FCC TEST REPORT (15.247)

REPORT NO.:	RF110513E02
MODEL NO.:	RTL8192DE
FCC ID:	TX2-RTL8192DE
RECEIVED:	May 13, 2011
TESTED:	June 23 to July 06, 2011
ISSUED:	July 18, 2011

APPLICANT:	Realtek Semiconductor Corp.
ADDRESS:	No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110513E02	Original release	July 18, 2011

1. CERTIFICATION

PRODUCT:	802.11a/b/g/n RTL8192DE miniCard
BRAND NAME:	Realtek
MODEL NO.:	RTL8192DE
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Realtek Semiconductor Corp.
TESTED:	June 23 to July 06, 2011
STANDARDS:	FCC Part 15, Subpart C (Section 15.247) ANSI C63.4-2003 ANSI C63.10-2009

The above equipment (Model: RTL8192DE) 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 : _____, **DATE:** *July 18, 2011*
(Midoli Peng, Specialist)

APPROVED BY : _____, **DATE:** *July 18, 2011*
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 2.4GHz, 2412~2462MHz Band

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -10.22dB at 0.190MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 2483.50MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is IPEX not a standard connector.

For 5GHz, 5725~5850MHz Band

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -10.73dB at 0.189MHz
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 -2.4dB at 199.88MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Conducted Out-Band Emission Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is IPEX not a standard connector.

NOTE:

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

2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.81 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11a/b/g/n RTL8192DE miniCard
MODEL NO.	RTL8192DE
FCC ID	TX2-RTL8192DE
POWER SUPPLY	DC 3.3V ± 9% from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	**802.11a/g**: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6Mbps **802.11b**:11 / 5.5 /2 / 1Mbps **802.11n (20MHz, 800ns GI)**: 6.5/13/19.5/26/39/52/58.5/65**(for one stream)** 13/26/39/52/78/104/117/130**(for two streams)** **802.11n (40MHz, 800ns GI)**: 13.5/27/40.5/54/81/108/121.5/135**(for one stream)** 27/54/81/108/162/216/243/270**(for two streams)** **802.11n (20MHz, 400ns GI)**: 7.2/14.4/21.7/28.9/43.3/57.8/65.0/72.2Mbps**(for one stream)** 14.444 / 28.889 / 43.333 / 57.778 / 86.667 /115.556/ 130/ 144.444Mbps**(for two streams)** **802.11n (40MHz, 400ns GI)**: 15/30/45/60/90/120/135/150Mbps**(for one stream)** 30/60/90/120/180/240/270/300Mbps**(for two streams)**
OPERATING FREQUENCY	**For 15.407** 802.11a: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.70GHz
	For 15.247 802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	**For 15.407** 19 for 802.11a, 802.11n (20MHz) 9 for 802.11n (40MHz)
	For 15.247(2.4GHz) 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) **For 15.247(5GHz)** 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)

MAXIMUM OUTPUT POWER	**For 15.407** 802.11a: 60.3mW 802.11n (20MHz): 126.2mW 802.11n (40MHz): 113.8mW **For 15.247(2.4GHz)** 802.11b: 114.8mW 802.11g: 371.5mW 802.11n (20MHz): 670.0mW 802.11n (40MHz): 463.5mW **For 15.247(5GHz)** 802.11a: 229.1mW 802.11n (20MHz): 427.7mW 802.11n (40MHz): 413.1mW
ANTENNA TYPE	Please see note
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT has four different samples could be chosen and please refer the below table:

No.	miniCard Interface	Source	Difference
1	PCIe Interface (miniCard)	Main Source	Components are same spec. but provided by different manufacturers. (except for main chip.)
2	PCIe Interface (miniCard)	Second Source	
3	USB Interface (miniCard)	Main Source	Components are same spec. but provided by different manufacturers. (except for main chip.)
4	USB Interface (miniCard)	Second Source	

* Both PCIe and USB interface are the same RF circuit.

2. Conducted emission and Radiated emission of the simultaneous operation has been evaluated and no non-compliance found.

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

Set 1:

No.	Brand	Model	Antenna Type	Connector	Gain (dBi) include cable loss	Cable Loss(dB)	Cable Length (mm)
1&2	LYNwave	ALA110-222050 (Main) ALA110-222050 (Aux)	PIFA	IPEX	2.4GHz : 3.2 5GHz : 5	2.4GHz : 0.7 5GHz : 1.2	150

Set 2:

No.	Brand	Model	Antenna Type	Connector	Gain (dBi) include cable loss	Cable Loss(dB)	Cable Length (mm)
1&2	JOYMAX	TWF-614XMPXX-500 (Main) TWF-614XMPXX-500 (Aux)	Dipole	IPEX	2.4GHz : 3 5GHz : 5	2.4GHz : 0.9 5GHz : 1.5	200

* The software will set one antenna to 2.4GHz, another one to 5GHz if 2.4G/5G co-transmission mode is on.

4. For radiated test: The EUT was pre-tested under the following modes:

For radiated(below 1GHz)	
Test Mode	**Description**
Mode A	**USB Interface (Main Source) + PIFA antenna (X-Y Plane)**
Mode B	USB Interface (Main Source) + PIFA antenna (Y-Z Plane)
Mode C	USB Interface (Main Source) + PIFA antenna (Z-X Plane)
Mode D	USB Interface (Second Source) + PIFA antenna (X-Y Plane)
Mode E	PCIe Interface (Main Source) + PIFA antenna (X-Y Plane)
Mode F	PCIe Interface (Second Source) + PIFA antenna (X-Y Plane)
Mode G	**USB Interface (Main Source) + Dipole antenna**
For radiated(above 1GHz)	
Test Mode	**Description**
Mode H	USB Interface (Main Source) + Dipole antenna
Mode I	**USB Interface (Second Source) + Dipole antenna**
Mode J	**USB Interface (Second Source) + PIFA antenna (X-Y Plane)**
Mode K	USB Interface (Second Source) + PIFA antenna (Y-Z Plane)
Mode K	USB Interface (Second Source) + PIFA antenna (Z-X Plane)

From the above modes, the worst radiated<below 1GHz> test was found in **Mode A & Mode G** and the worst radiated<above 1GHz> test was found in **Mode I & J**. Therefore only the test data of the mode was recorded in this report.

5. The EUT is 2 * 2 spatial MIMO (2Tx & 2Rx) without beam forming function. The 11a, 11b and 11g legacy mode is limited to single transmitter only.
6. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
7. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

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
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

Operated in 5725 ~ 5850MHz band:

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

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

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

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	
1	√	√	-	-	USB Interface (Main Source) + PIFA antenna (X-Y Plane)
2	-	√	-	-	USB Interface (Main Source) + Dipole antenna
3	-	-	√	√	USB Interface (Second Source) + PIFA antenna (X-Y Plane)
4	-	-	√	-	USB Interface (Second Source) + 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

ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)
A	802.11 b	√	
B	802.11 b		√
C	802.11 g	√	
D	802.11 g		√
E	802.11 a	√	
F	802.11 a		√
G	802.11n(20MHz) for MCS0~7	√	
H	802.11n(20MHz) for MCS0~7		√
I	802.11n(20MHz) for MCS8~15	√	√
J	802.11n(40MHz) for MCS0~7	√	
K	802.11n(40MHz) for MCS0~7		√
L	802.11n(40MHz) for MCS8~15	√	√

Note: 1. The above information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
2. Mode A, C, E, G, I, J & L the worst modes were selected as representative mode for the report.

POWER LINE CONDUCTED EMISSION TEST:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION / CONFIGURE
For 2.4 GHz 802.11n (20MHz)	1 to 11	6	OFDM	BPSK	13	I / 1
For 5 GHz 802.11n (20MHz)	149 to 165	149	OFDM	BPSK	13	I / 1

RADIATED EMISSION TEST (BELOW 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATIO N TYPE	DATA RATE (Mbps)	COMBINATION / CONFIGURE
For 2.4 GHz 802.11n (20MHz)	1 to 11	6	OFDM	BPSK	13	I / 1, 2
For 5 GHz 802.11n (20MHz)	149 to 165	149	OFDM	BPSK	13	I / 1, 2

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION / CONFIGURE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A / 3, 4
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C / 3, 4
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	G / 3, 4
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	13	I / 3, 4
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5	J / 3, 4
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	27	L / 3, 4
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6	E / 3, 4
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5	G / 3, 4
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	13	I / 3, 4
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	J / 3, 4
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	27	L / 3, 4

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION / CONFIGURE
802.11b	1 to 11	1, 11	DSSS	DBPSK	1	A / 3
802.11g	1 to 11	1, 11	OFDM	BPSK	6	C / 3
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5	G / 3
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	13	I / 3
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	13.5	J / 3
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	27	L / 3
802.11a	149 to 165	149, 165	OFDM	BPSK	6	E / 3
For 5 GHz 802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	6.5	G / 3
For 5 GHz 802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	13	I / 3
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	J / 3
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	27	L / 3

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION / CONFIGURE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A / 3
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C / 3
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5	G / 3
For 2.4 GHz 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	13	I / 3
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5	J / 3
For 2.4 GHz 802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	27	L / 3
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6	E / 3
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.	G / 3
For 5 GHz 802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	13	I / 3
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5	J / 3
For 5 GHz 802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	27	L / 3

※ Bandwidth as show worst chain in report base on preliminary measurement.

※ TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE^{3}1G	22deg. C, 64%RH, 1004 hPa	120Vac, 60Hz	Kent Liu
RE<1G	22deg. C, 64%RH, 1004 hPa	120Vac, 60Hz	Kent Liu
PLC	15deg. C, 67%RH, 1004 hPa	120Vac, 60Hz	Kent Liu
APCM	25deg. C, 64%RH, 1004 hPa	120Vac, 60Hz	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

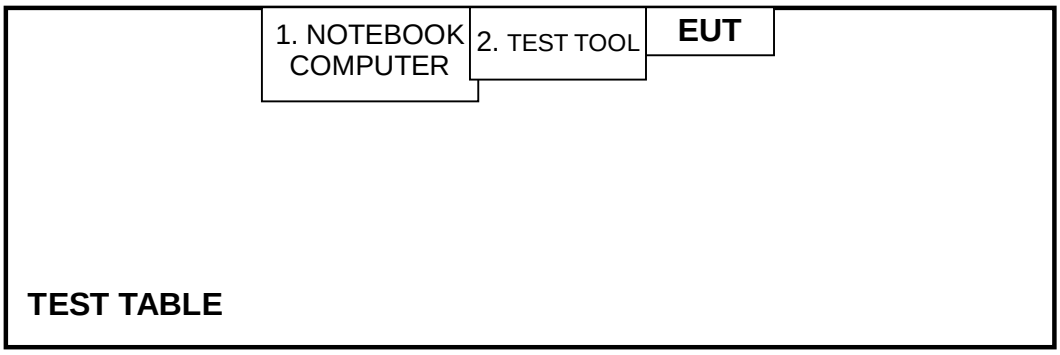
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-70166-5CA-0448	PIW632500516610
2	TEST TOOL	Realtek	NA	NA	NA

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

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



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

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	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

Test date: July 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2011	Mar. 08, 2012
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 08, 2010	Sep. 07, 2011
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 03, 2010	Nov. 02, 2011
RF Cable (JYEBAO)	5DFB	COCCAB-002	Aug. 30, 2010	Aug. 29, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

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

4.1.3 TEST PROCEDURES

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

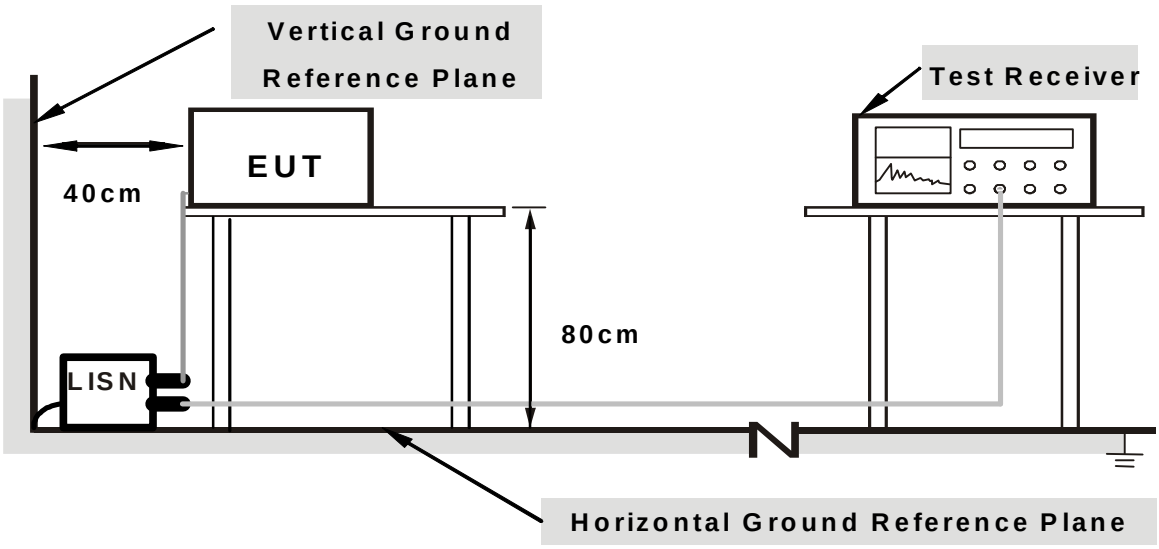
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

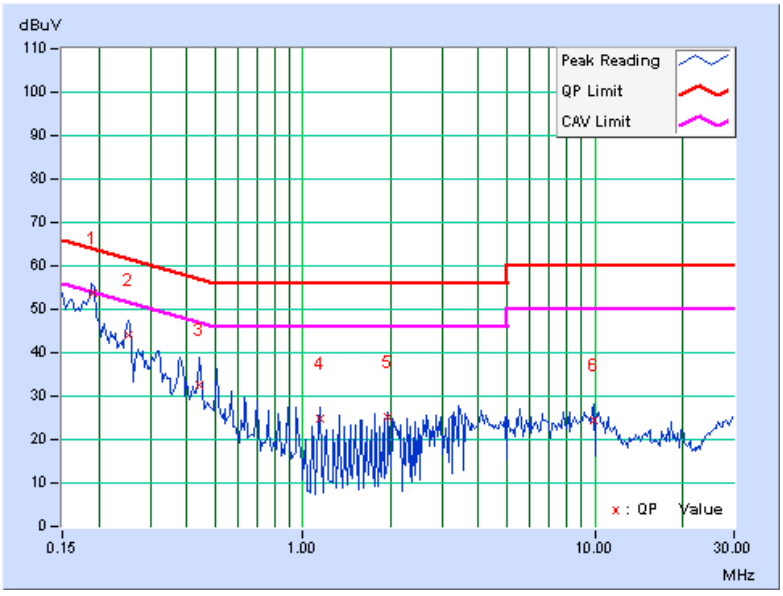
1. Plug the EUT into the support unit 1 (Notebook Computer) which placed on a testing table.
2. The communication partner run test program “REALTEK 11n Dual MAC 9xD USB WLAN NIC Massproduction kit” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.190**	**0.13**	**53.69**	**-**	**53.82**	**-**	**64.03**	**54.03**	**-10.22**	**-**
2	0.252	0.13	43.88	-	44.01	-	61.71	51.71	-17.70	-
3	0.443	0.13	32.62	-	32.75	-	57.01	47.01	-24.26	-
4	1.141	0.14	24.71	-	24.85	-	56.00	46.00	-31.15	-
5	1.965	0.16	25.04	-	25.20	-	56.00	46.00	-30.80	-
6	9.887	0.47	23.79	-	24.26	-	60.00	50.00	-35.74	-

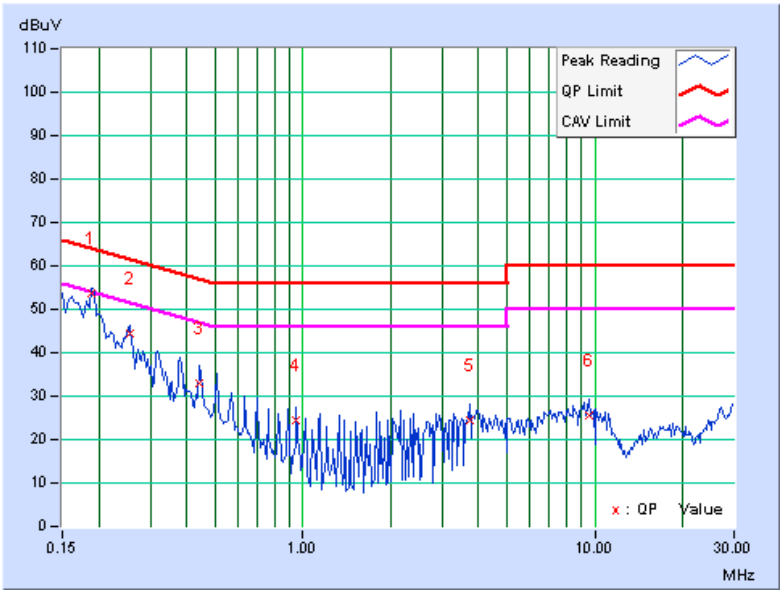
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.189	0.13	53.46	-	53.59	-	64.08	54.08	-10.48	-
2	0.255	0.14	44.15	-	44.29	-	61.58	51.58	-17.28	-
3	0.443	0.15	32.70	-	32.85	-	57.01	47.01	-24.16	-
4	0.951	0.16	24.13	-	24.29	-	56.00	46.00	-31.71	-
5	3.742	0.27	24.10	-	24.37	-	56.00	46.00	-31.63	-
6	9.508	0.78	24.67	-	25.45	-	60.00	50.00	-34.55	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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

4.2.2 TEST INSTRUMENTS

Test date: June 24 to 25, 2011

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

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

4.2.3 TEST PROCEDURES

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

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

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

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

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

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

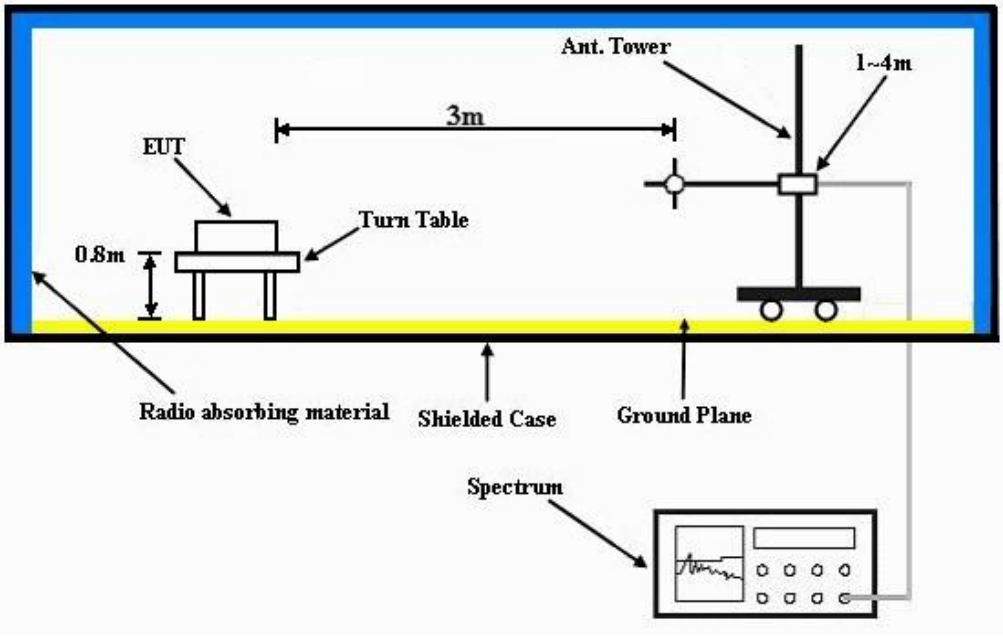
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS (With PIFA antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	**TESTED BY**	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	64.82	32.3 QP	40.0	-7.7	1.25 H	134	19.56	12.70
2	199.91	41.0 QP	43.5	-2.5	1.38 H	312	30.42	10.59
3	300.00	41.4 QP	46.0	-4.6	2.00 H	317	26.18	15.20
4	324.99	38.9 QP	46.0	-7.1	1.75 H	272	23.16	15.74
5	537.44	36.0 QP	46.0	-10.1	1.00 H	200	15.41	20.54
6	796.08	38.5 QP	46.0	-7.5	1.25 H	334	14.03	24.43
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	237.48	36.0 QP	46.0	-10.0	1.25 V	0	23.43	12.53
2	324.99	34.9 QP	46.0	-11.1	1.25 V	347	19.14	15.74
3	349.74	37.3 QP	46.0	-8.8	1.25 V	0	20.97	16.28
4	624.96	37.5 QP	46.0	-8.5	1.25 V	22	15.25	22.25
5	799.87	39.1 QP	46.0	-7.0	1.00 V	280	14.57	24.48
6	875.06	39.7 QP	46.0	-6.3	1.00 V	360	13.88	25.81

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.

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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.27	58.6 PK	74.0	-15.4	1.49 H	124	26.95	31.65
2	2388.27	49.7 AV	54.0	-4.3	1.49 H	124	18.05	31.65
3	*2412.00	111.4 PK			1.49 H	124	79.67	31.73
4	*2412.00	109.2 AV			1.49 H	124	77.47	31.73
5	4824.00	52.6 PK	74.0	-21.4	1.17 H	95	13.63	38.97
6	4824.00	48.6 AV	54.0	-5.4	1.17 H	95	9.63	38.97
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.0 PK	74.0	-18.0	1.27 V	175	24.34	31.66
2	2390.00	43.3 AV	54.0	-10.7	1.27 V	175	11.64	31.66
3	*2412.00	101.4 PK			1.27 V	175	69.67	31.73
4	*2412.00	99.1 AV			1.27 V	175	67.37	31.73
5	4824.00	52.6 PK	74.0	-21.4	1.11 V	67	13.63	38.97
6	4824.00	49.2 AV	54.0	-4.8	1.11 V	67	10.23	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.3 PK			1.50 H	126	79.49	31.81
2	*2437.00	109.2 AV			1.50 H	126	77.39	31.81
3	4874.00	52.9 PK	74.0	-21.1	1.14 H	83	13.76	39.14
4	4874.00	49.1 AV	54.0	-4.9	1.14 H	83	9.96	39.14
5	7311.00	55.4 PK	74.0	-18.6	1.16 H	68	8.77	46.63
6	7311.00	46.2 AV	54.0	-7.8	1.16 H	68	-0.43	46.63
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	101.5 PK			1.26 V	181	69.69	31.81
2	*2437.00	99.3 AV			1.26 V	181	67.49	31.81
3	4874.00	52.4 PK	74.0	-21.6	1.13 V	56	13.26	39.14
4	4874.00	48.7 AV	54.0	-5.3	1.13 V	56	9.56	39.14
5	7311.00	58.3 PK	74.0	-15.7	1.11 V	32	11.67	46.63
6	7311.00	48.4 AV	54.0	-5.6	1.11 V	32	1.77	46.63

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.3 PK			1.46 H	128	79.41	31.89
2	*2462.00	109.2 AV			1.46 H	128	77.31	31.89
3	2483.50	58.9 PK	74.0	-15.1	1.46 H	128	26.93	31.97
4	2483.50	46.5 AV	54.0	-7.5	1.46 H	128	14.53	31.97
5	4924.00	53.1 PK	74.0	-20.9	1.24 H	242	13.79	39.31
6	4924.00	49.4 AV	54.0	-4.6	1.24 H	242	10.09	39.31
7	7386.00	55.7 PK	74.0	-18.3	1.81 H	124	9.10	46.60
8	7386.00	45.3 AV	54.0	-8.7	1.81 H	124	-1.30	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.8 PK			1.26 V	173	69.91	31.89
2	*2462.00	99.5 AV			1.26 V	173	67.61	31.89
3	2486.77	56.9 PK	74.0	-17.1	1.26 V	173	24.92	31.98
4	2486.77	45.9 AV	54.0	-8.1	1.26 V	173	13.92	31.98
5	4924.00	52.7 PK	74.0	-21.3	1.41 V	120	13.39	39.31
6	4924.00	47.3 AV	54.0	-6.7	1.41 V	120	7.99	39.31
7	7386.00	57.3 PK	74.0	-16.7	1.49 V	57	10.70	46.60
8	7386.00	49.4 AV	54.0	-4.6	1.49 V	57	2.80	46.60

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

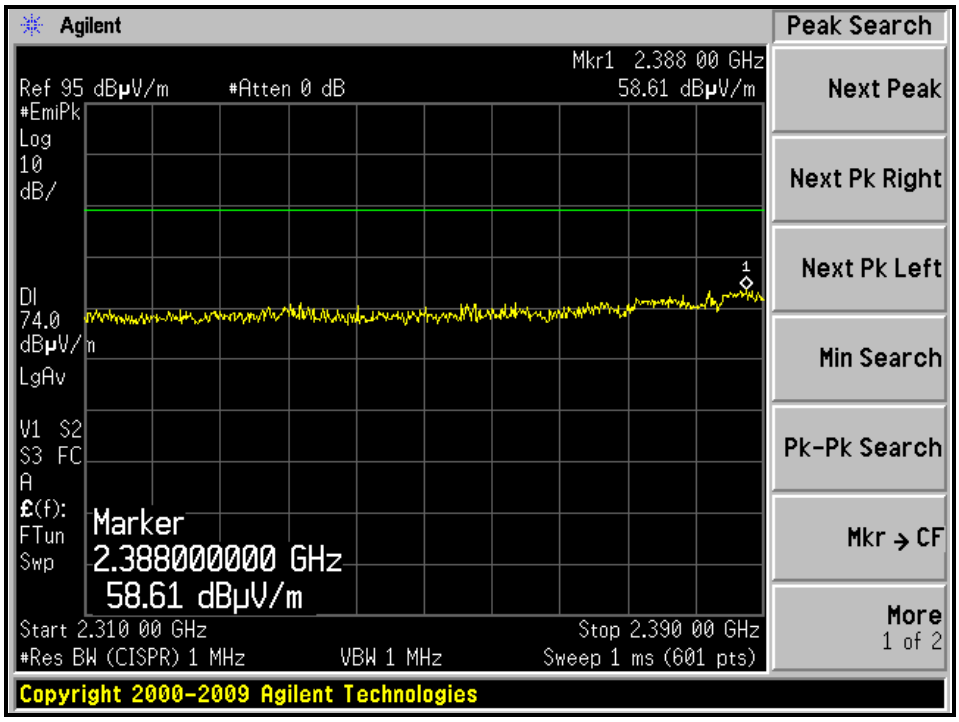
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

