

FCC TEST REPORT

REPORT NO.: RF991126E02

MODEL NO.: AR5B225

RECEIVED: Nov. 25, 2010

TESTED: Dec. 09, 2010 to Jan. 03, 2011

ISSUED: Jan. 26, 2011

APPLICANT: Atheros Communications, Inc.

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95110

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.)
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	NA	Jan. 26, 2011



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1. CERTIFICATION

PRODUCT: 1X1 802.11b/g/n - BT Combo PCIe minicard
BRAND NAME: Atheros
MODEL NO.: AR5B225
TEST SAMPLE: R&D SAMPLE
TESTED: Dec. 09, 2010 to Jan. 03, 2011
APPLICANT: Atheros Communications, Inc.
STANDARDS: FCC Part 15, Subpart C (Section 15.247),
ANSI C63.4-2003
ANSI C63.10-2009
Canada RSS-210 Issue 8 (2010-12)
Canada RSS-Gen Issue 3 (2010-12)

The above equipment (Model: AR5B225) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and was in compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Carol Liao , **DATE:** Jan. 26, 2011
(Carol Liao, Specialist)

APPROVED BY : May Chen , **DATE:** Jan. 26, 2011
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C ; RSS-210; RSS-Gen					
Standard Section			Test Type and Limit	Result	REMARK
RSS-210	RSS-Gen	47 CFR Part 15			
-	7.2.4	15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.83dB at 0.263MHz
A8.2 (a)	4.6	15.247(a) (2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
A8.4 (4)	4.8	15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
A8.5	4.9	15.247(c)	Transmitter Radiated Emissions FCC Limit: Table 15.209 RSS-Gen Limit: Table 5, 6	PASS	Meet the requirement of limit Minimum passing margin is -0.6dB at 2483.5MHz and 2390.0MHz
-	6.1	-	Receiver Radiated Emissions RSS-Gen Limit: Table 2	PASS	Meet the requirement of limit Minimum passing margin is -0.7dB at 165.95MHz
A8.2 (b)	-	15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
A8.5	-	15.247(c)	Conducted Out-Band Emission Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit
	7.1.4	15.203	Antenna Requirement	PASS	Antenna connectors are IPEX, U.FL and SMA Reverse not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.76 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	1X1 802.11b/g/n - BT Combo PCIe minicard
MODEL NO.	AR5B225
FCC ID	PPD-AR5B225
IC ID	4104A-AR5B225
POWER SUPPLY	DC 3.3V from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	WLAN :DSSS, OFDM
TRANSFER RATE	802.11b : 11 / 5.5 / 2 / 1Mbps 802.11g : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6Mbps 802.11n (20MHz, 800ns GI) : 65 / 58.5 / 52 / 39 / 26 / 19.5 / 13 / 6.5Mbps 802.11n (40MHz, 800ns GI) : 135 / 121.5 / 108 / 81 / 54 / 40.5 / 27 / 13.5Mbps 802.11n (20MHz, 400ns GI) : 72.2 / 65 / 57.8 / 43.3 / 28.9 / 21.7 / 14.4 / 7.2Mbps 802.11n (40MHz, 400ns GI) : 150 / 135 / 120 / 90 / 60 / 45 / 30 / 15Mbps
OPRTAING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
MAXIMUM OUTPUT POWER	802.11b: 102.3mW 802.11g: 158.5mW 802.11n (20MHz): 120.2mW 802.11n (40MHz): 102.3mW
ANTENNA TYPE	See item 3.2
ANTENNA CONNECTOR	See item 3.2
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. There are Bluetooth technology and WLAN technology used for the EUT. <the Bluetooth test data please refer " RF991126E02-1">
2. The EUT is 1 * 1 spatial SISO without beam forming function.
3. The EUT complies with 802.11n standards and backwards compatible with 802.11b, 802.11g products.
4. The EUT was pre-tested under the following modes:

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

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

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

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

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

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 ANTENNA

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

No.	Brand	Model	Gain(dBi) (included cable loss)	Antenna Type	Connector	Cable Loss(dB)	Cable Length
1	WNC	81-EBJ15.005	3.62	PIFA	IPEX	1.15	300mm
2	INPAQ	DAMA1BM30000402	3.2	Dipole	SMA Reverse	0.5	N.A.
3	Tyco	TBN009	2.06	PIFA	U.FL	0.96	300mm
4	Tyco	TBN010	2.64	PIFA	U.FL	0.95	300mm
5	Hitachi Cable	HBV17	1.97	PIFA	IPEX	0.99	306mm

Note: 1. Main – Wireless / Aux – BT
 2. Antenna (model: 81-EBJ15.005 and DAMA1BM30000402) were chosen for final test.

3.3 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

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

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

3.3.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	
A	√	√	√	√	With PIFA antenna
B	-	√	√	-	With Dipole antenna

Where **PLC:** Power Line Conducted Emission

RE < 1G: Radiated Emission below 1GHz

RE ³ 1G: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

POWER LINE CONDUCTED EMISSION TEST:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
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).
- ☒ The receiving mode had show equal or better than Tx mode during the pre-scan and hence the Tx mode data is re-used for Receiving-mode worst-case data.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

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

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

ANTENNA PORT CONDUCTED MEASUREMENT:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE ³ 1G	23deg. C, 64%RH, 1011 hPa	120Vac, 60Hz	Eric Lee
RE<1G	20deg. C, 70%RH, 1011 hPa	120Vac, 60Hz	Eric Lee
PLC	19deg. C, 57%RH, 1011 hPa	120Vac, 60Hz	Wen Yu
APCM	20deg. C, 60%RH, 1011 hPa	120Vac, 60Hz	Eric Lee

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247)

ANSI C63.4-2003

ANSI C63.10-2009

Canada RSS-210 Issue 8 (2010-12)

Canada RSS-Gen Issue 3 (2010-12)

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

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

3.5 DESCRIPTION OF SUPPORT UNITS

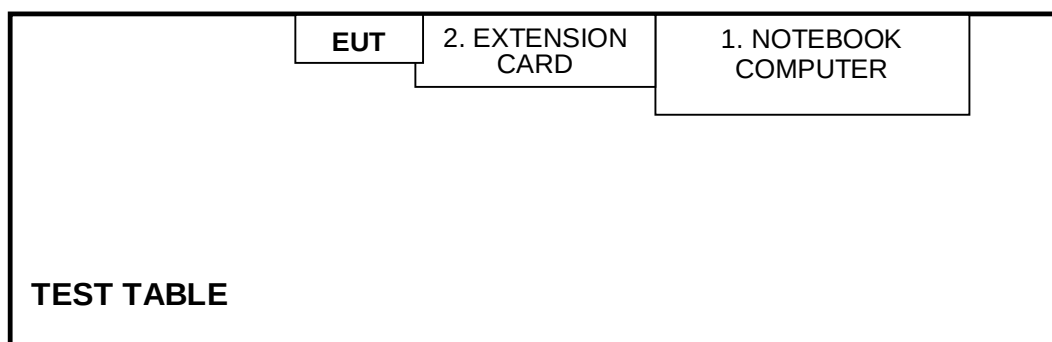
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	Lenovo	3000 N200	NA	NA
2	EXTENSION CARD	Atheros	NA	NA	NA

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

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 01, 2010	Feb. 28, 2011
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-523	Sep. 17, 2010	Sep. 16, 2011
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 11, 2010	June 10, 2011
RF Cable (JYEBAO)	5DFB	CONCAB-003	Aug. 06, 2010	Aug. 05, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

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

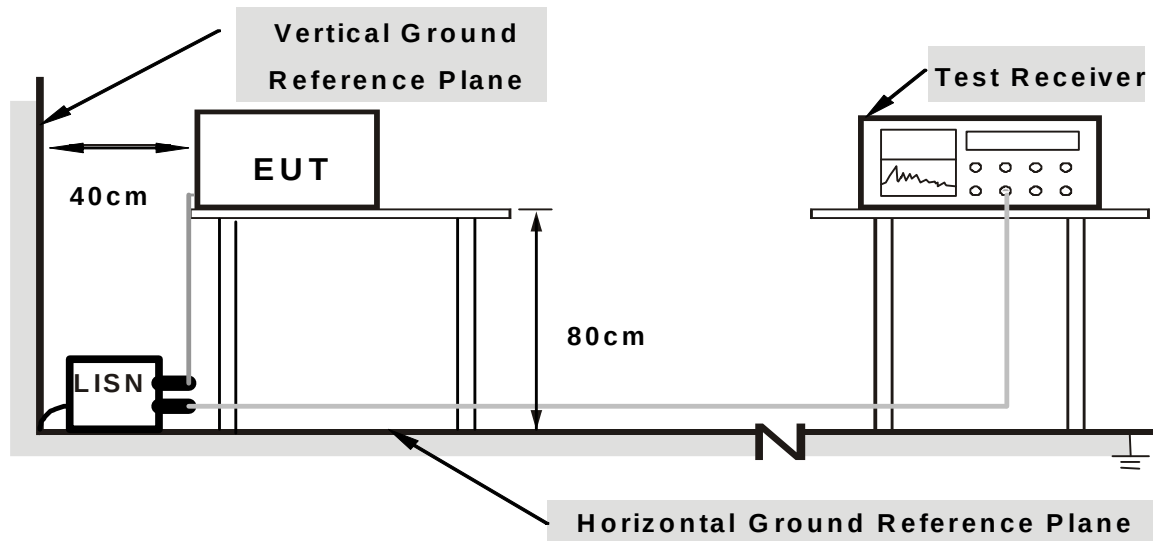
4.1.3 TEST PROCEDURES

- 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

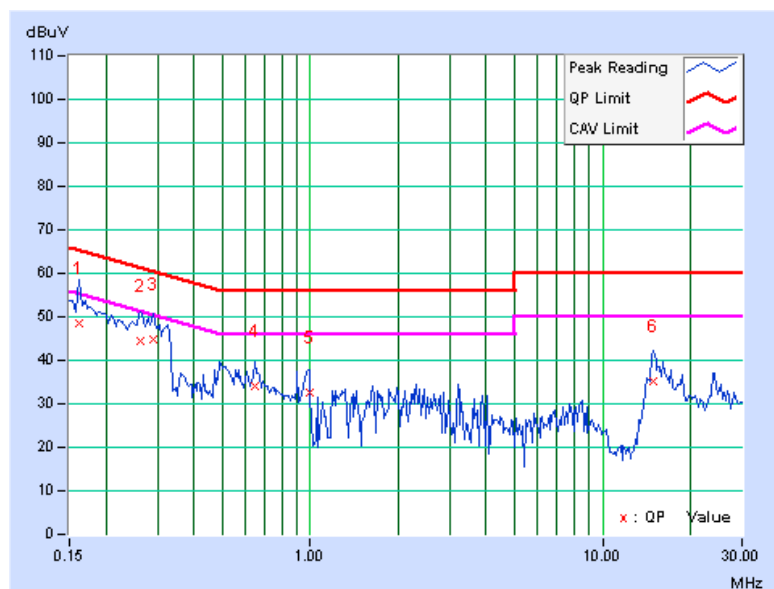
1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “ArcMfgTool 2.0.0.9” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
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	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	0.162	0.36	48.19	-	48.55	-	65.38	55.38	-16.82	-
2	0.263	0.36	43.99	-	44.35	-	61.33	51.33	-16.98	-
3	0.291	0.36	44.55	-	44.91	-	60.51	50.51	-15.60	-
4	0.646	0.38	33.73	-	34.11	-	56.00	46.00	-21.89	-
5	0.990	0.41	32.33	-	32.74	-	56.00	46.00	-23.26	-
6	14.910	0.99	34.28	-	35.27	-	60.00	50.00	-24.73	-

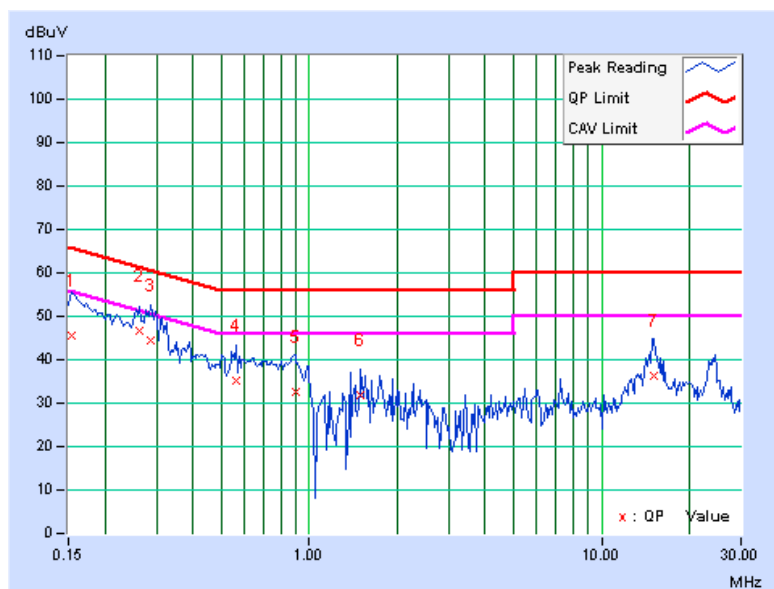
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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	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	0.154	0.10	45.63	-	45.73	-	65.79	55.79	-20.06	-
2	0.263	0.10	46.39	-	46.49	-	61.33	51.33	-14.83	-
3	0.287	0.10	44.19	-	44.29	-	60.62	50.62	-16.32	-
4	0.560	0.12	35.12	-	35.24	-	56.00	46.00	-20.76	-
5	0.896	0.15	32.36	-	32.51	-	56.00	46.00	-23.49	-
6	1.504	0.18	31.72	-	31.90	-	56.00	46.00	-24.10	-
7	15.168	0.95	35.21	-	36.16	-	60.00	50.00	-23.84	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

For transmitter part:

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209(RSS-Gen table 5, 6) as following:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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.

For receiver part:

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

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in RSS-Gen 7.2.3, for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



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4.2.2 TEST INSTRUMENTS

For Below 1GHz: Test date: Dec. 22, 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	Oct. 25, 2010	Oct. 24, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 16, 2010	Nov. 15, 2011
Agilent Pre-Amplifier	8449B	3008A02465	Mar. 01, 2010	Feb. 28, 2011
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 28, 2010	Apr. 27, 2011
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 22, 2010	Nov. 21, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
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.



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For Above 1GHz: Test date: Dec. 22, 2010

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011
Agilent Pre-Selector	N9039A	MY46520311	July 14, 2010	July 13, 2011
Agilent Signal Generator	N5181A	MY49060517	July 14, 2010	July 13, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 16, 2010	Nov. 15, 2011
Agilent Pre-Amplifier	8449B	3008A02578	July 05, 2010	July 04, 2011
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 29, 2010	Apr. 28, 2011
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 12, 2010	Nov. 11, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 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.

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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

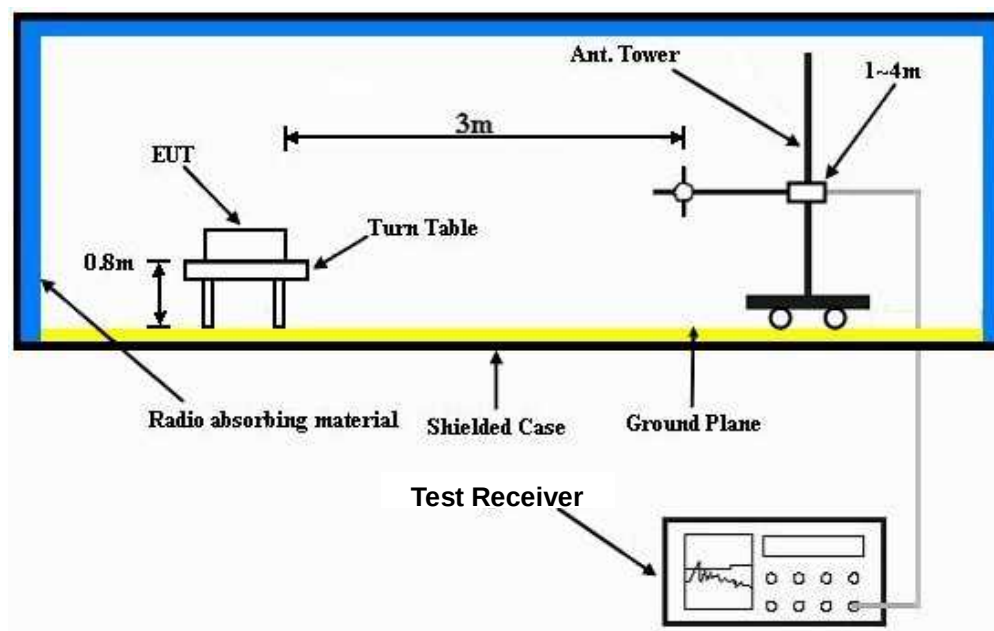
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS (FOR TRANSMITTER PART)

4.2.7.1 TEST RESULTS (With PIFA Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. 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	148.42	39.4 QP	43.5	-4.1	1.00 H	349	25.20	14.24
2	165.95	42.8 QP	43.5	-0.7	1.50 H	9	28.79	14.01
3	199.23	41.2 QP	43.5	-2.3	1.50 H	190	29.94	11.24
4	499.55	36.9 QP	46.0	-9.2	1.00 H	253	16.90	19.95
5	593.81	34.9 QP	46.0	-11.1	1.50 H	251	12.67	22.22
6	896.38	39.0 QP	46.0	-7.0	1.00 H	265	12.52	26.50
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	148.19	32.1 QP	43.5	-11.4	1.00 V	347	17.87	14.24
2	165.95	35.2 QP	43.5	-8.3	1.00 V	151	21.23	14.01
3	298.92	34.7 QP	46.0	-11.3	1.75 V	23	19.79	14.89
4	399.54	35.4 QP	46.0	-10.6	1.00 V	108	17.55	17.85
5	499.56	39.8 QP	46.0	-6.2	1.00 V	96	19.85	19.95
6	739.62	32.5 QP	46.0	-13.6	1.25 V	48	8.71	23.74

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	23deg. C, 64%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	2386.30	58.8 PK	74.0	-15.2	1.44 H	270	27.06	31.74
2	2386.30	50.3 AV	54.0	-3.7	1.44 H	270	18.56	31.74
3	*2412.00	110.1 PK			1.29 H	68	78.27	31.83
4	*2412.00	107.3 AV			1.29 H	68	75.47	31.83
5	4824.00	54.7 PK	74.0	-19.3	1.20 H	100	15.43	39.27
6	4824.00	44.3 AV	54.0	-9.7	1.20 H	100	5.03	39.27
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	2387.10	57.8 PK	74.0	-16.2	1.20 V	103	26.05	31.75
2	2387.10	46.0 AV	54.0	-8.0	1.20 V	103	14.25	31.75
3	*2412.00	102.9 PK			1.20 V	104	71.07	31.83
4	*2412.00	99.0 AV			1.20 V	104	67.17	31.83
5	4824.00	56.3 PK	74.0	-17.7	1.18 V	277	17.03	39.27
6	4824.00	53.3 AV	54.0	-0.7	1.18 V	277	14.03	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	109.9 PK			1.31 H	71	77.99	31.91
2	*2437.00	106.2 AV			1.31 H	71	74.29	31.91
3	4874.00	52.8 PK	74.0	-21.2	1.10 H	94	13.36	39.44
4	4874.00	45.9 AV	54.0	-8.1	1.10 H	94	6.46	39.44
5	7311.00	55.3 PK	74.0	-18.7	1.38 H	161	8.53	46.77
6	7311.00	46.2 AV	54.0	-7.8	1.38 H	161	-0.57	46.77
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	101.4 PK			1.09 V	105	69.49	31.91
2	*2437.00	98.4 AV			1.09 V	105	66.49	31.91
3	4874.00	55.2 PK	74.0	-18.8	1.06 V	270	15.76	39.44
4	4874.00	50.9 AV	54.0	-3.1	1.06 V	270	11.46	39.44
5	7311.00	52.3 PK	74.0	-21.7	1.38 V	280	5.53	46.77
6	7311.00	42.1 AV	54.0	-11.9	1.38 V	280	-4.67	46.77

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



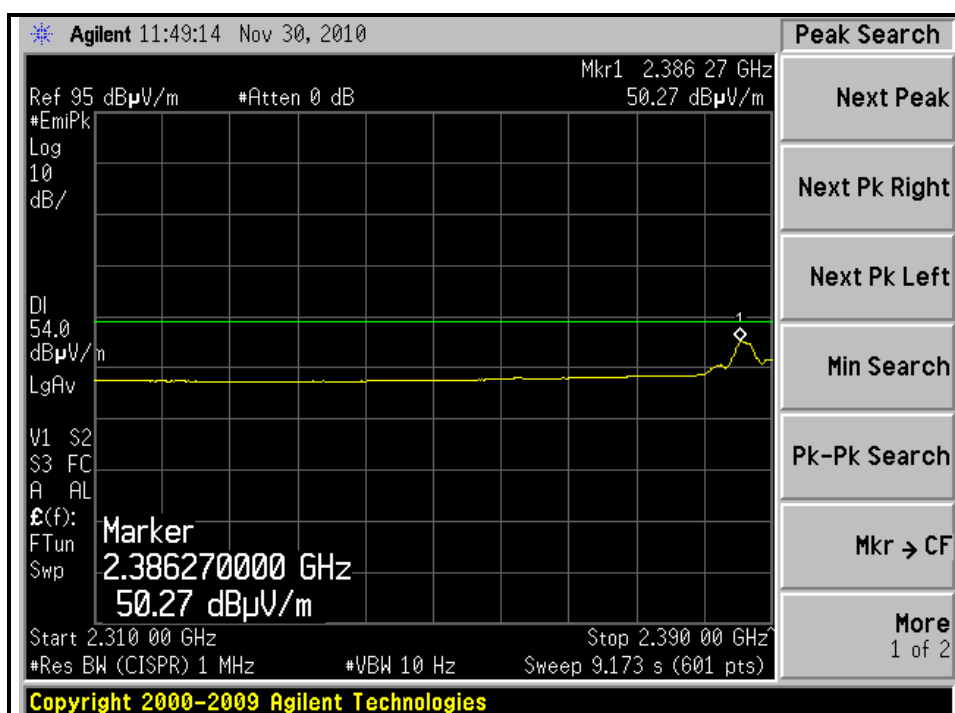
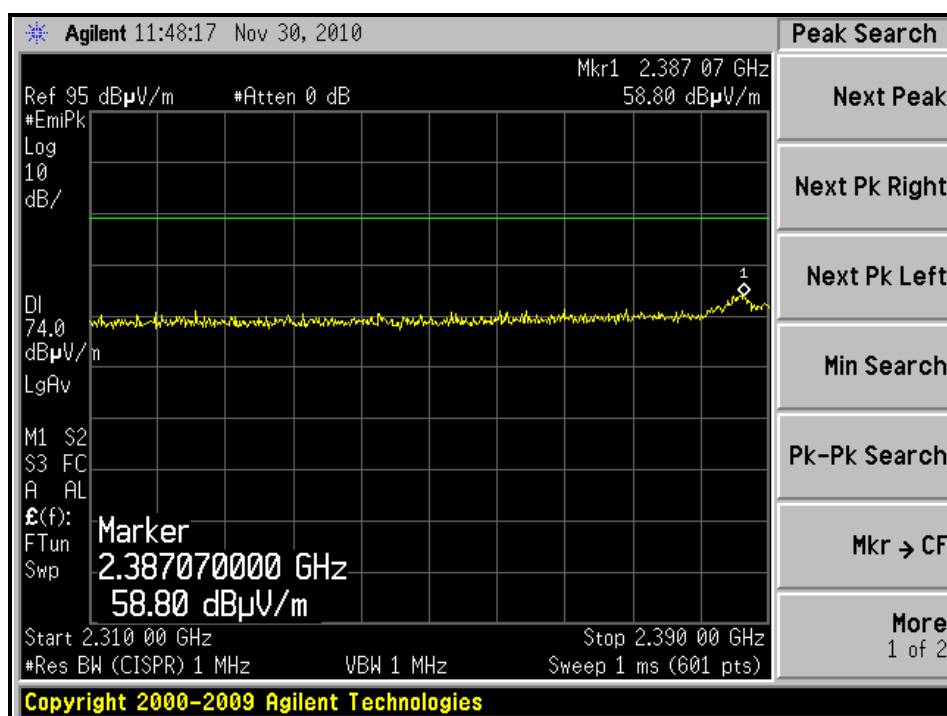
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

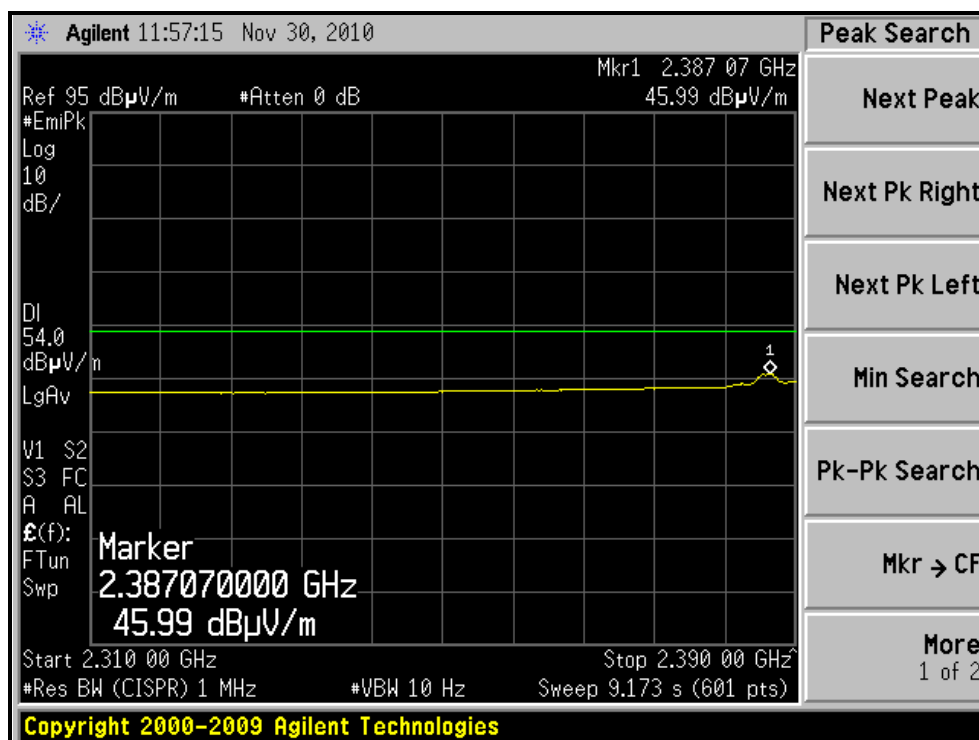
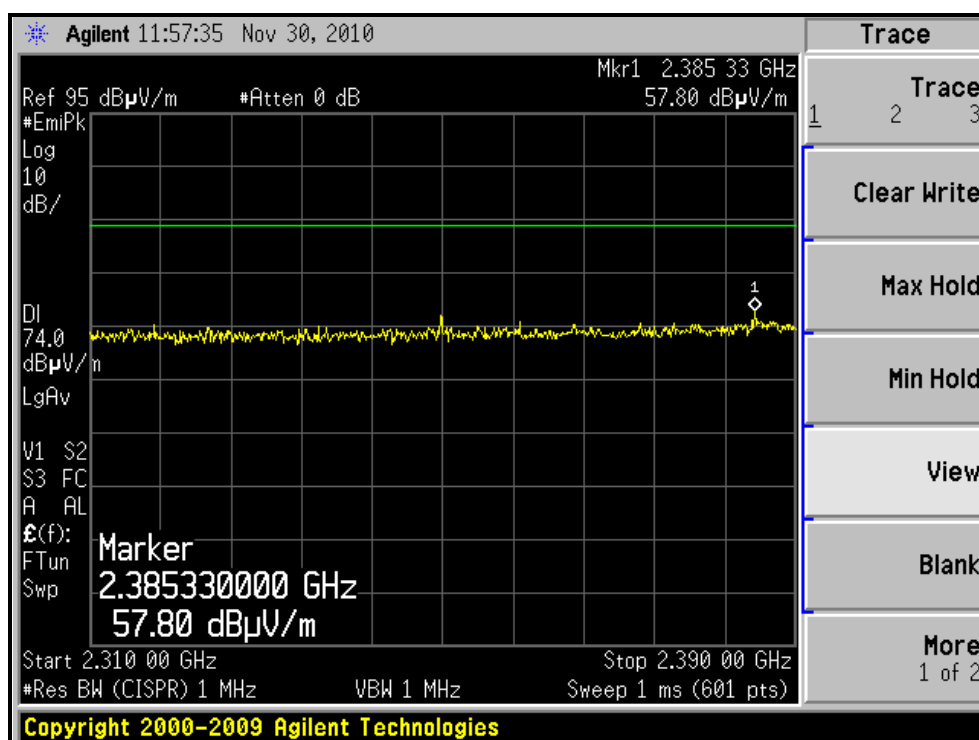
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.8 PK			1.29 H	68	77.81	31.99
2	*2462.00	106.8 AV			1.29 H	68	74.81	31.99
3	2483.50	60.7 PK	74.0	-13.3	1.29 H	68	28.63	32.07
4	2483.50	52.1 AV	54.0	-1.9	1.29 H	68	20.03	32.07
5	4924.00	52.4 PK	74.0	-21.6	1.05 H	88	12.79	39.61
6	4924.00	45.2 AV	54.0	-8.8	1.05 H	88	5.59	39.61
7	7386.00	54.3 PK	74.0	-19.7	1.40 H	126	7.58	46.72
8	7386.00	46.2 AV	54.0	-7.8	1.40 H	126	-0.52	46.72
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	99.9 PK			1.20 V	108	67.91	31.99
2	*2462.00	96.3 AV			1.20 V	108	64.31	31.99
3	2483.50	57.0 PK	74.0	-17.0	1.25 V	20	24.93	32.07
4	2483.50	45.2 AV	54.0	-8.8	1.25 V	20	13.13	32.07
5	4924.00	54.9 PK	74.0	-19.1	1.10 V	270	15.29	39.61
6	4924.00	50.2 AV	54.0	-3.8	1.10 V	270	10.59	39.61
7	7386.00	53.9 PK	74.0	-20.1	1.33 V	291	7.18	46.72
8	7386.00	44.2 AV	54.0	-9.8	1.33 V	291	-2.52	46.72

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

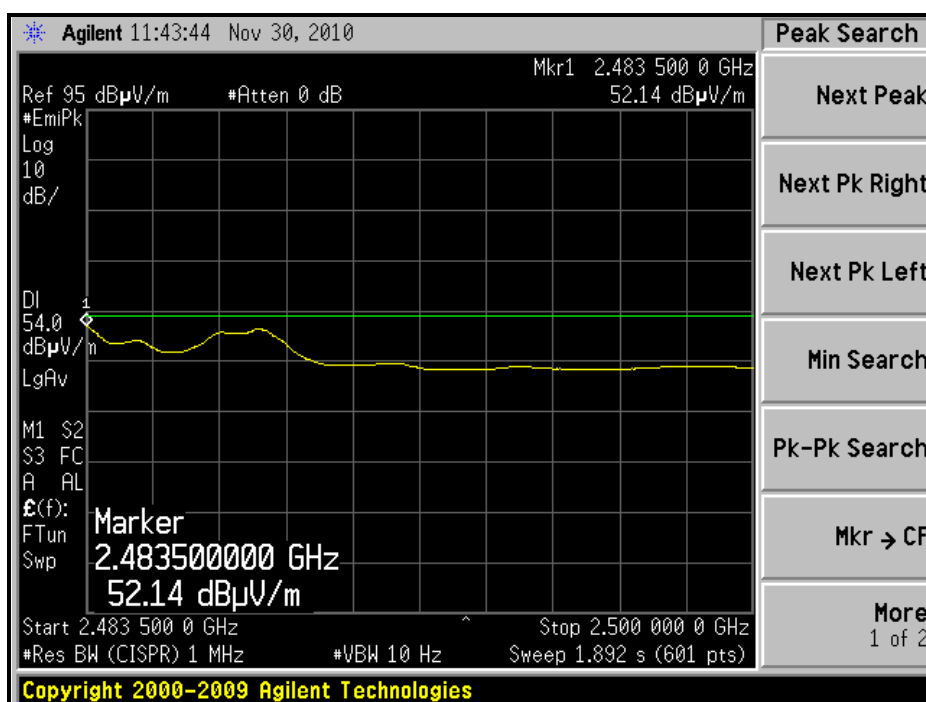
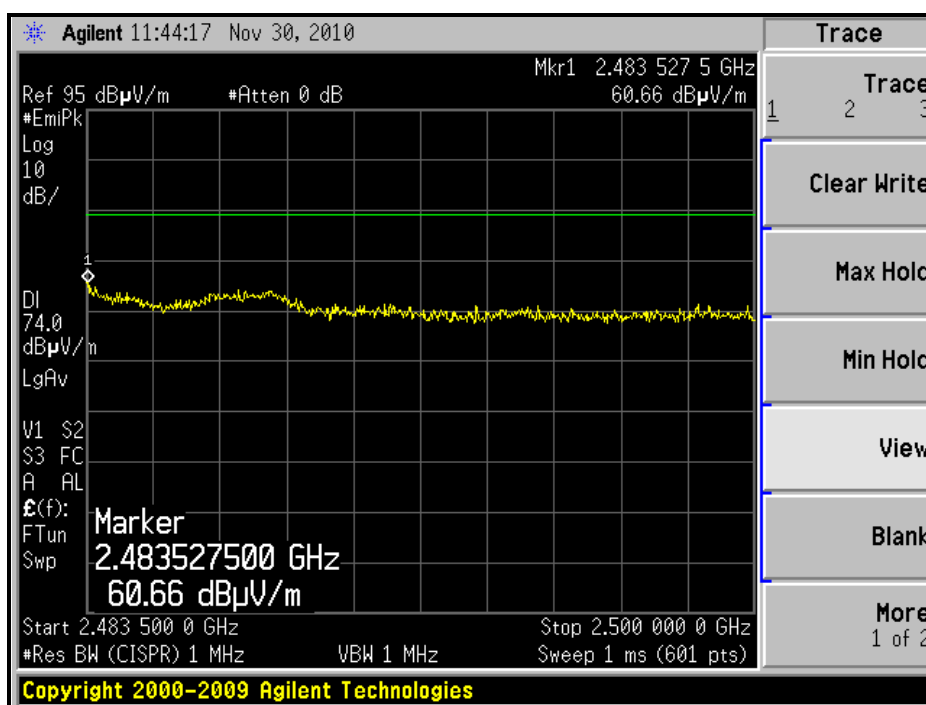
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)



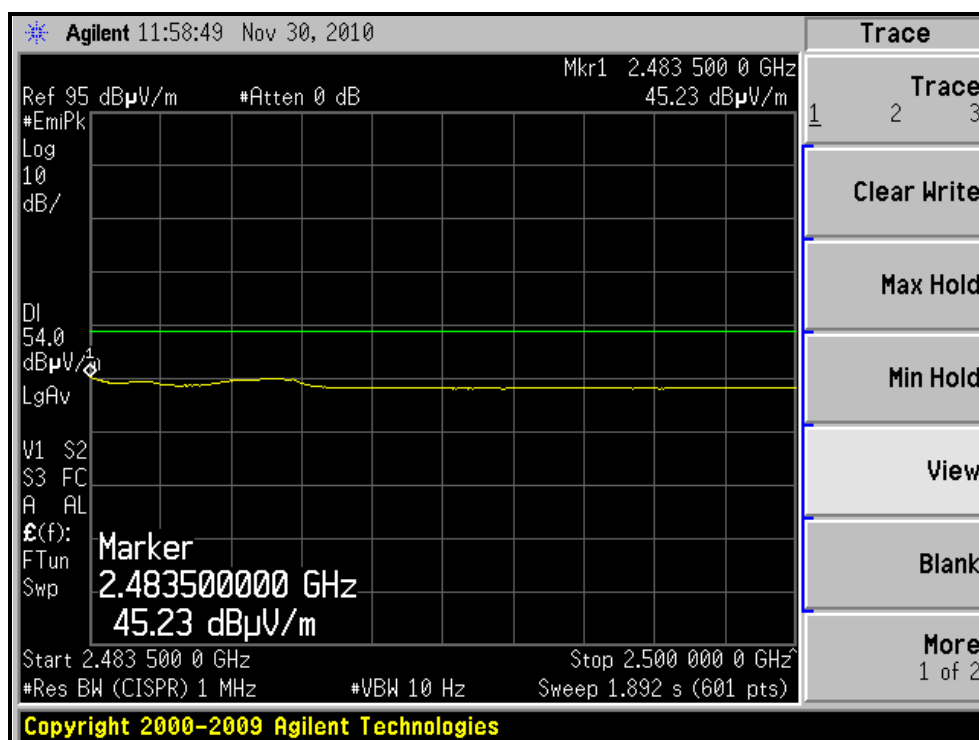
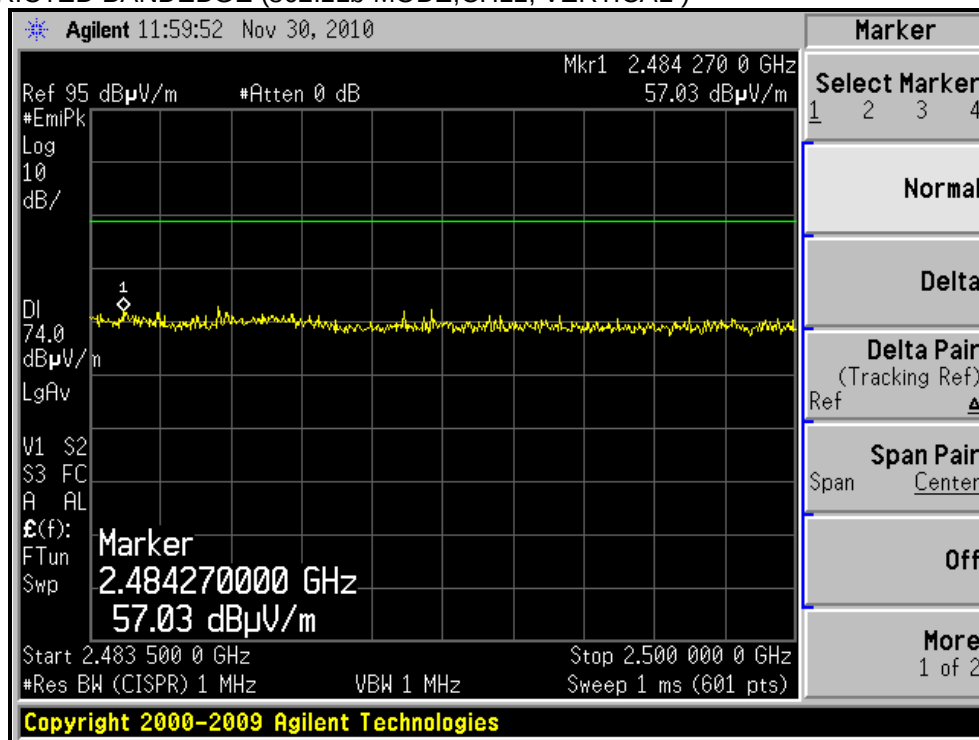
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





