV	54.0	-15.1	1.31 H	351	-5.20	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	2390.00	71.1 PK	74.0	-2.9	1.18 V	178	39.90	31.20
2	2390.00	53.4 AV	54.0	-0.6	1.18 V	178	22.20	31.20
3	*2422.00	108.1 PK			1.17 V	181	76.80	31.30
4	*2422.00	97.6 AV			1.17 V	181	66.30	31.30
5	4844.00	46.0 PK	74.0	-28.0	1.14 V	89	6.50	39.50
6	4844.00	35.0 AV	54.0	-19.0	1.14 V	89	-4.50	39.50
7	7266.00	51.4 PK	74.0	-22.6	1.20 V	148	7.30	44.10
8	7266.00	39.1 AV	54.0	-14.9	1.20 V	148	-5.00	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 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.3 PK			1.20 H	179	78.00	31.30
2	*2437.00	97.2 AV			1.20 H	179	65.90	31.30
3	4874.00	46.9 PK	74.0	-27.1	1.14 H	84	7.30	39.60
4	4874.00	35.1 AV	54.0	-18.9	1.14 H	84	-4.50	39.60
5	7311.00	51.9 PK	74.0	-22.1	1.23 H	167	7.80	44.10
6	7311.00	39.4 AV	54.0	-14.6	1.23 H	167	-4.70	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	2390.00	72.3 PK	74.0	-1.7	1.18 V	178	41.10	31.20
2	2390.00	52.8 AV	54.0	-1.2	1.18 V	178	21.60	31.20
3	*2437.00	113.1 PK			1.17 V	182	81.80	31.30
4	*2437.00	101.5 AV			1.17 V	182	70.20	31.30
5	2483.50	73.2 PK	74.0	-0.8	1.14 V	172	41.70	31.50
6	2483.50	52.8 AV	54.0	-1.2	1.14 V	172	21.30	31.50
7	4874.00	47.8 PK	74.0	-26.2	1.11 V	79	8.20	39.60
8	4874.00	36.2 AV	54.0	-17.8	1.11 V	79	-3.40	39.60
9	7311.00	52.8 PK	74.0	-21.2	1.21 V	40	8.70	44.10
10	7311.00	40.8 AV	54.0	-13.2	1.21 V	40	-3.30	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 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	102.8 PK			1.14 H	181	71.40	31.40
2	*2452.00	91.9 AV			1.14 H	181	60.50	31.40
3	2483.90	66.8 PK	74.0	-7.2	1.19 H	179	35.30	31.50
4	2483.90	50.2 AV	54.0	-3.8	1.19 H	179	18.70	31.50
5	4904.00	45.4 PK	74.0	-28.6	1.23 H	69	5.70	39.70
6	4904.00	34.2 AV	54.0	-19.8	1.23 H	69	-5.50	39.70
7	7356.00	50.4 PK	74.0	-23.6	1.14 H	84	6.20	44.20
8	7356.00	38.6 AV	54.0	-15.4	1.14 H	84	-5.60	44.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	106.9 PK			1.16 V	182	75.50	31.40
2	*2452.00	95.1 AV			1.16 V	182	63.70	31.40
3	2483.50	71.5 PK	74.0	-2.5	1.14 V	187	40.00	31.50
4	2483.50	53.0 AV	54.0	-1.0	1.14 V	187	21.50	31.50
5	4904.00	46.1 PK	74.0	-27.9	1.20 V	91	6.40	39.70
6	4904.00	35.1 AV	54.0	-18.9	1.20 V	91	-4.60	39.70
7	7356.00	51.2 PK	74.0	-22.8	1.40 V	340	7.00	44.20
8	7356.00	39.0 AV	54.0	-15.0	1.40 V	340	-5.20	44.20

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

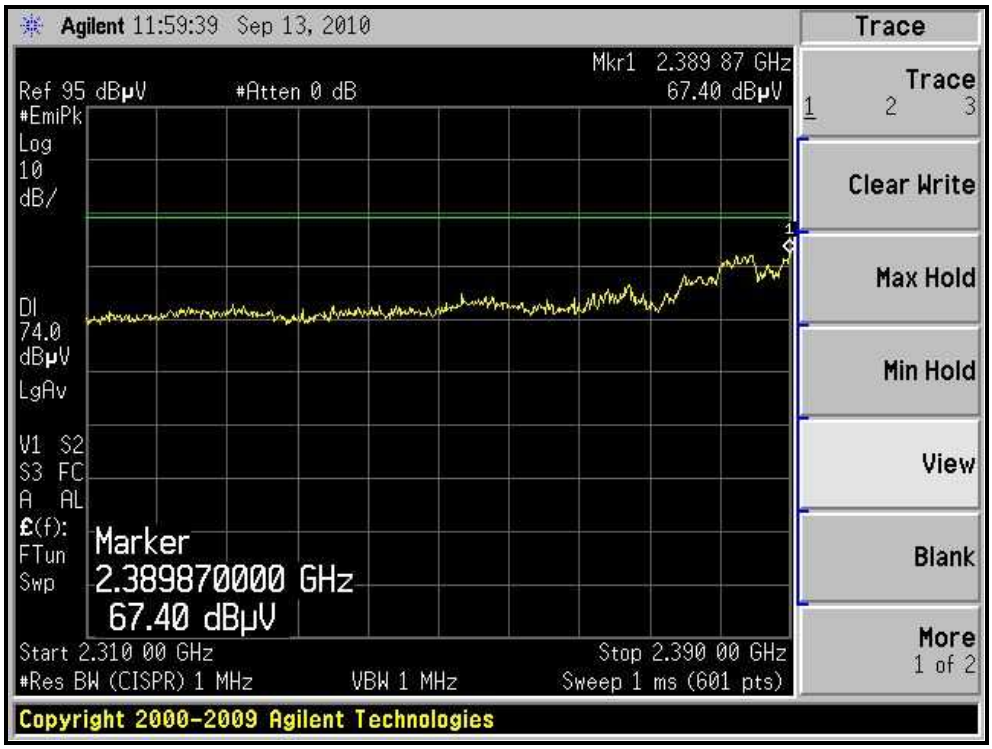
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

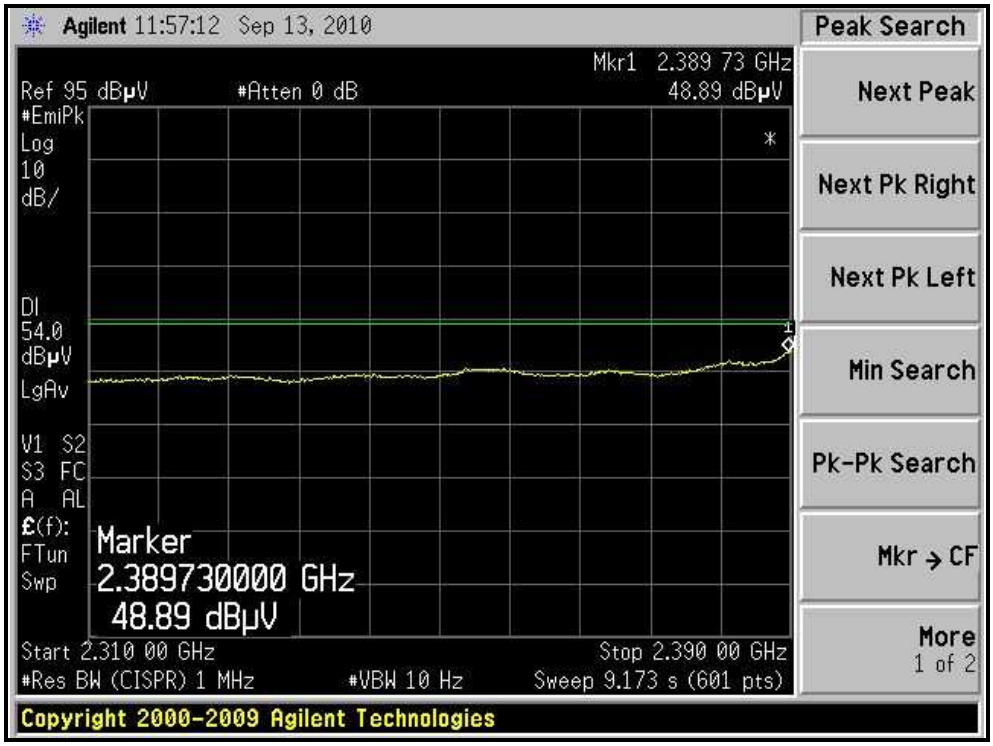
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

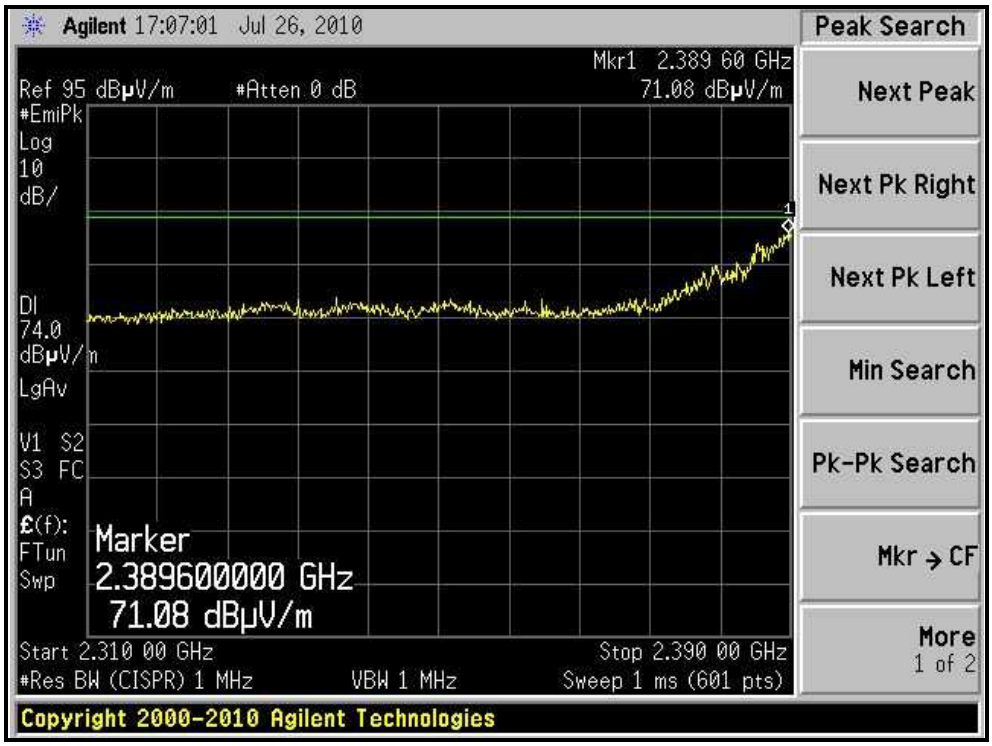
5. " * ": Fundamental frequency.

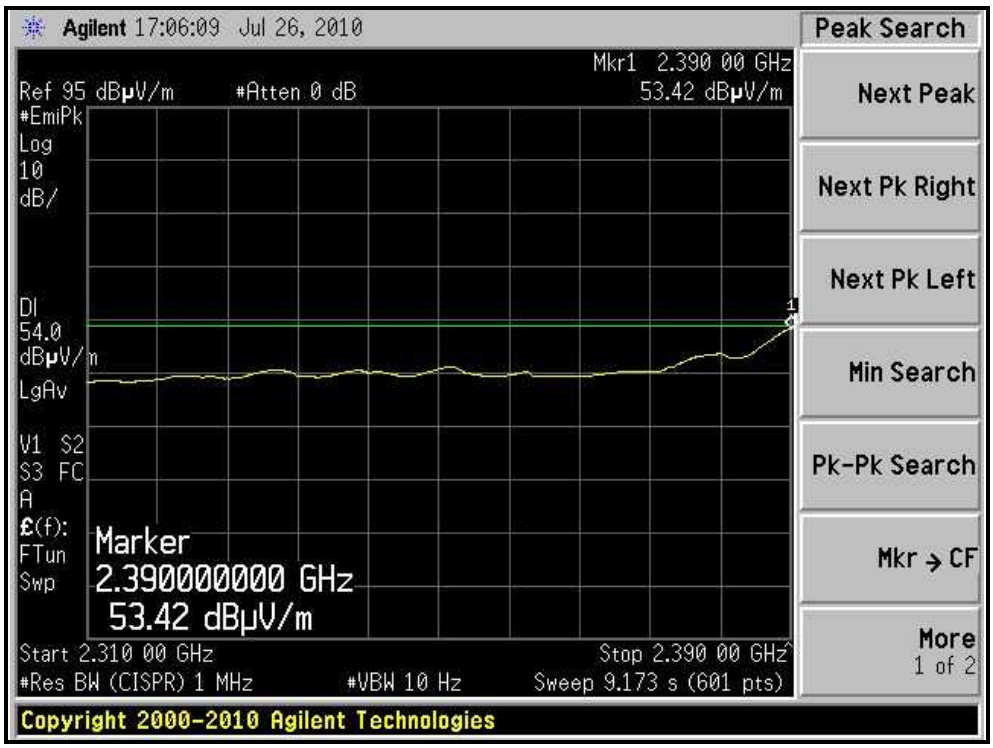
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)





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





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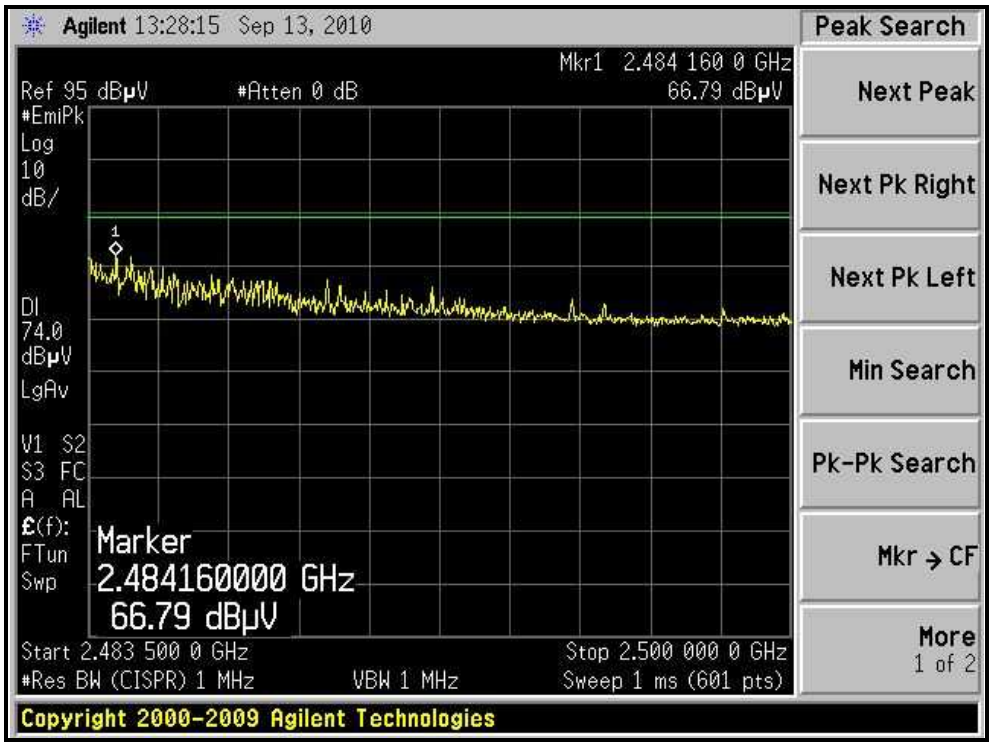
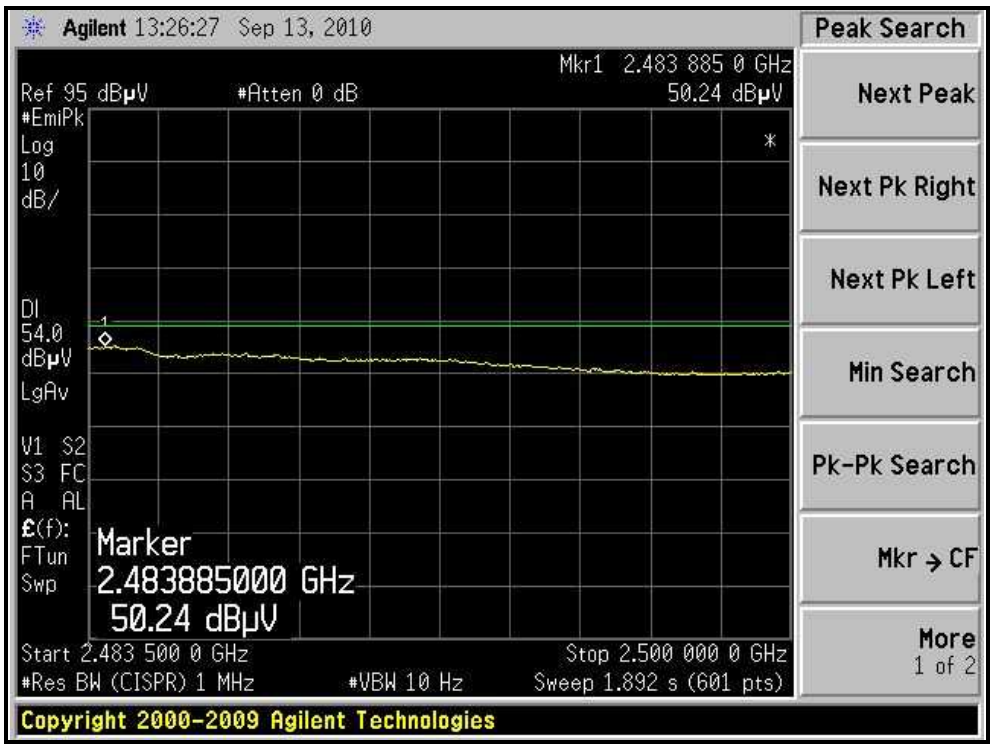
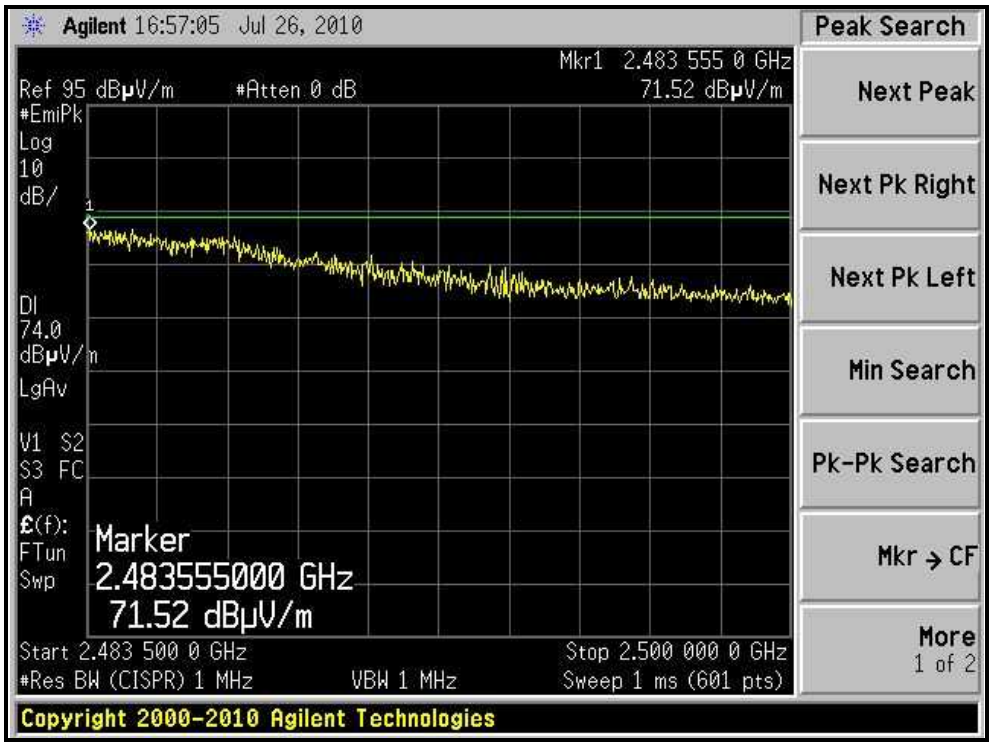
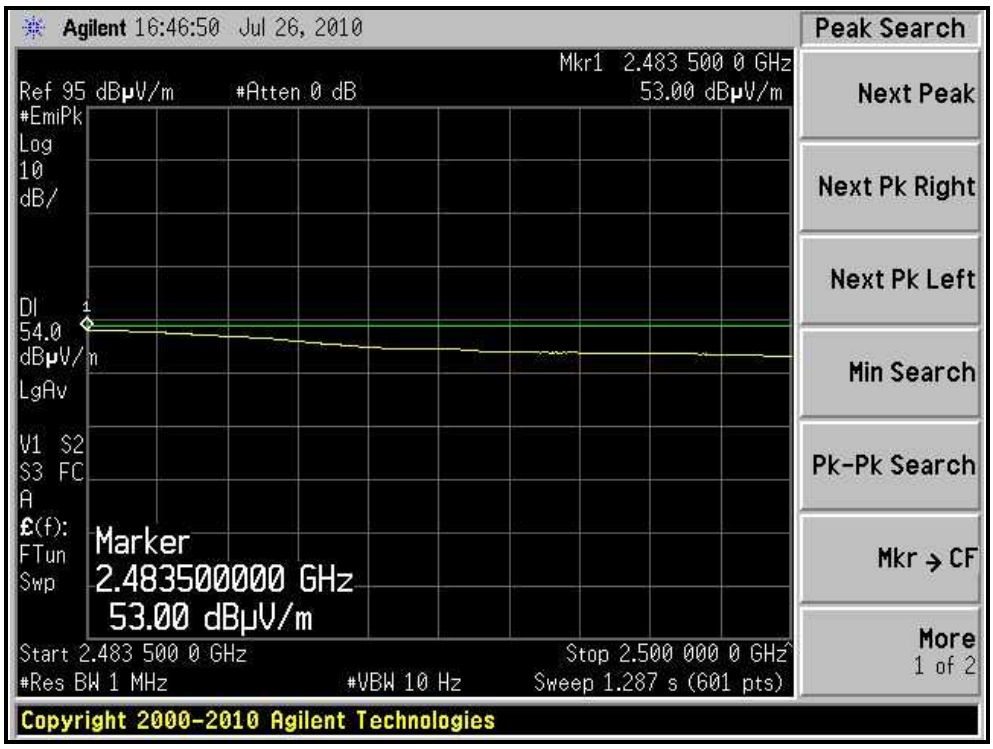




RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, VERTICAL)





4.2.9 TEST RESULTS (With Omni Antenna)

BELOW 1GHz WORST-CASE DATA：802.11n (20MHz) 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	24deg. C, 74%RH 1011 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	209.93	37.0 QP	43.5	-6.5	1.00 H	75	25.91	11.10
2	608.72	41.0 QP	46.0	-5.0	1.00 H	260	18.91	22.07
3	635.68	38.8 QP	46.0	-7.2	1.00 H	149	16.42	22.37
4	805.22	39.0 QP	46.0	-7.0	1.00 H	29	14.40	24.57
5	868.96	38.2 QP	46.0	-7.8	1.00 H	310	12.50	25.71
6	941.25	36.5 QP	46.0	-9.5	1.50 H	220	9.97	26.57
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	130.36	36.1 QP	43.5	-7.4	1.00 V	35	22.91	13.15
2	605.62	35.4 QP	46.0	-10.6	1.50 V	360	13.33	22.03
3	630.15	39.9 QP	46.0	-6.1	1.75 V	180	17.55	22.31
4	718.26	38.2 QP	46.0	-7.8	1.50 V	154	14.81	23.40
5	810.82	37.6 QP	46.0	-8.4	1.00 V	96	12.91	24.67
6	912.12	38.6 QP	46.0	-7.4	1.00 V	30	12.25	26.34

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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2327.20	57.8 PK	74.0	-16.2	1.57 H	207	26.76	31.04
2	2327.20	46.5 AV	54.0	-7.5	1.57 H	207	15.46	31.04
3	2390.00	60.8 PK	74.0	-13.2	1.57 H	207	29.59	31.21
4	2390.00	44.4 AV	54.0	-9.6	1.57 H	207	13.19	31.21
5	*2412.00	105.3 PK			1.87 H	206	74.03	31.27
6	*2412.00	102.9 AV			1.87 H	206	71.63	31.27
7	4824.00	46.1 PK	74.0	-27.9	1.00 H	12	6.68	39.42
8	4824.00	33.5 AV	54.0	-20.5	1.00 H	12	-5.92	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	2389.47	57.8 PK	74.0	-16.2	1.50 V	270	26.59	31.21
2	2389.47	43.5 AV	54.0	-10.5	1.50 V	270	12.29	31.21
3	*2412.00	99.5 PK			1.50 V	270	68.23	31.27
4	*2412.00	97.0 AV			1.50 V	270	65.73	31.27
5	4824.00	46.4 PK	74.0	-27.6	1.82 V	192	6.98	39.42
6	4824.00	33.7 AV	54.0	-20.3	1.82 V	192	-5.72	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.2 PK			1.75 H	323	78.86	31.34
2	*2437.00	108.0 AV			1.75 H	323	76.66	31.34
3	4874.00	45.9 PK	74.0	-28.1	1.00 H	14	6.28	39.62
4	4874.00	33.4 AV	54.0	-20.6	1.00 H	14	-6.22	39.62
5	7311.00	56.3 PK	74.0	-17.7	1.15 H	236	12.20	44.10
6	7311.00	50.6 AV	54.0	-3.4	1.15 H	236	6.50	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	103.7 PK			1.48 V	273	72.36	31.34
2	*2437.00	101.5 AV			1.48 V	273	70.16	31.34
3	4874.00	47.0 PK	74.0	-27.0	1.80 V	192	7.38	39.62
4	4874.00	34.4 AV	54.0	-19.6	1.80 V	192	-5.22	39.62
5	7311.00	53.0 PK	74.0	-21.0	1.35 V	263	8.90	44.10
6	7311.00	44.3 AV	54.0	-9.7	1.35 V	263	0.20	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.8 PK			1.73 H	209	74.40	31.40
2	*2462.00	103.6 AV			1.73 H	209	72.20	31.40
3	2483.64	66.9 PK	74.0	-7.1	1.72 H	210	35.44	31.46
4	2483.64	45.1 AV	54.0	-8.9	1.72 H	210	13.64	31.46
5	4924.00	46.5 PK	74.0	-27.5	1.00 H	15	6.68	39.82
6	4924.00	34.2 AV	54.0	-19.8	1.00 H	15	-5.62	39.82
7	7386.00	53.8 PK	74.0	-20.2	1.05 H	227	9.62	44.18
8	7386.00	45.0 AV	54.0	-9.0	1.05 H	227	0.82	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	100.9 PK			1.49 V	272	69.50	31.40
2	*2462.00	98.7 AV			1.49 V	272	67.30	31.40
3	2484.77	66.6 PK	74.0	-7.4	1.49 V	273	35.14	31.46
4	2484.77	43.3 AV	54.0	-10.7	1.49 V	273	11.84	31.46
5	4924.00	47.1 PK	74.0	-26.9	1.81 V	194	7.28	39.82
6	4924.00	34.4 AV	54.0	-19.6	1.81 V	194	-5.42	39.82
7	7386.00	51.6 PK	74.0	-22.4	1.31 V	261	7.42	44.18
8	7386.00	41.7 AV	54.0	-12.3	1.31 V	261	-2.48	44.18

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

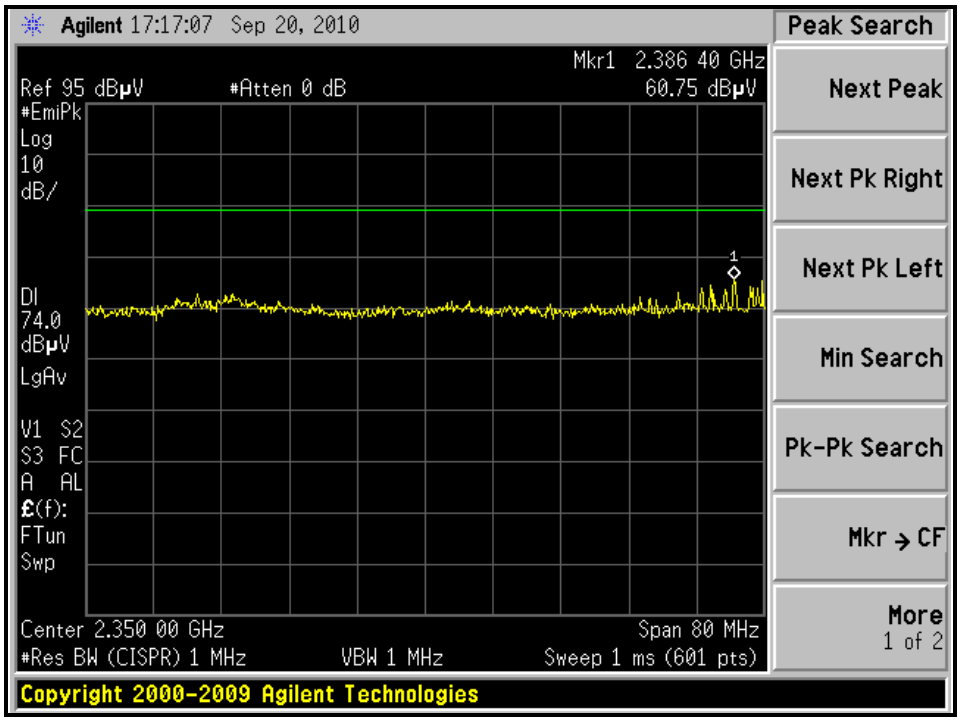
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