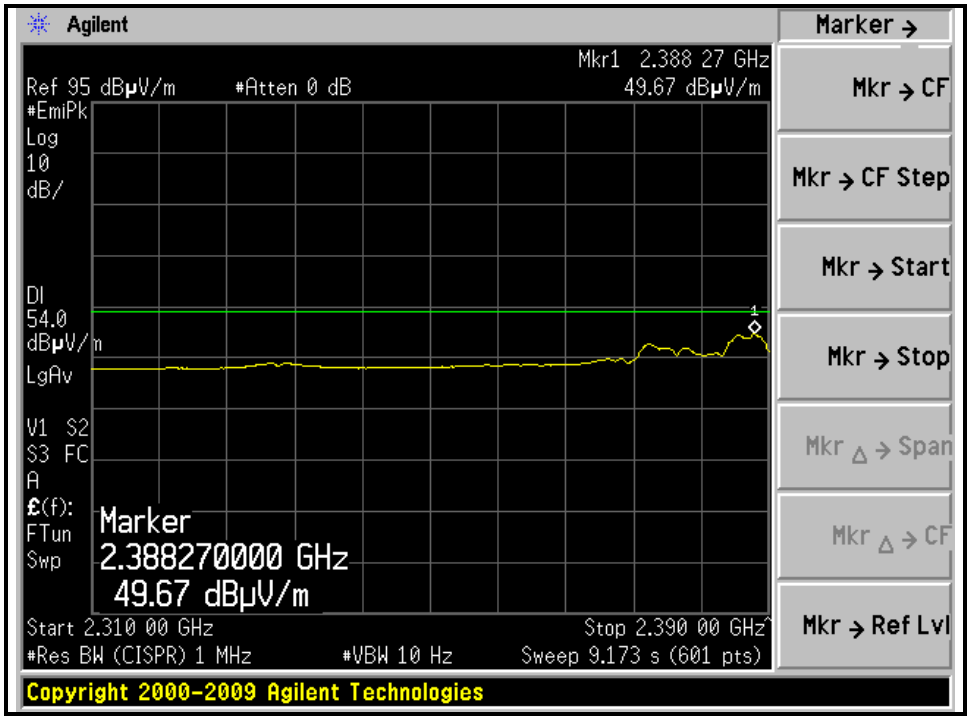
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

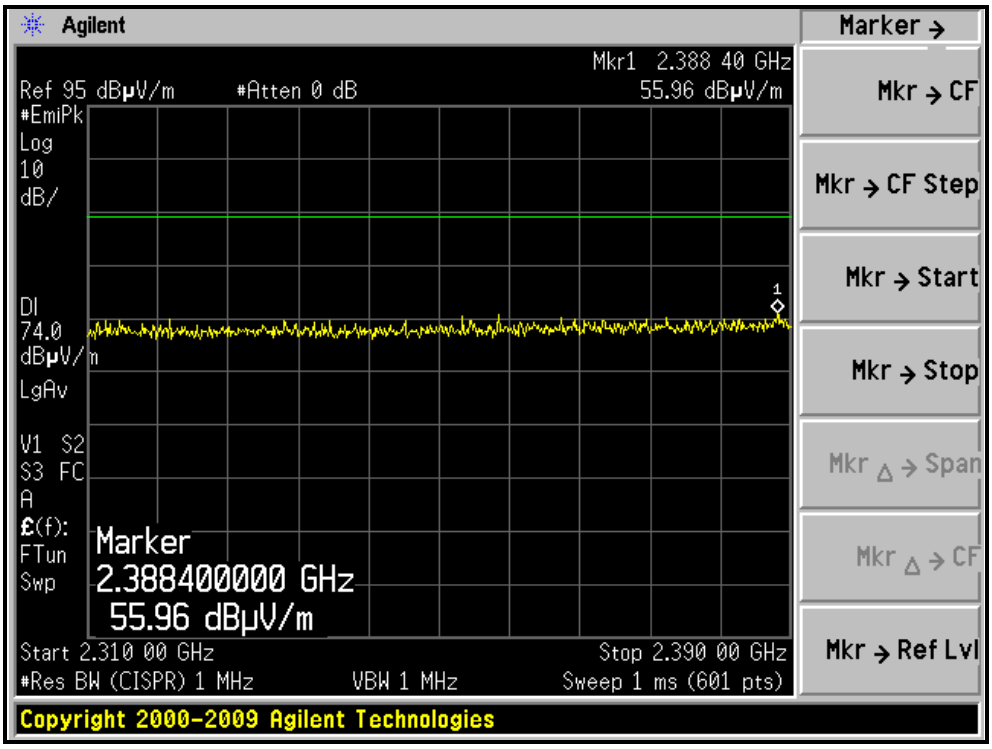
5. " * ": Fundamental frequency.

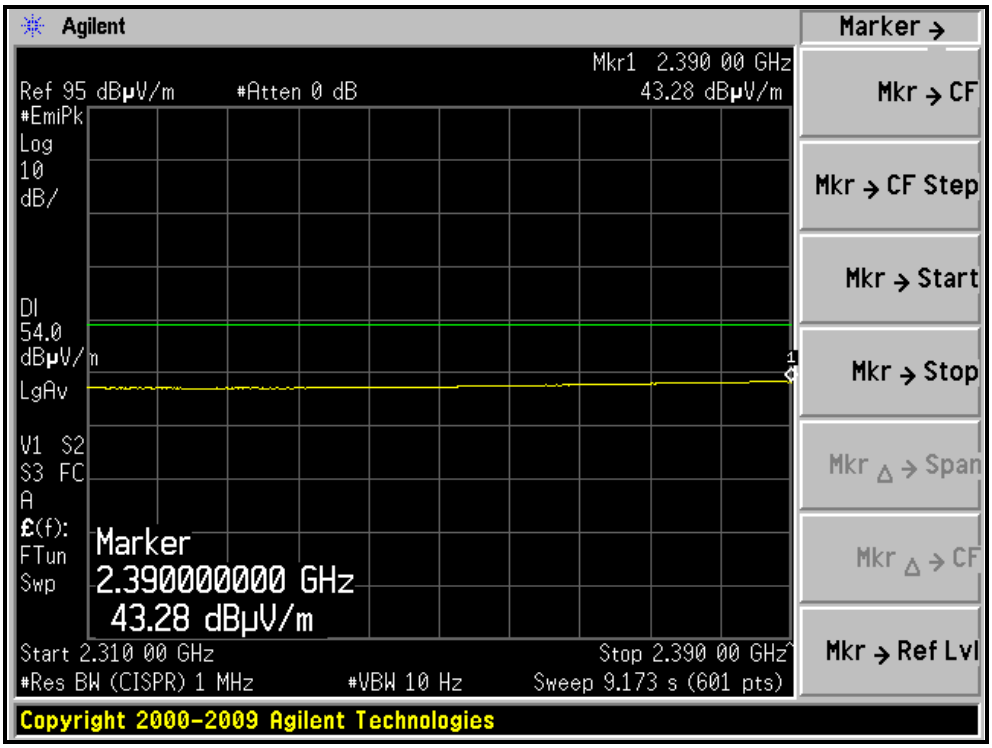
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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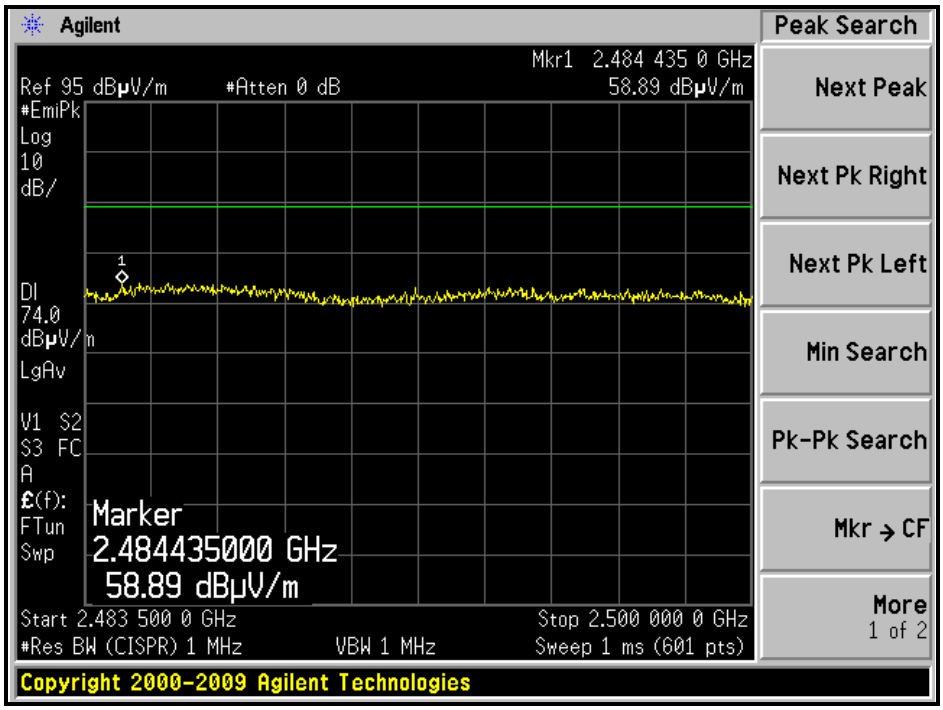
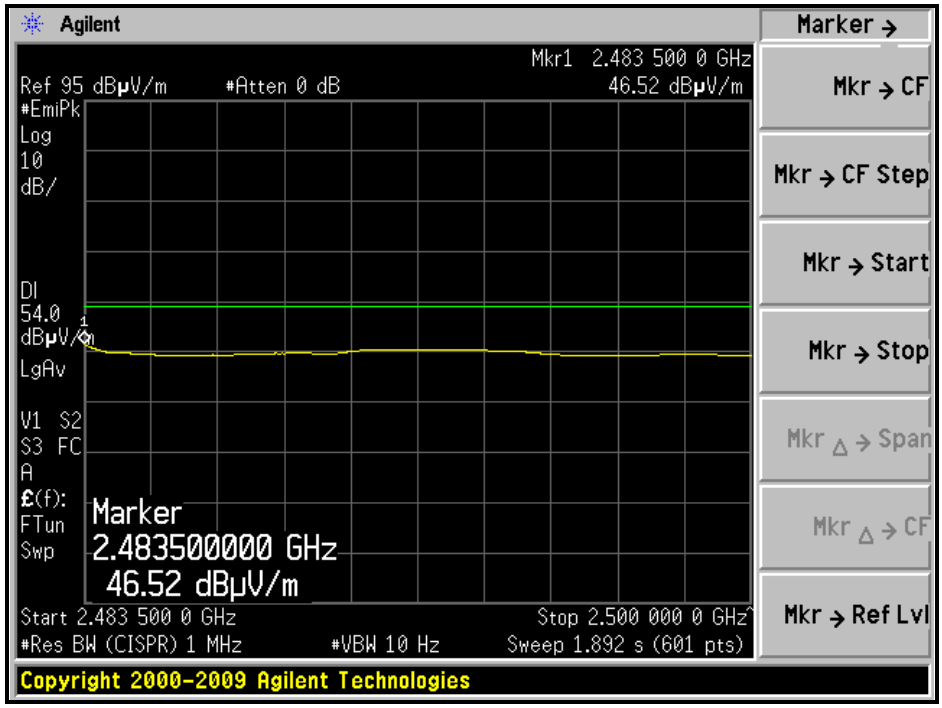
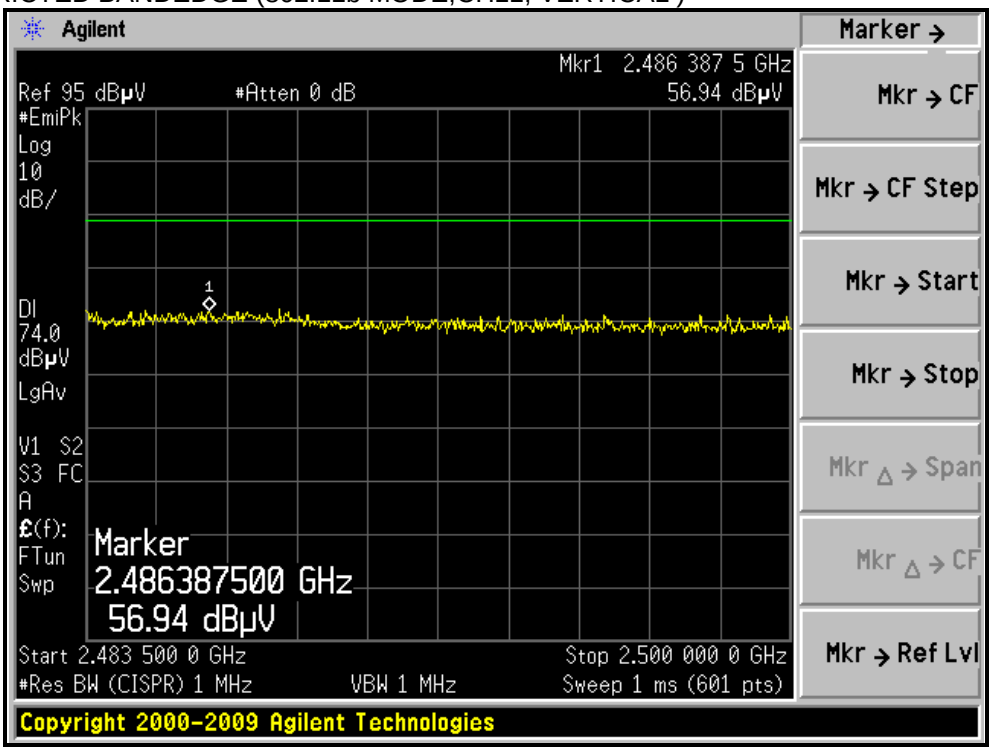
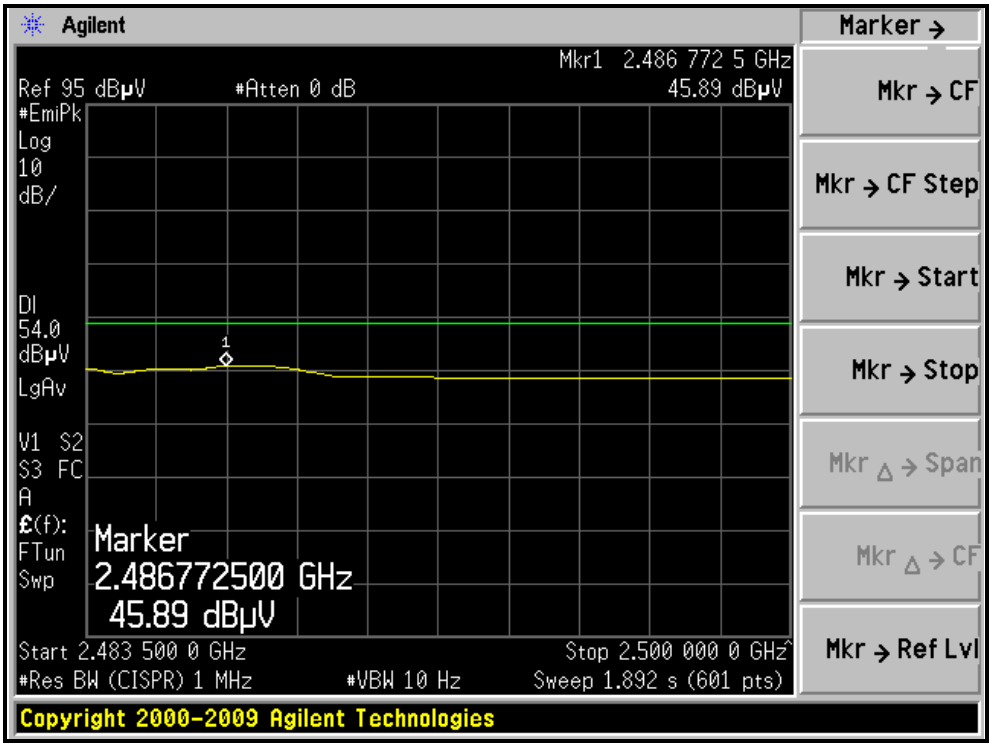




RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.3 PK	74.0	-2.7	1.50 H	122	39.64	31.66
2	2390.00	49.8 AV	54.0	-4.2	1.50 H	122	18.14	31.66
3	*2412.00	113.4 PK			1.50 H	122	81.67	31.73
4	*2412.00	103.5 AV			1.50 H	122	71.77	31.73
5	4824.00	49.3 PK	74.0	-24.7	1.17 H	253	10.33	38.97
6	4824.00	36.6 AV	54.0	-17.4	1.17 H	253	-2.37	38.97
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	1.25 V	161	31.84	31.66
2	2390.00	47.8 AV	54.0	-6.2	1.25 V	161	16.14	31.66
3	*2412.00	102.5 PK			1.25 V	161	70.77	31.73
4	*2412.00	93.5 AV			1.25 V	161	61.77	31.73
5	4824.00	48.4 PK	74.0	-25.6	1.45 V	120	9.43	38.97
6	4824.00	36.4 AV	54.0	-17.6	1.45 V	120	-2.57	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	112.9 PK			1.48 H	137	81.09	31.81
2	*2437.00	104.3 AV			1.48 H	137	72.49	31.81
3	4874.00	49.5 PK	74.0	-24.5	1.18 H	250	10.36	39.14
4	4874.00	36.9 AV	54.0	-17.1	1.18 H	250	-2.24	39.14
5	7311.00	59.6 PK	74.0	-14.4	1.80 H	129	12.97	46.63
6	7311.00	45.4 AV	54.0	-8.6	1.80 H	129	-1.23	46.63
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	104.0 PK			1.31 V	150	72.19	31.81
2	*2437.00	94.7 AV			1.31 V	150	62.89	31.81
3	4874.00	49.0 PK	74.0	-25.0	1.46 V	124	9.86	39.14
4	4874.00	36.4 AV	54.0	-17.6	1.46 V	124	-2.74	39.14
5	7311.00	59.8 PK	74.0	-14.2	1.47 V	64	13.17	46.63
6	7311.00	45.5 AV	54.0	-8.5	1.47 V	64	-1.13	46.63

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.7 PK			1.49 H	136	77.81	31.89
2	*2462.00	100.8 AV			1.49 H	136	68.91	31.89
3	2483.50	72.5 PK	74.0	-1.5	1.49 H	136	40.53	31.97
4	2483.50	52.1 AV	54.0	-1.9	1.49 H	136	20.13	31.97
5	4924.00	49.4 PK	74.0	-24.6	1.16 H	239	10.09	39.31
6	4924.00	36.6 AV	54.0	-17.4	1.16 H	239	-2.71	39.31
7	7386.00	59.5 PK	74.0	-14.5	1.75 H	122	12.90	46.60
8	7386.00	45.2 AV	54.0	-8.8	1.75 H	122	-1.40	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.8 PK			1.23 V	173	67.91	31.89
2	*2462.00	90.1 AV			1.23 V	173	58.21	31.89
3	2483.50	63.9 PK	74.0	-10.1	1.23 V	173	31.93	31.97
4	2483.50	47.0 AV	54.0	-7.0	1.23 V	173	15.03	31.97
5	4924.00	49.2 PK	74.0	-24.8	1.51 V	122	9.89	39.31
6	4924.00	36.6 AV	54.0	-17.4	1.51 V	122	-2.71	39.31
7	7386.00	59.8 PK	74.0	-14.2	1.53 V	57	13.20	46.60
8	7386.00	45.6 AV	54.0	-8.4	1.53 V	57	-1.00	46.60

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

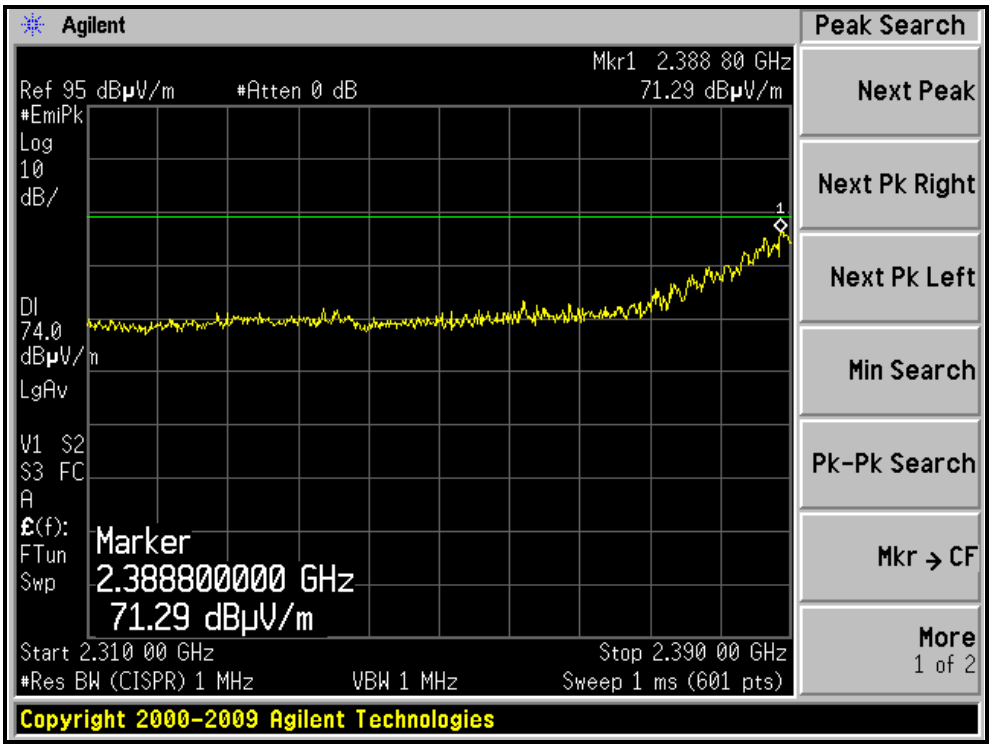
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

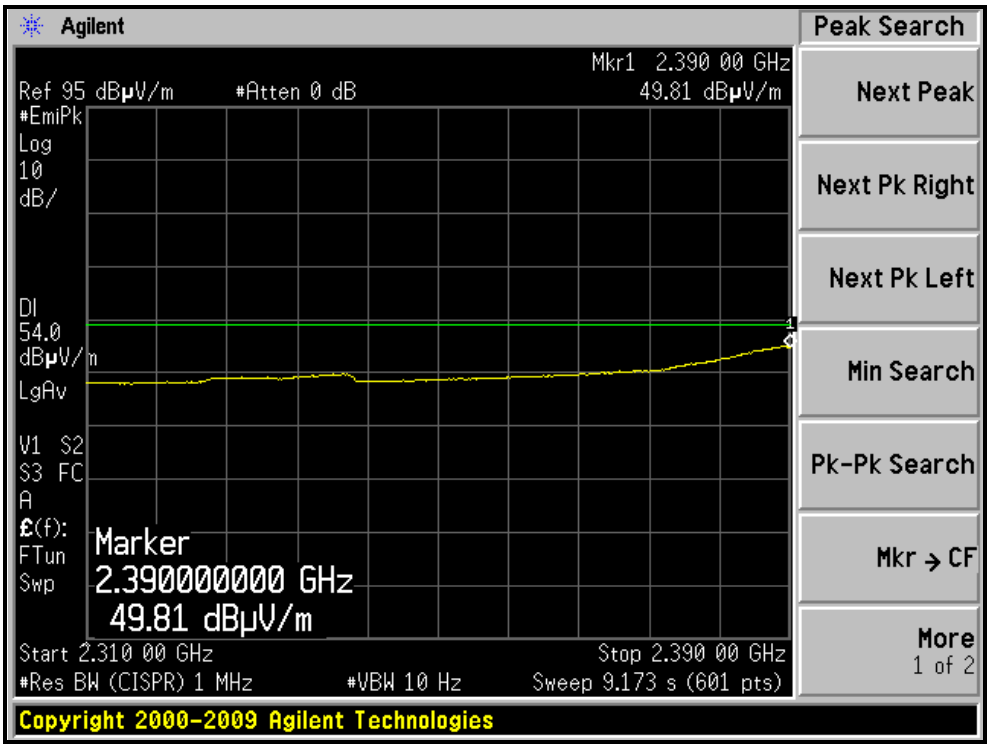
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

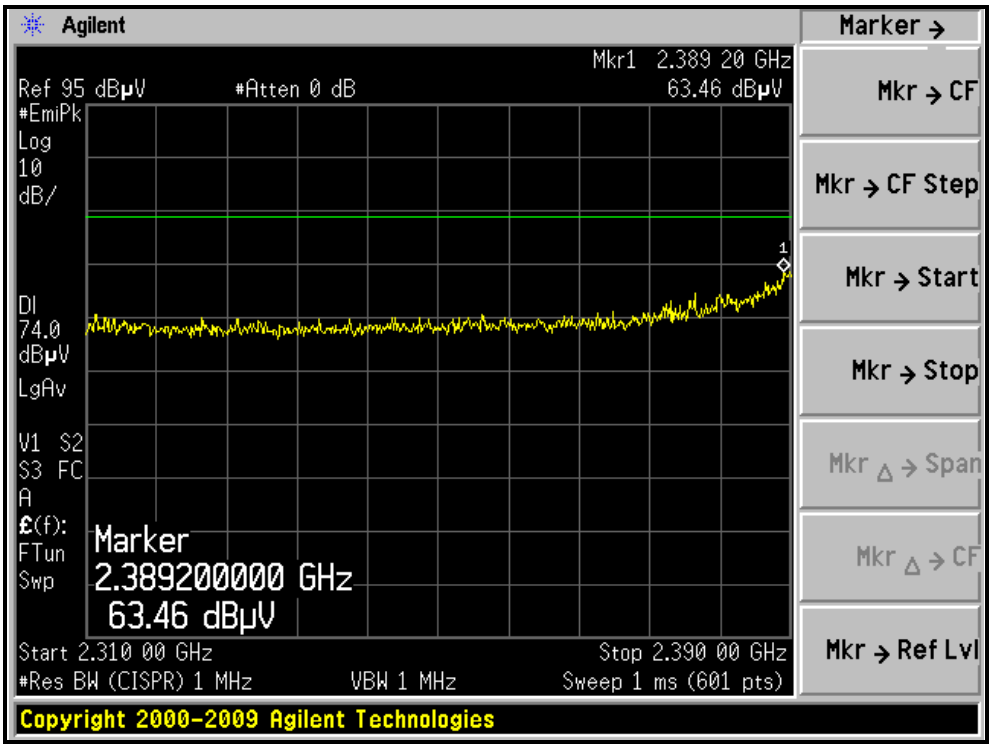
5. " * ": Fundamental frequency.

