



FCC TEST REPORT

REPORT NO.: RF110616E11

MODEL NO.: N905B

FCC ID: NOIKBN905B

RECEIVED: June 16, 2011

TESTED: June 17 to 24, 2011

ISSUED: July 08, 2011

APPLICANT: NETRONIX , INC.

ADDRESS: No. 945, Boai St., Jubei City, Hsin-Chu,302,Taiwan,
R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.)
Ltd., Taoyuan Branch Hsin Chu Laboratory

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110616E11	Original release	July 08, 2011



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1. CERTIFICATION

PRODUCT: 6" EBOOK READER DEVICE
BRAND NAME: Kobo
MODEL NO.: N905B
TEST SAMPLE: R&D SAMPLE
APPLICANT: NETRONIX , INC.
TESTED: June 17 to 24, 2011
STANDARDS: FCC Part 15, Subpart C (Section 15.247)
ANSI C63.4-2003
ANSI C63.10-2009

The above equipment (Model: N905B) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Midoli Peng, **DATE:** July 08, 2011
(Midoli Peng, Specialist)

APPROVED BY : May Chen, **DATE:** July 08, 2011
(May Chen, Deputy Manager)



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2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	Remark
15.207	Conducted Emission Test	NA	Power supply is DC 3.7V from battery
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -2.1dB at 2488.70MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.



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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
Radiated emissions (30MHz-1GHz)	3.89 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	6" EBOOK READER DEVICE
MODEL NO.	N905B
FCC ID	NOIKBN905B
POWER SUPPLY	DC 3.7V from Battery
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: Up to 11Mbps 802.11g: Up to 54Mbps 802.11n (20MHz, 800ns GI): Up to 65Mbps 802.11n (20MHz, 400ns GI): Up to 72.2Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
MAXIMUM OUTPUT POWER	802.11b: 72.4mW 802.11g: 95.5mW 802.11n (20MHz): 100.0mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	USB cable (shielded, 1.1m)
I/O PORTS	USB port <USB 2.0>x 1 Memory slot <SD>x 1
ASSOCIATED DEVICES	Rechargeable Battery x 1

NOTE:

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

Brand	Model	Antenna Type	Gain (dBi)	Connector Type
Cirocomm Technology Corp.	DCAK0014	Dielectric Chip Antenna	2	NA

2. The EUT must be supplied with a rechargeable battery as following table:

Brand	Model No.	Spec.
Psebattery	H384355	3.7V 1000mAh

3. The EUT was pre-tested under the following modes:

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

From the above modes, the worst radiated (below 1GHz) test was found in **Mode A** and the worst radiated (above 1GHz) was found in **Mode C**. Therefore only the test data of the mode was recorded in this report.

4. The WiFi function can't transmit under USB function condition.
5. The EUT is 1 * 1 spatial SISO (1Tx & 1Rx) without beam forming function.
6. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 7.
7. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.



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3.2 DESCRIPTION OF TEST MODES

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

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
1	-	√	-	-	X-Z plane with Battery
2	-	-	√	√	Y-Z plane with Battery

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz
RE ≥ 1G: Radiated Emission above 1GHz **APCM**: Antenna Port Conducted Measurement

RADIATED EMISSION TEST (BELOW 1 GHz):

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

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



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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

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

ANTENNA PORT CONDUCTED MEASUREMENT:

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



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE ³ 1G	22deg. C, 62%RH, 1001 hPa	DC 3.7V	Kent Liu
RE<1G	24deg. C, 72%RH, 1001 hPa	DC 3.7V	Moris Lin
APCM	25deg. C, 60%RH, 1001 hPa	DC 3.7V	Kent Liu

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247)

ANSI C63.4-2003

ANSI C63.10-2009

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

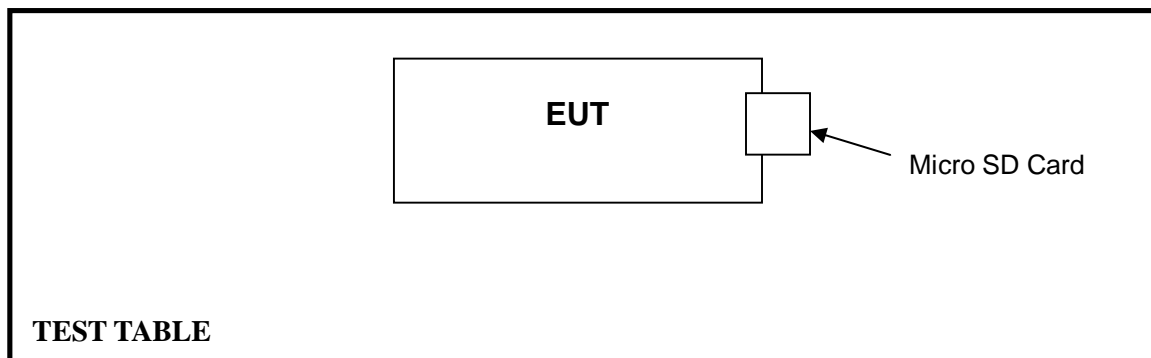
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Micro SD Card	PNY	1G	BA6P0000844	NA

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

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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



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4.1.2 TEST INSTRUMENTS

Test date: June 17 to 23, 2011

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	Feb. 28, 2011	Feb. 27, 2012
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 14, 2011	Apr. 13, 2012
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 RF104-202	Dec. 28, 2010	Dec. 27, 2011
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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4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meters chamber room test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The spectrum analyzer system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The spectrum analyzer system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

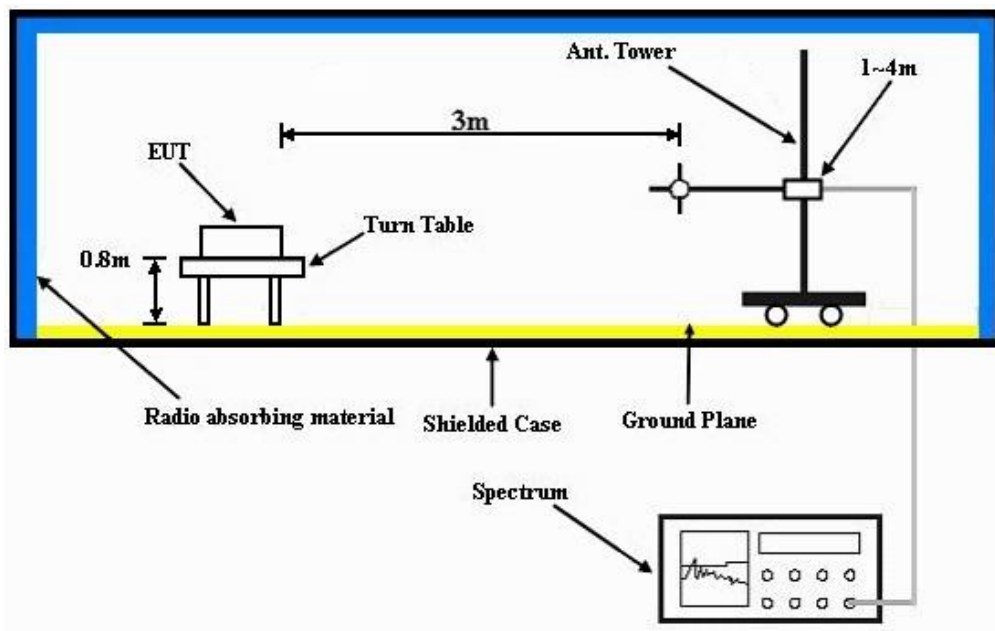
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

1. Turned on the power of all equipment.
2. Ran a test program (HyperTerminal paste command) to control EUT transmits at specific channel and power level.



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4.1.7 TEST RESULTS

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 72%RH 1003 hPa	TESTED BY	Nelson Teng

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	149.49	26.5 QP	43.5	-17.0	2.00 H	79	12.01	14.47
2	175.07	26.6 QP	43.5	-16.9	1.50 H	278	13.33	13.28
3	200.05	26.8 QP	43.5	-16.7	1.50 H	260	15.62	11.21
4	260.57	31.6 QP	46.0	-14.4	1.00 H	59	18.13	13.49
5	375.20	20.1 QP	46.0	-25.9	1.00 H	267	3.32	16.79
6	425.06	25.1 QP	46.0	-20.9	2.00 H	258	7.22	17.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	149.49	26.5 QP	43.5	-17.0	2.00 V	79	12.01	14.47
2	175.07	26.6 QP	43.5	-16.9	1.50 V	278	13.33	13.28
3	200.05	26.8 QP	43.5	-16.7	1.50 V	260	15.62	11.21
4	260.57	31.6 QP	46.0	-14.4	1.00 V	59	18.13	13.49
5	374.97	21.1 QP	46.0	-24.9	2.00 V	311	4.33	16.79
6	425.06	25.1 QP	46.0	-20.9	2.00 V	258	7.22	17.90

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



ABOVE 1GHz WORST-CASE DATA

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.5 PK	74.0	-18.5	1.11 H	196	24.29	31.21
2	2390.00	43.8 AV	54.0	-10.2	1.11 H	196	12.59	31.21
3	*2412.00	107.8 PK			1.11 H	360	76.53	31.27
4	*2412.00	105.1 AV			1.11 H	360	73.83	31.27
5	4824.00	53.4 PK	74.0	-20.6	1.06 H	112	13.98	39.42
6	4824.00	48.1 AV	54.0	-5.9	1.06 H	112	8.68	39.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.6 PK	74.0	-18.4	1.15 V	95	24.39	31.21
2	2390.00	44.0 AV	54.0	-10.0	1.15 V	95	12.79	31.21
3	*2412.00	102.1 PK			1.15 V	92	70.83	31.27
4	*2412.00	99.4 AV			1.15 V	92	68.13	31.27
5	4824.00	52.5 PK	74.0	-21.5	1.31 V	19	13.08	39.42
6	4824.00	47.4 AV	54.0	-6.6	1.31 V	19	7.98	39.42

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.1 PK			1.04 H	342	76.76	31.34
2	*2437.00	105.2 AV			1.04 H	342	73.86	31.34
3	4874.00	53.2 PK	74.0	-20.8	1.05 H	125	13.58	39.62
4	4874.00	48.1 AV	54.0	-5.9	1.05 H	125	8.48	39.62
5	7311.00	52.1 PK	74.0	-21.9	1.08 H	133	8.00	44.10
6	7311.00	39.5 AV	54.0	-14.5	1.08 H	133	-4.60	44.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.4 PK			1.15 V	87	71.06	31.34
2	*2437.00	99.4 AV			1.15 V	87	68.06	31.34
3	4874.00	52.3 PK	74.0	-21.7	1.25 V	9	12.68	39.62
4	4874.00	47.3 AV	54.0	-6.7	1.25 V	9	7.68	39.62
5	7311.00	51.2 PK	74.0	-22.8	1.01 V	27	7.10	44.10
6	7311.00	39.7 AV	54.0	-14.3	1.01 V	27	-4.40	44.10

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.2 PK			1.09 H	341	76.80	31.40
2	*2462.00	105.5 AV			1.09 H	341	74.10	31.40
3	2488.70	60.5 PK	74.0	-13.5	1.08 H	340	29.03	31.47
4	2488.70	51.9 AV	54.0	-2.1	1.08 H	340	20.43	31.47
5	4924.00	53.4 PK	74.0	-20.6	1.09 H	127	13.58	39.82
6	4924.00	48.4 AV	54.0	-5.6	1.09 H	127	8.58	39.82
7	7386.00	51.9 PK	74.0	-22.1	1.05 H	131	7.72	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.05 H	131	-4.68	44.18

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

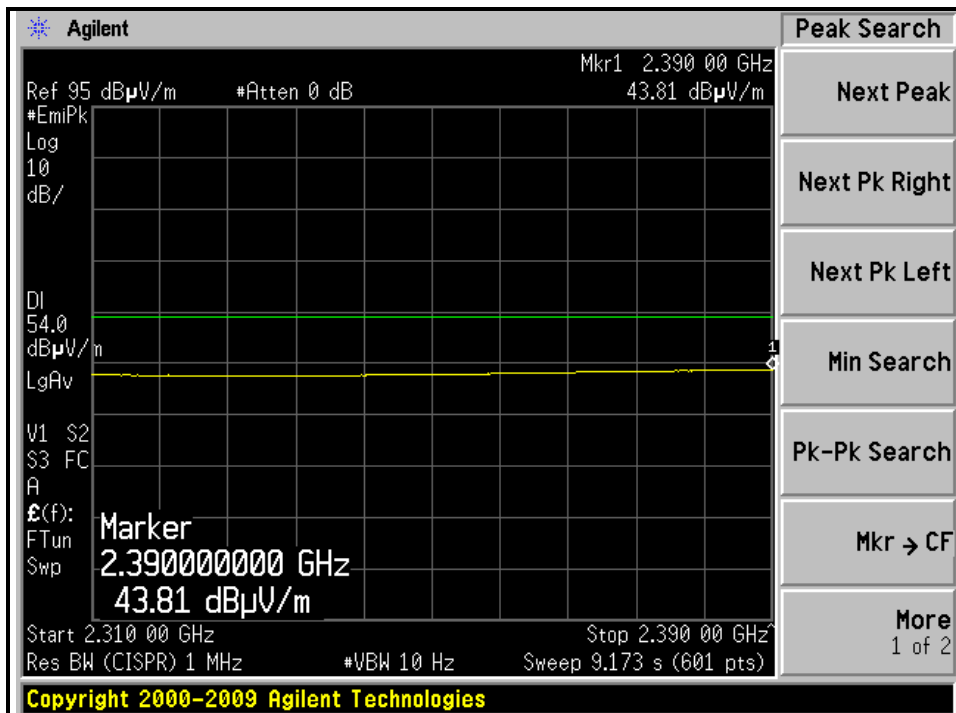
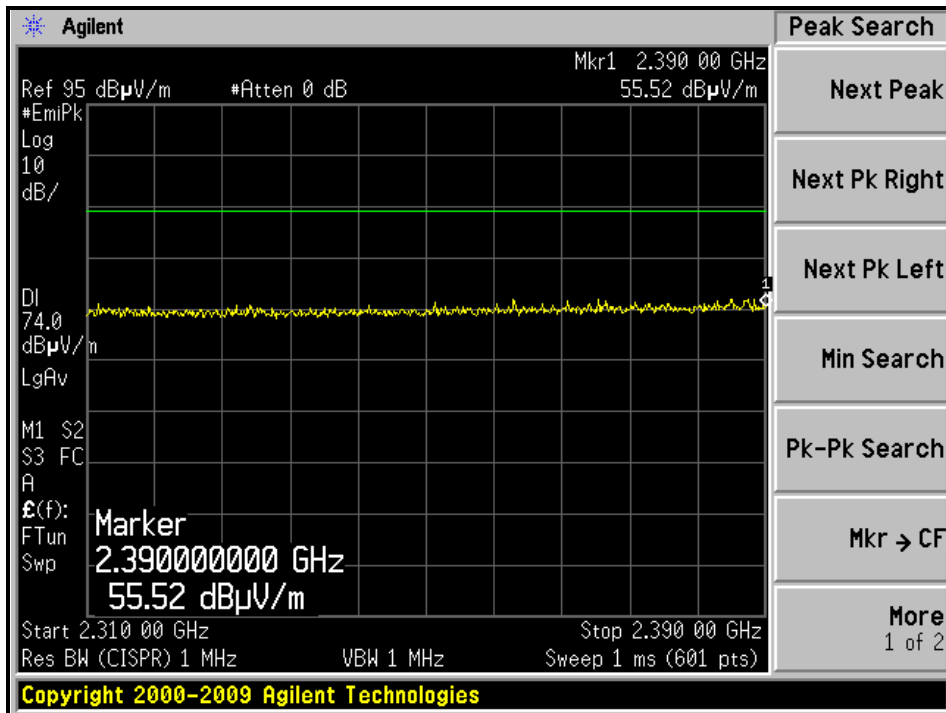
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.5 PK			1.16 V	83	71.10	31.40
2	*2462.00	99.6 AV			1.16 V	83	68.20	31.40
3	2488.80	57.6 PK	74.0	-16.4	1.16 V	83	26.13	31.47
4	2488.80	46.7 AV	54.0	-7.3	1.16 V	83	15.23	31.47
5	4924.00	52.5 PK	74.0	-21.5	1.25 V	14	12.68	39.82
6	4924.00	47.4 AV	54.0	-6.6	1.25 V	14	7.58	39.82
7	7386.00	50.8 PK	74.0	-23.2	1.00 V	36	6.62	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.00 V	36	-4.68	44.18