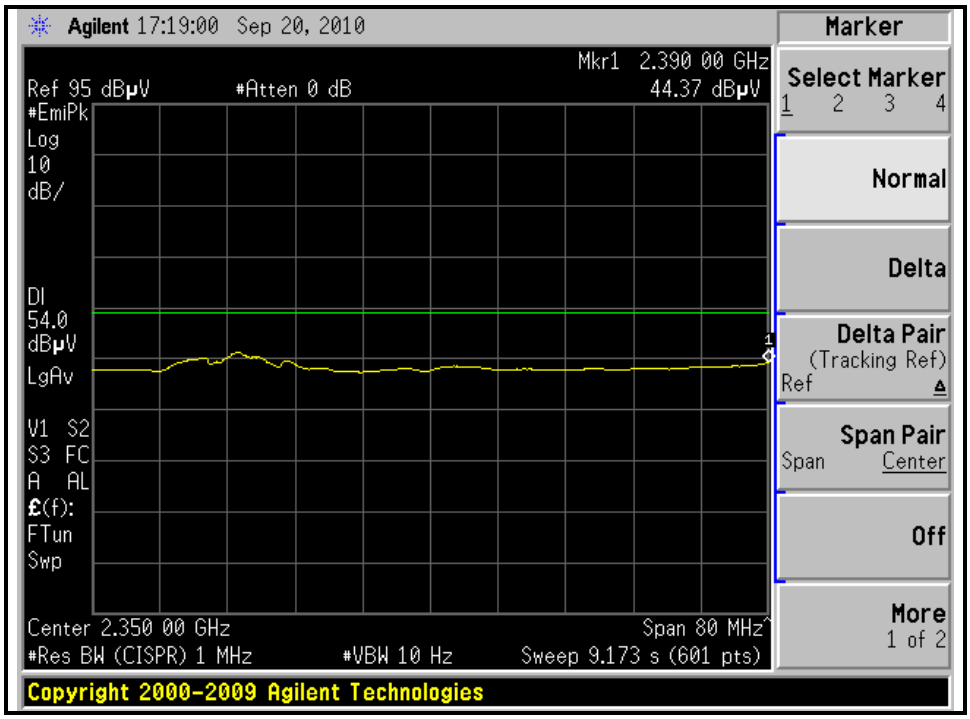
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

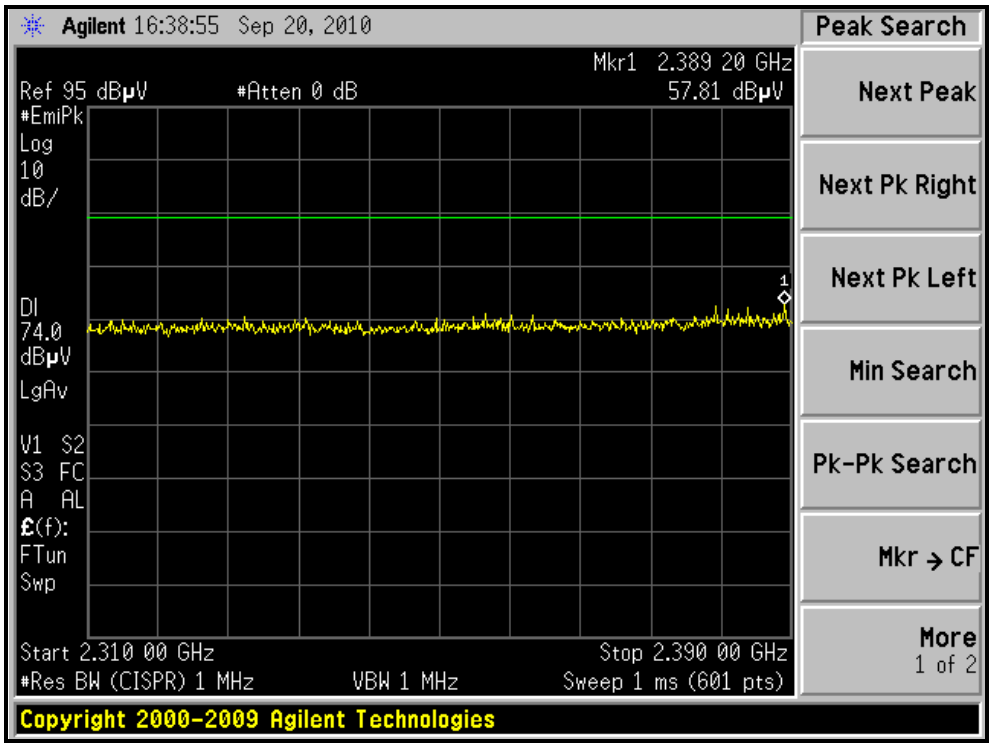
5. " * ": Fundamental frequency.

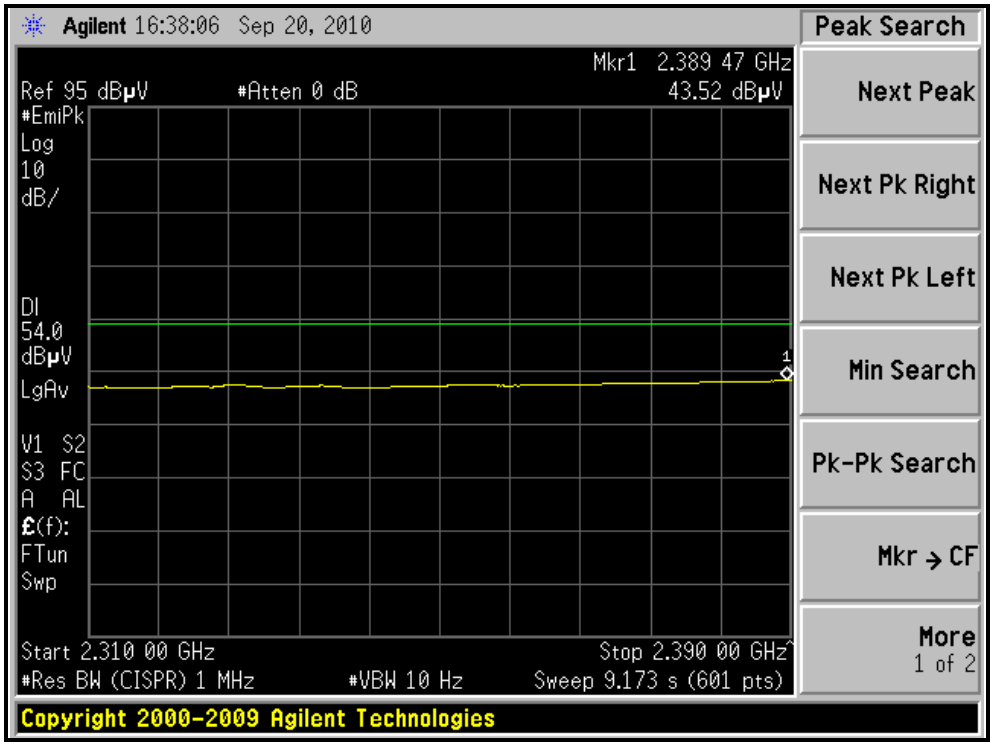
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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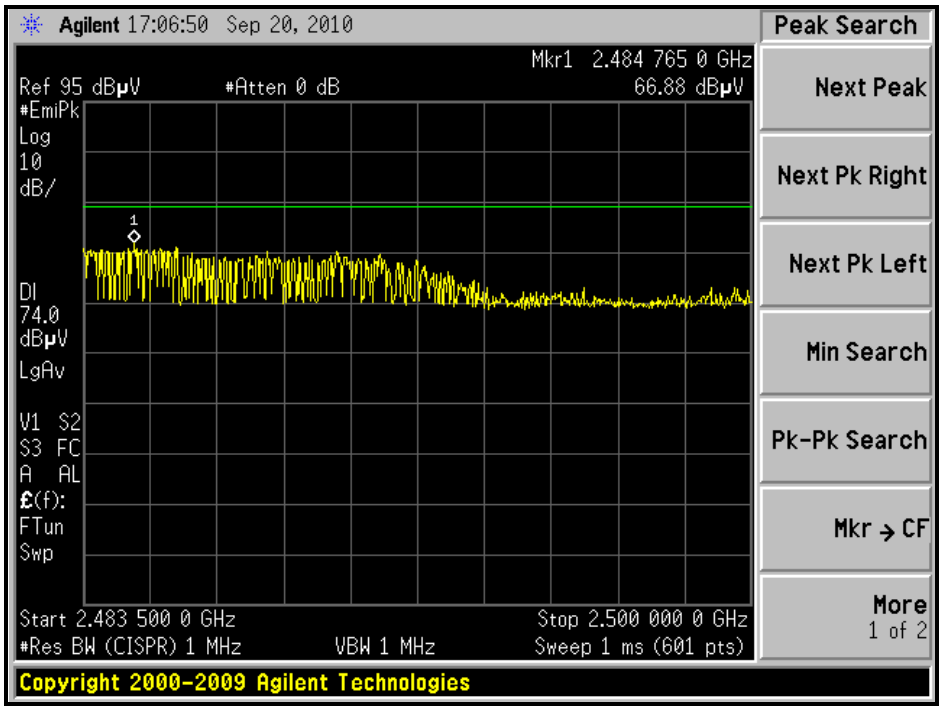

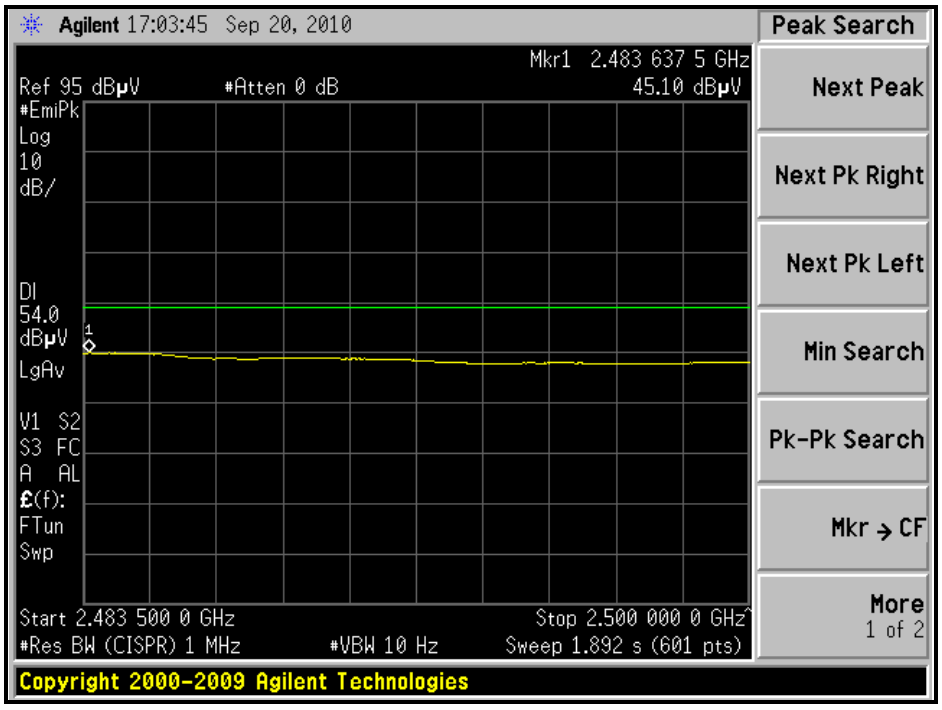

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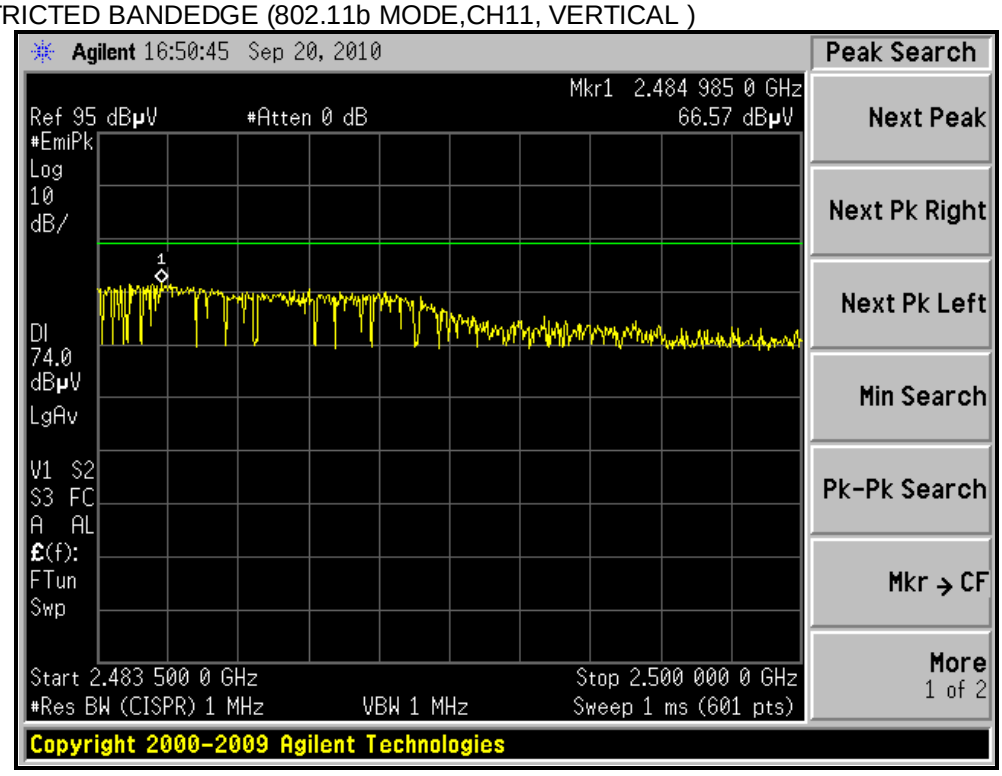
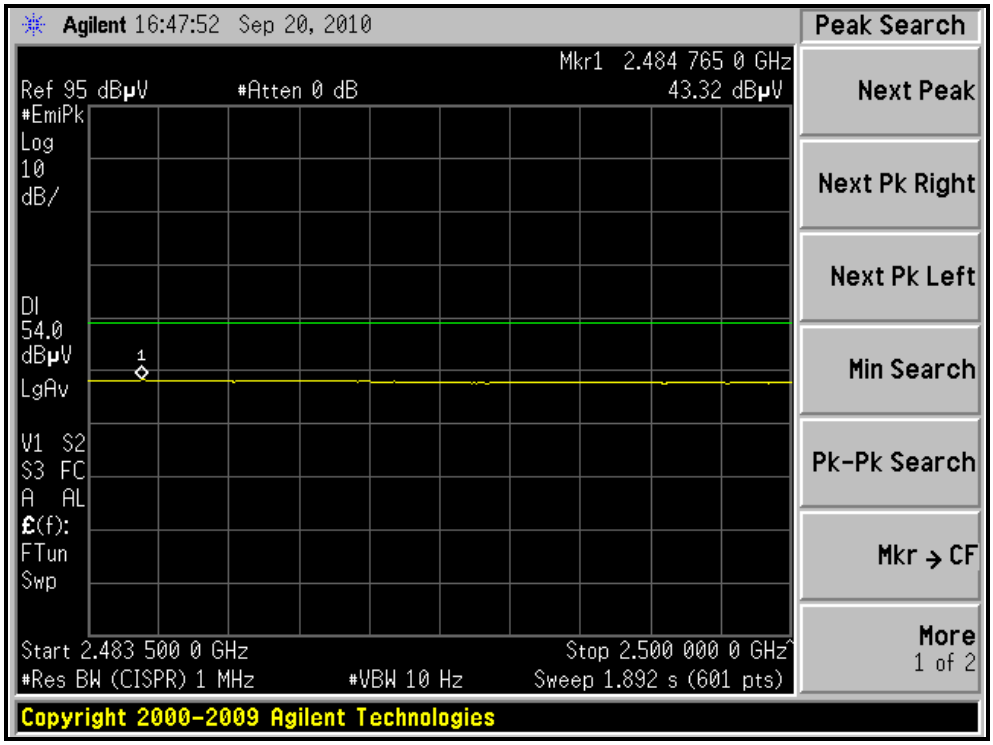




802.11g OFDM MODULATION

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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.3 PK	74.0	-12.7	1.49 H	217	30.09	31.21
2	2390.00	45.6 AV	54.0	-8.4	1.49 H	217	14.39	31.21
3	*2412.00	107.3 PK			1.49 H	214	76.03	31.27
4	*2412.00	97.2 AV			1.49 H	214	65.93	31.27
5	4824.00	45.2 PK	74.0	-28.8	1.00 H	14	5.78	39.42
6	4824.00	33.8 AV	54.0	-20.2	1.00 H	14	-5.62	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	59.5 PK	74.0	-14.5	1.49 V	272	28.29	31.21
2	2390.00	44.0 AV	54.0	-10.0	1.49 V	272	12.79	31.21
3	*2412.00	104.6 PK			1.50 V	273	73.33	31.27
4	*2412.00	94.2 AV			1.50 V	273	62.93	31.27
5	4824.00	45.2 PK	74.0	-28.8	1.79 V	191	5.78	39.42
6	4824.00	33.8 AV	54.0	-20.2	1.79 V	191	-5.62	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	112.1 PK			1.48 H	338	80.76	31.34
2	*2437.00	101.2 AV			1.48 H	338	69.86	31.34
3	4874.00	45.3 PK	74.0	-28.7	1.00 H	16	5.68	39.62
4	4874.00	33.9 AV	54.0	-20.1	1.00 H	16	-5.72	39.62
5	7311.00	59.7 PK	74.0	-14.3	1.15 H	237	15.60	44.10
6	7311.00	47.0 AV	54.0	-7.0	1.15 H	237	2.90	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			1.46 V	273	77.86	31.34
2	*2437.00	98.6 AV			1.46 V	273	67.26	31.34
3	4874.00	45.4 PK	74.0	-28.6	1.80 V	190	5.78	39.62
4	4874.00	33.9 AV	54.0	-20.1	1.80 V	190	-5.72	39.62
5	7311.00	55.4 PK	74.0	-18.6	1.34 V	267	11.30	44.10
6	7311.00	41.9 AV	54.0	-12.1	1.34 V	267	-2.20	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.7 PK			1.71 H	321	75.30	31.40
2	*2462.00	96.5 AV			1.71 H	321	65.10	31.40
3	2484.85	61.5 PK	74.0	-12.5	1.72 H	207	30.04	31.46
4	2484.85	45.8 AV	54.0	-8.2	1.72 H	207	14.34	31.46
5	4924.00	45.9 PK	74.0	-28.1	1.00 H	18	6.08	39.82
6	4924.00	34.3 AV	54.0	-19.7	1.00 H	18	-5.52	39.82
7	7386.00	53.8 PK	74.0	-20.2	1.10 H	231	9.62	44.18
8	7386.00	41.5 AV	54.0	-12.5	1.10 H	231	-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	103.7 PK			1.47 V	272	72.30	31.40
2	*2462.00	93.5 AV			1.47 V	272	62.10	31.40
3	2484.22	58.1 PK	74.0	-15.9	1.47 V	271	26.64	31.46
4	2484.22	44.1 AV	54.0	-9.9	1.47 V	271	12.64	31.46
5	4924.00	46.1 PK	74.0	-27.9	1.81 V	189	6.28	39.82
6	4924.00	34.3 AV	54.0	-19.7	1.81 V	189	-5.52	39.82
7	7386.00	51.9 PK	74.0	-22.1	1.33 V	265	7.72	44.18
8	7386.00	39.7 AV	54.0	-14.3	1.33 V	265	-4.48	44.18

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

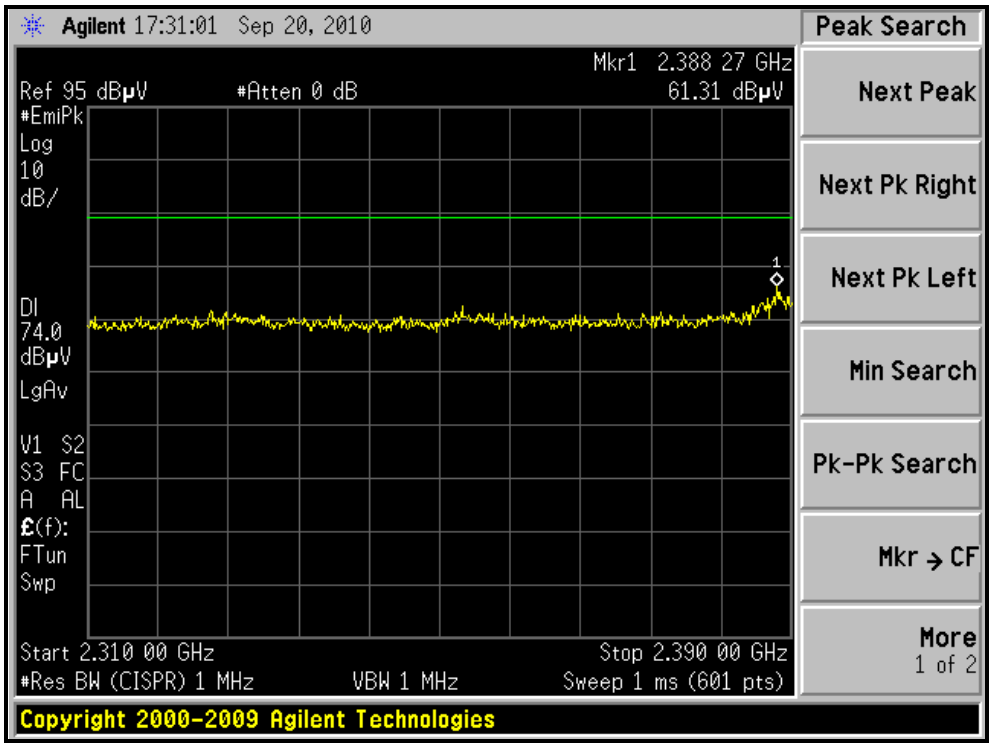
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

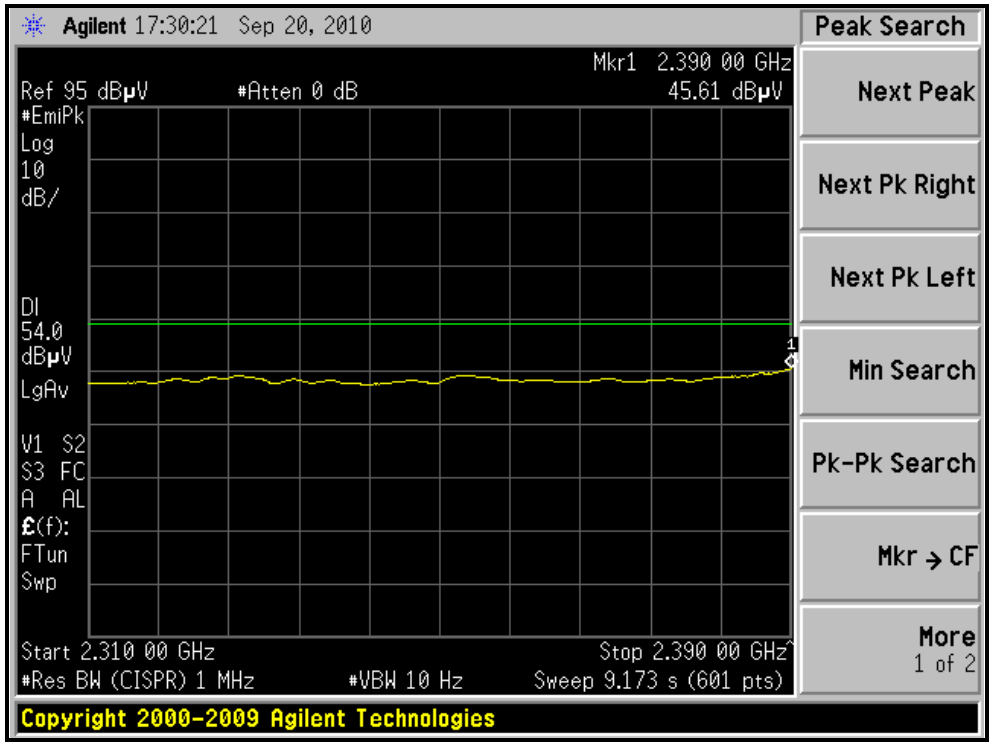
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

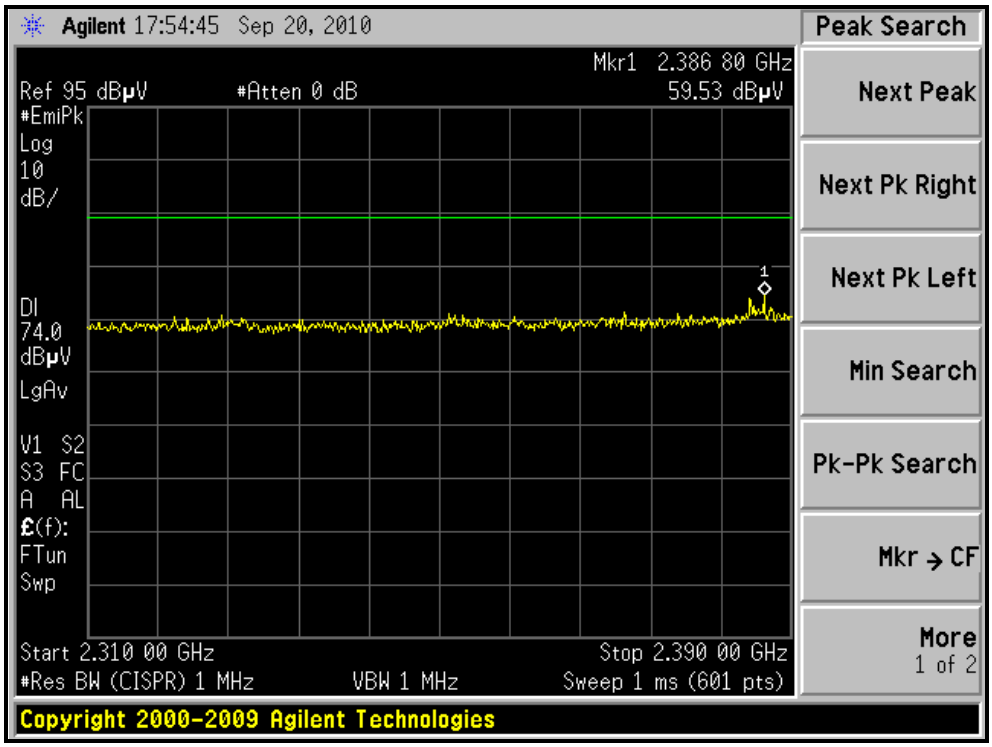
5. " * ": Fundamental frequency.