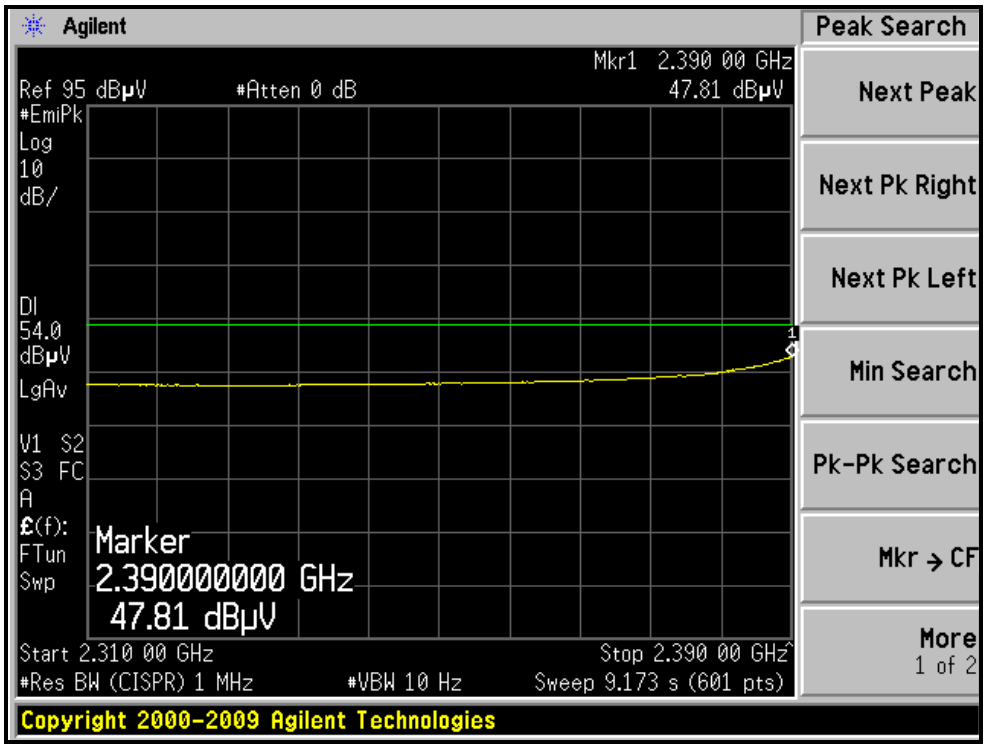
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



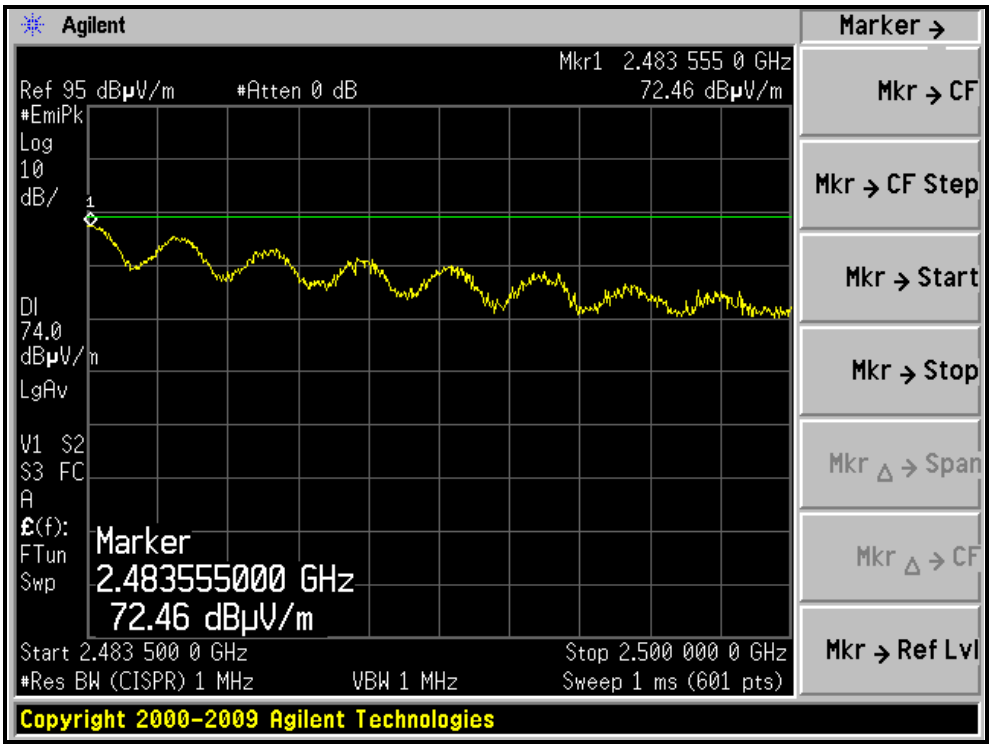


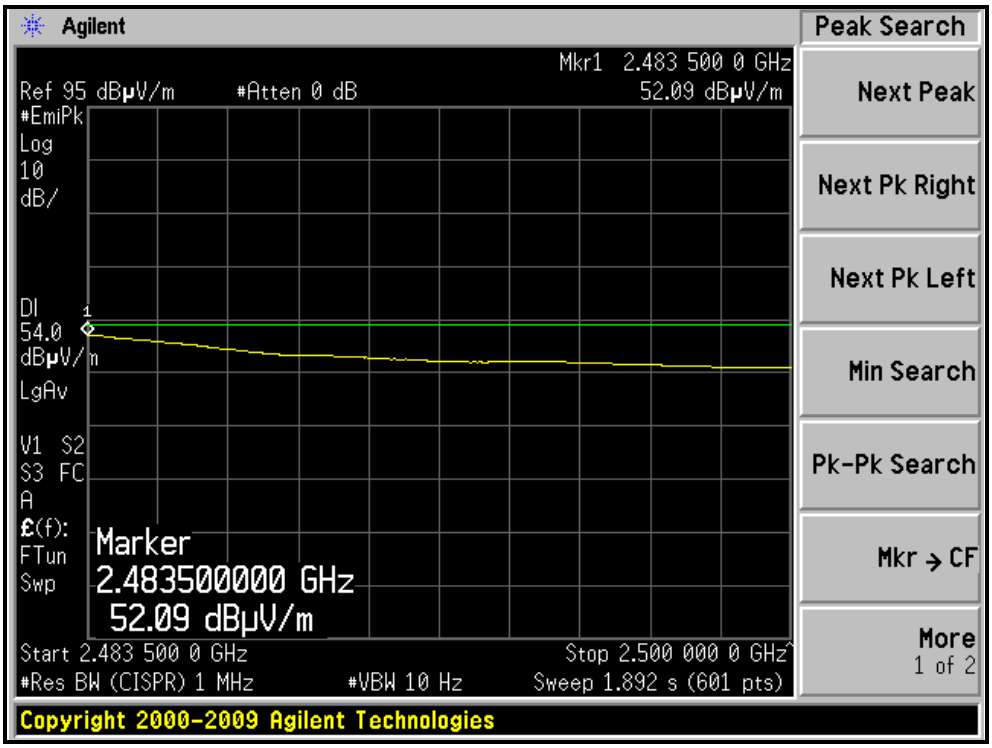
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



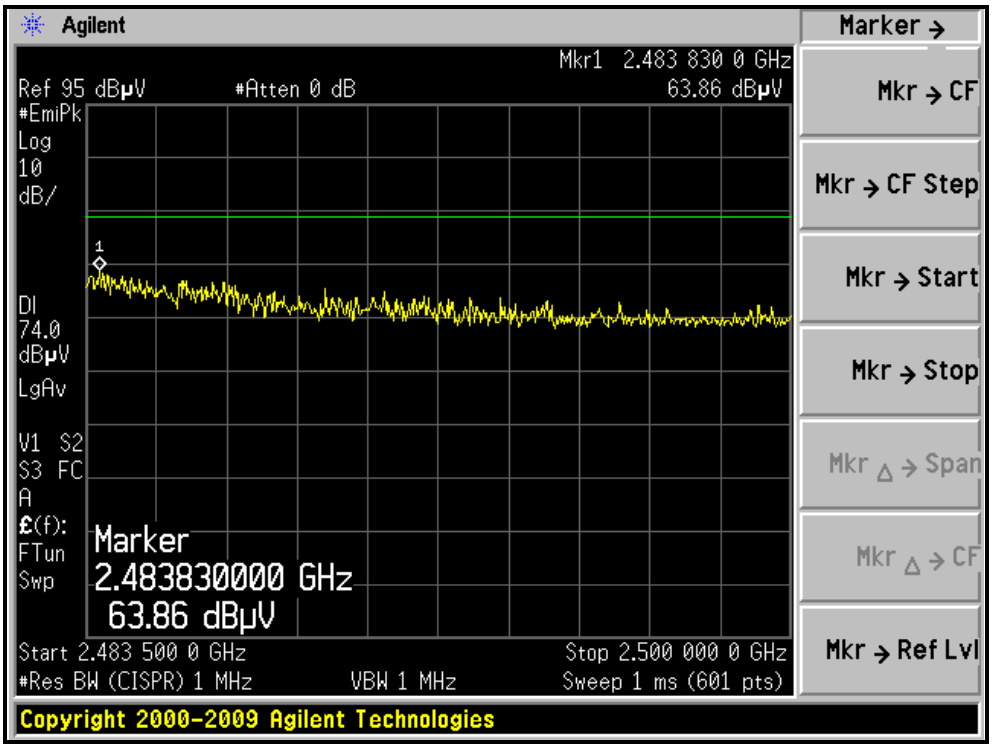


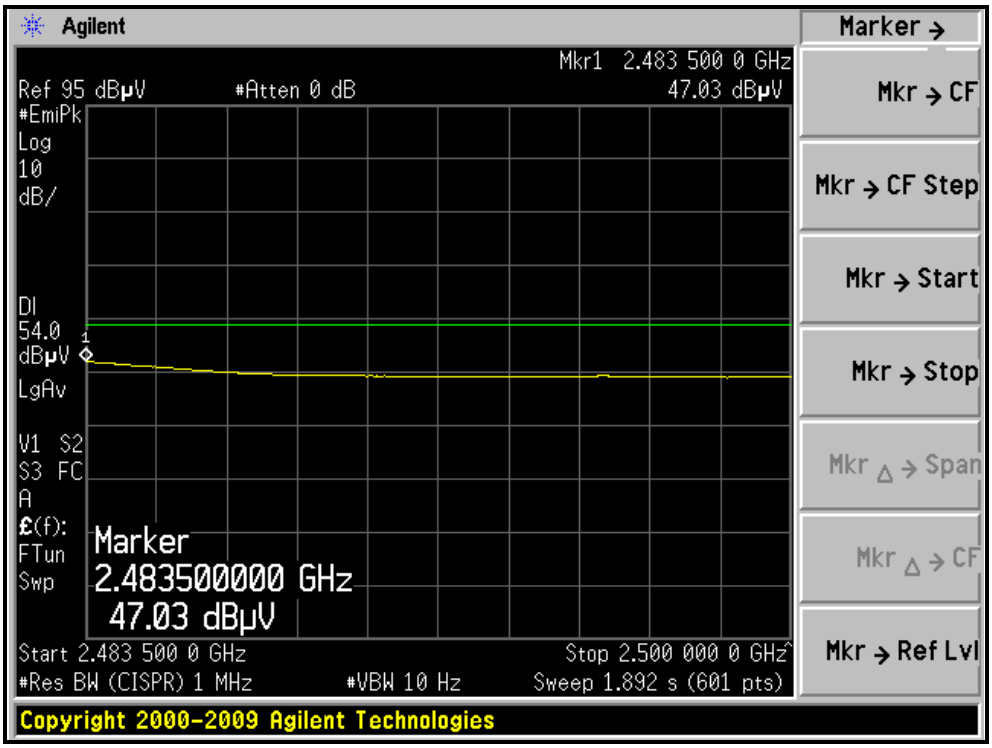
RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





Single Chain : 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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.7 PK	74.0	-1.3	1.51 H	134	41.04	31.66
2	2390.00	53.1 AV	54.0	-0.9	1.51 H	134	21.44	31.66
3	*2412.00	112.3 PK			1.48 H	138	80.57	31.73
4	*2412.00	103.4 AV			1.48 H	138	71.67	31.73
5	4824.00	50.7 PK	74.0	-23.3	1.15 H	233	11.73	38.97
6	4824.00	37.7 AV	54.0	-16.3	1.15 H	233	-1.27	38.97
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	64.7 PK	74.0	-9.3	1.29 V	170	33.04	31.66
2	2390.00	45.8 AV	54.0	-8.2	1.29 V	170	14.14	31.66
3	*2412.00	100.2 PK			1.29 V	170	68.47	31.73
4	*2412.00	91.5 AV			1.29 V	170	59.77	31.73
5	4824.00	49.4 PK	74.0	-24.6	1.52 V	118	10.43	38.97
6	4824.00	36.9 AV	54.0	-17.1	1.52 V	118	-2.07	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.7 PK			1.40 H	130	81.89	31.81
2	*2437.00	104.2 AV			1.40 H	130	72.39	31.81
3	2483.50	73.2 PK	74.0	-0.8	1.40 H	130	41.23	31.97
4	2483.50	53.1 AV	54.0	-0.9	1.40 H	130	21.13	31.97
5	4874.00	50.3 PK	74.0	-23.7	1.18 H	225	11.16	39.14
6	4874.00	37.5 AV	54.0	-16.5	1.18 H	225	-1.64	39.14
7	7311.00	59.8 PK	74.0	-14.2	1.77 H	150	13.17	46.63
8	7311.00	45.5 AV	54.0	-8.5	1.77 H	150	-1.13	46.63
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			1.33 V	183	68.99	31.81
2	*2437.00	92.2 AV			1.33 V	183	60.39	31.81
3	4874.00	49.5 PK	74.0	-24.5	1.50 V	130	10.36	39.14
4	4874.00	37.0 AV	54.0	-17.0	1.50 V	130	-2.14	39.14
5	7311.00	59.9 PK	74.0	-14.1	1.48 V	64	13.27	46.63
6	7311.00	45.5 AV	54.0	-8.5	1.48 V	64	-1.13	46.63

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

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

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

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.7 PK			1.45 H	134	78.81	31.89
2	*2462.00	100.4 AV			1.45 H	134	68.51	31.89
3	2483.50	72.5 PK	74.0	-1.5	1.45 H	137	40.53	31.97
4	2483.50	53.4 AV	54.0	-0.6	1.45 H	137	21.43	31.97
5	4924.00	51.1 PK	74.0	-22.9	1.24 H	212	11.79	39.31
6	4924.00	38.1 AV	54.0	-15.9	1.24 H	212	-1.21	39.31
7	7386.00	59.9 PK	74.0	-14.1	1.79 H	147	13.30	46.60
8	7386.00	45.8 AV	54.0	-8.2	1.79 H	147	-0.80	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.1 PK			1.25 V	162	66.21	31.89
2	*2462.00	88.4 AV			1.25 V	162	56.51	31.89
3	2483.50	64.3 PK	74.0	-9.7	1.25 V	162	32.33	31.97
4	2483.50	46.5 AV	54.0	-7.5	1.25 V	162	14.53	31.97
5	4924.00	49.6 PK	74.0	-24.4	1.46 V	120	10.29	39.31
6	4924.00	37.3 AV	54.0	-16.7	1.46 V	120	-2.01	39.31
7	7386.00	59.4 PK	74.0	-14.6	1.43 V	59	12.80	46.60
8	7386.00	45.7 AV	54.0	-8.3	1.43 V	59	-0.90	46.60

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

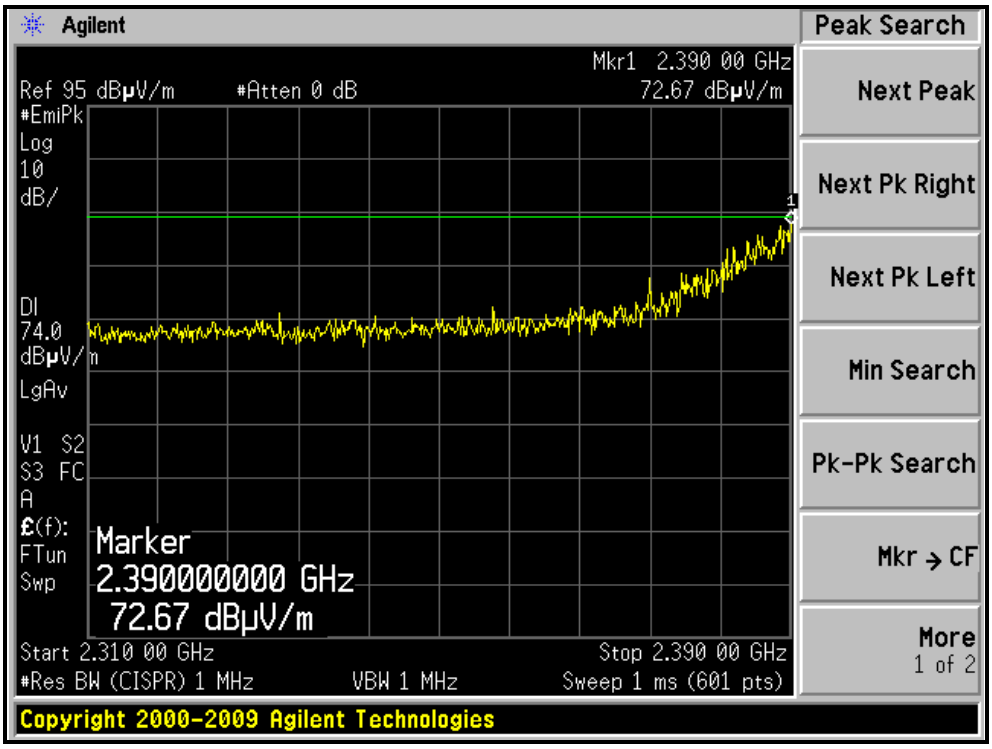
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

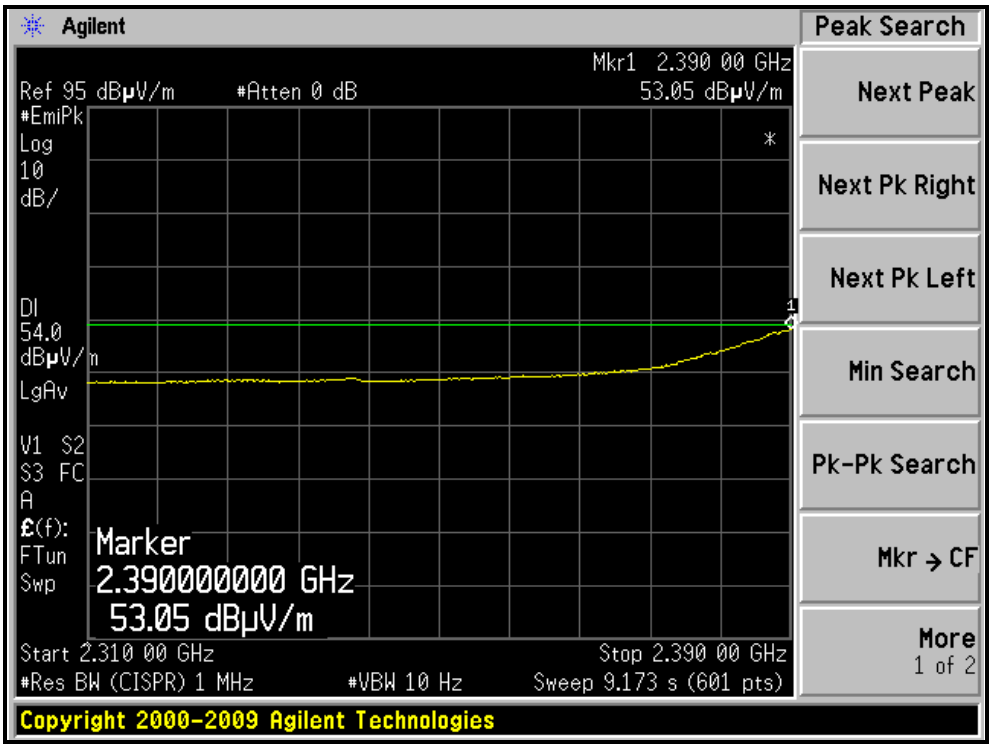
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

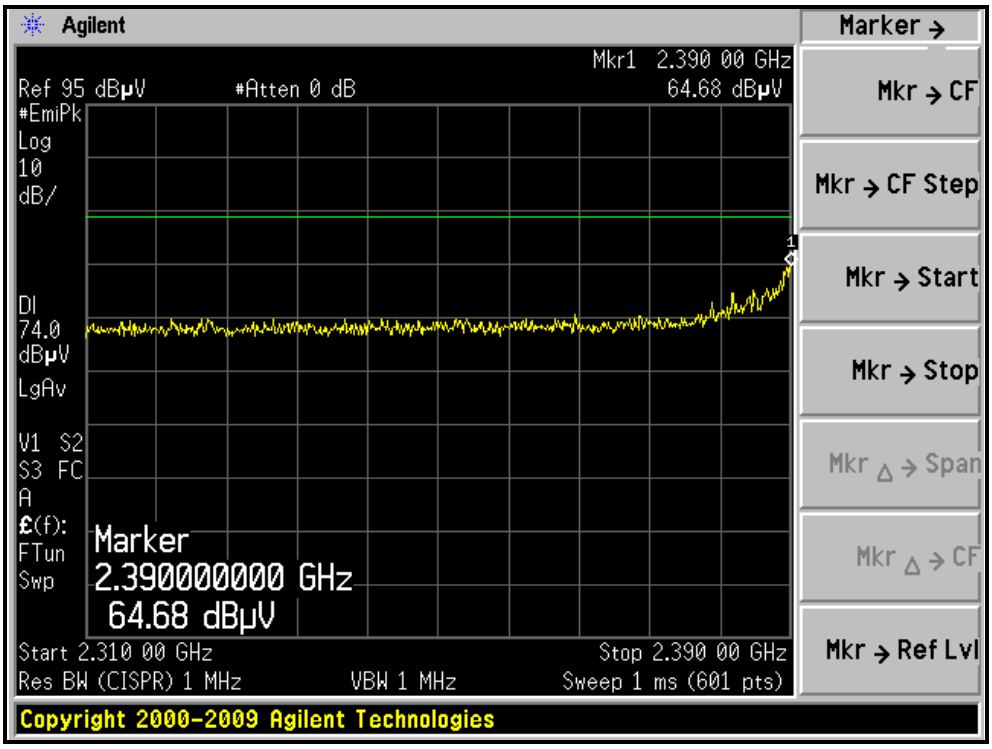
5. " * ": Fundamental frequency.