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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	23deg. C, 64%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	70.0 PK	74.0	-4.0	1.41 H	280	38.24	31.76
2	2390.00	53.1 AV	54.0	-0.9	1.41 H	280	21.34	31.76
3	*2412.00	107.2 PK			1.39 H	271	75.37	31.83
4	*2412.00	96.3 AV			1.39 H	271	64.47	31.83
5	4824.00	47.2 PK	74.0	-26.8	1.40 H	70	7.93	39.27
6	4824.00	37.1 AV	54.0	-16.9	1.40 H	70	-2.17	39.27
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	63.5 PK	74.0	-10.5	1.20 V	183	31.74	31.76
2	2390.00	47.8 AV	54.0	-6.2	1.20 V	183	16.04	31.76
3	*2412.00	99.3 PK			1.19 V	190	67.47	31.83
4	*2412.00	88.1 AV			1.19 V	190	56.27	31.83
5	4824.00	46.9 PK	74.0	-27.1	1.19 V	166	7.63	39.27
6	4824.00	36.2 AV	54.0	-17.8	1.19 V	166	-3.07	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	113.0 PK			1.40 H	277	81.09	31.91
2	*2437.00	100.0 AV			1.40 H	277	68.09	31.91
3	4874.00	49.2 PK	74.0	-24.8	1.38 H	69	9.76	39.44
4	4874.00	37.6 AV	54.0	-16.4	1.38 H	69	-1.84	39.44
5	7311.00	52.1 PK	74.0	-21.9	1.22 H	111	5.33	46.77
6	7311.00	38.3 AV	54.0	-15.7	1.22 H	111	-8.47	46.77
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	104.7 PK			1.19 V	160	72.79	31.91
2	*2437.00	93.2 AV			1.19 V	160	61.29	31.91
3	4874.00	47.2 PK	74.0	-26.8	1.20 V	156	7.76	39.44
4	4874.00	36.7 AV	54.0	-17.3	1.20 V	156	-2.74	39.44
5	7311.00	53.2 PK	74.0	-20.8	1.14 V	150	6.43	46.77
6	7311.00	39.4 AV	54.0	-14.6	1.14 V	150	-7.37	46.77

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



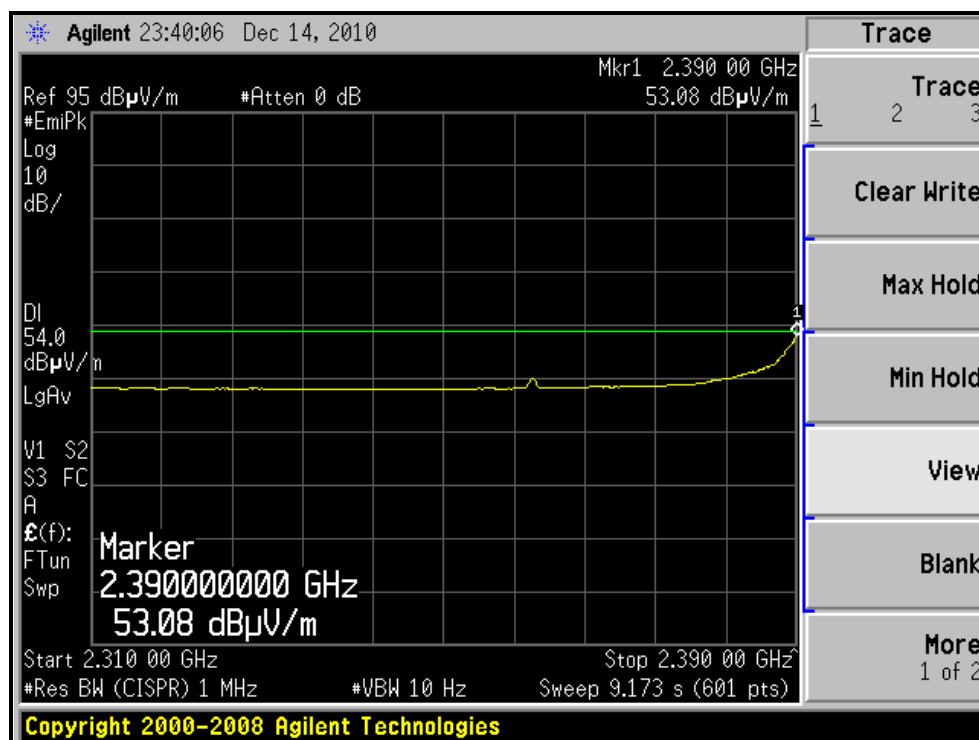
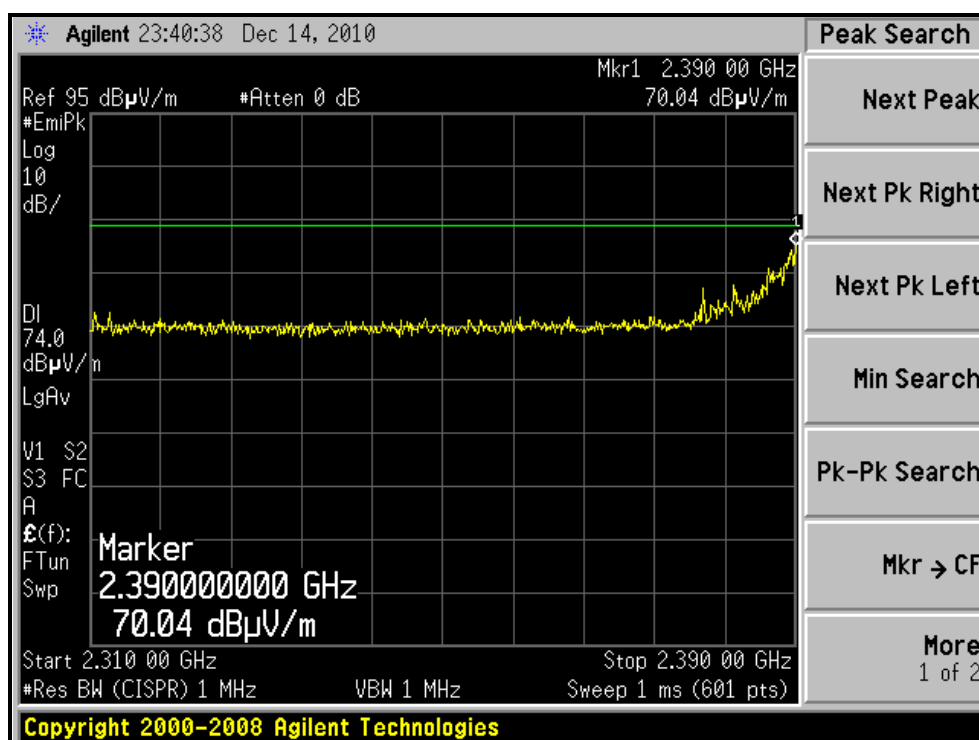
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

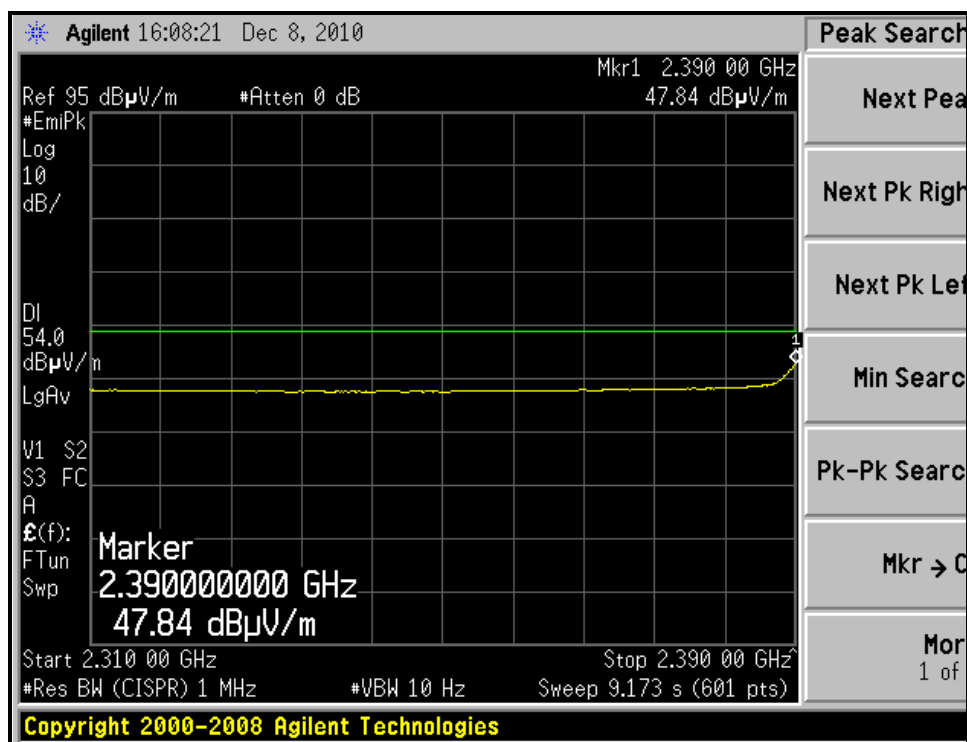
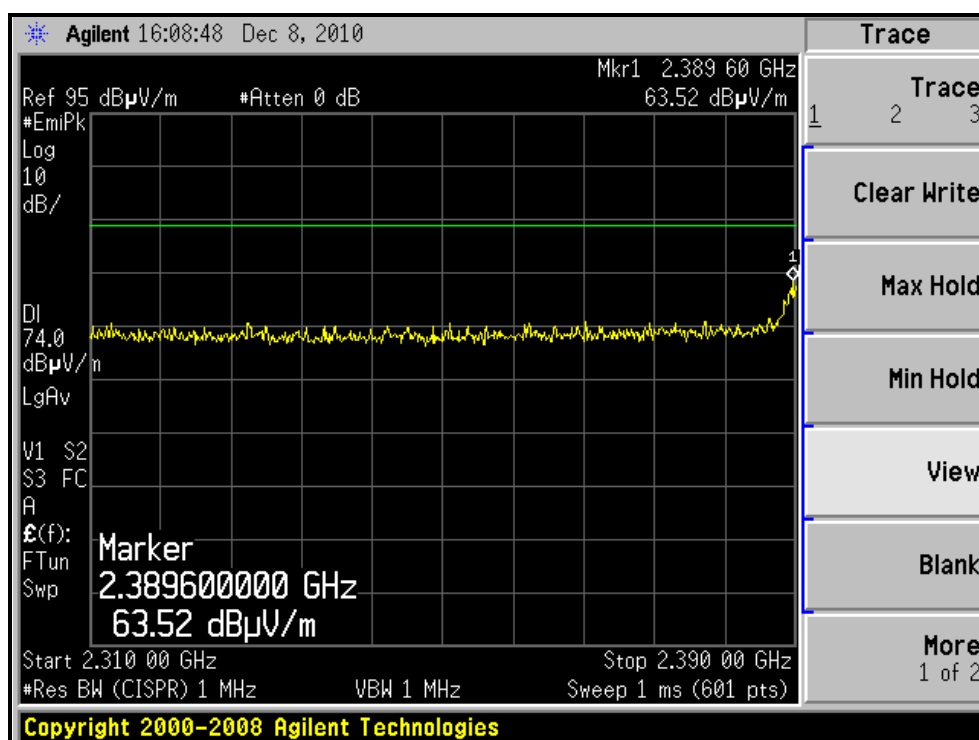
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.3 PK			1.32 H	190	74.31	31.99
2	*2462.00	95.2 AV			1.32 H	190	63.21	31.99
3	2483.50	73.4 PK	74.0	-0.6	1.26 H	73	41.33	32.07
4	2483.50	53.4 AV	54.0	-0.6	1.26 H	73	21.33	32.07
5	4924.00	47.3 PK	74.0	-26.7	1.41 H	78	7.69	39.61
6	4924.00	37.2 AV	54.0	-16.8	1.41 H	78	-2.41	39.61
7	7386.00	52.0 PK	74.0	-22.0	1.23 H	122	5.28	46.72
8	7386.00	37.9 AV	54.0	-16.1	1.23 H	122	-8.82	46.72
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	98.9 PK			1.20 V	11	66.91	31.99
2	*2462.00	88.4 AV			1.20 V	11	56.41	31.99
3	2483.50	64.2 PK	74.0	-9.8	1.24 V	18	32.13	32.07
4	2483.50	47.9 AV	54.0	-6.1	1.24 V	18	15.83	32.07
5	4924.00	46.2 PK	74.0	-27.8	1.19 V	160	6.59	39.61
6	4924.00	36.5 AV	54.0	-17.5	1.19 V	160	-3.11	39.61
7	7386.00	53.3 PK	74.0	-20.7	1.15 V	166	6.58	46.72
8	7386.00	39.9 AV	54.0	-14.1	1.15 V	166	-6.82	46.72

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

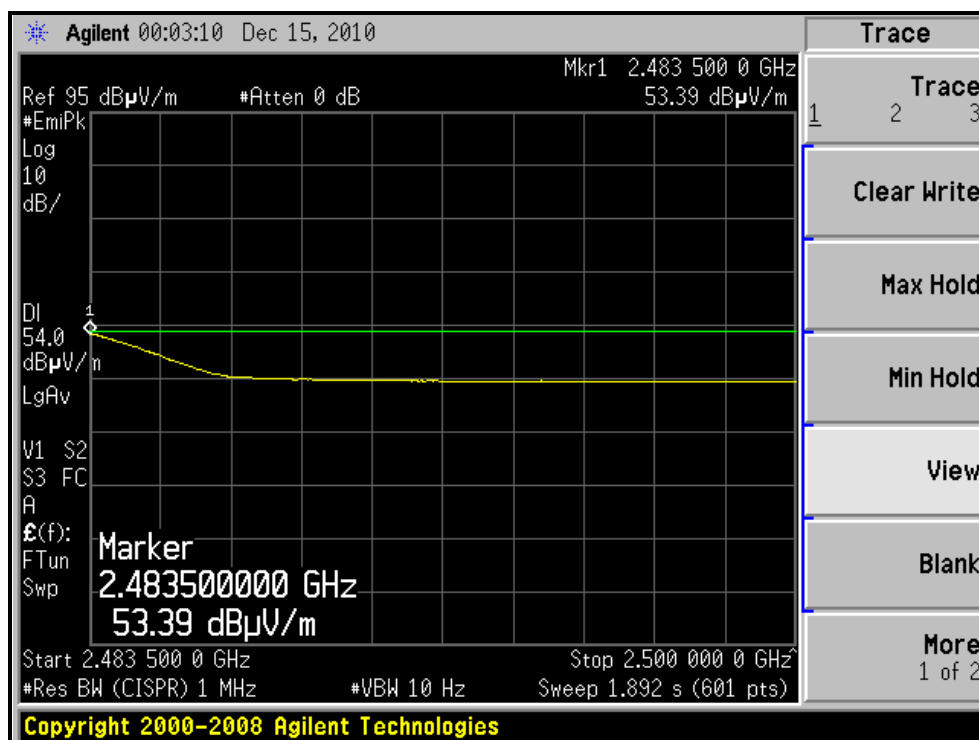
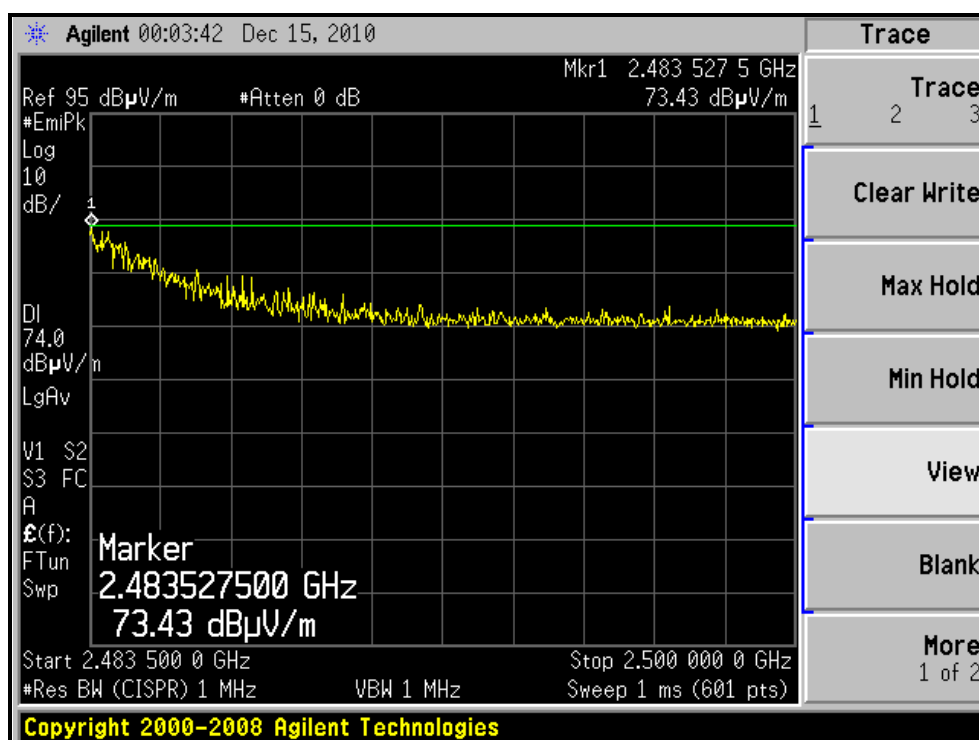
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



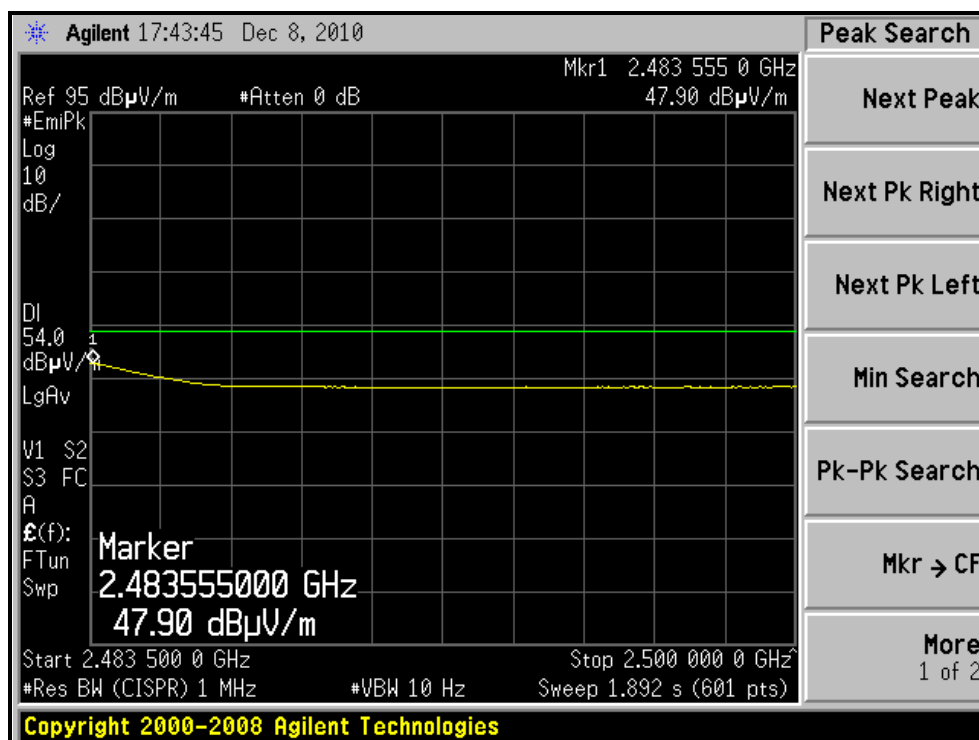
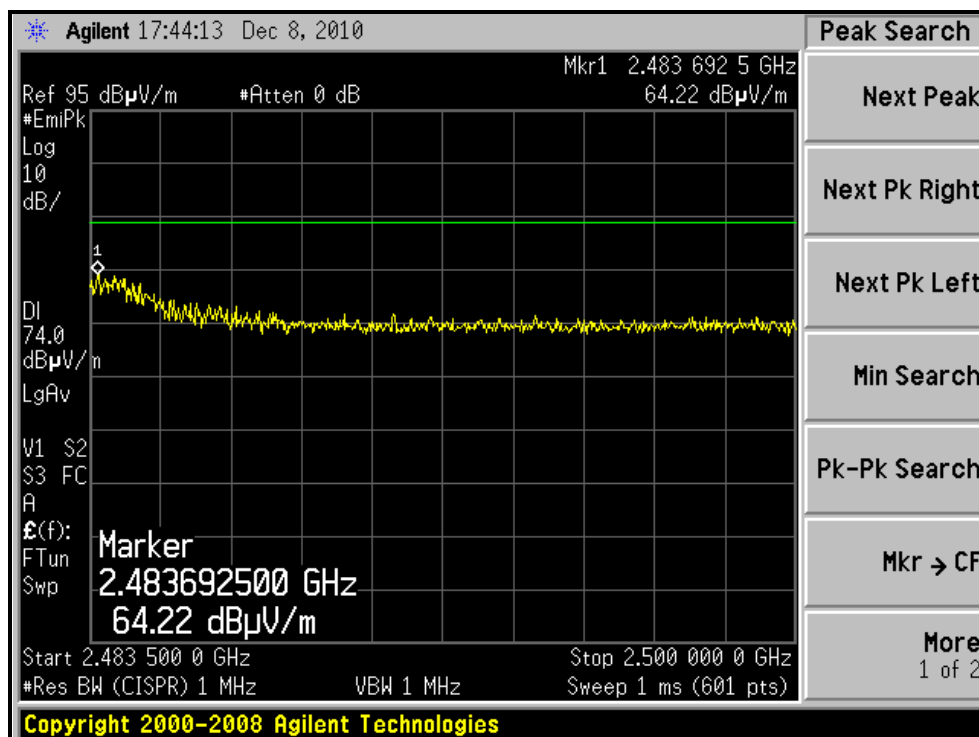
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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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	23deg. C, 64%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	71.3 PK	74.0	-2.7	1.40 H	282	39.54	31.76
2	2390.00	53.4 AV	54.0	-0.6	1.40 H	282	21.64	31.76
3	*2412.00	106.3 PK			1.36 H	80	74.47	31.83
4	*2412.00	95.4 AV			1.36 H	80	63.57	31.83
5	4824.00	43.2 PK	74.0	-30.8	1.46 H	83	3.93	39.27
6	4824.00	35.9 AV	54.0	-18.1	1.46 H	83	-3.37	39.27
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	66.7 PK	74.0	-7.3	1.20 V	104	34.94	31.76
2	2390.00	50.0 AV	54.0	-4.0	1.20 V	104	18.24	31.76
3	*2412.00	99.9 PK			1.11 V	114	68.07	31.83
4	*2412.00	88.1 AV			1.11 V	114	56.27	31.83
5	4824.00	45.8 PK	74.0	-28.2	1.11 V	69	6.53	39.27
6	4824.00	36.3 AV	54.0	-17.7	1.11 V	69	-2.97	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	111.2 PK			1.40 H	77	79.29	31.91
2	*2437.00	98.2 AV			1.40 H	77	66.29	31.91
3	4874.00	44.2 PK	74.0	-29.8	1.33 H	200	4.76	39.44
4	4874.00	36.4 AV	54.0	-17.6	1.33 H	200	-3.04	39.44
5	7311.00	51.6 PK	74.0	-22.4	1.28 H	314	4.83	46.77
6	7311.00	37.6 AV	54.0	-16.4	1.28 H	314	-9.17	46.77
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			1.14 V	120	70.59	31.91
2	*2437.00	91.2 AV			1.14 V	120	59.29	31.91
3	4874.00	47.9 PK	74.0	-26.1	1.10 V	78	8.46	39.44
4	4874.00	38.9 AV	54.0	-15.1	1.10 V	78	-0.54	39.44
5	7311.00	54.8 PK	74.0	-19.2	1.33 V	71	8.03	46.77
6	7311.00	39.6 AV	54.0	-14.4	1.33 V	71	-7.17	46.77

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



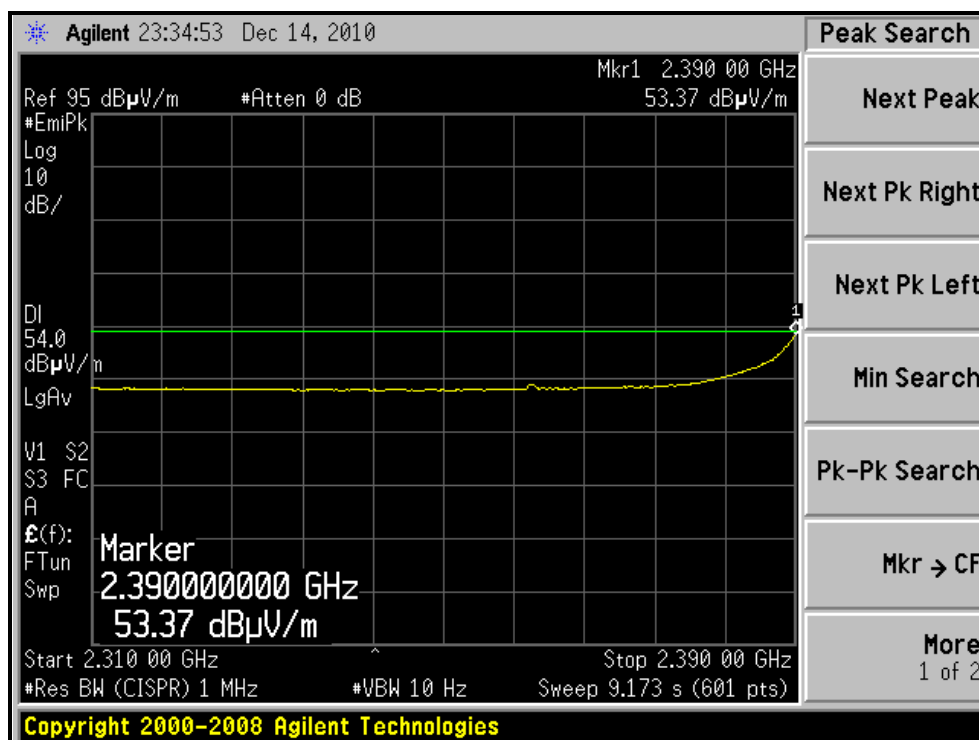
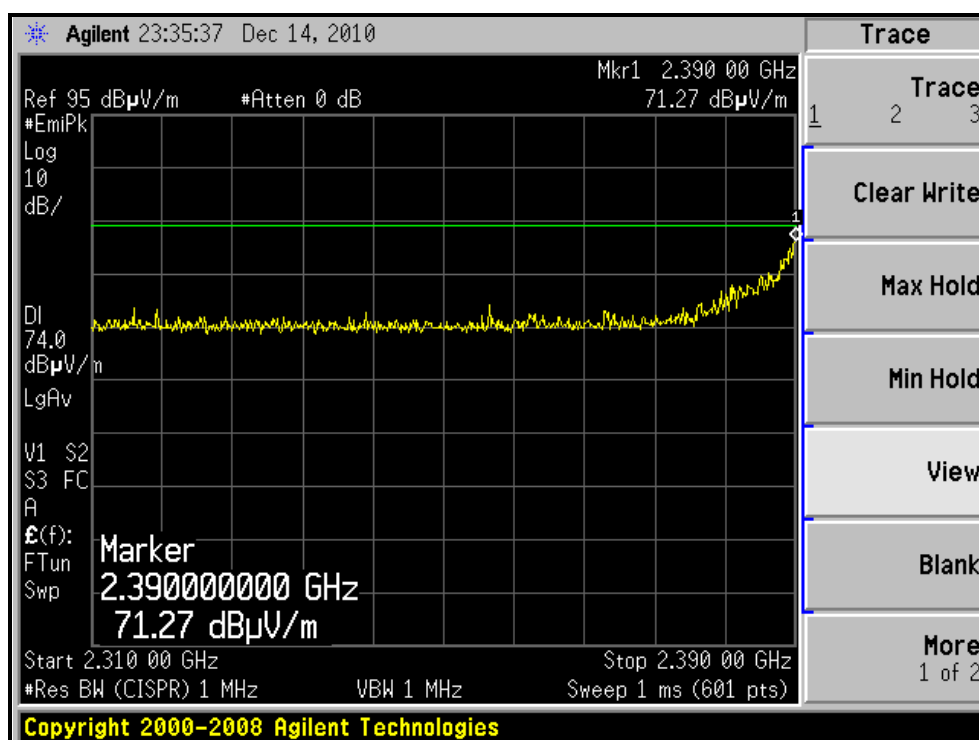
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

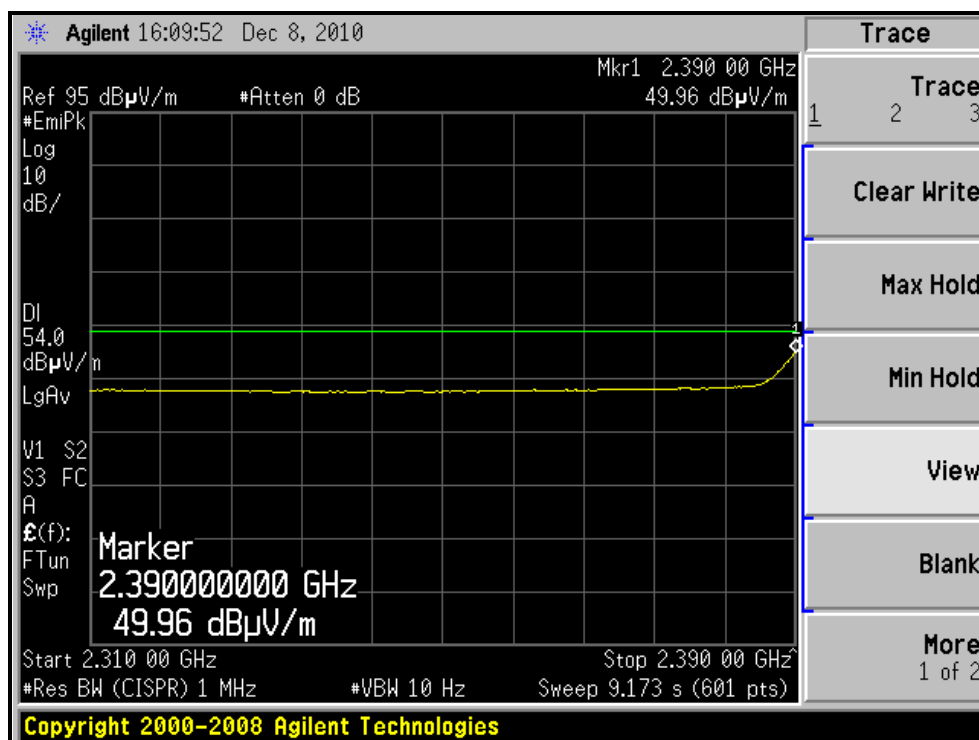
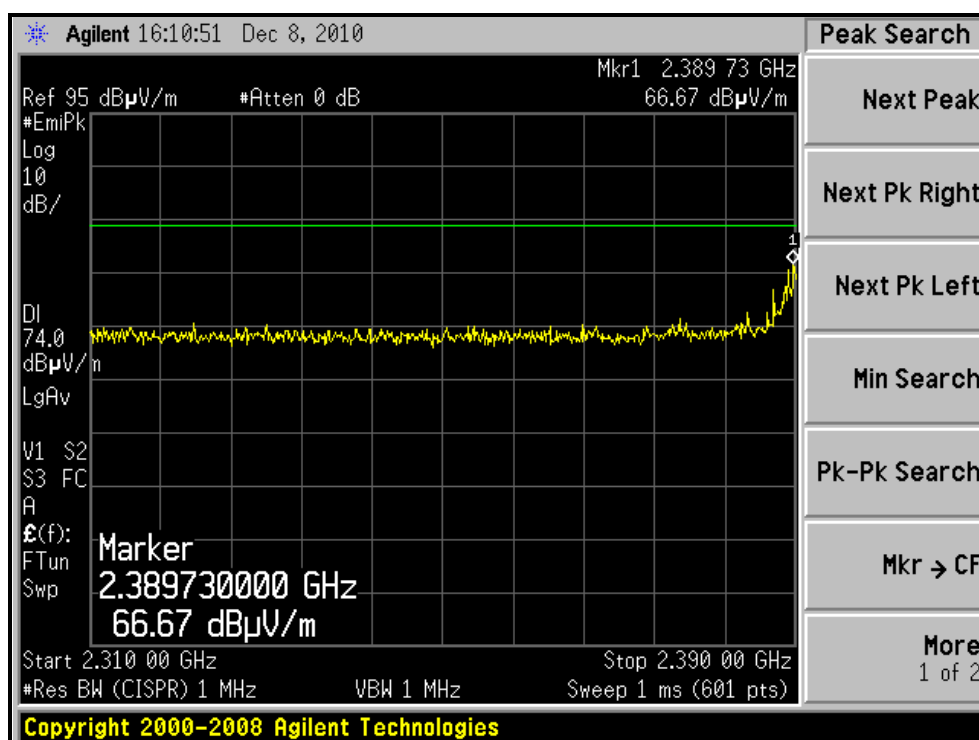
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.7 PK			1.33 H	108	73.71	31.99
2	*2462.00	94.2 AV			1.33 H	108	62.21	31.99
3	2483.50	71.4 PK	74.0	-2.6	1.29 H	111	39.33	32.07
4	2483.50	53.2 AV	54.0	-0.8	1.29 H	111	21.13	32.07
5	4924.00	43.0 PK	74.0	-31.0	1.44 H	144	3.39	39.61
6	4924.00	34.2 AV	54.0	-19.8	1.44 H	144	-5.41	39.61
7	7386.00	51.2 PK	74.0	-22.8	1.69 H	83	4.48	46.72
8	7386.00	37.1 AV	54.0	-16.9	1.69 H	83	-9.62	46.72
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	98.1 PK			1.13 V	140	66.11	31.99
2	*2462.00	87.2 AV			1.13 V	140	55.21	31.99
3	2483.50	64.9 PK	74.0	-9.1	1.24 V	119	32.83	32.07
4	2483.50	48.8 AV	54.0	-5.2	1.24 V	119	16.73	32.07
5	4924.00	44.7 PK	74.0	-29.3	1.13 V	70	5.09	39.61
6	4924.00	35.9 AV	54.0	-18.1	1.13 V	70	-3.71	39.61
7	7386.00	53.1 PK	74.0	-20.9	1.40 V	69	6.38	46.72
8	7386.00	38.2 AV	54.0	-15.8	1.40 V	69	-8.52	46.72