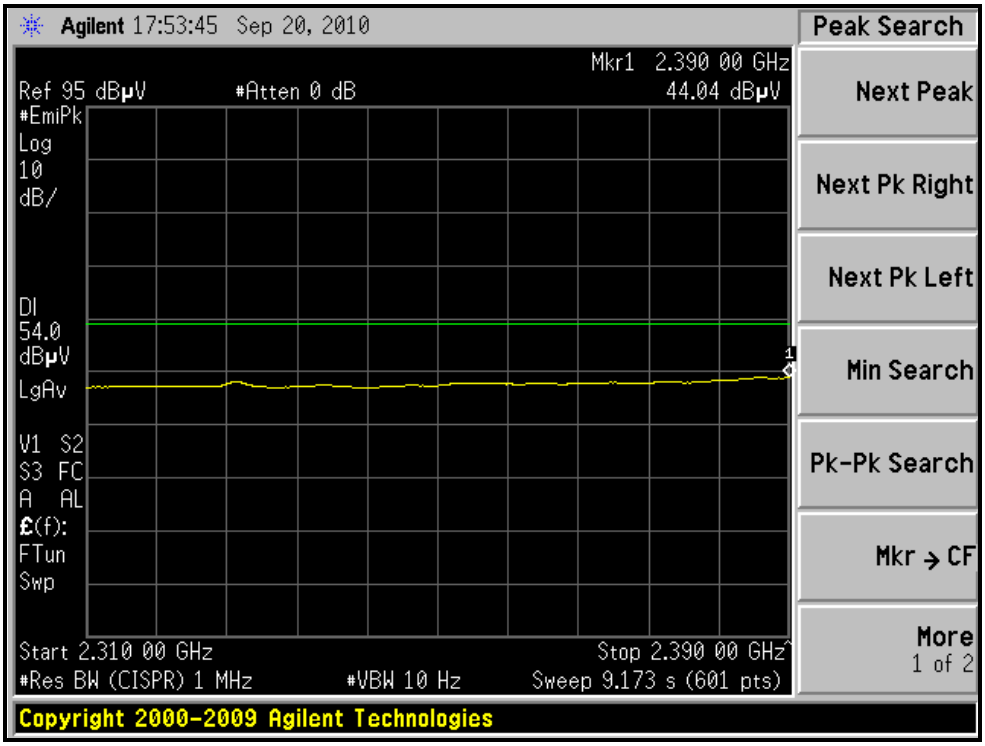
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





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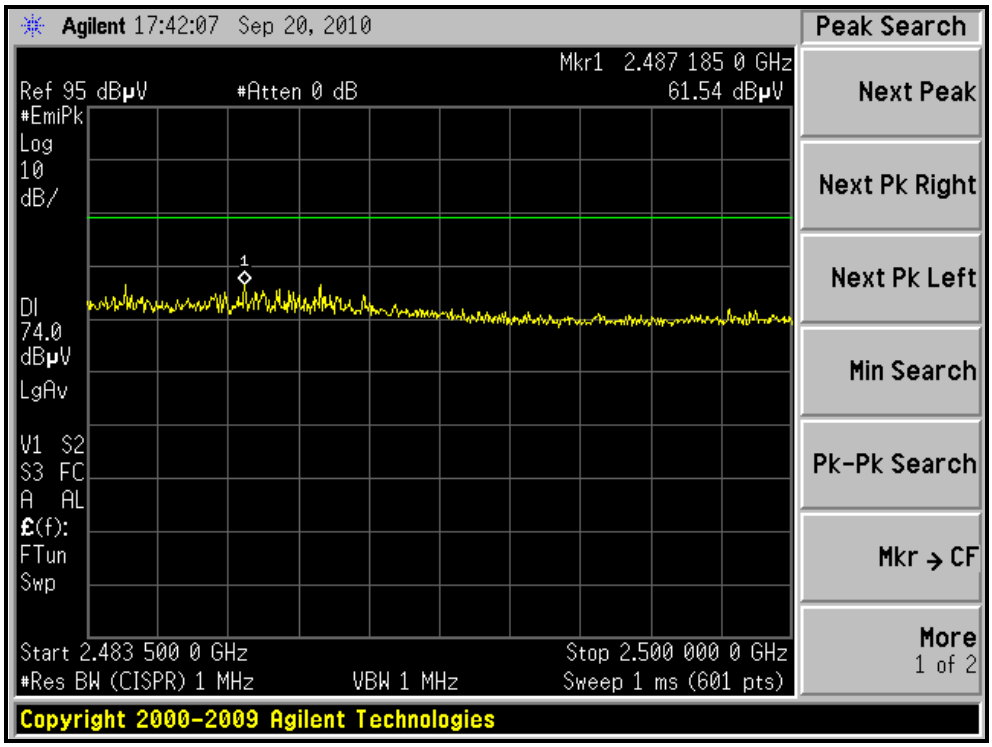
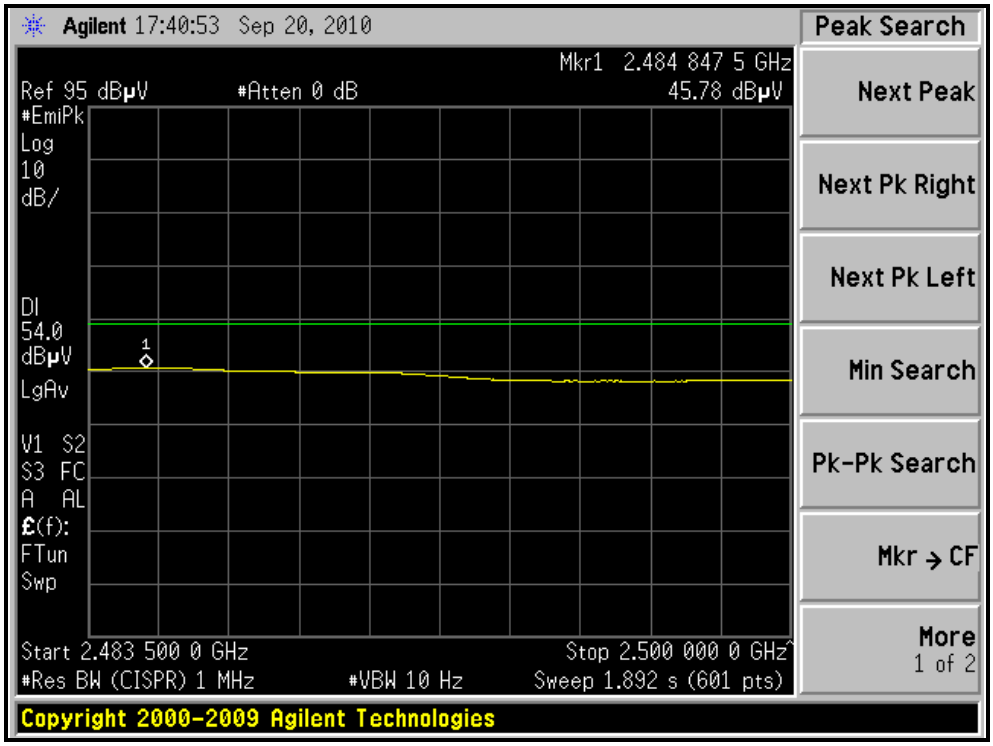
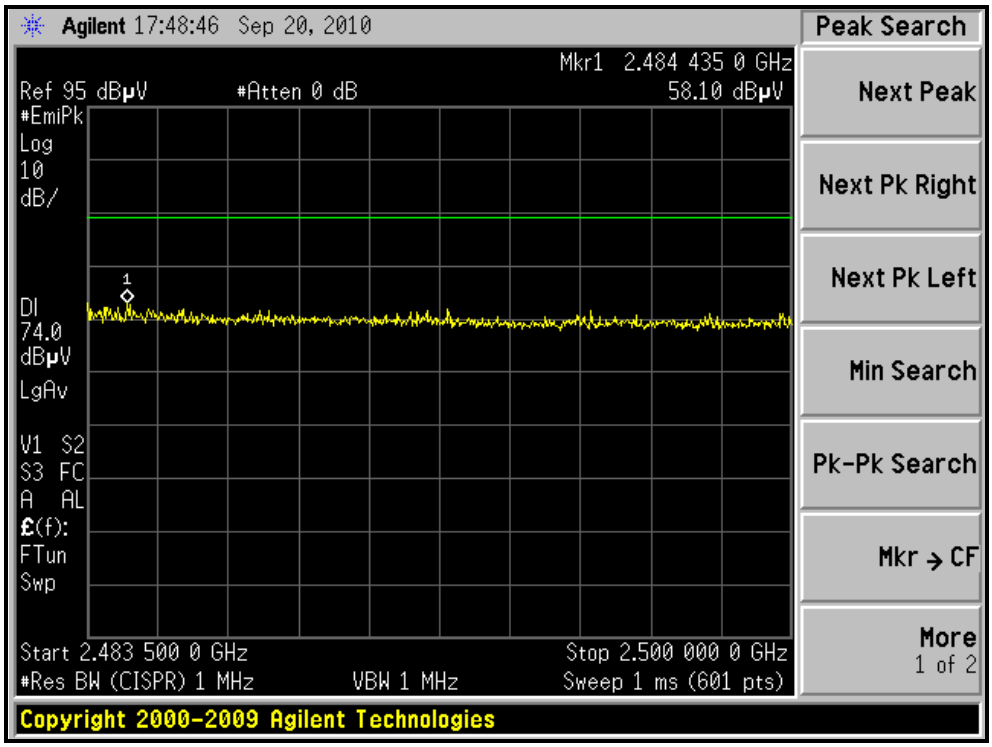
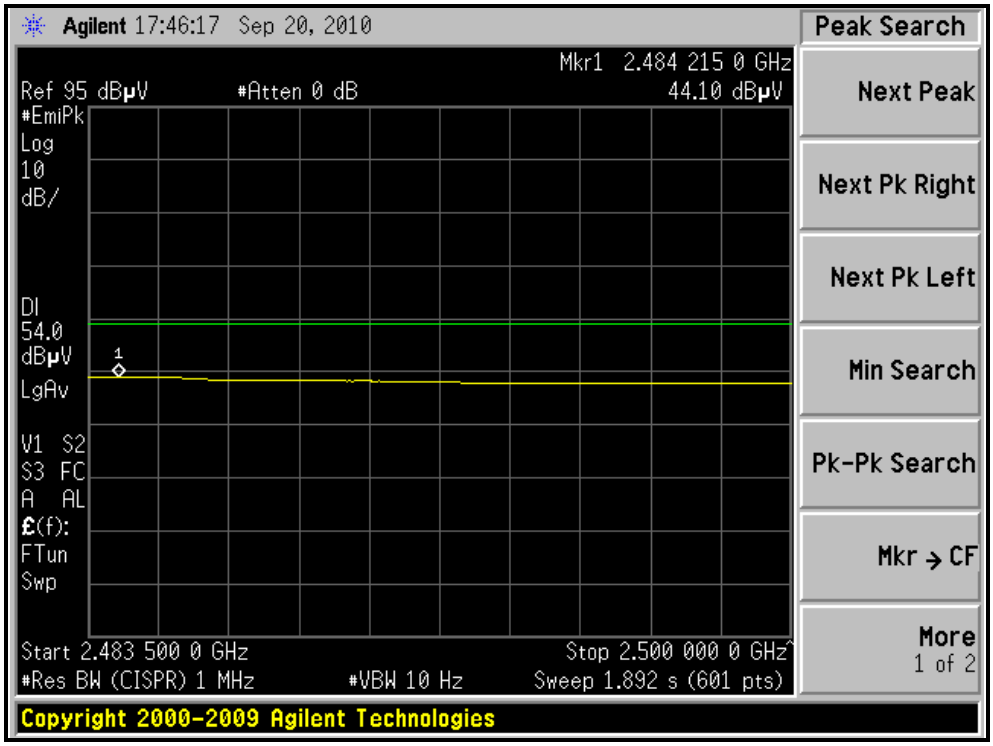




RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.0 PK	74.0	-17.0	1.47 H	214	25.79	31.21
2	2390.00	46.0 AV	54.0	-8.0	1.47 H	214	14.79	31.21
3	*2412.00	107.9 PK			1.46 H	213	76.63	31.27
4	*2412.00	98.3 AV			1.46 H	213	67.03	31.27
5	4824.00	44.8 PK	74.0	-29.2	1.00 H	15	5.38	39.42
6	4824.00	33.6 AV	54.0	-20.4	1.00 H	15	-5.82	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	56.9 PK	74.0	-17.1	1.48 V	272	25.69	31.21
2	2390.00	44.3 AV	54.0	-9.7	1.48 V	272	13.09	31.21
3	*2412.00	100.5 PK			1.50 V	270	69.23	31.27
4	*2412.00	90.7 AV			1.50 V	270	59.43	31.27
5	4824.00	45.0 PK	74.0	-29.0	1.80 V	192	5.58	39.42
6	4824.00	33.7 AV	54.0	-20.3	1.80 V	192	-5.72	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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.8 PK			1.73 H	329	77.46	31.34
2	*2437.00	98.4 AV			1.73 H	329	67.06	31.34
3	4874.00	45.0 PK	74.0	-29.0	1.00 H	18	5.38	39.62
4	4874.00	33.8 AV	54.0	-20.2	1.00 H	18	-5.82	39.62
5	7311.00	59.3 PK	74.0	-14.7	1.14 H	235	15.20	44.10
6	7311.00	46.8 AV	54.0	-7.2	1.14 H	235	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	102.8 PK			1.46 V	273	71.46	31.34
2	*2437.00	92.2 AV			1.46 V	273	60.86	31.34
3	4874.00	45.1 PK	74.0	-28.9	1.79 V	190	5.48	39.62
4	4874.00	33.8 AV	54.0	-20.2	1.79 V	190	-5.82	39.62
5	7311.00	55.0 PK	74.0	-19.0	1.35 V	269	10.90	44.10
6	7311.00	41.7 AV	54.0	-12.3	1.35 V	269	-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	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.8 PK			1.74 H	208	74.40	31.40
2	*2462.00	95.2 AV			1.74 H	208	63.80	31.40
3	2483.50	61.8 PK	74.0	-12.2	1.74 H	208	30.34	31.46
4	2483.50	45.2 AV	54.0	-8.8	1.74 H	208	13.74	31.46
5	4924.00	46.0 PK	74.0	-28.0	1.00 H	15	6.18	39.82
6	4924.00	34.3 AV	54.0	-19.7	1.00 H	15	-5.52	39.82
7	7386.00	53.2 PK	74.0	-20.8	1.11 H	230	9.02	44.18
8	7386.00	41.0 AV	54.0	-13.0	1.11 H	230	-3.18	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	99.5 PK			1.45 V	272	68.10	31.40
2	*2462.00	88.9 AV			1.45 V	272	57.50	31.40
3	2483.64	56.2 PK	74.0	-17.8	1.44 V	271	24.74	31.46
4	2483.64	43.5 AV	54.0	-10.5	1.44 V	271	12.04	31.46
5	4924.00	46.0 PK	74.0	-28.0	1.80 V	191	6.18	39.82
6	4924.00	34.3 AV	54.0	-19.7	1.80 V	191	-5.52	39.82
7	7386.00	51.5 PK	74.0	-22.5	1.33 V	266	7.32	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.33 V	266	-4.68	44.18

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

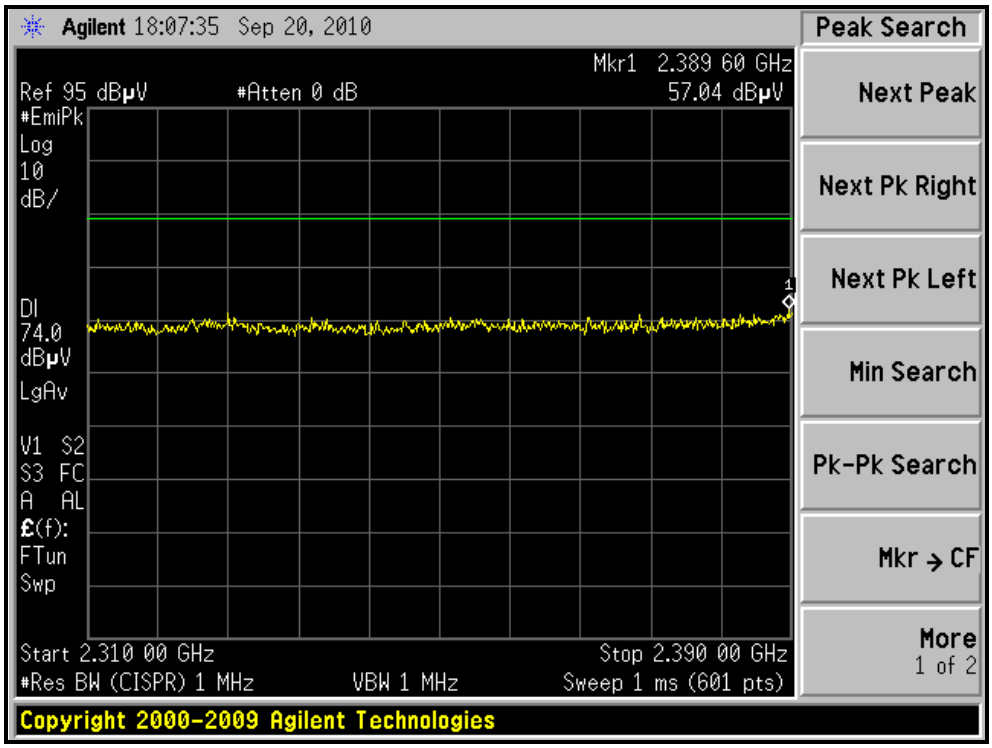
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

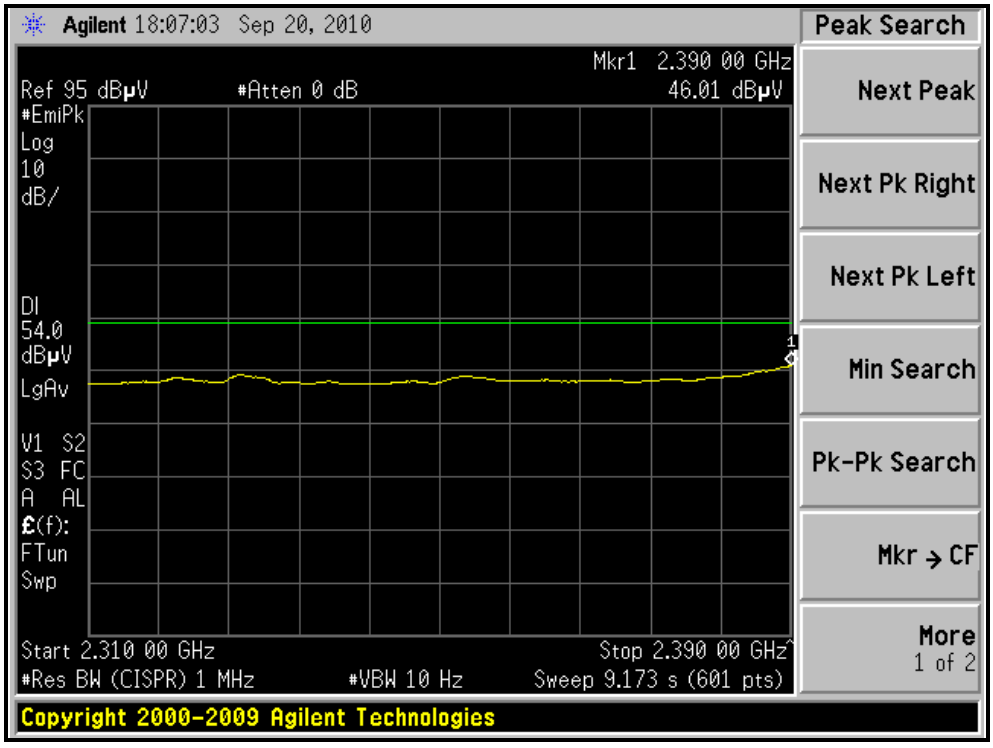
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

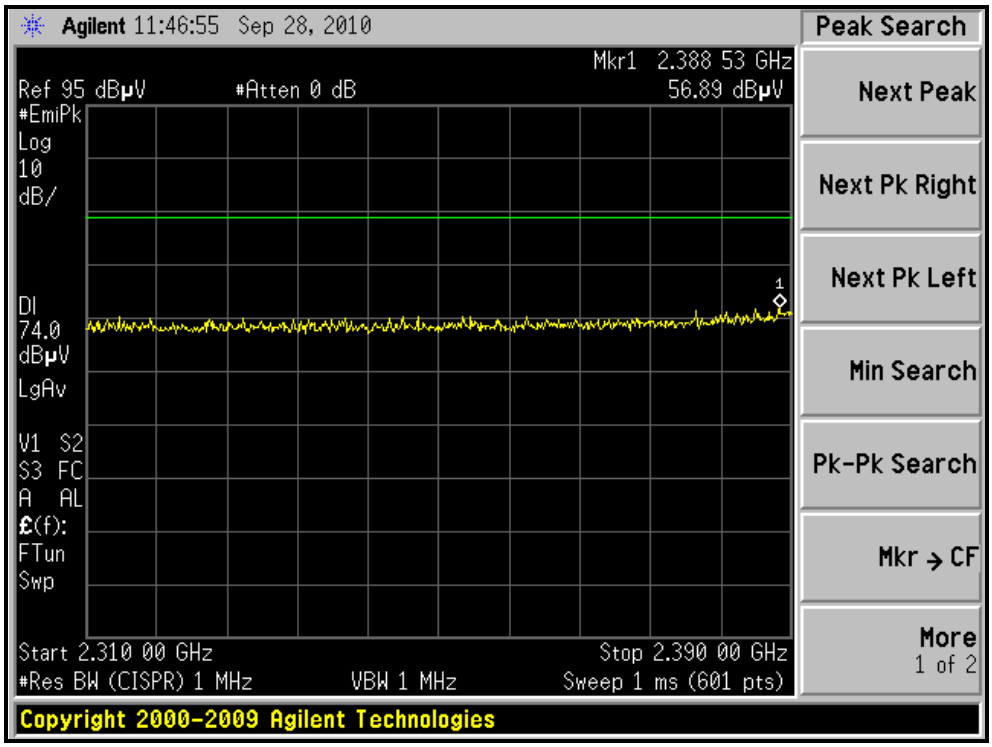
5. " * ": Fundamental frequency.

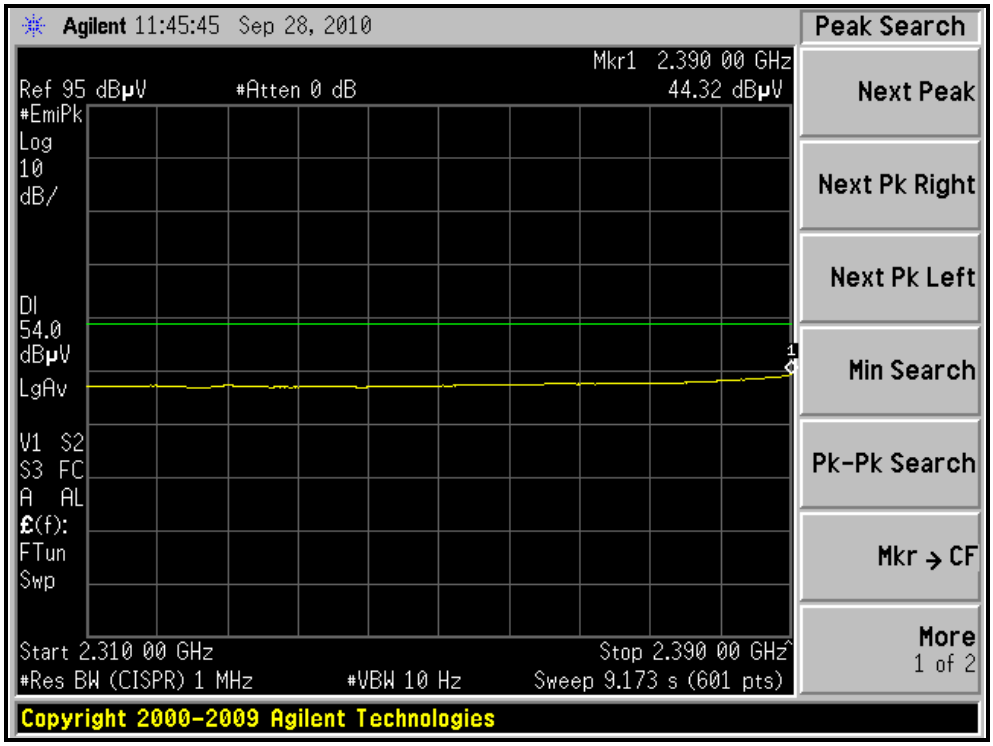
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



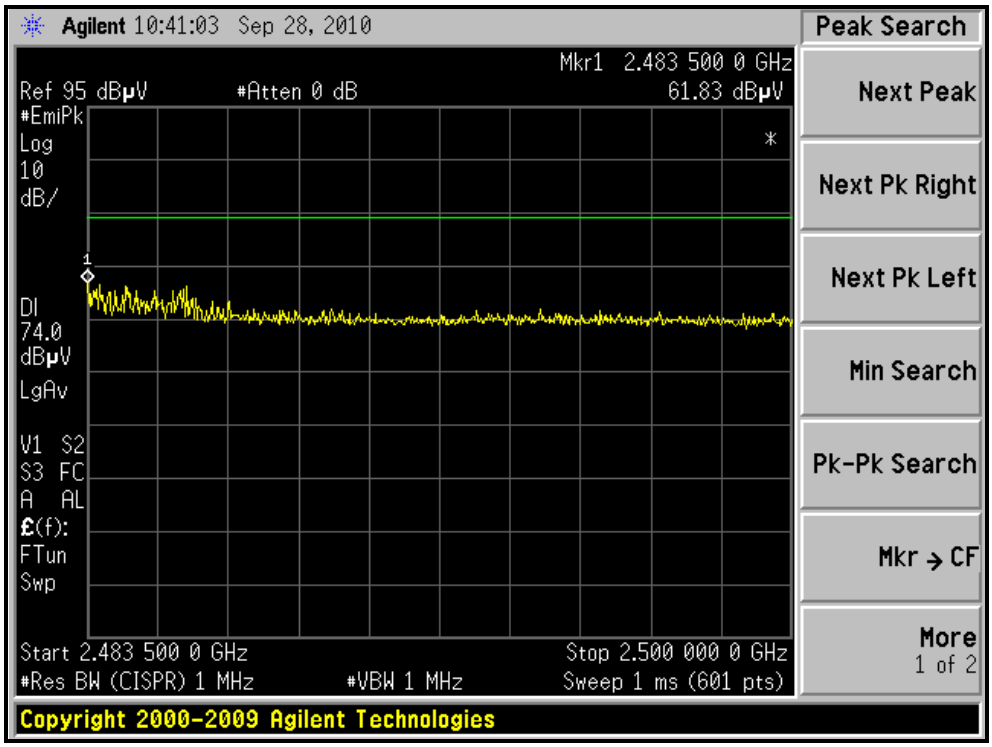


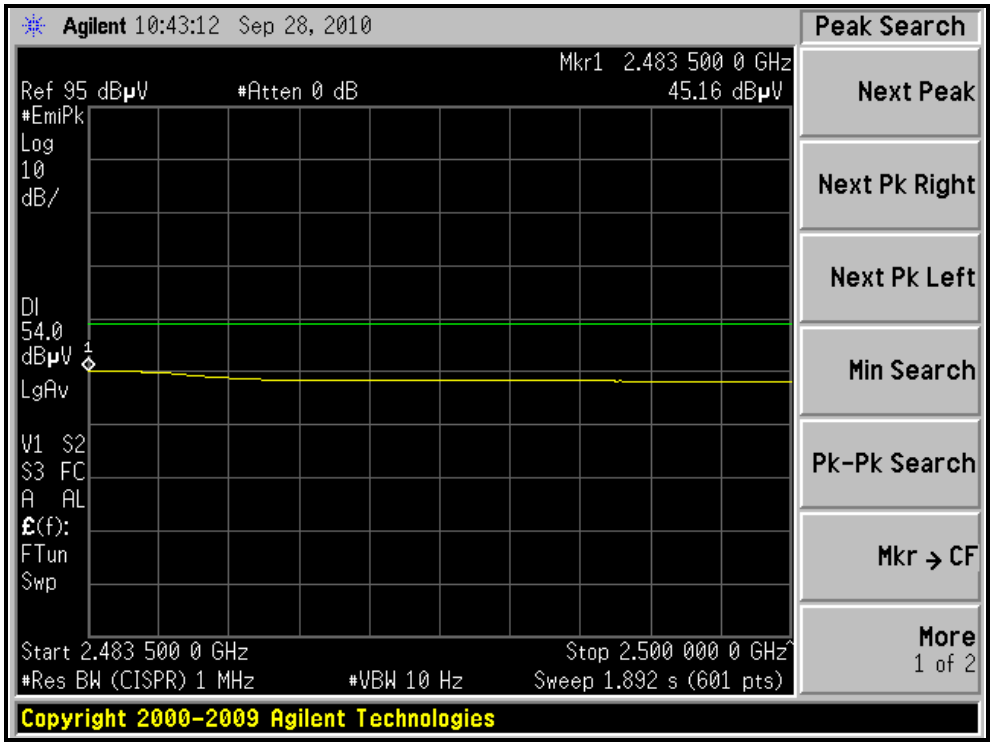
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