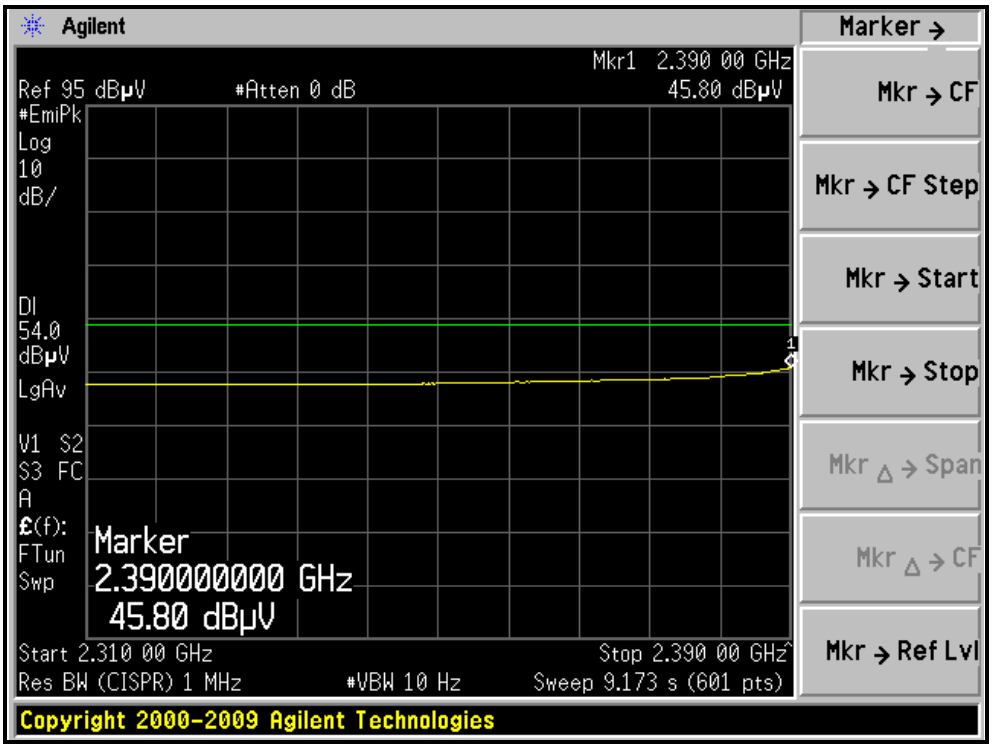
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



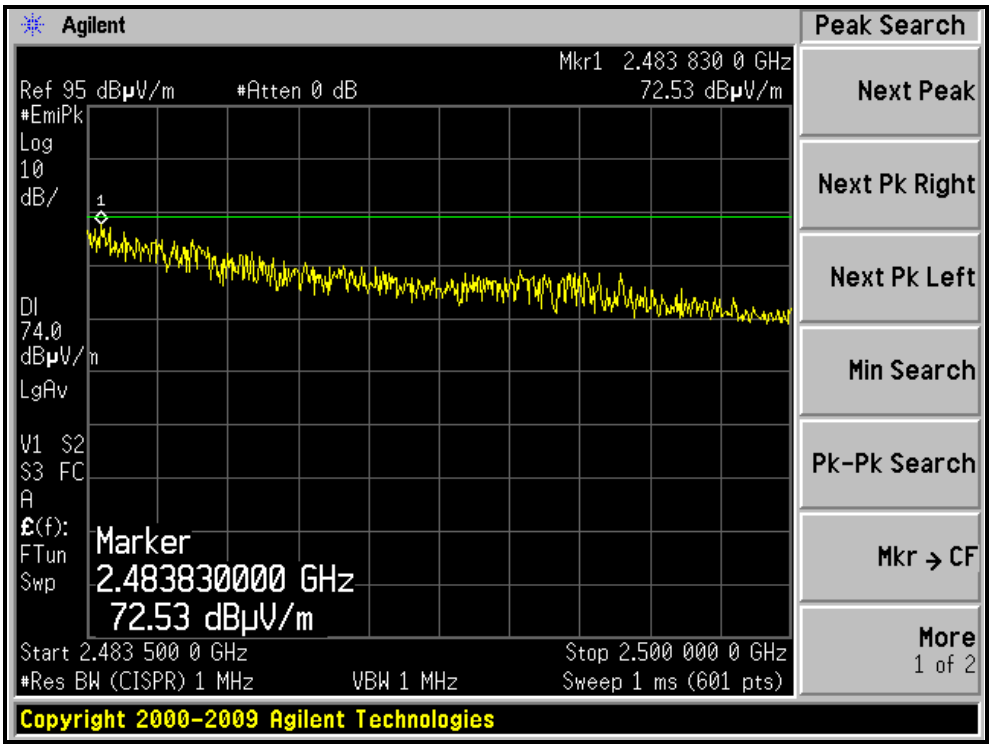


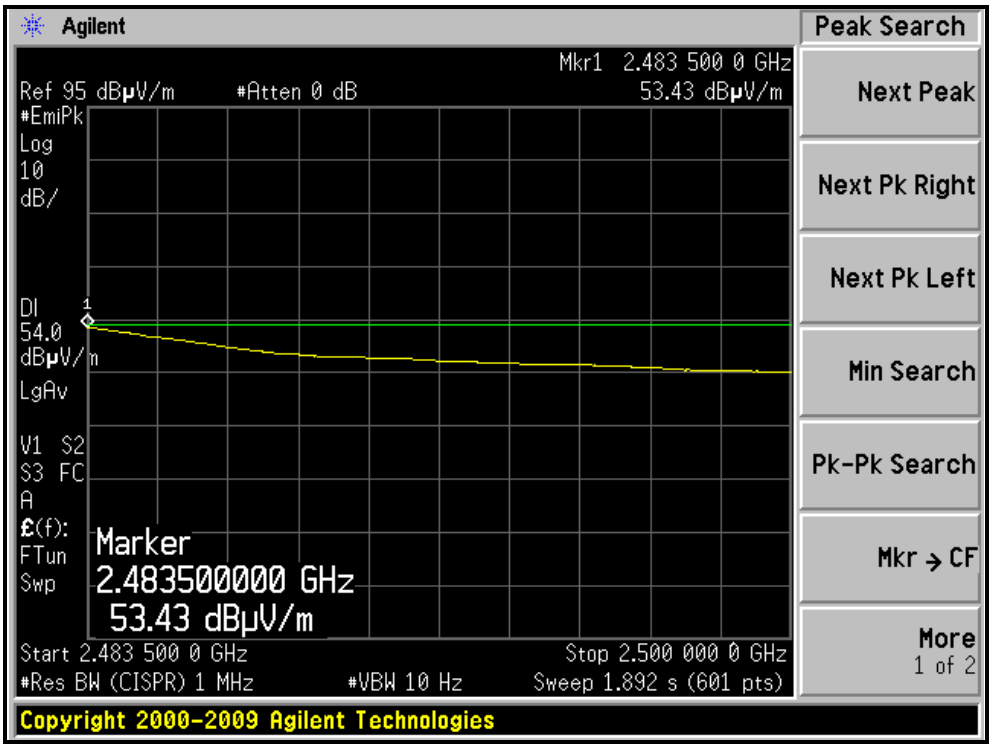
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



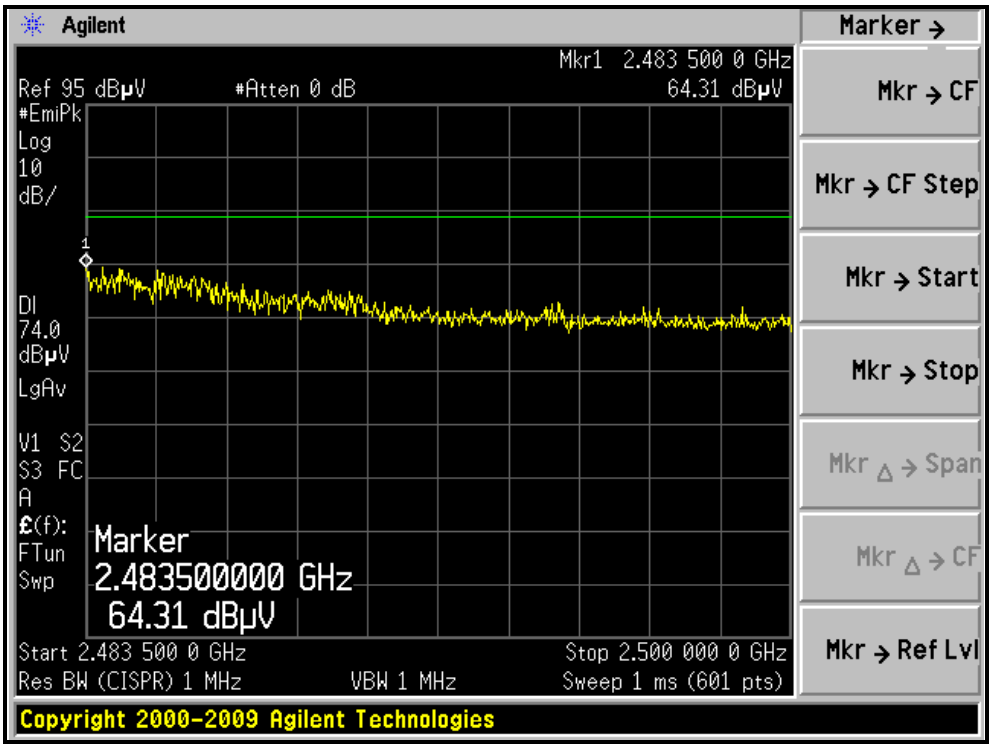


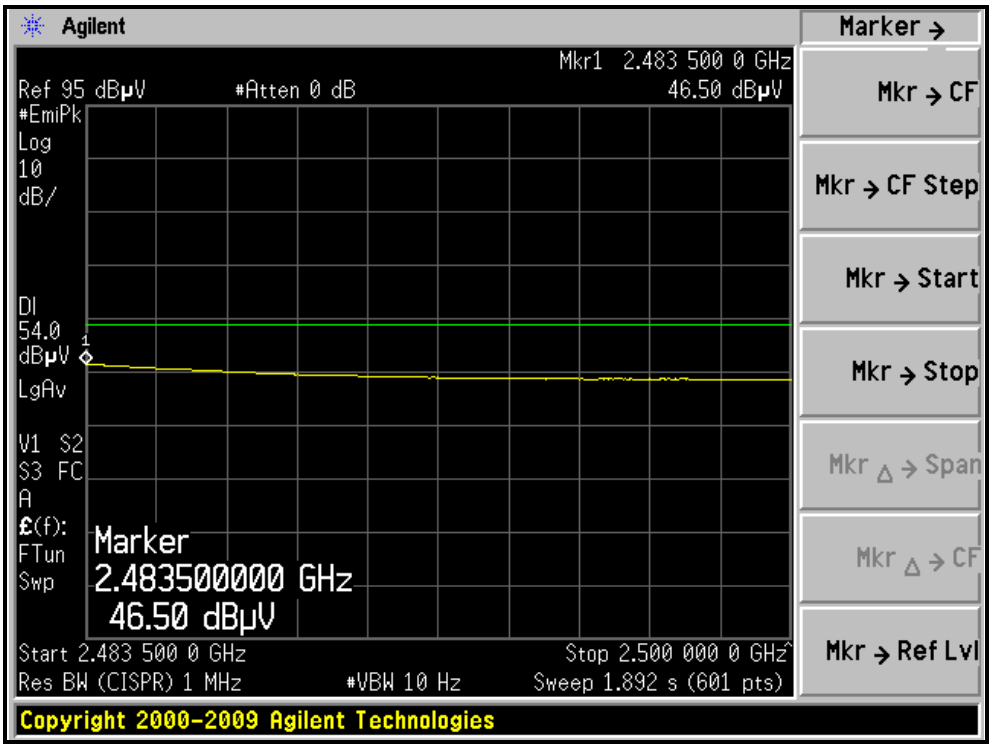
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





Multiple chain : 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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	1.48 H	125	34.94	31.66
2	2390.00	51.0 AV	54.0	-3.0	1.48 H	125	19.34	31.66
3	*2412.00	114.7 PK			1.48 H	125	82.97	31.73
4	*2412.00	105.0 AV			1.48 H	125	73.27	31.73
5	4824.00	48.9 PK	74.0	-25.1	1.12 H	246	9.93	38.97
6	4824.00	36.5 AV	54.0	-17.5	1.12 H	246	-2.47	38.97
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.5 PK	74.0	-16.5	1.37 V	159	25.84	31.66
2	2390.00	44.4 AV	54.0	-9.6	1.37 V	159	12.74	31.66
3	*2412.00	103.9 PK			1.37 V	159	72.17	31.73
4	*2412.00	93.7 AV			1.37 V	159	61.97	31.73
5	4824.00	48.2 PK	74.0	-25.8	1.42 V	112	9.23	38.97
6	4824.00	36.3 AV	54.0	-17.7	1.42 V	112	-2.67	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2365.30	58.9 PK	74.0	-15.1	1.53 H	126	27.32	31.58
2	2365.30	48.0 AV	54.0	-6.0	1.53 H	126	16.42	31.58
3	*2437.00	116.7 PK			1.46 H	124	84.89	31.81
4	*2437.00	107.0 AV			1.46 H	124	75.19	31.81
5	2483.50	69.0 PK	74.0	-5.0	1.41 H	127	37.03	31.97
6	2483.50	49.7 AV	54.0	-4.3	1.41 H	127	17.73	31.97
7	4874.00	50.3 PK	74.0	-23.7	1.14 H	238	11.16	39.14
8	4874.00	37.6 AV	54.0	-16.4	1.14 H	238	-1.54	39.14
9	7311.00	59.4 PK	74.0	-14.6	1.79 H	136	12.77	46.63
10	7311.00	45.2 AV	54.0	-8.8	1.79 H	136	-1.43	46.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.4 PK			1.37 V	162	74.59	31.81
2	*2437.00	96.0 AV			1.37 V	162	64.19	31.81
3	4874.00	49.5 PK	74.0	-24.5	1.46 V	136	10.36	39.14
4	4874.00	37.2 AV	54.0	-16.8	1.46 V	136	-1.94	39.14
5	7311.00	60.1 PK	74.0	-13.9	1.46 V	59	13.47	46.63
6	7311.00	45.5 AV	54.0	-8.5	1.46 V	59	-1.13	46.63

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

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

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

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	113.7 PK			1.50 H	109	81.81	31.89
2	*2462.00	104.4 AV			1.50 H	109	72.51	31.89
3	2483.50	70.1 PK	74.0	-3.9	1.50 H	109	38.13	31.97
4	2483.50	53.3 AV	54.0	-0.7	1.50 H	109	21.33	31.97
5	4924.00	50.0 PK	74.0	-24.0	1.13 H	247	10.69	39.31
6	4924.00	37.5 AV	54.0	-16.5	1.13 H	247	-1.81	39.31
7	7386.00	59.4 PK	74.0	-14.6	1.81 H	138	12.80	46.60
8	7386.00	45.0 AV	54.0	-9.0	1.81 H	138	-1.60	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.3 PK			1.24 V	173	70.41	31.89
2	*2462.00	92.5 AV			1.24 V	173	60.61	31.89
3	2483.50	63.5 PK	74.0	-10.5	1.24 V	173	31.53	31.97
4	2483.50	47.1 AV	54.0	-6.9	1.24 V	173	15.13	31.97
5	4924.00	49.2 PK	74.0	-24.8	1.49 V	138	9.89	39.31
6	4924.00	37.1 AV	54.0	-16.9	1.49 V	138	-2.21	39.31
7	7386.00	60.4 PK	74.0	-13.6	1.47 V	55	13.80	46.60
8	7386.00	45.6 AV	54.0	-8.4	1.47 V	55	-1.00	46.60

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

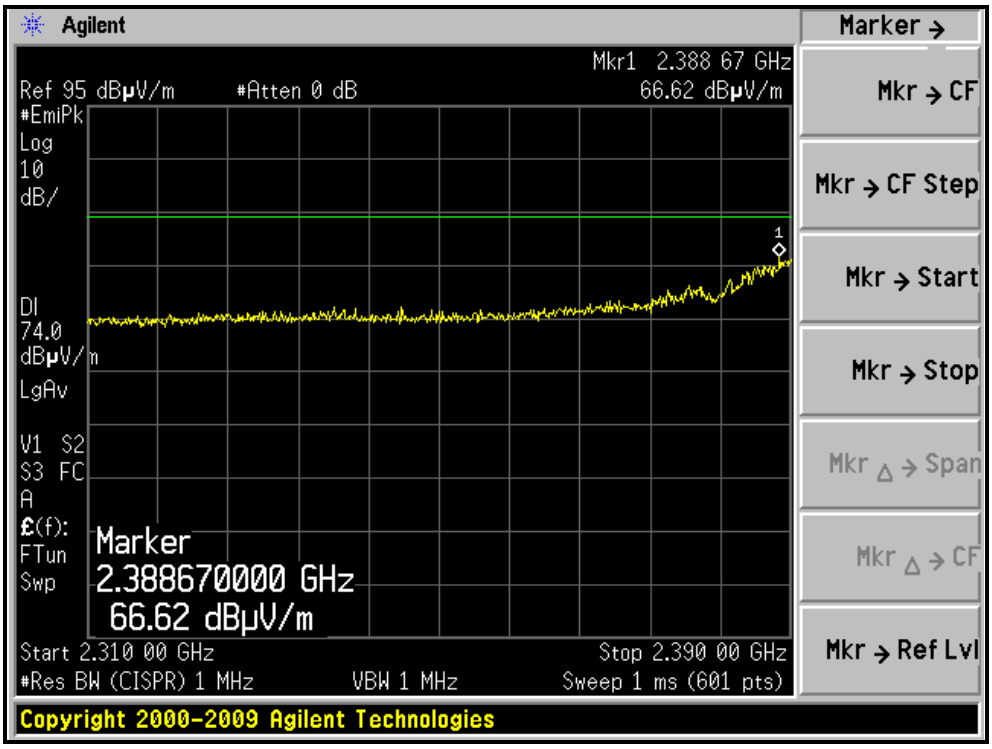
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

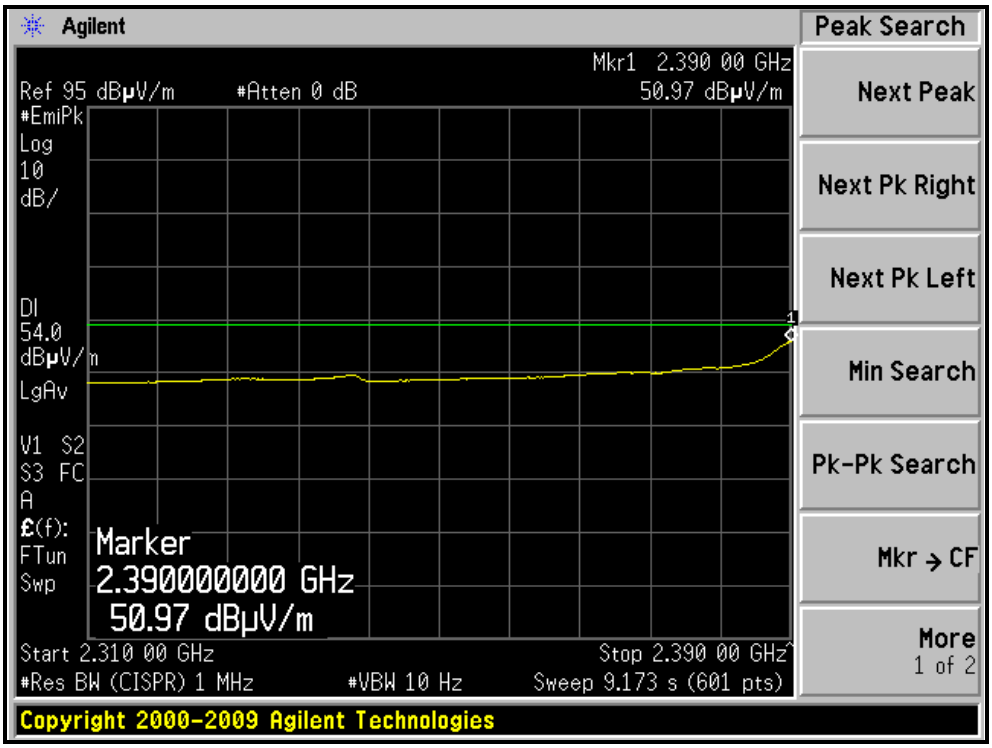
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

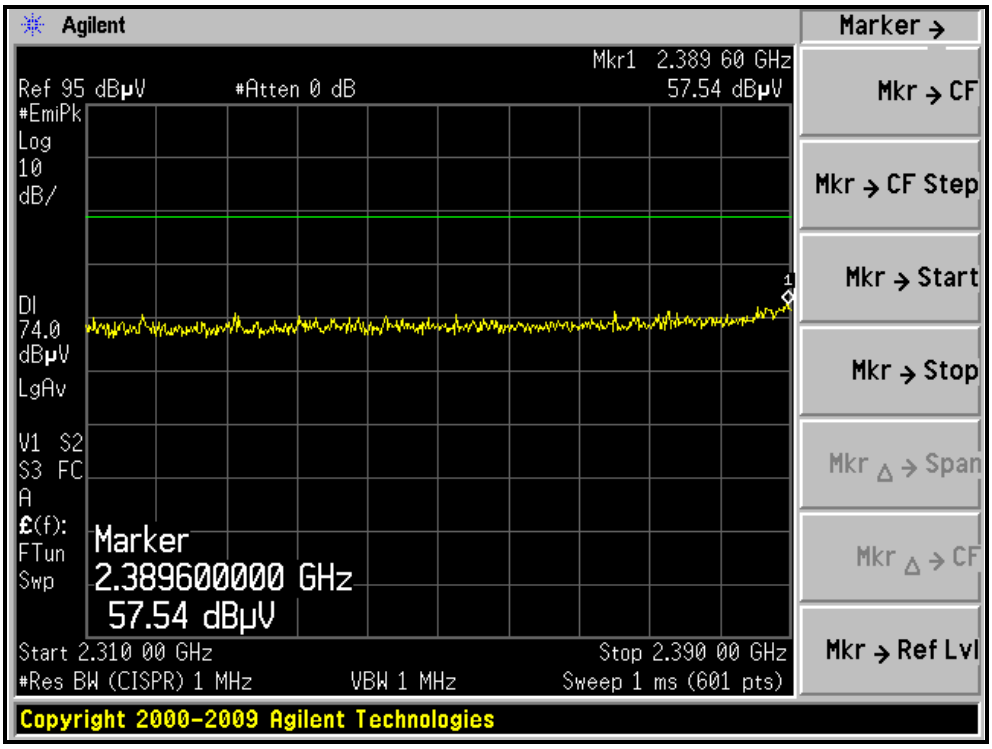
5. " * ": Fundamental frequency.

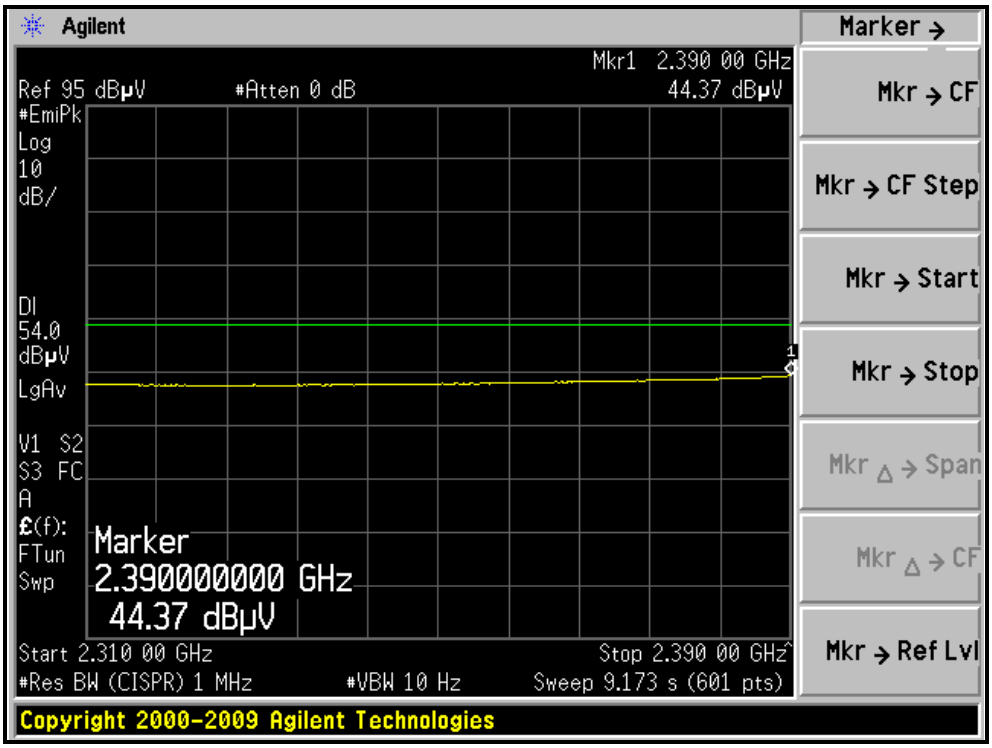
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)