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

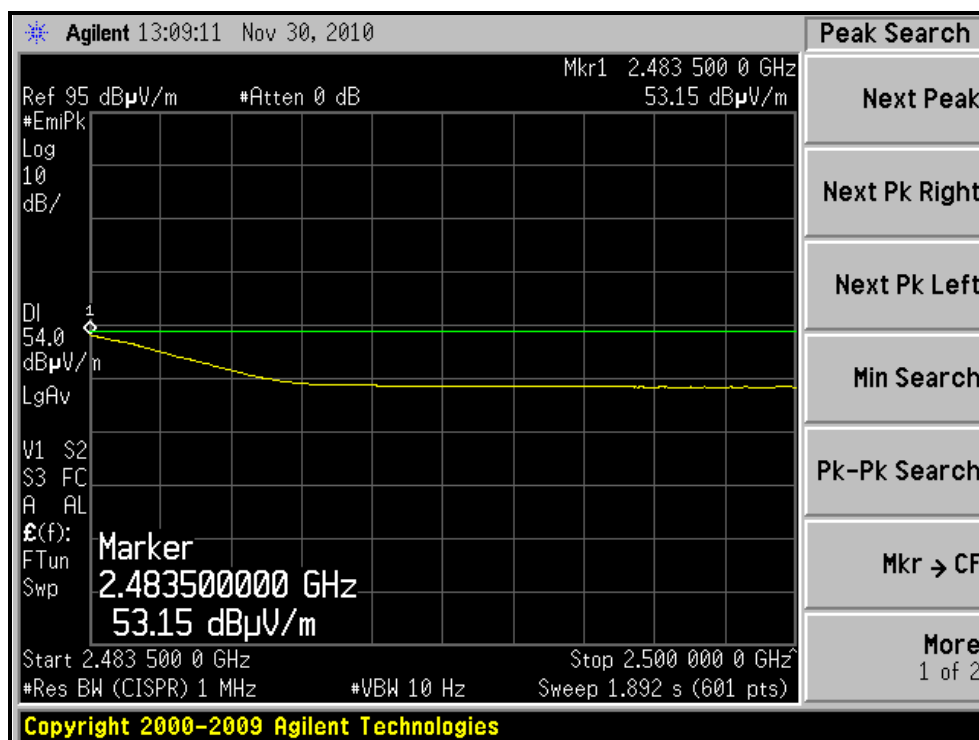
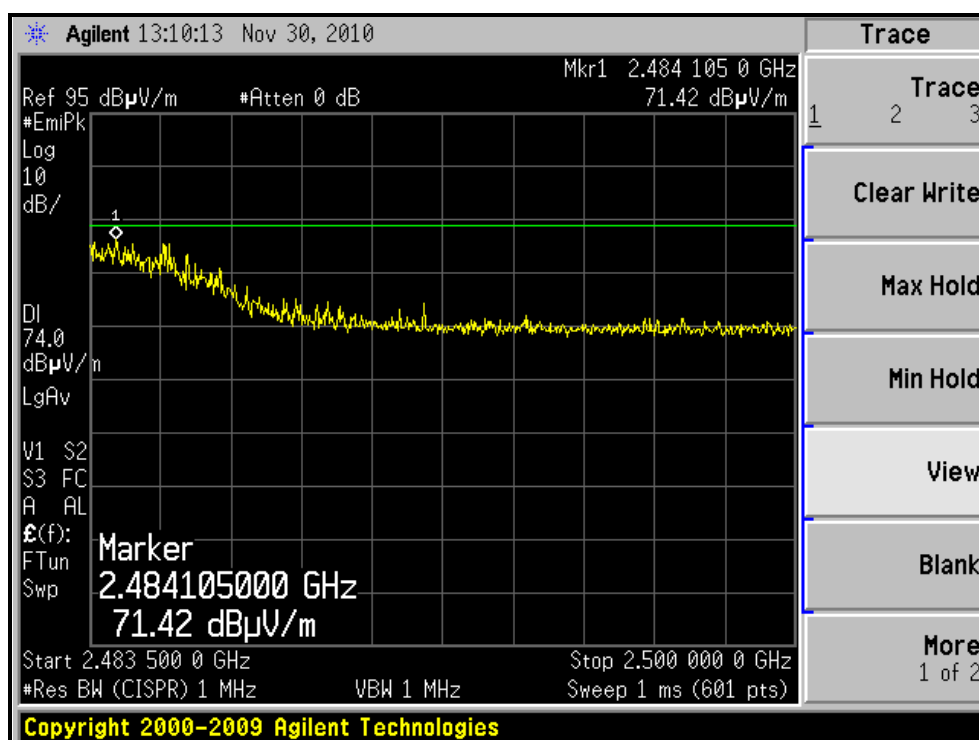
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



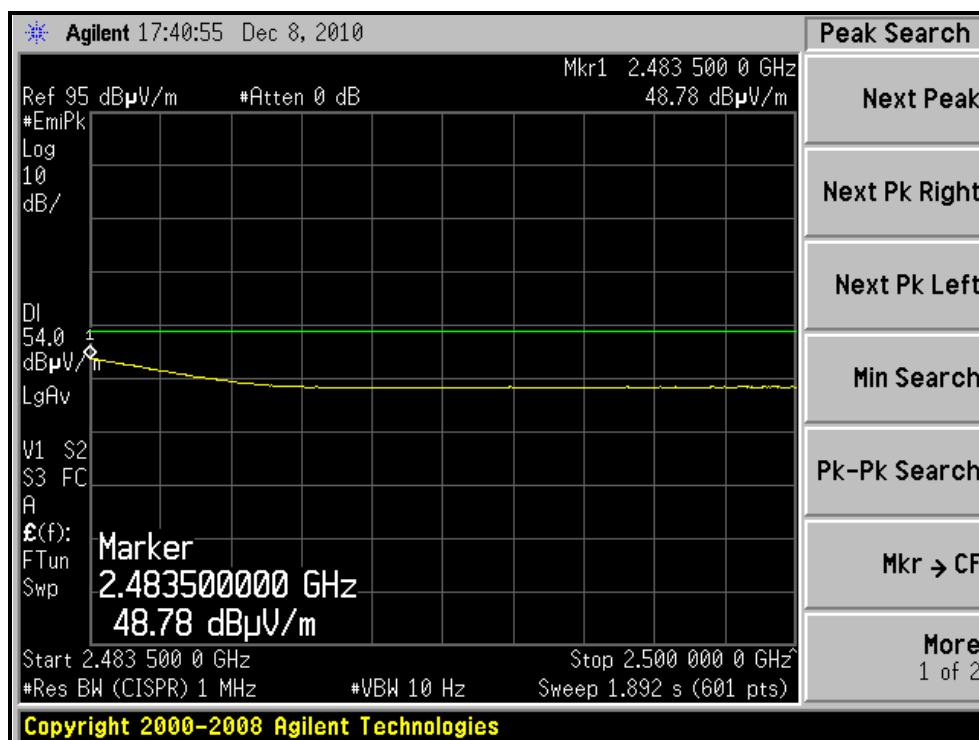
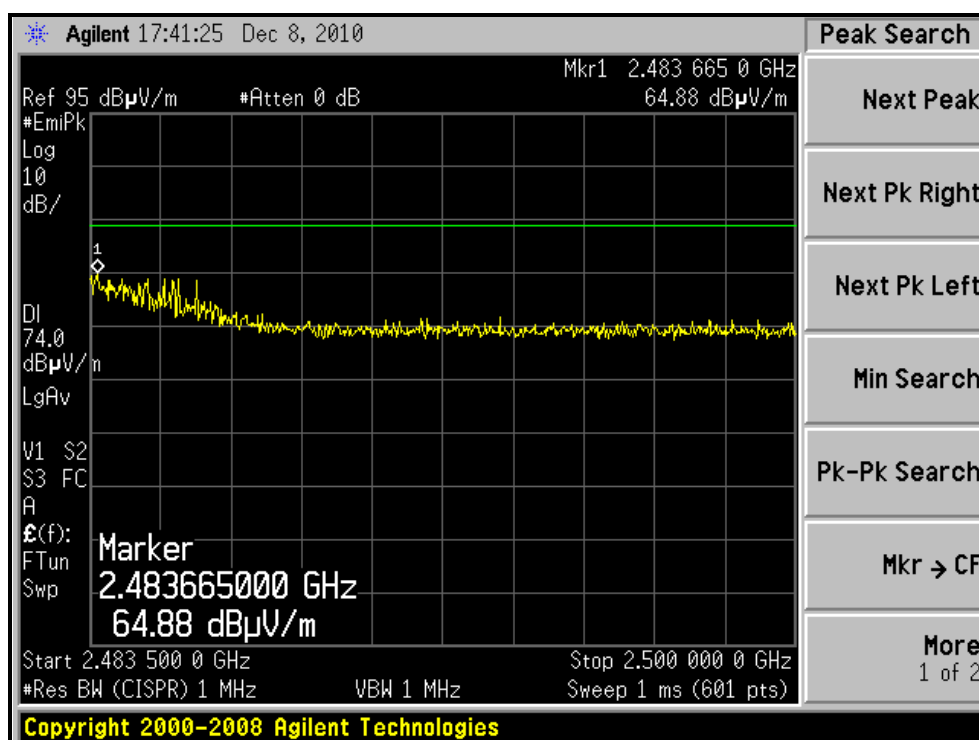
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



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



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





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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	23deg. C, 64%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	69.0 PK	74.0	-5.0	1.42 H	270	37.24	31.76
2	2390.00	52.4 AV	54.0	-1.6	1.42 H	270	20.64	31.76
3	*2422.00	100.3 PK			1.35 H	73	68.44	31.86
4	*2422.00	89.5 AV			1.35 H	73	57.64	31.86
5	4844.00	45.8 PK	74.0	-28.2	1.67 H	8	6.46	39.34
6	4844.00	35.1 AV	54.0	-18.9	1.67 H	8	-4.24	39.34
7	7266.00	52.9 PK	74.0	-21.1	1.42 H	156	6.09	46.81
8	7266.00	37.2 AV	54.0	-16.8	1.42 H	156	-9.61	46.81
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	2389.60	64.3 PK	74.0	-9.7	1.22 V	18	32.54	31.76
2	2389.60	48.1 AV	54.0	-5.9	1.22 V	18	16.34	31.76
3	*2422.00	92.4 PK			1.22 V	10	60.54	31.86
4	*2422.00	81.9 AV			1.22 V	10	50.04	31.86
5	4844.00	46.4 PK	74.0	-27.6	1.31 V	333	7.06	39.34
6	4844.00	35.3 AV	54.0	-18.7	1.31 V	333	-4.04	39.34
7	7266.00	53.3 PK	74.0	-20.7	1.42 V	269	6.49	46.81
8	7266.00	37.9 AV	54.0	-16.1	1.42 V	269	-8.91	46.81

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	103.8 PK			1.36 H	88	71.89	31.91
2	*2437.00	92.5 AV			1.36 H	88	60.59	31.91
3	2483.50	72.8 PK	74.0	-1.2	1.30 H	76	40.73	32.07
4	2483.50	52.9 AV	54.0	-1.1	1.30 H	76	20.83	32.07
5	4874.00	47.0 PK	74.0	-27.0	1.40 H	95	7.56	39.44
6	4874.00	35.8 AV	54.0	-18.2	1.40 H	95	-3.64	39.44
7	7311.00	52.7 PK	74.0	-21.3	1.29 H	148	5.93	46.77
8	7311.00	38.6 AV	54.0	-15.4	1.29 H	148	-8.17	46.77
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	95.2 PK			1.19 V	280	63.29	31.91
2	*2437.00	84.8 AV			1.19 V	280	52.89	31.91
3	4874.00	48.4 PK	74.0	-25.6	1.22 V	271	8.96	39.44
4	4874.00	36.9 AV	54.0	-17.1	1.22 V	271	-2.54	39.44
5	7311.00	54.9 PK	74.0	-19.1	1.14 V	149	8.13	46.77
6	7311.00	39.2 AV	54.0	-14.8	1.14 V	149	-7.57	46.77

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



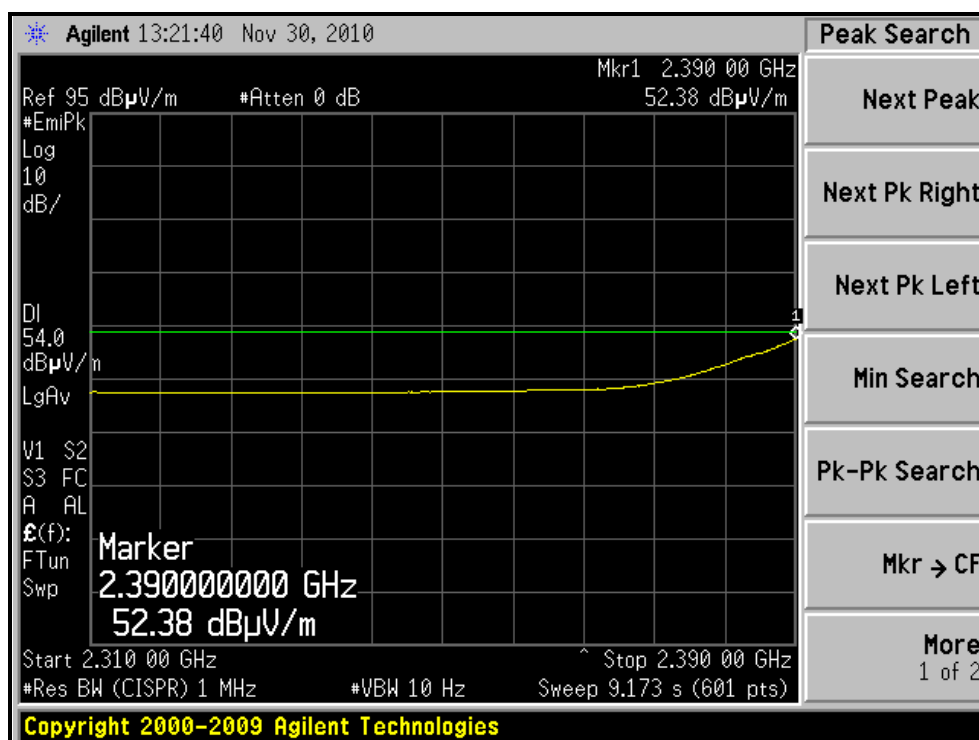
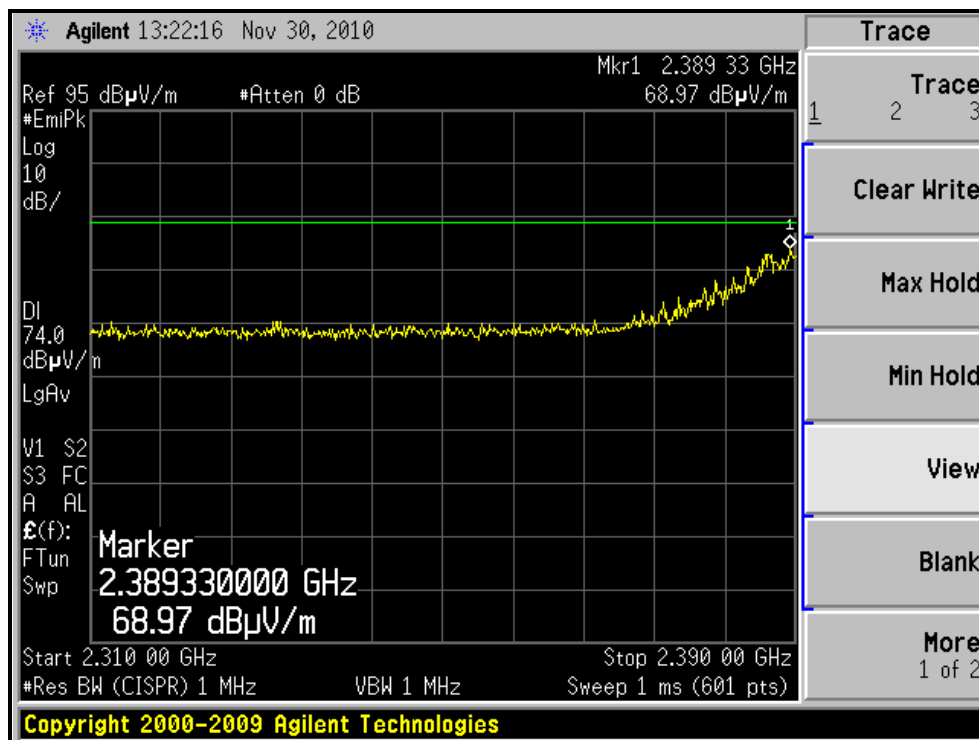
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

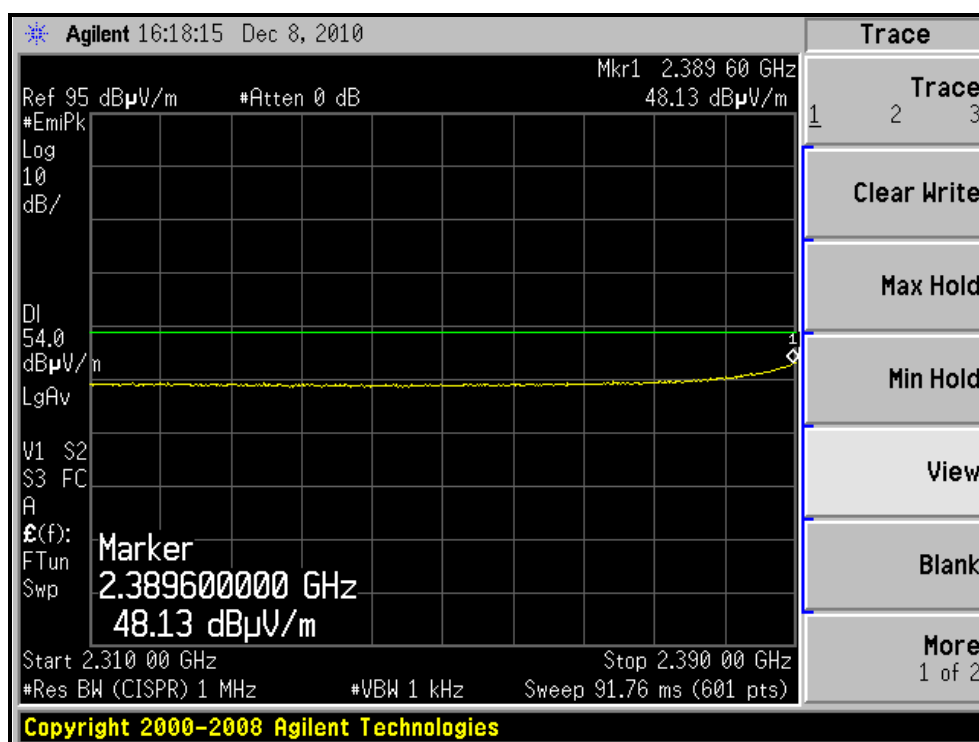
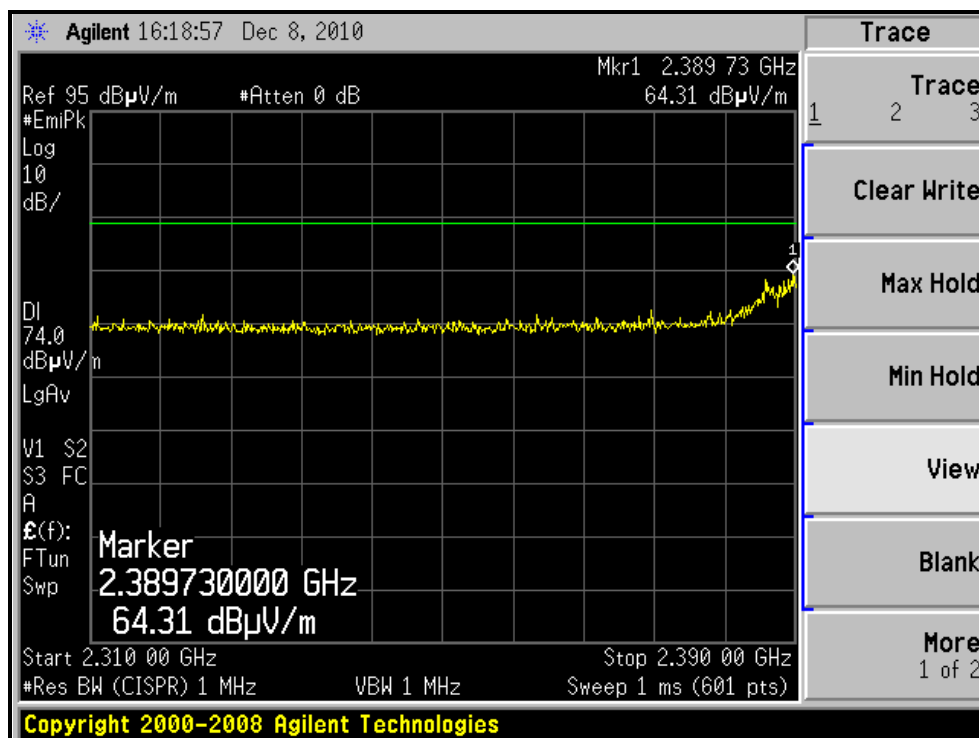
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	100.4 PK			1.29 H	80	68.44	31.96
2	*2452.00	89.4 AV			1.29 H	80	57.44	31.96
3	2483.50	70.9 PK	74.0	-3.1	1.29 H	111	38.83	32.07
4	2483.50	53.3 AV	54.0	-0.7	1.29 H	111	21.23	32.07
5	4904.00	45.0 PK	74.0	-29.0	1.33 H	157	5.46	39.54
6	4904.00	34.2 AV	54.0	-19.8	1.33 H	157	-5.34	39.54
7	7356.00	51.8 PK	74.0	-22.2	1.58 H	60	5.06	46.74
8	7356.00	37.0 AV	54.0	-17.0	1.58 H	60	-9.74	46.74
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	93.5 PK			1.24 V	180	61.54	31.96
2	*2452.00	82.2 AV			1.24 V	180	50.24	31.96
3	2483.70	66.4 PK	74.0	-7.6	1.20 V	183	34.33	32.07
4	2483.70	49.4 AV	54.0	-4.6	1.20 V	183	17.33	32.07
5	4904.00	46.4 PK	74.0	-27.6	1.33 V	68	6.86	39.54
6	4904.00	35.5 AV	54.0	-18.5	1.33 V	68	-4.04	39.54
7	7356.00	52.3 PK	74.0	-21.7	1.50 V	250	5.56	46.74
8	7356.00	37.2 AV	54.0	-16.8	1.50 V	250	-9.54	46.74

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.

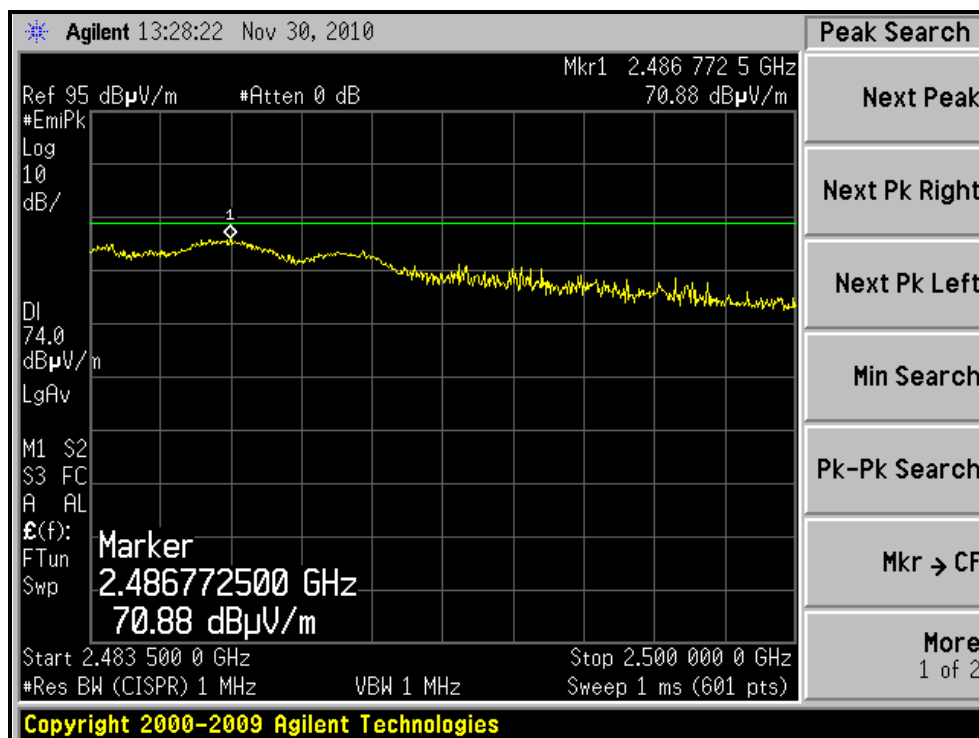
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



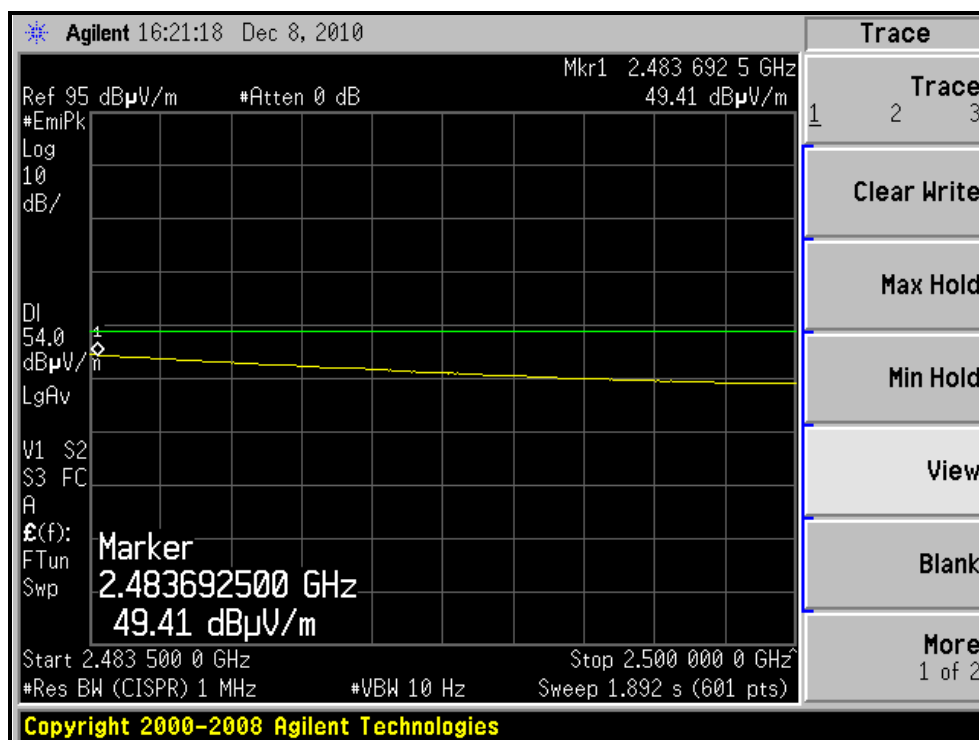
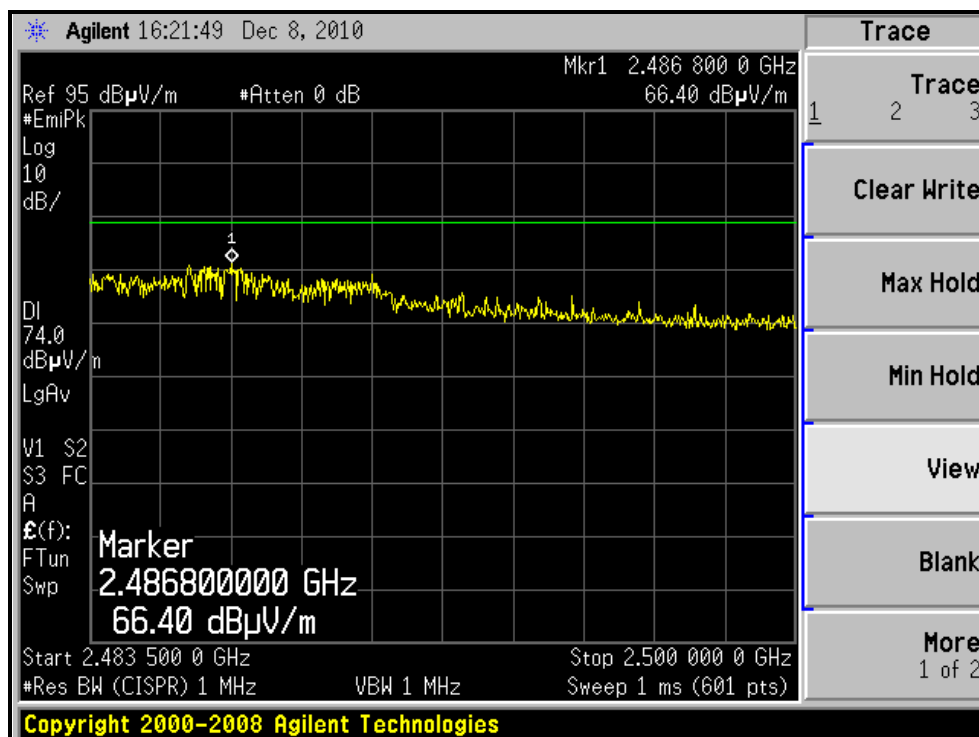
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



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



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



4.2.7.2 TEST RESULTS (With Dipole Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. 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	149.20	38.6 QP	43.5	-4.9	1.25 H	24	24.35	14.25
2	165.99	42.4 QP	43.5	-1.1	1.00 H	256	28.40	14.00
3	199.35	42.1 QP	43.5	-1.4	1.75 H	45	30.87	11.23
4	499.62	37.8 QP	46.0	-8.2	1.75 H	84	17.85	19.95
5	593.81	34.9 QP	46.0	-11.1	1.50 H	251	12.67	22.22
6	896.45	38.4 QP	46.0	-7.6	1.25 H	62	11.90	26.50
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	148.19	32.1 QP	43.5	-11.4	1.00 V	347	17.87	14.24
2	165.95	35.2 QP	43.5	-8.3	1.00 V	151	21.23	14.01
3	298.82	33.3 QP	46.0	-12.7	1.50 V	292	18.39	14.88
4	399.48	34.1 QP	46.0	-12.0	1.50 V	119	16.21	17.84
5	499.55	38.7 QP	46.0	-7.3	1.50 V	296	18.73	19.95
6	739.59	31.7 QP	46.0	-14.3	1.00 V	360	7.92	23.74

- 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	23deg. C, 64%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	2386.00	57.6 PK	74.0	-16.4	1.05 H	300	25.86	31.74
2	2386.00	47.9 AV	54.0	-6.1	1.05 H	300	16.16	31.74
3	*2412.00	101.1 PK			1.02 H	295	69.27	31.83
4	*2412.00	98.2 AV			1.02 H	295	66.37	31.83
5	4824.00	44.3 PK	74.0	-29.7	1.11 H	48	5.03	39.27
6	4824.00	39.8 AV	54.0	-14.2	1.11 H	48	0.53	39.27
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.10	61.0 PK	74.0	-13.0	1.62 V	22	29.26	31.74
2	2386.10	53.3 AV	54.0	-0.7	1.62 V	22	21.56	31.74
3	*2412.00	107.9 PK			1.61 V	217	76.07	31.83
4	*2412.00	106.1 AV			1.61 V	217	74.27	31.83
5	4824.00	48.8 PK	74.0	-25.2	1.01 V	5	9.53	39.27
6	4824.00	42.4 AV	54.0	-11.6	1.01 V	5	3.13	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	101.4 PK			1.01 H	288	69.49	31.91
2	*2437.00	98.3 AV			1.01 H	288	66.39	31.91
3	4874.00	44.9 PK	74.0	-29.1	1.20 H	68	5.46	39.44
4	4874.00	38.9 AV	54.0	-15.1	1.20 H	68	-0.54	39.44
5	7311.00	50.2 PK	74.0	-23.8	1.31 H	84	3.43	46.77
6	7311.00	37.4 AV	54.0	-16.6	1.31 H	84	-9.37	46.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.2 PK			1.60 V	222	75.29	31.91
2	*2437.00	105.9 AV			1.60 V	222	73.99	31.91
3	4874.00	49.1 PK	74.0	-24.9	1.00 V	10	9.66	39.44
4	4874.00	43.1 AV	54.0	-10.9	1.00 V	10	3.66	39.44
5	7311.00	51.8 PK	74.0	-22.2	1.22 V	271	5.03	46.77
6	7311.00	41.9 AV	54.0	-12.1	1.22 V	271	-4.87	46.77

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



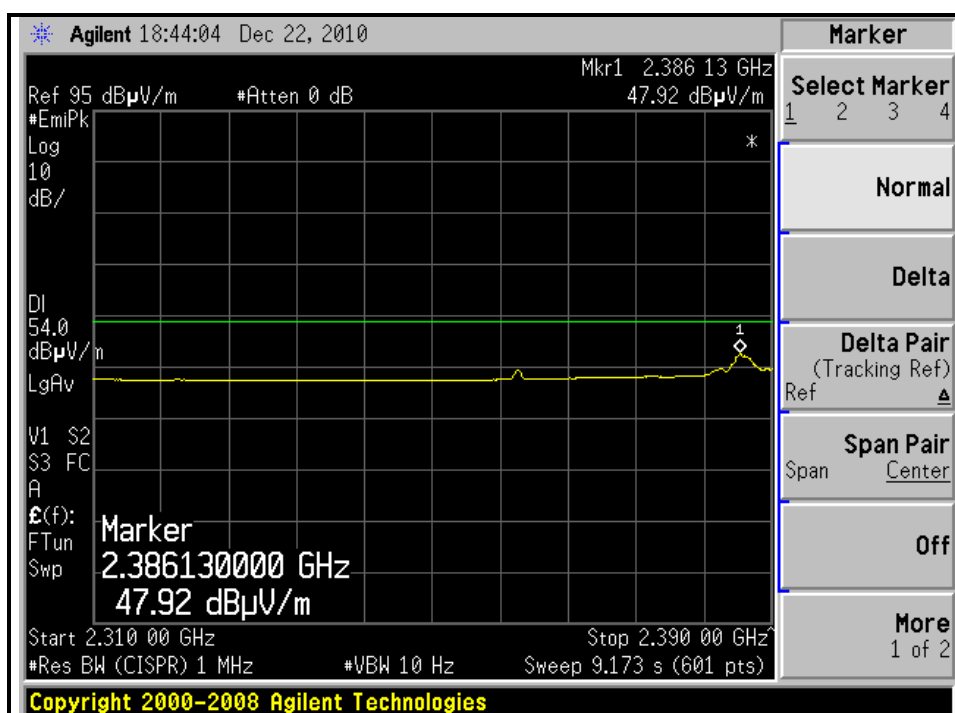
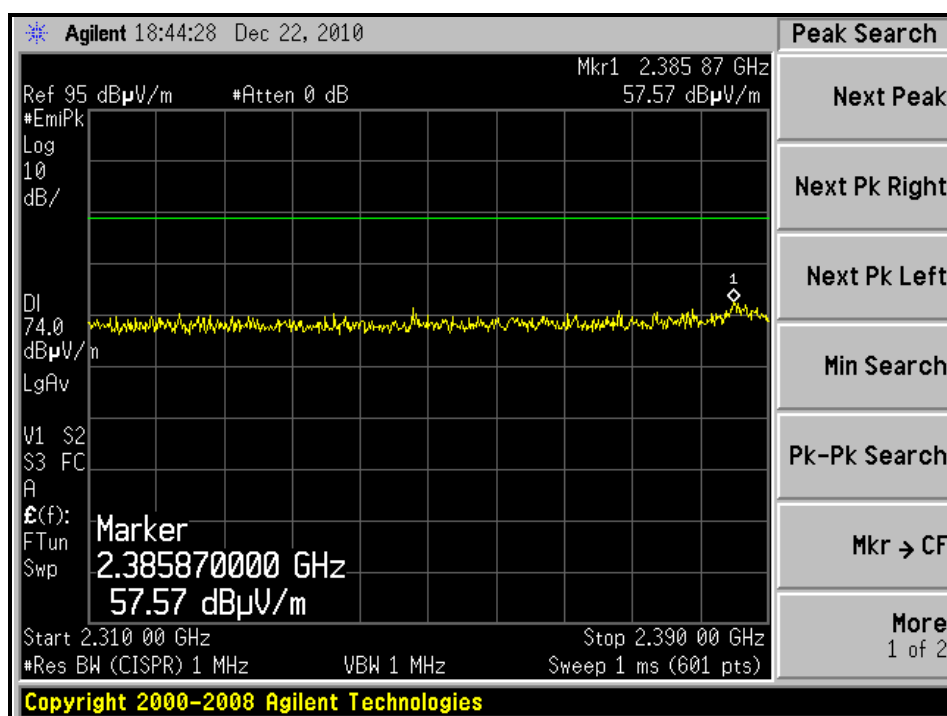
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