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

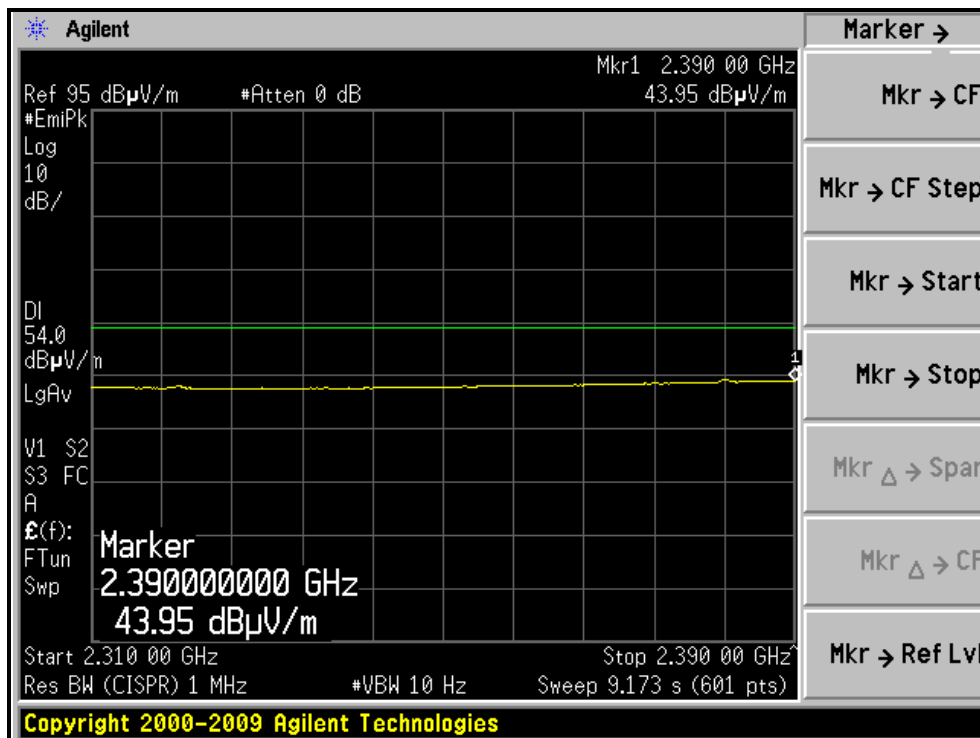
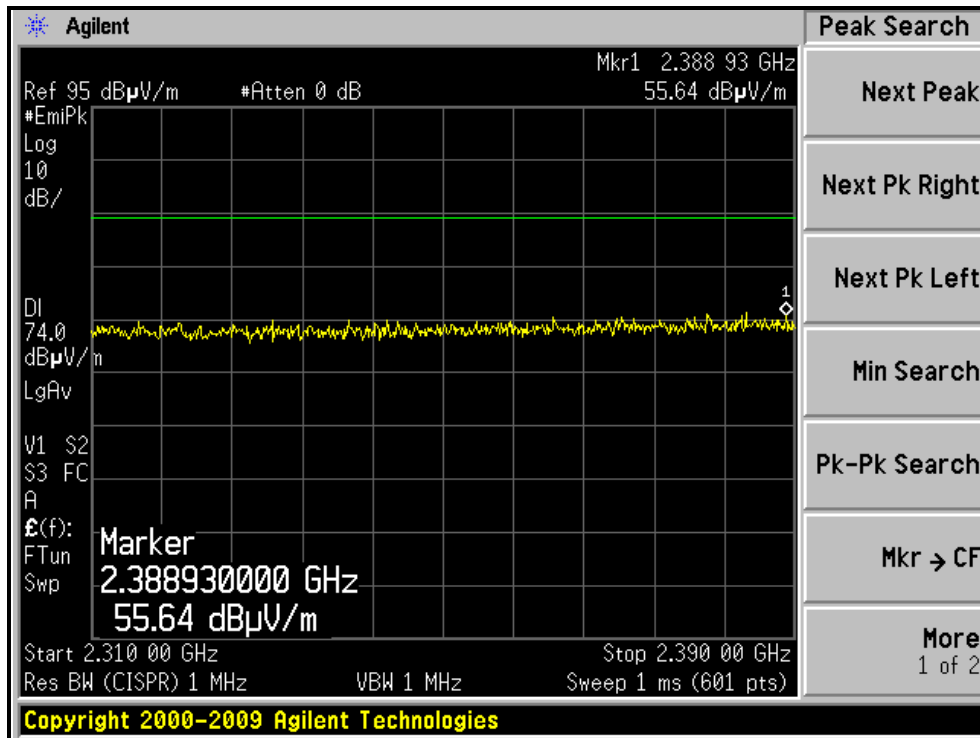


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RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL)



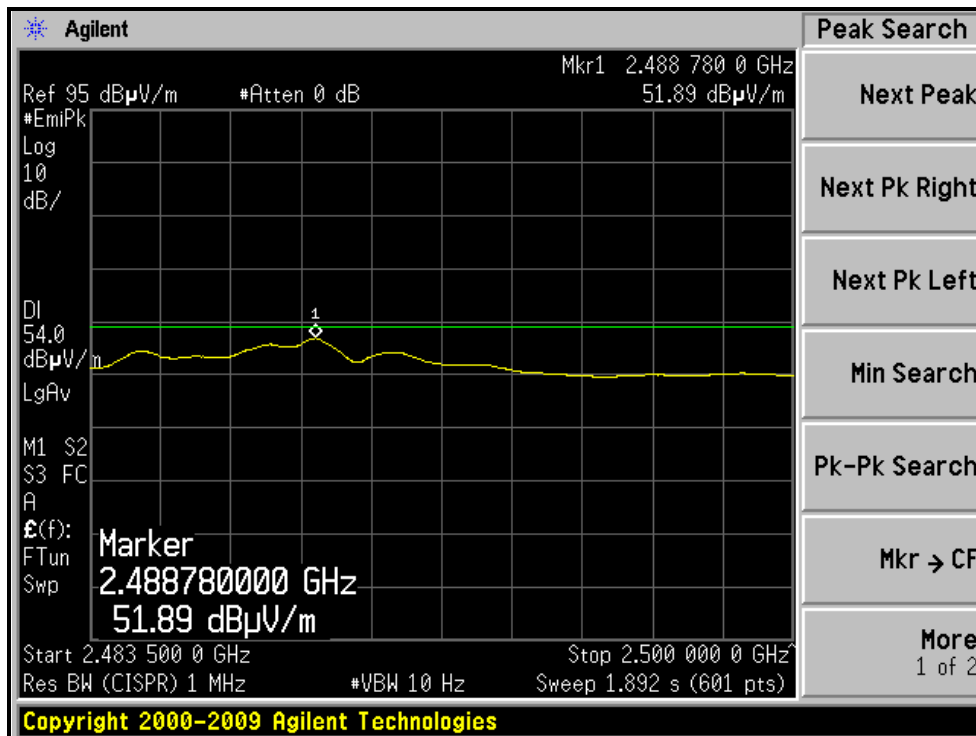
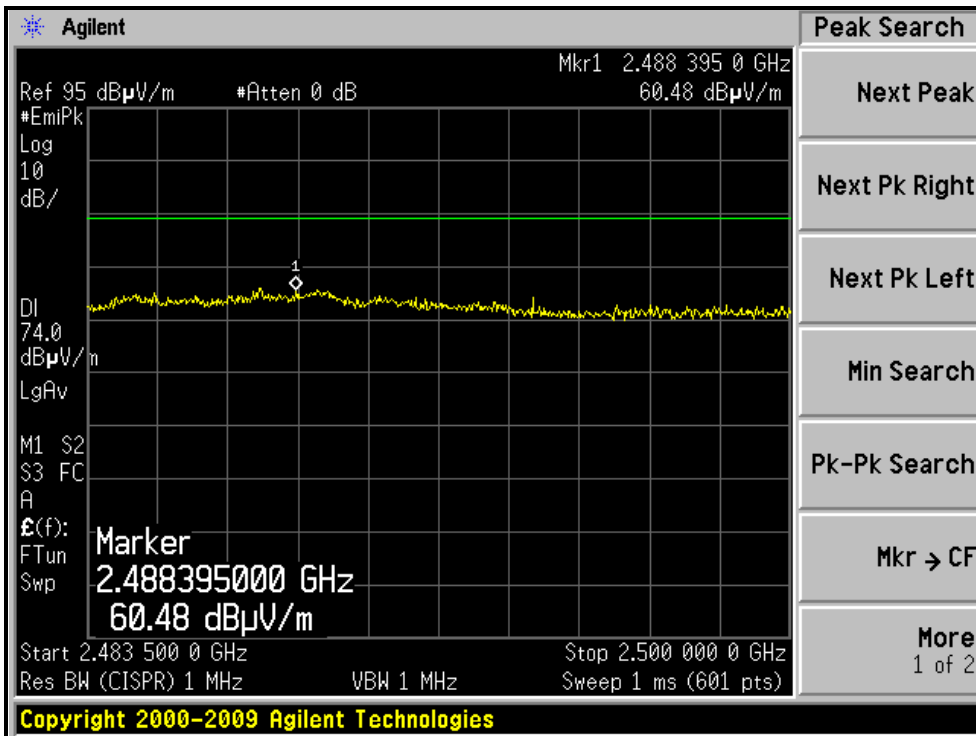
RESTRICTED BANDEDGE (802.11b MODE, CH1, VERTICAL)





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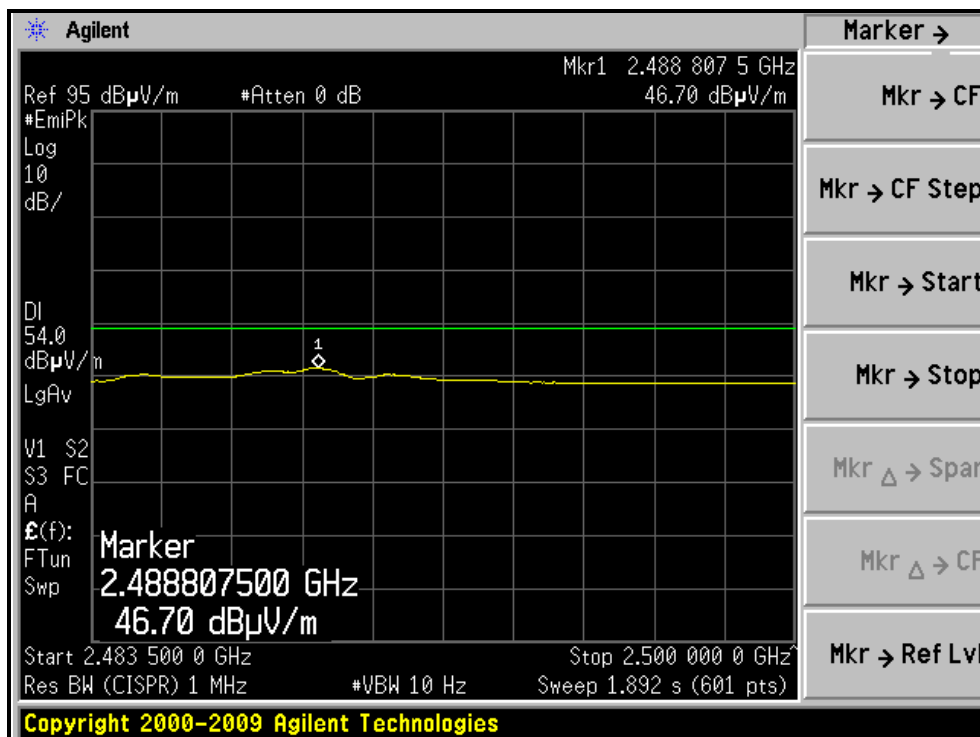
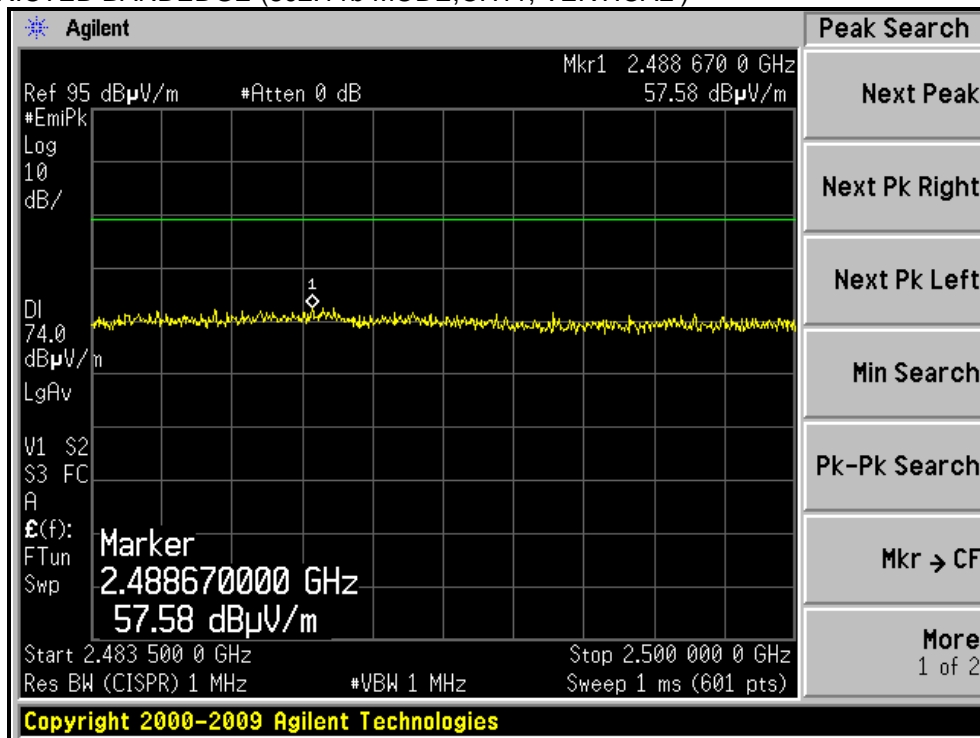
RESTRICTED BANDEDGE (802.11b MODE, CH11, HORIZONTAL)