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





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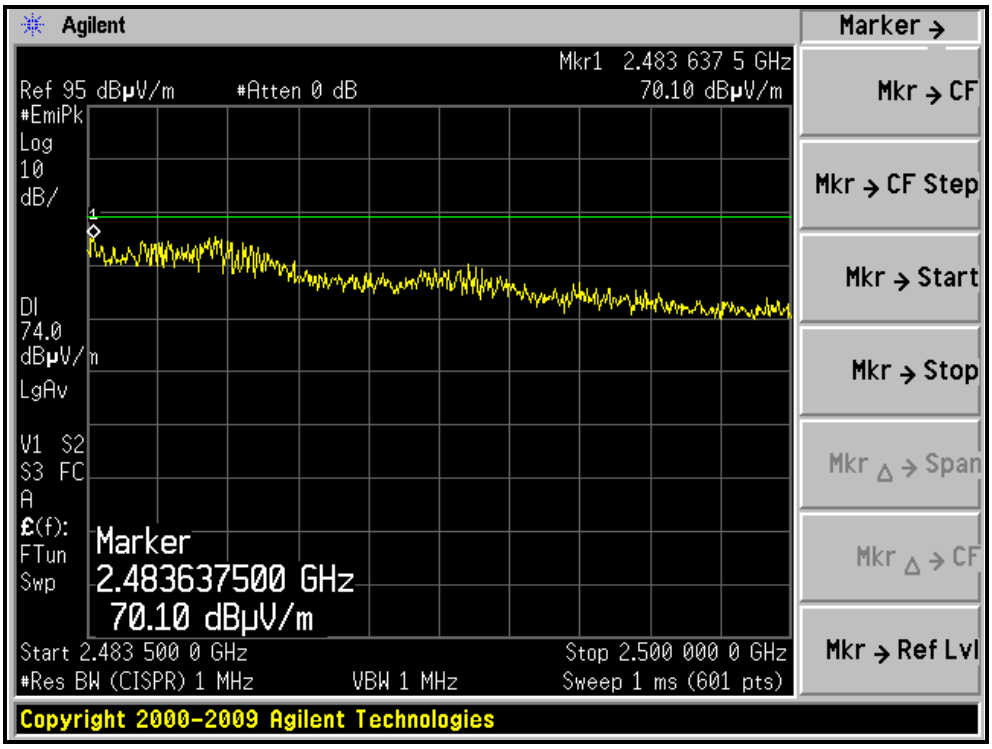
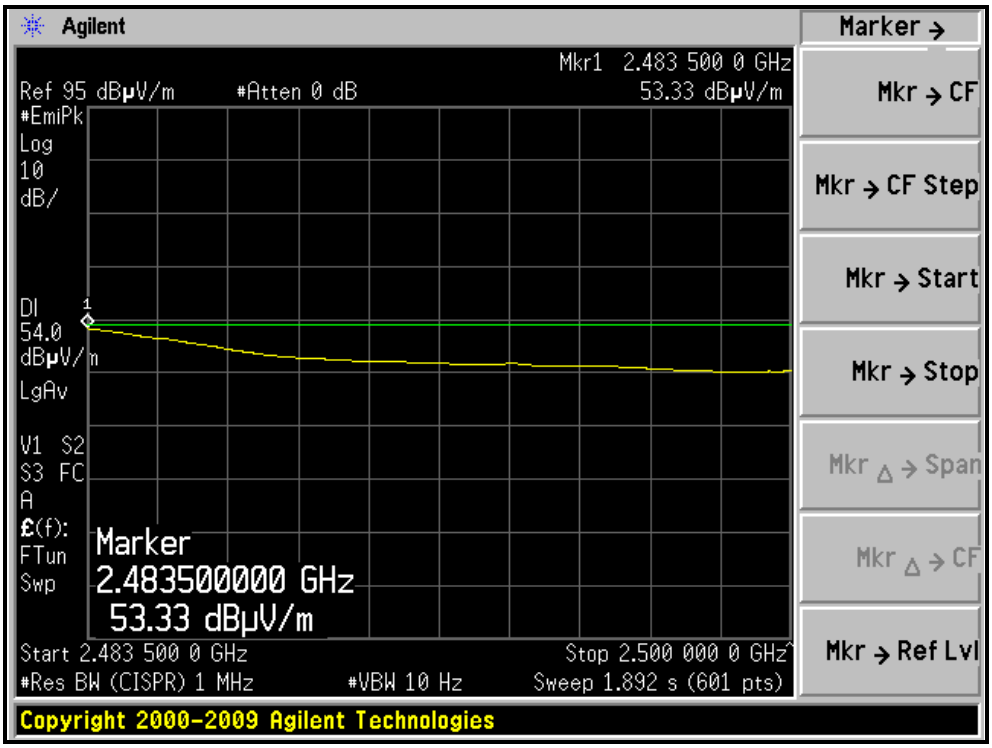
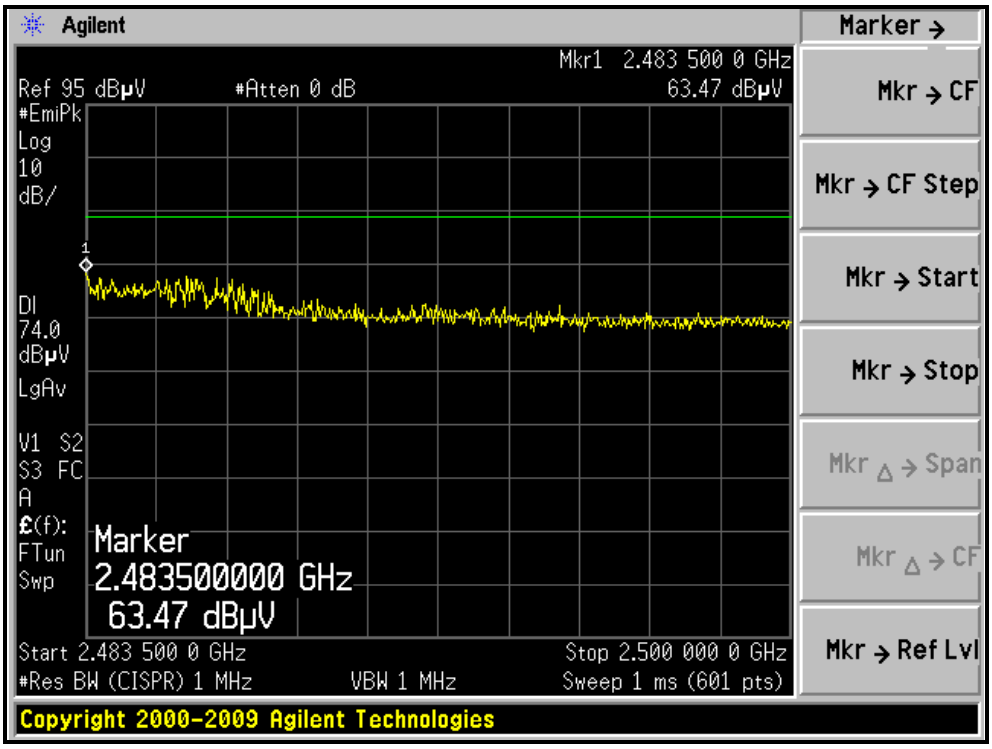
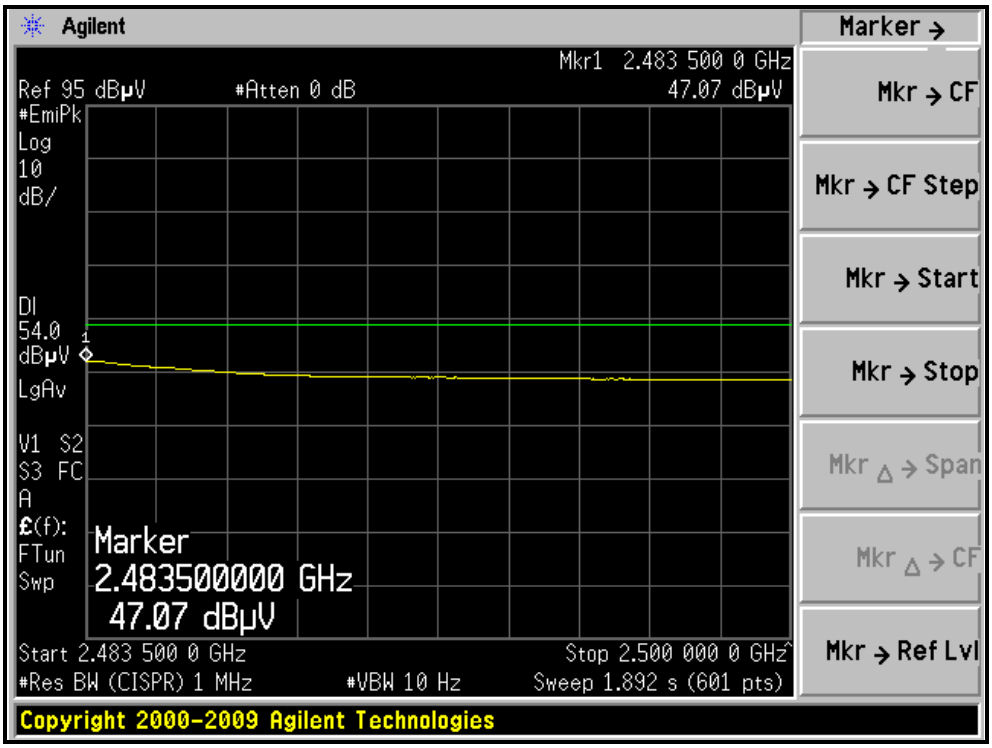




RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, VERTICAL)





Single chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.93	72.4 PK	74.0	-1.6	1.45 H	134	40.75	31.65
2	2388.93	52.4 AV	54.0	-1.6	1.45 H	134	20.75	31.65
3	*2422.00	110.6 PK			1.45 H	134	78.84	31.76
4	*2422.00	101.3 AV			1.45 H	134	69.54	31.76
5	4844.00	51.9 PK	74.0	-22.1	1.22 H	208	12.86	39.04
6	4844.00	38.7 AV	54.0	-15.3	1.22 H	208	-0.34	39.04
7	7266.00	59.9 PK	74.0	-14.1	1.79 H	156	13.23	46.67
8	7266.00	46.1 AV	54.0	-7.9	1.79 H	156	-0.57	46.67
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	1.29 V	170	31.84	31.66
2	2390.00	47.6 AV	54.0	-6.4	1.29 V	170	15.94	31.66
3	*2422.00	97.6 PK			1.29 V	170	65.84	31.76
4	*2422.00	88.1 AV			1.29 V	170	56.34	31.76
5	4844.00	50.5 PK	74.0	-23.5	1.50 V	133	11.46	39.04
6	4844.00	37.9 AV	54.0	-16.1	1.50 V	133	-1.14	39.04
7	7266.00	59.4 PK	74.0	-14.6	1.45 V	49	12.73	46.67
8	7266.00	45.9 AV	54.0	-8.1	1.45 V	49	-0.77	46.67

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.1 PK			1.43 H	144	79.29	31.81
2	*2437.00	102.0 AV			1.43 H	144	70.19	31.81
3	2483.50	72.1 PK	74.0	-1.9	1.40 H	130	40.13	31.97
4	**2483.50**	**53.5 AV**	**54.0**	**-0.5**	**1.40 H**	**130**	**21.53**	**31.97**
5	4874.00	51.8 PK	74.0	-22.2	1.27 H	198	12.66	39.14
6	4874.00	38.9 AV	54.0	-15.1	1.27 H	198	-0.24	39.14
7	7311.00	59.5 PK	74.0	-14.5	1.83 H	145	12.87	46.63
8	7311.00	45.9 AV	54.0	-8.1	1.83 H	145	-0.73	46.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.0 PK			1.23 V	177	66.19	31.81
2	*2437.00	88.7 AV			1.23 V	177	56.89	31.81
3	4874.00	50.8 PK	74.0	-23.2	1.46 V	144	11.66	39.14
4	4874.00	38.1 AV	54.0	-15.9	1.46 V	144	-1.04	39.14
5	7311.00	59.9 PK	74.0	-14.1	1.42 V	62	13.27	46.63
6	7311.00	46.3 AV	54.0	-7.7	1.42 V	62	-0.33	46.63

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

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

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

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	108.2 PK			1.48 H	133	76.34	31.86
2	*2452.00	98.1 AV			1.48 H	133	66.24	31.86
3	2483.50	70.8 PK	74.0	-3.2	1.48 H	133	38.83	31.97
4	2483.50	52.2 AV	54.0	-1.8	1.48 H	133	20.23	31.97
5	4904.00	51.7 PK	74.0	-22.3	1.32 H	201	12.46	39.24
6	4904.00	39.0 AV	54.0	-15.0	1.32 H	201	-0.24	39.24
7	7356.00	60.0 PK	74.0	-14.0	1.78 H	152	13.39	46.61
8	7356.00	46.6 AV	54.0	-7.4	1.78 H	152	-0.01	46.61
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.6 PK			1.25 V	161	63.74	31.86
2	*2452.00	86.6 AV			1.25 V	161	54.74	31.86
3	2483.50	60.1 PK	74.0	-13.9	1.25 V	161	28.13	31.97
4	2483.50	45.8 AV	54.0	-8.2	1.25 V	161	13.83	31.97
5	4904.00	51.4 PK	74.0	-22.6	1.46 V	149	12.16	39.24
6	4904.00	38.6 AV	54.0	-15.4	1.46 V	149	-0.64	39.24
7	7356.00	60.2 PK	74.0	-13.8	1.43 V	51	13.59	46.61
8	7356.00	46.7 AV	54.0	-7.3	1.43 V	51	0.09	46.61

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

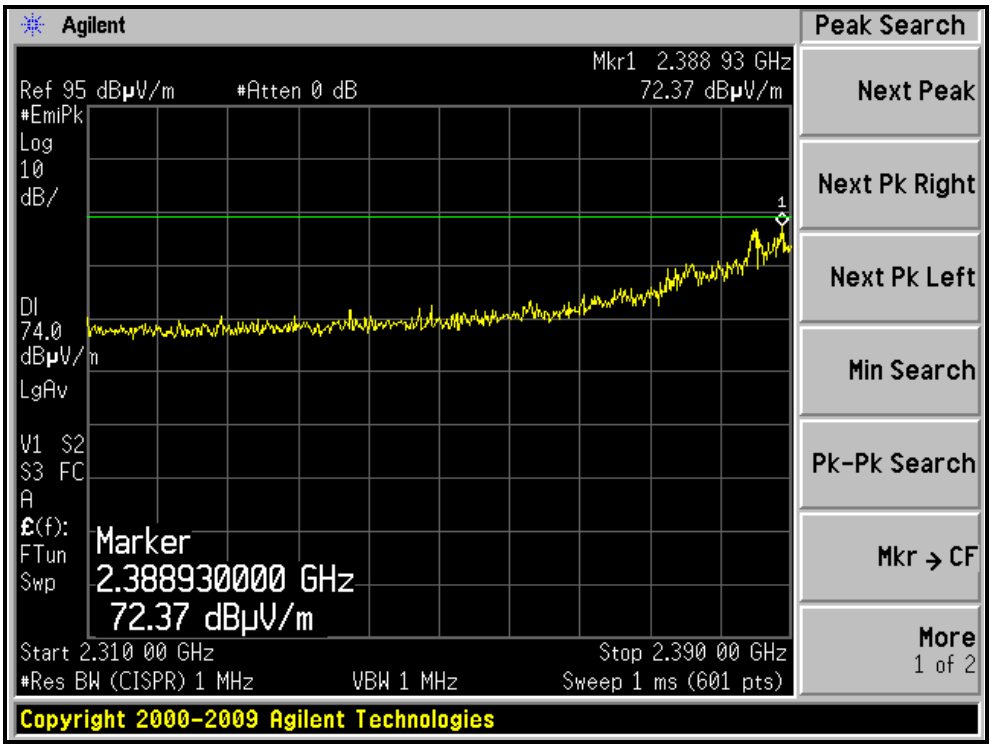
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

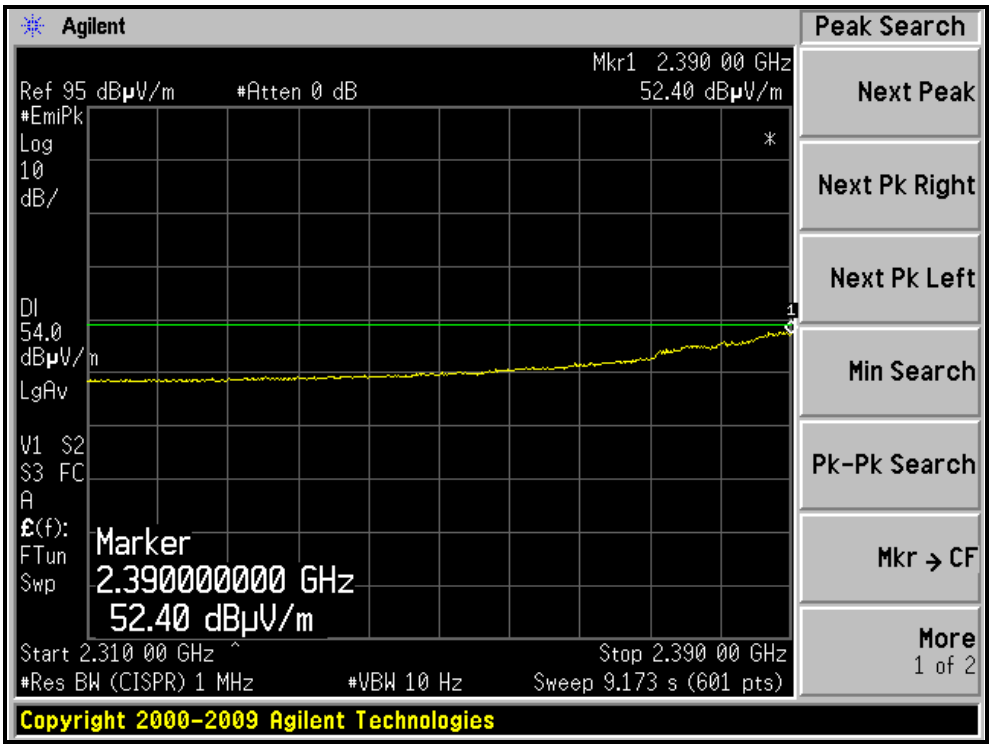
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

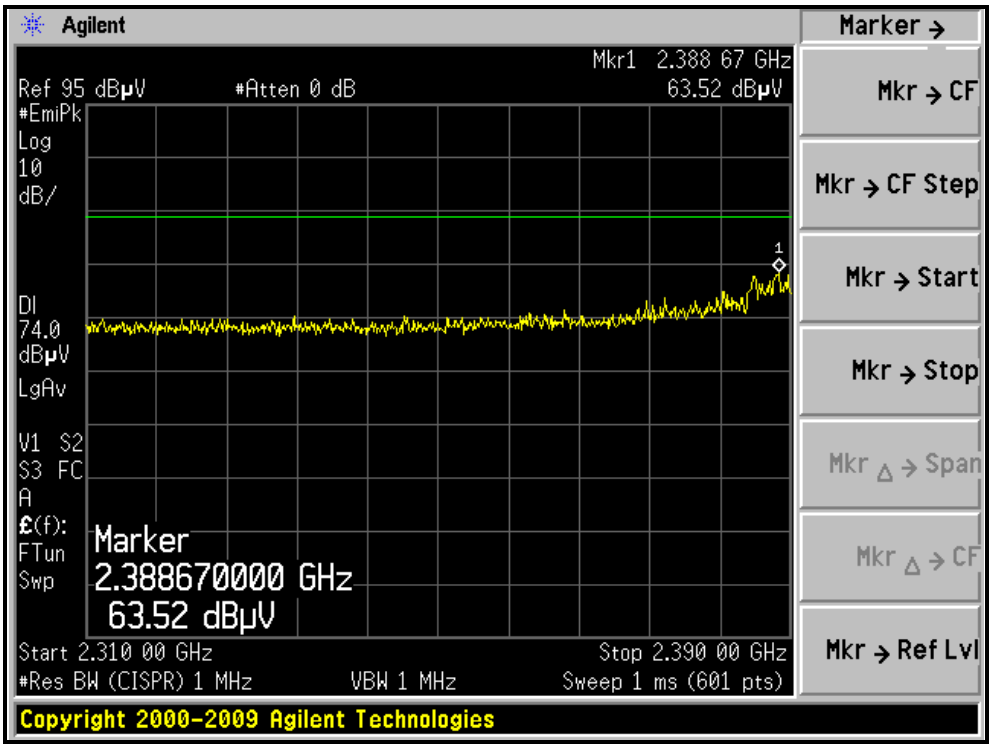
5. " * ": Fundamental frequency.

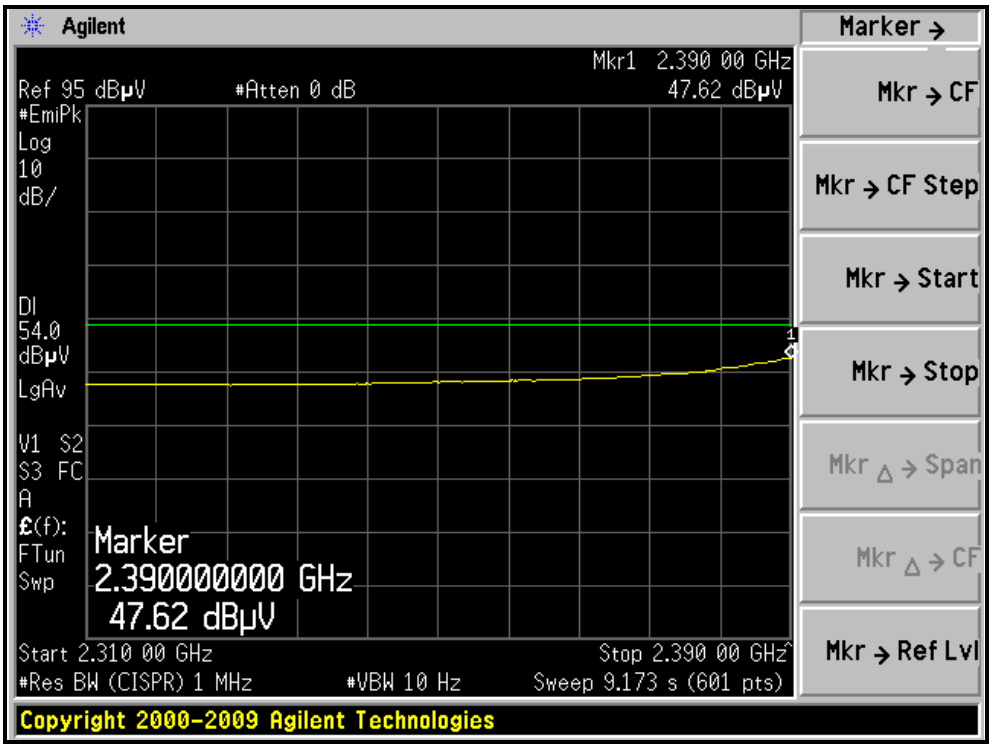
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, HORIZONTAL)



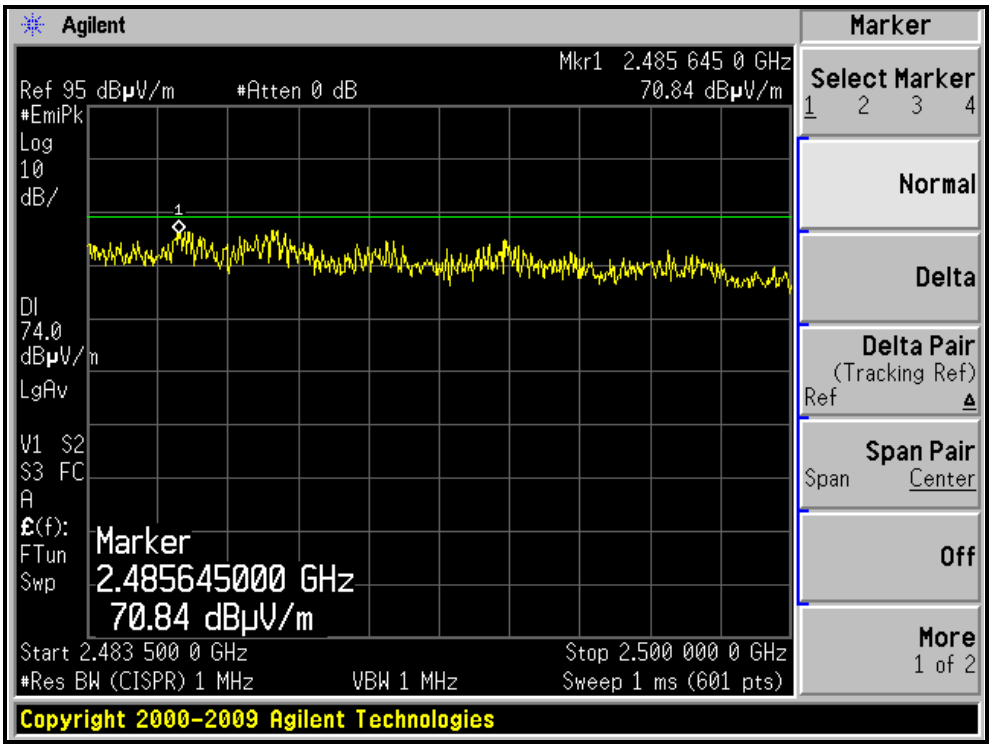


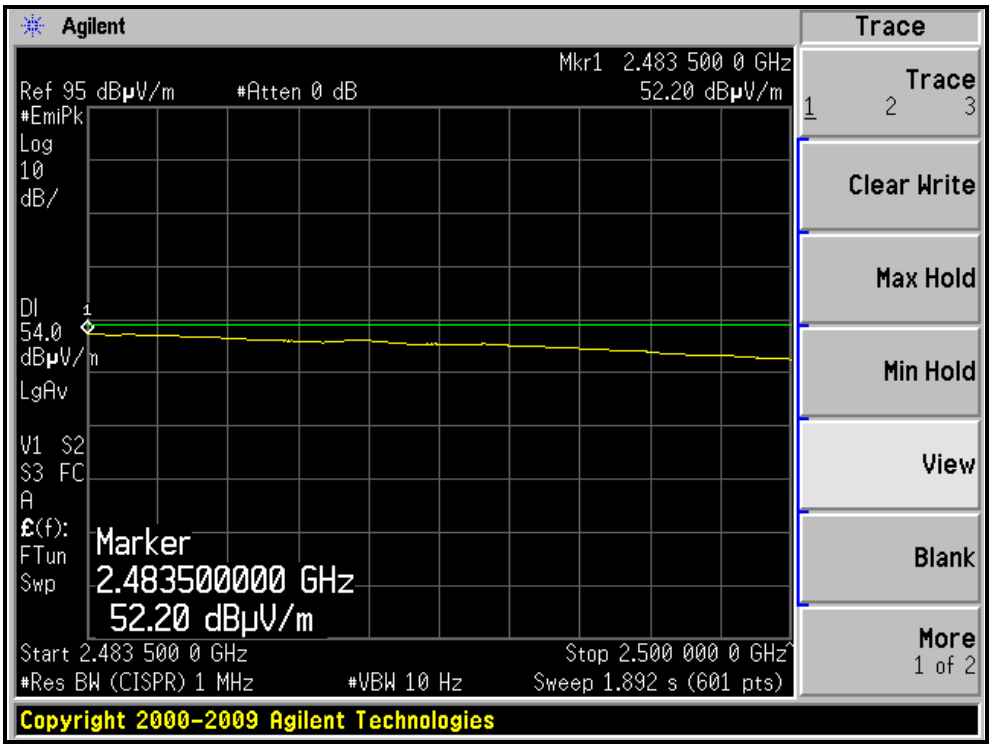
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, VERTICAL)