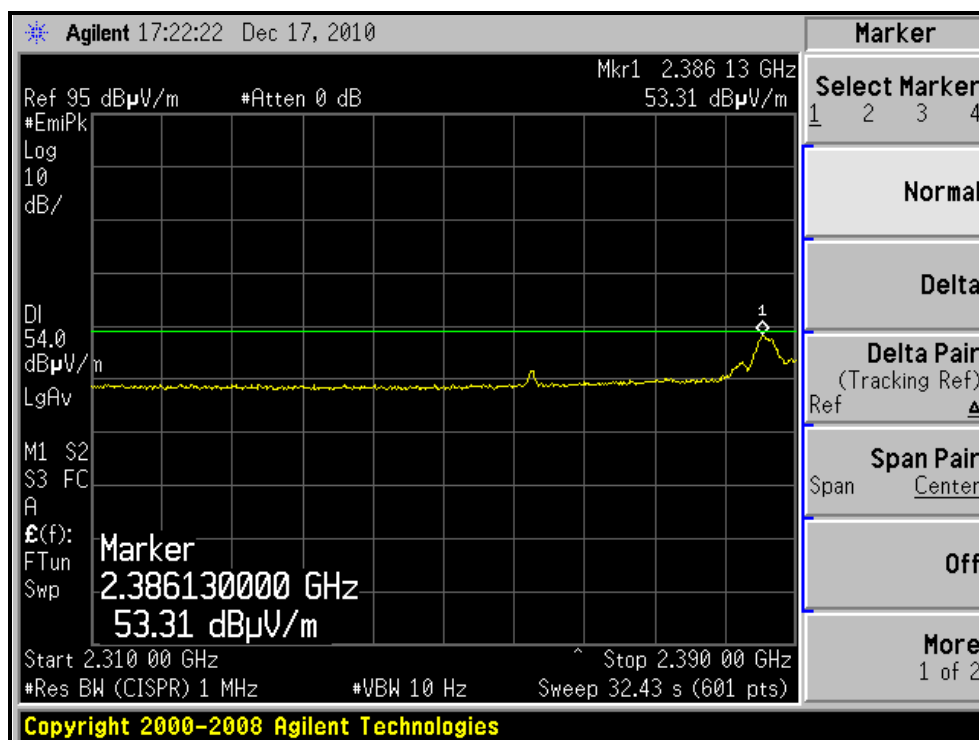
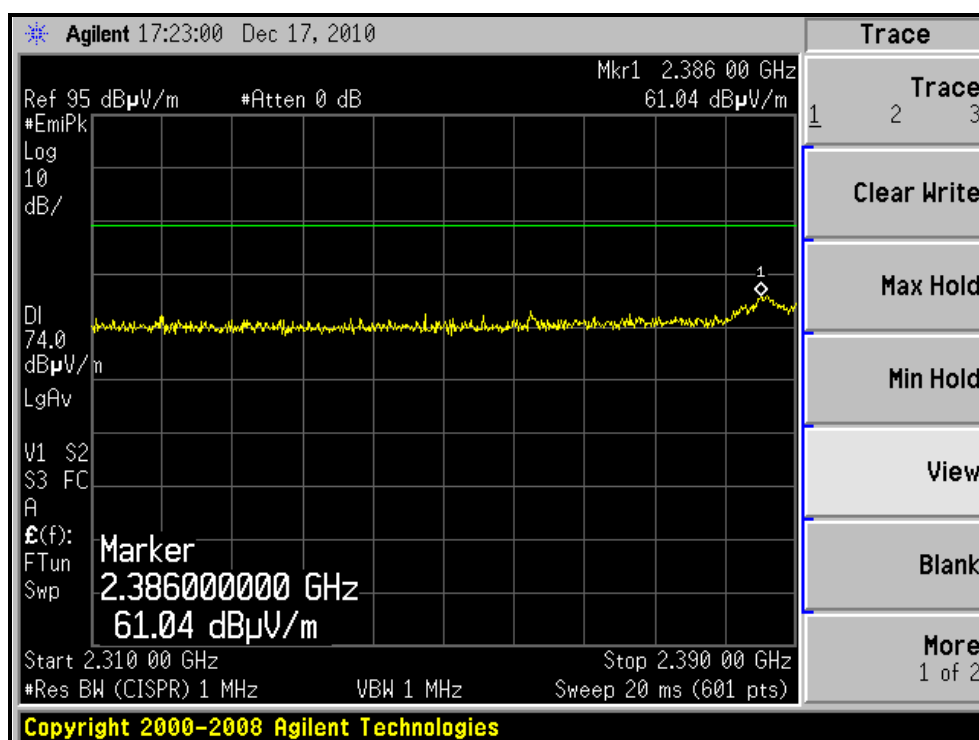
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.0 PK			1.00 H	292	69.01	31.99
2	*2462.00	97.9 AV			1.00 H	292	65.91	31.99
3	2487.80	55.7 PK	74.0	-18.3	1.01 H	299	23.62	32.08
4	2487.80	44.6 AV	54.0	-9.4	1.01 H	299	12.52	32.08
5	4924.00	45.6 PK	74.0	-28.4	1.19 H	97	5.99	39.61
6	4924.00	39.4 AV	54.0	-14.6	1.19 H	97	-0.21	39.61
7	7386.00	50.9 PK	74.0	-23.1	1.44 H	67	4.18	46.72
8	7386.00	37.6 AV	54.0	-16.4	1.44 H	67	-9.12	46.72
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	107.6 PK			1.60 V	222	75.61	31.99
2	*2462.00	105.8 AV			1.60 V	222	73.81	31.99
3	2487.80	60.9 PK	74.0	-13.1	1.59 V	217	28.82	32.08
4	2487.80	50.6 AV	54.0	-3.4	1.59 V	217	18.52	32.08
5	4924.00	49.3 PK	74.0	-24.7	1.00 V	9	9.69	39.61
6	4924.00	43.4 AV	54.0	-10.6	1.00 V	9	3.79	39.61
7	7386.00	52.2 PK	74.0	-21.8	1.19 V	288	5.48	46.72
8	7386.00	41.7 AV	54.0	-12.3	1.19 V	288	-5.02	46.72

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

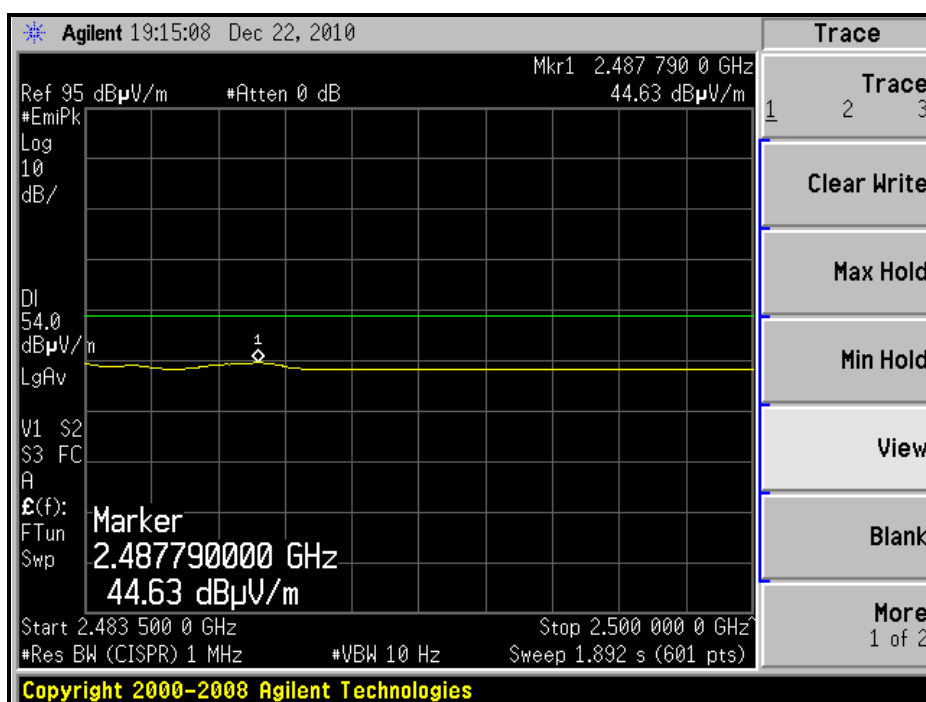
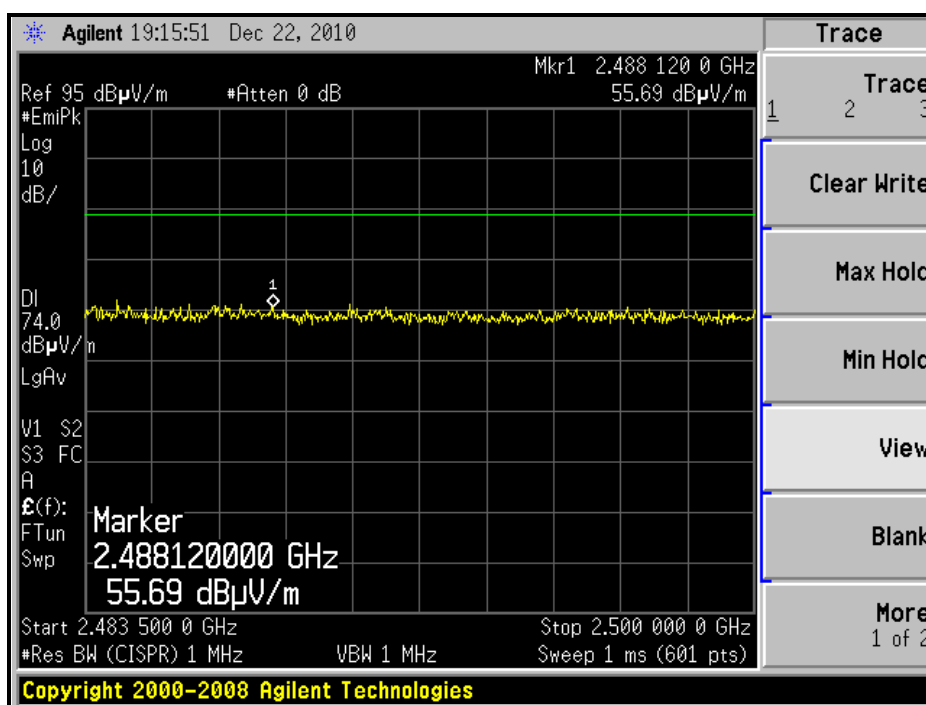
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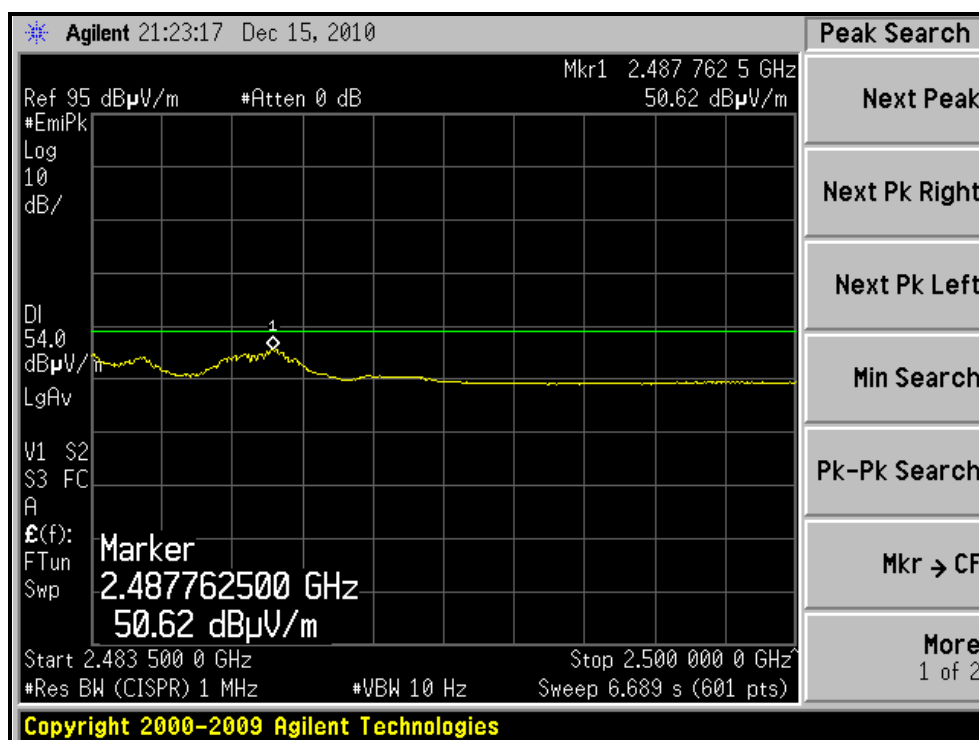
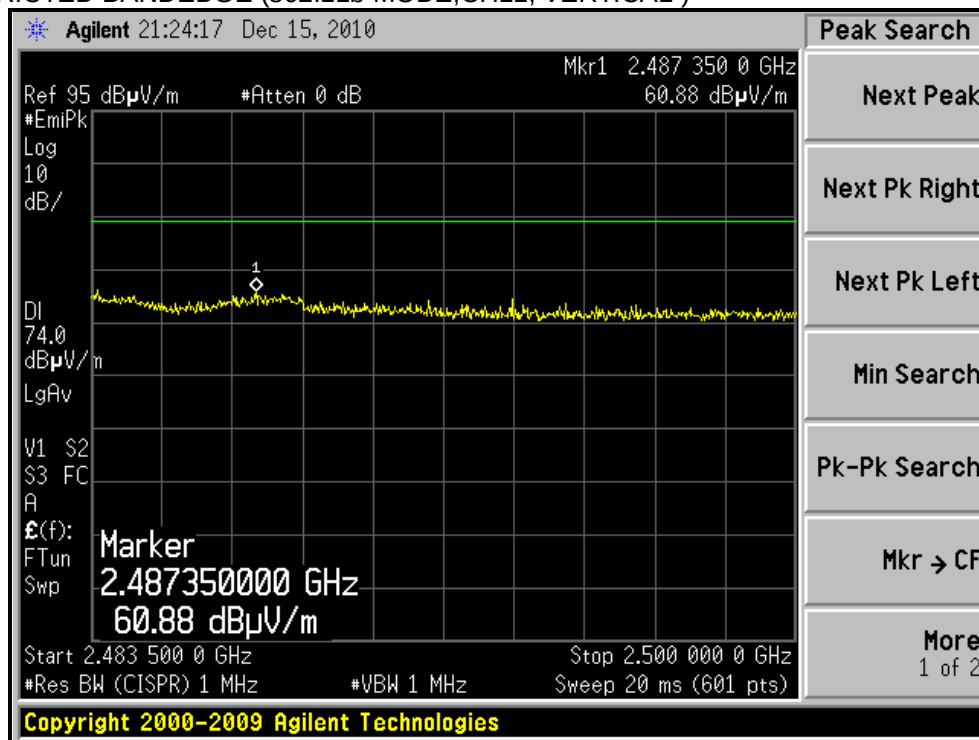
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11b MODE, CH11, VERTICAL)





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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	23deg. C, 64%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	62.8 PK	74.0	-11.2	1.02 H	295	31.04	31.76
2	2390.00	47.4 AV	54.0	-6.6	1.02 H	295	15.64	31.76
3	*2412.00	99.2 PK			1.00 H	299	67.37	31.83
4	*2412.00	88.1 AV			1.00 H	299	56.27	31.83
5	4824.00	46.3 PK	74.0	-27.7	1.46 H	304	7.03	39.27
6	4824.00	36.1 AV	54.0	-17.9	1.46 H	304	-3.17	39.27
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	72.8 PK	74.0	-1.2	1.42 V	290	41.04	31.76
2	2390.00	53.2 AV	54.0	-0.8	1.42 V	290	21.44	31.76
3	*2412.00	107.9 PK			1.43 V	289	76.07	31.83
4	*2412.00	95.1 AV			1.43 V	289	63.27	31.83
5	4824.00	47.2 PK	74.0	-26.8	1.30 V	146	7.93	39.27
6	4824.00	38.4 AV	54.0	-15.6	1.30 V	146	-0.87	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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			1.01 H	271	71.99	31.91
2	*2437.00	93.2 AV			1.01 H	271	61.29	31.91
3	4874.00	45.8 PK	74.0	-28.2	1.50 H	298	6.36	39.44
4	4874.00	36.3 AV	54.0	-17.7	1.50 H	298	-3.14	39.44
5	7311.00	50.4 PK	74.0	-23.6	1.42 H	314	3.63	46.77
6	7311.00	38.4 AV	54.0	-15.6	1.42 H	314	-8.37	46.77
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	111.3 PK			1.39 V	300	79.39	31.91
2	*2437.00	100.1 AV			1.39 V	300	68.19	31.91
3	4874.00	48.3 PK	74.0	-25.7	1.20 V	207	8.86	39.44
4	4874.00	38.9 AV	54.0	-15.1	1.20 V	207	-0.54	39.44
5	7311.00	54.8 PK	74.0	-19.2	1.31 V	94	8.03	46.77
6	7311.00	39.9 AV	54.0	-14.1	1.31 V	94	-6.87	46.77

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



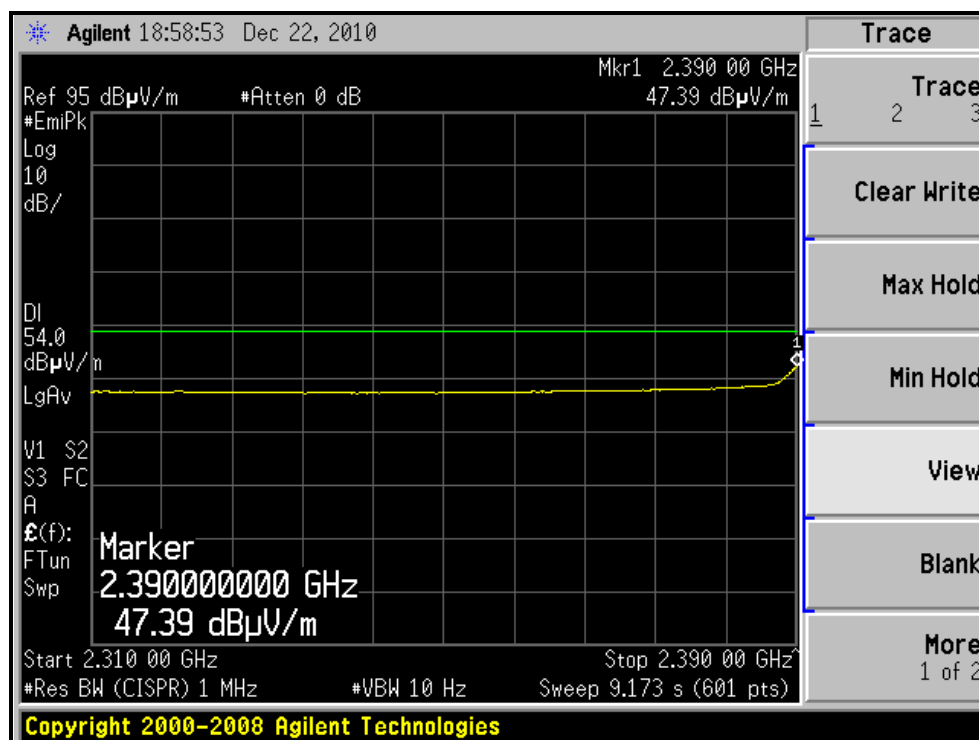
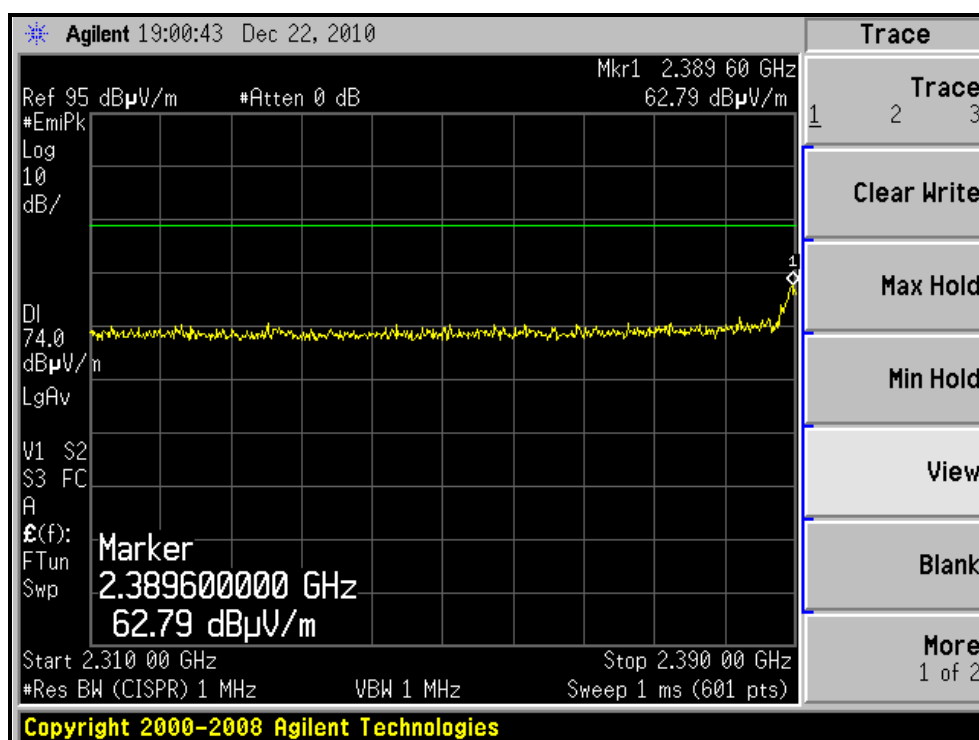
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

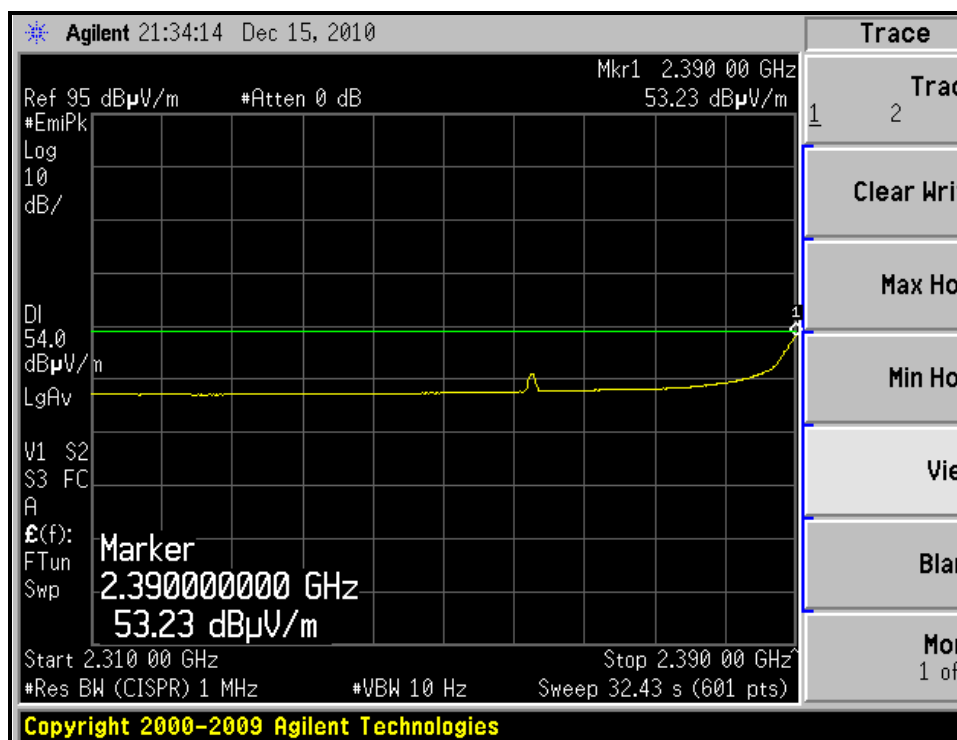
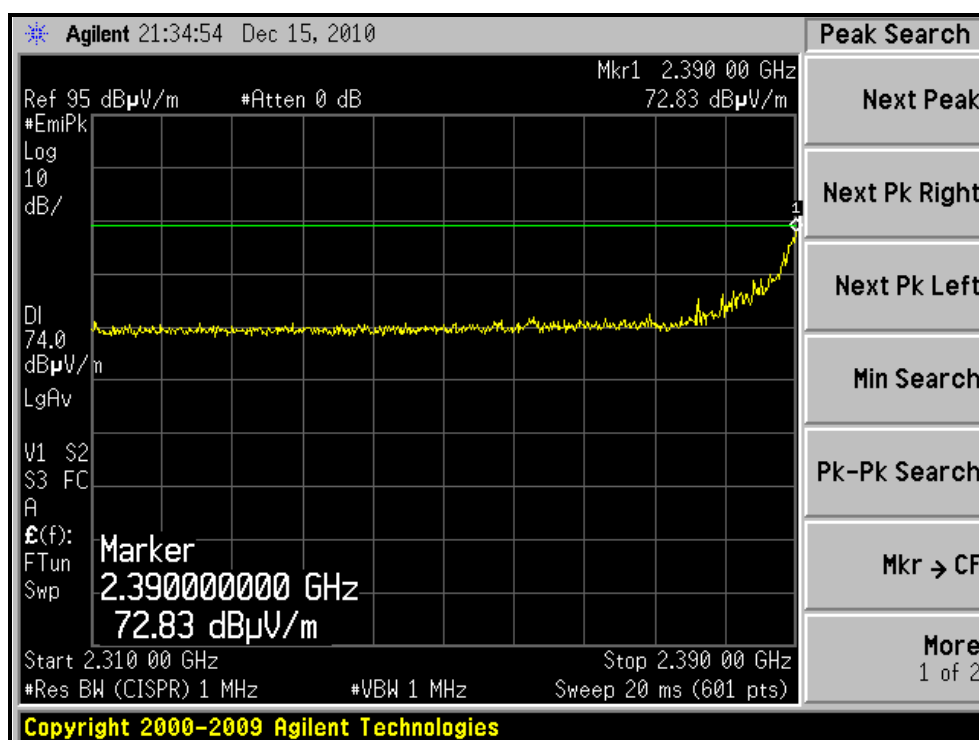
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.1 PK			1.31 H	280	66.11	31.99
2	*2462.00	87.3 AV			1.31 H	280	55.31	31.99
3	2483.50	61.5 PK	74.0	-12.5	1.33 H	277	29.43	32.07
4	2483.50	45.9 AV	54.0	-8.1	1.33 H	277	13.83	32.07
5	4924.00	45.1 PK	74.0	-28.9	1.48 H	265	5.49	39.61
6	4924.00	35.3 AV	54.0	-18.7	1.48 H	265	-4.31	39.61
7	7386.00	50.2 PK	74.0	-23.8	1.63 H	71	3.48	46.72
8	7386.00	37.1 AV	54.0	-16.9	1.63 H	71	-9.62	46.72
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.7 PK			1.40 V	291	74.71	31.99
2	*2462.00	94.9 AV			1.40 V	291	62.91	31.99
3	2483.50	73.2 PK	74.0	-0.8	1.39 V	288	41.13	32.07
4	2483.50	52.6 AV	54.0	-1.4	1.39 V	288	20.53	32.07
5	4924.00	47.4 PK	74.0	-26.6	1.19 V	246	7.79	39.61
6	4924.00	38.5 AV	54.0	-15.5	1.19 V	246	-1.11	39.61
7	7386.00	53.6 PK	74.0	-20.4	1.20 V	84	6.88	46.72
8	7386.00	39.3 AV	54.0	-14.7	1.20 V	84	-7.42	46.72

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

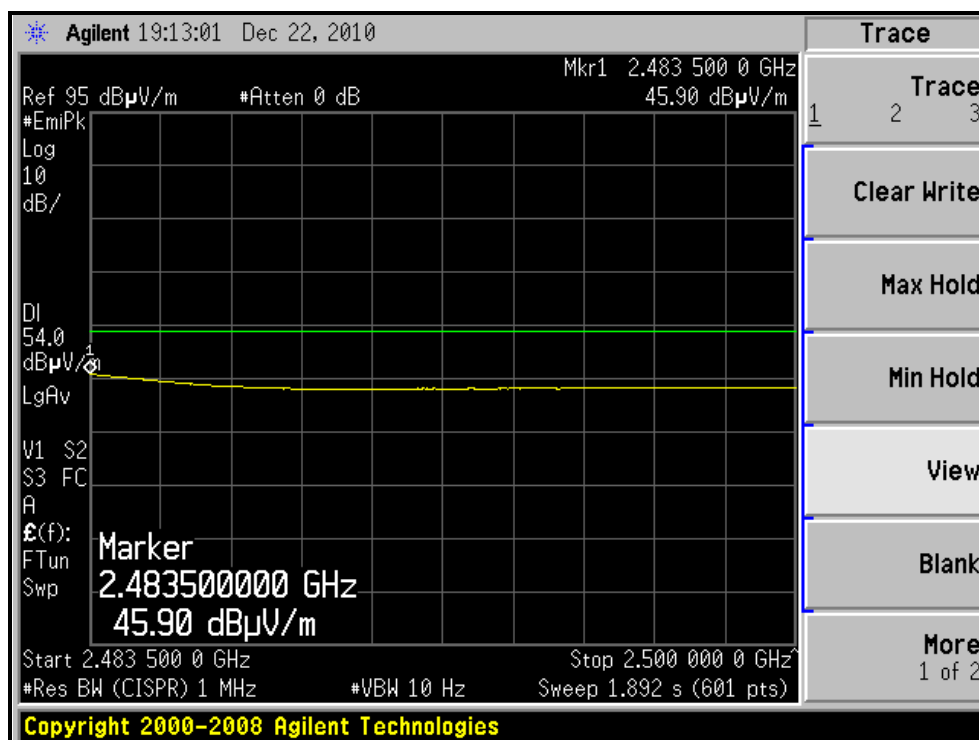
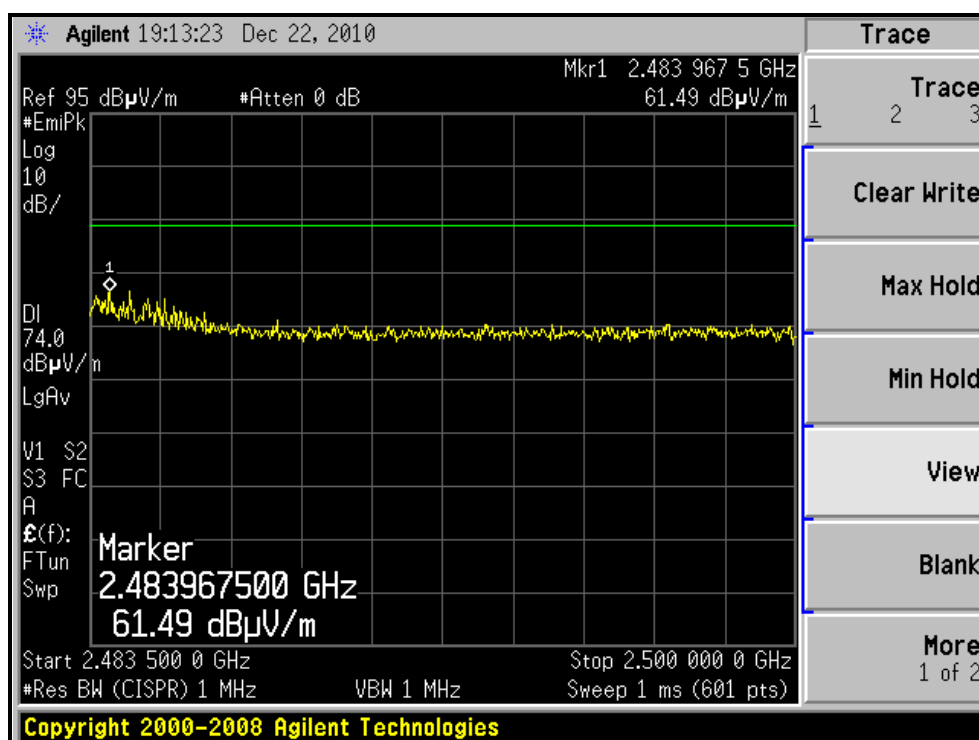
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



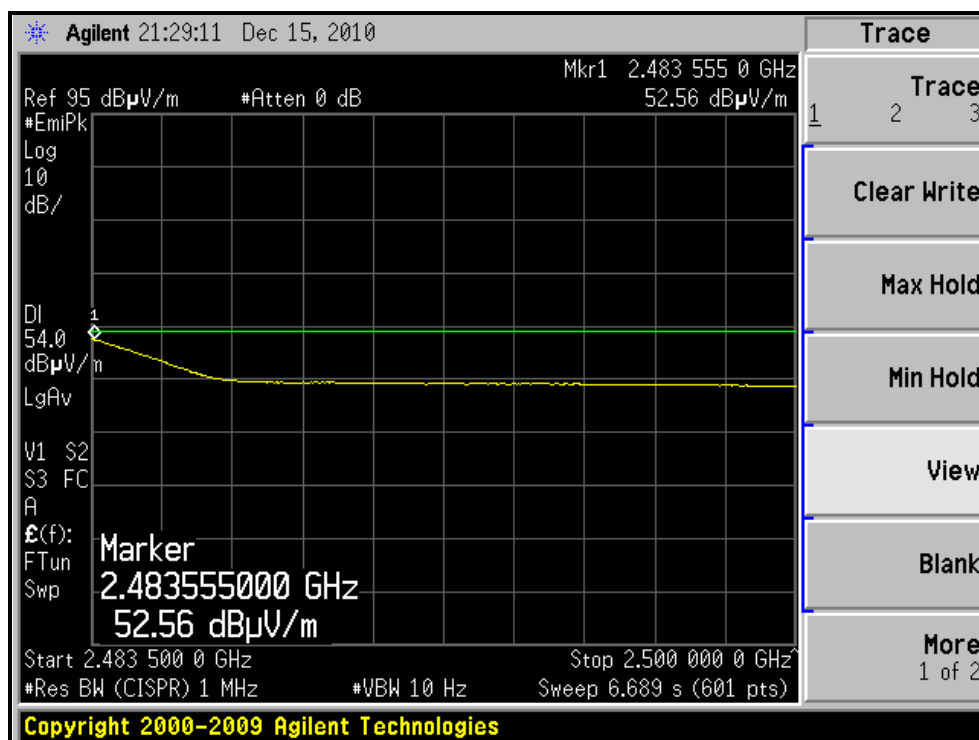
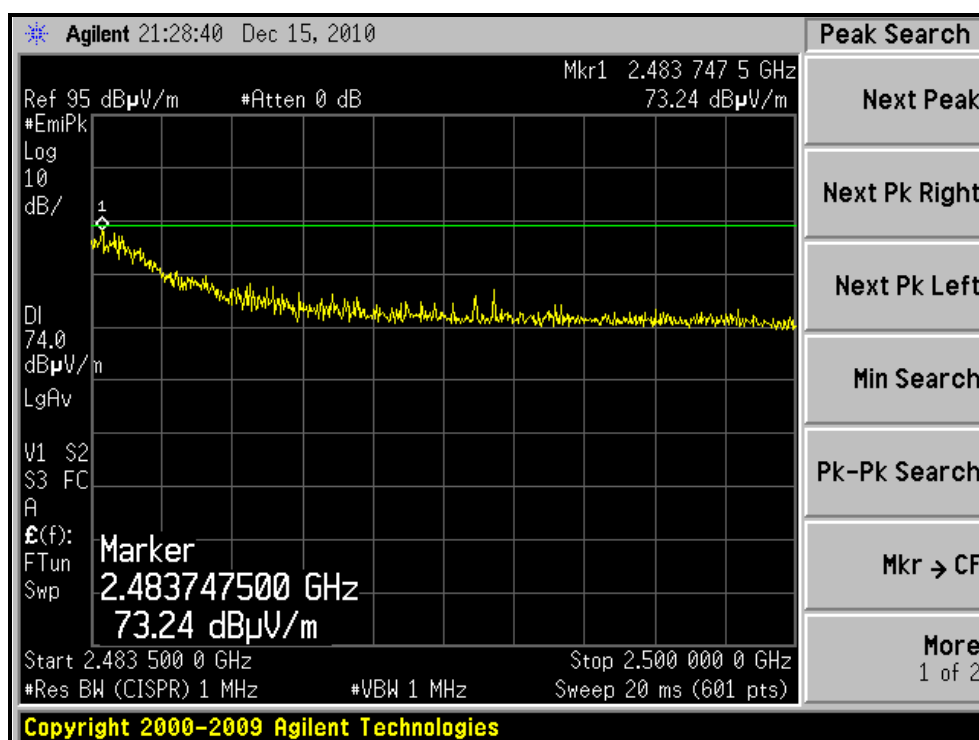
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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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	23deg. C, 64%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	62.9 PK	74.0	-11.1	1.00 H	298	31.14	31.76
2	2390.00	47.3 AV	54.0	-6.7	1.00 H	298	15.54	31.76
3	*2412.00	99.9 PK			1.01 H	301	68.07	31.83
4	*2412.00	88.1 AV			1.01 H	301	56.27	31.83
5	4824.00	45.8 PK	74.0	-28.2	1.40 H	5	6.53	39.27
6	4824.00	36.2 AV	54.0	-17.8	1.40 H	5	-3.07	39.27
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	73.3 PK	74.0	-0.7	1.60 V	210	41.54	31.76
2	2390.00	53.4 AV	54.0	-0.6	1.60 V	210	21.64	31.76
3	*2412.00	107.2 PK			1.58 V	228	75.37	31.83
4	*2412.00	95.3 AV			1.58 V	228	63.47	31.83
5	4824.00	46.2 PK	74.0	-27.8	1.14 V	68	6.93	39.27
6	4824.00	37.4 AV	54.0	-16.6	1.14 V	68	-1.87	39.27