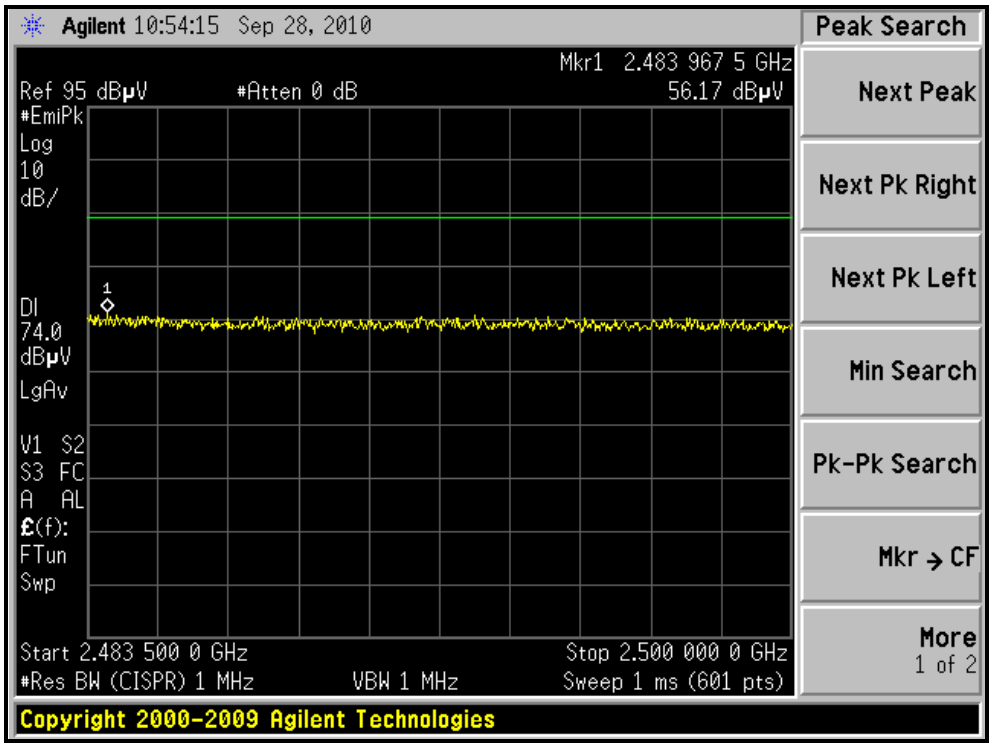


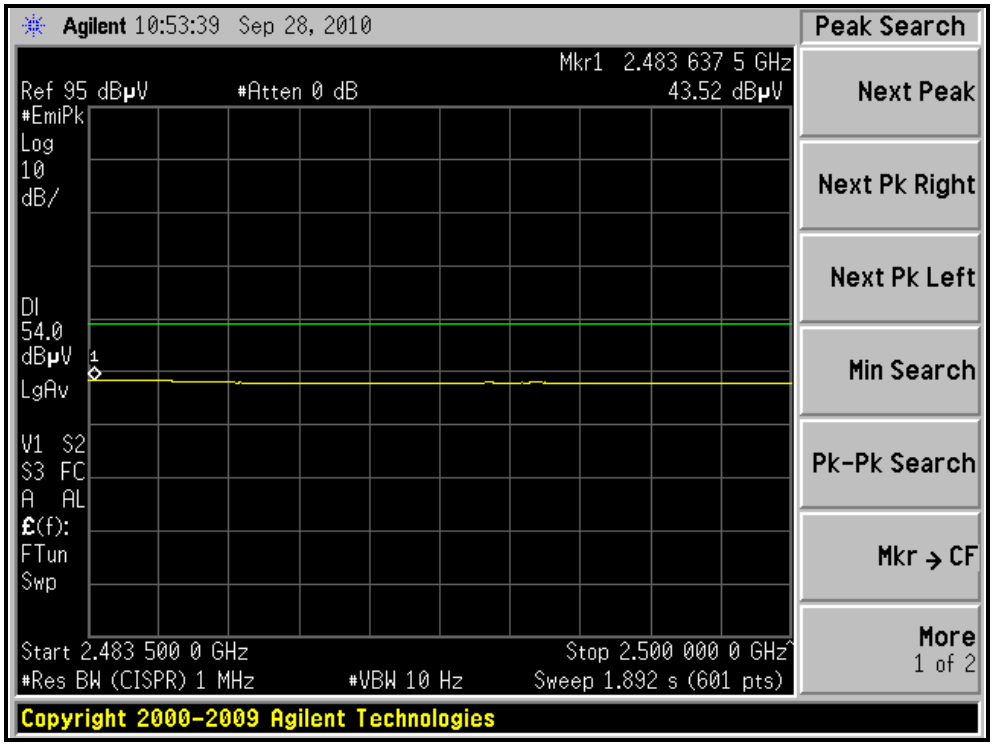
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2389.87	62.0 PK	74.0	-12.0	1.73 H	216	30.79	31.21
2	2389.87	45.5 AV	54.0	-8.5	1.73 H	216	14.29	31.21
3	*2422.00	103.7 PK			1.75 H	323	72.40	31.30
4	*2422.00	92.7 AV			1.75 H	323	61.40	31.30
5	4844.00	44.9 PK	74.0	-29.1	1.00 H	21	5.40	39.50
6	4844.00	33.6 AV	54.0	-20.4	1.00 H	21	-5.90	39.50
7	7266.00	51.5 PK	74.0	-22.5	1.15 H	241	7.44	44.06
8	7266.00	39.7 AV	54.0	-14.3	1.15 H	241	-4.36	44.06
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.0 PK	74.0	-13.0	1.50 V	269	29.79	31.21
2	2390.00	45.8 AV	54.0	-8.2	1.50 V	269	14.59	31.21
3	*2422.00	98.3 PK			1.50 V	271	67.00	31.30
4	*2422.00	87.3 AV			1.50 V	271	56.00	31.30
5	4844.00	44.6 PK	74.0	-29.4	1.74 V	192	5.10	39.50
6	4844.00	33.5 AV	54.0	-20.5	1.74 V	192	-6.00	39.50
7	7266.00	51.1 PK	74.0	-22.9	1.36 V	267	7.04	44.06
8	7266.00	39.1 AV	54.0	-14.9	1.36 V	267	-4.96	44.06

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.9 PK			1.74 H	208	76.56	31.34
2	*2437.00	97.0 AV			1.74 H	208	65.66	31.34
3	4874.00	45.1 PK	74.0	-28.9	1.00 H	17	5.48	39.62
4	4874.00	33.7 AV	54.0	-20.3	1.00 H	17	-5.92	39.62
5	7311.00	56.8 PK	74.0	-17.2	1.12 H	239	12.70	44.10
6	7311.00	44.3 AV	54.0	-9.7	1.12 H	239	0.20	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	100.9 PK			1.45 V	267	69.56	31.34
2	*2437.00	90.4 AV			1.45 V	267	59.06	31.34
3	4874.00	45.2 PK	74.0	-28.8	1.81 V	191	5.58	39.62
4	4874.00	33.8 AV	54.0	-20.2	1.81 V	191	-5.82	39.62
5	7311.00	53.1 PK	74.0	-20.9	1.35 V	265	9.00	44.10
6	7311.00	40.5 AV	54.0	-13.5	1.35 V	265	-3.60	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 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Duke Tseng

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.8 PK			1.74 H	207	68.42	31.38
2	*2452.00	88.7 AV			1.74 H	207	57.32	31.38
3	2483.53	64.6 PK	74.0	-9.4	1.72 H	209	33.14	31.46
4	2483.53	46.8 AV	54.0	-7.2	1.72 H	209	15.34	31.46
5	4904.00	46.1 PK	74.0	-27.9	1.00 H	14	6.36	39.74
6	4904.00	34.2 AV	54.0	-19.8	1.00 H	14	-5.54	39.74
7	7356.00	52.8 PK	74.0	-21.2	1.13 H	236	8.65	44.15
8	7356.00	40.7 AV	54.0	-13.3	1.13 H	236	-3.45	44.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.3 PK			1.44 V	271	63.92	31.38
2	*2452.00	84.0 AV			1.44 V	271	52.62	31.38
3	2483.50	61.5 PK	74.0	-12.5	1.44 V	269	30.04	31.46
4	2483.50	44.4 AV	54.0	-9.6	1.44 V	269	12.94	31.46
5	4904.00	45.9 PK	74.0	-28.1	1.79 V	193	6.16	39.74
6	4904.00	34.1 AV	54.0	-19.9	1.79 V	193	-5.64	39.74
7	7356.00	51.6 PK	74.0	-22.4	1.35 V	268	7.45	44.15
8	7356.00	39.4 AV	54.0	-14.6	1.35 V	268	-4.75	44.15

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

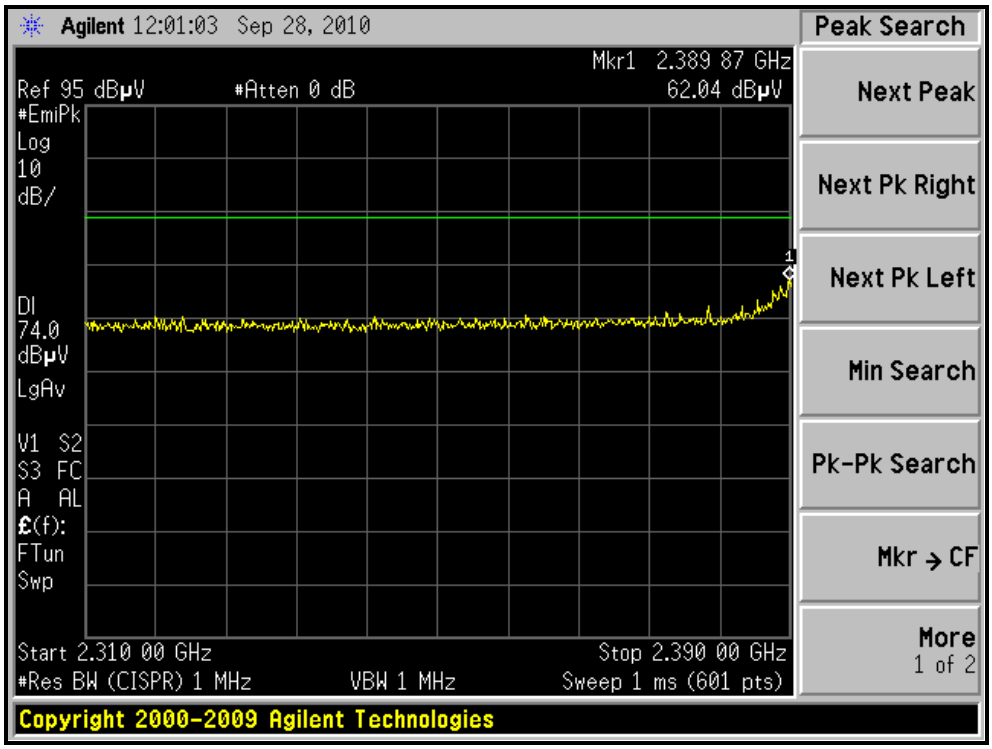
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

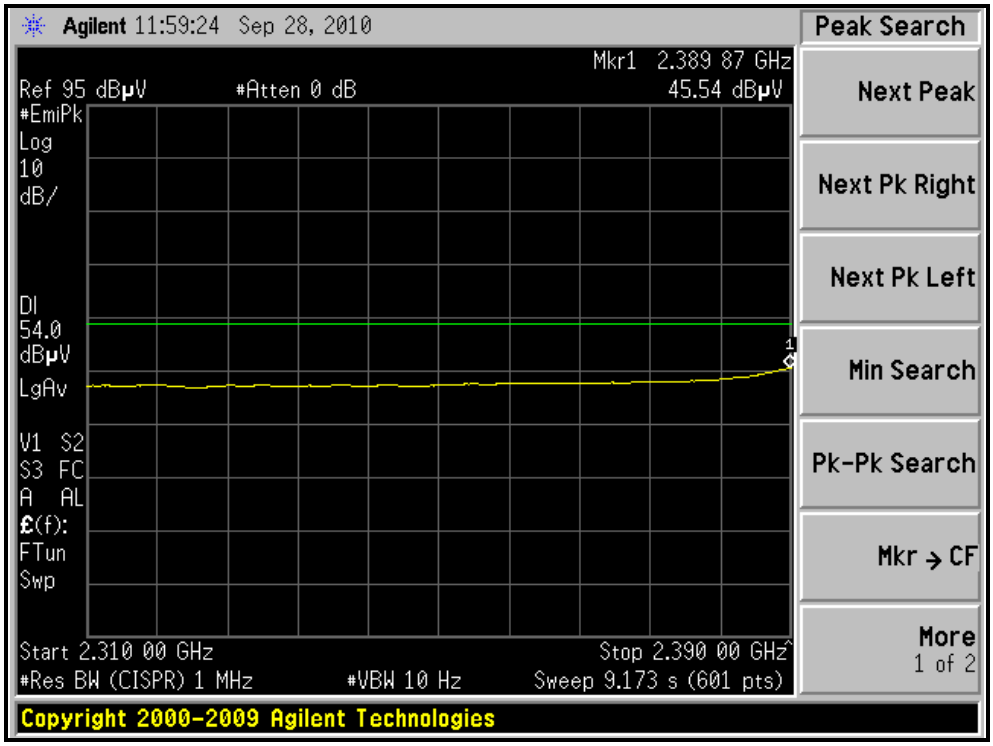
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

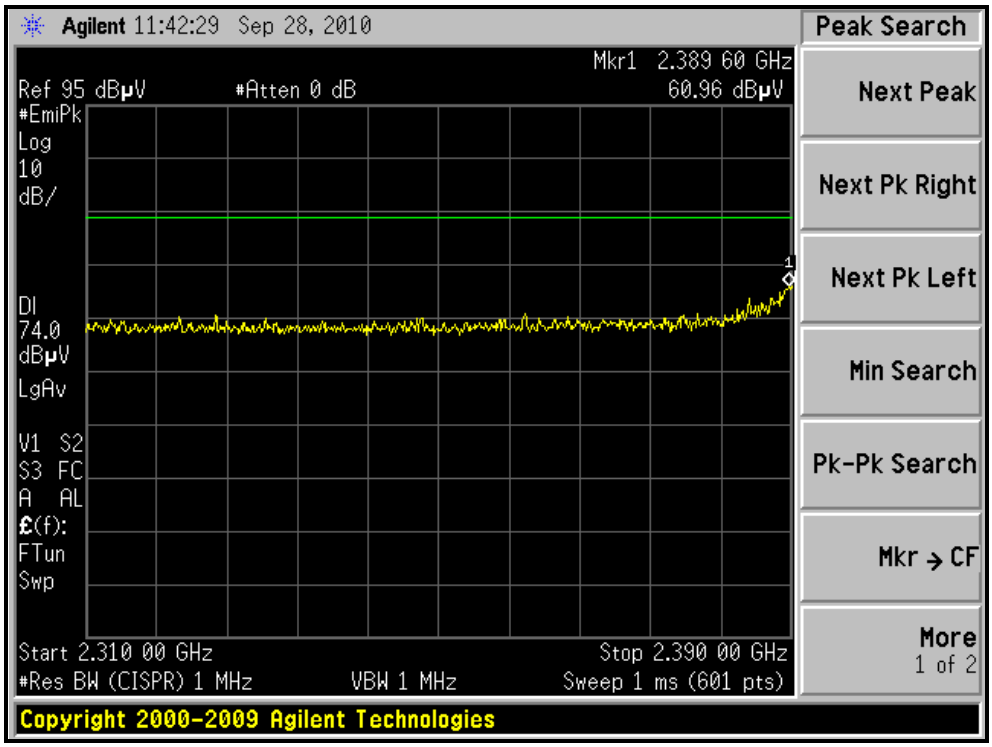
5. " * ": Fundamental frequency.

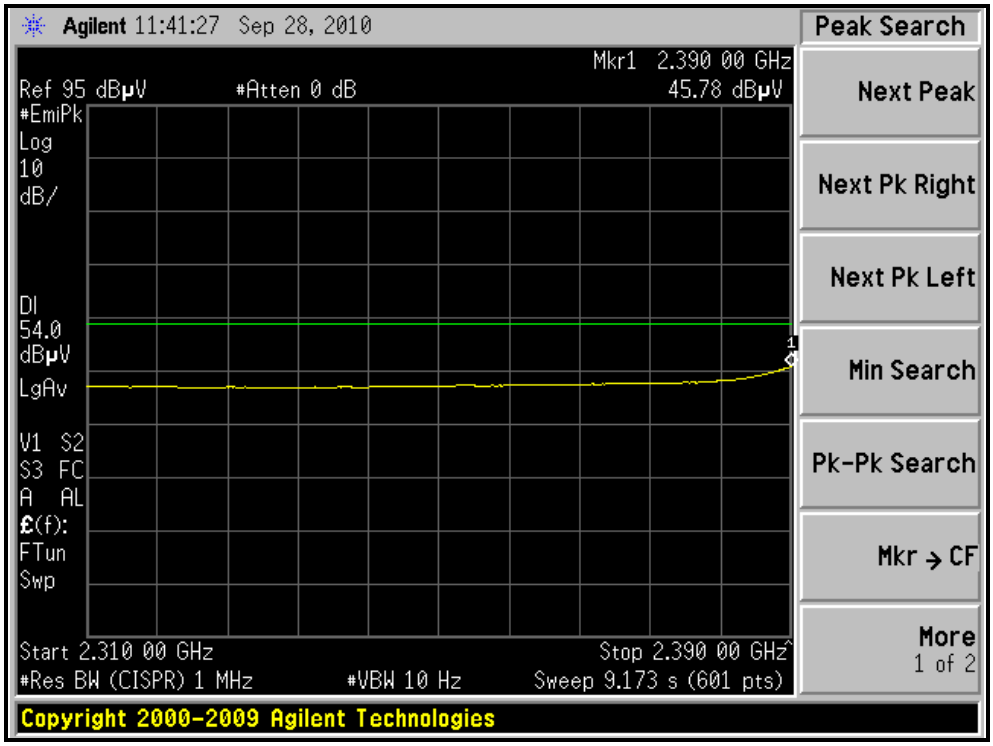
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



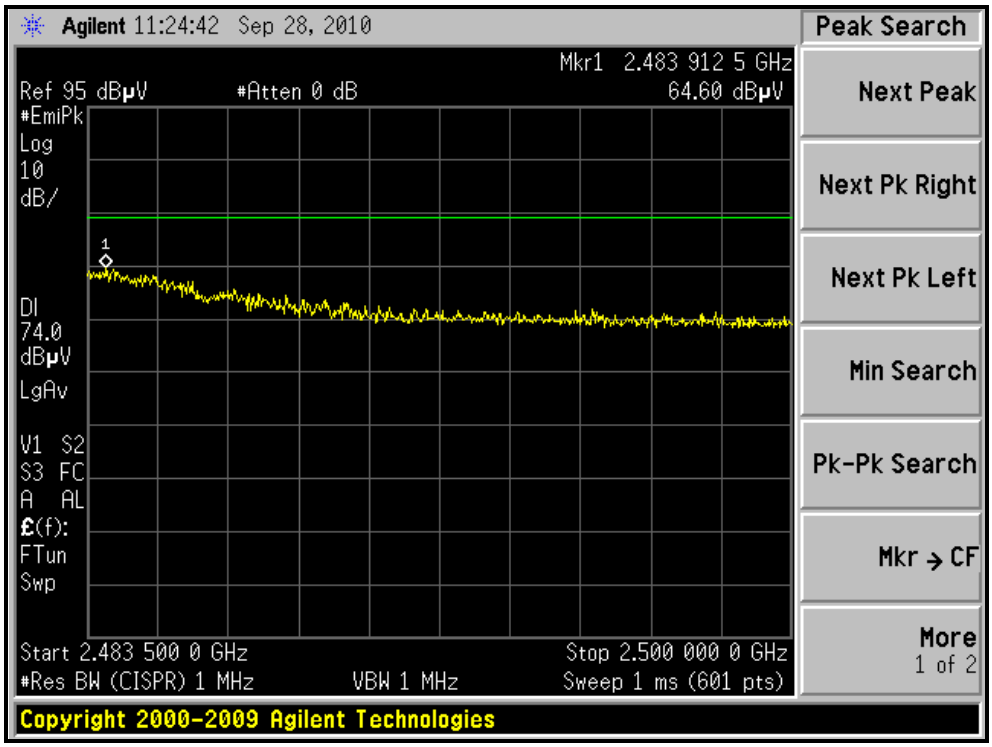


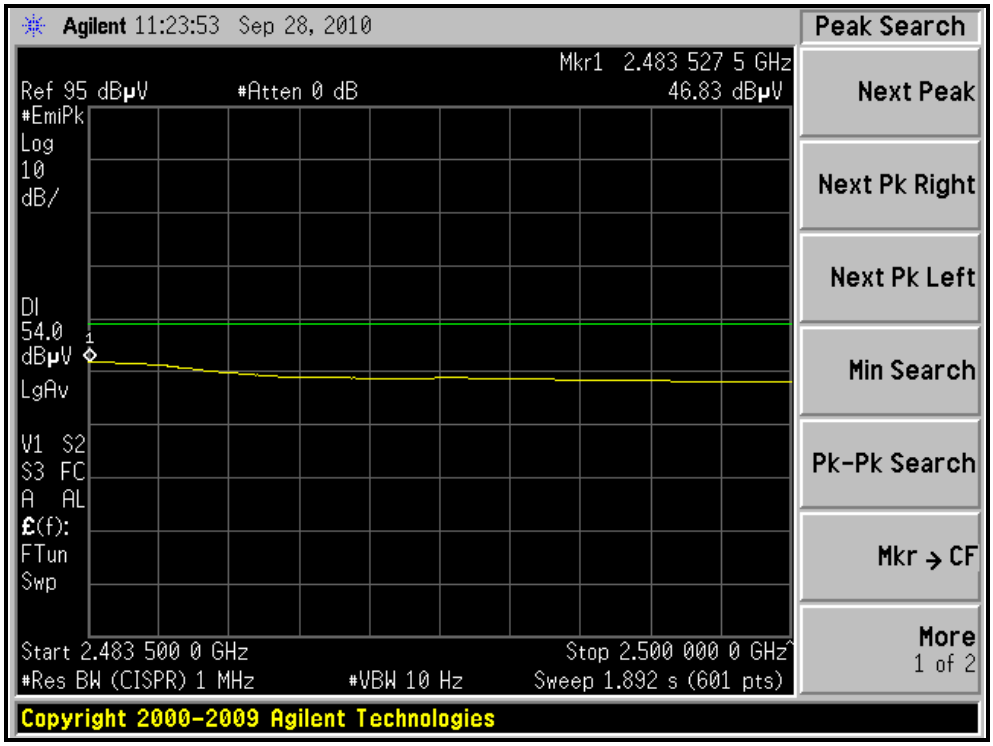
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



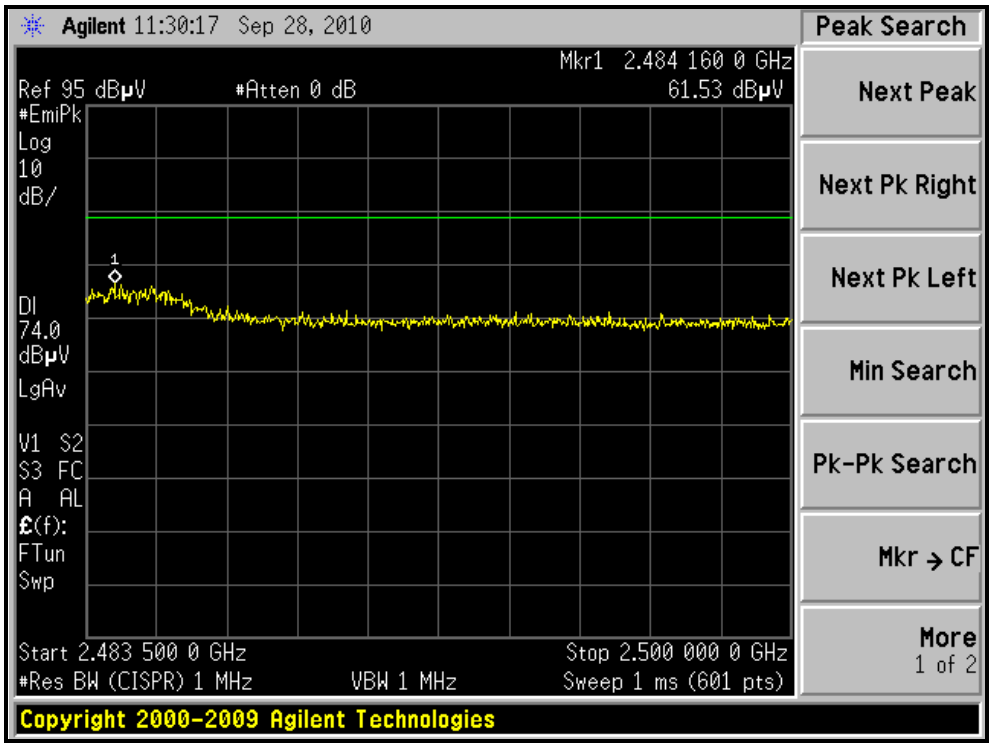


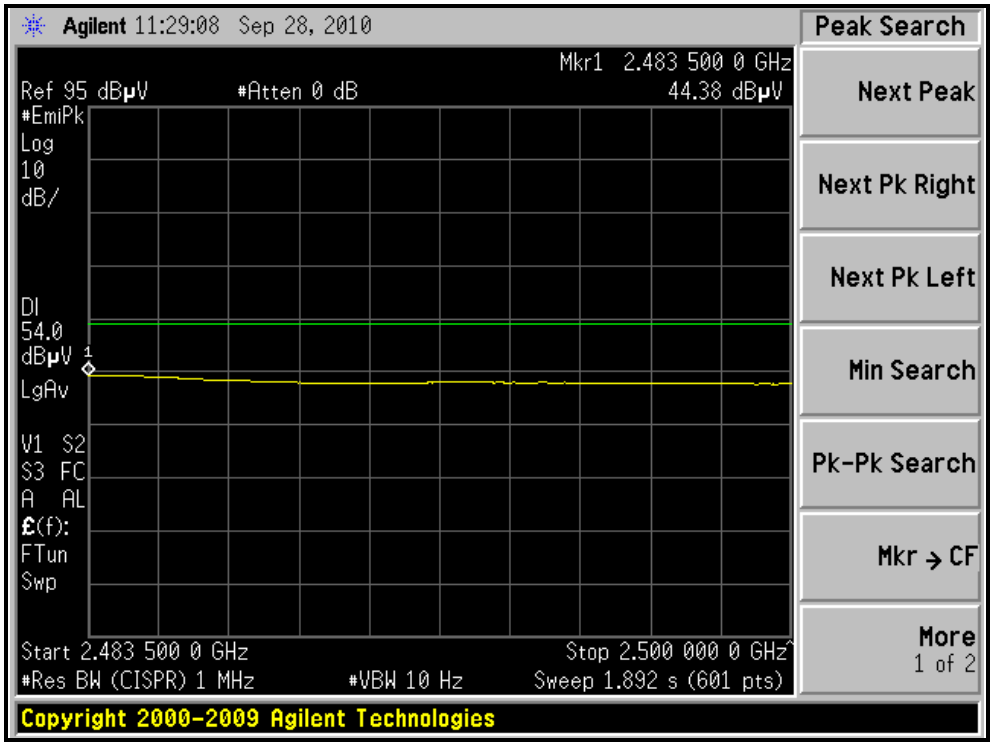
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH7, HORIZONTAL)





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





4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

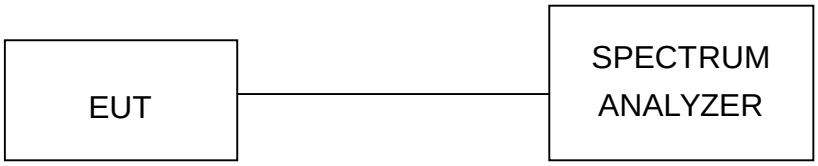
4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

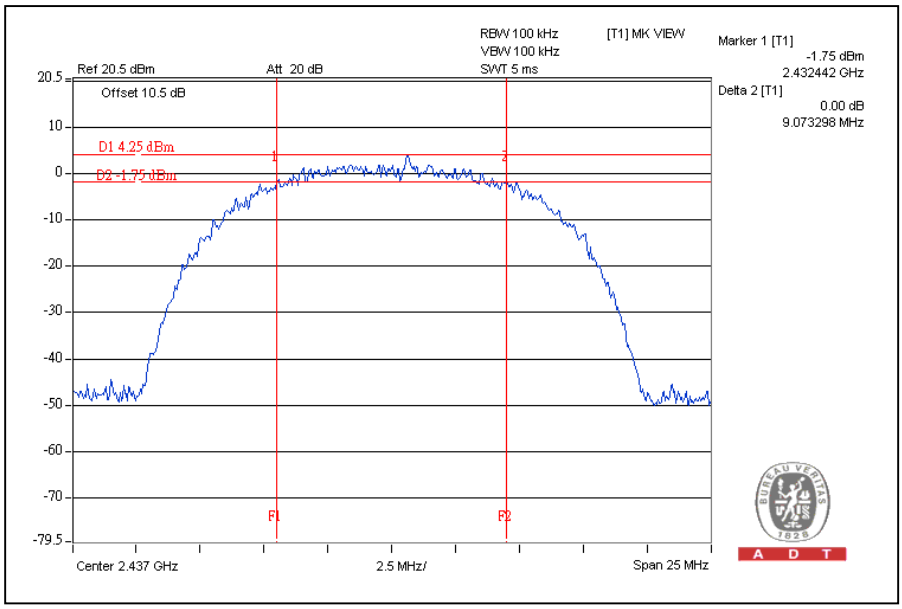
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.06	0.5	PASS
6	2437	9.07	0.5	PASS
11	2462	8.65	0.5	PASS

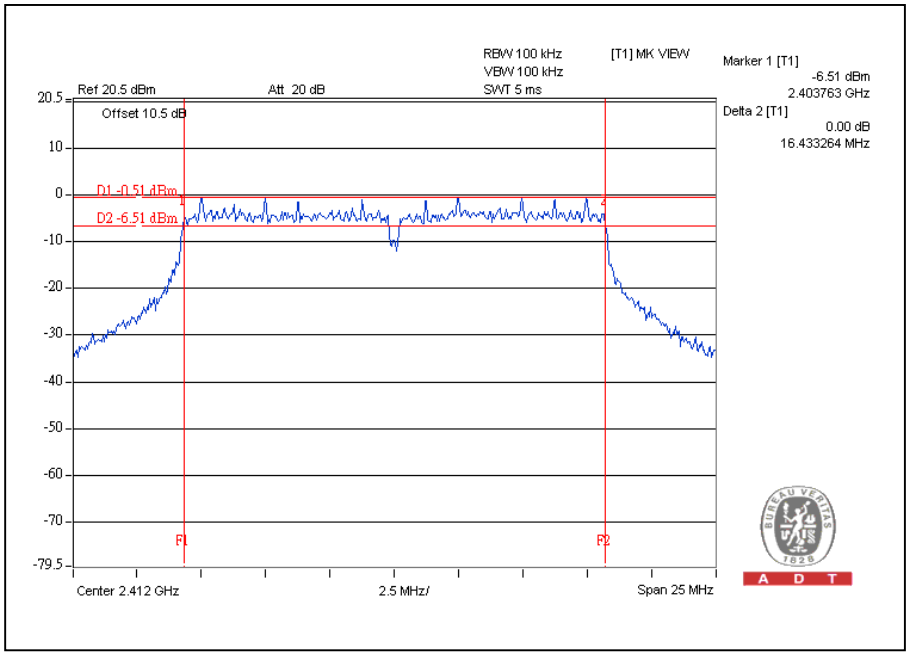
CH6



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.43	0.5	PASS
6	2437	16.42	0.5	PASS
11	2462	16.42	0.5	PASS