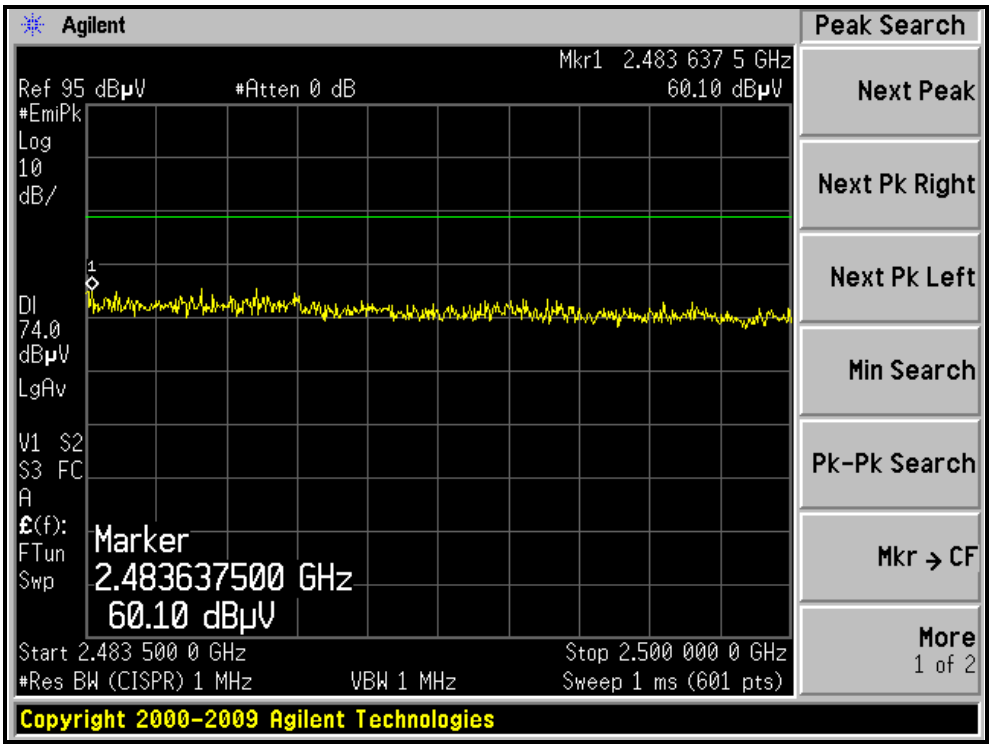


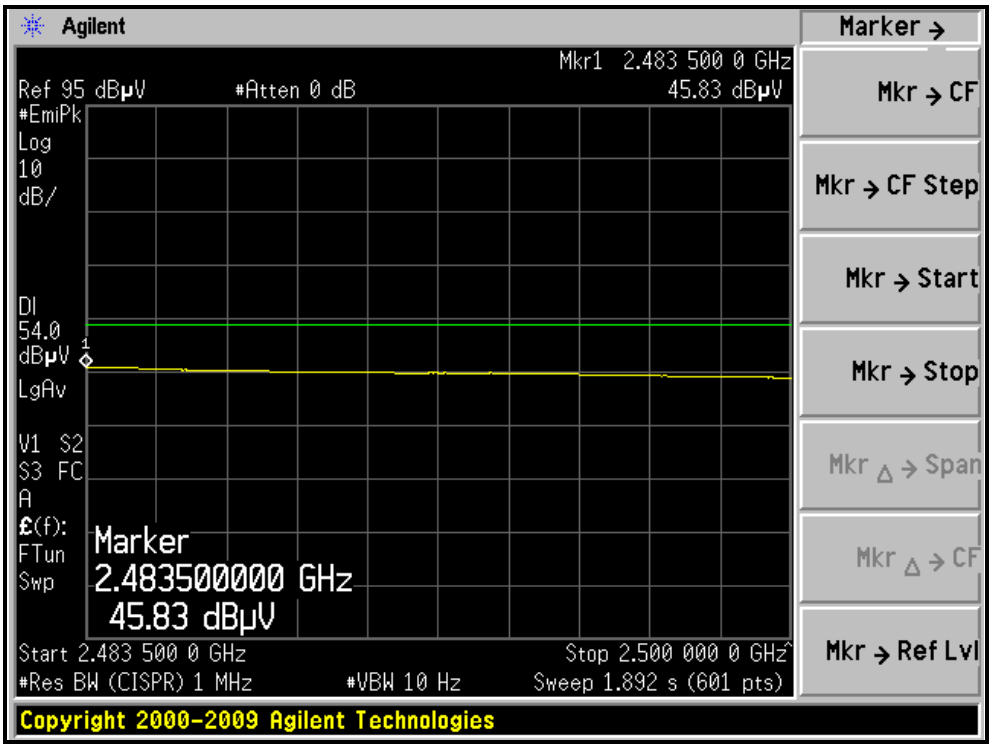
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, HORIZONTAL)





RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, VERTICAL)





Multiple chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2387.87	68.6 PK	74.0	-5.4	1.50 H	123	36.95	31.65
2	2387.87	53.1 AV	54.0	-0.9	1.50 H	123	21.45	31.65
3	*2422.00	110.4 PK			1.50 H	123	78.64	31.76
4	*2422.00	100.8 AV			1.50 H	123	69.04	31.76
5	4844.00	49.1 PK	74.0	-24.9	1.16 H	237	10.06	39.04
6	4844.00	36.5 AV	54.0	-17.5	1.16 H	237	-2.54	39.04
7	7266.00	60.0 PK	74.0	-14.0	1.64 H	139	13.33	46.67
8	7266.00	45.2 AV	54.0	-8.8	1.64 H	139	-1.47	46.67
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.6 PK	74.0	-16.4	1.22 V	168	25.94	31.66
2	2390.00	44.2 AV	54.0	-9.8	1.22 V	168	12.54	31.66
3	*2422.00	99.5 PK			1.22 V	168	67.74	31.76
4	*2422.00	89.7 AV			1.22 V	168	57.94	31.76
5	4844.00	48.4 PK	74.0	-25.6	1.50 V	125	9.36	39.04
6	4844.00	36.3 AV	54.0	-17.7	1.50 V	125	-2.74	39.04
7	7266.00	59.6 PK	74.0	-14.4	1.59 V	59	12.93	46.67
8	7266.00	45.5 AV	54.0	-8.5	1.59 V	59	-1.17	46.67

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.7 PK	74.0	-15.3	1.52 H	107	27.04	31.66
2	2390.00	47.8 AV	54.0	-6.2	1.52 H	107	16.14	31.66
3	*2437.00	111.4 PK			1.45 H	114	79.59	31.81
4	*2437.00	101.0 AV			1.45 H	114	69.19	31.81
5	2483.50	67.0 PK	74.0	-7.0	1.52 H	107	35.03	31.97
6	2483.50	51.9 AV	54.0	-2.1	1.52 H	107	19.93	31.97
7	4874.00	49.6 PK	74.0	-24.4	1.16 H	214	10.46	39.14
8	4874.00	36.8 AV	54.0	-17.2	1.16 H	214	-2.34	39.14
9	7311.00	59.5 PK	74.0	-14.5	1.72 H	117	12.87	46.63
10	7311.00	45.0 AV	54.0	-9.0	1.72 H	117	-1.63	46.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	100.1 PK			1.26 V	165	68.29	31.81
2	*2437.00	89.9 AV			1.26 V	165	58.09	31.81
3	4874.00	48.7 PK	74.0	-25.3	1.47 V	98	9.56	39.14
4	4874.00	36.2 AV	54.0	-17.8	1.47 V	98	-2.94	39.14
5	7311.00	59.2 PK	74.0	-14.8	1.49 V	61	12.57	46.63
6	7311.00	45.1 AV	54.0	-8.9	1.49 V	61	-1.53	46.63

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

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

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

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	109.4 PK			1.48 H	109	77.54	31.86
2	*2452.00	99.2 AV			1.48 H	109	67.34	31.86
3	2483.50	68.6 PK	74.0	-5.4	1.48 H	109	36.63	31.97
4	2483.50	53.1 AV	54.0	-0.9	1.48 H	109	21.13	31.97
5	4904.00	49.2 PK	74.0	-24.8	1.19 H	227	9.96	39.24
6	4904.00	36.7 AV	54.0	-17.3	1.19 H	227	-2.54	39.24
7	7356.00	59.7 PK	74.0	-14.3	1.69 H	128	13.09	46.61
8	7356.00	45.1 AV	54.0	-8.9	1.69 H	128	-1.51	46.61
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	98.5 PK			1.25 V	174	66.64	31.86
2	*2452.00	88.5 AV			1.25 V	174	56.64	31.86
3	2484.02	62.8 PK	74.0	-11.2	1.25 V	174	30.83	31.97
4	2484.02	47.0 AV	54.0	-7.0	1.25 V	174	15.03	31.97
5	4904.00	48.7 PK	74.0	-25.3	1.47 V	112	9.46	39.24
6	4904.00	36.4 AV	54.0	-17.6	1.47 V	112	-2.84	39.24
7	7356.00	59.4 PK	74.0	-14.6	1.54 V	66	12.79	46.61
8	7356.00	45.3 AV	54.0	-8.7	1.54 V	66	-1.31	46.61

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

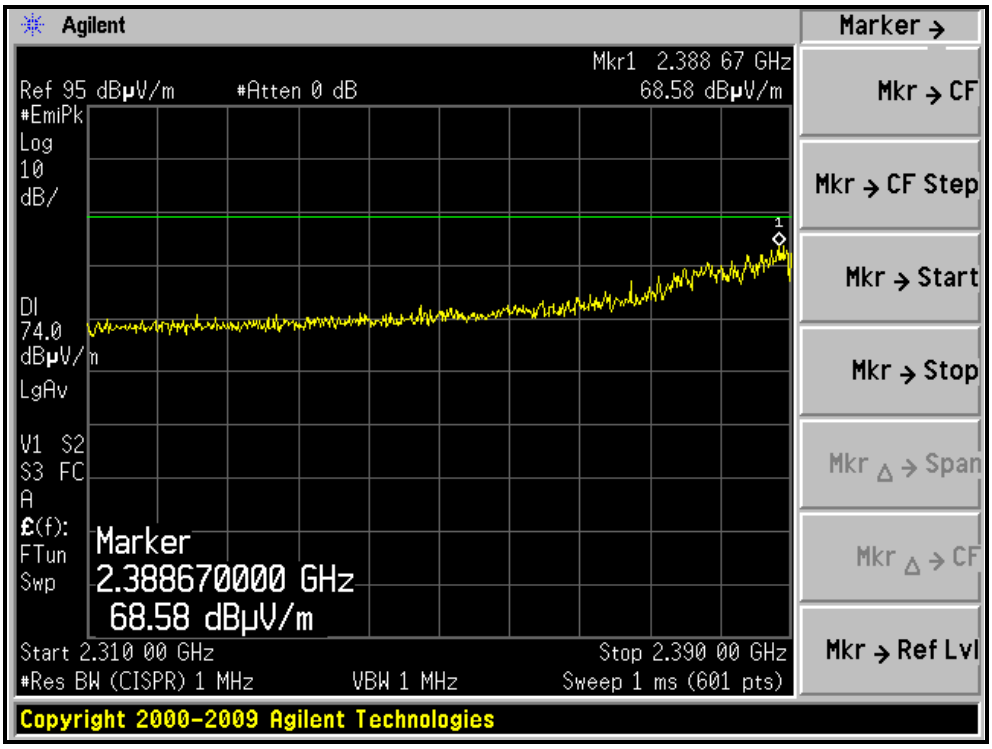
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

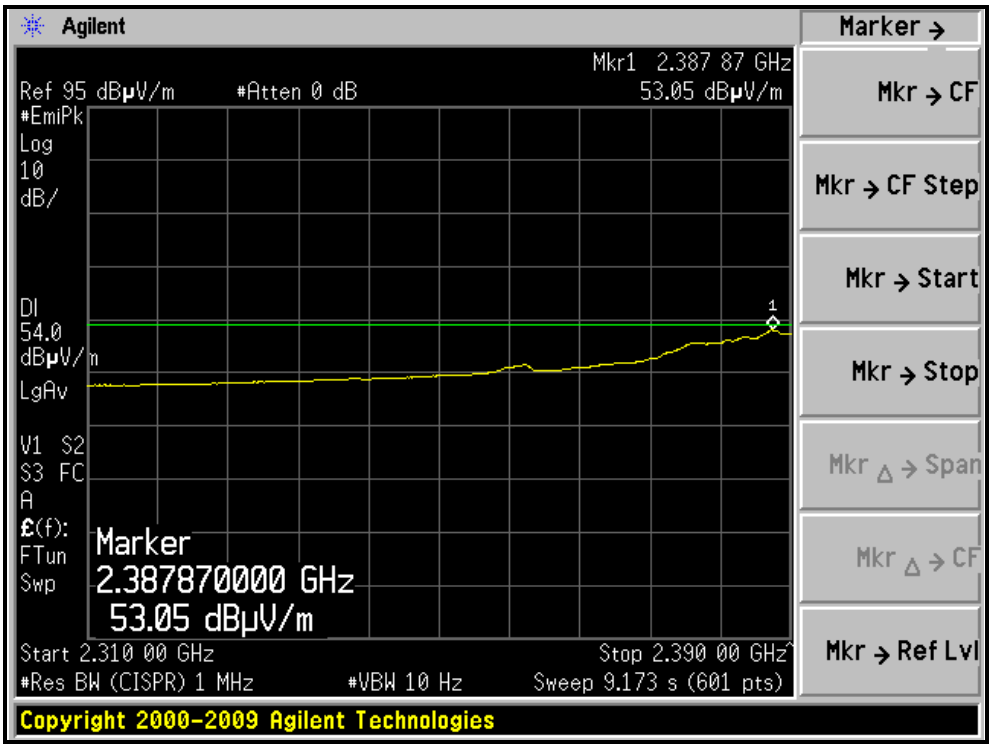
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

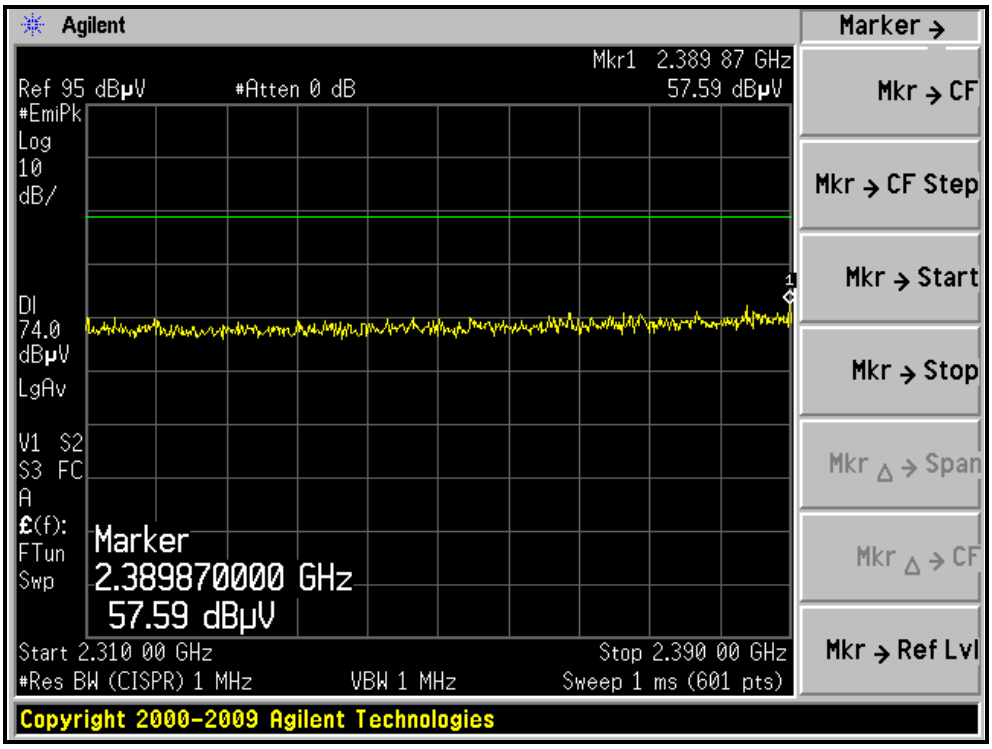
5. " * ": Fundamental frequency.

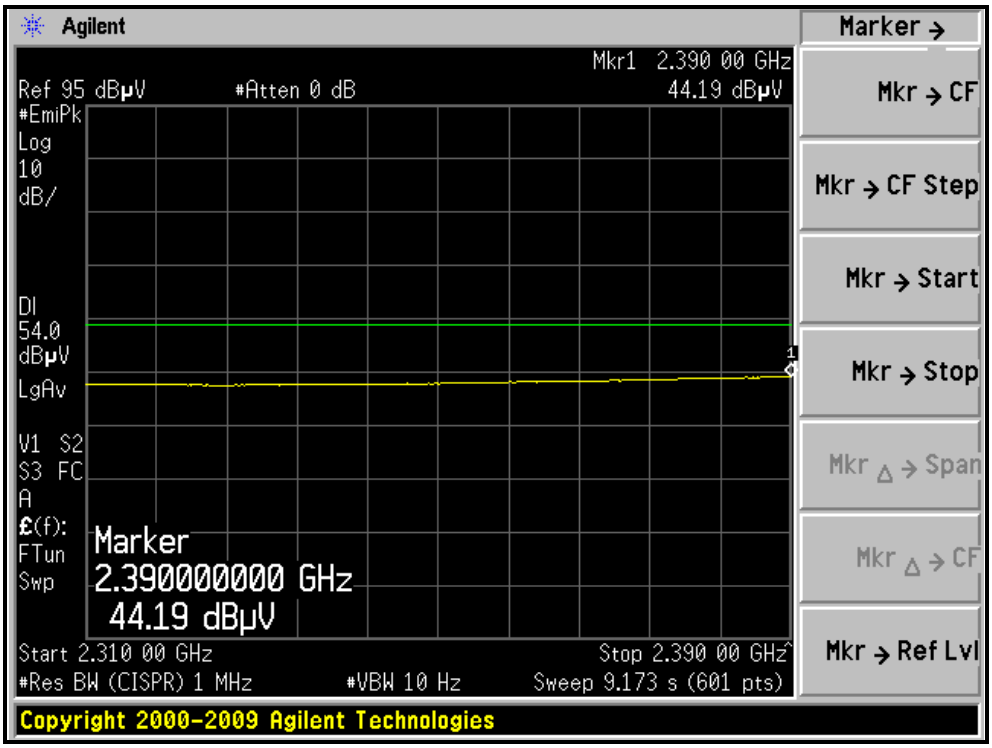
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, HORIZONTAL)



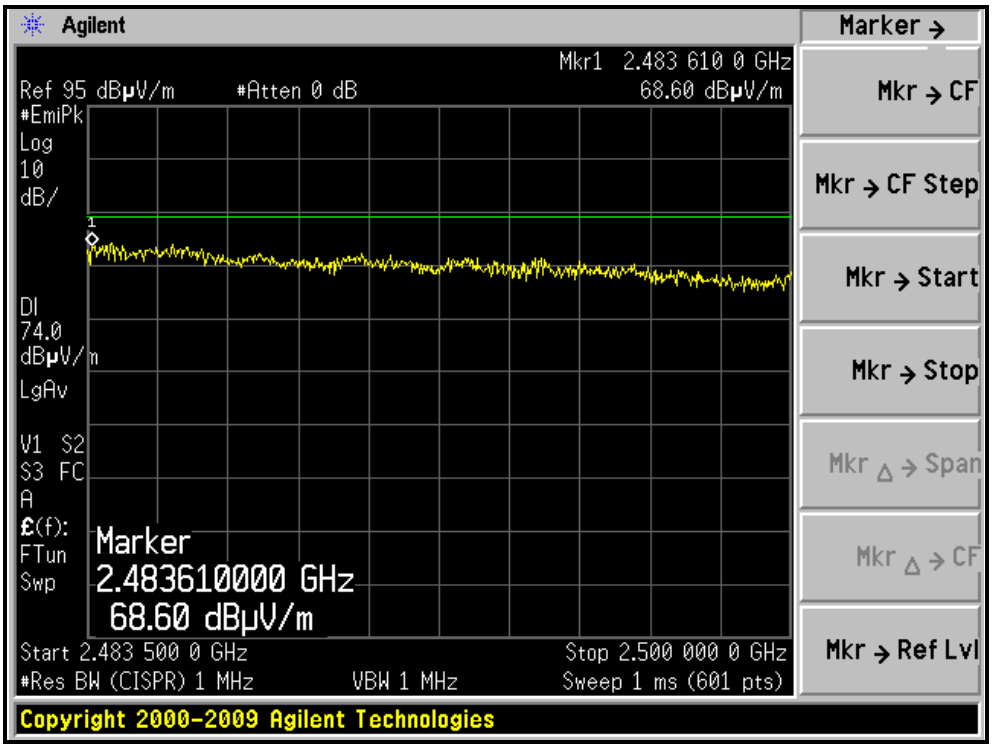


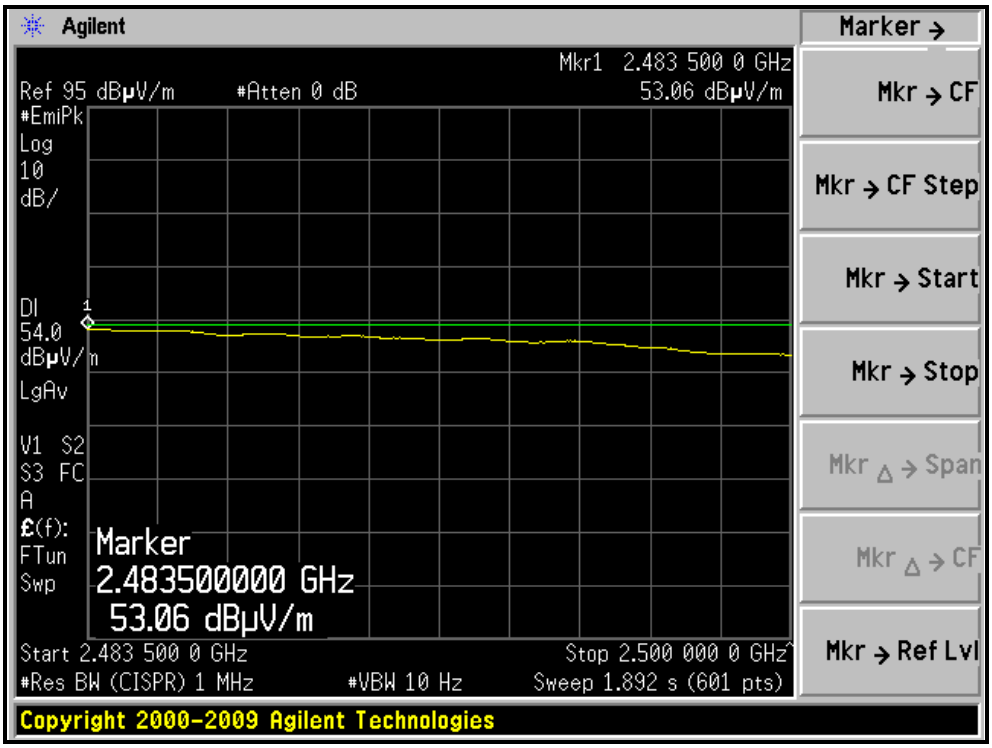
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, VERTICAL)



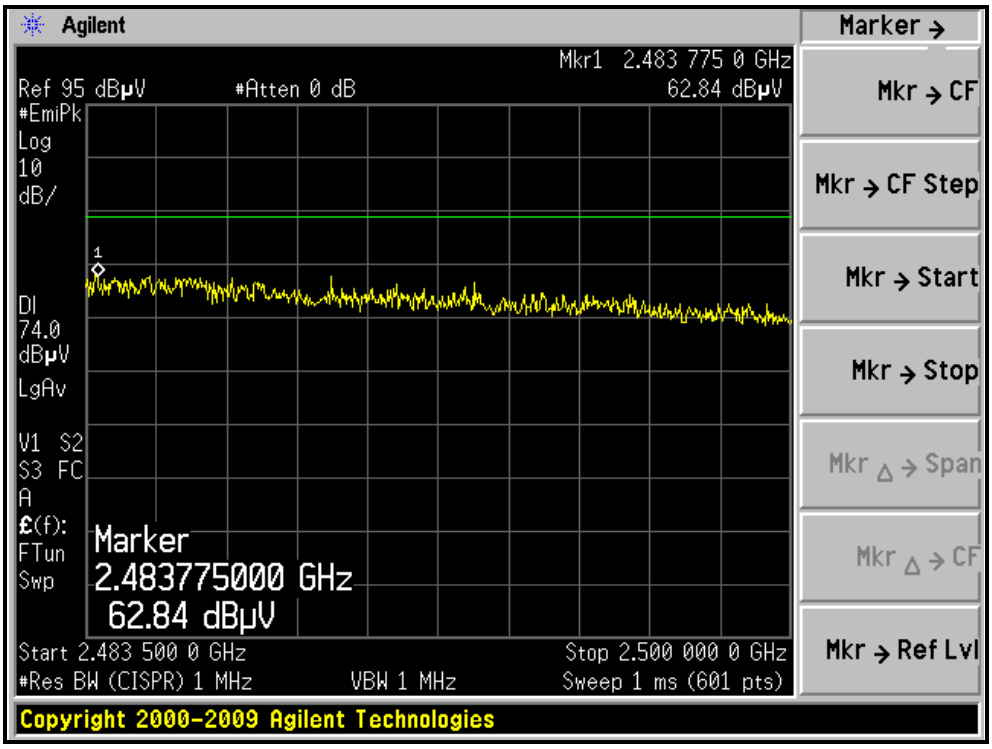


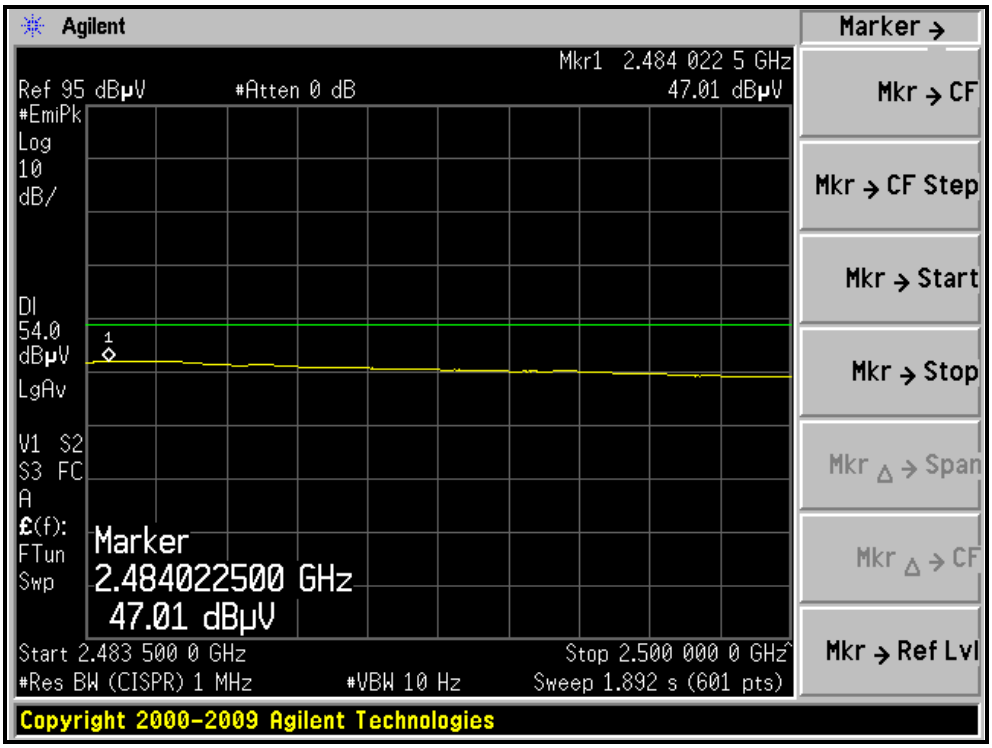
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, HORIZONTAL)





RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, VERTICAL)





4.2.8 TEST RESULTS (With Dipole antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	64.18	32.5 QP	40.0	-7.5	1.25 H	128	19.68	12.80
2	200.06	40.6 QP	43.5	-2.9	1.38 H	311	30.03	10.59
3	300.24	41.0 QP	46.0	-5.0	2.00 H	314	25.84	15.20
4	324.19	39.2 QP	46.0	-6.8	1.75 H	252	23.46	15.72
5	537.85	35.9 QP	46.0	-10.1	1.00 H	195	15.33	20.55
6	796.11	38.7 QP	46.0	-7.3	1.25 H	349	14.31	24.43
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	237.45	35.8 QP	46.0	-10.2	1.25 V	7	23.28	12.53
2	325.30	34.5 QP	46.0	-11.5	1.25 V	347	18.71	15.75
3	349.91	37.2 QP	46.0	-8.8	1.25 V	4	20.93	16.28
4	624.96	37.4 QP	46.0	-8.7	1.25 V	33	15.10	22.25
5	799.31	39.3 QP	46.0	-6.8	1.00 V	303	14.78	24.47
6	875.06	40.4 QP	46.0	-5.6	1.00 V	353	14.56	25.81

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.