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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	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.1 PK	74.0	-7.9	1.14 H	345	34.89	31.21
2	2390.00	51.6 AV	54.0	-2.4	1.14 H	345	20.39	31.21
3	*2412.00	106.1 PK			1.15 H	344	74.83	31.27
4	*2412.00	94.7 AV			1.15 H	344	63.43	31.27
5	4824.00	46.5 PK	74.0	-27.5	1.09 H	151	7.08	39.42
6	4824.00	35.3 AV	54.0	-18.7	1.09 H	151	-4.12	39.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.3 PK	74.0	-12.7	1.35 V	92	30.09	31.21
2	2390.00	48.3 AV	54.0	-5.7	1.35 V	92	17.09	31.21
3	*2412.00	100.5 PK			1.35 V	92	69.23	31.27
4	*2412.00	87.9 AV			1.35 V	92	56.63	31.27
5	4824.00	46.3 PK	74.0	-27.7	1.11 V	0	6.88	39.42
6	4824.00	35.8 AV	54.0	-18.2	1.11 V	0	-3.62	39.42

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.8 PK			1.09 H	343	76.46	31.34
2	*2437.00	95.3 AV			1.09 H	343	63.96	31.34
3	4874.00	47.1 PK	74.0	-26.9	1.09 H	134	7.48	39.62
4	4874.00	35.4 AV	54.0	-18.6	1.09 H	134	-4.22	39.62
5	7311.00	52.1 PK	74.0	-21.9	1.19 H	134	8.00	44.10
6	7311.00	39.6 AV	54.0	-14.4	1.19 H	134	-4.50	44.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	100.8 PK			1.42 V	89	69.46	31.34
2	*2437.00	88.9 AV			1.42 V	89	57.56	31.34
3	4874.00	46.2 PK	74.0	-27.8	1.03 V	19	6.58	39.62
4	4874.00	35.5 AV	54.0	-18.5	1.03 V	19	-4.12	39.62
5	7311.00	51.3 PK	74.0	-22.7	1.08 V	15	7.20	44.10
6	7311.00	39.3 AV	54.0	-14.7	1.08 V	15	-4.80	44.10

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

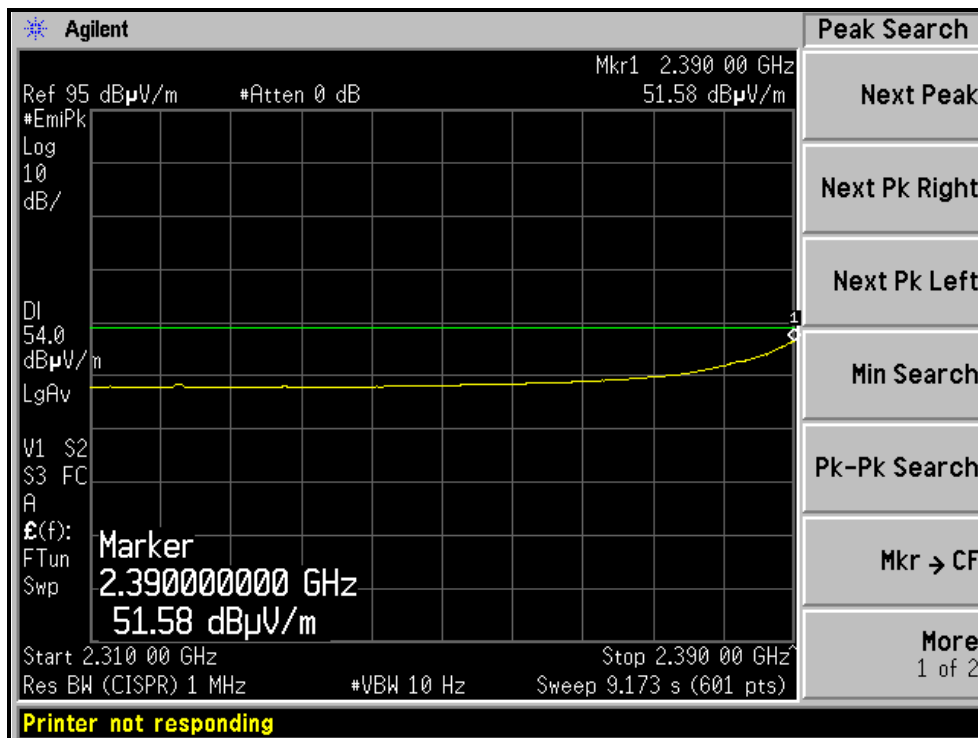
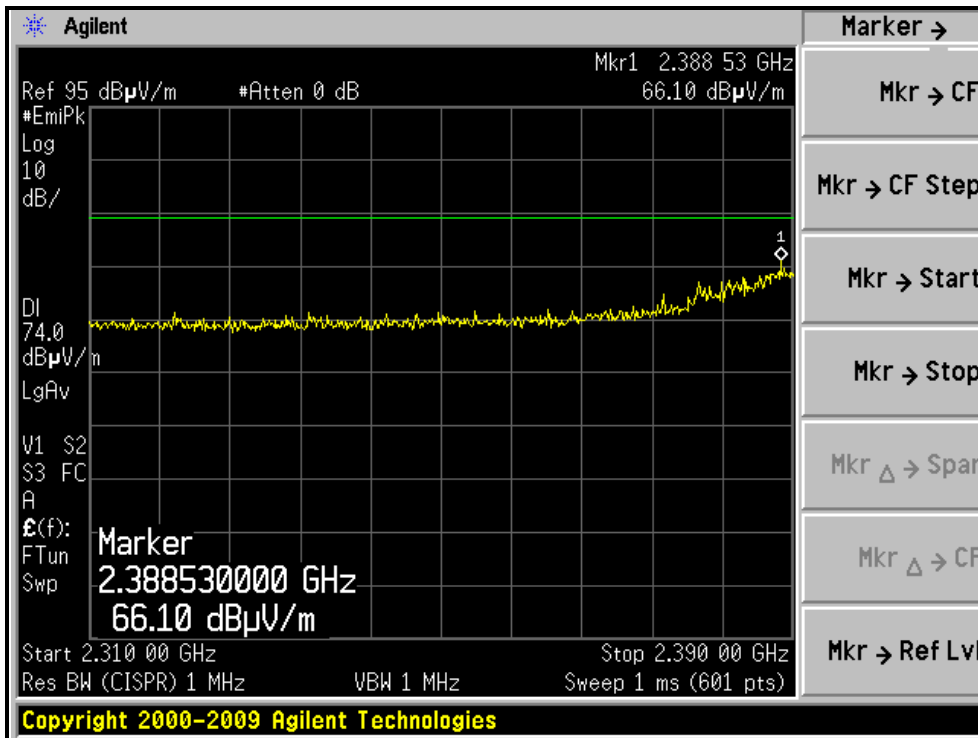
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.6 PK			1.10 H	340	76.20	31.40
2	*2462.00	95.3 AV			1.10 H	340	63.90	31.40
3	2483.50	66.0 PK	74.0	-8.0	1.11 H	195	34.54	31.46
4	2483.50	51.0 AV	54.0	-3.0	1.11 H	195	19.54	31.46
5	4924.00	46.7 PK	74.0	-27.3	1.15 H	138	6.88	39.82
6	4924.00	35.2 AV	54.0	-18.8	1.15 H	138	-4.62	39.82
7	7386.00	52.2 PK	74.0	-21.8	1.16 H	122	8.02	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.16 H	122	-4.68	44.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.0 PK			1.36 V	83	69.60	31.40
2	*2462.00	89.1 AV			1.36 V	83	57.70	31.40
3	2483.50	59.1 PK	74.0	-14.9	1.36 V	83	27.64	31.46
4	2483.50	46.3 AV	54.0	-7.7	1.36 V	83	14.84	31.46
5	4924.00	46.4 PK	74.0	-27.6	1.06 V	5	6.58	39.82
6	4924.00	35.6 AV	54.0	-18.4	1.06 V	5	-4.22	39.82
7	7386.00	51.5 PK	74.0	-22.5	1.12 V	26	7.32	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.12 V	26	-4.68	44.18

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



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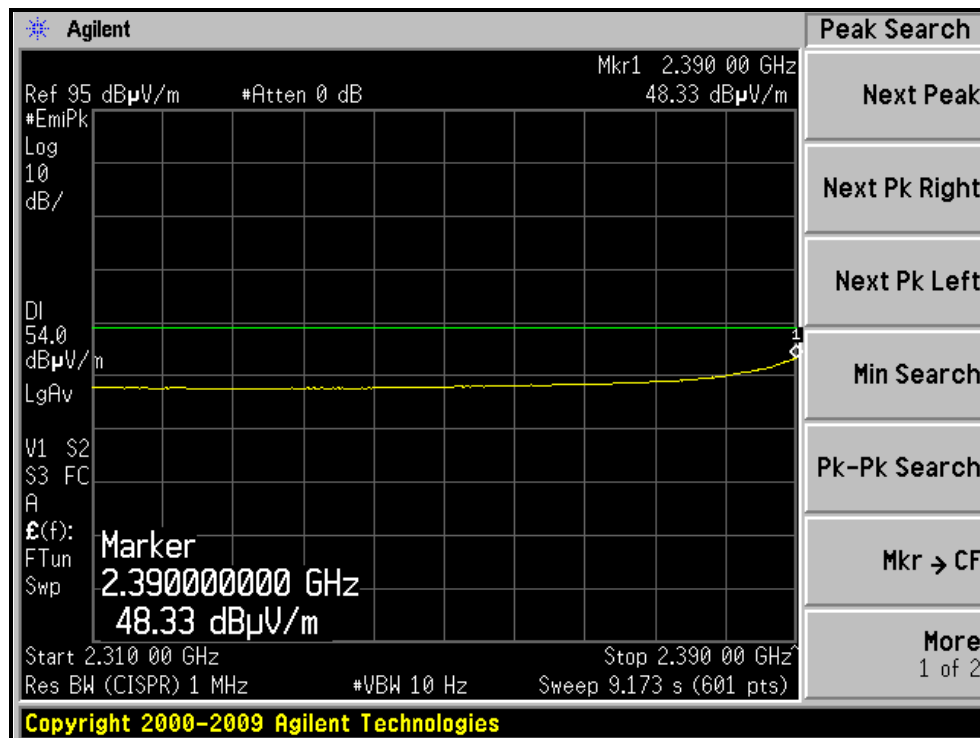
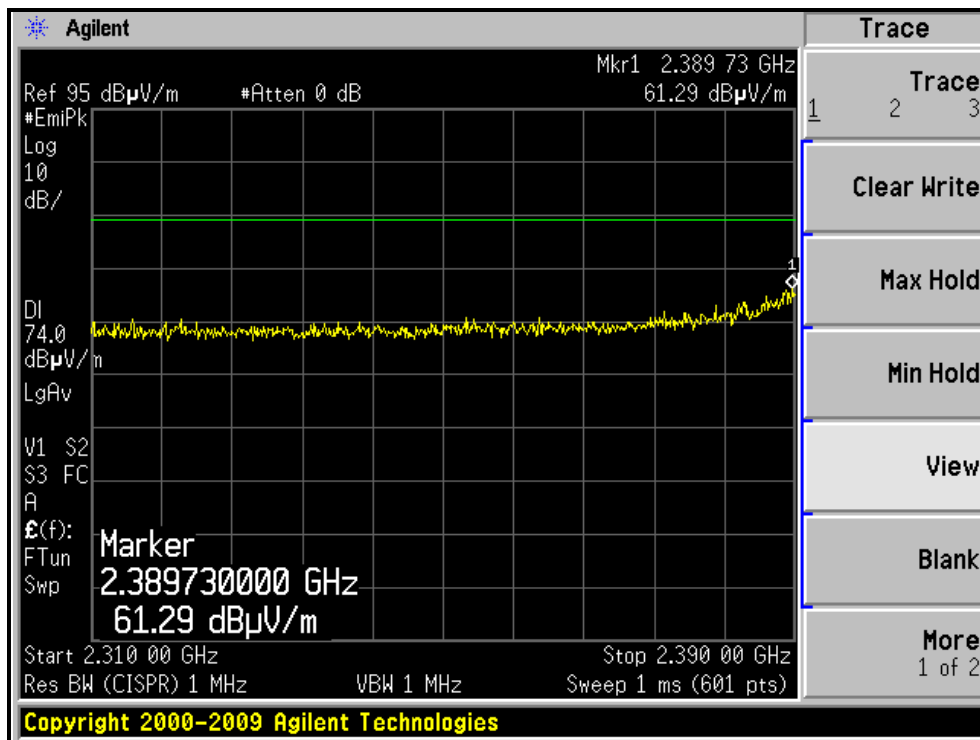
RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL)