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	102.7 PK			1.04 H	298	70.79	31.91
2	*2437.00	91.2 AV			1.04 H	298	59.29	31.91
3	4874.00	46.1 PK	74.0	-27.9	1.65 H	205	6.66	39.44
4	4874.00	36.9 AV	54.0	-17.1	1.65 H	205	-2.54	39.44
5	7311.00	51.2 PK	74.0	-22.8	1.84 H	73	4.43	46.77
6	7311.00	37.4 AV	54.0	-16.6	1.84 H	73	-9.37	46.77
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	112.1 PK			1.56 V	219	80.19	31.91
2	*2437.00	98.2 AV			1.56 V	219	66.29	31.91
3	4874.00	47.6 PK	74.0	-26.4	1.64 V	201	8.16	39.44
4	4874.00	38.1 AV	54.0	-15.9	1.64 V	201	-1.34	39.44
5	7311.00	52.6 PK	74.0	-21.4	1.38 V	341	5.83	46.77
6	7311.00	38.9 AV	54.0	-15.1	1.38 V	341	-7.87	46.77

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



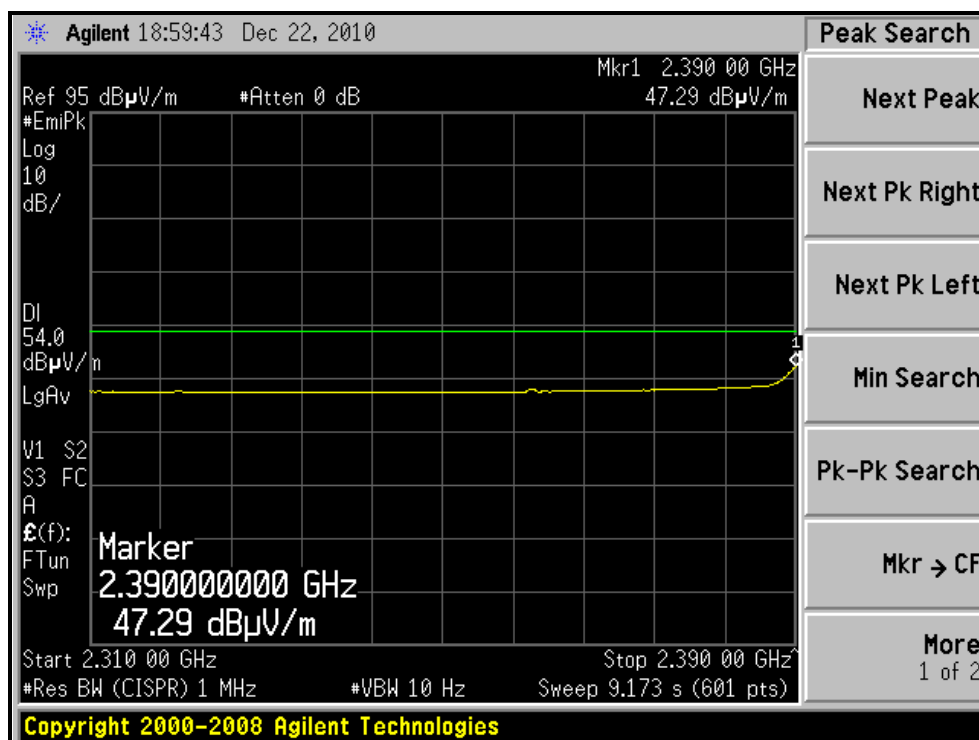
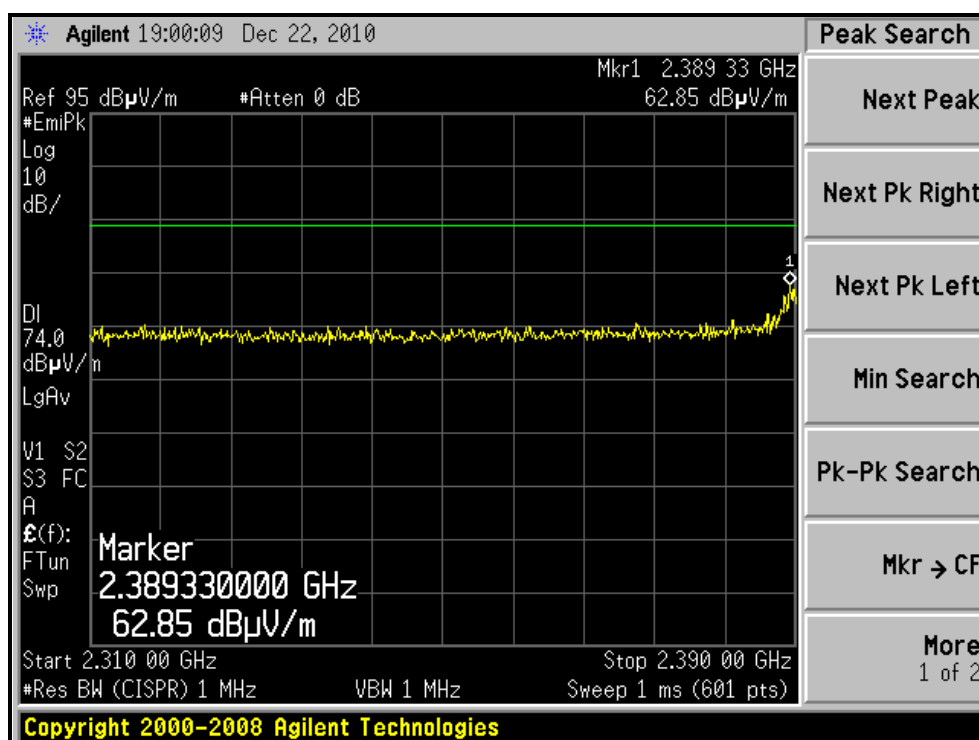
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

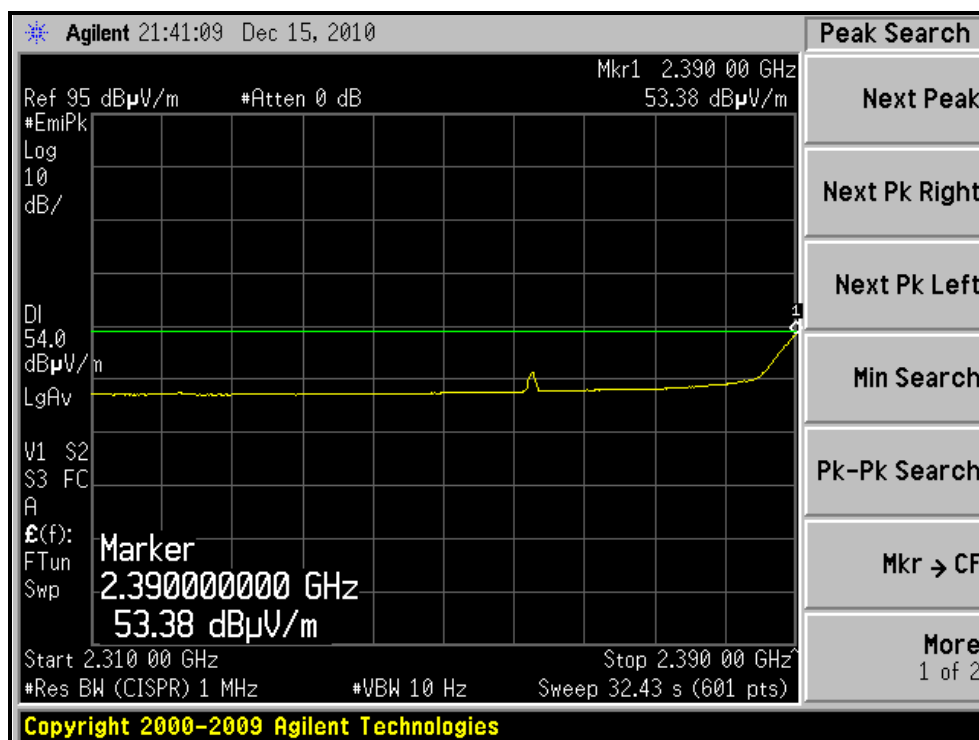
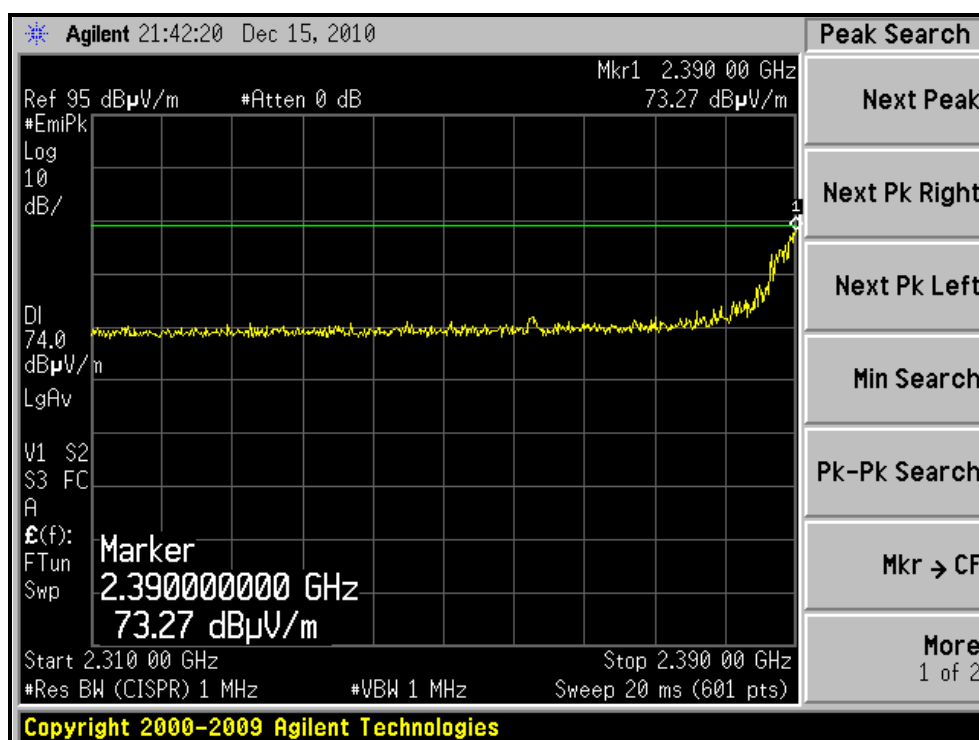
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NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.1 PK			1.29 H	298	67.11	31.99
2	*2462.00	87.4 AV			1.29 H	298	55.41	31.99
3	2483.50	61.9 PK	74.0	-12.1	1.30 H	256	29.83	32.07
4	2483.50	46.2 AV	54.0	-7.8	1.30 H	256	14.13	32.07
5	4924.00	44.8 PK	74.0	-29.2	1.51 H	84	5.19	39.61
6	4924.00	36.2 AV	54.0	-17.8	1.51 H	84	-3.41	39.61
7	7386.00	50.8 PK	74.0	-23.2	1.42 H	114	4.08	46.72
8	7386.00	37.0 AV	54.0	-17.0	1.42 H	114	-9.72	46.72
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	105.2 PK			1.57 V	233	73.21	31.99
2	*2462.00	94.1 AV			1.57 V	233	62.11	31.99
3	2483.50	72.8 PK	74.0	-1.2	1.60 V	246	40.73	32.07
4	2483.50	52.3 AV	54.0	-1.7	1.60 V	246	20.23	32.07
5	4924.00	45.9 PK	74.0	-28.1	1.17 V	258	6.29	39.61
6	4924.00	36.9 AV	54.0	-17.1	1.17 V	258	-2.71	39.61
7	7386.00	51.9 PK	74.0	-22.1	1.08 V	69	5.18	46.72
8	7386.00	37.8 AV	54.0	-16.2	1.08 V	69	-8.92	46.72

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

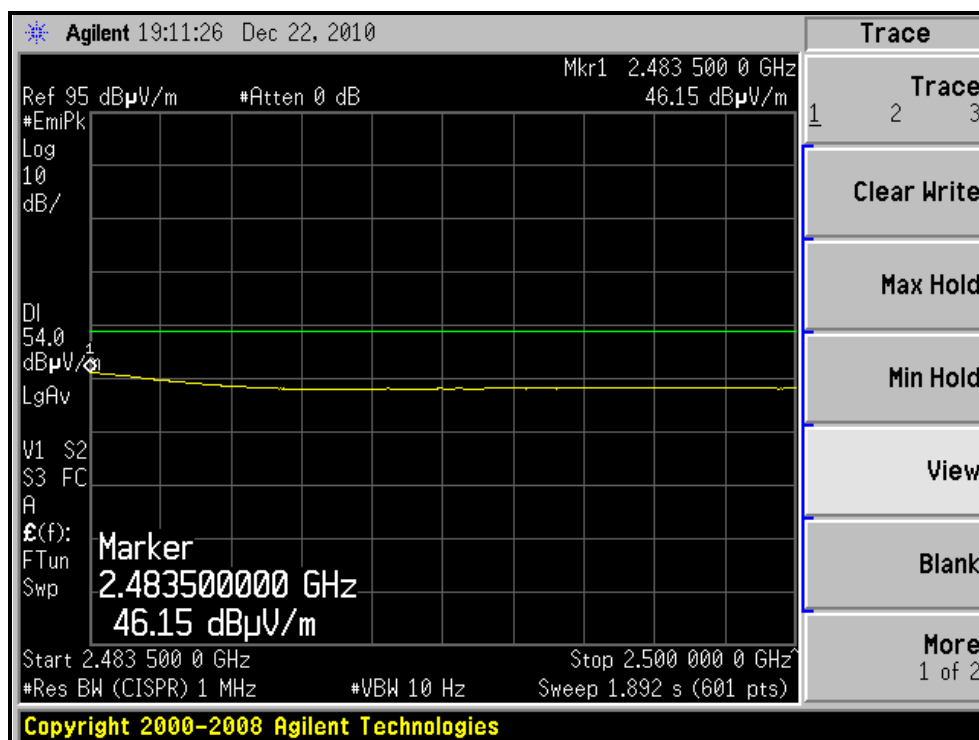
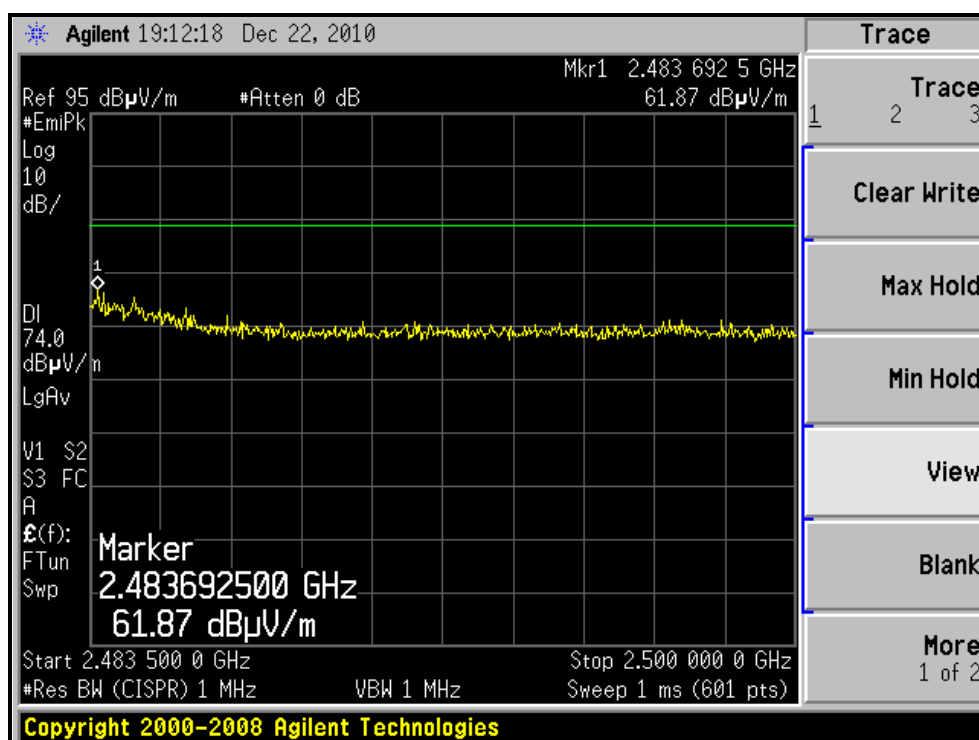
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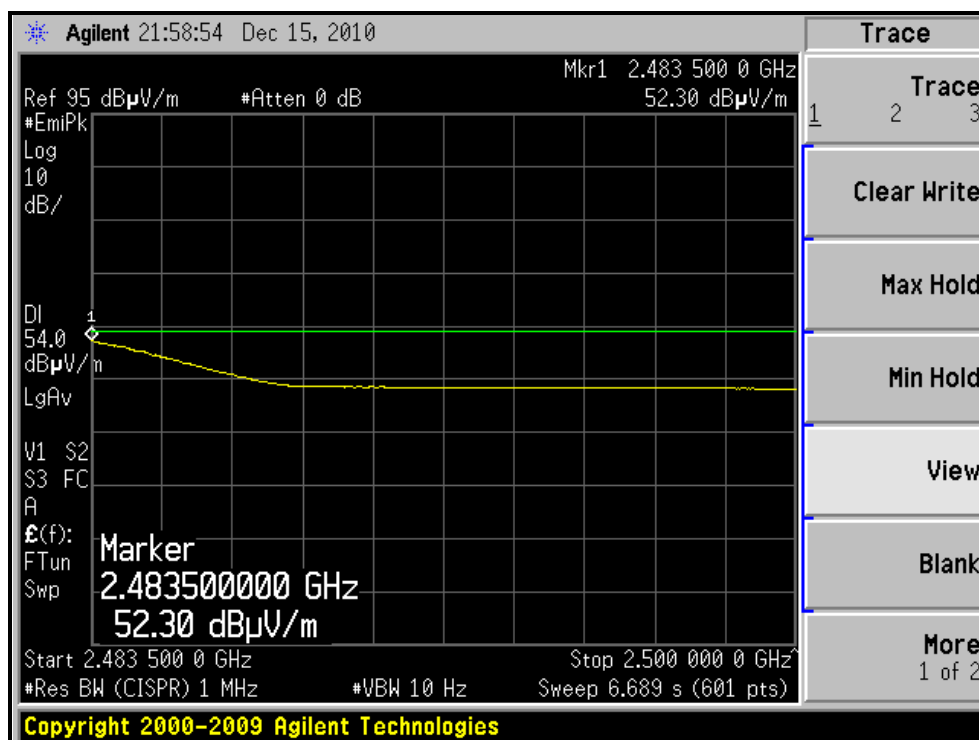
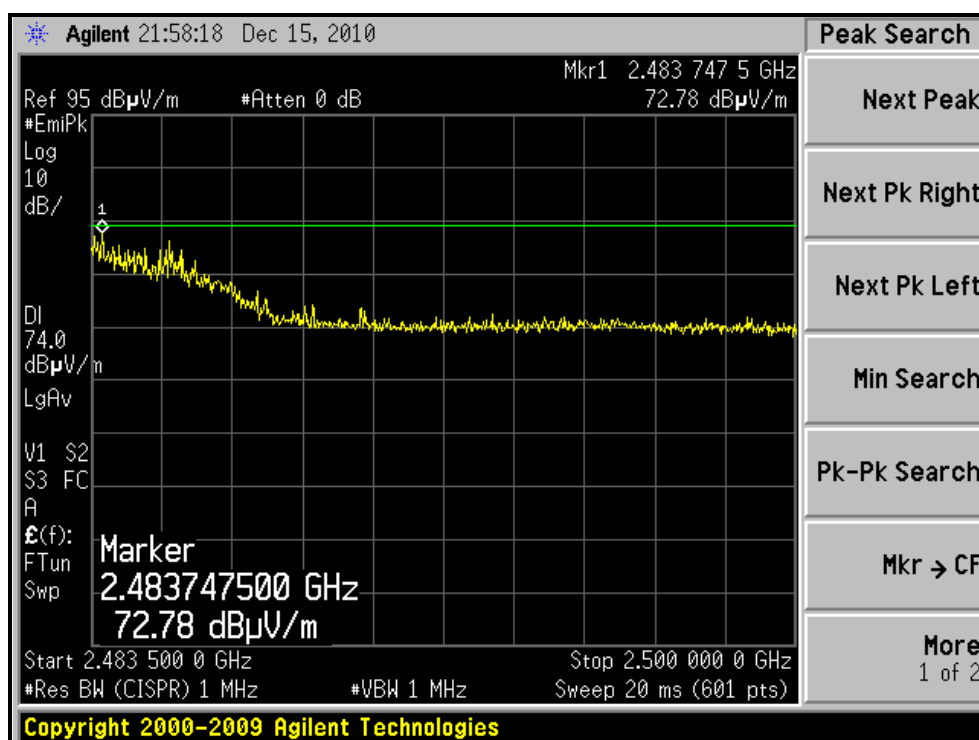
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



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



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





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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	23deg. C, 64%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	1.00 H	300	32.14	31.76
2	2390.00	47.0 AV	54.0	-7.0	1.00 H	300	15.24	31.76
3	*2422.00	92.3 PK			1.02 H	295	60.44	31.86
4	*2422.00	81.7 AV			1.02 H	295	49.84	31.86
5	4844.00	45.1 PK	74.0	-28.9	1.53 H	178	5.76	39.34
6	4844.00	36.9 AV	54.0	-17.1	1.53 H	178	-2.44	39.34
7	7266.00	51.6 PK	74.0	-22.4	1.46 H	269	4.79	46.81
8	7266.00	37.1 AV	54.0	-16.9	1.46 H	269	-9.71	46.81
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	72.7 PK	74.0	-1.3	1.58 V	222	40.94	31.76
2	2390.00	53.3 AV	54.0	-0.7	1.58 V	222	21.54	31.76
3	*2422.00	101.0 PK			1.61 V	218	69.14	31.86
4	*2422.00	88.5 AV			1.61 V	218	56.64	31.86
5	4844.00	46.2 PK	74.0	-27.8	1.14 V	342	6.86	39.34
6	4844.00	34.6 AV	54.0	-19.4	1.14 V	342	-4.74	39.34
7	7266.00	53.1 PK	74.0	-20.9	1.20 V	68	6.29	46.81
8	7266.00	37.9 AV	54.0	-16.1	1.20 V	68	-8.91	46.81

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%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	95.4 PK			1.00 H	301	63.49	31.91
2	*2437.00	84.8 AV			1.00 H	301	52.89	31.91
3	4874.00	46.8 PK	74.0	-27.2	1.31 H	56	7.36	39.44
4	4874.00	36.5 AV	54.0	-17.5	1.31 H	56	-2.94	39.44
5	7311.00	53.9 PK	74.0	-20.1	1.40 H	358	7.13	46.77
6	7311.00	37.9 AV	54.0	-16.1	1.40 H	358	-8.87	46.77
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	104.2 PK			1.58 V	222	72.29	31.91
2	*2437.00	91.9 AV			1.58 V	222	59.99	31.91
3	2483.50	72.9 PK	74.0	-1.1	1.60 V	217	40.83	32.07
4	2483.50	53.1 AV	54.0	-0.9	1.60 V	217	21.03	32.07
5	4874.00	47.5 PK	74.0	-26.5	1.20 V	58	8.06	39.44
6	4874.00	38.9 AV	54.0	-15.1	1.20 V	58	-0.54	39.44
7	7311.00	54.6 PK	74.0	-19.4	1.33 V	358	7.83	46.77
8	7311.00	38.2 AV	54.0	-15.8	1.33 V	358	-8.57	46.77

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



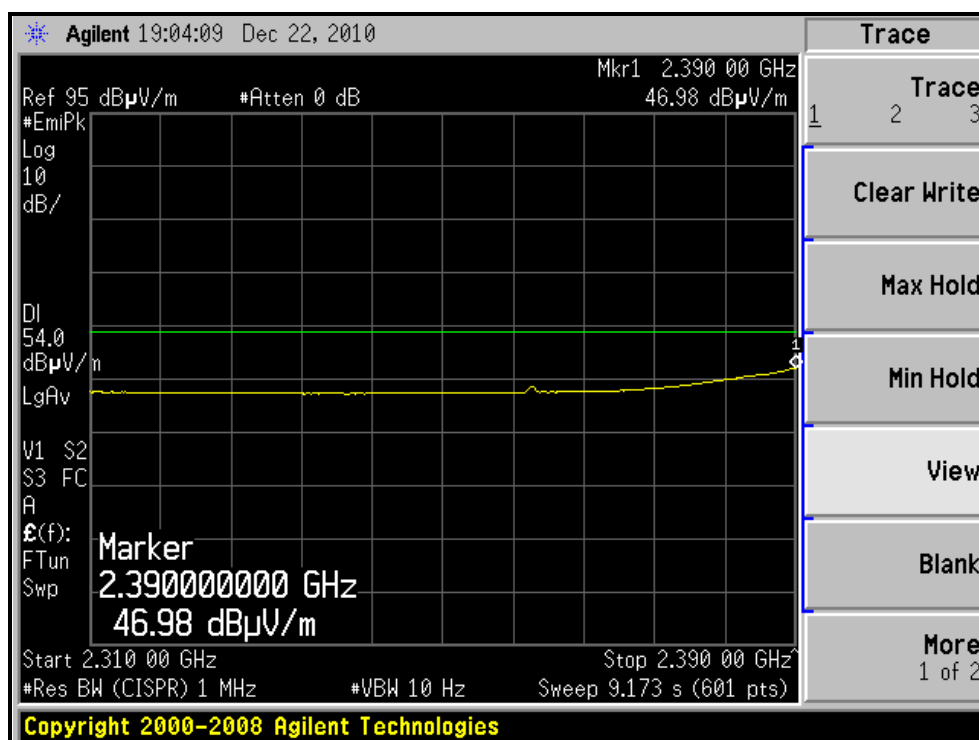
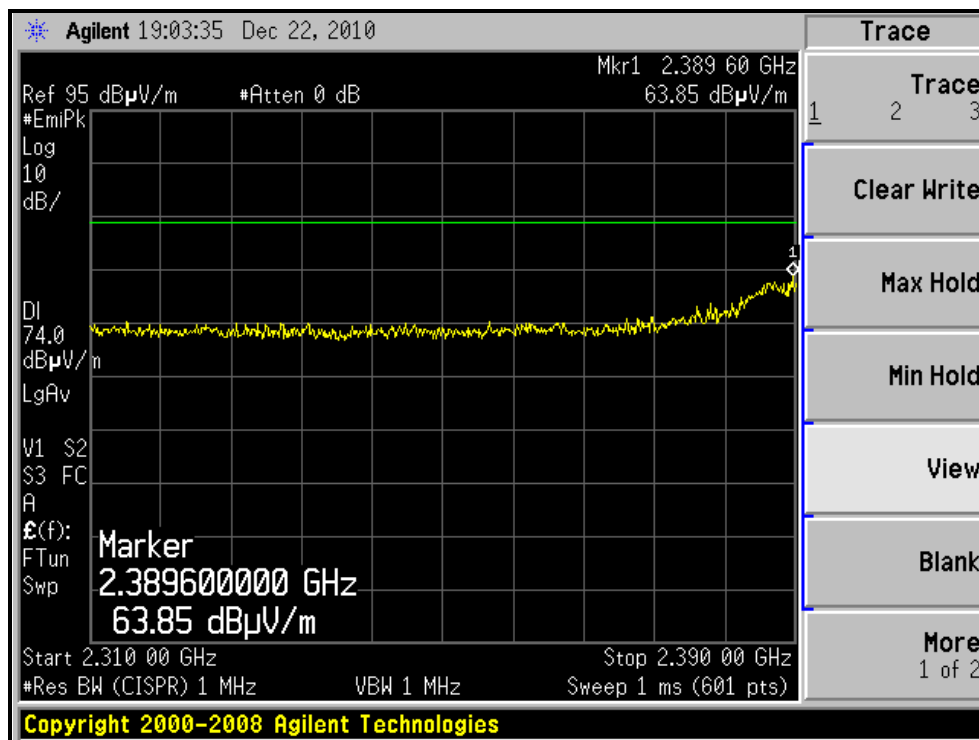
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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 64%RH 1011 hPa	TESTED BY	Eric Lee

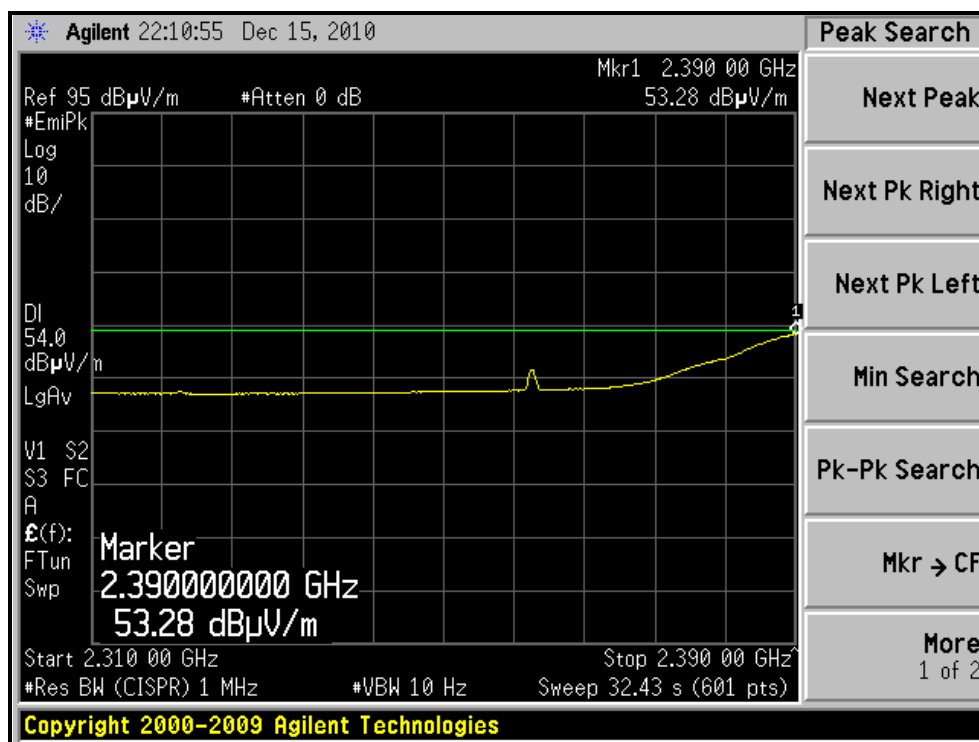
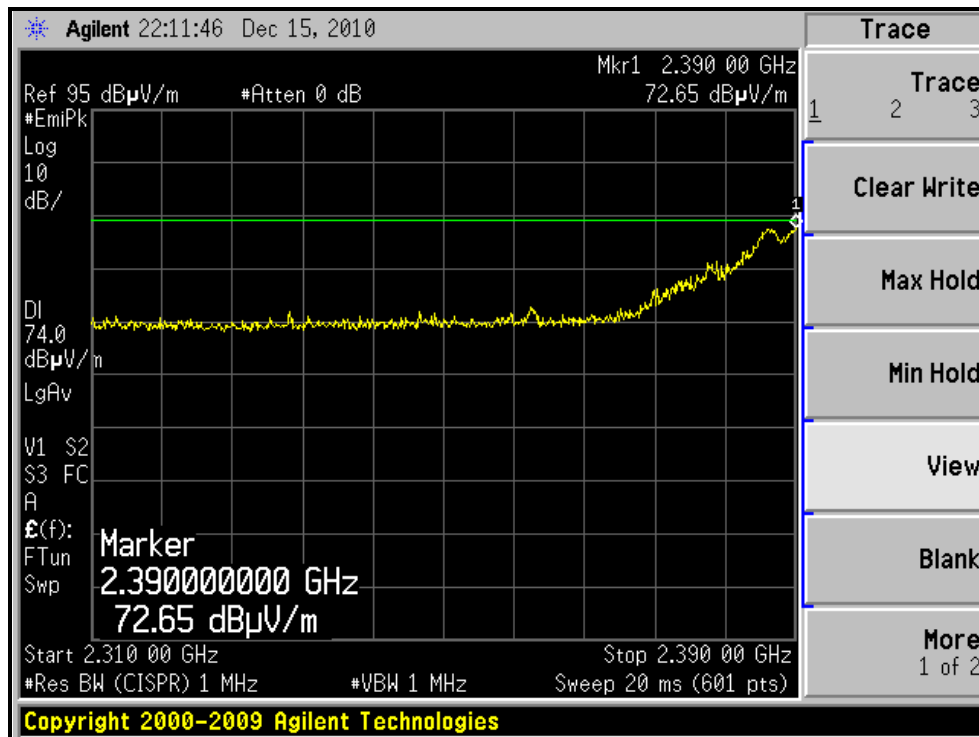
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	92.1 PK			1.30 H	270	60.14	31.96
2	*2452.00	81.2 AV			1.30 H	270	49.24	31.96
3	2483.50	62.8 PK	74.0	-11.2	1.29 H	266	30.73	32.07
4	2483.50	47.0 AV	54.0	-7.0	1.29 H	266	14.93	32.07
5	4904.00	45.7 PK	74.0	-28.3	1.46 H	88	6.16	39.54
6	4904.00	36.1 AV	54.0	-17.9	1.46 H	88	-3.44	39.54
7	7356.00	52.0 PK	74.0	-22.0	1.50 H	172	5.26	46.74
8	7356.00	36.9 AV	54.0	-17.1	1.50 H	172	-9.84	46.74
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.2 PK			1.58 V	267	69.24	31.96
2	*2452.00	88.4 AV			1.58 V	267	56.44	31.96
3	2483.50	72.7 PK	74.0	-1.3	1.60 V	258	40.63	32.07
4	2483.50	53.3 AV	54.0	-0.7	1.60 V	258	21.23	32.07
5	4904.00	46.8 PK	74.0	-27.2	1.18 V	60	7.26	39.54
6	4904.00	36.9 AV	54.0	-17.1	1.18 V	60	-2.64	39.54
7	7356.00	52.6 PK	74.0	-21.4	1.29 V	344	5.86	46.74
8	7356.00	37.9 AV	54.0	-16.1	1.29 V	344	-8.84	46.74

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.