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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.93	55.9 PK	74.0	-18.1	1.00 H	126	24.25	31.65
2	2388.93	45.0 AV	54.0	-9.0	1.00 H	126	13.35	31.65
3	*2412.00	104.2 PK			1.00 H	126	72.47	31.73
4	*2412.00	102.1 AV			1.00 H	126	70.37	31.73
5	4824.00	51.3 PK	74.0	-22.7	1.09 H	123	12.33	38.97
6	4824.00	43.3 AV	54.0	-10.7	1.09 H	123	4.33	38.97
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	2389.33	57.1 PK	74.0	-16.9	1.51 V	104	25.45	31.65
2	2389.33	46.9 AV	54.0	-7.1	1.51 V	104	15.25	31.65
3	*2412.00	109.3 PK			1.55 V	104	77.57	31.73
4	*2412.00	107.2 AV			1.55 V	104	75.47	31.73
5	4824.00	50.4 PK	74.0	-23.6	1.07 V	117	11.43	38.97
6	4824.00	41.8 AV	54.0	-12.2	1.07 V	117	2.83	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.4 PK			1.01 H	113	73.59	31.81
2	*2437.00	102.3 AV			1.01 H	113	70.49	31.81
3	4874.00	51.8 PK	74.0	-22.2	1.15 H	109	12.66	39.14
4	4874.00	43.7 AV	54.0	-10.3	1.15 H	109	4.56	39.14
5	7311.00	57.1 PK	74.0	-16.9	1.07 H	116	10.47	46.63
6	7311.00	48.3 AV	54.0	-5.7	1.07 H	116	1.67	46.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.9 PK			1.61 V	102	78.09	31.81
2	*2437.00	107.9 AV			1.61 V	102	76.09	31.81
3	4874.00	50.4 PK	74.0	-23.6	1.05 V	103	11.26	39.14
4	4874.00	41.4 AV	54.0	-12.6	1.05 V	103	2.26	39.14
5	7311.00	56.9 PK	74.0	-17.1	1.00 V	110	10.27	46.63
6	7311.00	50.9 AV	54.0	-3.1	1.00 V	110	4.27	46.63

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.9 PK			1.00 H	125	73.01	31.89
2	*2462.00	102.1 AV			1.00 H	125	70.21	31.89
3	2485.75	57.0 PK	74.0	-17.0	1.00 H	125	25.03	31.97
4	2485.75	45.0 AV	54.0	-9.0	1.00 H	125	13.03	31.97
5	4924.00	51.4 PK	74.0	-22.6	1.10 H	114	12.09	39.31
6	4924.00	43.4 AV	54.0	-10.6	1.10 H	114	4.09	39.31
7	7386.00	57.2 PK	74.0	-16.8	1.02 H	114	10.60	46.60
8	7386.00	48.6 AV	54.0	-5.4	1.02 H	114	2.00	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.0 PK			1.57 V	105	78.11	31.89
2	*2462.00	107.8 AV			1.57 V	105	75.91	31.89
3	2486.71	60.5 PK	74.0	-13.5	1.57 V	105	28.52	31.98
4	2486.71	52.3 AV	54.0	-1.7	1.57 V	105	20.32	31.98
5	4924.00	50.4 PK	74.0	-23.6	1.06 V	109	11.09	39.31
6	4924.00	41.7 AV	54.0	-12.3	1.06 V	109	2.39	39.31
7	7386.00	56.9 PK	74.0	-17.1	1.01 V	110	10.30	46.60
8	7386.00	51.0 AV	54.0	-3.0	1.01 V	110	4.40	46.60

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

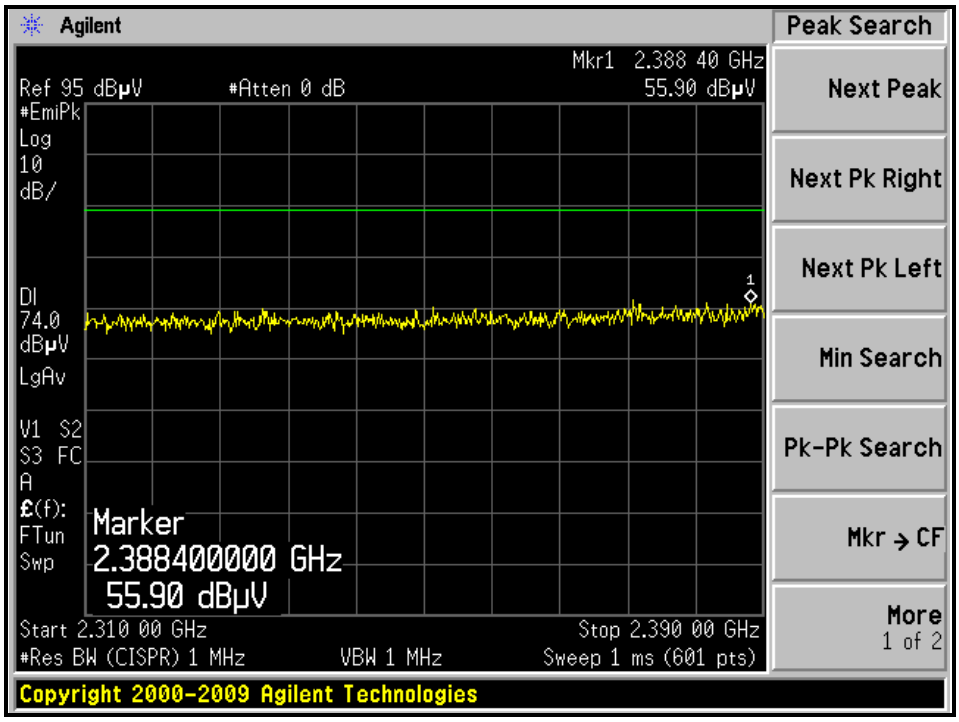
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

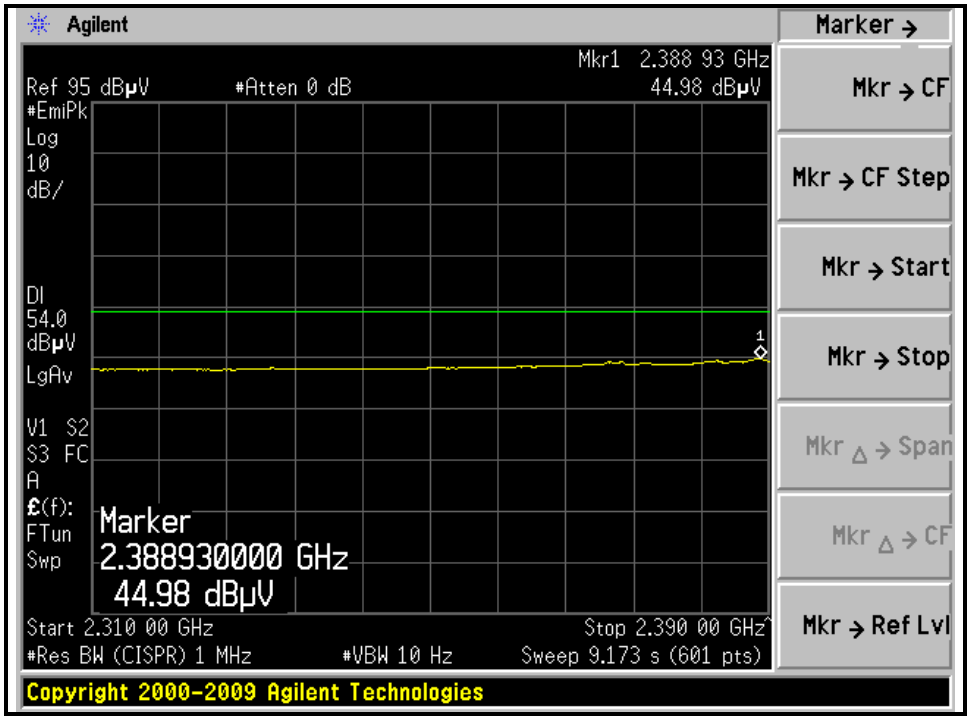
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

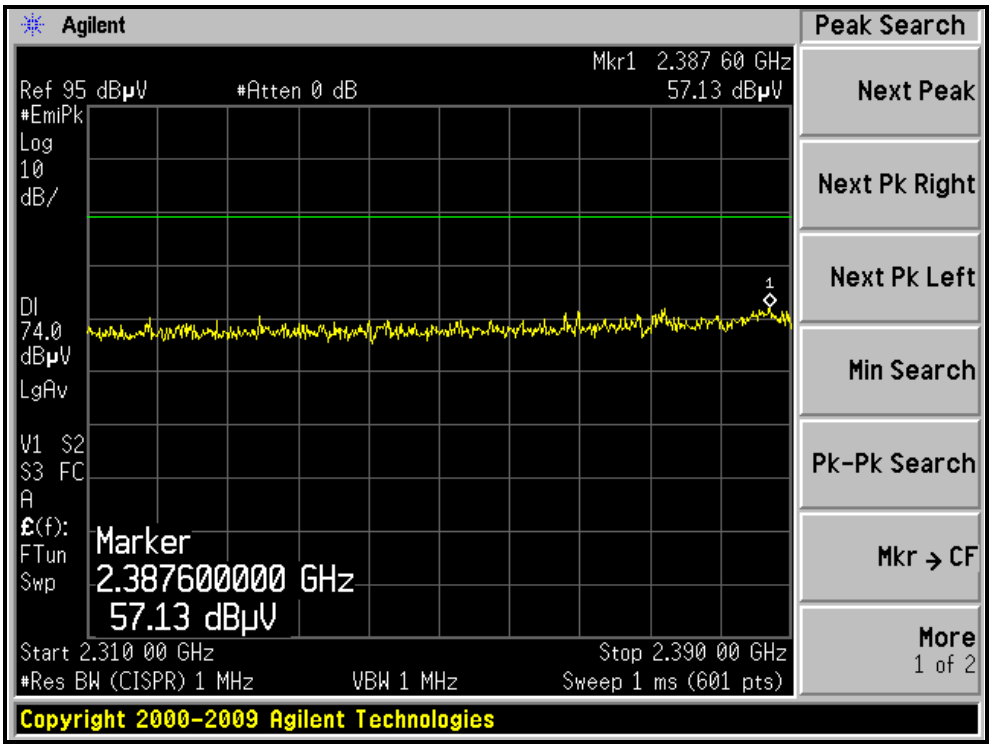
5. " * ": Fundamental frequency.

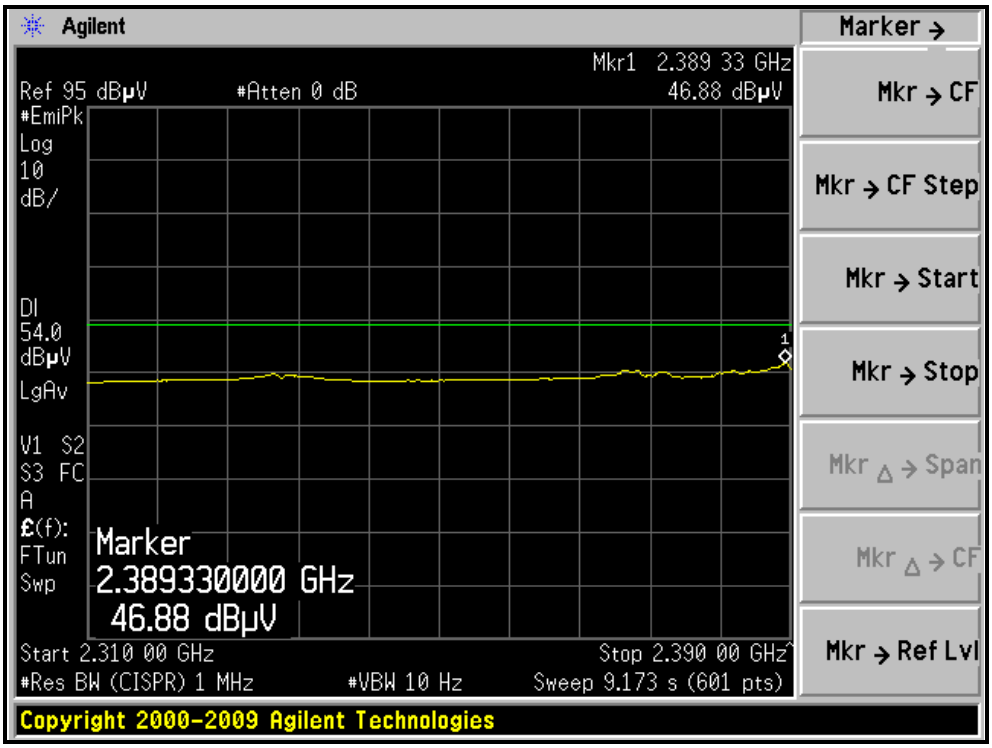
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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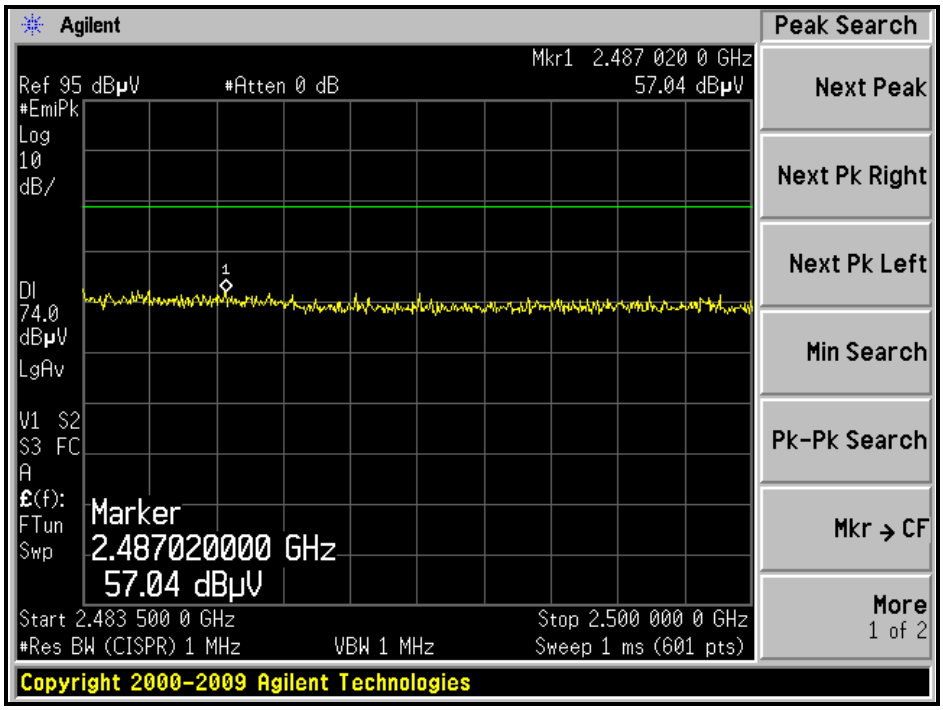

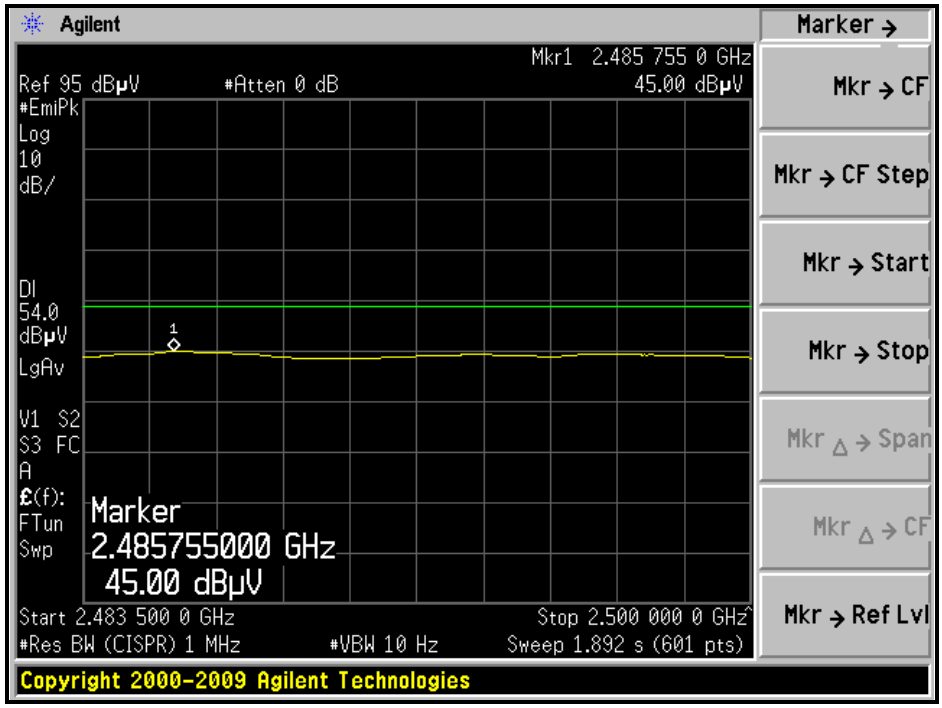

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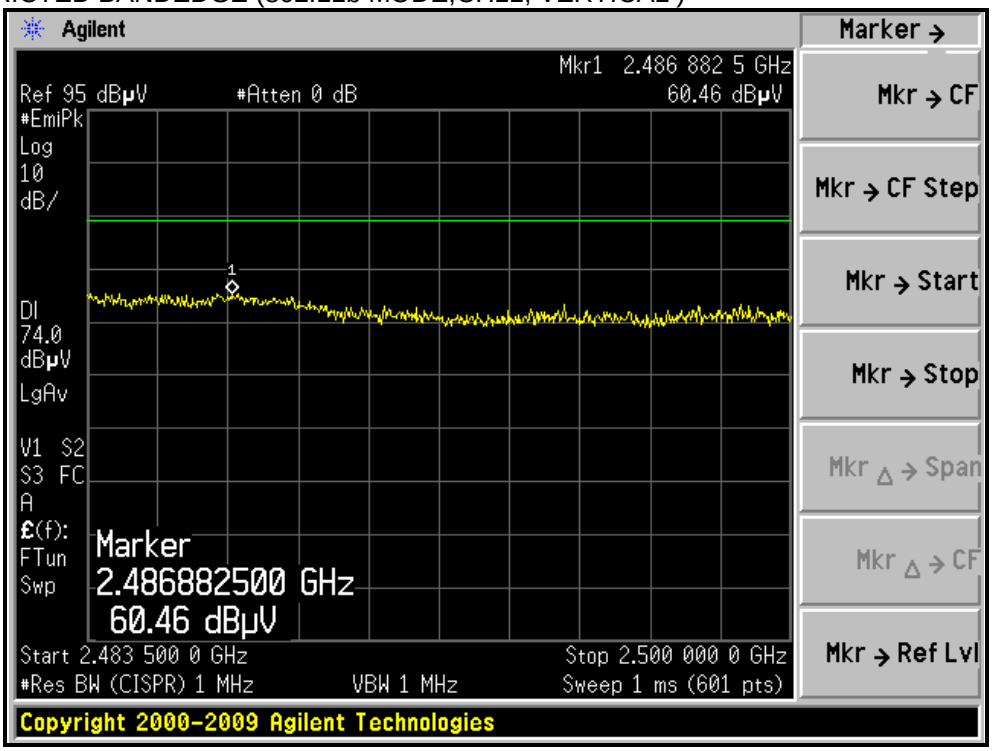
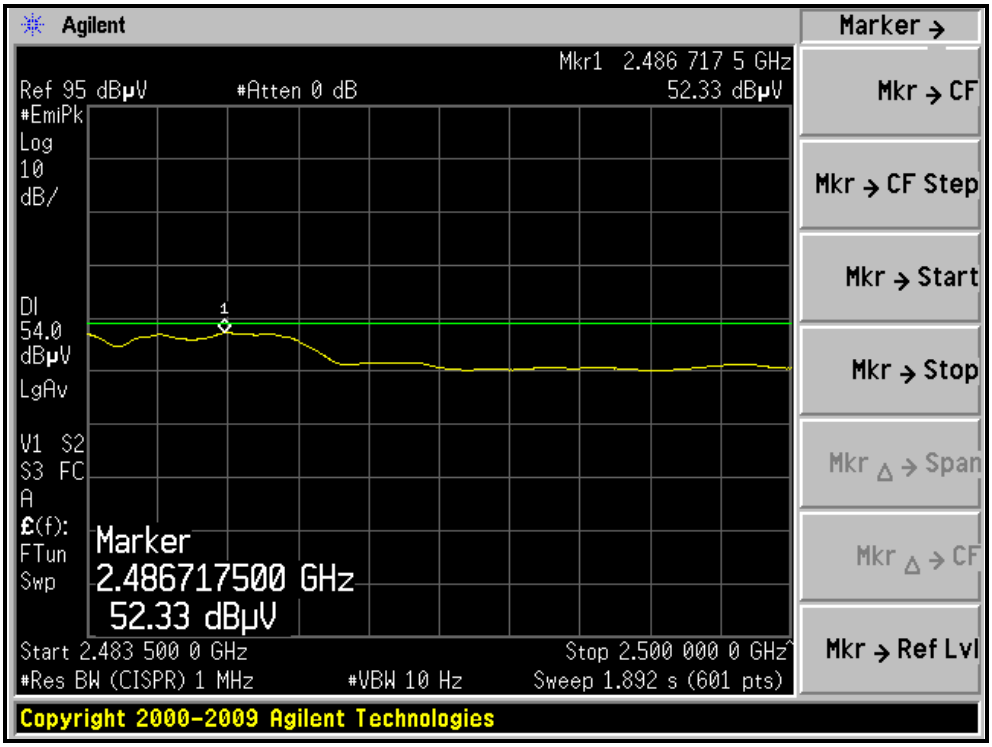