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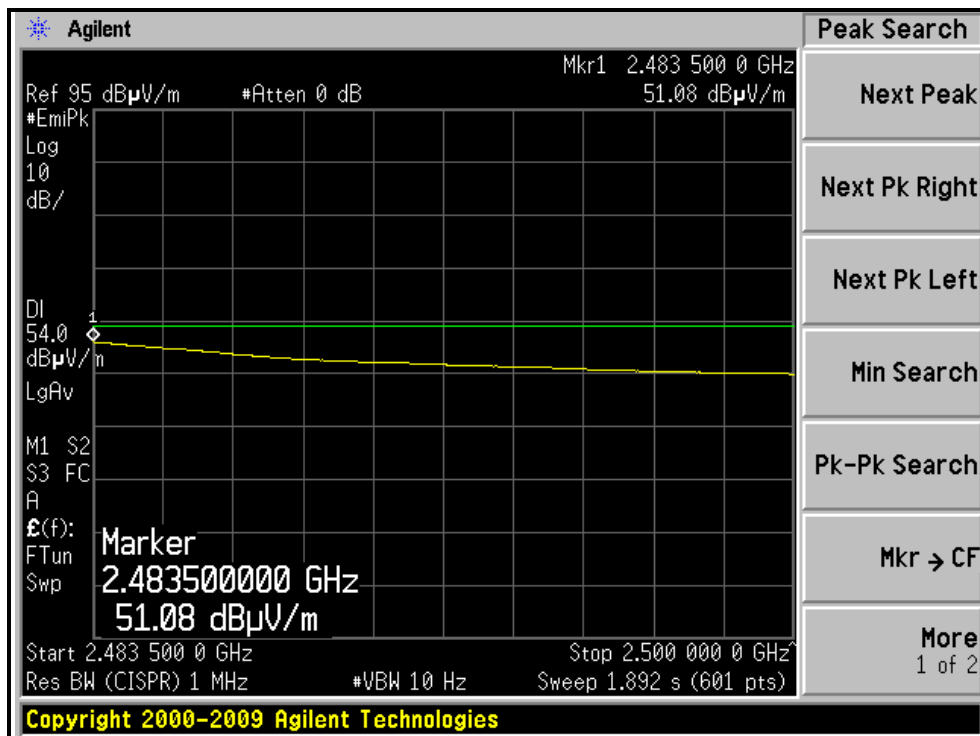
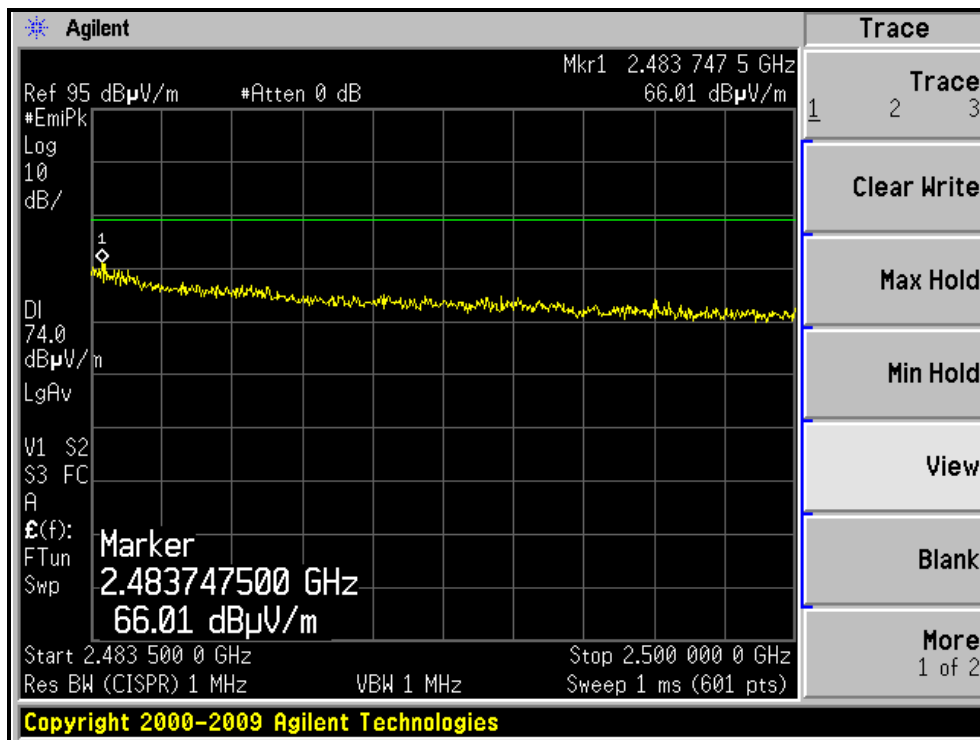
RESTRICTED BANDEDGE (802.11g MODE, CH1, VERTICAL)





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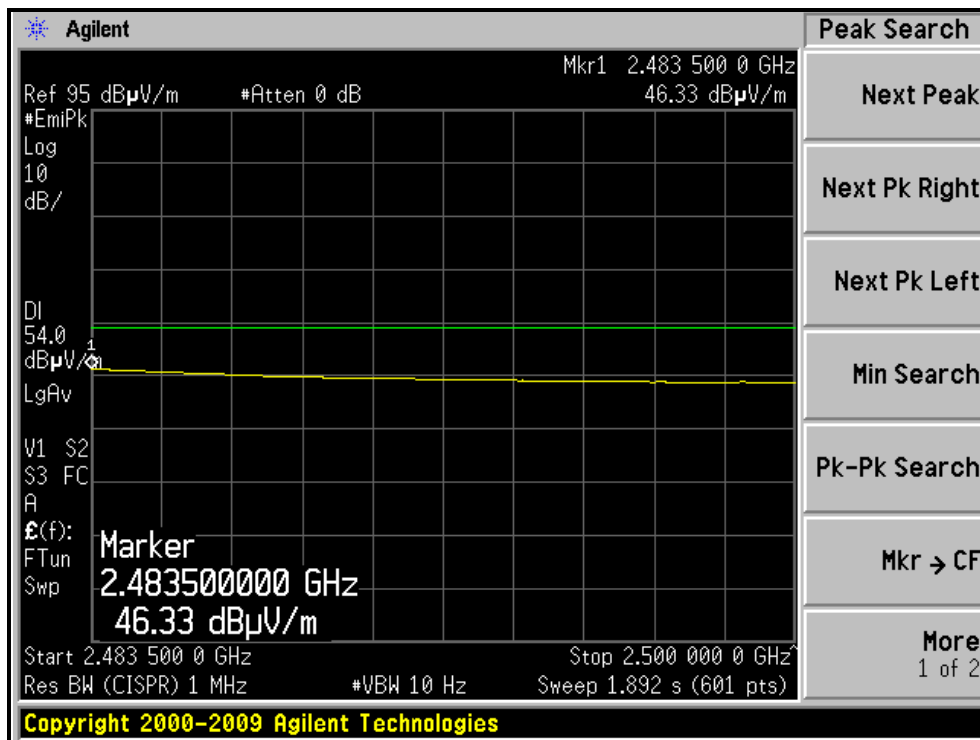
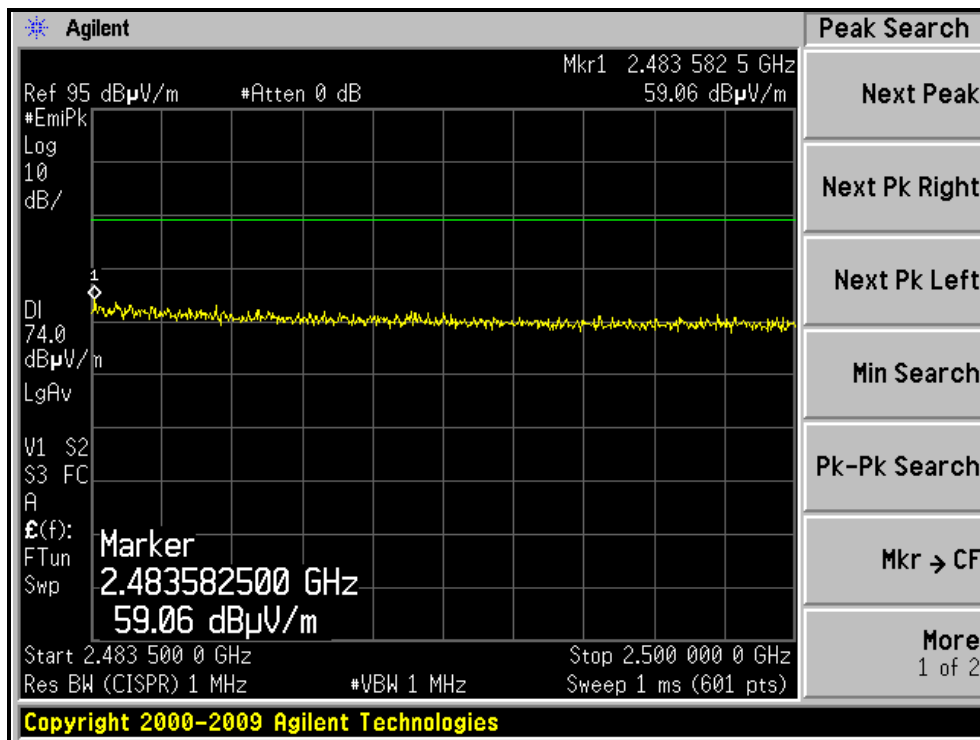
RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL)





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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	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.5 PK	74.0	-7.5	1.13 H	194	35.29	31.21
2	2390.00	51.8 AV	54.0	-2.2	1.13 H	194	20.59	31.21
3	*2412.00	106.2 PK			1.12 H	346	74.93	31.27
4	*2412.00	94.4 AV			1.12 H	346	63.13	31.27
5	4824.00	46.9 PK	74.0	-27.1	1.13 H	144	7.48	39.42
6	4824.00	35.1 AV	54.0	-18.9	1.13 H	144	-4.32	39.42
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.7 PK	74.0	-12.3	1.40 V	95	30.49	31.21
2	2390.00	48.8 AV	54.0	-5.2	1.40 V	95	17.59	31.21
3	*2412.00	100.7 PK			1.40 V	95	69.43	31.27
4	*2412.00	88.1 AV			1.40 V	95	56.83	31.27
5	4824.00	45.8 PK	74.0	-28.2	1.07 V	7	6.38	39.42
6	4824.00	34.9 AV	54.0	-19.1	1.07 V	7	-4.52	39.42

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.4 PK			1.11 H	353	76.06	31.34
2	*2437.00	95.1 AV			1.11 H	353	63.76	31.34
3	4874.00	46.7 PK	74.0	-27.3	1.19 H	153	7.08	39.62
4	4874.00	35.0 AV	54.0	-19.0	1.19 H	153	-4.62	39.62
5	7311.00	52.2 PK	74.0	-21.8	1.22 H	113	8.10	44.10
6	7311.00	39.6 AV	54.0	-14.4	1.22 H	113	-4.50	44.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	100.6 PK			1.38 V	71	69.26	31.34
2	*2437.00	88.6 AV			1.38 V	71	57.26	31.34
3	4874.00	46.4 PK	74.0	-27.6	1.10 V	12	6.78	39.62
4	4874.00	35.2 AV	54.0	-18.8	1.10 V	12	-4.42	39.62
5	7311.00	51.4 PK	74.0	-22.6	1.11 V	25	7.30	44.10
6	7311.00	39.5 AV	54.0	-14.5	1.11 V	25	-4.60	44.10

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3.7V from battery	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 62%RH 1003 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.4 PK			1.11 H	344	76.00	31.40
2	*2462.00	95.2 AV			1.11 H	344	63.80	31.40
3	2483.50	65.1 PK	74.0	-8.9	1.10 H	338	33.64	31.46
4	2483.50	51.1 AV	54.0	-2.9	1.10 H	338	19.64	31.46
5	4924.00	46.4 PK	74.0	-27.6	1.14 H	150	6.58	39.82
6	4924.00	35.0 AV	54.0	-19.0	1.14 H	150	-4.82	39.82
7	7386.00	52.2 PK	74.0	-21.8	1.20 H	122	8.02	44.18
8	7386.00	39.7 AV	54.0	-14.3	1.20 H	122	-4.48	44.18