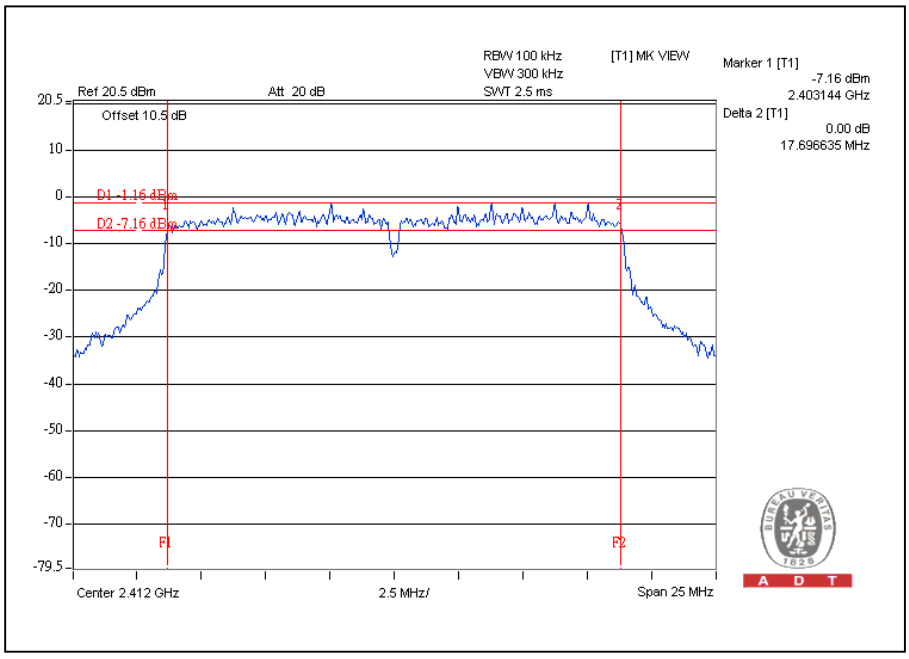
CH1



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.69	0.5	PASS
6	2437	17.38	0.5	PASS
11	2462	17.65	0.5	PASS

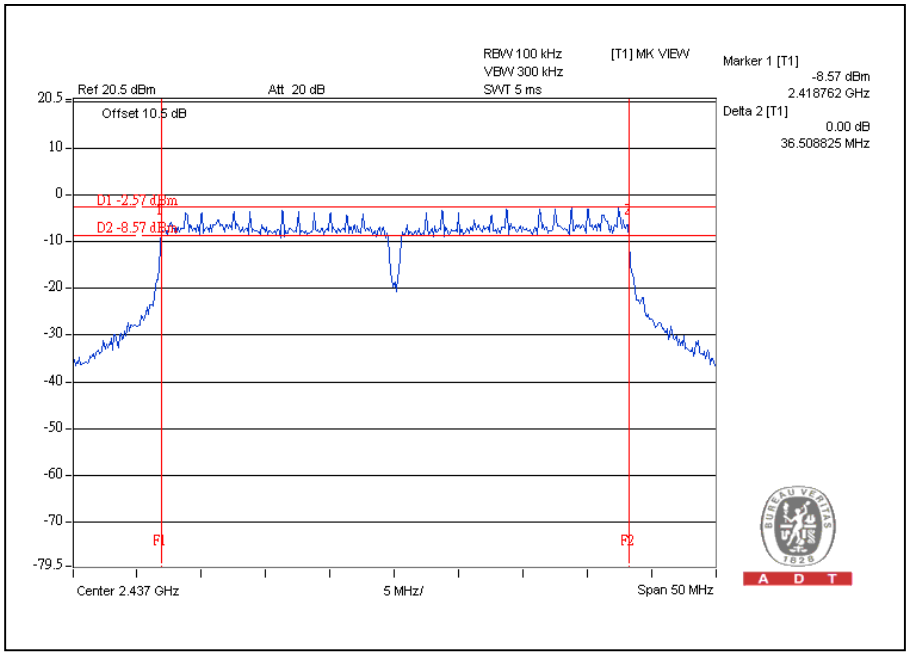
CH1



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.50	0.5	PASS
4	2437	36.50	0.5	PASS
7	2452	36.49	0.5	PASS

CH4



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

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

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

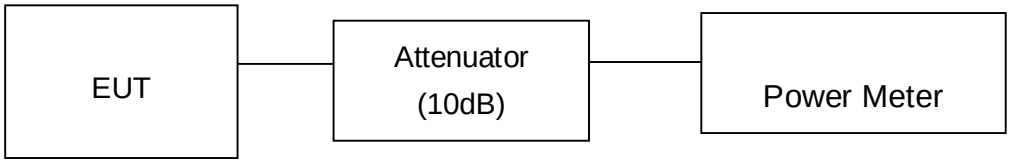
4.4.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator; the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
1	2412	14.4	13.7	13.9	75.500	18.8	25.82	PASS
6	2437	15.1	15.2	14.9	96.400	19.8	25.82	PASS
11	2462	14.4	13.6	13.9	75.000	18.8	25.82	PASS

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
1	2412	20.4	19.7	20.2	307.7	24.9	25.82	PASS
6	2437	20.9	21.2	20.8	375.1	25.7	25.82	PASS
11	2462	19.8	19.4	19.6	273.8	24.4	25.82	PASS

With Antenna 1: PIFA Antenna:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=10.181
The effective legacy gain is 10.181dBi, therefore the limit need to reduce.

With Antenna 3: Directional Antenna

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=15.671
The effective legacy gain is 15.671dBi, therefore the limit need to reduce.

With Antenna 4: Omni Antenna

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=7.771
The effective legacy gain is 7.771dBi, therefore the limit need to reduce.

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
1	2412	20.6	19.4	20.3	309.1	24.9	28.37	PASS
6	2437	23.2	22.1	22.1	533.3	27.3	28.37	PASS
11	2462	18.8	19.1	19.5	246.3	23.9	28.37	PASS

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
1	2422	18.0	17.6	17.6	178.2	22.5	28.37	PASS
4	2437	21.3	20.4	21.0	370.4	25.7	28.37	PASS
7	2452	16.5	15.5	15.8	118.2	20.7	28.37	PASS

With Antenna 1: PIFA Antenna:

Directional gain = 5.41dBi, therefore the limit doesn't reduce.

With Antenna 3: Directional Antenna

Directional gain = 10.9dBi, therefore the limit need to reduce.

With Antenna 4: Omni Antenna

Directional gain = 3dBi, therefore the limit doesn't reduce.

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

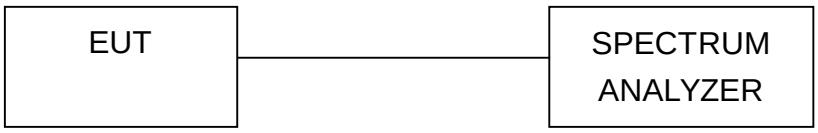
4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

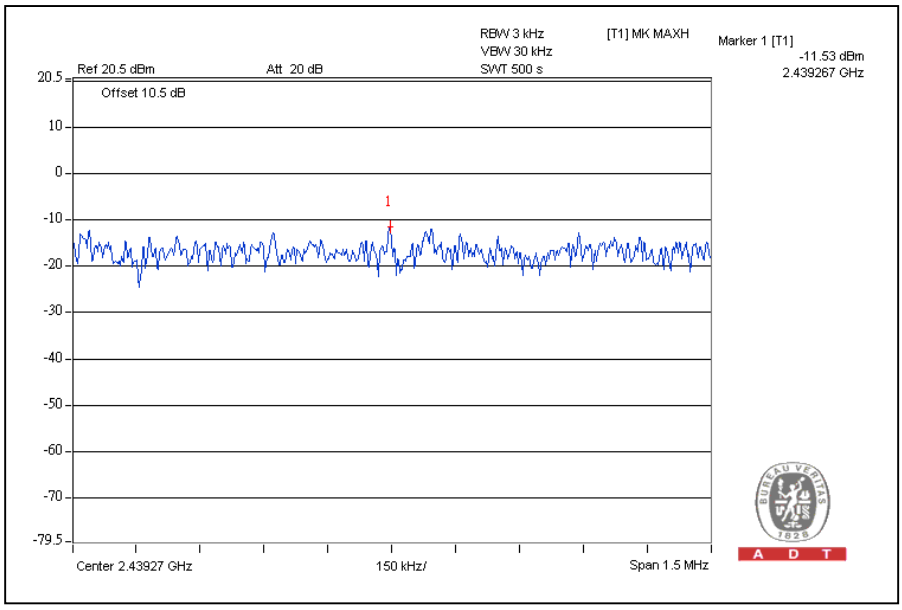
Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
1	2412	-13.3	-12.4	-12.9	-7.8	8	PASS
6	2437	-12.0	-11.5	-11.9	-7.0	8	PASS
11	2462	-13.7	-12.4	-12.7	-8.1	8	PASS

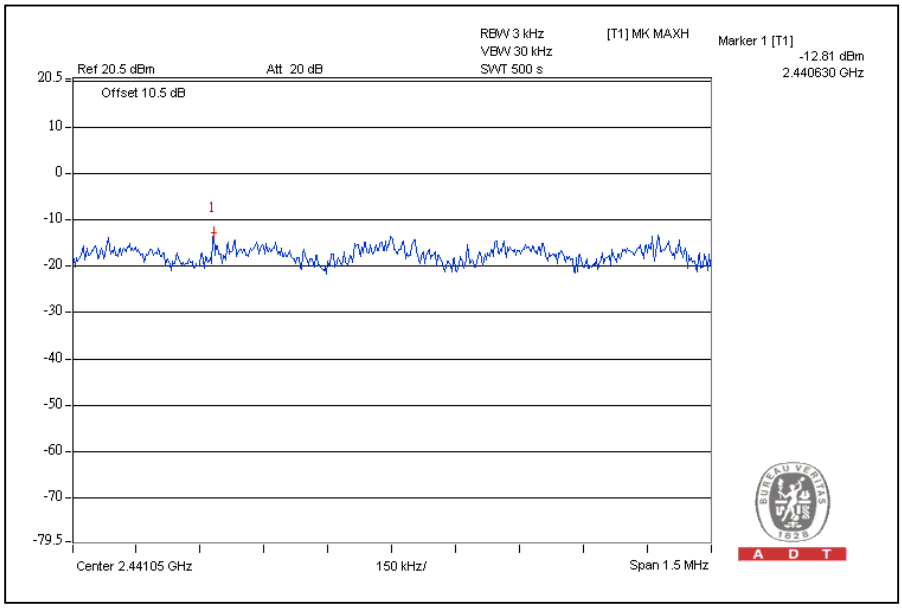
For Chain(1): CH6



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
1	2412	-13.3	-14.3	-13.6	-8.9	8	PASS
6	2437	-13.9	-12.8	-13.0	-8.4	8	PASS
11	2462	-14.3	-14.4	-15.8	-10.0	8	PASS

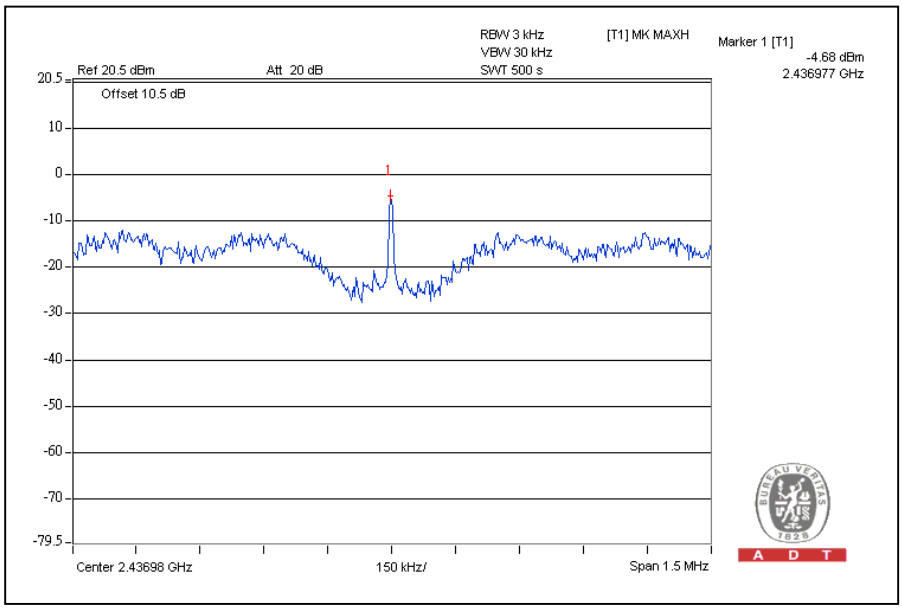
For Chain(1): CH6



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
1	2412	-14.6	-15.1	-14.3	-9.9	8	PASS
6	2437	-4.7	-11.5	-10.6	-3.0	8	PASS
11	2462	-15.8	-14.3	-16.9	-10.8	8	PASS

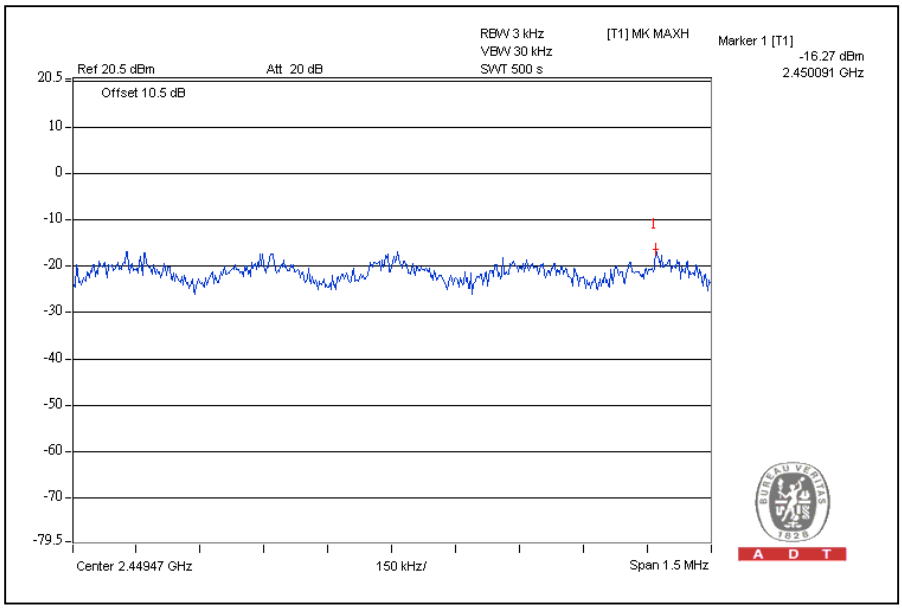
For Chain(0): CH6



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
1	2422	-21.3	-20.3	-21.8	-16.3	8	PASS
4	2437	-17.7	-17.6	-16.3	-12.4	8	PASS
7	2452	-20.6	-23.0	-17.4	-15.0	8	PASS

For Chain (2): CH4



4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

4.6.3 TEST PROCEDURE

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

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

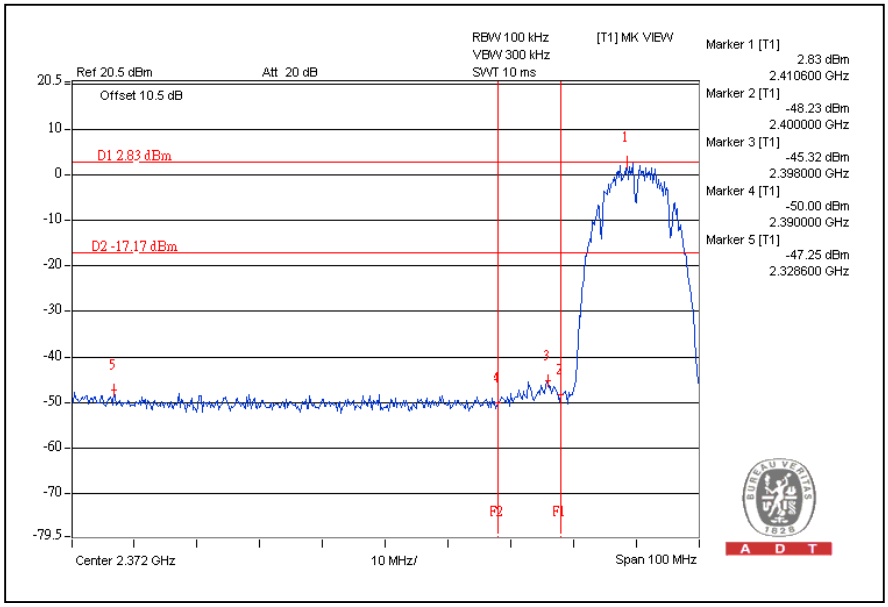
Same as Item 4.3.6

4.6.6 TEST RESULTS

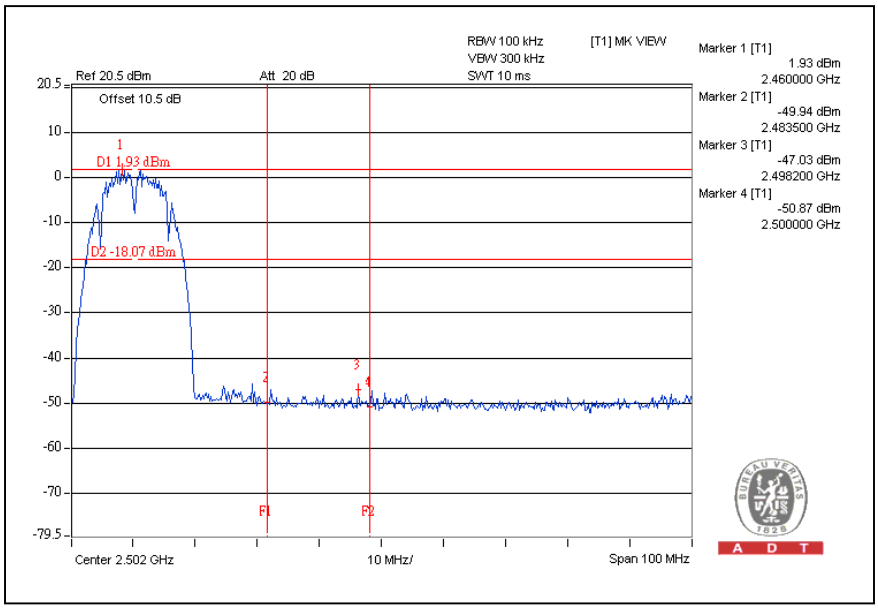
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

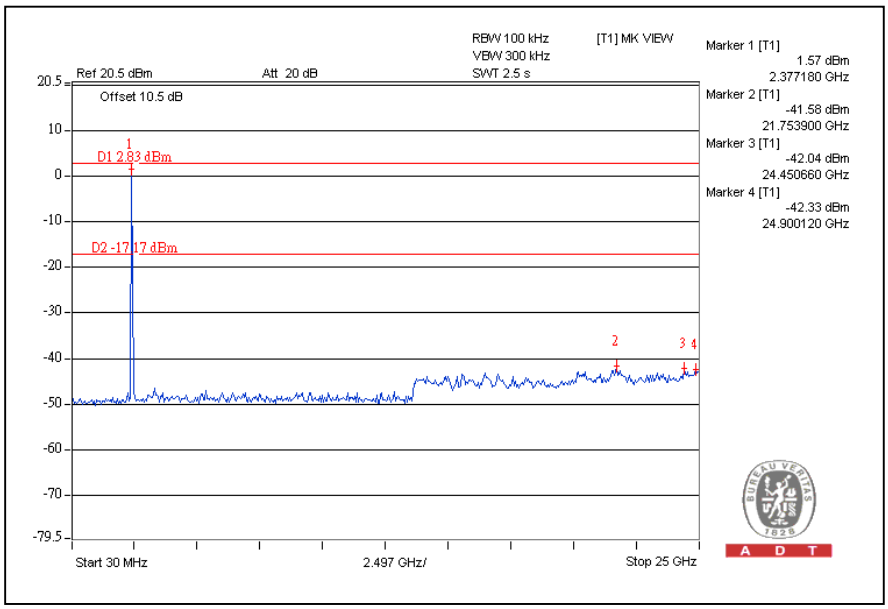
CH1



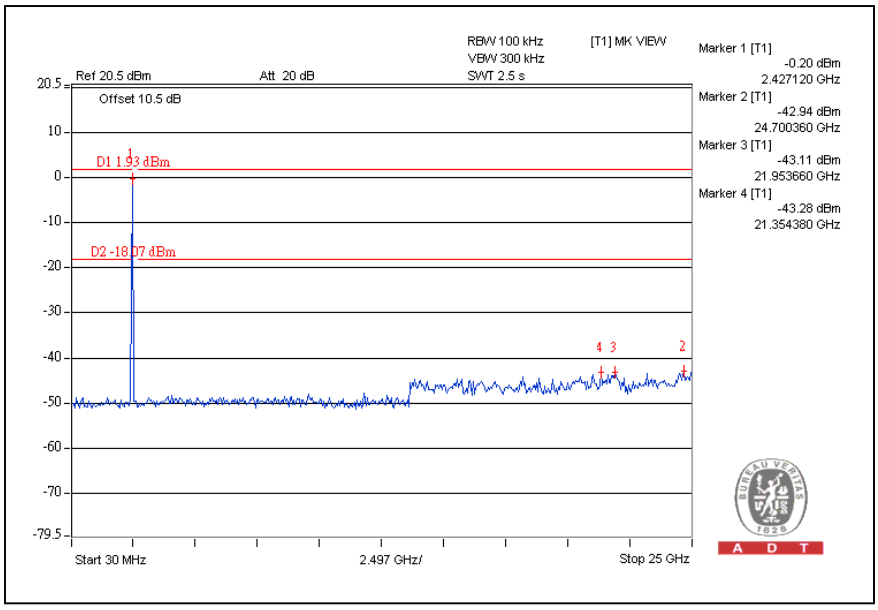
CH11



CH1

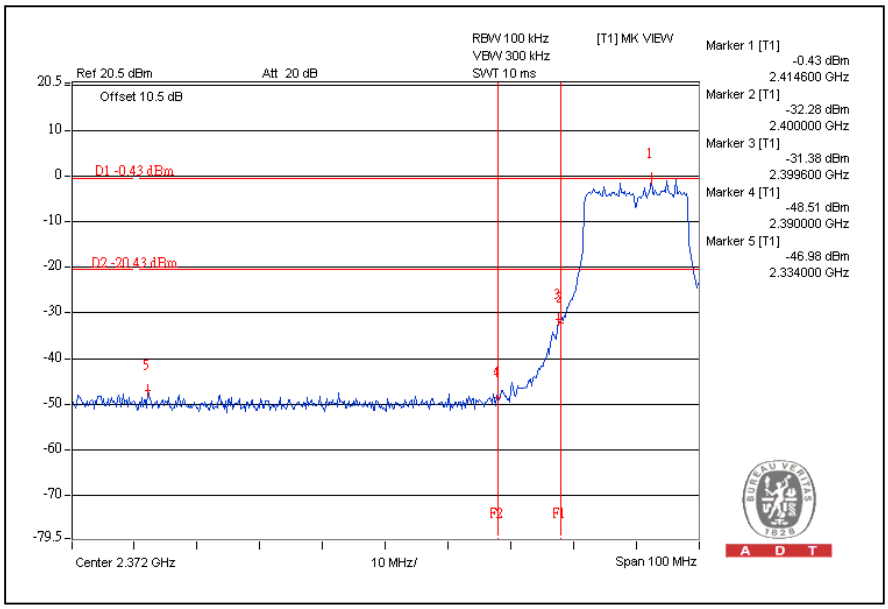

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 2.83 dBm
D2 -17.17 dBm
Marker 1 [T1]
1.57 dBm
2.377180 GHz
Marker 2 [T1]
-41.58 dBm
21.753900 GHz
Marker 3 [T1]
-42.04 dBm
24.450660 GHz
Marker 4 [T1]
-42.33 dBm
24.900120 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

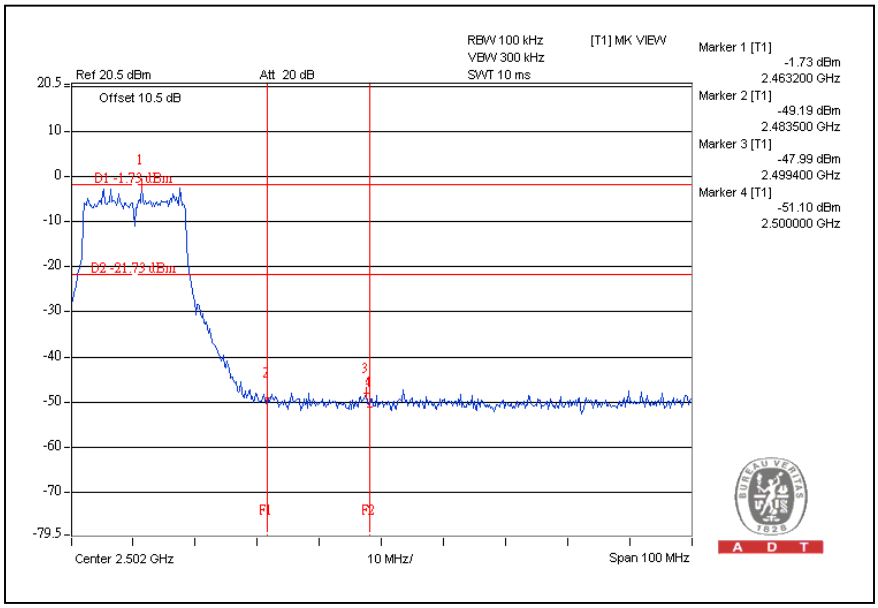

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 1.93 dBm
D2 -18.07 dBm
Marker 1 [T1]
-0.20 dBm
2.427120 GHz
Marker 2 [T1]
-42.94 dBm
24.700360 GHz
Marker 3 [T1]
-43.11 dBm
21.953660 GHz
Marker 4 [T1]
-43.28 dBm
21.354380 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g OFDM MODULATION:

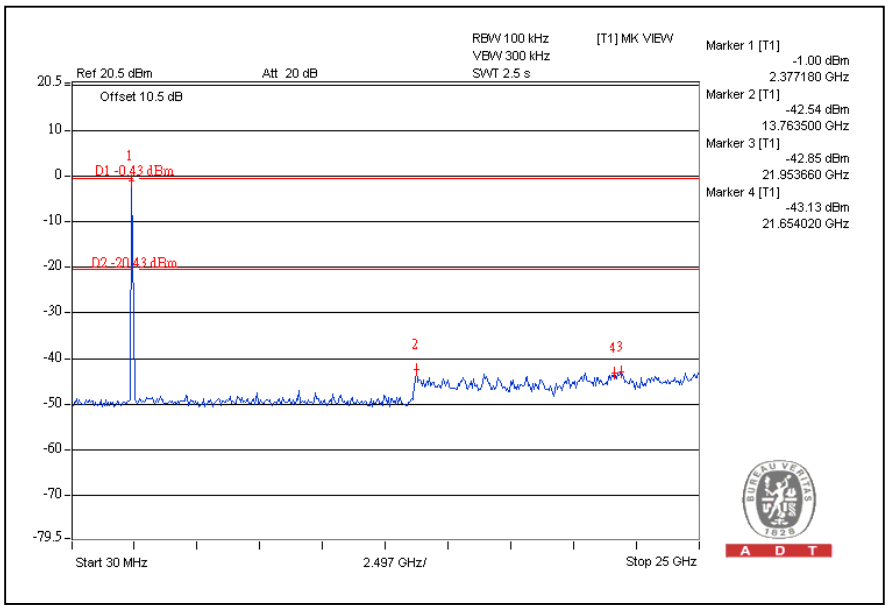
CH1



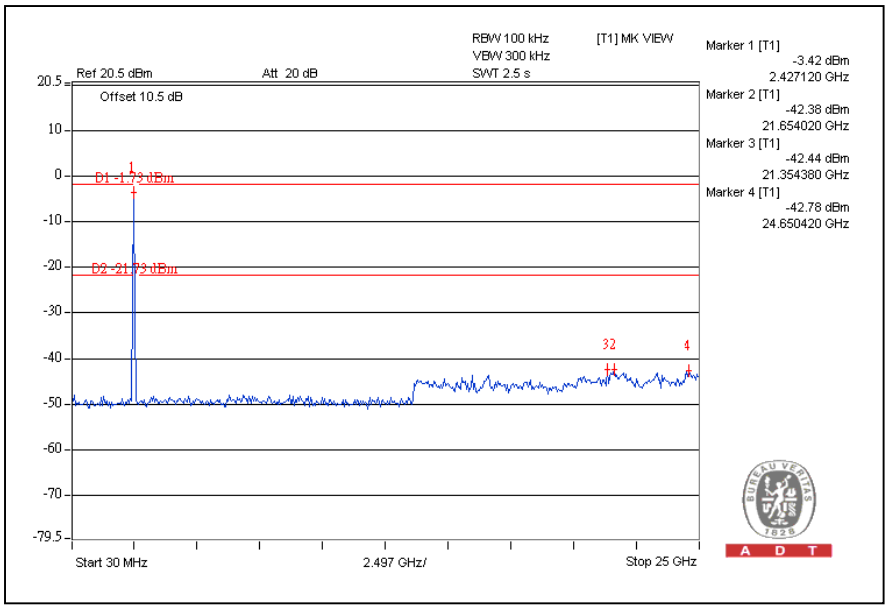
CH11



CH1

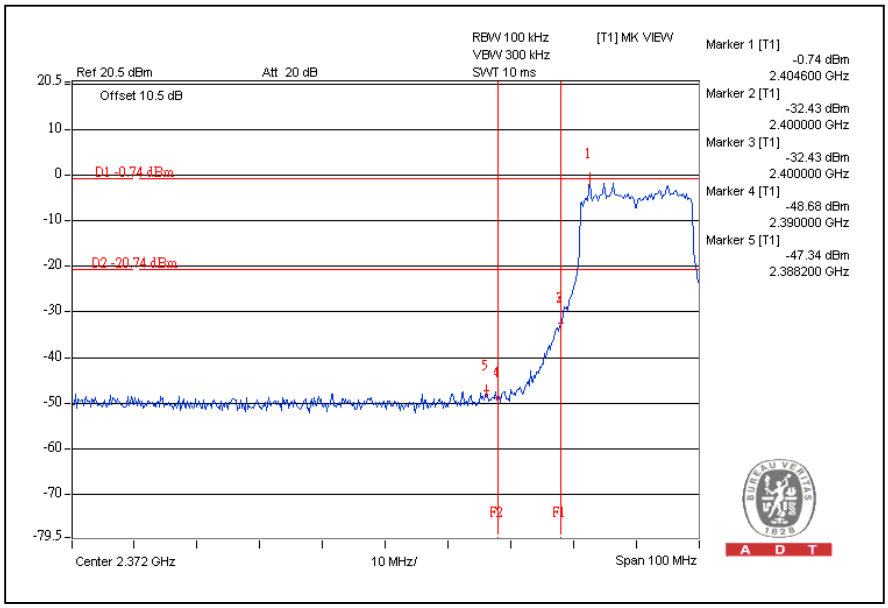

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -0.43 dBm
D2 -20.43 dBm
Marker 1 [T1]
-1.00 dBm
2.377180 GHz
Marker 2 [T1]
-42.54 dBm
13.763500 GHz
Marker 3 [T1]
-42.85 dBm
21.953660 GHz
Marker 4 [T1]
-43.13 dBm
21.654020 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