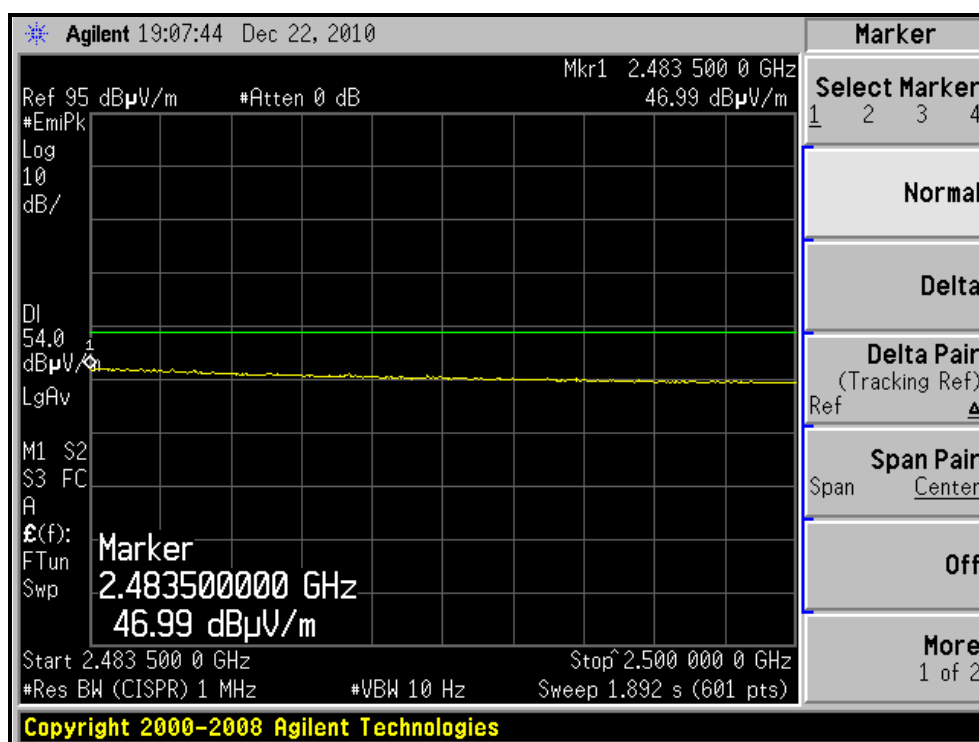
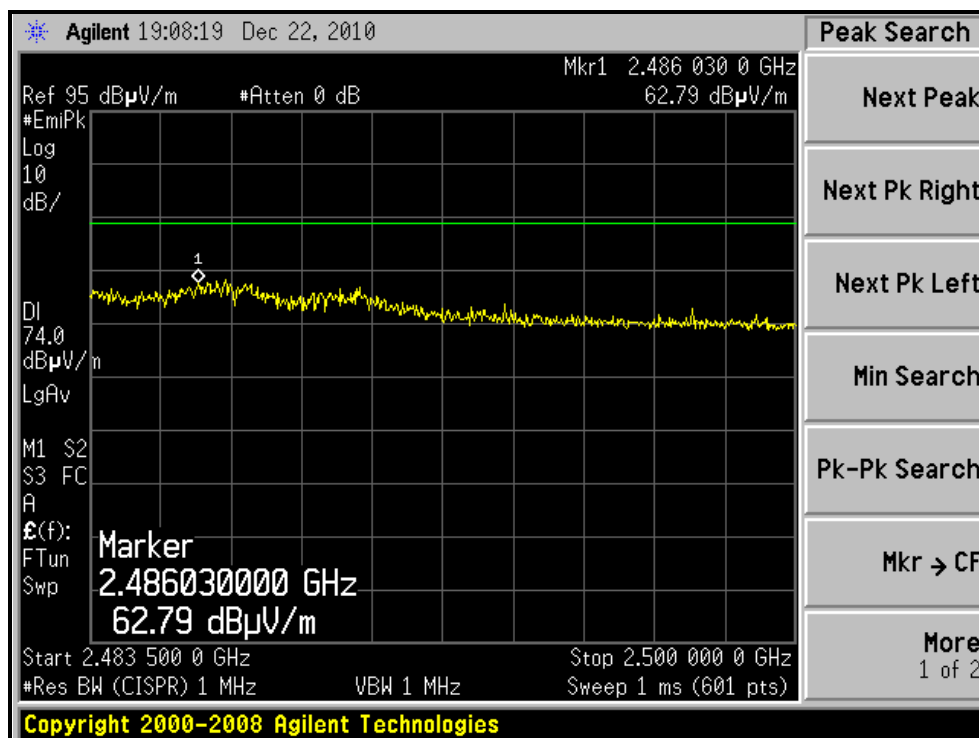
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, HORIZONTAL)



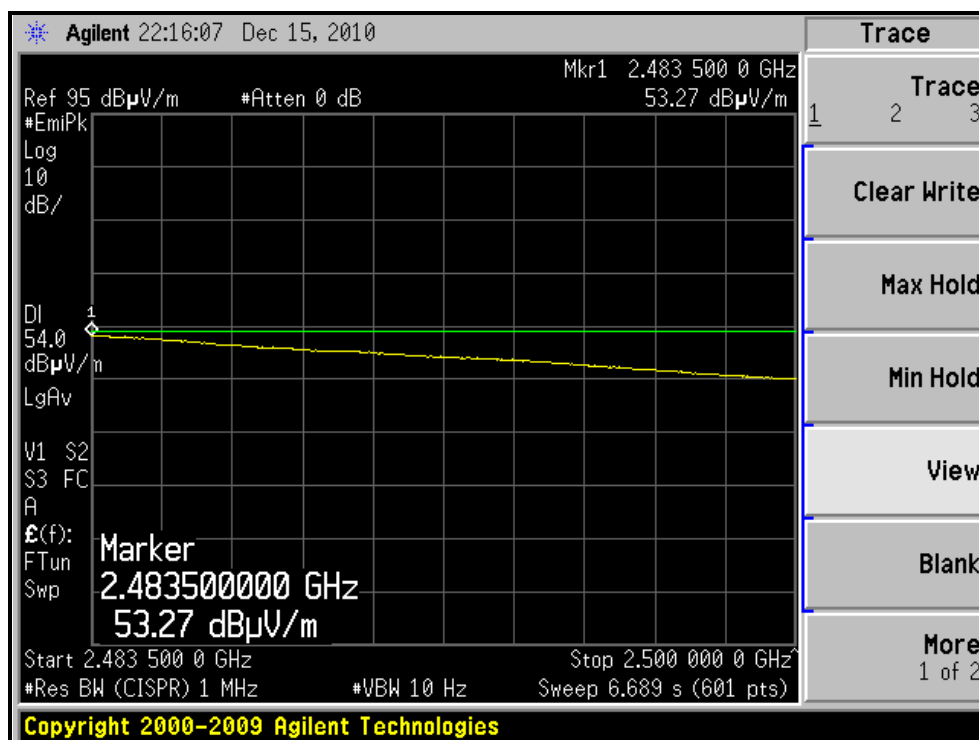
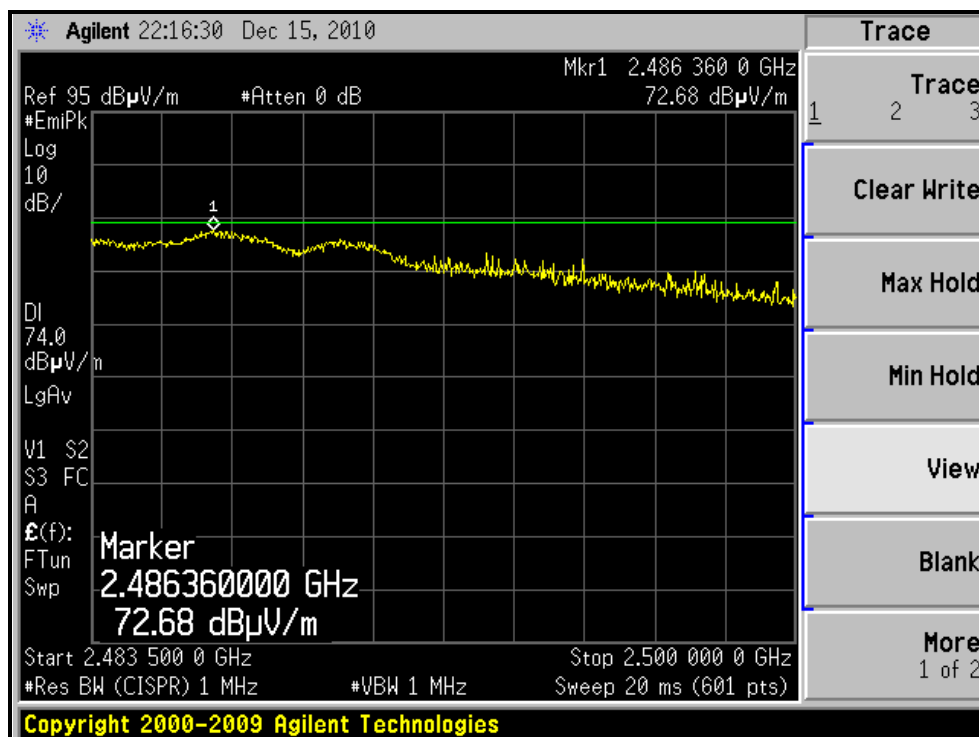
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH1, VERTICAL)



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



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



4.2.8 TEST RESULTS (FOR RECEIVER PART)

4.2.8.1 TEST RESULTS (With PIFA Antenna)

BELOW 1GHz WORST-CASE DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. 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	148.42	39.4 QP	43.5	-4.1	1.00 H	349	25.20	14.24
2	165.95	42.8 QP	43.5	-0.7	1.50 H	9	28.79	14.01
3	199.23	41.2 QP	43.5	-2.3	1.50 H	190	29.94	11.24
4	499.55	36.9 QP	46.0	-9.2	1.00 H	253	16.90	19.95
5	593.81	34.9 QP	46.0	-11.1	1.50 H	251	12.67	22.22
6	896.38	39.0 QP	46.0	-7.0	1.00 H	265	12.52	26.50
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	148.19	32.1 QP	43.5	-11.4	1.00 V	347	17.87	14.24
2	165.95	35.2 QP	43.5	-8.3	1.00 V	151	21.23	14.01
3	298.92	34.7 QP	46.0	-11.3	1.75 V	23	19.79	14.89
4	399.54	35.4 QP	46.0	-10.6	1.00 V	108	17.55	17.85
5	499.56	39.8 QP	46.0	-6.2	1.00 V	96	19.85	19.95
6	739.62	32.5 QP	46.0	-13.6	1.25 V	48	8.71	23.74

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.



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ABOVE 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. 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	4824.00	48.2 PK	74.0	-25.8	1.55 H	203	8.06	40.18
2	4824.00	36.7 AV	54.0	-17.4	1.55 H	203	-3.53	40.18
3	7236.00	53.7 PK	74.0	-20.3	1.00 H	215	8.73	44.95
4	7236.00	39.4 AV	54.0	-14.6	1.00 H	215	-5.55	44.95
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	4824.00	46.3 PK	74.0	-27.8	1.02 V	241	6.07	40.18
2	4824.00	35.2 AV	54.0	-18.8	1.02 V	241	-4.94	40.18
3	7236.00	52.2 PK	74.0	-21.8	1.24 V	51	7.29	44.95
4	7236.00	38.7 AV	54.0	-15.3	1.24 V	51	-6.26	44.95

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. 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	4874.00	47.2 PK	74.0	-26.8	1.54 H	198	6.86	40.38
2	4874.00	36.1 AV	54.0	-17.9	1.54 H	198	-4.28	40.38
3	7311.00	54.2 PK	74.0	-19.8	1.08 H	82	9.19	45.04
4	7311.00	39.1 AV	54.0	-14.9	1.08 H	82	-5.94	45.04
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4874.00	44.5 PK	74.0	-29.5	1.02 V	215	4.13	40.38
2	4874.00	34.9 AV	54.0	-19.1	1.02 V	215	-5.52	40.38
3	7311.00	51.2 PK	74.0	-22.8	1.80 V	26	6.20	45.04
4	7311.00	37.4 AV	54.0	-16.6	1.80 V	26	-7.64	45.04

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. 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	4924.00	46.8 PK	74.0	-27.2	1.02 H	45	6.22	40.58
2	4924.00	37.4 AV	54.0	-16.6	1.02 H	45	-3.18	40.58
3	7386.00	53.7 PK	74.0	-20.4	1.11 H	26	8.53	45.12
4	7386.00	39.8 AV	54.0	-14.2	1.11 H	26	-5.32	45.12
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	4924.00	45.2 PK	74.0	-28.8	1.60 V	236	4.65	40.58
2	4924.00	34.6 AV	54.0	-19.4	1.60 V	236	-5.98	40.58
3	7386.00	51.2 PK	74.0	-22.8	1.65 V	236	6.12	45.12
4	7386.00	38.5 AV	54.0	-15.5	1.65 V	236	-6.62	45.12

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

4.2.8.2 TEST RESULTS (With Dipole Antenna)

BELOW 1GHz WORST-CASE DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. 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	149.20	38.6 QP	43.5	-4.9	1.25 H	24	24.35	14.25
2	165.99	42.4 QP	43.5	-1.1	1.00 H	256	28.40	14.00
3	199.35	42.1 QP	43.5	-1.4	1.75 H	45	30.87	11.23
4	499.62	37.8 QP	46.0	-8.2	1.75 H	84	17.85	19.95
5	593.81	34.9 QP	46.0	-11.1	1.50 H	251	12.67	22.22
6	896.45	38.4 QP	46.0	-7.6	1.25 H	62	11.90	26.50
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	148.19	32.1 QP	43.5	-11.4	1.00 V	347	17.87	14.24
2	165.95	35.2 QP	43.5	-8.3	1.00 V	151	21.23	14.01
3	298.82	33.3 QP	46.0	-12.7	1.50 V	292	18.39	14.88
4	399.48	34.1 QP	46.0	-12.0	1.50 V	119	16.21	17.84
5	499.55	38.7 QP	46.0	-7.3	1.50 V	296	18.73	19.95
6	739.59	31.7 QP	46.0	-14.3	1.00 V	360	7.92	23.74

- 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.



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ABOVE 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%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	4824.00	47.2 PK	74.0	-26.8	1.52 H	223	6.28	40.96
2	4824.00	36.9 AV	54.0	-17.1	1.52 H	223	-4.06	40.96
3	7236.00	53.2 PK	74.0	-20.8	1.54 H	218	7.96	45.28
4	7236.00	38.6 AV	54.0	-15.4	1.54 H	218	-6.68	45.28

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	4824.00	45.2 PK	74.0	-28.8	1.24 V	55	4.24	40.96
2	4824.00	34.1 AV	54.0	-19.9	1.24 V	55	-6.86	40.96
3	7236.00	51.2 PK	74.0	-22.8	1.02 V	36	5.96	45.28
4	7236.00	37.2 AV	54.0	-16.9	1.02 V	36	-8.13	45.28

- 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%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	4874.00	47.2 PK	74.0	-26.8	1.24 H	107	6.19	41.05
2	4874.00	36.2 AV	54.0	-17.8	1.24 H	107	-4.82	41.05
3	7311.00	53.2 PK	74.0	-20.8	1.00 H	32	7.76	45.48
4	7311.00	38.6 AV	54.0	-15.4	1.00 H	32	-6.87	45.48
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	4874.00	44.9 PK	74.0	-29.2	1.47 V	253	3.80	41.05
2	4874.00	34.1 AV	54.0	-19.9	1.47 V	253	-6.95	41.05
3	7311.00	51.2 PK	74.0	-22.8	1.38 V	95	5.75	45.48
4	7311.00	37.6 AV	54.0	-16.4	1.38 V	95	-7.88	45.48

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 7.5GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 68%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	4924.00	46.9 PK	74.0	-27.2	1.00 H	223	5.70	41.15
2	4924.00	36.3 AV	54.0	-17.7	1.00 H	223	-4.85	41.15
3	7386.00	53.8 PK	74.0	-20.2	1.54 H	123	8.18	45.66
4	7386.00	38.6 AV	54.0	-15.4	1.54 H	123	-7.06	45.66
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	4924.00	44.2 PK	74.0	-29.9	1.42 V	153	3.00	41.15
2	4924.00	34.8 AV	54.0	-19.2	1.42 V	153	-6.35	41.15
3	7386.00	51.8 PK	74.0	-22.2	1.58 V	236	6.18	45.66
4	7386.00	37.7 AV	54.0	-16.3	1.58 V	236	-8.00	45.66

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

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

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

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

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 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

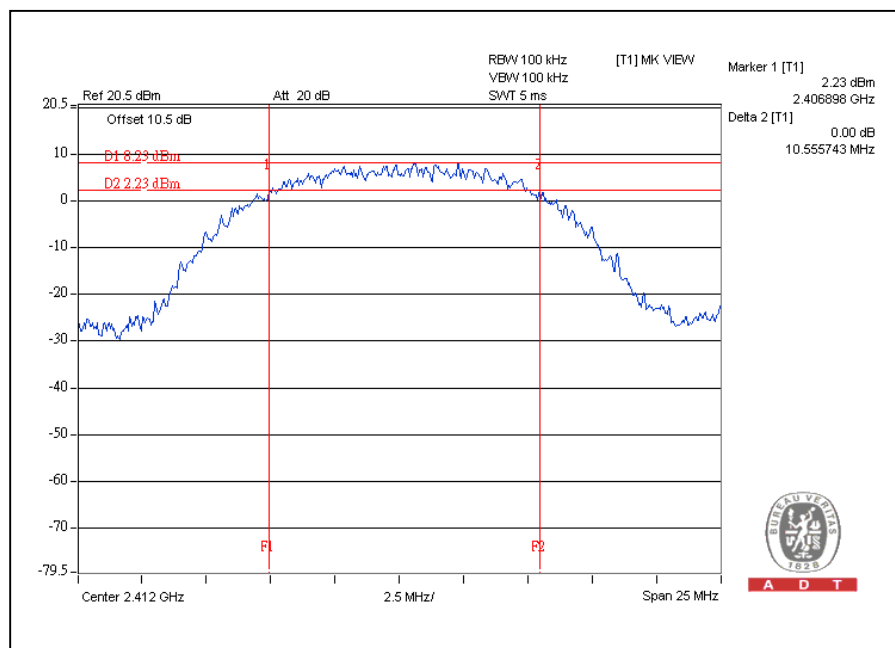
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

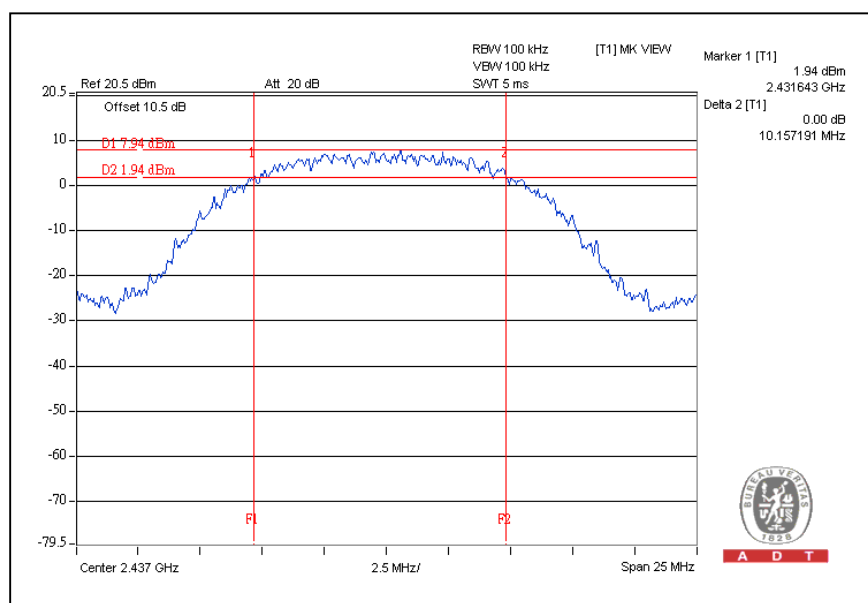
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.55	0.5	PASS
6	2437	10.15	0.5	PASS
11	2462	10.60	0.5	PASS

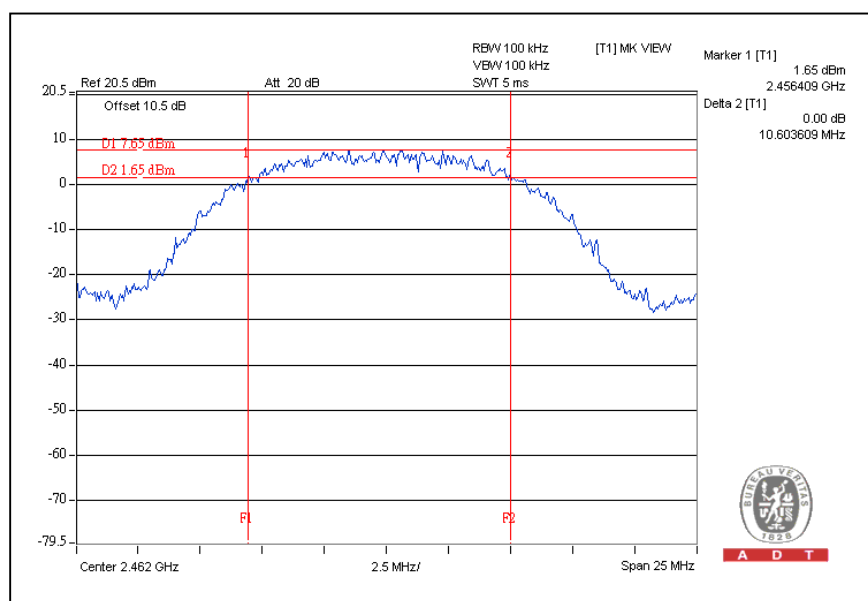
CH1



CH6



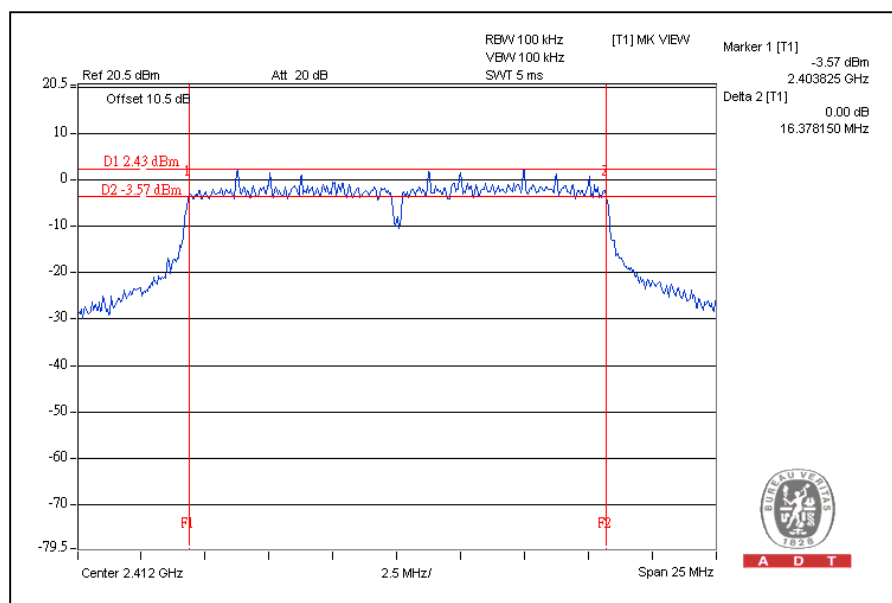
CH11



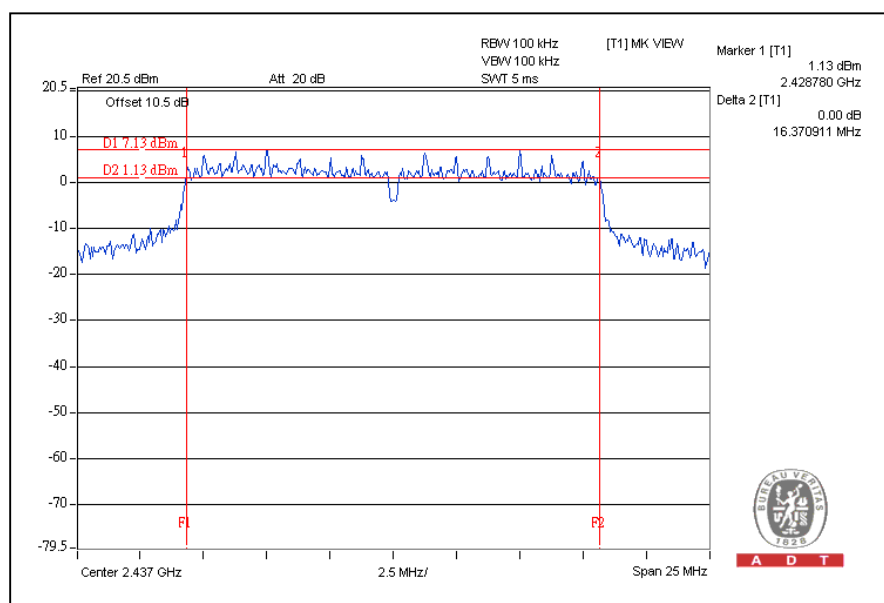
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.37	0.5	PASS
6	2437	16.37	0.5	PASS
11	2462	16.36	0.5	PASS

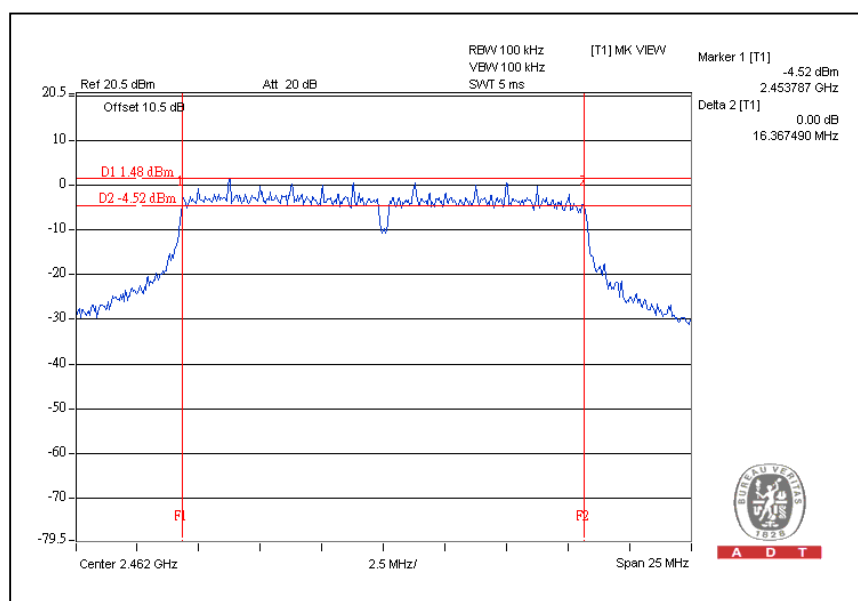
CH1



CH6



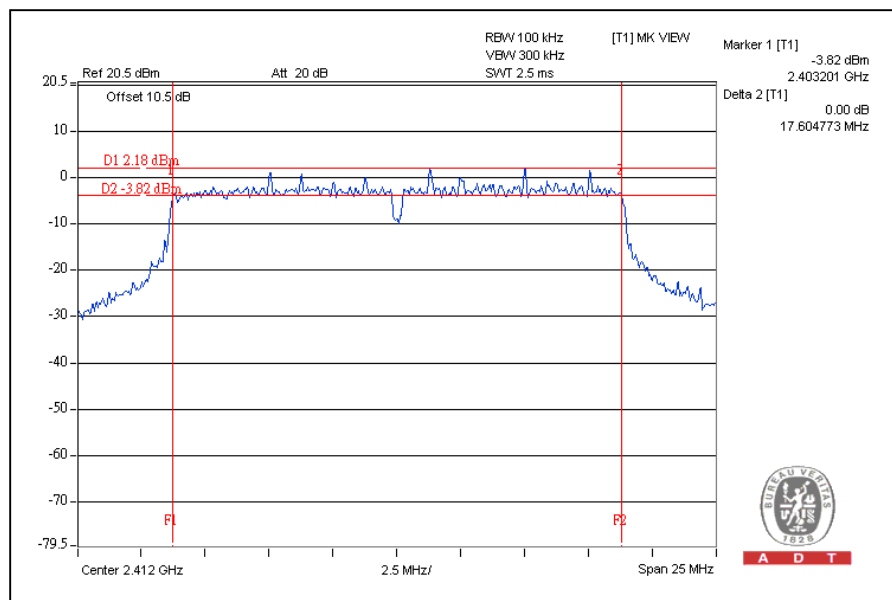
CH11



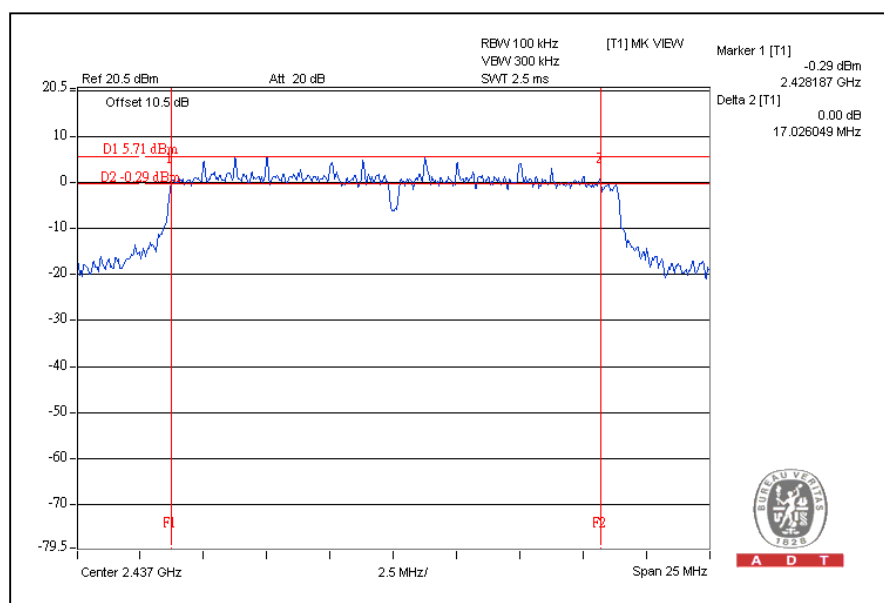
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.60	0.5	PASS
6	2437	17.02	0.5	PASS
11	2462	17.25	0.5	PASS

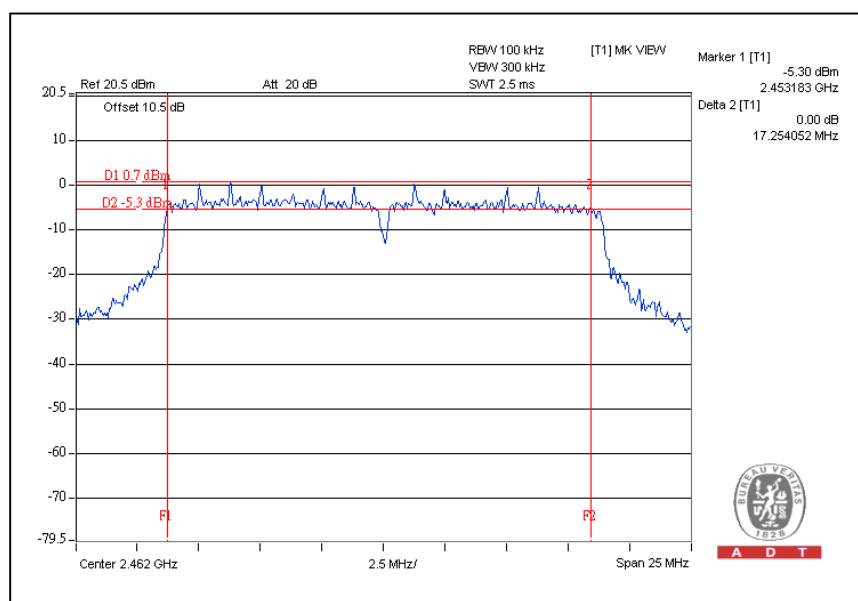
CH1



CH6



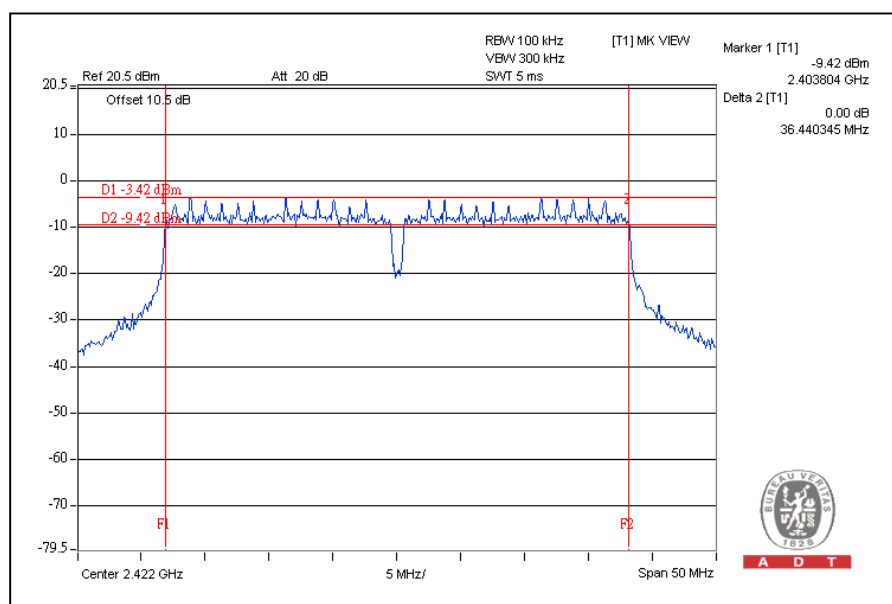
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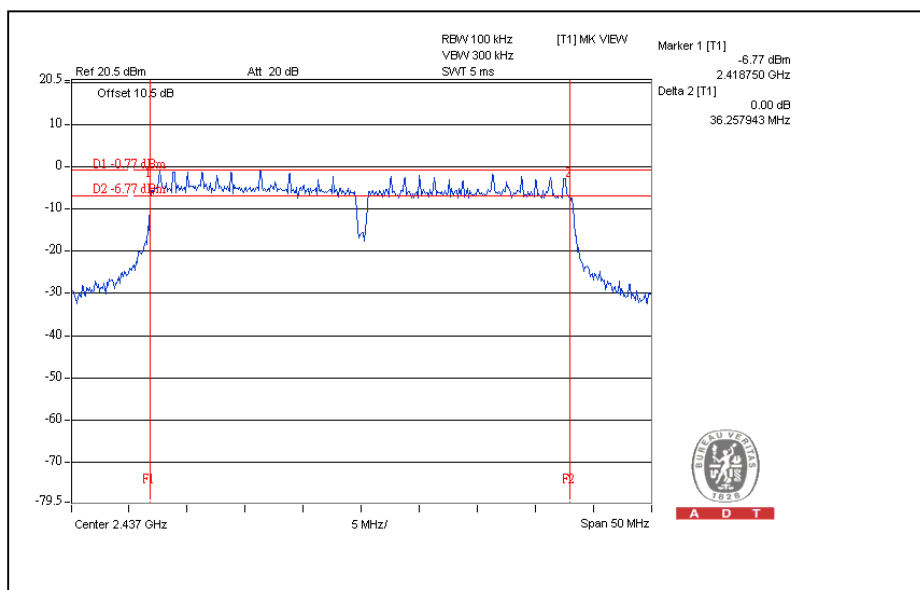
802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.44	0.5	PASS
4	2437	36.25	0.5	PASS
7	2452	35.91	0.5	PASS

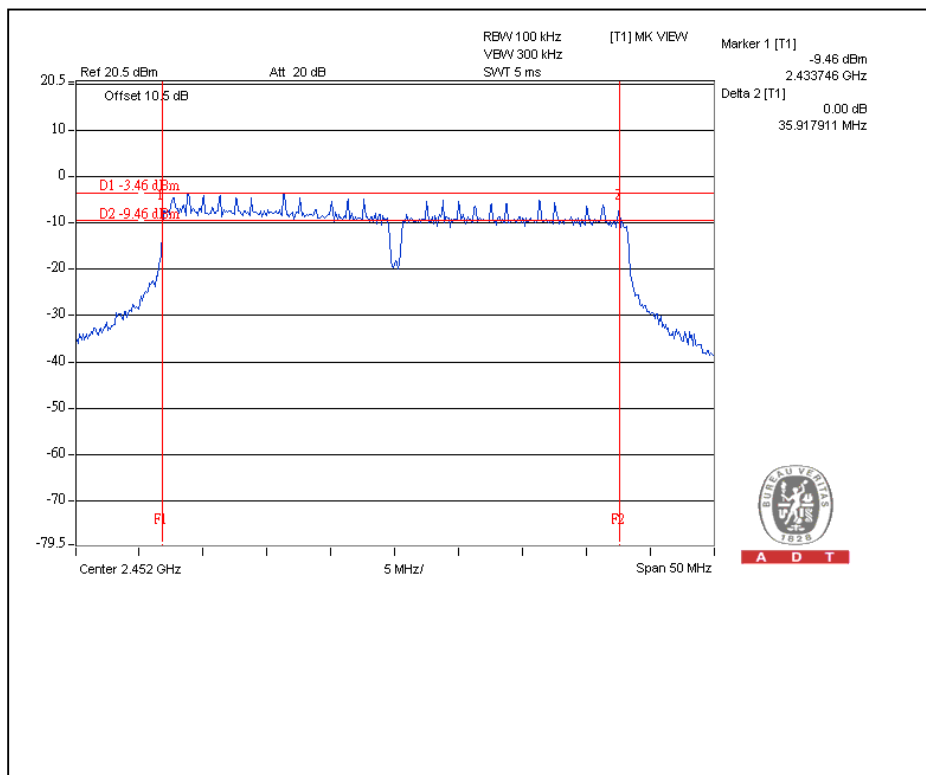
CH1



CH4



CH7



4.4 99% BANDWIDTH MEASUREMENT

4.4.1 TEST INSTRUMENTS

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

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

4.4.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW.