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

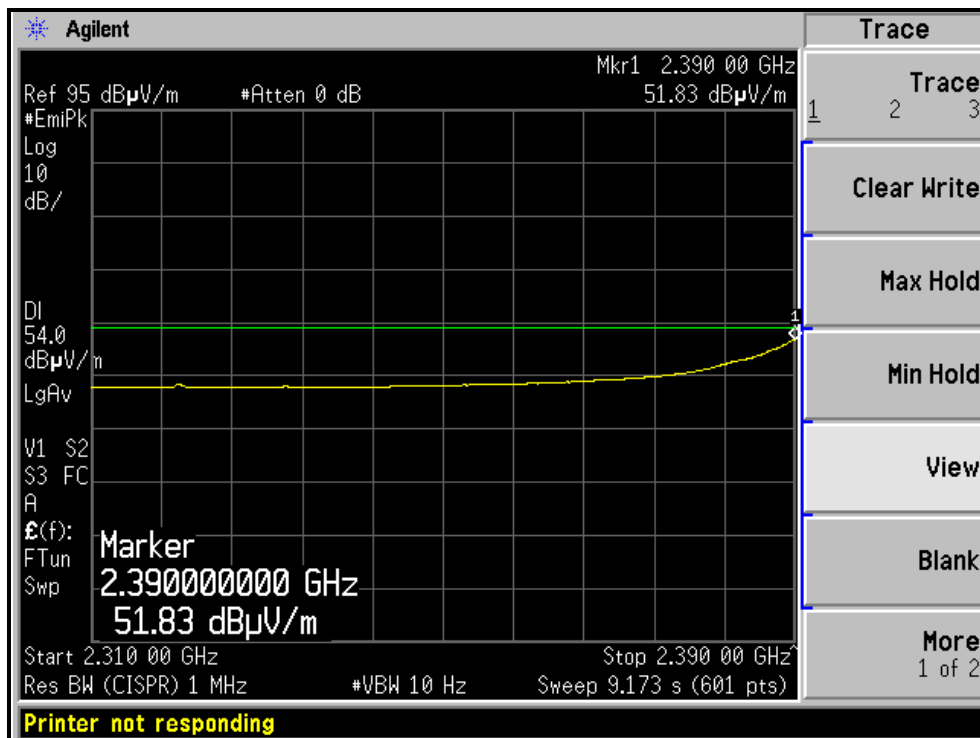
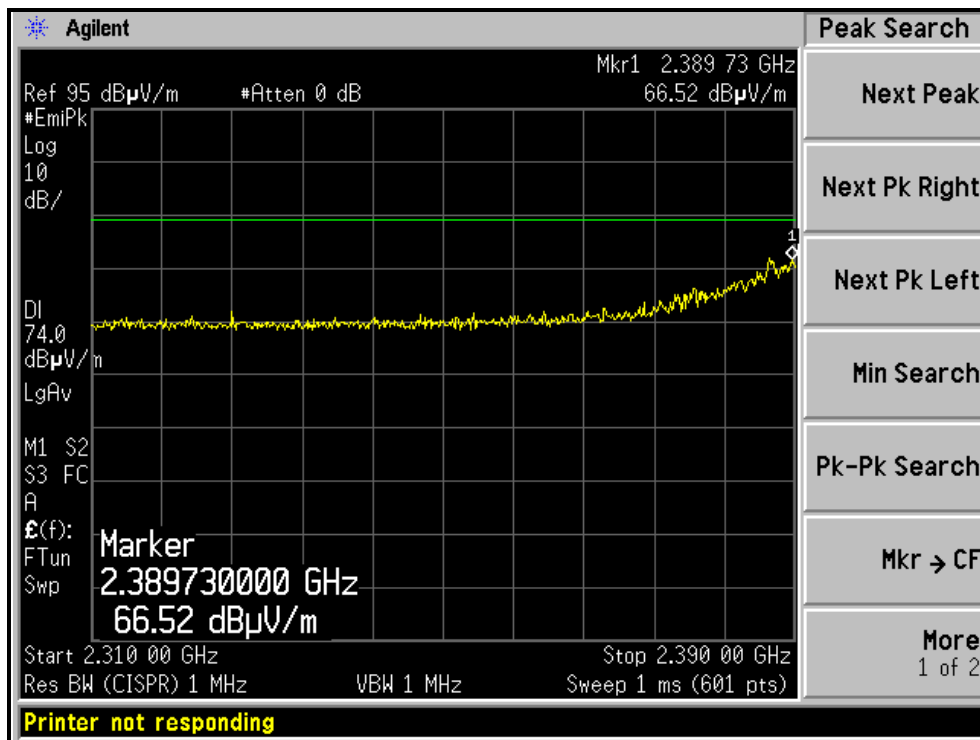
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.6 PK			1.35 V	82	69.20	31.40
2	*2462.00	88.8 AV			1.35 V	82	57.40	31.40
3	2483.50	59.4 PK	74.0	-14.6	1.35 V	82	27.94	31.46
4	2483.50	46.5 AV	54.0	-7.5	1.35 V	82	15.04	31.46
5	4924.00	46.3 PK	74.0	-27.7	1.08 V	8	6.48	39.82
6	4924.00	35.4 AV	54.0	-18.6	1.08 V	8	-4.42	39.82
7	7386.00	51.7 PK	74.0	-22.3	1.12 V	12	7.52	44.18
8	7386.00	39.5 AV	54.0	-14.5	1.12 V	12	-4.68	44.18

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

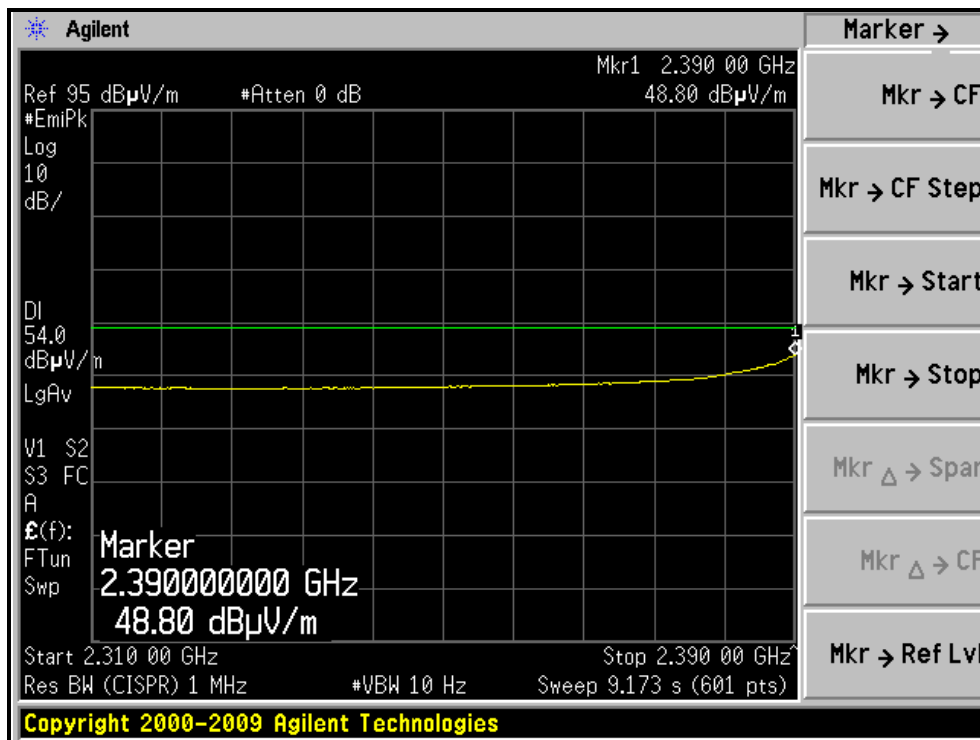
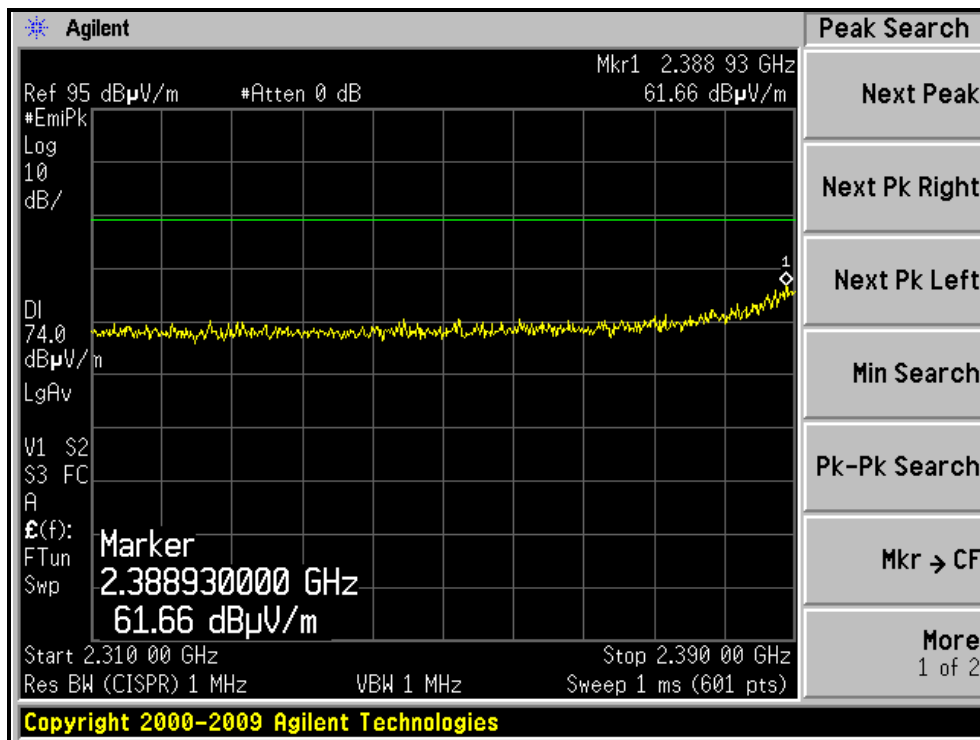


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RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



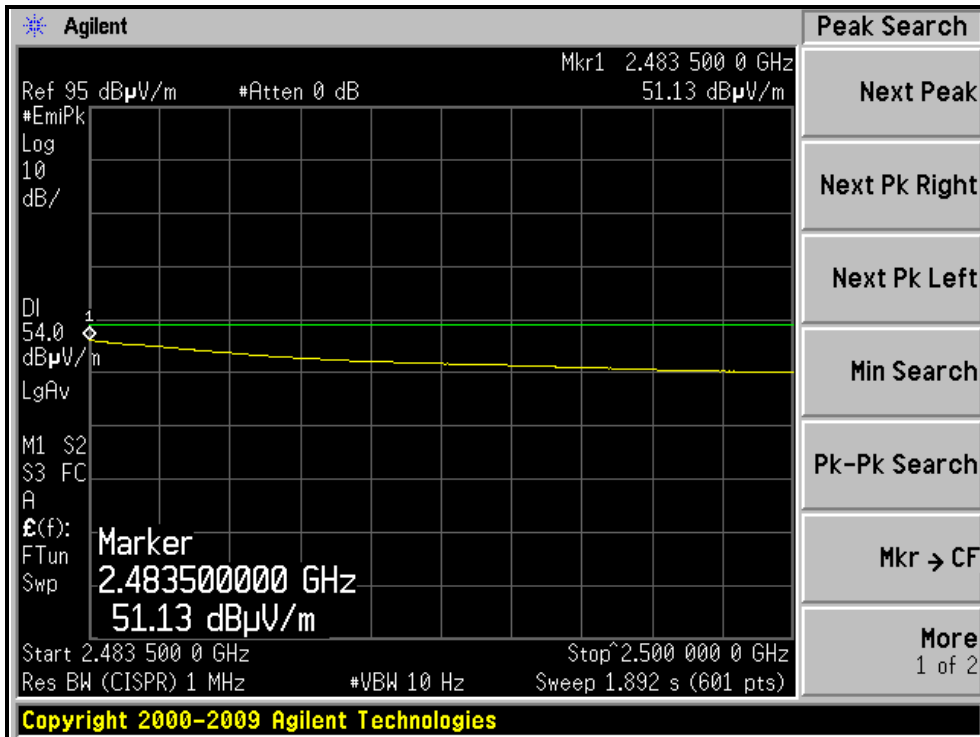
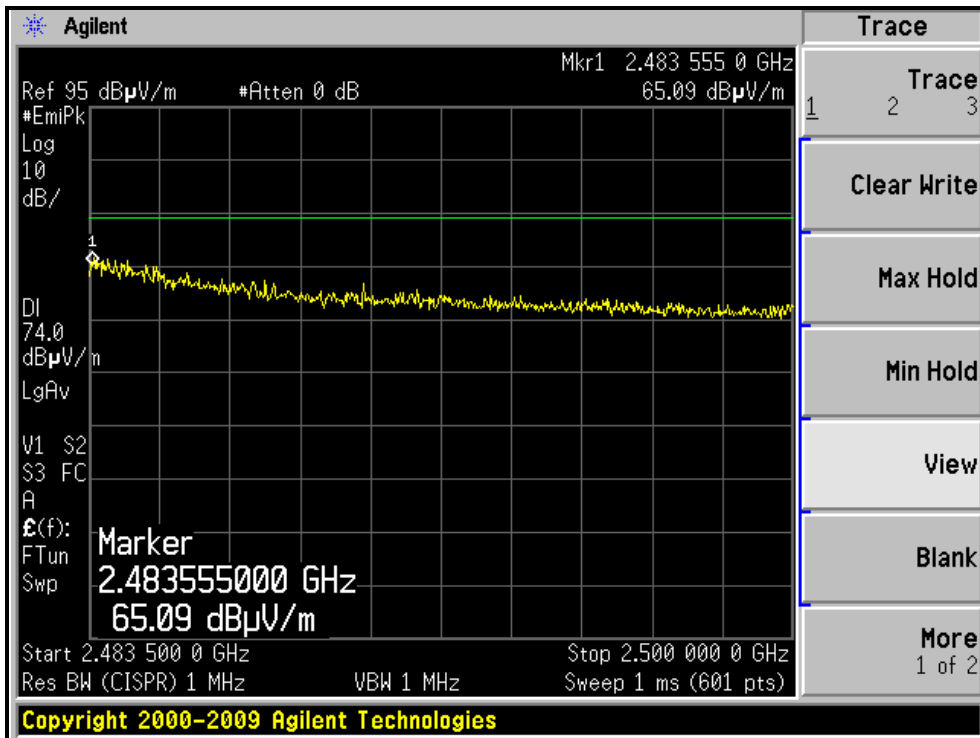
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)