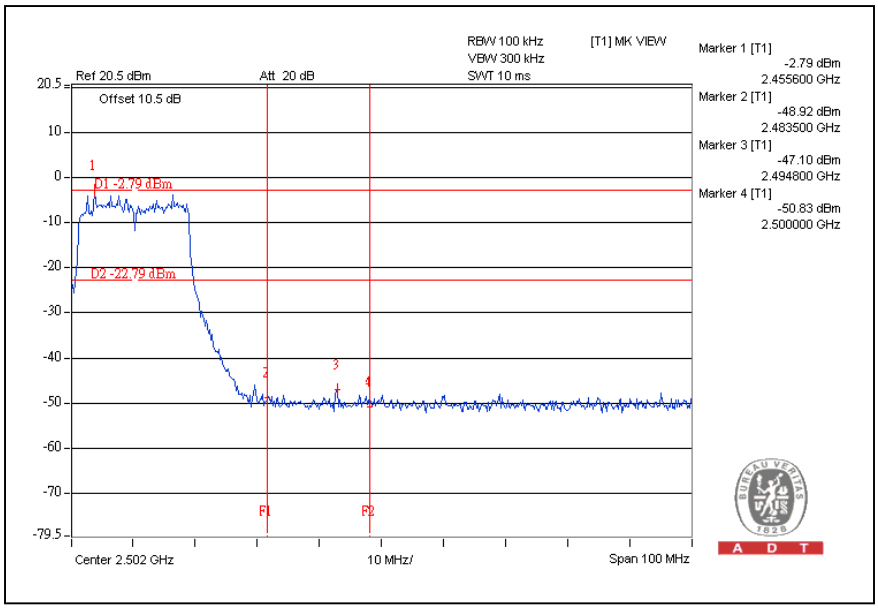

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -1.73 dBm
D2 -21.73 dBm
Marker 1 [T1]
-3.42 dBm
2.427120 GHz
Marker 2 [T1]
-42.38 dBm
21.654020 GHz
Marker 3 [T1]
-42.44 dBm
21.354380 GHz
Marker 4 [T1]
-42.78 dBm
24.650420 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (20MHz) OFDM MODULATION:

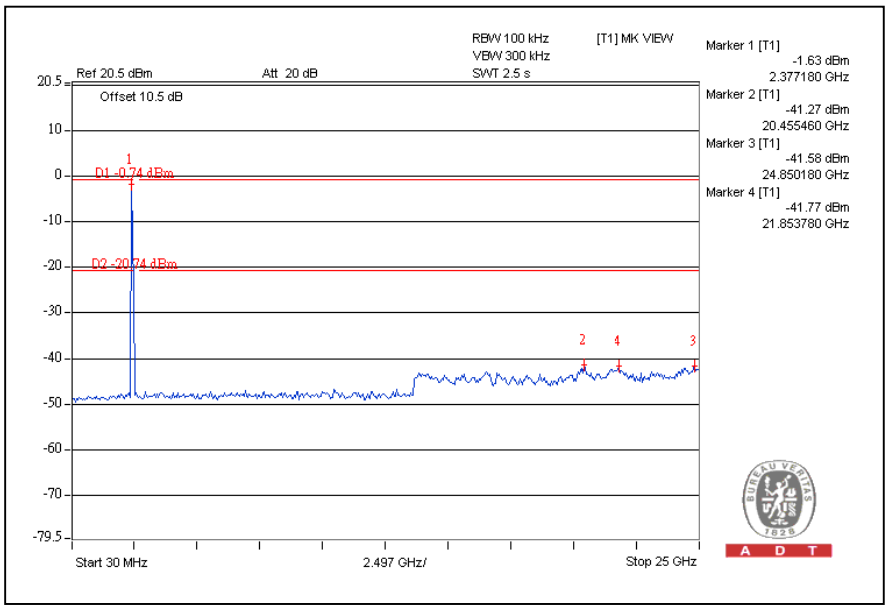
CH1



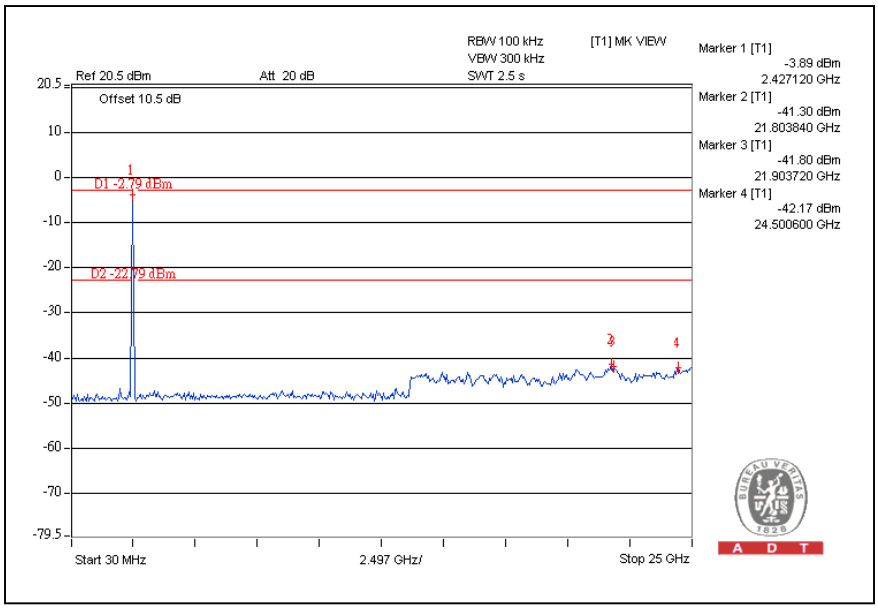
CH11



CH1

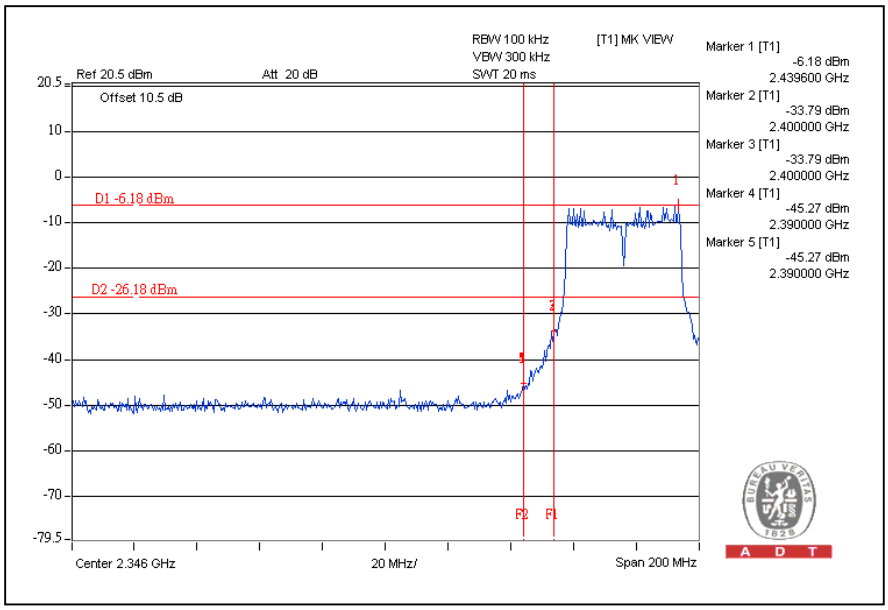

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -0.74 dBm
D2 -20.74 dBm
Marker 1 [T1]
-1.63 dBm
2.377180 GHz
Marker 2 [T1]
-41.27 dBm
20.455460 GHz
Marker 3 [T1]
-41.58 dBm
24.850180 GHz
Marker 4 [T1]
-41.77 dBm
21.853780 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH11

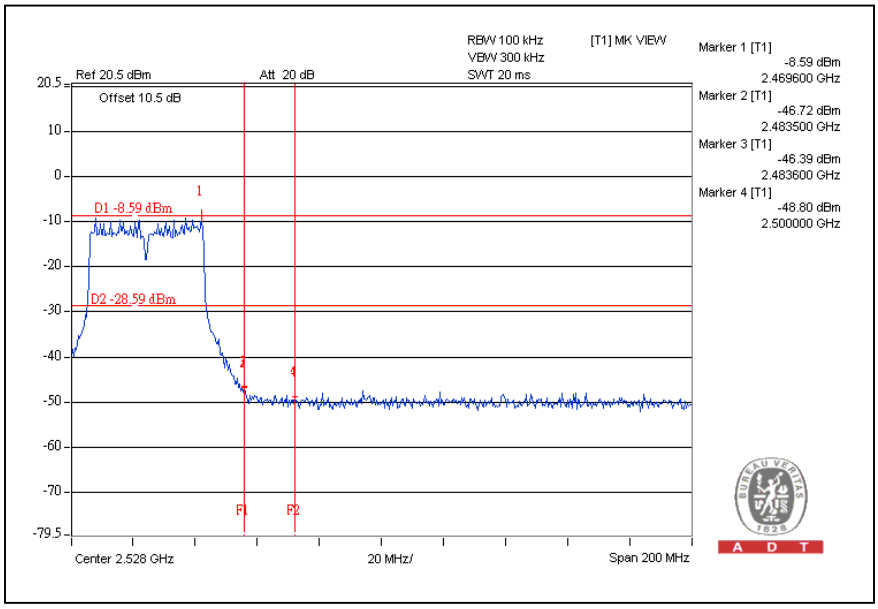

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -2.79 dBm
D2 -22.79 dBm
Marker 1 [T1]
-3.89 dBm
2.427120 GHz
Marker 2 [T1]
-41.30 dBm
21.803840 GHz
Marker 3 [T1]
-41.80 dBm
21.903720 GHz
Marker 4 [T1]
-42.17 dBm
24.500600 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11n (40MHz) OFDM MODULATION:

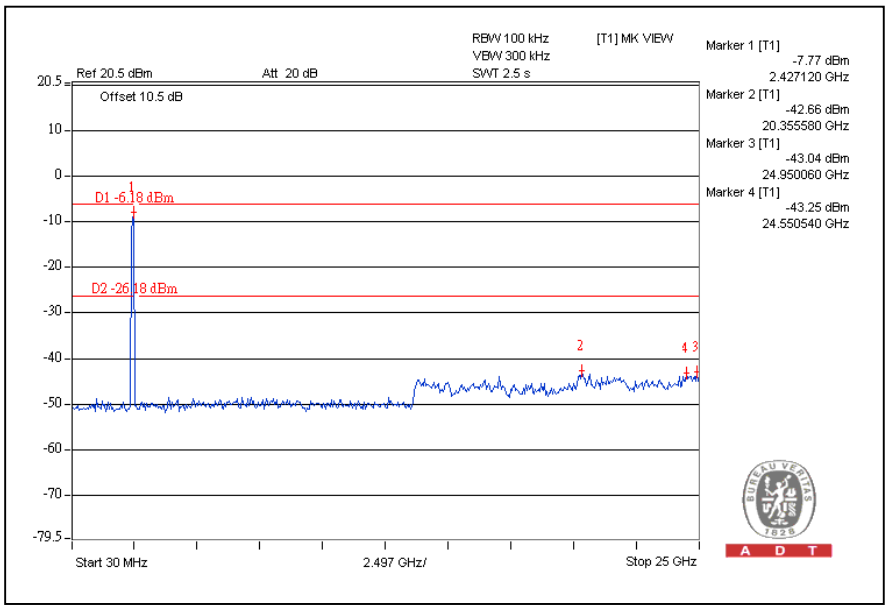
CH1



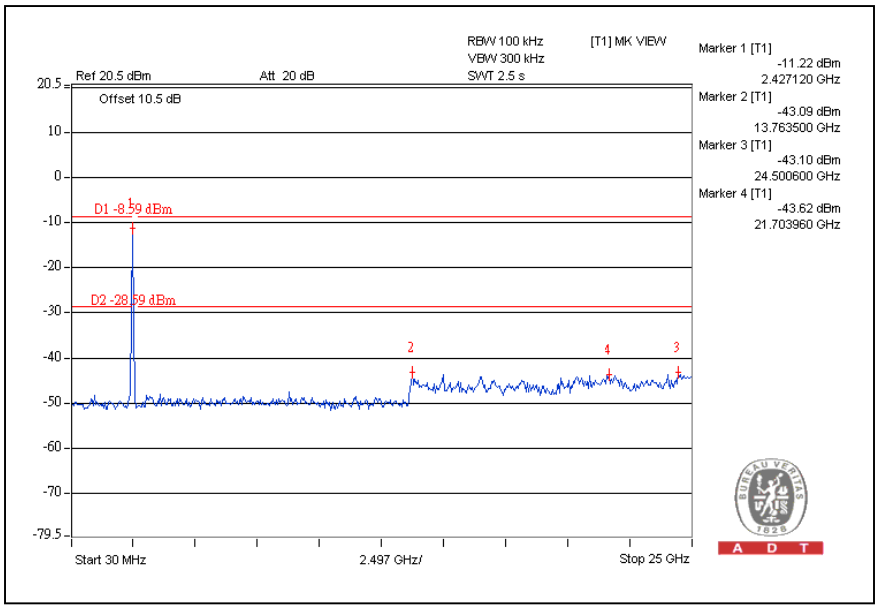
CH7



CH1


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
-7.77 dBm
2.427120 GHz
Marker 2 [T1]
-42.66 dBm
20.355580 GHz
Marker 3 [T1]
-43.04 dBm
24.950060 GHz
Marker 4 [T1]
-43.25 dBm
24.550540 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -6.18 dBm
D2 -26.18 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

CH7


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
-11.22 dBm
2.427120 GHz
Marker 2 [T1]
-43.09 dBm
13.763500 GHz
Marker 3 [T1]
-43.10 dBm
24.500600 GHz
Marker 4 [T1]
-43.62 dBm
21.703960 GHz
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -8.59 dBm
D2 -28.59 dBm
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

5. TEST TYPES AND RESULTS (802.11a, 5725~5850MHz Band)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 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.

5.1.2 TEST INSTRUMENTS

Test date: Oct. 01, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 01, 2010	Feb. 28, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-523	Sep. 22, 2010	Sep. 21, 2011
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 11, 2010	June 10, 2011
RF Cable (JYEBAO)	5DFB	COACAB-001	Dec. 14, 2009	Dec. 13, 2010
50 ohms Terminator	50	3	Oct. 28, 2009	Oct. 27, 2010
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

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

5.1.3 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.

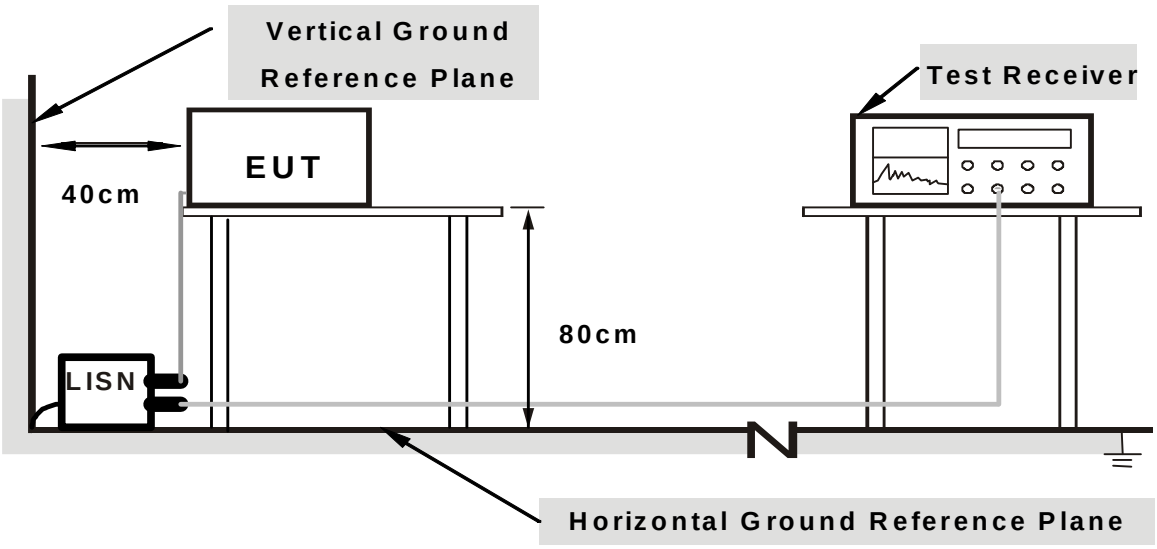
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 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.

5.1.6 EUT OPERATING CONDITIONS

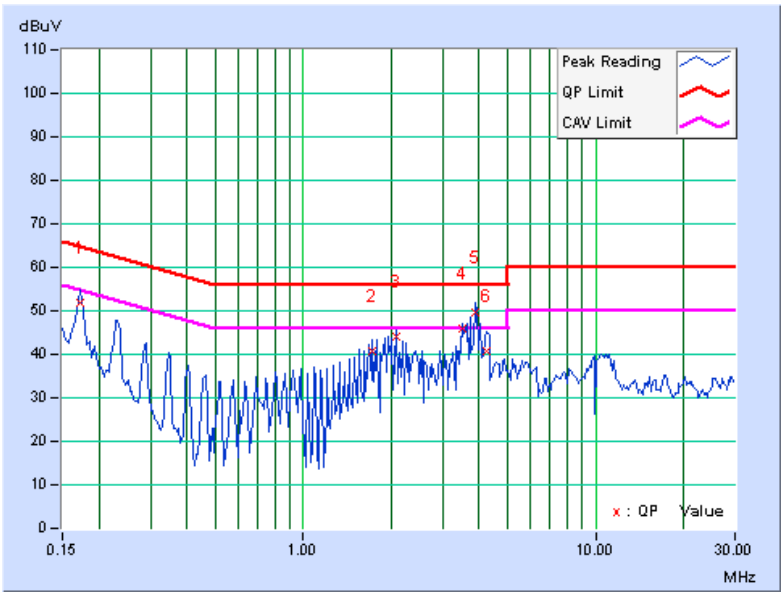
Same as the 4.1.6

5.1.7 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	0.173	0.04	51.88	-	51.92	-	64.79	54.79	-12.87	-
2	1.730	0.11	40.52	-	40.63	-	56.00	46.00	-15.37	-
3	2.074	0.12	43.79	-	43.91	-	56.00	46.00	-12.09	-
4	3.512	0.13	45.90	33.57	46.03	33.70	56.00	46.00	-9.97	-12.30
5	**3.858**	**0.13**	**49.39**	**36.78**	**49.52**	**36.91**	**56.00**	**46.00**	**-6.48**	**-9.09**
6	4.258	0.14	40.42	-	40.56	-	56.00	46.00	-15.44	-

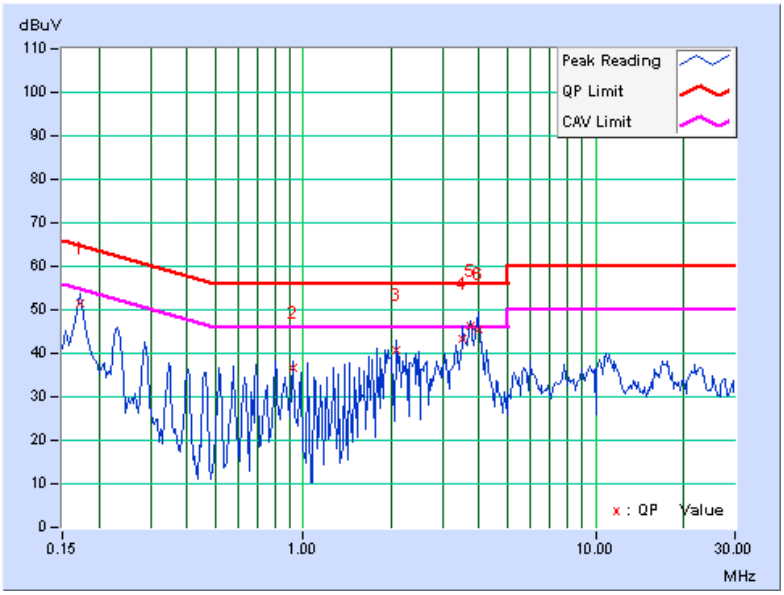
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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	0.173	0.05	51.50	-	51.55	-	64.79	54.79	-13.24	-
2	0.920	0.10	36.69	-	36.79	-	56.00	46.00	-19.21	-
3	2.074	0.13	40.50	-	40.63	-	56.00	46.00	-15.37	-
4	3.512	0.14	43.06	-	43.20	-	56.00	46.00	-12.80	-
5	3.742	0.14	46.07	36.15	46.21	36.29	56.00	46.00	-9.79	-9.71
6	3.973	0.14	45.29	-	45.43	-	56.00	46.00	-10.57	-

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.



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.

5.2.2 TEST INSTRUMENTS

For Below 1GHz: Test date: July 09, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 03, 2009	Aug. 02, 2010
Agilent Pre-Selector	N9039A	MY46520311	July 15, 2009	July 14, 2010
Agilent Signal Generator	N5181A	MY49060517	July 15, 2009	July 14, 2010
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02578	July 05, 2010	July 04, 2011
Miteq Pre-Amplifier	AFS33-18002650-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Sep. 30, 2009	Sep. 29, 2010
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Sep. 30, 2009	Sep. 29, 2010
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHGCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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

For Above 1GHz: Test date: Sep. 20, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 23, 2010	Aug. 22, 2011
Agilent Pre-Selector	N9039A	MY46520310	Aug. 23, 2010	Aug. 22, 2011
Agilent Signal Generator	N5181A	MY49060347	July 30, 2010	July 29, 2011
LIG NEX1 Test Receiver	ER-265	L09068005	Aug. 30, 2010	Aug. 29, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 18, 2009	Nov. 17, 2010
Agilent Pre-Amplifier	8449B	3008A02465	Mar. 01, 2010	Feb. 28, 2011
Miteq Pre-Amplifier	AFS33-18002650-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Sep. 30, 2009	Sep. 29, 2010
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 16, 2009	Nov. 15, 2010
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Sep. 30, 2009	Sep. 29, 2010
RF CABLE	NA	RF104-205 RF104-207 RF104-208	Dec. 24, 2009	Dec. 23, 2010
RF Cable	NA	CHHCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5. The CANADA Site Registration No. is IC 7450H-3.

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

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

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

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

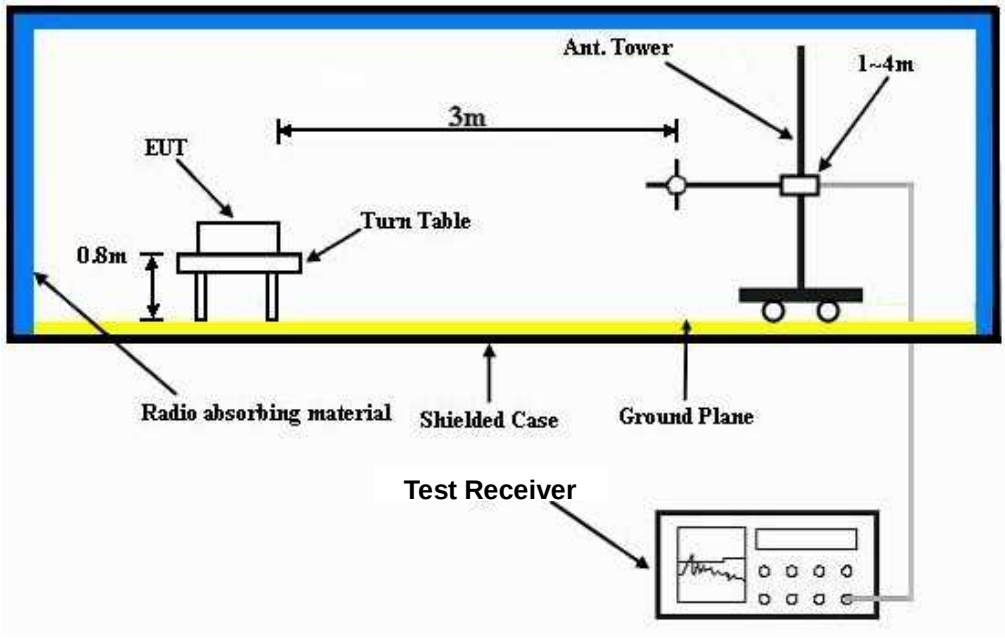
NOTE:

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

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



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

5.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

5.2.7 TEST RESULTS (WITH PIFA ANTENNA)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 74%RH 1011 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	195.36	35.9 QP	43.5	-7.6	1.30 H	68	25.04	10.85
2	634.20	36.9 QP	46.0	-9.1	1.10 H	275	14.52	22.35
3	672.39	42.0 QP	46.0	-4.0	1.00 H	260	19.23	22.80
4	816.79	36.9 QP	46.0	-9.1	1.00 H	210	12.09	24.78
5	900.01	39.0 QP	46.0	-7.0	1.00 H	200	12.77	26.24
6	948.23	39.0 QP	46.0	-7.0	1.70 H	300	12.39	26.62
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	155.32	36.1 QP	43.5	-7.4	1.25 V	32	21.96	14.16
2	578.32	38.3 QP	46.0	-7.7	1.25 V	230	16.79	21.47
3	625.31	36.5 QP	46.0	-9.5	1.25 V	210	14.23	22.25
4	705.30	34.1 QP	46.0	-11.9	1.25 V	200	10.90	23.22
5	850.05	35.2 QP	46.0	-10.8	1.50 V	215	9.83	25.38
6	902.35	39.0 QP	46.0	-7.0	1.55 V	295	12.69	26.26

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

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	111.9 PK			1.68 H	74	70.60	41.30
2	*5745.00	100.3 AV			1.68 H	74	59.00	41.30
3	11490.00	54.3 PK	74.0	-19.7	1.11 H	140	6.90	47.40
4	11490.00	43.6 AV	54.0	-10.4	1.11 H	140	-3.80	47.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	110.2 PK			1.11 V	117	68.90	41.30
2	*5745.00	97.8 AV			1.11 V	117	56.50	41.30
3	11490.00	54.2 PK	74.0	-19.8	1.20 V	205	6.80	47.40
4	11490.00	43.4 AV	54.0	-10.6	1.20 V	205	-4.00	47.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	111.1 PK			1.69 H	80	69.70	41.40
2	*5785.00	99.8 AV			1.69 H	80	58.40	41.40
3	11570.00	54.8 PK	74.0	-19.2	1.28 H	69	7.30	47.50
4	11570.00	43.5 AV	54.0	-10.5	1.28 H	69	-4.00	47.50
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	*5785.00	110.1 PK			1.19 V	123	68.70	41.40
2	*5785.00	97.1 AV			1.19 V	123	55.70	41.40
3	11570.00	54.3 PK	74.0	-19.7	1.43 V	86	6.80	47.50
4	11570.00	43.8 AV	54.0	-10.2	1.43 V	86	-3.70	47.50

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.5 PK			1.71 H	111	69.10	41.40
2	*5825.00	99.1 AV			1.71 H	111	57.70	41.40
3	11650.00	55.2 PK	74.0	-18.8	1.65 H	274	7.60	47.60
4	11650.00	43.8 AV	54.0	-10.2	1.65 H	274	-3.80	47.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	109.3 PK			1.09 V	131	67.90	41.40
2	*5825.00	96.5 AV			1.09 V	131	55.10	41.40
3	11650.00	54.9 PK	74.0	-19.1	1.60 V	111	7.30	47.60
4	11650.00	43.6 AV	54.0	-10.4	1.60 V	111	-4.00	47.60

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

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	110.6 PK			1.70 H	88	69.30	41.30
2	*5745.00	99.5 AV			1.70 H	88	58.20	41.30
3	11490.00	54.9 PK	74.0	-19.1	1.00 H	359	7.50	47.40
4	11490.00	43.8 AV	54.0	-10.2	1.00 H	359	-3.60	47.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	108.4 PK			1.39 V	100	67.10	41.30
2	*5745.00	97.1 AV			1.39 V	100	55.80	41.30
3	11490.00	55.1 PK	74.0	-18.9	1.65 V	70	7.70	47.40
4	11490.00	43.5 AV	54.0	-10.5	1.65 V	70	-3.90	47.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	109.9 PK			1.65 H	94	68.50	41.40
2	*5785.00	98.8 AV			1.65 H	94	57.40	41.40
3	11570.00	55.2 PK	74.0	-18.8	1.63 H	2	7.70	47.50
4	11570.00	44.1 AV	54.0	-9.9	1.63 H	2	-3.40	47.50
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	*5785.00	107.8 PK			1.46 V	145	66.40	41.40
2	*5785.00	96.7 AV			1.46 V	145	55.30	41.40
3	11570.00	54.7 PK	74.0	-19.3	1.54 V	25	7.20	47.50
4	11570.00	43.5 AV	54.0	-10.5	1.54 V	25	-4.00	47.50

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	108.9 PK			1.68 H	91	67.50	41.40
2	*5825.00	97.8 AV			1.68 H	91	56.40	41.40
3	11650.00	55.3 PK	74.0	-18.7	1.11 H	6	7.70	47.60
4	11650.00	43.9 AV	54.0	-10.1	1.11 H	6	-3.70	47.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	106.9 PK			1.45 V	72	65.50	41.40
2	*5825.00	95.9 AV			1.45 V	72	54.50	41.40
3	11650.00	54.6 PK	74.0	-19.4	1.65 V	150	7.00	47.60
4	11650.00	43.4 AV	54.0	-10.6	1.65 V	150	-4.20	47.60

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

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	108.3 PK			1.66 H	146	66.90	41.40
2	*5755.00	96.2 AV			1.66 H	146	54.80	41.40
3	11510.00	54.9 PK	74.0	-19.1	1.40 H	205	7.50	47.40
4	11510.00	43.8 AV	54.0	-10.2	1.40 H	205	-3.60	47.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	104.9 PK			1.13 V	97	63.50	41.40
2	*5755.00	93.8 AV			1.13 V	97	52.40	41.40
3	11510.00	54.5 PK	74.0	-19.5	1.26 V	68	7.10	47.40
4	11510.00	43.6 AV	54.0	-10.4	1.26 V	68	-3.80	47.40

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	106.3 PK			1.71 H	155	64.90	41.40
2	*5795.00	94.0 AV			1.71 H	155	52.60	41.40
3	11590.00	55.2 PK	74.0	-18.8	1.50 H	160	7.70	47.50
4	11590.00	44.9 AV	54.0	-9.1	1.50 H	160	-2.60	47.50
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	*5795.00	102.7 PK			1.12 V	104	61.30	41.40
2	*5795.00	91.5 AV			1.12 V	104	50.10	41.40
3	11590.00	54.7 PK	74.0	-19.3	1.44 V	7	7.20	47.50
4	11590.00	43.5 AV	54.0	-10.5	1.44 V	7	-4.00	47.50

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.
6. The limit value is defined as per 15.247.