4.4.3 TEST SETUP



4.4.4 EUT OPERATING CONDITIONS

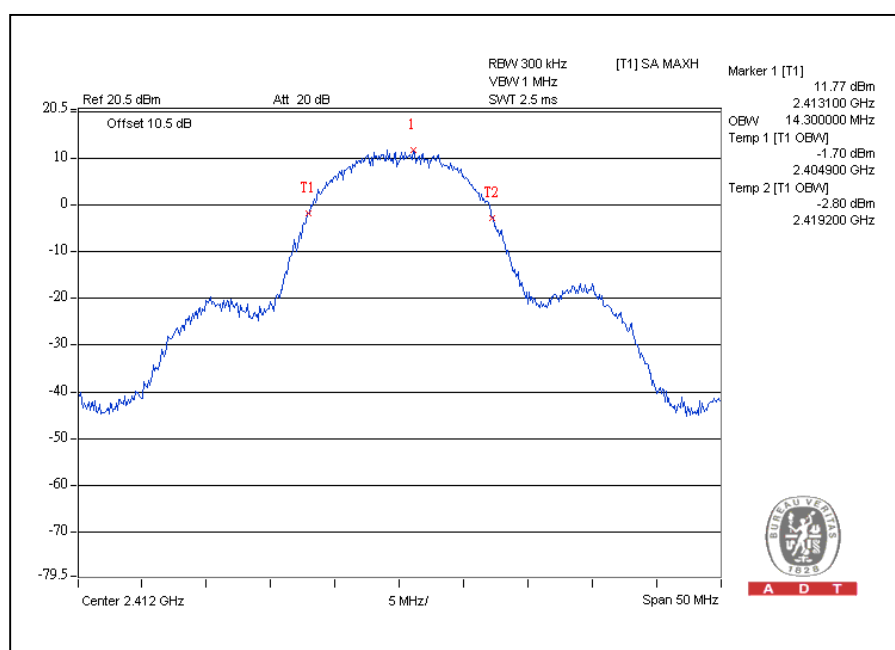
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.5 TEST RESULTS

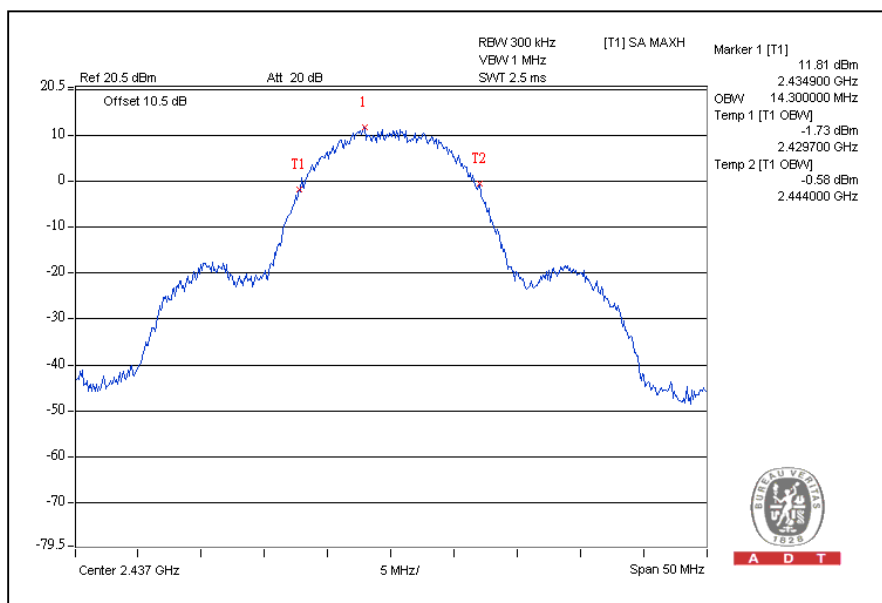
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	14.3
6	2437	14.3
11	2462	14.4

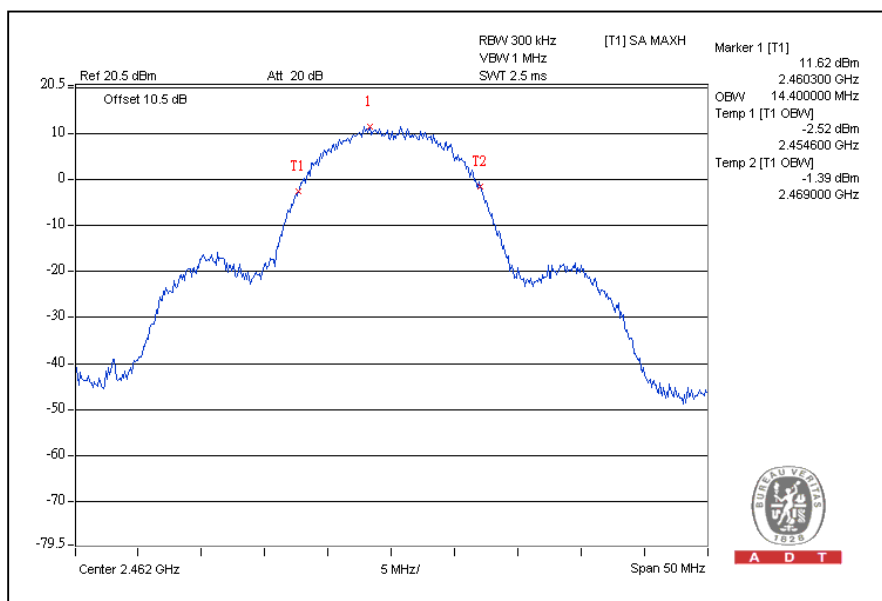
CH1



CH6



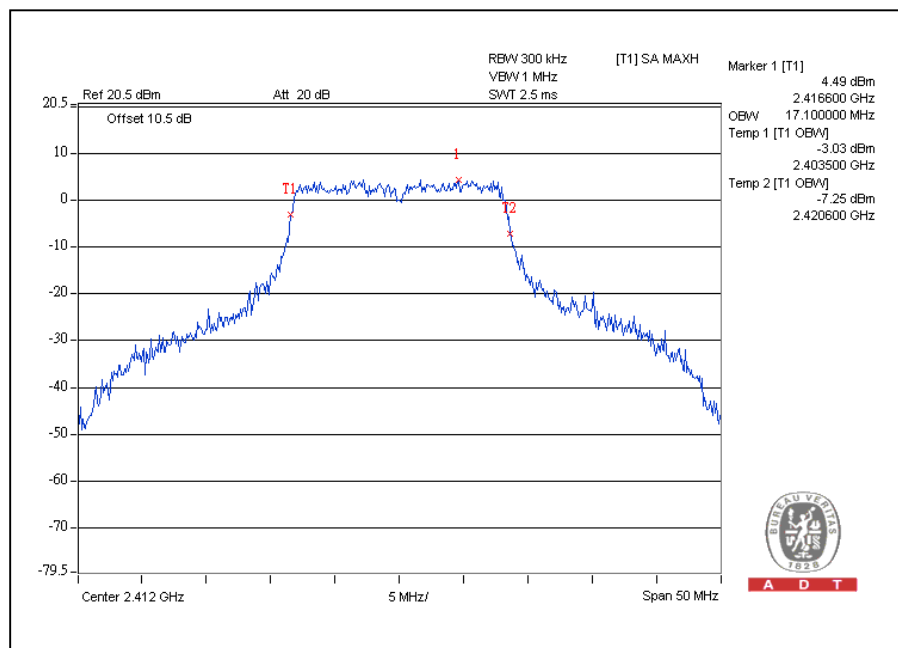
CH11



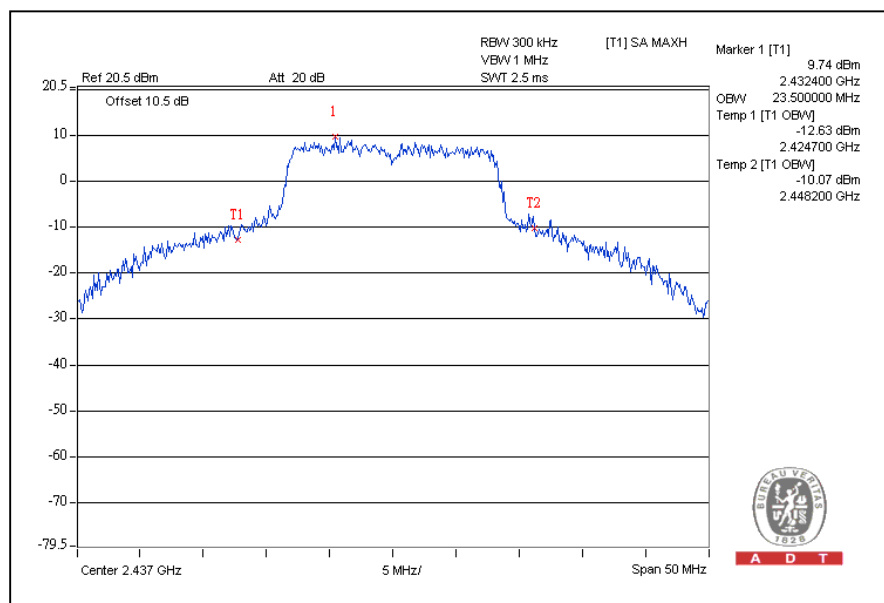
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	17.1
6	2437	23.5
11	2462	17.1

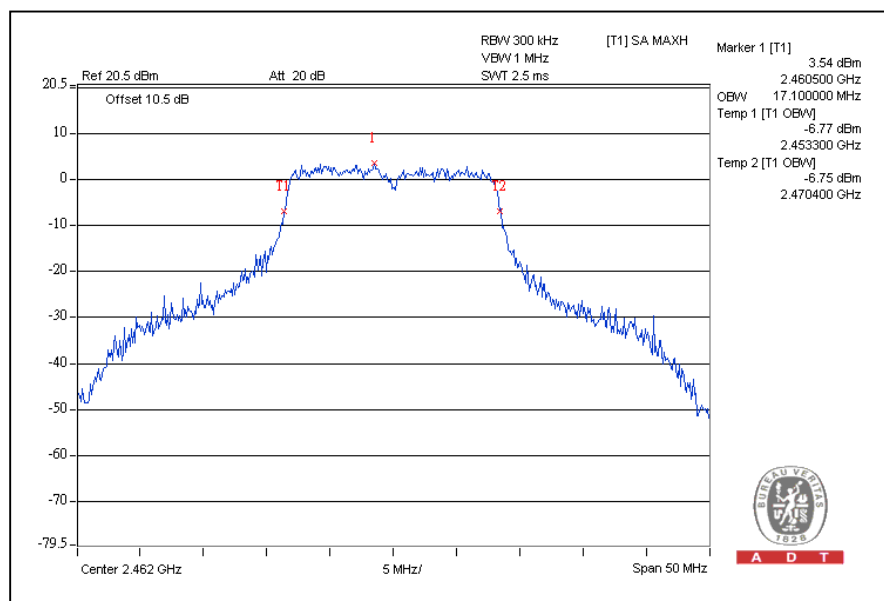
CH1



CH6



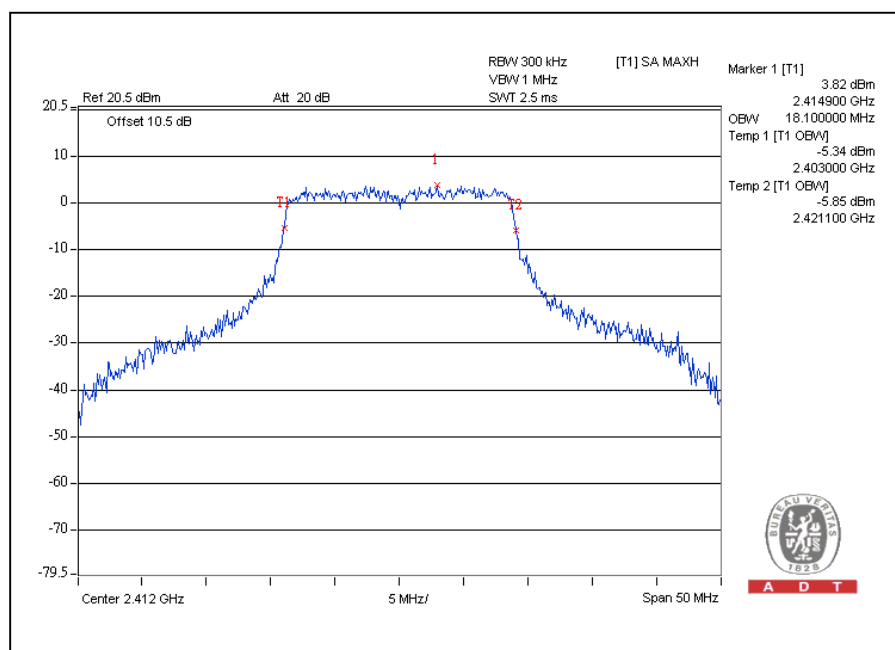
CH11



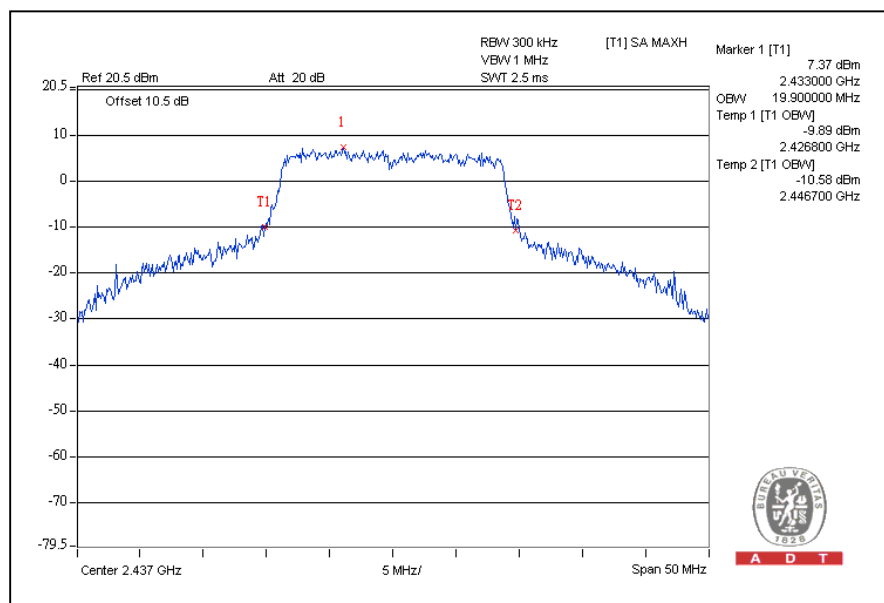
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2412	18.1
6	2437	19.9
11	2462	18.1

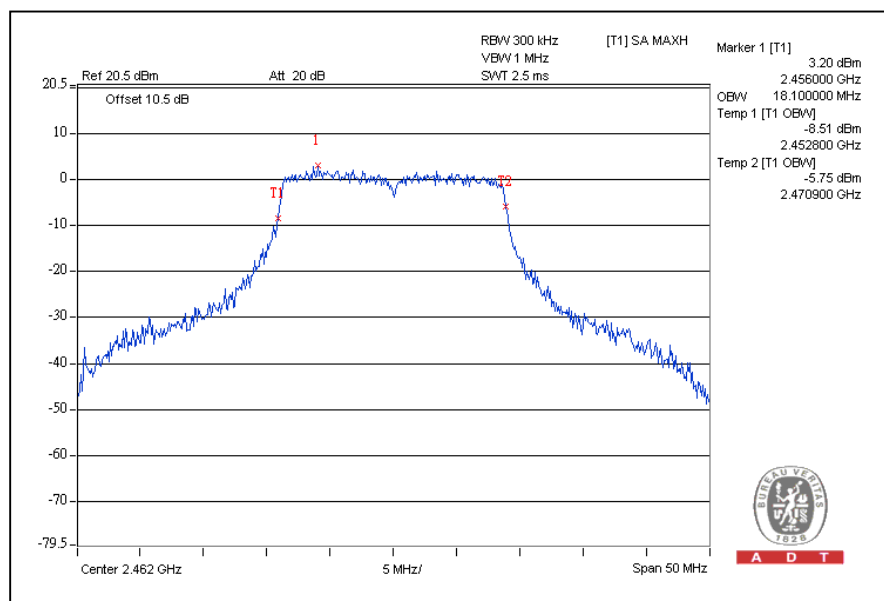
CH1



CH6



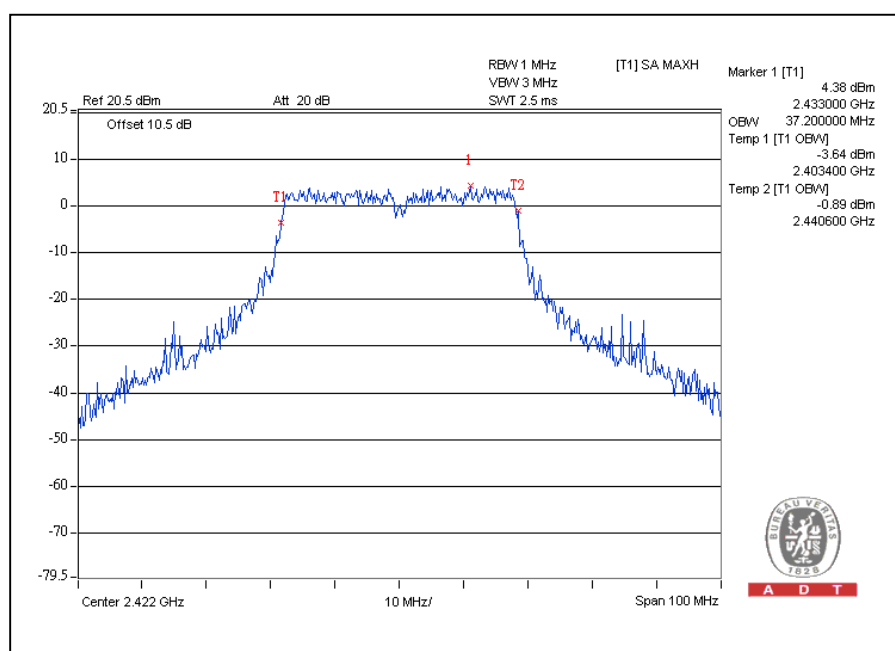
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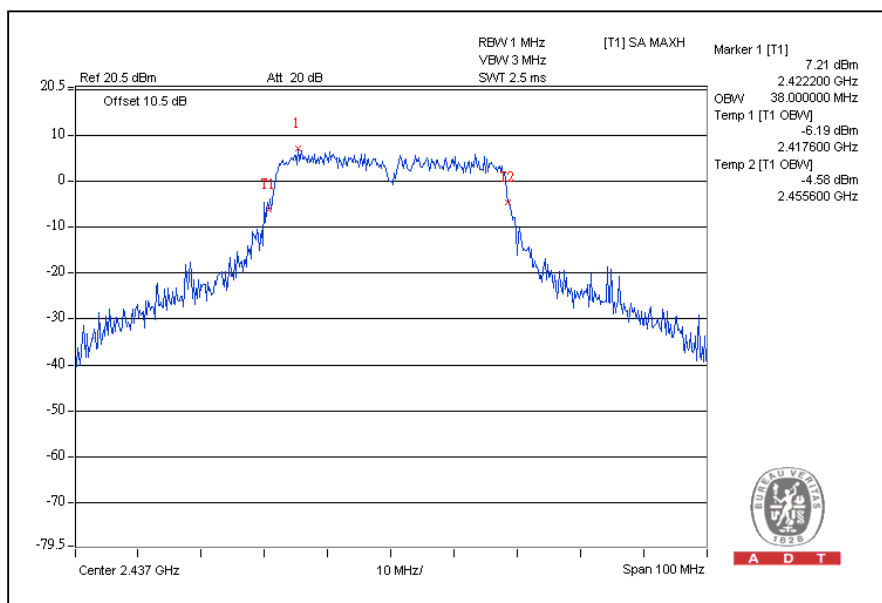
802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
1	2422	37.2
4	2437	38.0
7	2452	38.0

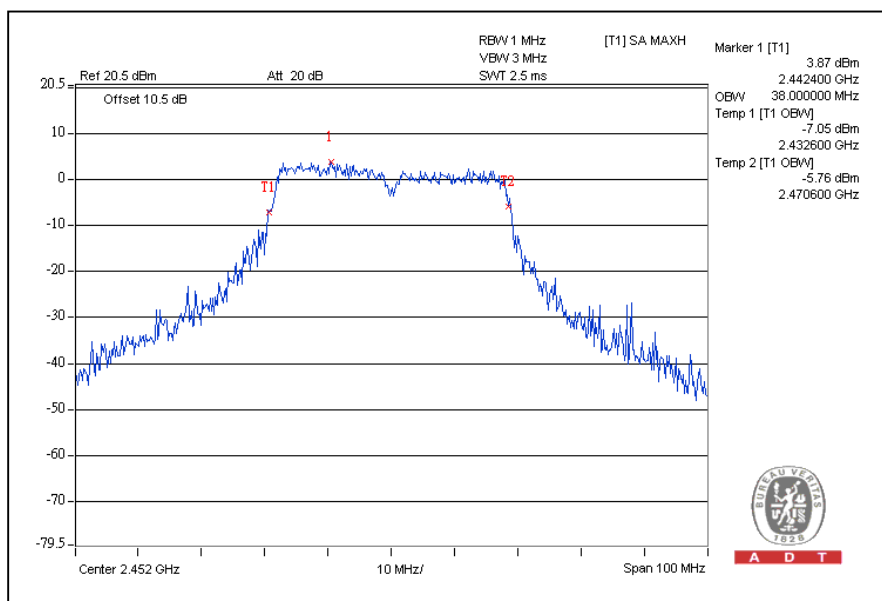
CH1



CH4



CH7



4.5 MAXIMUM PEAK OUTPUT POWER

4.5.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.5.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
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.

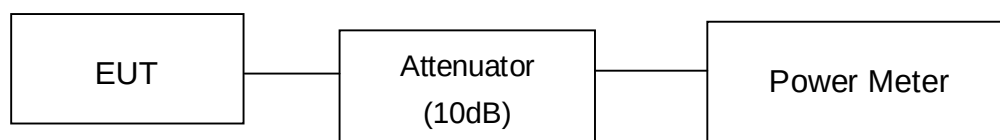
4.5.3 TEST PROCEDURES

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	102.3	20.1	30	PASS
6	2437	95.5	19.8	30	PASS
11	2462	93.3	19.7	30	PASS

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	104.7	20.2	30	PASS
6	2437	158.5	22.0	30	PASS
11	2462	77.6	18.9	30	PASS

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	93.3	19.7	30	PASS
6	2437	120.2	20.8	30	PASS
11	2462	69.2	18.4	30	PASS

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2422	69.2	18.4	30	PASS
4	2437	102.3	20.1	30	PASS
7	2452	61.7	17.9	30	PASS

4.6 AVERAGE OUTPUT POWER

4.6.1 FOR REFERENCE.

4.6.2 TEST INSTRUMENTS

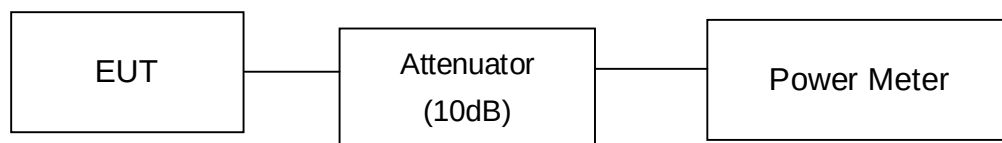
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2010	May 03, 2011
Power Sensor	MA2411B	0738172	May 04, 2010	May 03, 2011

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

4.6.3 TEST PROCEDURES

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

4.6.4 TEST SETUP



4.6.5 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.6.6 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	18.2
6	2437	18.2
11	2462	18

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	14.3
6	2437	18.1
11	2462	12.9

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	13.4
6	2437	16.1
11	2462	12

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2422	10.9
4	2437	13.2
7	2452	10

4.7 POWER SPECTRAL DENSITY MEASUREMENT

4.7.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.7.2 TEST INSTRUMENTS

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

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

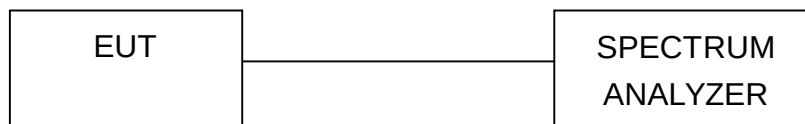
4.7.3 TEST PROCEDURE

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

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



4.7.6 EUT OPERATING CONDITION

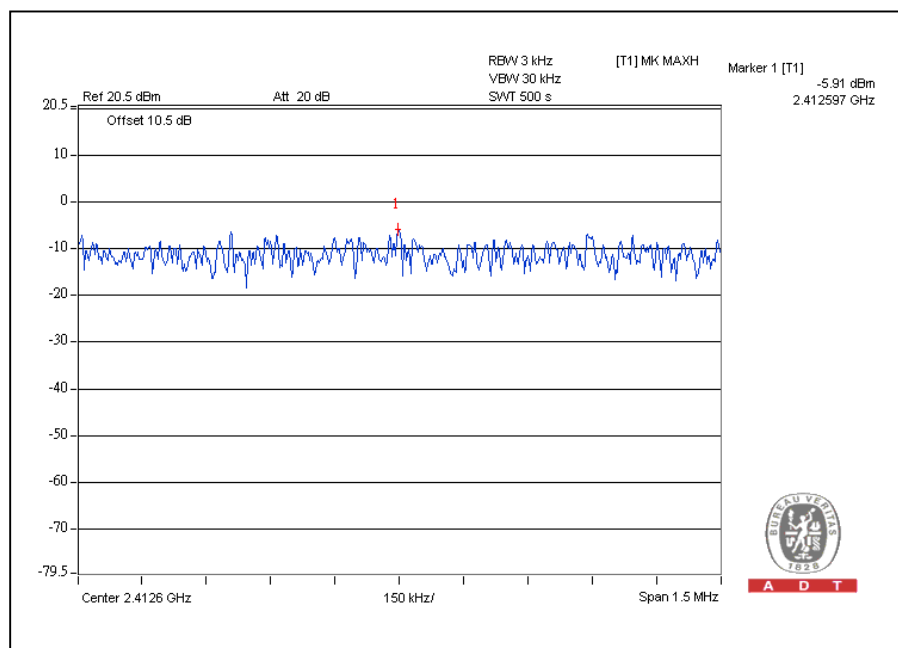
Same as Item 4.3.6

4.7.7 TEST RESULTS

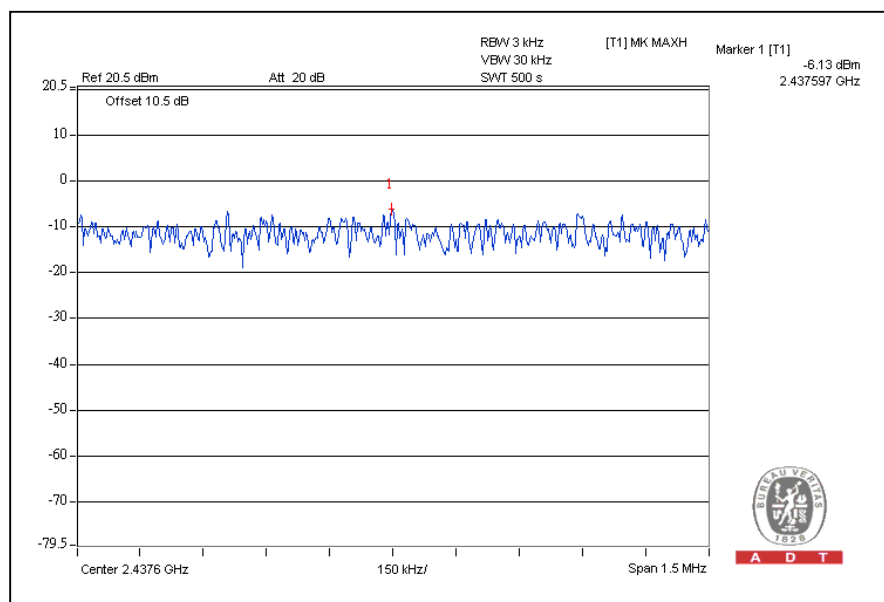
802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-5.9	8	PASS
6	2437	-6.1	8	PASS
11	2462	-6.3	8	PASS

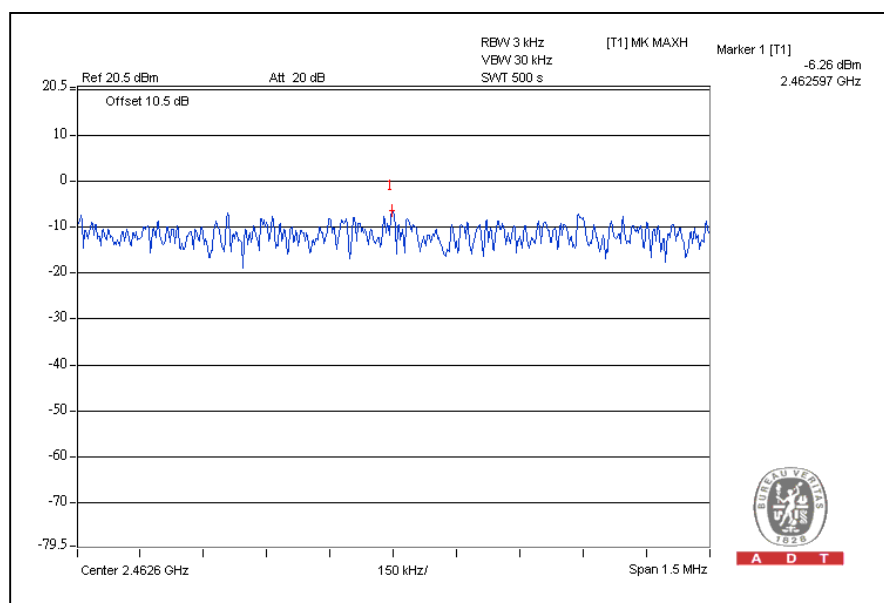
CH1



CH6



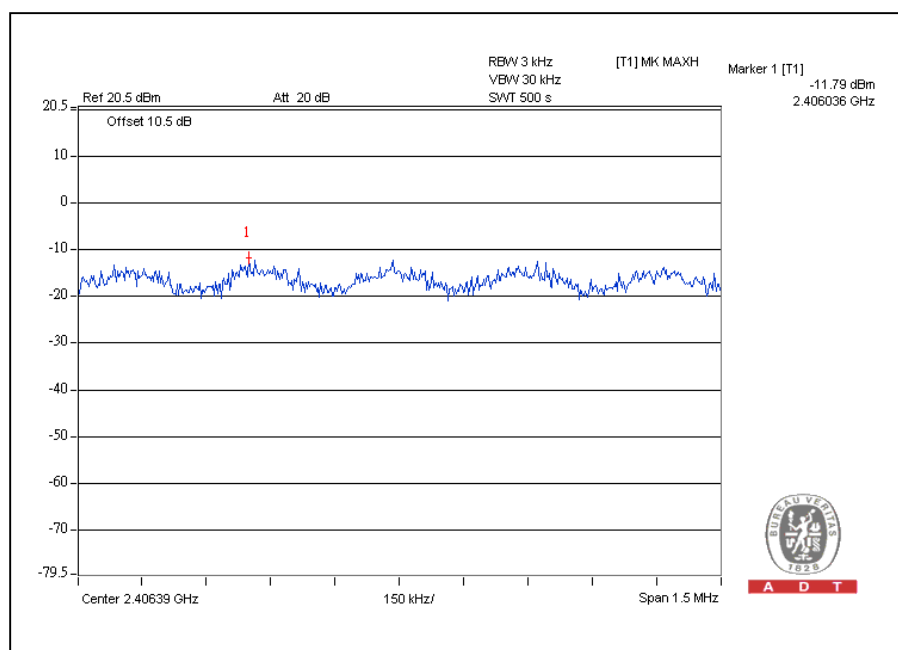
CH11



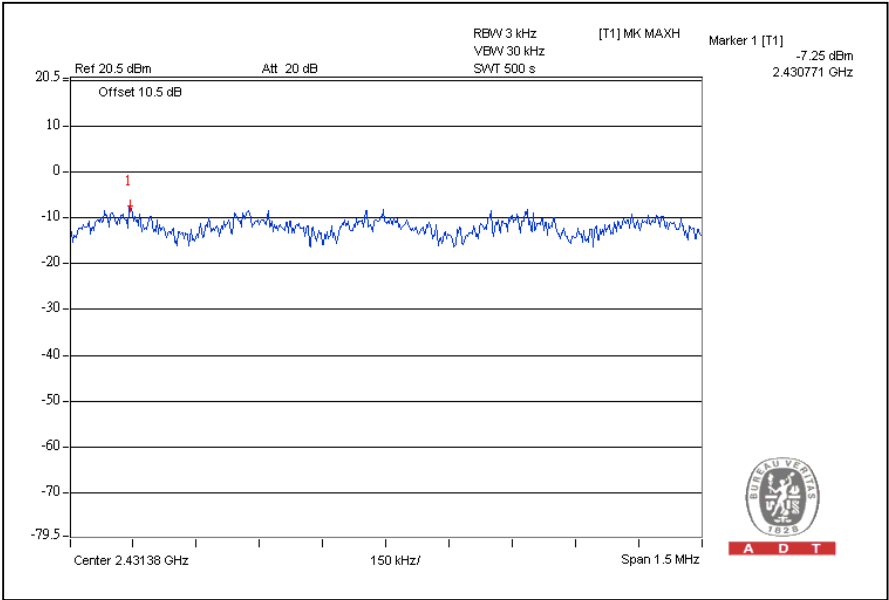
802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-11.8	8	PASS
6	2437	-7.3	8	PASS
11	2462	-13.4	8	PASS

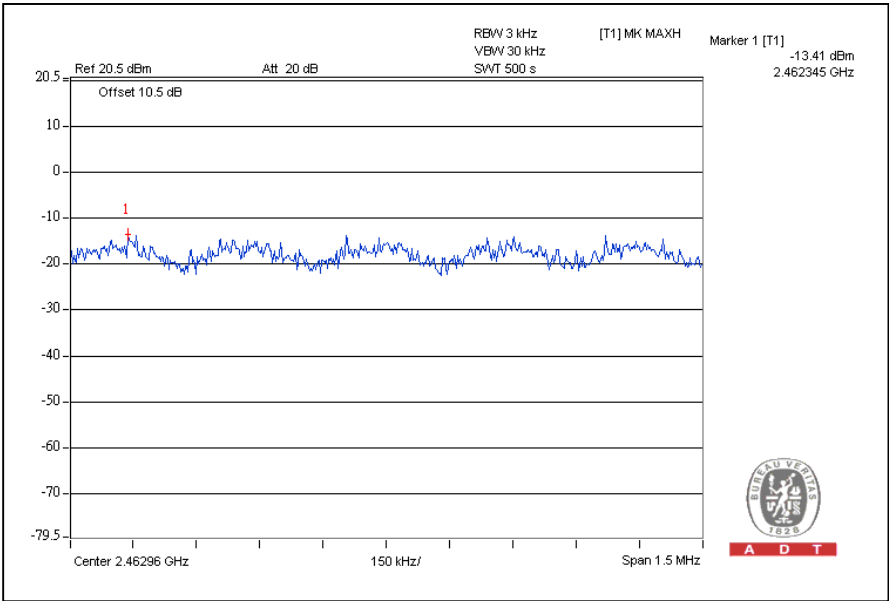
CH1



CH6



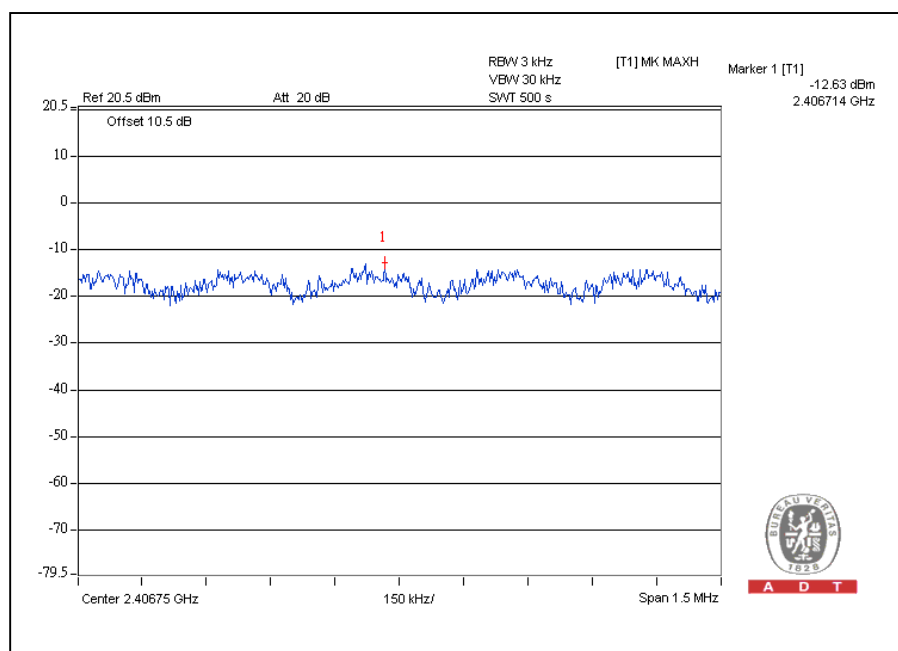
CH11



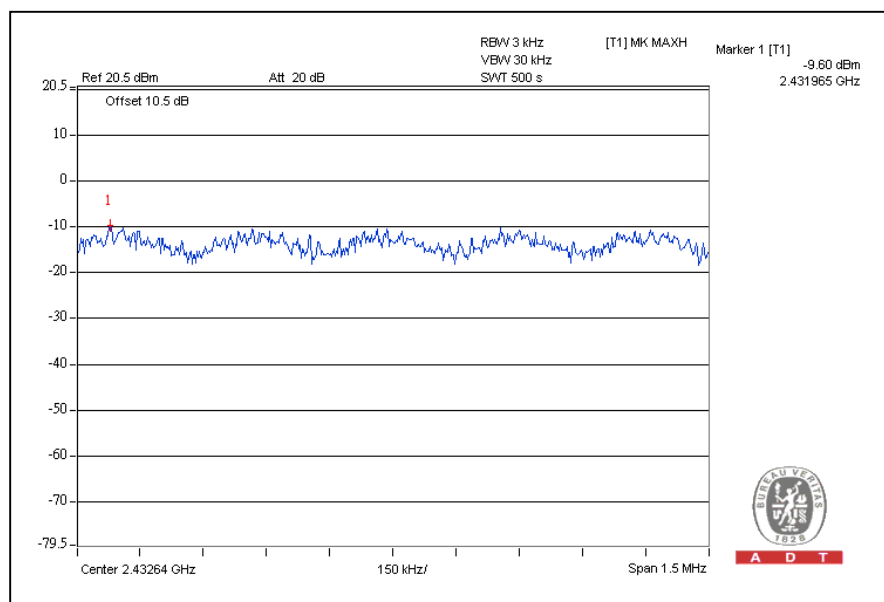
802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-12.6	8	PASS
6	2437	-9.6	8	PASS
11	2462	-14.7	8	PASS