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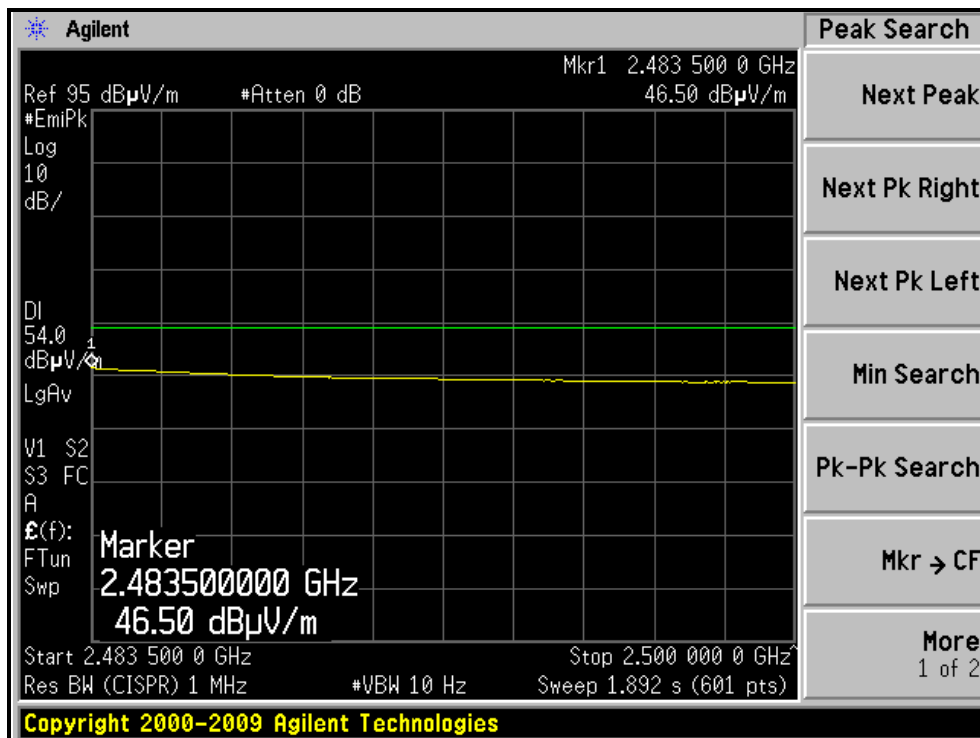
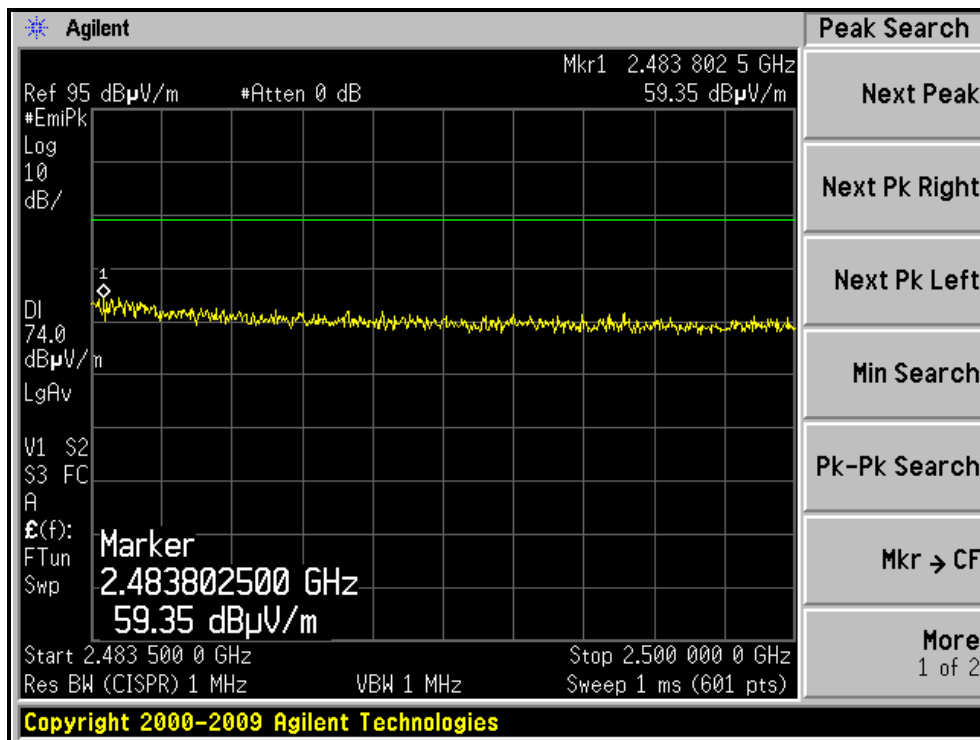
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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



4.2 6dB BANDWIDTH MEASUREMENT

4.2.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.2.2 TEST INSTRUMENTS

Test date: June 23, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP 40	100060	May 11, 2011	May 10, 2012

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

4.2.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



4.2.6 EUT OPERATING CONDITIONS

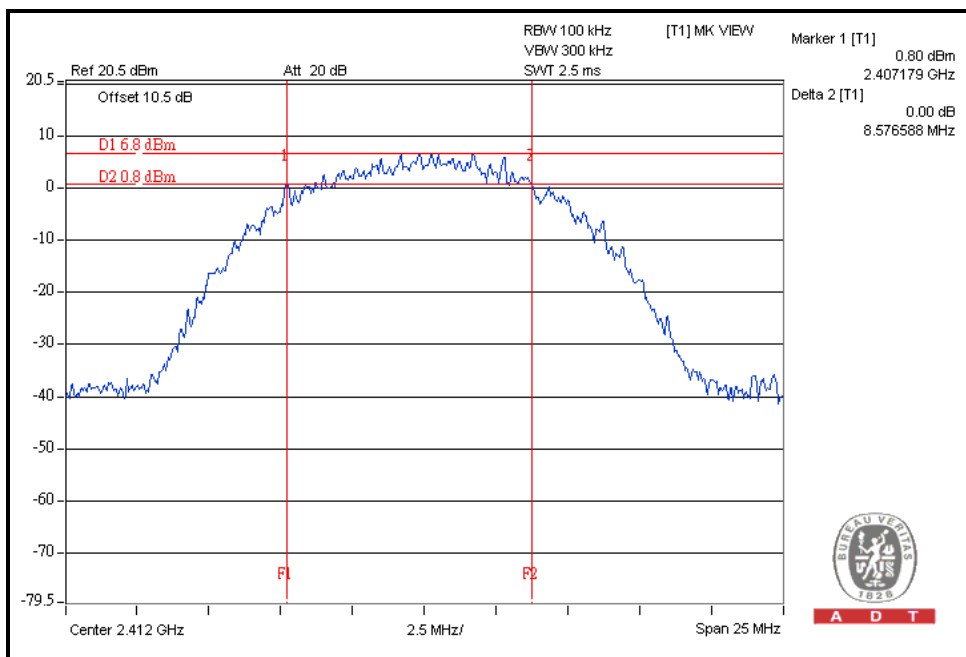
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.2.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.57	0.5	PASS
6	2437	5.99	0.5	PASS
11	2462	7.25	0.5	PASS

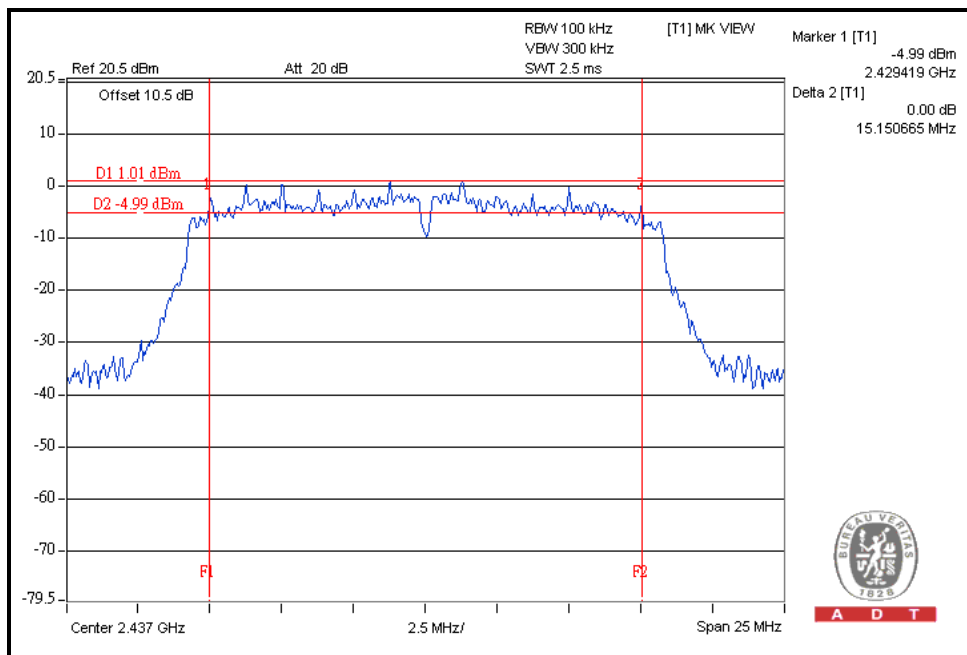
CH1



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.14	0.5	PASS
6	2437	15.15	0.5	PASS
11	2462	15.08	0.5	PASS

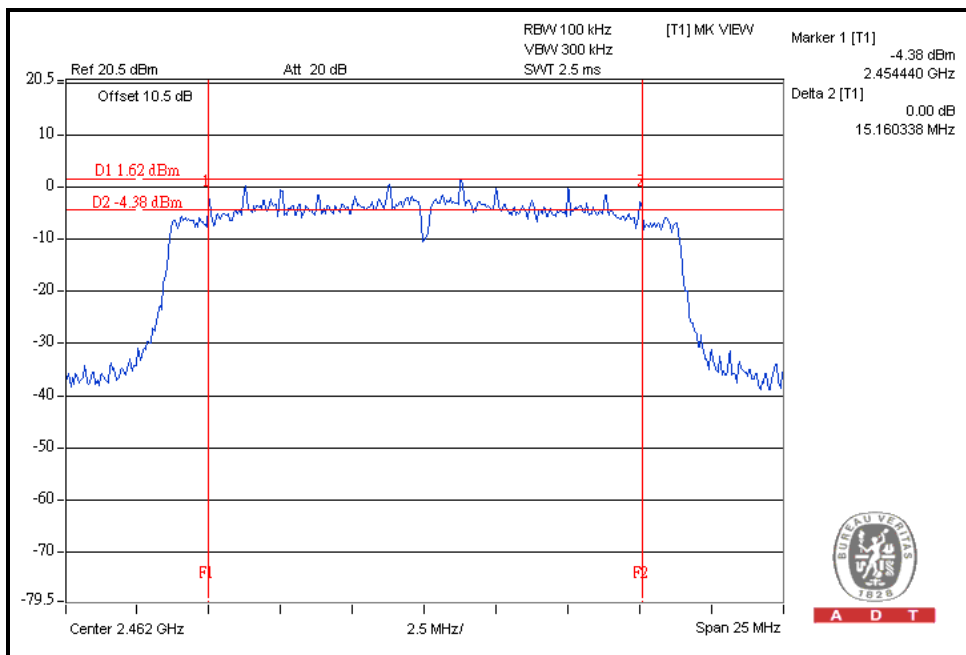
CH6



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.07	0.5	PASS
6	2437	14.01	0.5	PASS
11	2462	15.16	0.5	PASS

CH11



4.3 MAXIMUM PEAK OUTPUT POWER

4.3.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.3.2 INSTRUMENTS

Test date: June 23, 2011

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

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

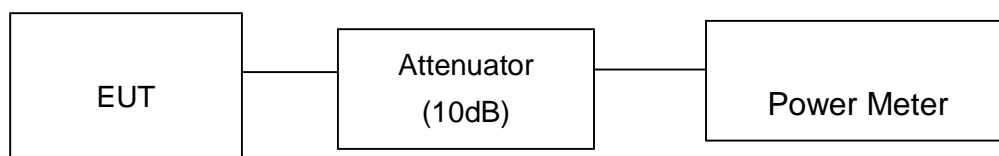
4.3.3 TEST PROCEDURES

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.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

Same as Item 4.2.6



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4.3.7 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	72.4	18.6	30	PASS
6	2437	67.6	18.3	30	PASS
11	2462	60.3	17.8	30	PASS

802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	95.5	19.8	30	PASS
6	2437	93.3	19.7	30	PASS
11	2462	87.1	19.4	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	100.0	20.0	30	PASS
6	2437	85.1	19.3	30	PASS
11	2462	91.2	19.6	30	PASS

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.4.2 TEST INSTRUMENTS

Test date: June 23, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP 40	100060	May 11, 2011	May 10, 2012

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

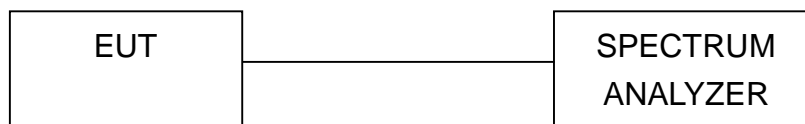
4.4.3 TEST PROCEDURE

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITION

Same as Item 4.2.6



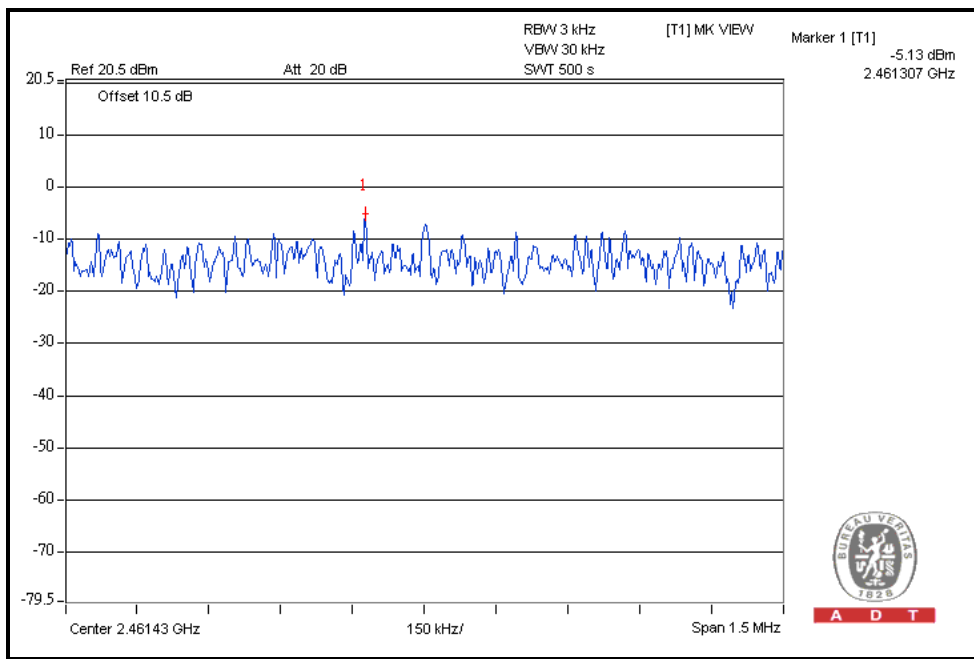
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4.4.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-6.4	8	PASS
6	2437	-6.0	8	PASS
11	2462	-5.1	8	PASS