5.2.8 TEST RESULTS (WITH DIRECTIONAL ANTENNA)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 74%RH 1011 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	198.26	36.8 QP	43.5	-6.7	1.25 H	69	26.08	10.68
2	630.20	37.2 QP	46.0	-8.8	1.00 H	250	14.90	22.31
3	665.39	40.1 QP	46.0	-5.9	1.00 H	271	17.33	22.72
4	820.89	37.2 QP	46.0	-8.8	1.50 H	200	12.36	24.85
5	912.05	38.1 QP	46.0	-7.9	1.25 H	210	11.71	26.34
6	950.13	38.7 QP	46.0	-7.3	1.50 H	360	12.05	26.64
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	150.30	37.2 QP	43.5	-6.3	1.50 V	40	23.41	13.80
2	560.30	37.3 QP	46.0	-8.7	1.50 V	240	16.20	21.06
3	625.25	36.5 QP	46.0	-9.5	1.25 V	210	14.23	22.25
4	715.30	35.0 QP	46.0	-11.0	1.50 V	210	11.64	23.36
5	800.05	36.2 QP	46.0	-9.8	1.00 V	220	11.73	24.48
6	900.35	38.8 QP	46.0	-7.2	1.50 V	300	12.60	26.24

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

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5360.00	60.5 PK	74.0	-13.5	1.19 H	1	19.72	40.78
2	5360.00	53.5 AV	54.0	-0.5	1.19 H	1	12.72	40.78
3	*5745.00	112.1 PK			1.21 H	5	70.76	41.34
4	*5745.00	100.0 AV			1.21 H	5	58.66	41.34
5	11490.00	54.2 PK	74.0	-19.8	1.20 H	6	6.78	47.42
6	11490.00	43.3 AV	54.0	-10.7	1.20 H	6	-4.12	47.42
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	5360.00	58.6 PK	74.0	-15.4	1.16 V	2	17.82	40.78
2	5360.00	48.6 AV	54.0	-5.4	1.16 V	2	7.82	40.78
3	*5745.00	116.3 PK			1.19 V	5	74.96	41.34
4	*5745.00	105.2 AV			1.19 V	5	63.86	41.34
5	11490.00	54.5 PK	74.0	-19.5	1.21 V	128	7.08	47.42
6	11490.00	43.9 AV	54.0	-10.1	1.21 V	128	-3.52	47.42

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5360.00	60.0 PK	74.0	-14.0	1.18 H	3	19.22	40.78
2	5360.00	52.8 AV	54.0	-1.2	1.18 H	3	12.02	40.78
3	*5785.00	111.1 PK			1.25 H	1	69.70	41.40
4	*5785.00	98.6 AV			1.25 H	1	57.20	41.40
5	11570.00	54.1 PK	74.0	-19.9	1.11 H	7	6.61	47.49
6	11570.00	43.2 AV	54.0	-10.8	1.11 H	7	-4.29	47.49
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	5360.00	57.2 PK	74.0	-16.8	1.14 V	1	16.42	40.78
2	5360.00	48.1 AV	54.0	-5.9	1.14 V	1	7.32	40.78
3	*5785.00	114.5 PK			1.21 V	33	73.10	41.40
4	*5785.00	103.5 AV			1.21 V	33	62.10	41.40
5	11570.00	54.4 PK	74.0	-19.6	1.13 V	6	6.91	47.49
6	11570.00	43.8 AV	54.0	-10.2	1.13 V	6	-3.69	47.49

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5360.00	60.5 PK	74.0	-13.5	1.20 H	1	19.72	40.78
2	5360.00	53.5 AV	54.0	-0.5	1.20 H	1	12.72	40.78
3	*5825.00	109.2 PK			1.20 H	2	67.75	41.45
4	*5825.00	97.7 AV			1.20 H	2	56.25	41.45
5	11650.00	54.6 PK	74.0	-19.4	1.26 H	8	7.04	47.56
6	11650.00	43.4 AV	54.0	-10.6	1.26 H	8	-4.16	47.56
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	5360.00	57.9 PK	74.0	-16.1	1.16 V	3	17.12	40.78
2	5360.00	49.3 AV	54.0	-4.7	1.16 V	3	8.52	40.78
3	*5825.00	113.4 PK			1.18 V	2	71.95	41.45
4	*5825.00	102.5 AV			1.18 V	2	61.05	41.45
5	11650.00	54.6 PK	74.0	-19.4	1.12 V	8	7.04	47.56
6	11650.00	43.7 AV	54.0	-10.3	1.12 V	8	-3.86	47.56

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.
6. The limit value is defined as per 15.247.

802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5400.00	60.9 PK	74.0	-13.1	1.19 H	2	20.04	40.86
2	5400.00	53.5 AV	54.0	-0.5	1.19 H	2	12.64	40.86
3	*5745.00	113.9 PK			1.13 H	2	72.56	41.34
4	*5745.00	102.5 AV			1.13 H	2	61.16	41.34
5	11490.00	53.9 PK	74.0	-20.1	1.33 H	6	6.48	47.42
6	11490.00	43.1 AV	54.0	-10.9	1.33 H	6	-4.32	47.42
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	5400.00	60.4 PK	74.0	-13.6	1.26 V	3	19.54	40.86
2	5400.00	53.1 AV	54.0	-0.9	1.26 V	3	12.24	40.86
3	*5745.00	117.6 PK			1.27 V	5	76.26	41.34
4	*5745.00	107.1 AV			1.27 V	5	65.76	41.34
5	11490.00	54.8 PK	74.0	-19.2	1.18 V	6	7.38	47.42
6	11490.00	43.6 AV	54.0	-10.4	1.18 V	6	-3.82	47.42

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5400.00	60.3 PK	74.0	-13.7	1.21 H	1	19.44	40.86
2	5400.00	53.2 AV	54.0	-0.8	1.21 H	1	12.34	40.86
3	*5785.00	112.8 PK			1.12 H	4	71.40	41.40
4	*5785.00	101.8 AV			1.12 H	4	60.40	41.40
5	11570.00	53.9 PK	74.0	-20.1	1.34 H	8	6.41	47.49
6	11570.00	43.2 AV	54.0	-10.8	1.34 H	8	-4.29	47.49
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	5400.00	60.1 PK	74.0	-13.9	1.25 V	4	19.24	40.86
2	5400.00	53.2 AV	54.0	-0.8	1.25 V	4	12.34	40.86
3	*5785.00	117.7 PK			1.31 V	4	76.30	41.40
4	*5785.00	106.9 AV			1.31 V	4	65.50	41.40
5	11570.00	54.7 PK	74.0	-19.3	1.26 V	9	7.21	47.49
6	11570.00	43.8 AV	54.0	-10.2	1.26 V	9	-3.69	47.49

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5400.00	60.1 PK	74.0	-13.9	1.19 H	3	19.24	40.86
2	5400.00	53.4 AV	54.0	-0.6	1.19 H	3	12.54	40.86
3	*5825.00	111.2 PK			1.14 H	6	69.75	41.45
4	*5825.00	100.4 AV			1.14 H	6	58.95	41.45
5	11650.00	54.1 PK	74.0	-19.9	1.20 H	8	6.54	47.56
6	11650.00	43.4 AV	54.0	-10.6	1.20 H	8	-4.16	47.56
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	5400.00	59.9 PK	74.0	-14.1	1.30 V	6	19.04	40.86
2	5400.00	52.8 AV	54.0	-1.2	1.30 V	6	11.94	40.86
3	*5825.00	116.8 PK			1.29 V	3	75.35	41.45
4	*5825.00	105.4 AV			1.29 V	3	63.95	41.45
5	11650.00	54.9 PK	74.0	-19.1	1.33 V	7	7.34	47.56
6	**11650.00**	**53.9 AV**	**54.0**	**-0.1**	**1.33 V**	**7**	**6.34**	**47.56**

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.
6. The limit value is defined as per 15.247.

802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5440.00	60.8 PK	74.0	-13.2	1.19 H	2	19.86	40.94
2	5440.00	53.4 AV	54.0	-0.6	1.19 H	2	12.46	40.94
3	*5755.00	110.1 PK			1.20 H	5	68.74	41.36
4	*5755.00	98.0 AV			1.20 H	5	56.64	41.36
5	11510.00	54.2 PK	74.0	-19.8	1.18 H	3	6.76	47.44
6	11510.00	43.1 AV	54.0	-10.9	1.18 H	3	-4.34	47.44
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	5400.00	60.4 PK	74.0	-13.6	1.18 V	2	19.54	40.86
2	5400.00	52.8 AV	54.0	-1.2	1.18 V	2	11.94	40.86
3	*5755.00	114.9 PK			1.20 V	3	73.54	41.36
4	*5755.00	103.1 AV			1.20 V	3	61.74	41.36
5	11510.00	54.4 PK	74.0	-19.6	1.14 V	9	6.96	47.44
6	11510.00	43.9 AV	54.0	-10.1	1.14 V	9	-3.54	47.44

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5400.00	60.7 PK	74.0	-13.3	1.20 H	1	19.84	40.86
2	5400.00	53.5 AV	54.0	-0.5	1.20 H	1	12.64	40.86
3	*5795.00	107.4 PK			1.18 H	2	65.99	41.41
4	*5795.00	96.8 AV			1.18 H	2	55.39	41.41
5	11590.00	54.1 PK	74.0	-19.9	1.19 H	28	6.60	47.50
6	11590.00	43.2 AV	54.0	-10.8	1.19 H	28	-4.30	47.50
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	5440.00	60.4 PK	74.0	-13.6	1.20 V	3	19.46	40.94
2	5440.00	53.1 AV	54.0	-0.9	1.20 V	3	12.16	40.94
3	*5795.00	116.3 PK			1.19 V	6	74.89	41.41
4	*5795.00	101.5 AV			1.19 V	6	60.09	41.41
5	11590.00	54.9 PK	74.0	-19.1	1.20 V	8	7.40	47.50
6	11590.00	43.8 AV	54.0	-10.2	1.20 V	8	-3.70	47.50

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.
6. The limit value is defined as per 15.247.

5.2.9 TEST RESULTS (WITH OMNI ANTENNA)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 74%RH 1011 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	200.32	37.2 QP	43.5	-6.3	1.50 H	75	26.61	10.60
2	621.00	38.1 QP	46.0	-7.9	1.25 H	200	15.92	22.20
3	670.29	39.8 QP	46.0	-6.2	1.75 H	159	17.04	22.78
4	800.91	36.5 QP	46.0	-9.5	1.00 H	210	12.03	24.49
5	902.12	38.0 QP	46.0	-8.0	1.00 H	200	11.70	26.26
6	925.13	39.0 QP	46.0	-7.0	1.00 H	300	12.57	26.44
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	145.00	36.1 QP	43.5	-7.4	1.00 V	50	22.33	13.79
2	552.30	38.1 QP	46.0	-7.9	1.00 V	250	17.18	20.88
3	615.05	36.5 QP	46.0	-9.5	1.00 V	234	14.36	22.14
4	706.50	38.2 QP	46.0	-7.8	1.00 V	175	14.91	23.24
5	815.05	37.5 QP	46.0	-8.5	1.50 V	200	12.77	24.75
6	912.35	37.3 QP	46.0	-8.7	1.00 V	315	10.91	26.34

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

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	114.2 PK			1.30 H	311	72.86	41.34
2	*5745.00	102.5 AV			1.30 H	311	61.16	41.34
3	11490.00	53.8 PK	74.0	-20.2	1.33 H	237	6.38	47.42
4	11490.00	42.0 AV	54.0	-12.0	1.33 H	237	-5.42	47.42
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	*5745.00	105.7 PK			1.62 V	279	64.36	41.34
2	*5745.00	94.5 AV			1.62 V	279	53.16	41.34
3	11490.00	54.1 PK	74.0	-19.9	1.62 V	233	6.68	47.42
4	11490.00	41.9 AV	54.0	-12.1	1.62 V	233	-5.52	47.42

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	113.0 PK			1.31 H	312	71.60	41.40
2	*5785.00	101.1 AV			1.31 H	312	59.70	41.40
3	11570.00	54.3 PK	74.0	-19.7	1.33 H	208	6.81	47.49
4	11570.00	42.1 AV	54.0	-11.9	1.33 H	208	-5.39	47.49
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	*5785.00	104.6 PK			1.63 V	280	63.20	41.40
2	*5785.00	93.2 AV			1.63 V	280	51.80	41.40
3	11570.00	54.0 PK	74.0	-20.0	1.60 V	228	6.51	47.49
4	11570.00	42.0 AV	54.0	-12.0	1.60 V	228	-5.49	47.49

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.4 PK			1.30 H	310	68.95	41.45
2	*5825.00	99.5 AV			1.30 H	310	58.05	41.45
3	11650.00	54.9 PK	74.0	-19.1	1.36 H	193	7.34	47.56
4	11650.00	42.4 AV	54.0	-11.6	1.36 H	193	-5.16	47.56
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	*5825.00	102.2 PK			1.60 V	277	60.75	41.45
2	*5825.00	91.8 AV			1.60 V	277	50.35	41.45
3	11650.00	53.7 PK	74.0	-20.3	1.57 V	230	6.14	47.56
4	11650.00	41.8 AV	54.0	-12.2	1.57 V	230	-5.76	47.56

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.
6. The limit value is defined as per 15.247.

802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	114.5 PK			1.19 H	311	73.50	41.00
2	*5745.00	103.2 AV			1.19 H	311	62.20	41.00
3	11490.00	53.9 PK	74.0	-20.1	1.20 H	309	6.48	47.42
4	11490.00	42.2 AV	54.0	-11.8	1.20 H	309	-5.22	47.42
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	*5745.00	105.3 PK			1.61 V	262	64.30	41.00
2	*5745.00	94.1 AV			1.61 V	262	53.10	41.00
3	11490.00	53.5 PK	74.0	-20.5	1.57 V	247	6.08	47.42
4	11490.00	41.8 AV	54.0	-12.2	1.57 V	247	-5.62	47.42

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	114.1 PK			1.18 H	310	72.70	41.40
2	*5785.00	102.6 AV			1.18 H	310	61.20	41.40
3	11570.00	54.0 PK	74.0	-20.0	1.23 H	309	6.51	47.49
4	11570.00	42.3 AV	54.0	-11.7	1.23 H	309	-5.19	47.49
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	*5785.00	104.4 PK			1.59 V	260	63.00	41.40
2	*5785.00	93.3 AV			1.59 V	260	51.90	41.40
3	11570.00	53.7 PK	74.0	-20.3	1.51 V	278	6.21	47.49
4	11570.00	42.1 AV	54.0	-11.9	1.51 V	278	-5.39	47.49

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	113.2 PK			1.18 H	312	71.75	41.45
2	*5825.00	101.9 AV			1.18 H	312	60.45	41.45
3	11650.00	54.1 PK	74.0	-19.9	1.29 H	332	6.54	47.56
4	11650.00	42.5 AV	54.0	-11.5	1.29 H	332	-5.06	47.56
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	*5825.00	104.2 PK			1.60 V	263	62.75	41.45
2	*5825.00	93.2 AV			1.60 V	263	51.75	41.45
3	11650.00	54.3 PK	74.0	-19.7	1.66 V	253	6.74	47.56
4	11650.00	42.7 AV	54.0	-11.3	1.66 V	253	-4.86	47.56

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.
6. The limit value is defined as per 15.247.

802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	111.3 PK			1.16 H	318	69.94	41.36
2	*5755.00	98.6 AV			1.16 H	318	57.24	41.36
3	11510.00	54.2 PK	74.0	-19.8	1.29 H	305	6.76	47.44
4	11510.00	42.1 AV	54.0	-11.9	1.29 H	305	-5.34	47.44
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	*5755.00	102.7 PK			1.60 V	277	61.34	41.36
2	*5755.00	90.7 AV			1.60 V	277	49.34	41.36
3	11510.00	54.3 PK	74.0	-19.7	1.66 V	274	6.86	47.44
4	11510.00	41.7 AV	54.0	-12.3	1.66 V	274	-5.74	47.44

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.
6. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH 1011 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	109.8 PK			1.19 H	320	68.39	41.41
2	*5795.00	96.9 AV			1.19 H	320	55.49	41.41
3	11590.00	54.6 PK	74.0	-19.4	1.24 H	349	7.10	47.50
4	11590.00	42.0 AV	54.0	-12.0	1.24 H	349	-5.50	47.50
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	*5795.00	100.4 PK			1.59 V	276	58.99	41.41
2	*5795.00	88.2 AV			1.59 V	276	46.79	41.41
3	11590.00	54.7 PK	74.0	-19.3	1.58 V	239	7.20	47.50
4	11590.00	41.9 AV	54.0	-12.1	1.58 V	239	-5.60	47.50

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.
6. The limit value is defined as per 15.247.

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

5.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP

5.3.6 EUT OPERATING CONDITIONS

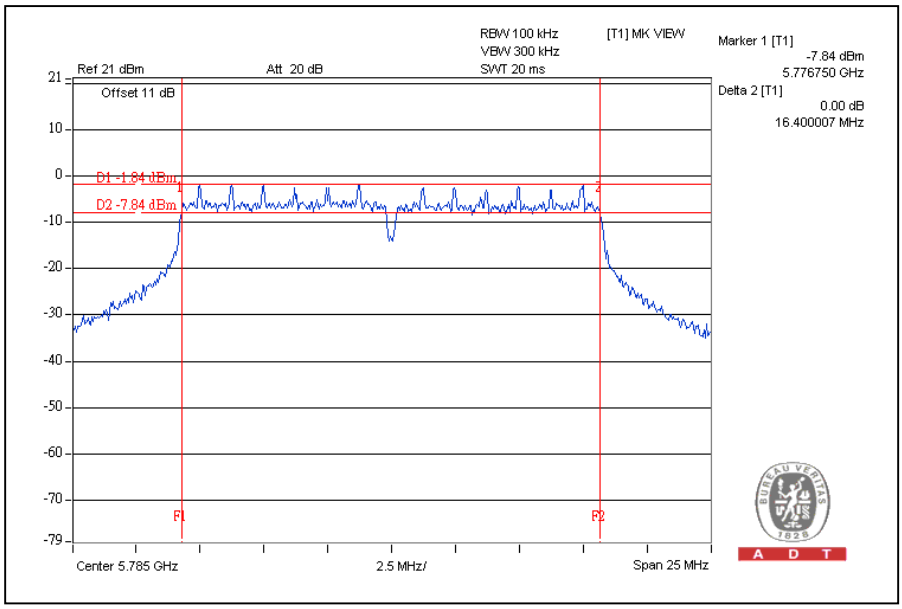
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.3.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.13	0.5	PASS
157	5785	16.40	0.5	PASS
165	5825	16.10	0.5	PASS

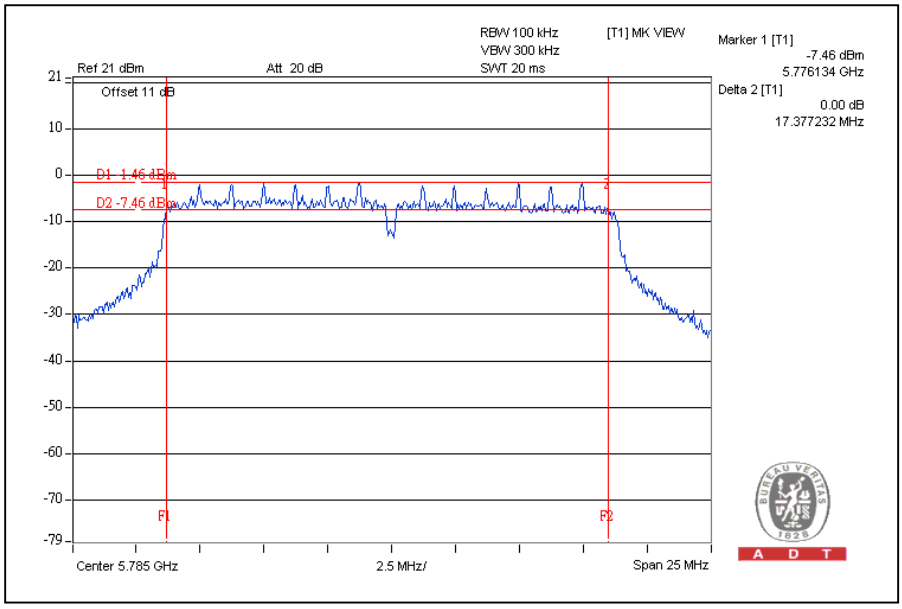
CH157



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.32	0.5	PASS
157	5785	17.37	0.5	PASS
165	5825	17.36	0.5	PASS

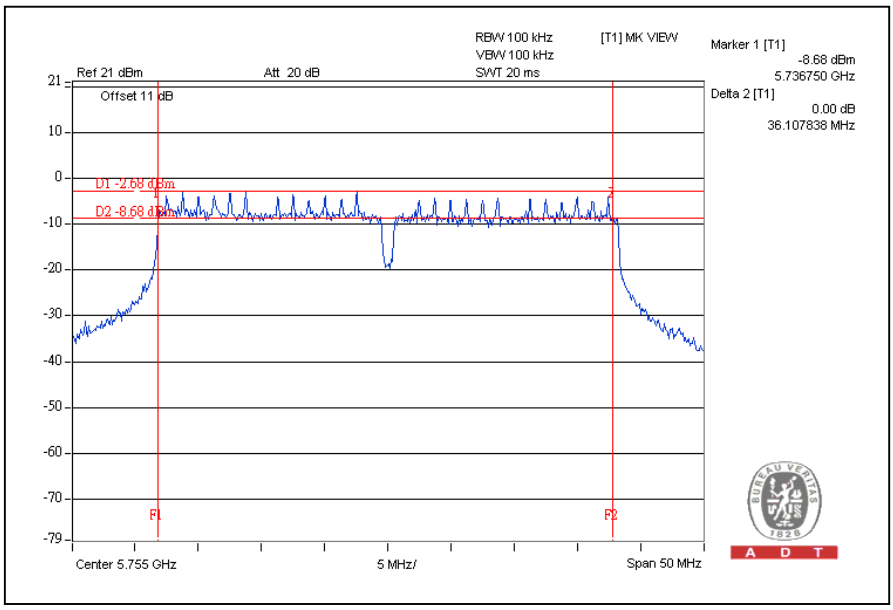
CH157



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.10	0.5	PASS
159	5795	36.10	0.5	PASS

CH151



5.4 MAXIMUM PEAK OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

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

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

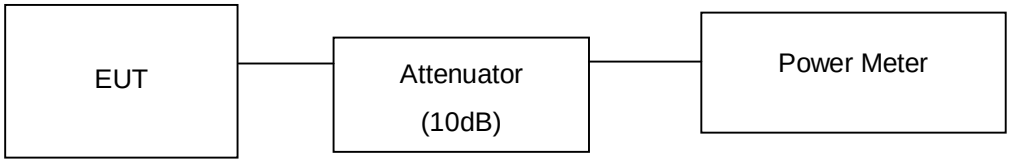
5.4.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator; the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the power level.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

5.4.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
149	5745	19.2	19.2	19.6	257.6	24.1	24.21	PASS
157	5785	18.8	19.0	19.5	244.4	23.9	24.21	PASS
165	5825	18.0	18.5	19.0	213.3	23.3	24.21	PASS

With Antenna 1: PIFA Antenna:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=11.791
The effective legacy gain is 11.791dBi, therefore the limit need to reduce.

With Antenna 3: Directional Antenna

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=18.271
The effective legacy gain is 18.271dBi, therefore the limit need to reduce.

With Antenna 4: Omni Antenna

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)
Effective Legacy Gain (dBi)=8.771
The effective legacy gain is 8.771dBi, therefore the limit need to reduce.

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
149	5745	19.1	19.2	19.6	255.7	24.1	28.98	PASS
157	5785	18.8	10.1	19.6	177.3	22.5	28.98	PASS
165	5825	18.0	18.9	19.1	222.0	23.5	28.98	PASS

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)				
151	5755	19.3	19.2	19.5	257.4	24.1	28.98	PASS
159	5795	18.1	18.3	18.6	204.6	23.1	28.98	PASS

With Antenna 1: PIFA Antenna:

Directional gain = 7.02dBi, therefore the limit need to reduce.

With Antenna 3: Directional Antenna

Directional gain = 13.5dBi, therefore the limit need to reduce.

With Antenna 4: Omni Antenna

Directional gain = 4dBi, therefore the limit doesn't reduce.