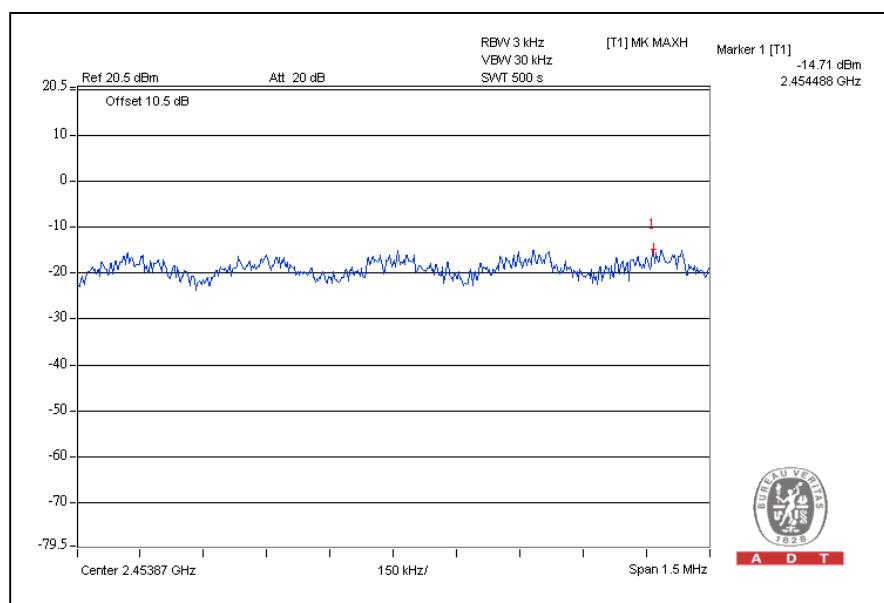
CH1



CH6



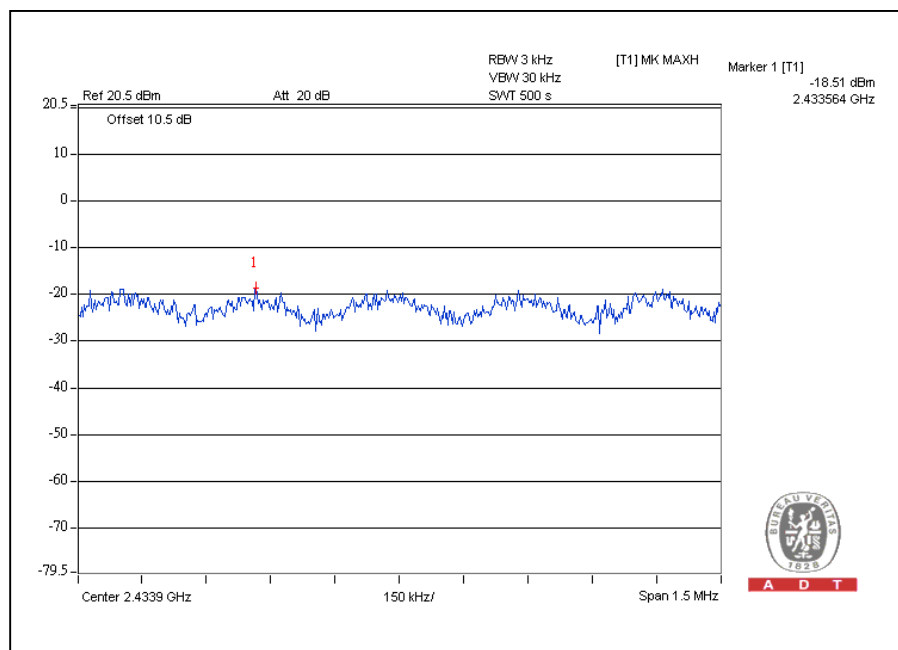
CH11



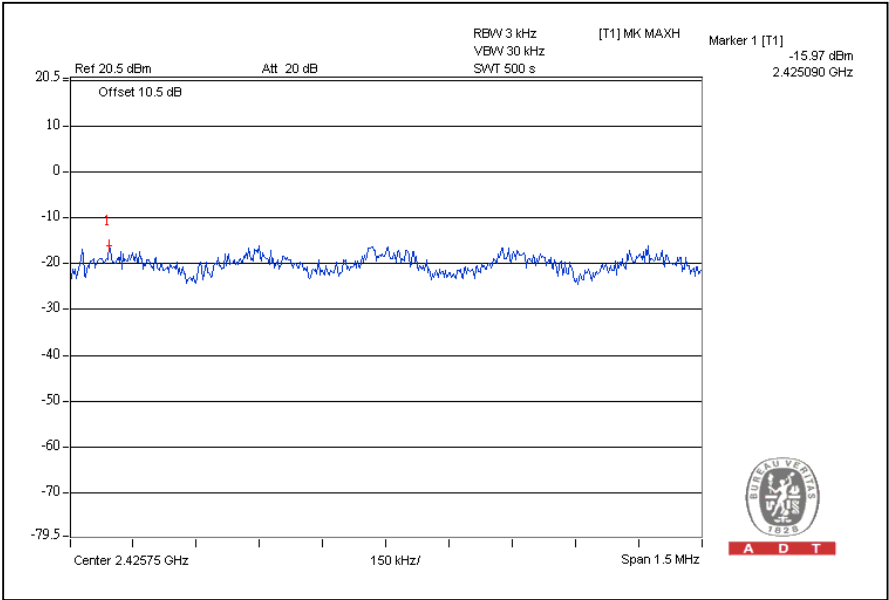
802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2422	-18.5	8	PASS
4	2437	-16.0	8	PASS
7	2452	-17.3	8	PASS

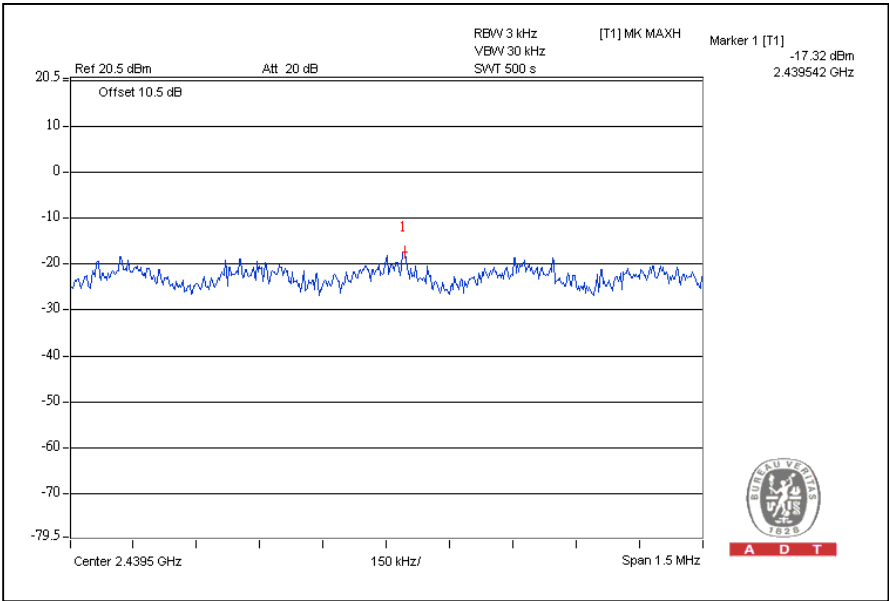
CH1



CH4



CH7



4.8 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.8.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.8.2 TEST INSTRUMENTS

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

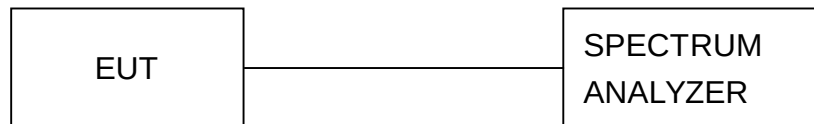
NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.8.3 TEST PROCEDURE

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

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

4.8.4 TEST SETUP



4.8.5 DEVIATION FROM TEST STANDARD

No deviation

4.8.6 EUT OPERATING CONDITION

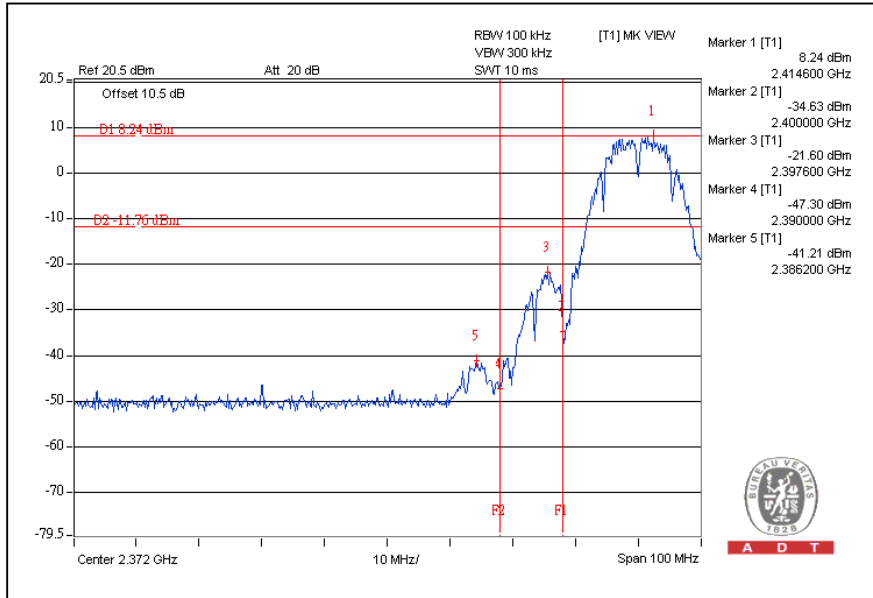
Same as Item 4.3.6

4.8.7 TEST RESULTS

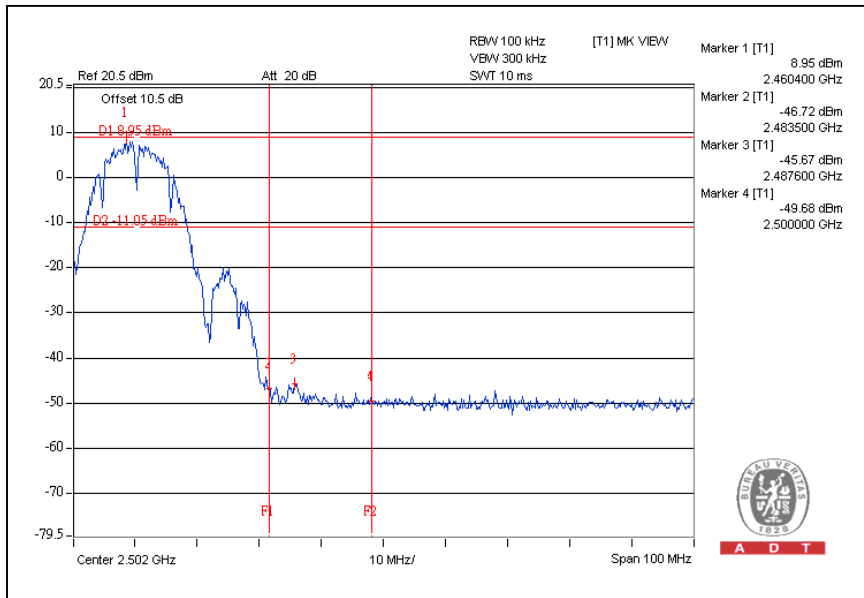
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

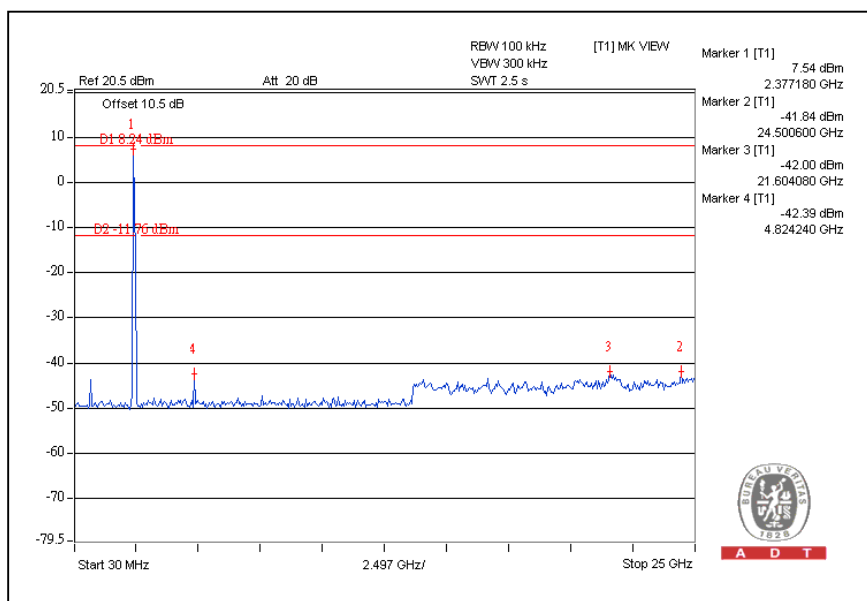
CH1



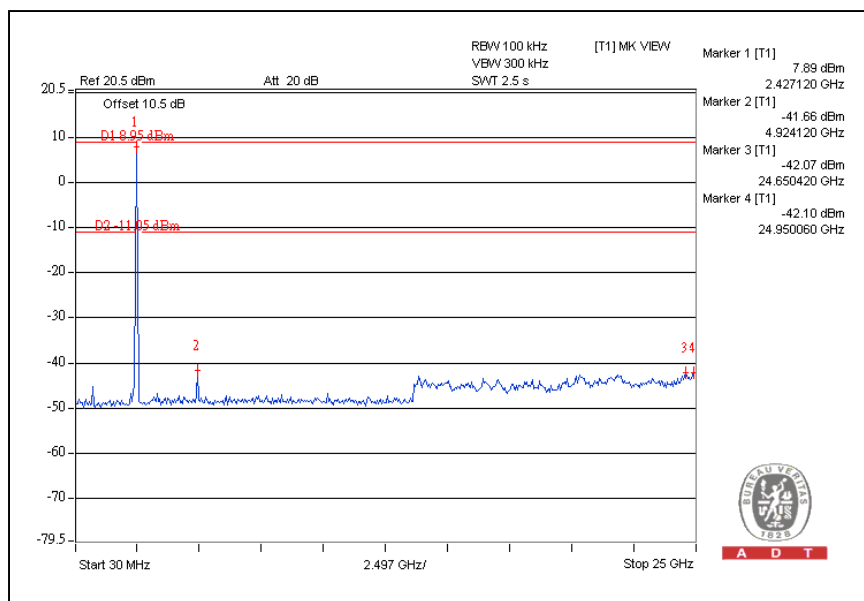
CH11



CH1

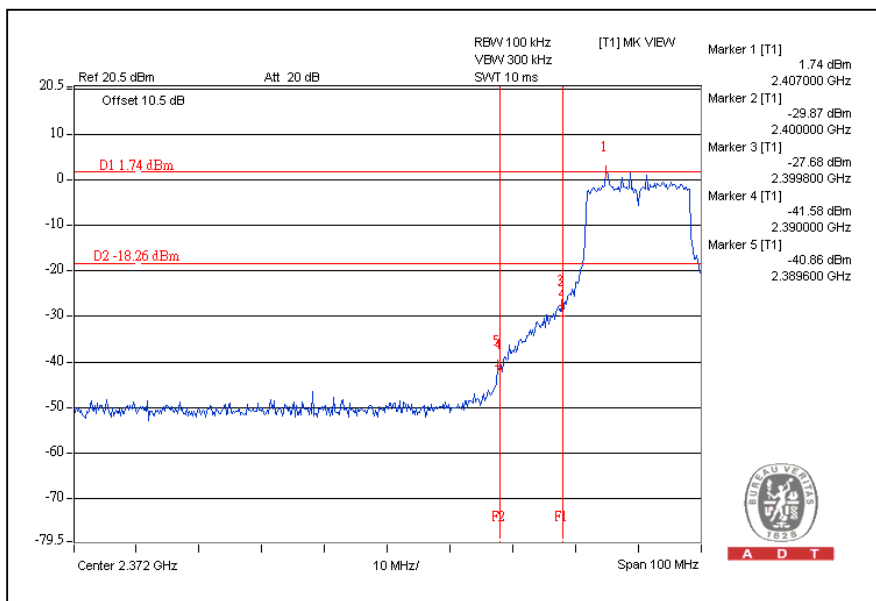


CH11

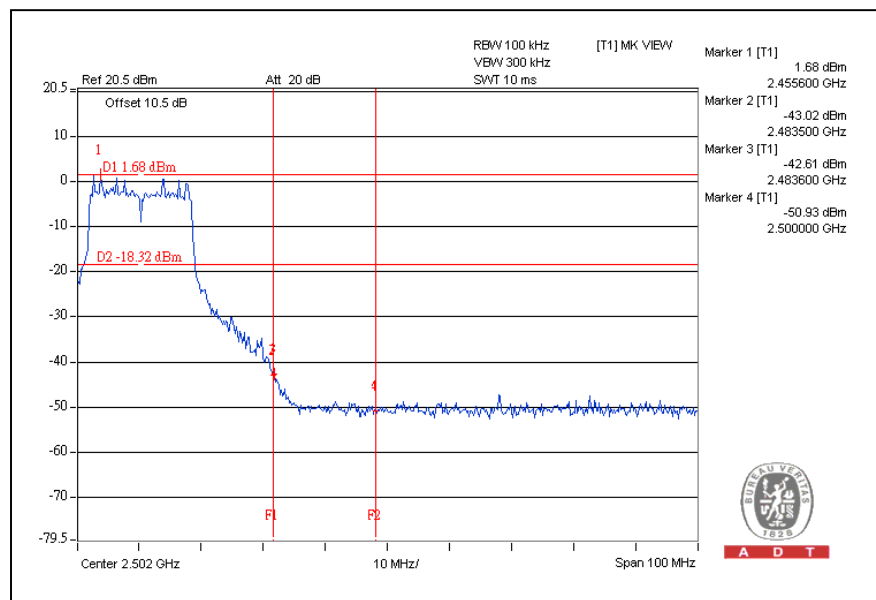


802.11g OFDM MODULATION:

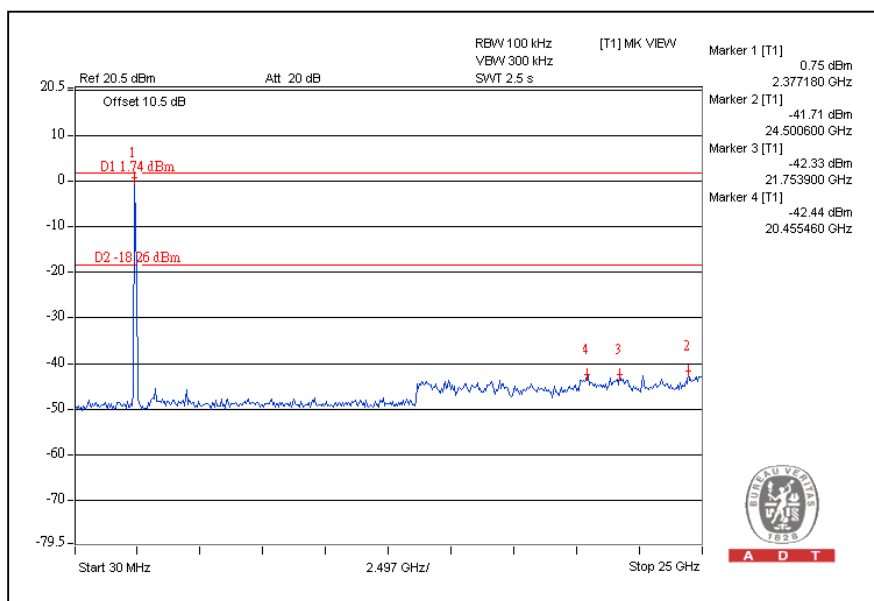
CH1



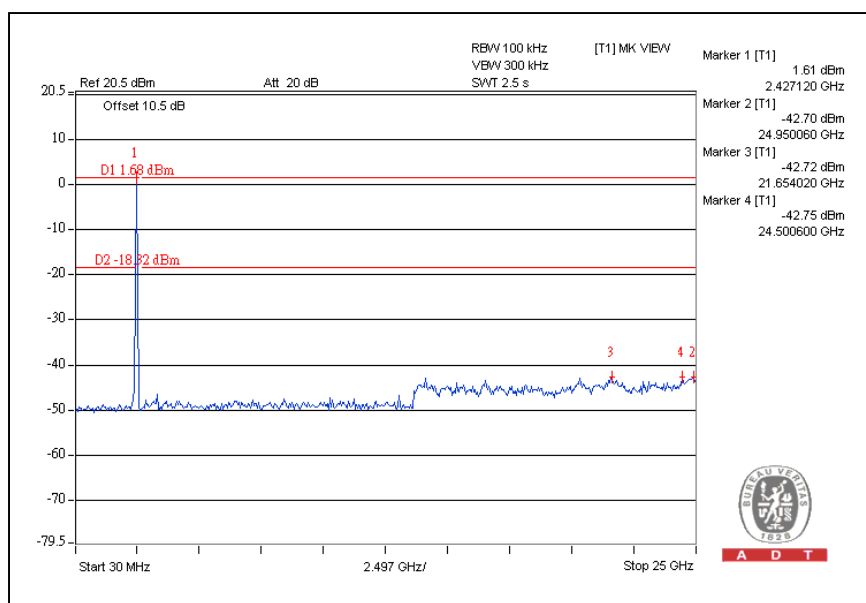
CH11



CH1

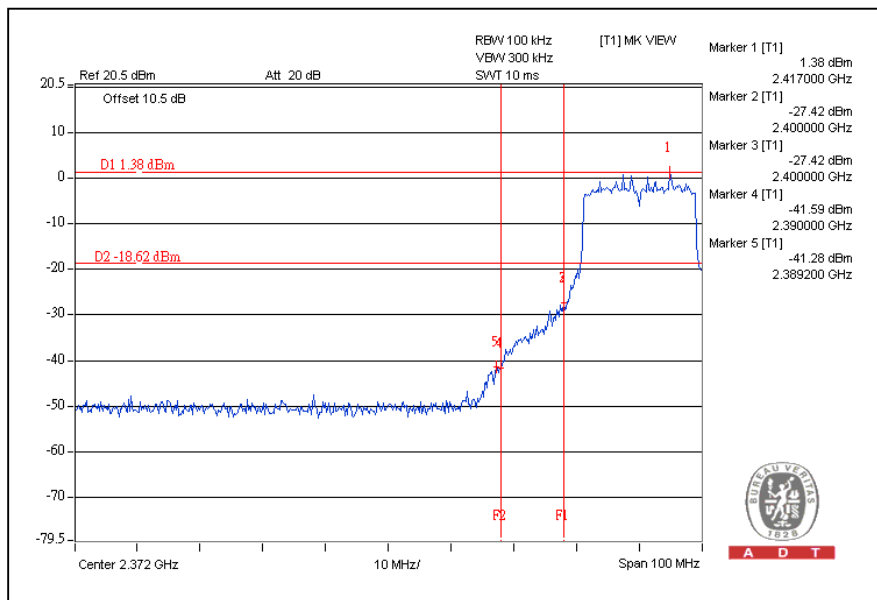


CH11

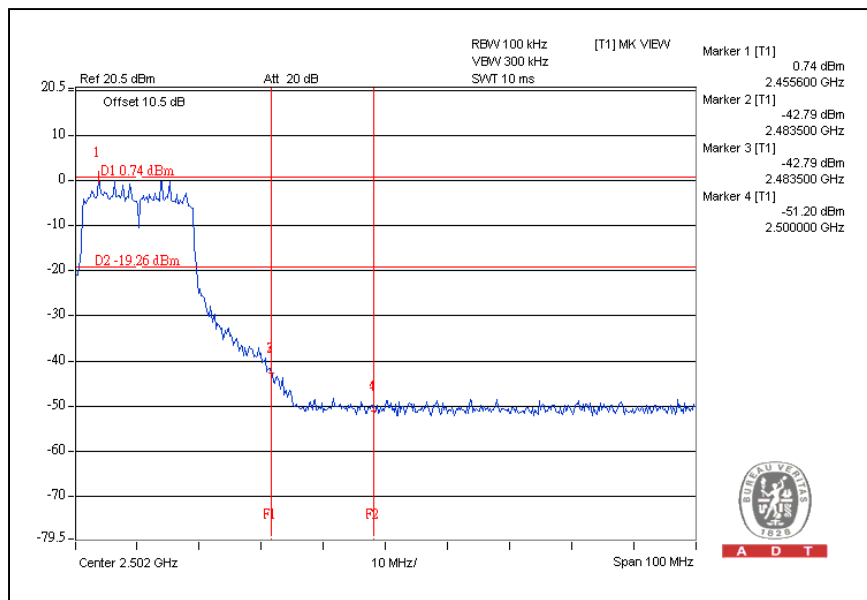


802.11n (20MHz) OFDM MODULATION:

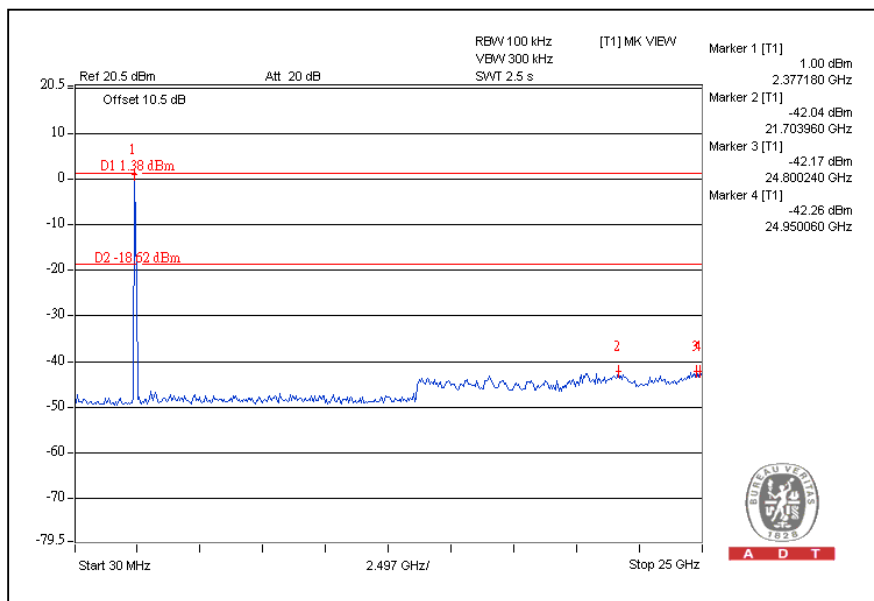
CH1



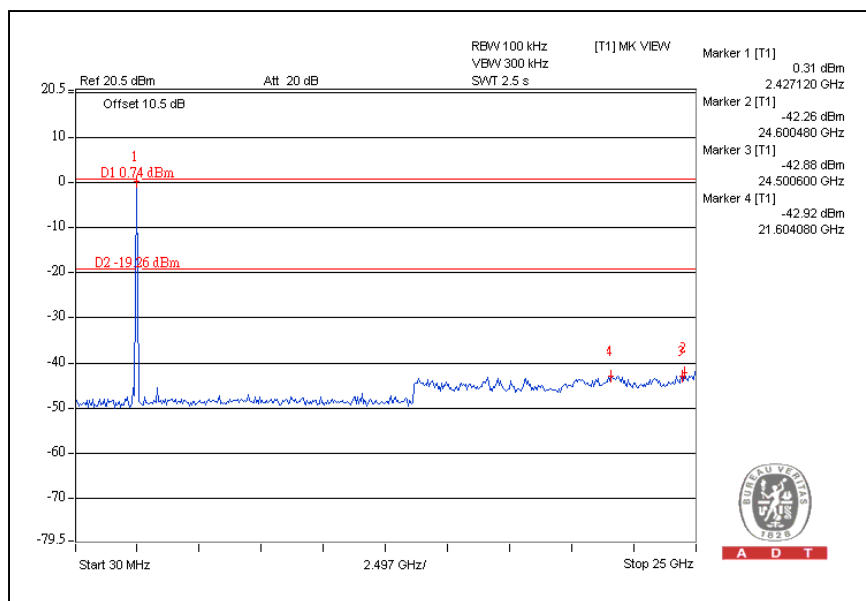
CH11



CH1

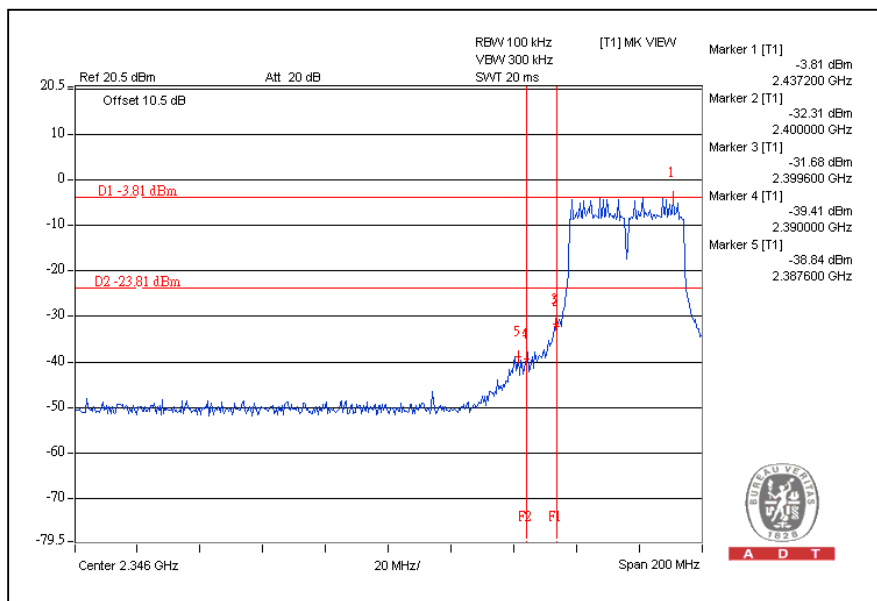


CH11

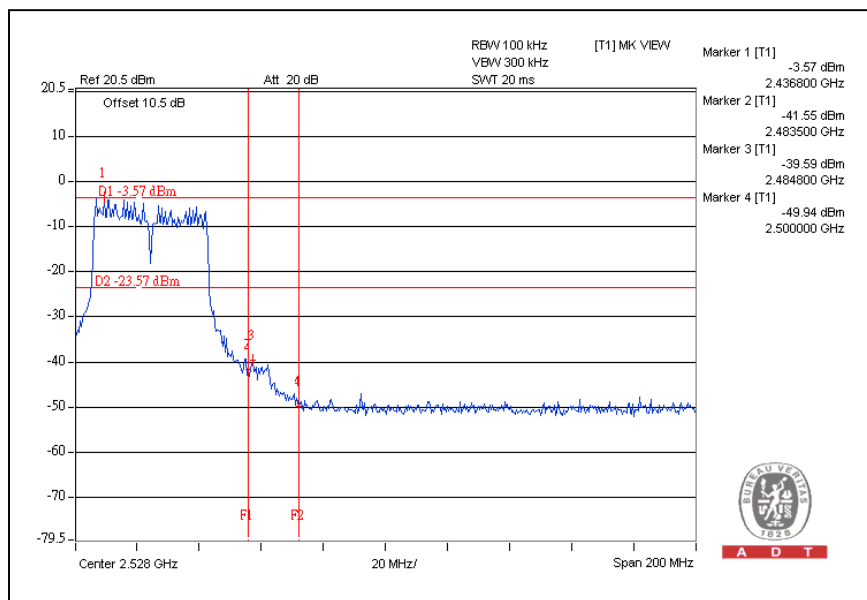


802.11n (40MHz) OFDM MODULATION:

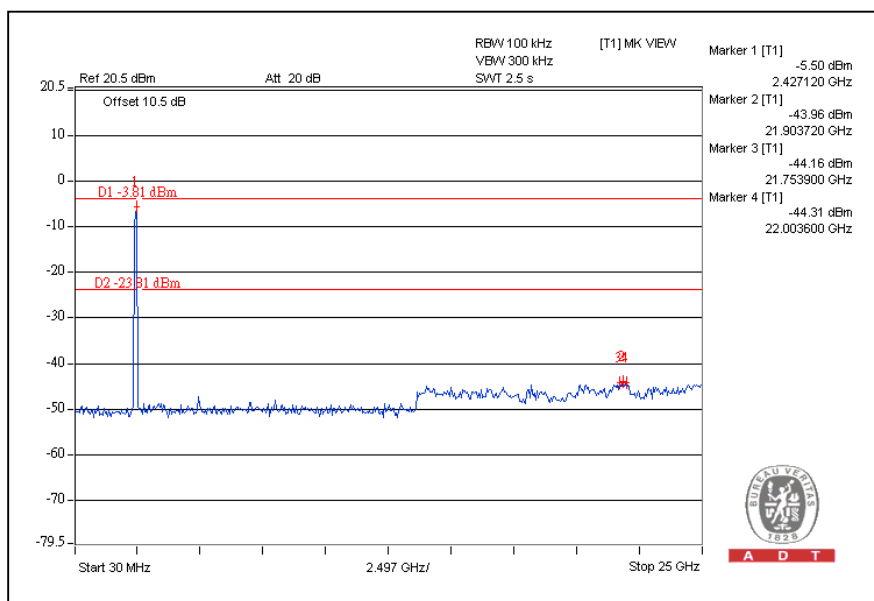
CH1



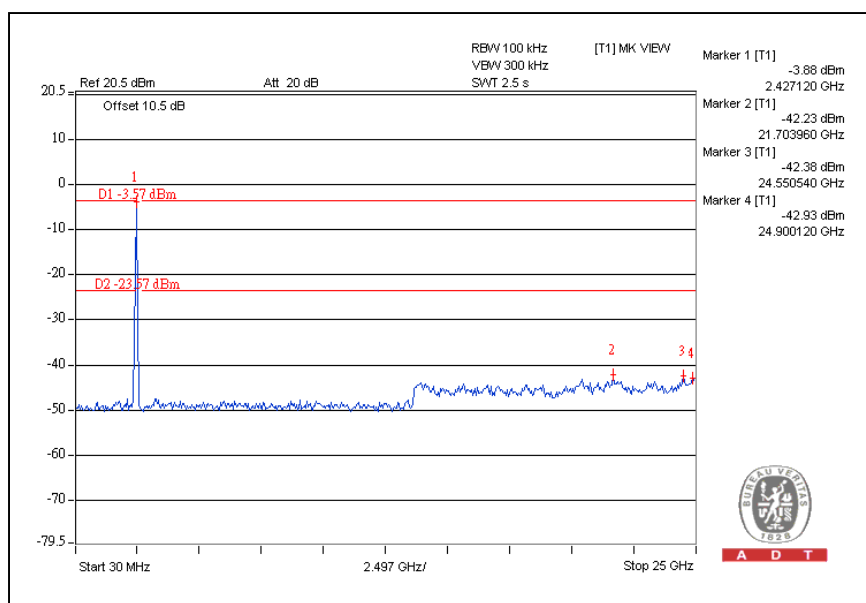
CH7



CH1



CH7



5. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025:

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:
www.adt.com.tw/index.5.phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

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



A D T

6.APPENDIX-A- MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---