CH11



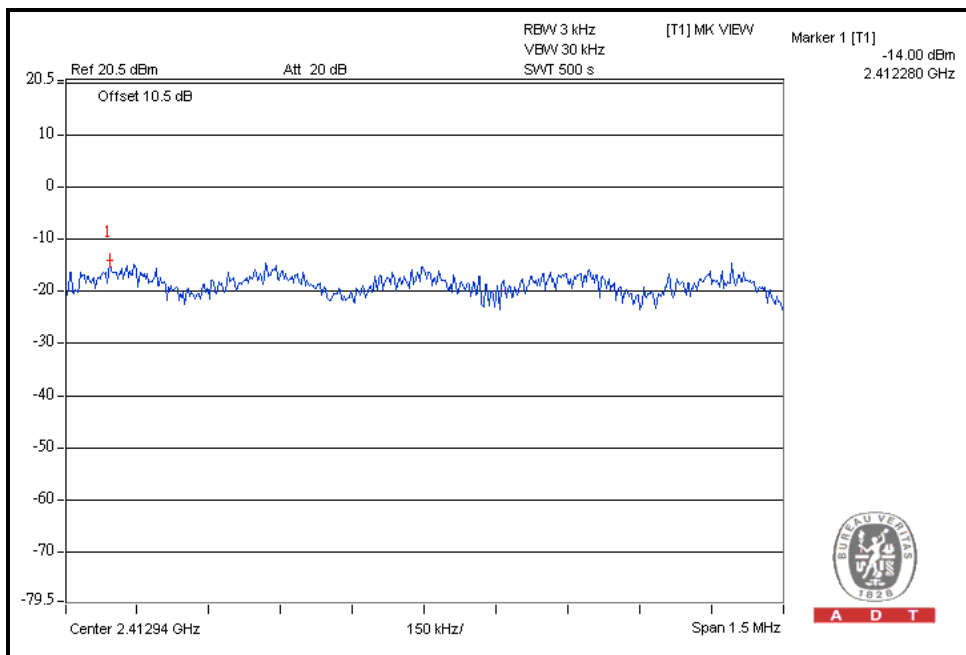


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802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-14.0	8	PASS
6	2437	-15.0	8	PASS
11	2462	-14.9	8	PASS

CH1



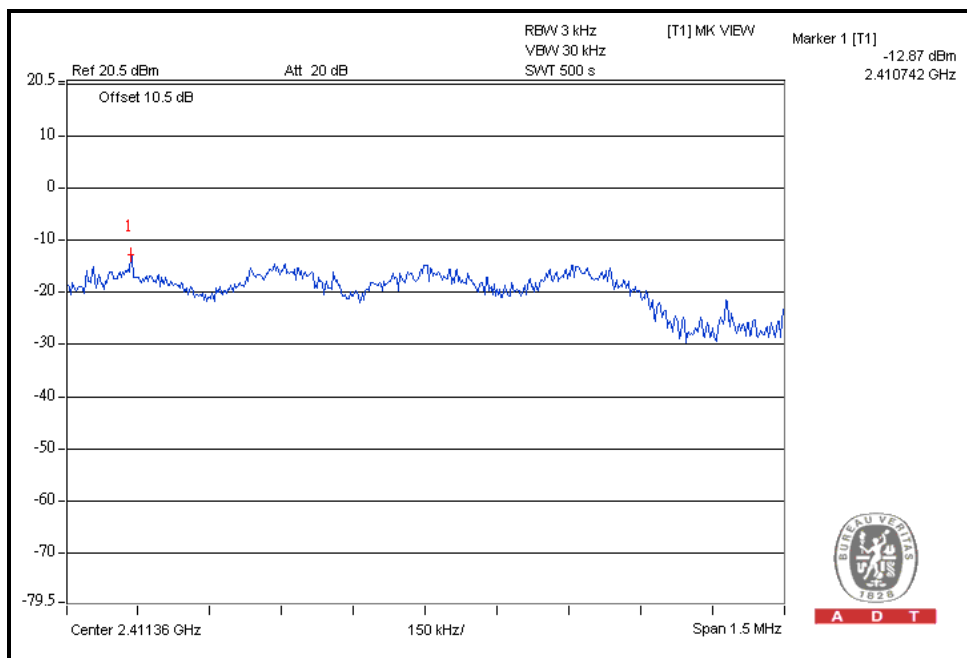


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802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-12.9	8	PASS
6	2437	-14.7	8	PASS
11	2462	-14.5	8	PASS

CH1



4.5 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.5.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

Test date: June 23, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP 40	100060	May 11, 2011	May 10, 2012

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

4.5.3 TEST PROCEDURE

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 was measured and recorded.

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 EUT OPERATING CONDITION

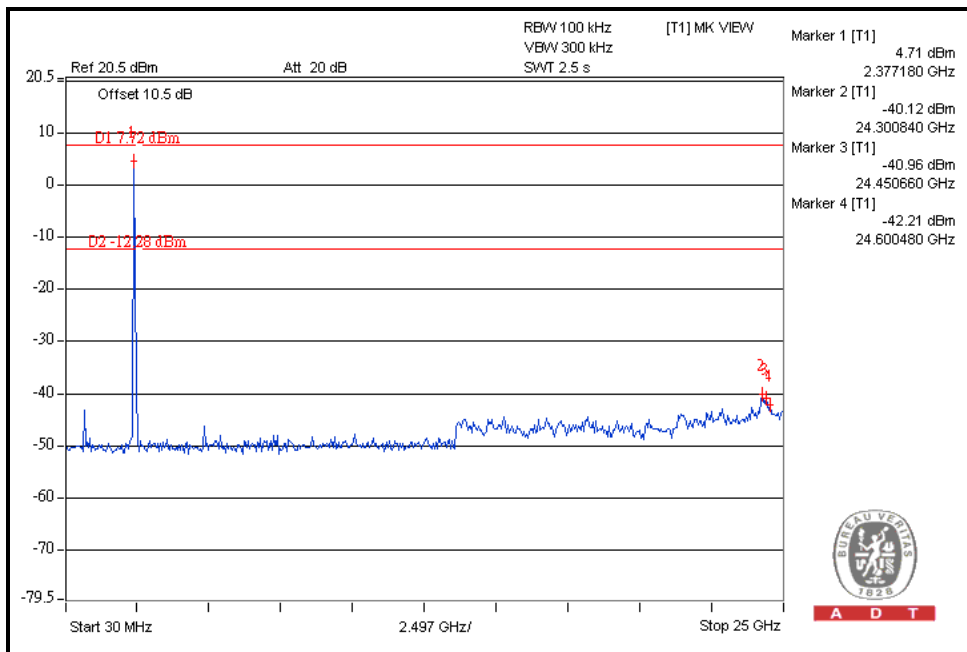
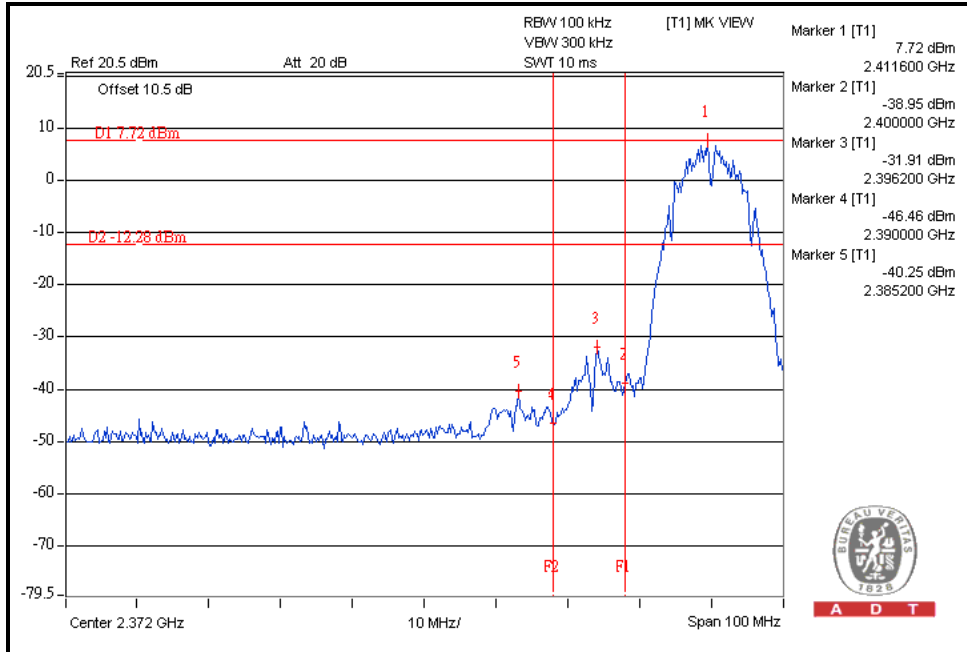
Same as Item 4.3.6

4.5.6 TEST RESULTS

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

802.11b DSSS MODULATION:

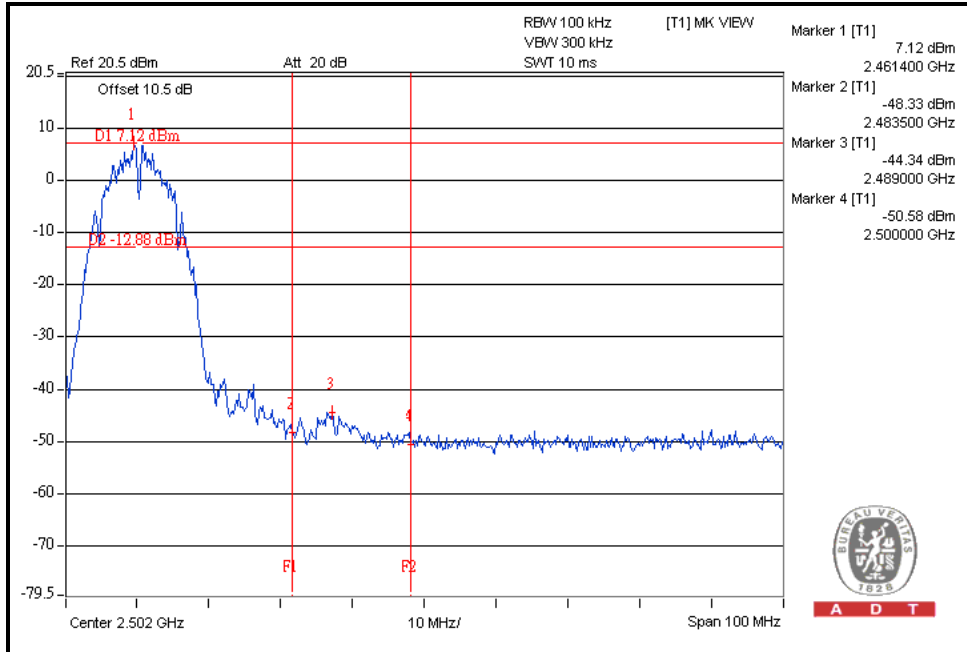
CH1



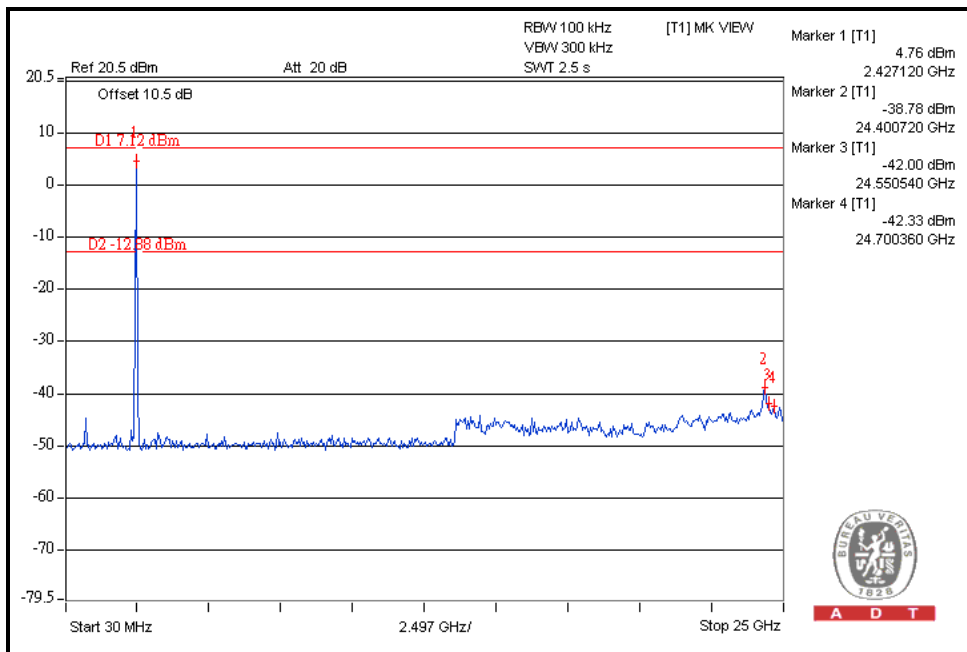


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CH11



A D T



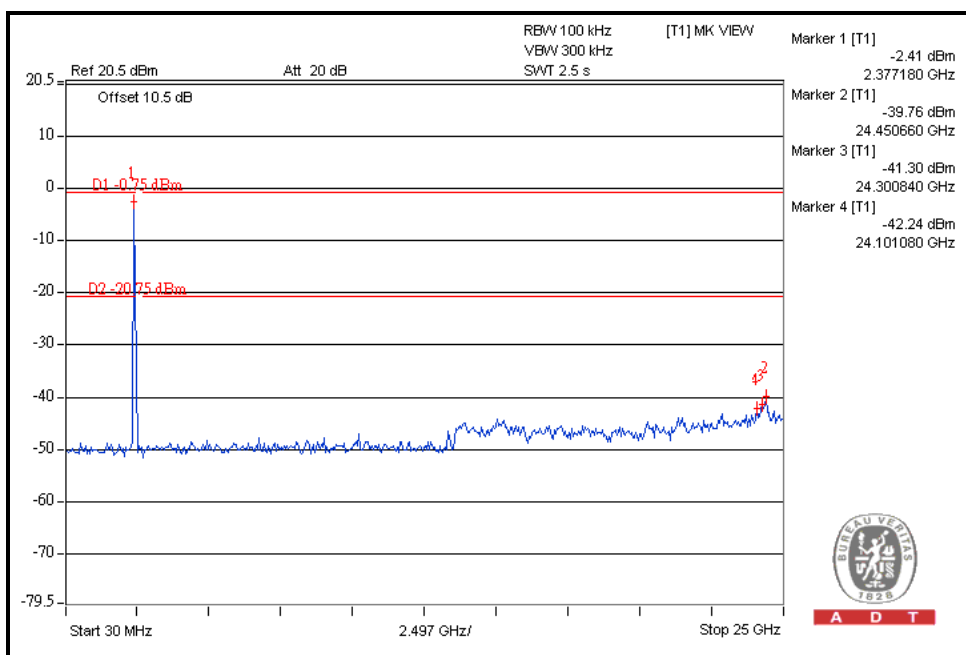
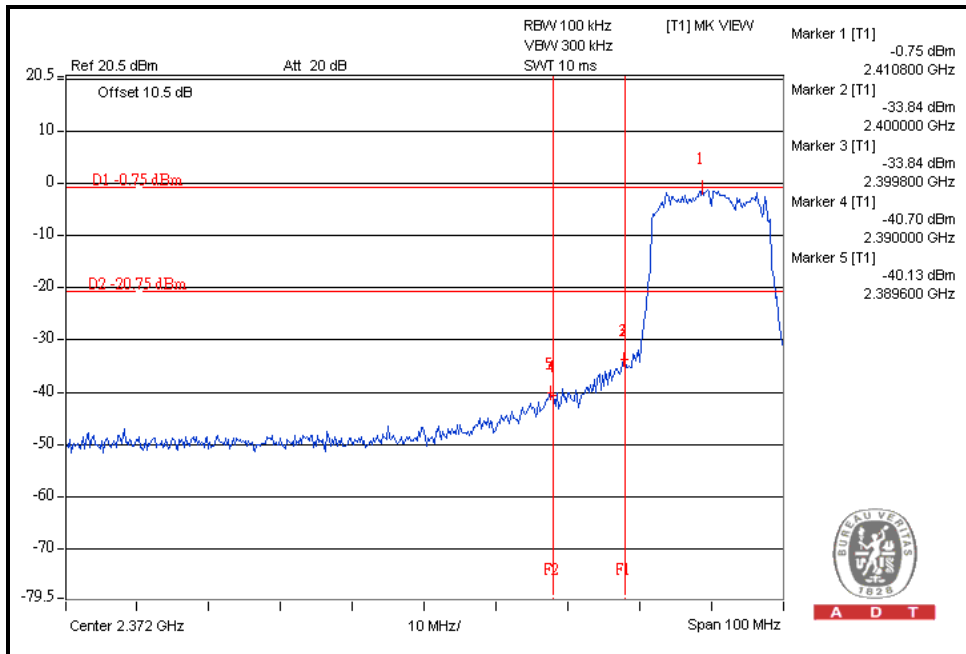
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802.11g OFDM MODULATION:

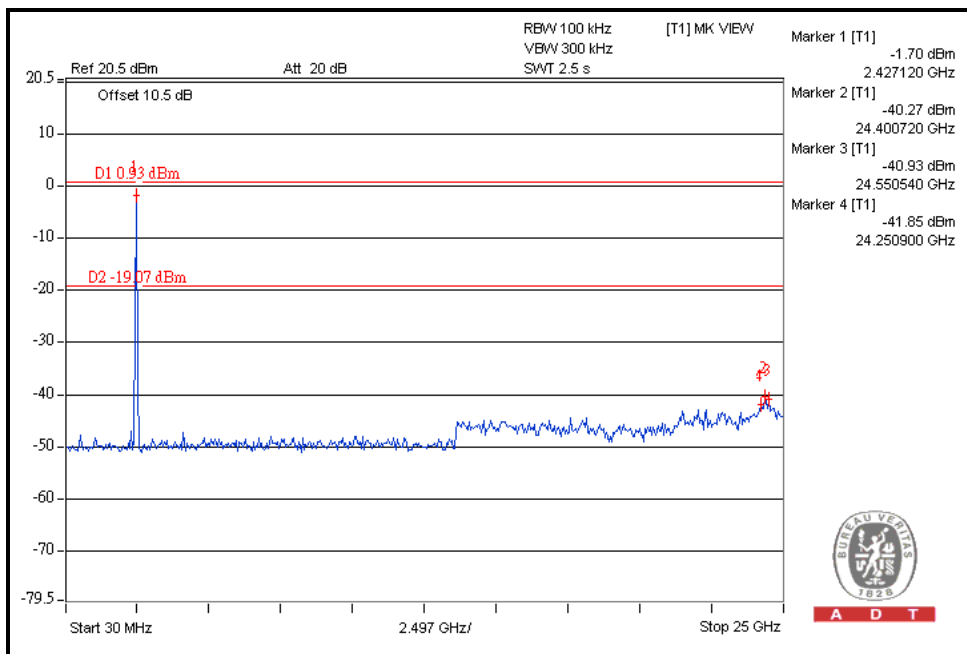
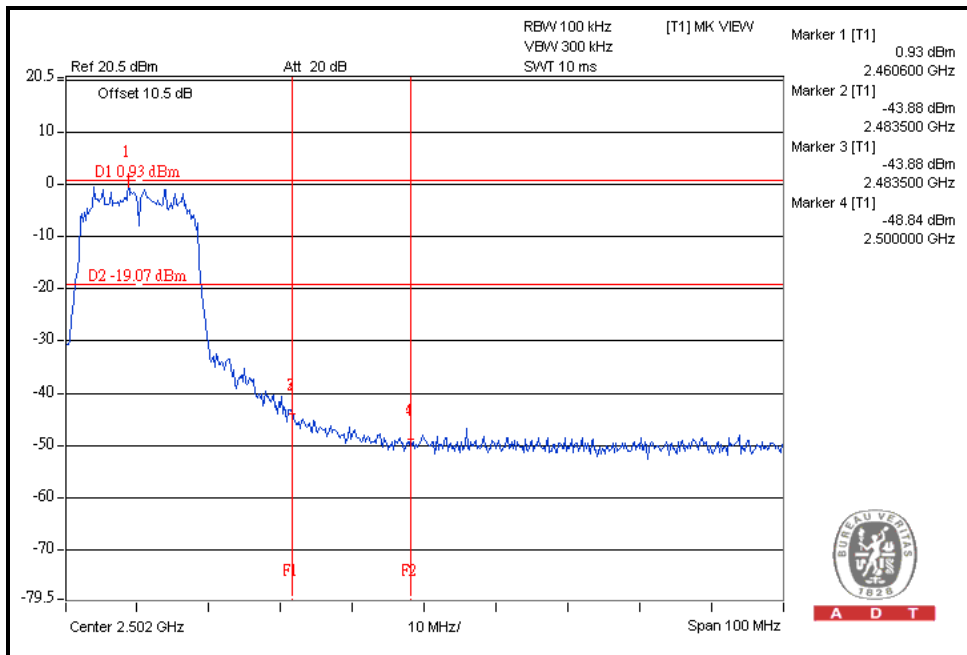
CH1





A D T

CH11

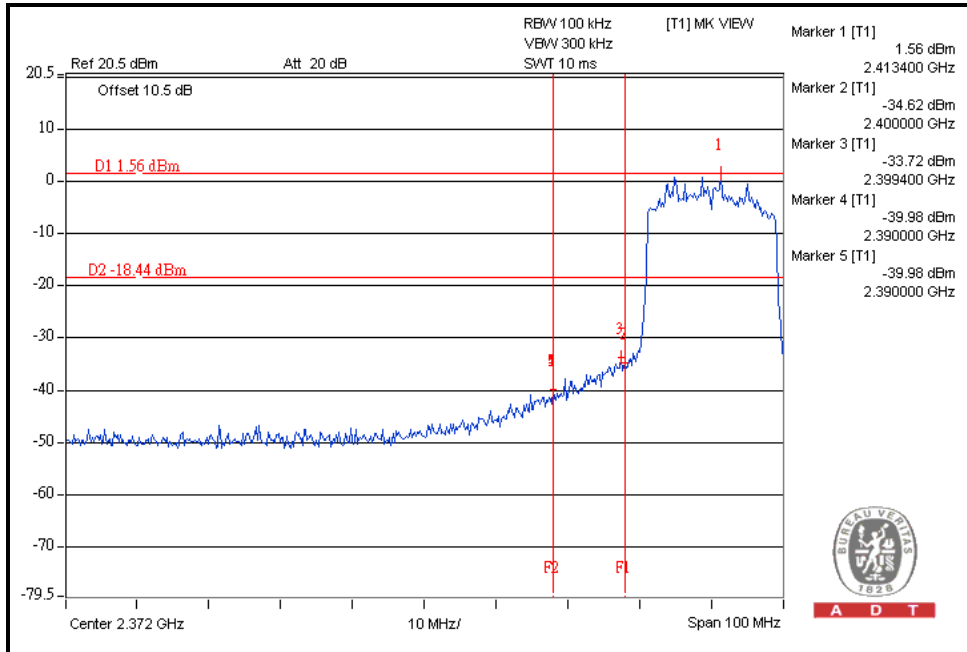




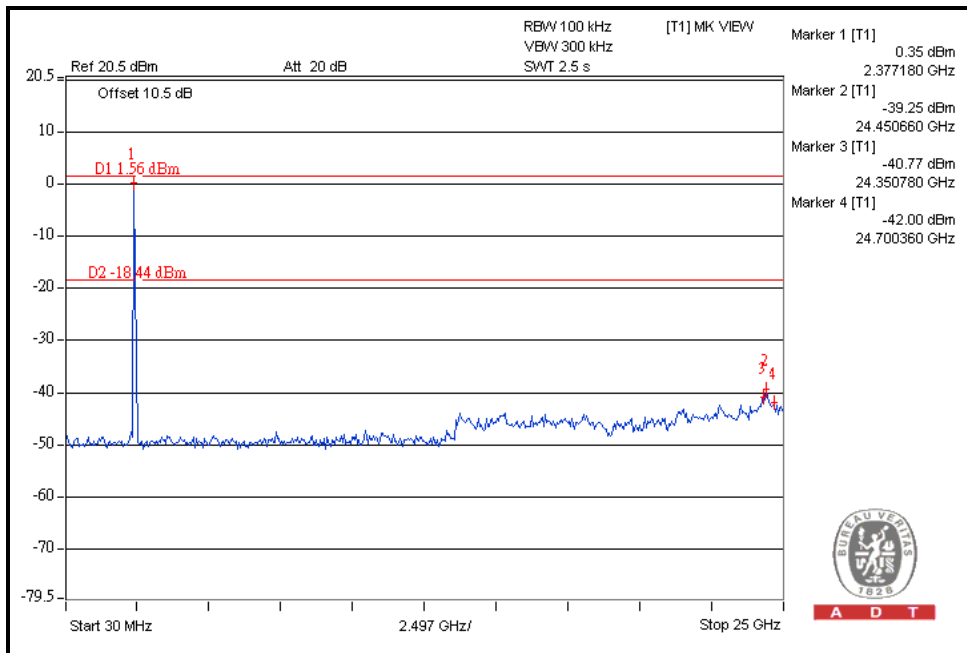
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802.11n (20MHz) OFDM MODULATION:

CH1



A D T

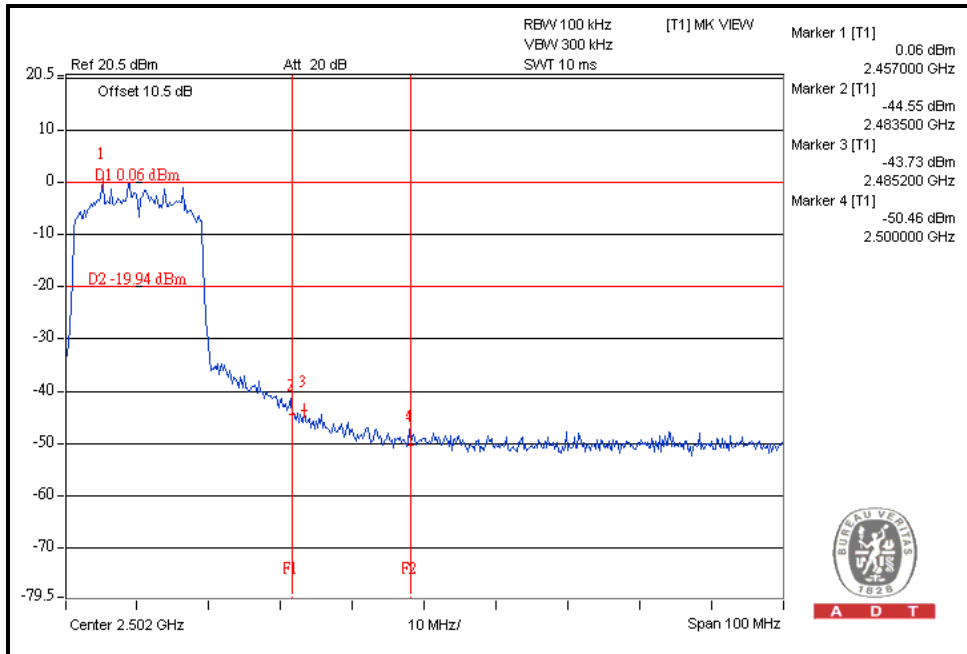


A D T

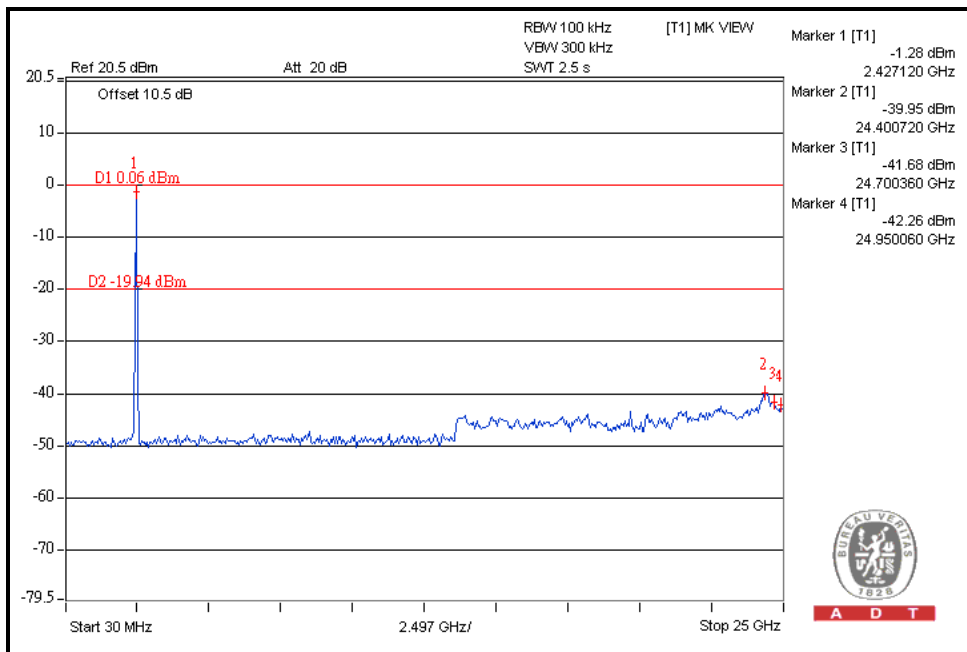


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CH11



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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

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Tel: 886-3-3183232

Fax: 886-3-3185050

Email: service.adt@tw.bureauveritas.com

Web Site: www.adt.com.tw

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



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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 ---