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

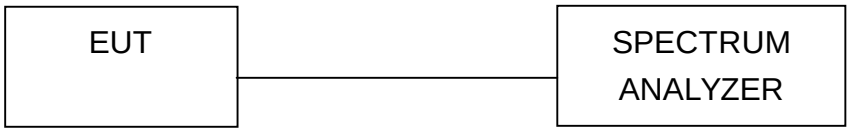
5.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

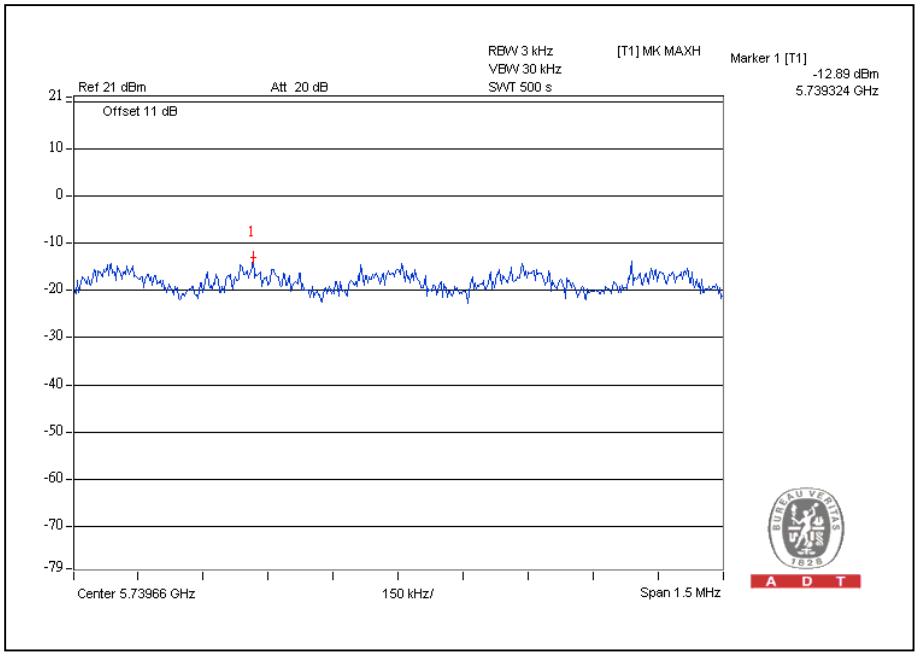
Same as Item 4.3.6

5.5.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
149	5745	-14.2	-15.2	-12.9	-9.2	8	PASS
157	5785	-16.0	-13.1	-16.4	-10.1	8	PASS
165	5825	-17.3	-16.5	-14.6	-11.2	8	PASS

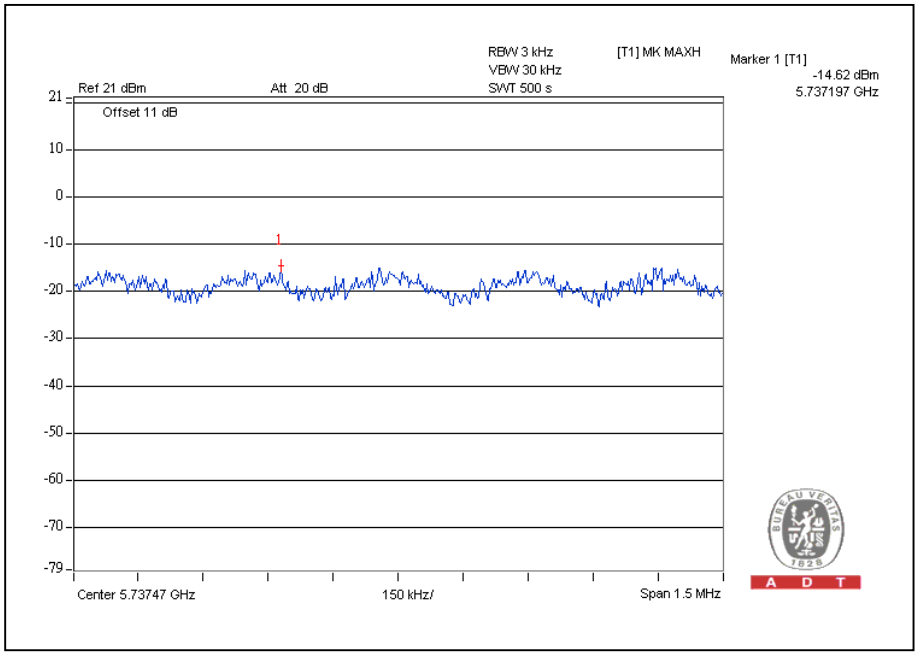
For Chain(2): CH149



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
149	5745	-15.6	-15.3	-14.6	-10.4	8	PASS
157	5785	-17.0	-15.5	-15.0	-11.0	8	PASS
165	5825	-16.5	-16.7	-16.9	-11.9	8	PASS

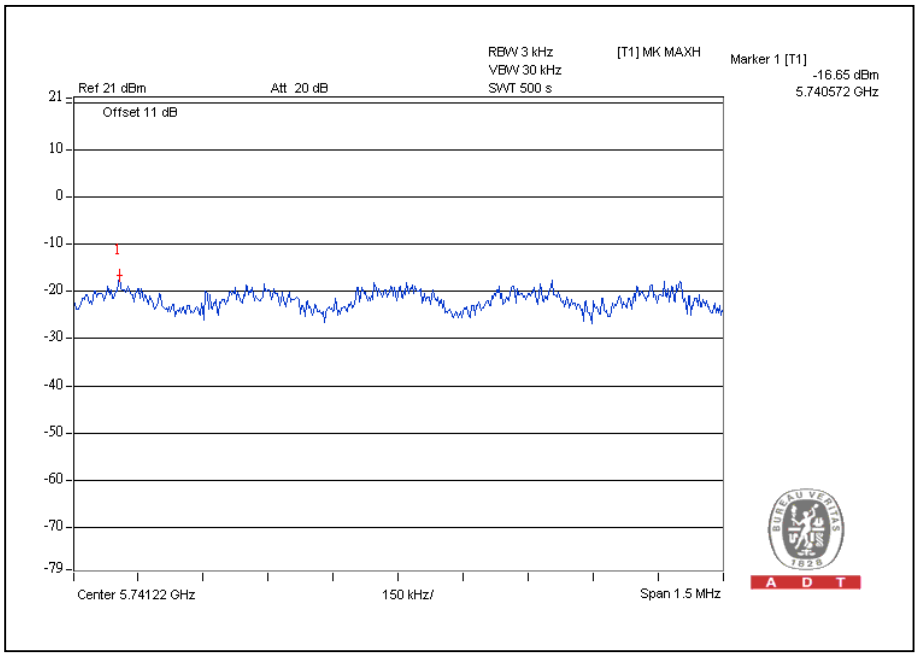
For Chain(2): CH149



802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(2)			
151	5755	-17.5	-17.5	-16.7	-12.4	8	PASS
159	5795	-18.8	-19.0	-19.6	-14.3	8	PASS

For Chain(2): CH151



5.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

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

5.6.3 TEST PROCEDURE

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

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 EUT OPERATING CONDITION

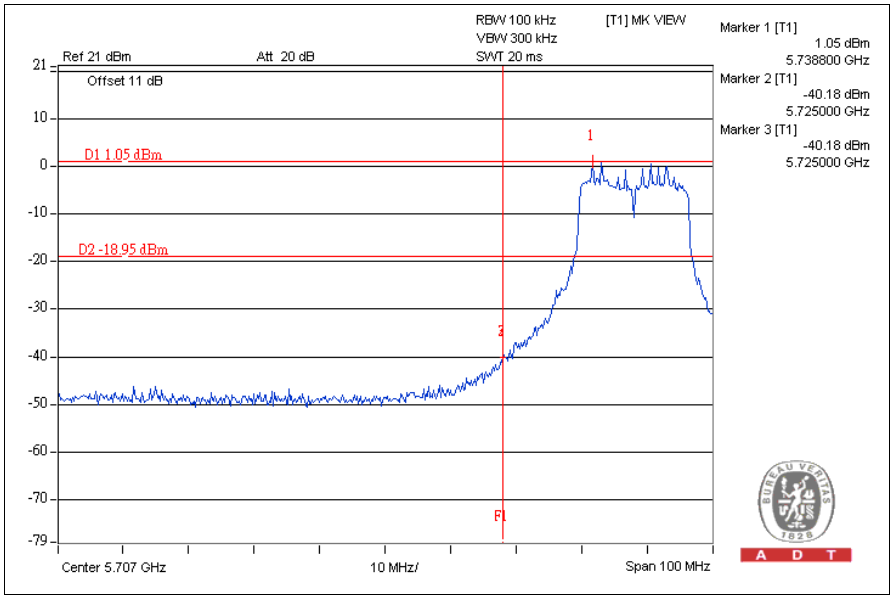
Same as Item 4.3.6

5.6.6 TEST RESULTS

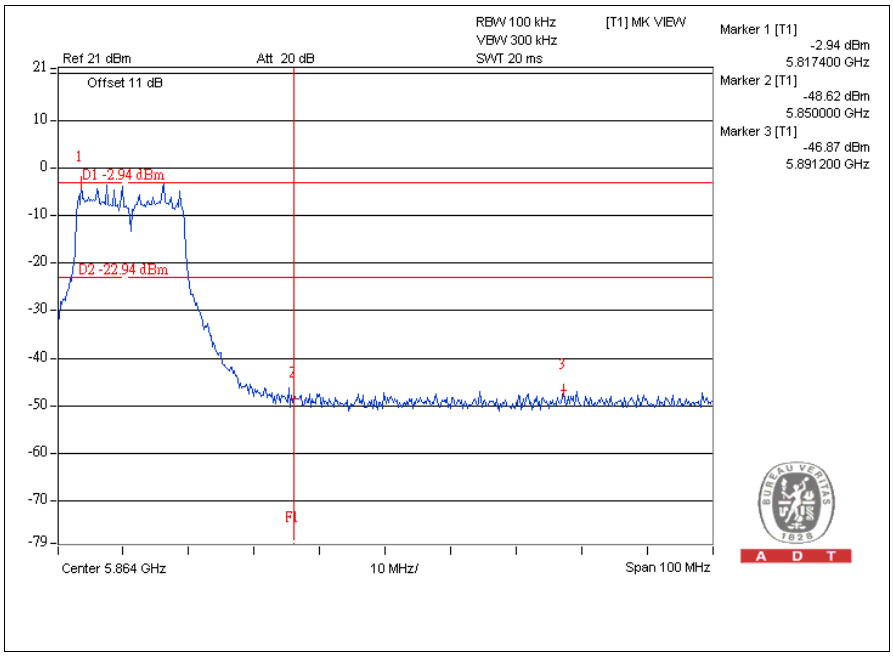
The spectrum plots are attached on the following pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(d).

802.11a OFDM modulation

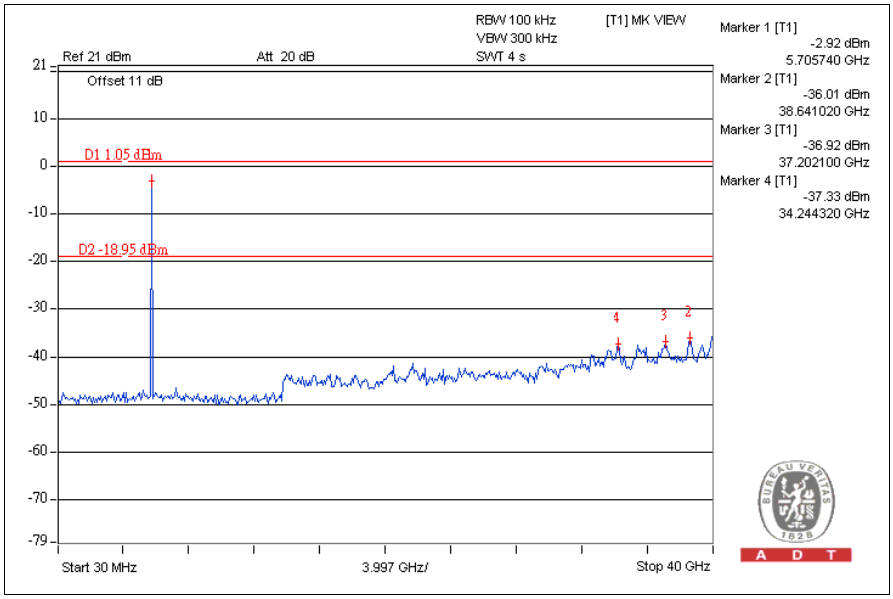
CH149



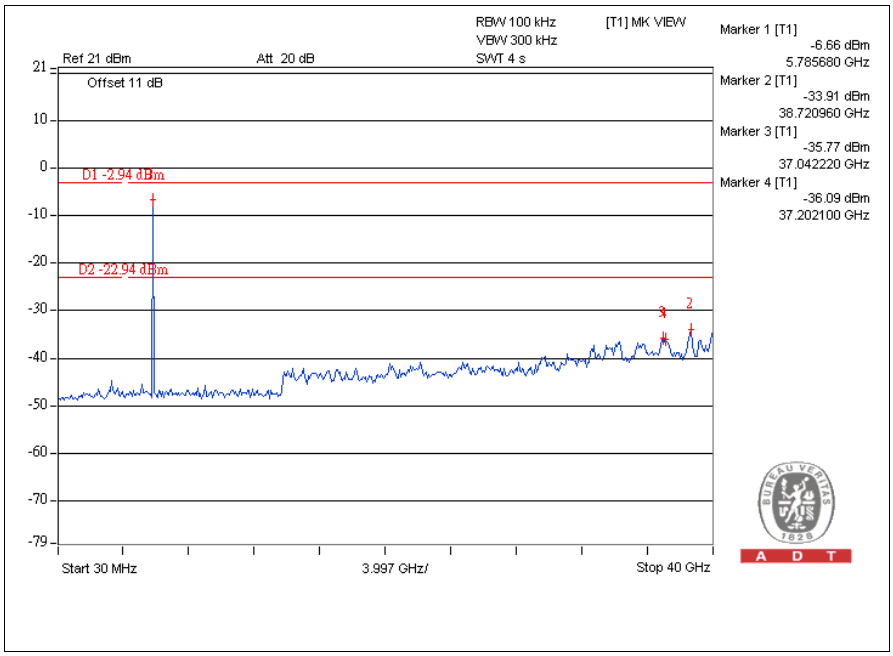
CH165



CH149

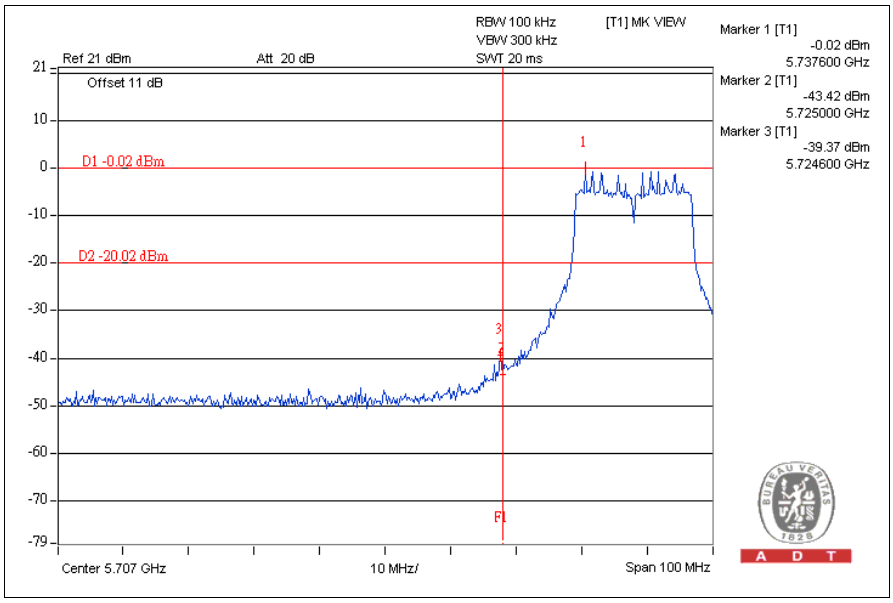

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 1.05 dBm
D2 -18.95 dBm
Marker 1 [T1]
-2.92 dBm
5.705740 GHz
Marker 2 [T1]
-36.01 dBm
38.641020 GHz
Marker 3 [T1]
-36.92 dBm
37.202100 GHz
Marker 4 [T1]
-37.33 dBm
34.244320 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH165

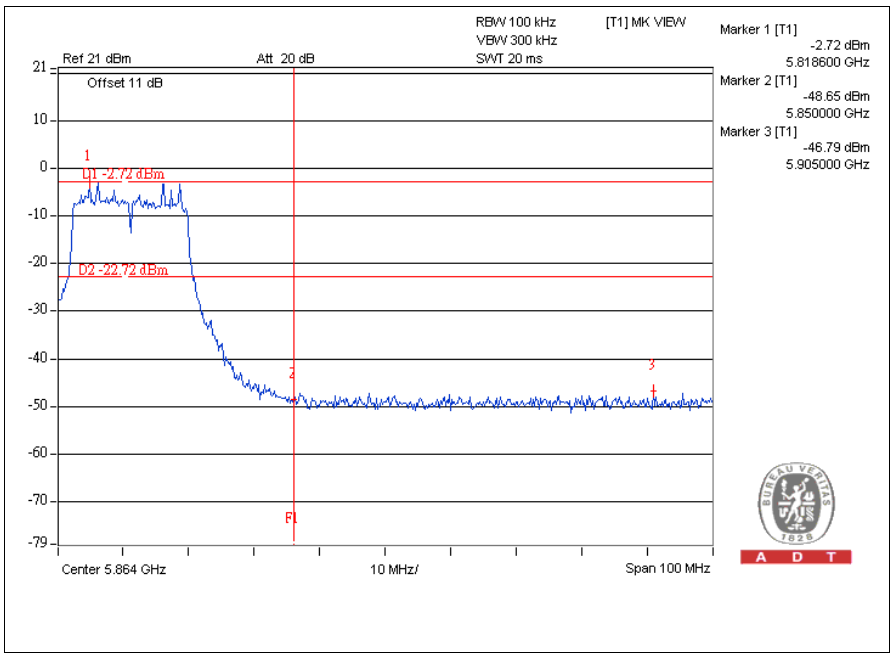

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -2.94 dBm
D2 -22.94 dBm
Marker 1 [T1]
-6.66 dBm
5.785680 GHz
Marker 2 [T1]
-33.91 dBm
38.720960 GHz
Marker 3 [T1]
-35.77 dBm
37.042220 GHz
Marker 4 [T1]
-36.09 dBm
37.202100 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

802.11n (20MHz) OFDM MODULATION:

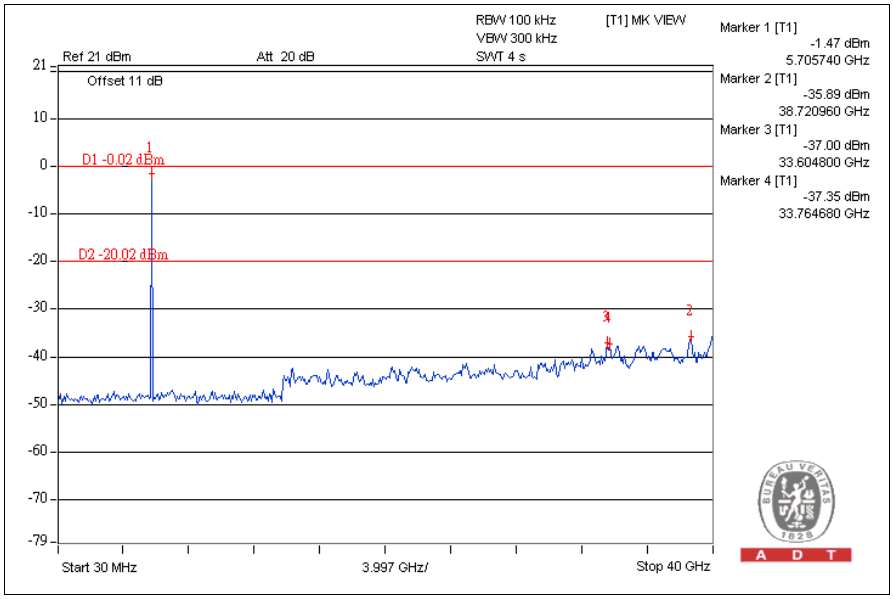
CH149



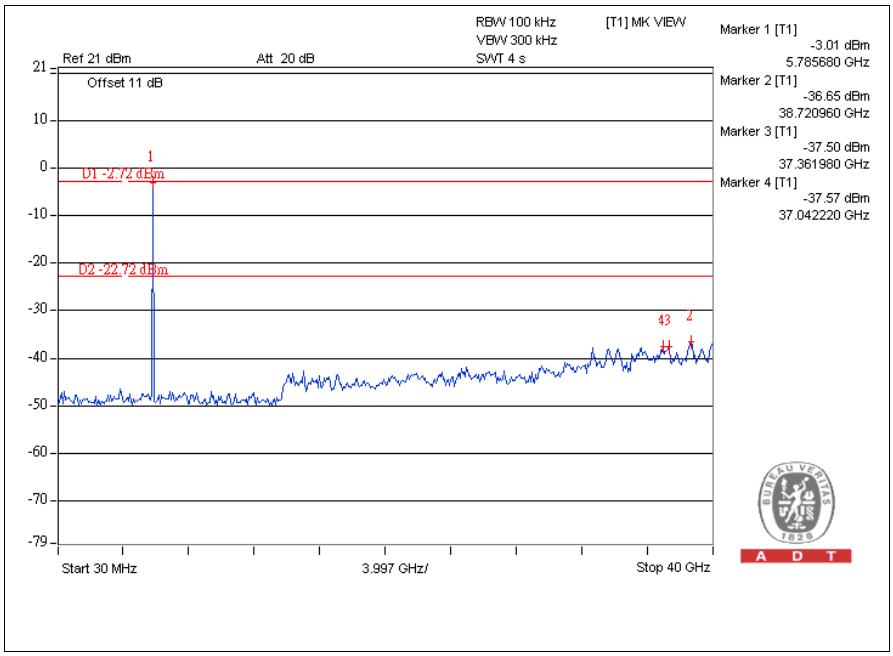
CH165



CH149

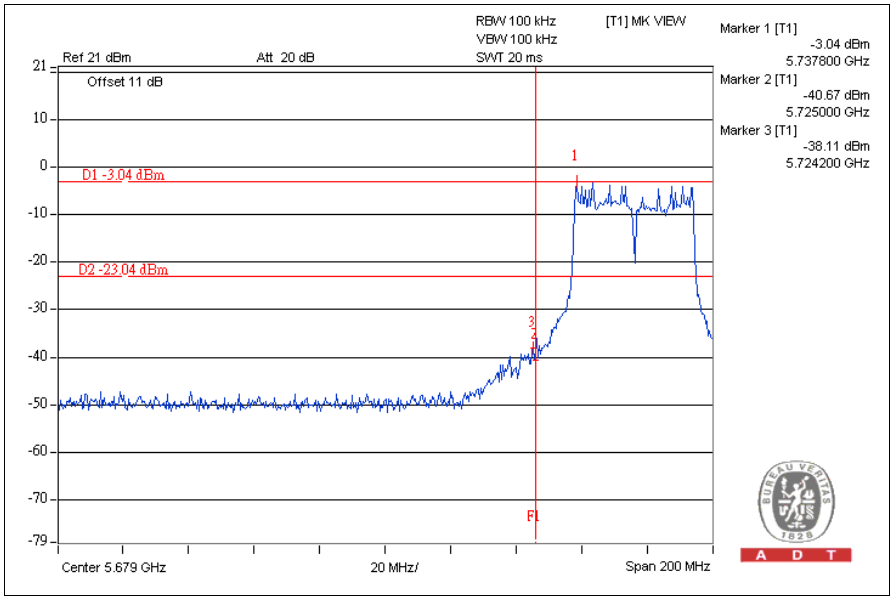

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -0.02 dBm
D2 -20.02 dBm
Marker 1 [T1]
-1.47 dBm
5.705740 GHz
Marker 2 [T1]
-35.89 dBm
38.720960 GHz
Marker 3 [T1]
-37.00 dBm
33.604800 GHz
Marker 4 [T1]
-37.35 dBm
33.764680 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH165

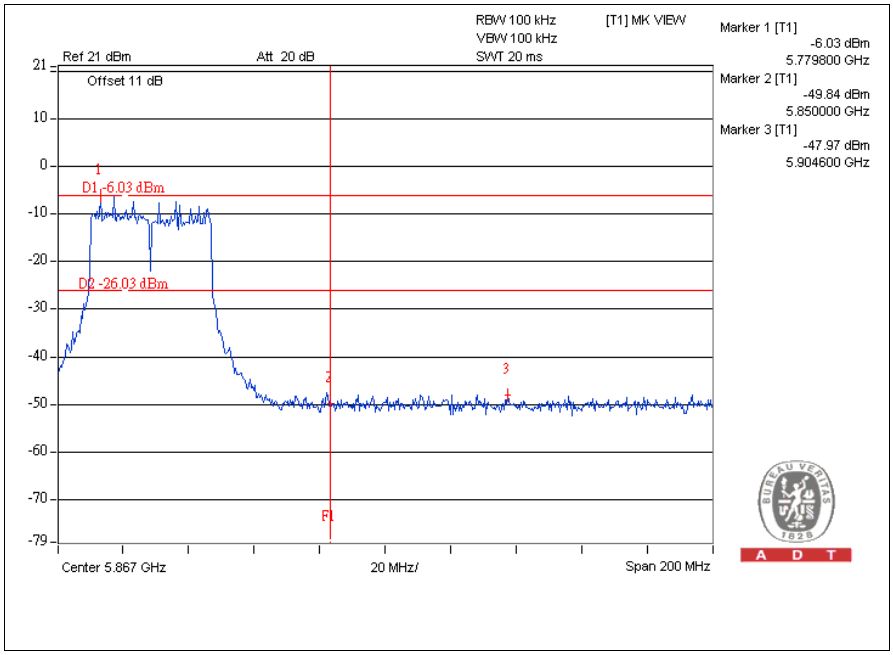

RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -2.72 dBm
D2 -22.72 dBm
Marker 1 [T1]
-3.01 dBm
5.785680 GHz
Marker 2 [T1]
-36.65 dBm
38.720960 GHz
Marker 3 [T1]
-37.50 dBm
37.361980 GHz
Marker 4 [T1]
-37.57 dBm
37.042220 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

802.11n (40MHz) OFDM MODULATION:

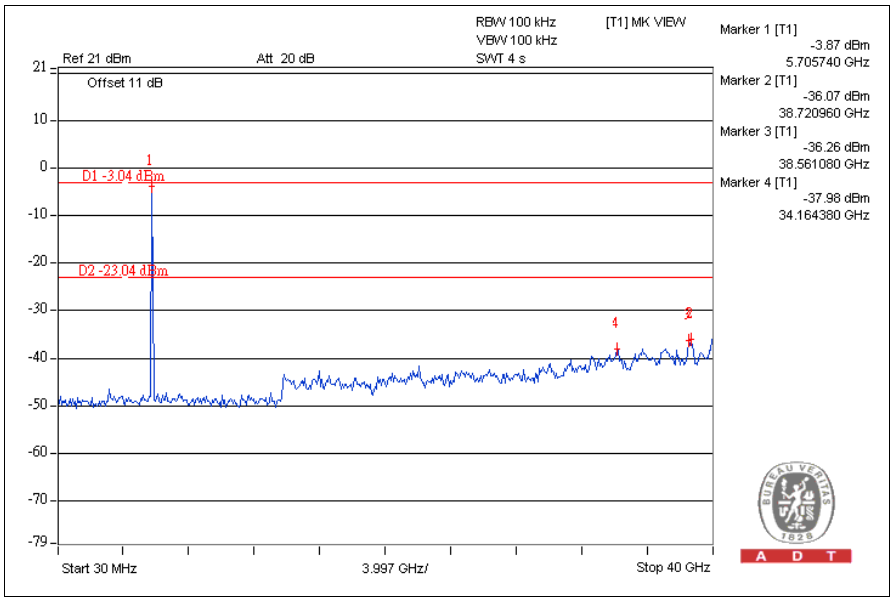
CH151



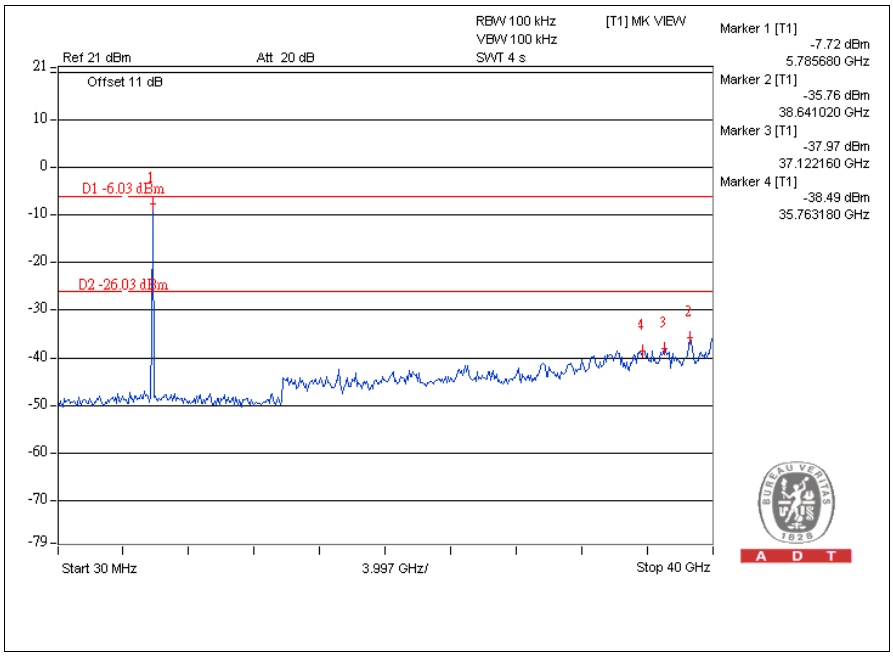
CH159



CH151


RBW 100 kHz
VBW 100 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -3.04 dBm
D2 -23.04 dBm
Marker 1 [T1]
-3.87 dBm
5.705740 GHz
Marker 2 [T1]
-36.07 dBm
38.720960 GHz
Marker 3 [T1]
-36.26 dBm
38.561080 GHz
Marker 4 [T1]
-37.98 dBm
34.164380 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

CH159


RBW 100 kHz
VBW 100 kHz
SWT 4 s
[T1] MK VIEW
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -6.03 dBm
D2 -26.03 dBm
Marker 1 [T1]
-7.72 dBm
5.785680 GHz
Marker 2 [T1]
-35.76 dBm
38.641020 GHz
Marker 3 [T1]
-37.97 dBm
37.122160 GHz
Marker 4 [T1]
-38.49 dBm
35.763180 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

6. 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

7.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.

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