802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.3 PK	74.0	-7.7	1.00 H	110	34.64	31.66
2	2390.00	49.5 AV	54.0	-4.5	1.00 H	110	17.84	31.66
3	*2412.00	104.1 PK			1.00 H	110	72.37	31.73
4	*2412.00	95.7 AV			1.00 H	110	63.97	31.73
5	4824.00	49.3 PK	74.0	-24.7	1.12 H	118	10.33	38.97
6	4824.00	36.6 AV	54.0	-17.4	1.12 H	118	-2.37	38.97
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	72.5 PK	74.0	-1.5	1.49 V	108	40.84	31.66
2	2390.00	51.3 AV	54.0	-2.7	1.49 V	108	19.64	31.66
3	*2412.00	110.1 PK			1.49 V	108	78.37	31.73
4	*2412.00	101.6 AV			1.49 V	108	69.87	31.73
5	4824.00	48.5 PK	74.0	-25.5	1.12 V	98	9.53	38.97
6	4824.00	36.3 AV	54.0	-17.7	1.12 V	98	-2.67	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.1 PK			1.01 H	97	73.29	31.81
2	*2437.00	96.2 AV			1.01 H	97	64.39	31.81
3	4874.00	49.4 PK	74.0	-24.6	1.12 H	115	10.26	39.14
4	4874.00	36.6 AV	54.0	-17.4	1.12 H	115	-2.54	39.14
5	7311.00	59.4 PK	74.0	-14.6	1.06 H	102	12.77	46.63
6	7311.00	45.4 AV	54.0	-8.6	1.06 H	102	-1.23	46.63
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	110.9 PK			1.49 V	108	79.09	31.81
2	*2437.00	102.0 AV			1.49 V	108	70.19	31.81
3	4874.00	48.7 PK	74.0	-25.3	1.07 V	109	9.56	39.14
4	4874.00	36.4 AV	54.0	-17.6	1.07 V	109	-2.74	39.14
5	7311.00	59.5 PK	74.0	-14.5	1.00 V	121	12.87	46.63
6	7311.00	45.2 AV	54.0	-8.8	1.00 V	121	-1.43	46.63

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.2 PK			1.00 H	108	69.31	31.89
2	*2462.00	92.2 AV			1.00 H	108	60.31	31.89
3	2483.50	66.9 PK	74.0	-7.1	1.00 H	108	34.93	31.97
4	2483.50	45.1 AV	54.0	-8.9	1.00 H	108	13.13	31.97
5	4924.00	49.2 PK	74.0	-24.8	1.12 H	115	9.89	39.31
6	4924.00	36.5 AV	54.0	-17.5	1.12 H	115	-2.81	39.31
7	7386.00	59.6 PK	74.0	-14.4	1.02 H	114	13.00	46.60
8	7386.00	45.5 AV	54.0	-8.5	1.02 H	114	-1.10	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.9 PK			1.52 V	109	75.01	31.89
2	*2462.00	97.9 AV			1.52 V	109	66.01	31.89
3	2483.50	71.1 PK	74.0	-2.9	1.52 V	109	39.13	31.97
4	2483.50	49.2 AV	54.0	-4.8	1.52 V	109	17.23	31.97
5	4924.00	49.1 PK	74.0	-24.9	1.05 V	107	9.79	39.31
6	4924.00	36.7 AV	54.0	-17.3	1.05 V	107	-2.61	39.31
7	7386.00	59.6 PK	74.0	-14.4	1.01 V	124	13.00	46.60
8	7386.00	45.5 AV	54.0	-8.5	1.01 V	124	-1.10	46.60

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

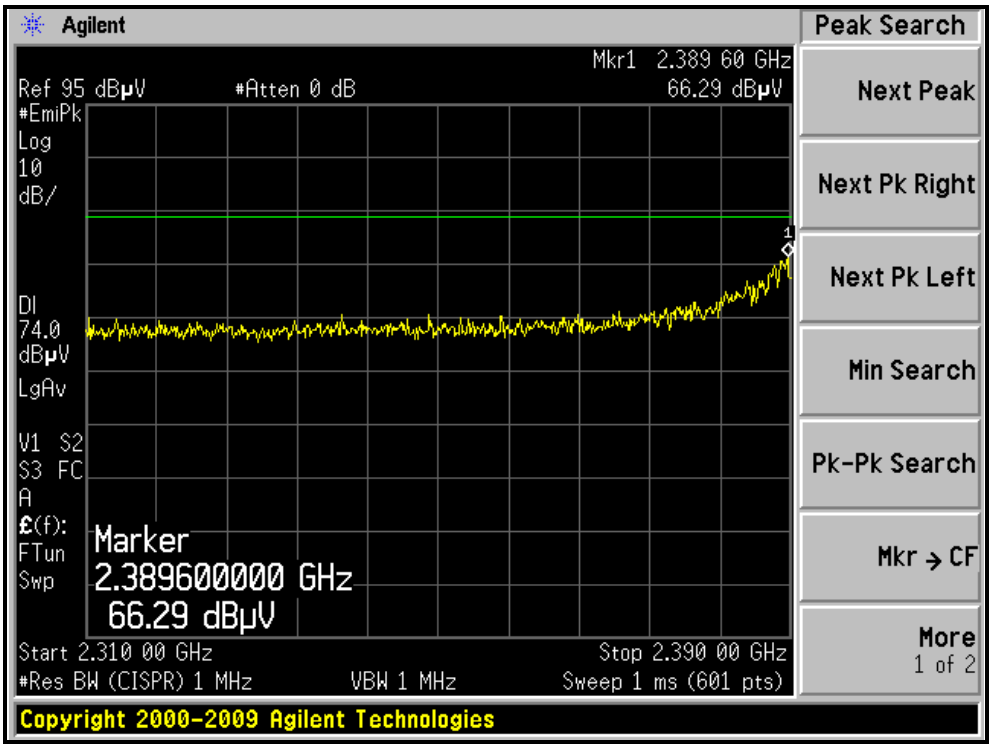
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

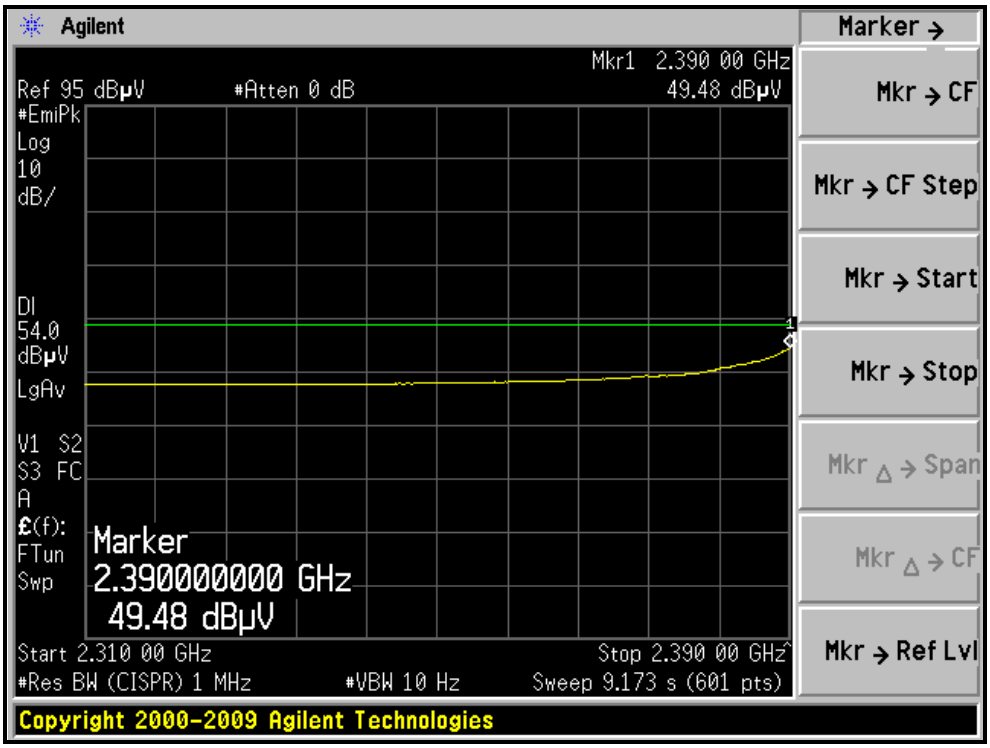
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

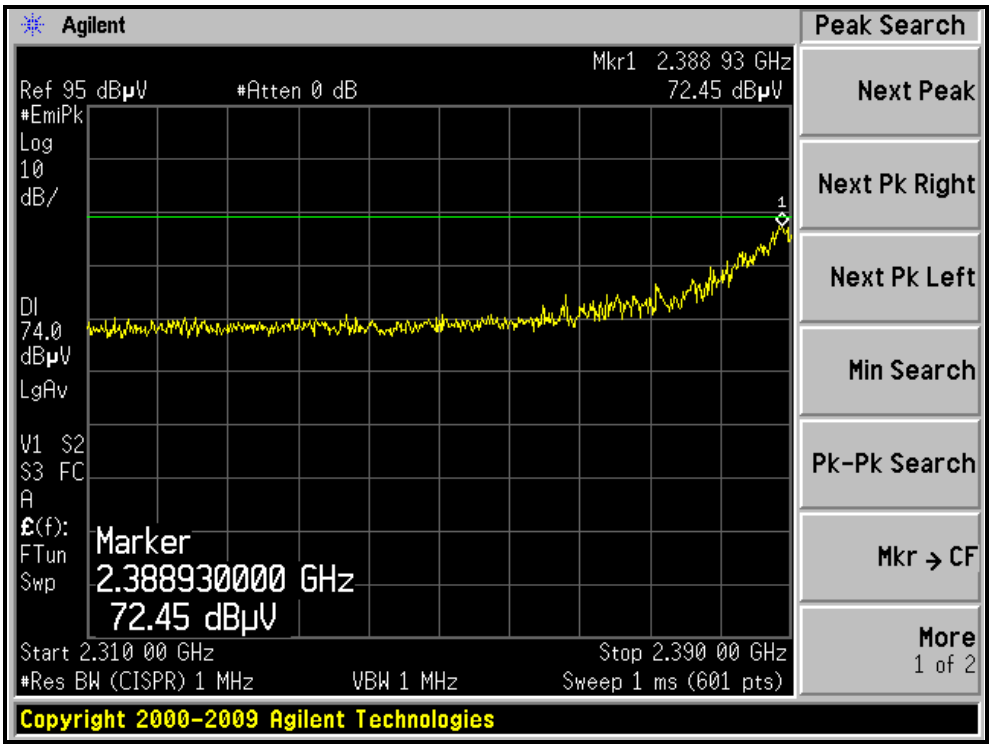
5. " * ": Fundamental frequency.

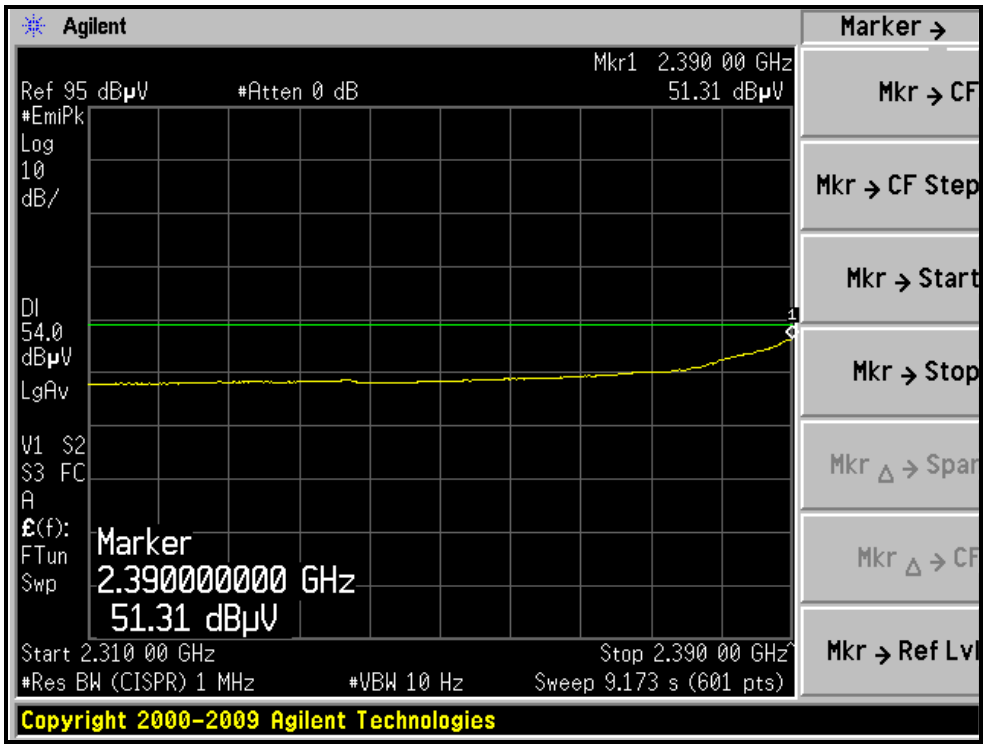
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



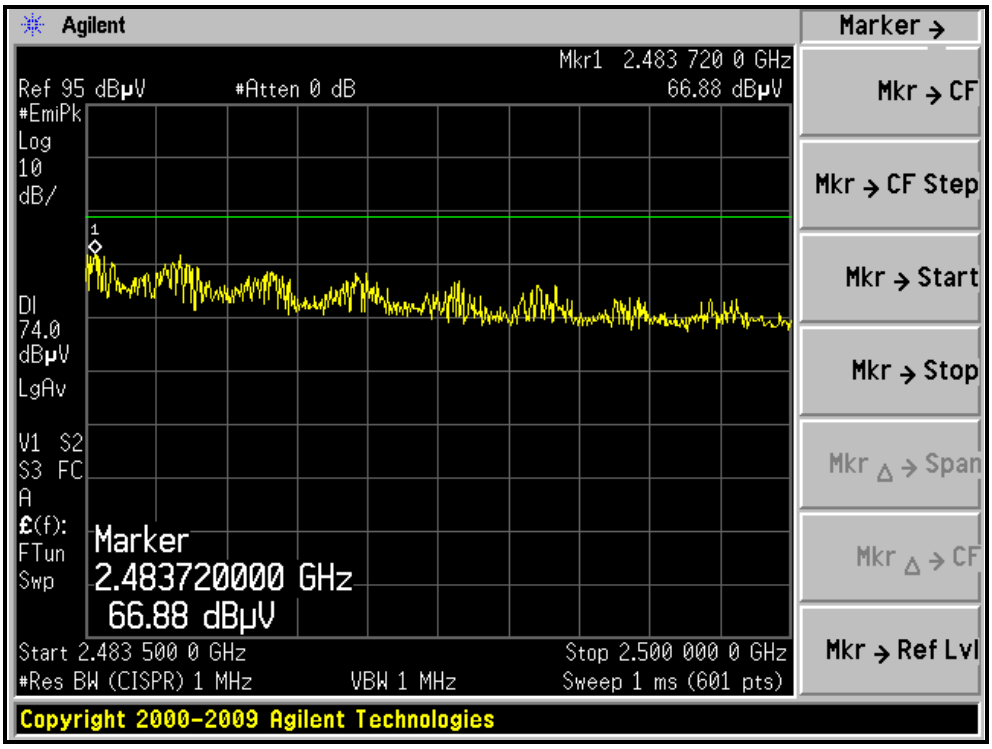


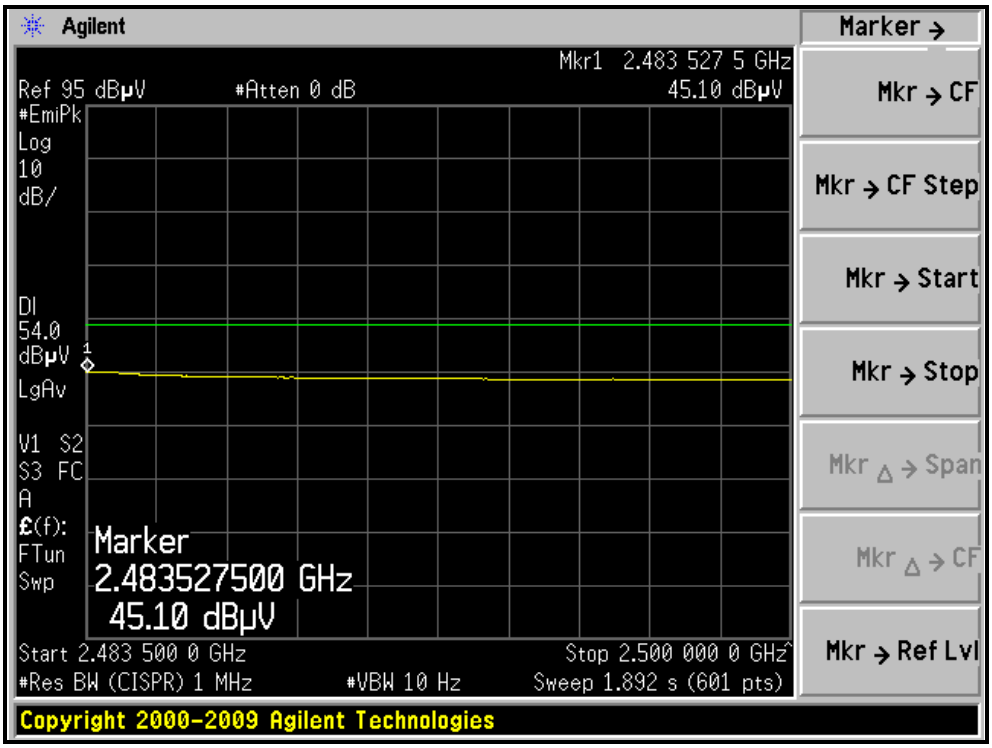
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



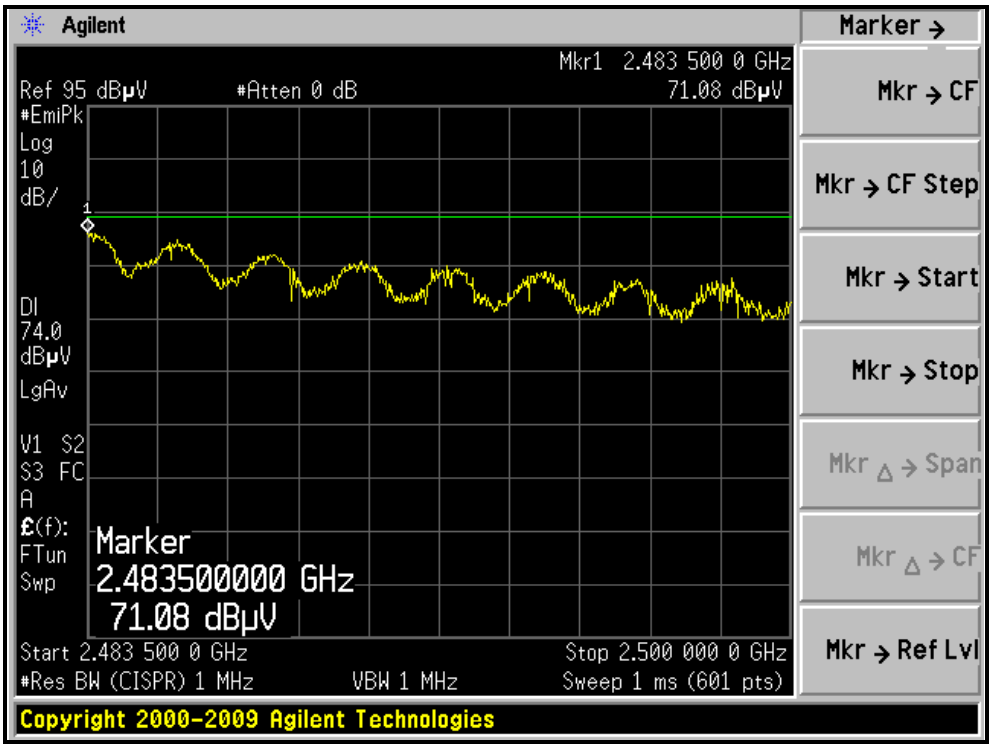


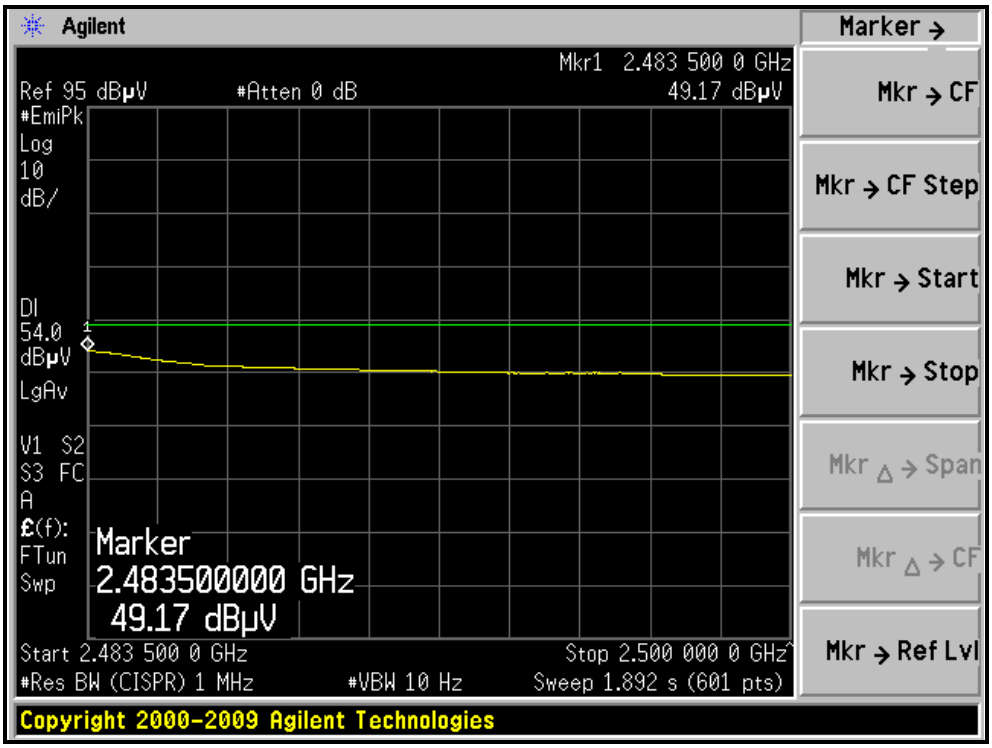
RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





Single chain : 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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.5 PK	74.0	-4.5	1.17 H	346	37.84	31.66
2	2390.00	49.2 AV	54.0	-4.8	1.17 H	346	17.54	31.66
3	*2412.00	103.5 PK			1.17 H	346	71.77	31.73
4	*2412.00	94.5 AV			1.17 H	346	62.77	31.73
5	4824.00	50.2 PK	74.0	-23.8	1.04 H	89	11.23	38.97
6	4824.00	37.2 AV	54.0	-16.8	1.04 H	89	-1.77	38.97
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	72.2 PK	74.0	-1.8	1.20 V	312	40.54	31.66
2	2390.00	52.5 AV	54.0	-1.5	1.20 V	312	20.84	31.66
3	*2412.00	109.8 PK			1.20 V	313	78.07	31.73
4	*2412.00	100.5 AV			1.20 V	313	68.77	31.73
5	4824.00	50.0 PK	74.0	-24.0	1.00 V	120	11.03	38.97
6	4824.00	37.5 AV	54.0	-16.5	1.00 V	120	-1.47	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.1 PK			1.19 H	347	72.29	31.81
2	*2437.00	95.4 AV			1.19 H	347	63.59	31.81
3	4874.00	50.1 PK	74.0	-23.9	1.06 H	90	10.96	39.14
4	4874.00	36.8 AV	54.0	-17.2	1.06 H	90	-2.34	39.14
5	7311.00	59.4 PK	74.0	-14.6	1.00 H	112	12.77	46.63
6	7311.00	45.3 AV	54.0	-8.7	1.00 H	112	-1.33	46.63
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	110.8 PK			1.19 V	312	78.99	31.81
2	*2437.00	101.4 AV			1.19 V	312	69.59	31.81
3	2483.50	73.2 PK	74.0	-0.8	1.19 V	312	41.23	31.97
4	2483.50	52.9 AV	54.0	-1.1	1.19 V	312	20.93	31.97
5	4874.00	49.9 PK	74.0	-24.1	1.00 V	121	10.76	39.14
6	4874.00	37.5 AV	54.0	-16.5	1.00 V	121	-1.64	39.14
7	7311.00	60.4 PK	74.0	-13.6	1.03 V	107	13.77	46.63
8	7311.00	47.6 AV	54.0	-6.4	1.03 V	107	0.97	46.63

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

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

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

4. Margin value = Emission level – Limit value.

5. " * ": Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.8 PK			1.09 H	360	69.91	31.89
2	*2462.00	92.5 AV			1.09 H	360	60.61	31.89
3	2483.50	69.3 PK	74.0	-4.7	1.09 H	358	37.33	31.97
4	2483.50	48.8 AV	54.0	-5.2	1.09 H	358	16.83	31.97
5	4924.00	49.9 PK	74.0	-24.1	1.07 H	100	10.59	39.31
6	4924.00	36.6 AV	54.0	-17.4	1.07 H	100	-2.71	39.31
7	7386.00	59.7 PK	74.0	-14.3	1.00 H	115	13.10	46.60
8	7386.00	45.6 AV	54.0	-8.4	1.00 H	115	-1.00	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.7 PK			1.17 V	315	75.81	31.89
2	*2462.00	98.2 AV			1.17 V	315	66.31	31.89
3	2483.50	72.3 PK	74.0	-1.7	1.16 V	315	40.33	31.97
4	2483.50	53.1 AV	54.0	-0.9	1.16 V	315	21.13	31.97
5	4924.00	49.1 PK	74.0	-24.9	1.00 V	113	9.79	39.31
6	4924.00	36.8 AV	54.0	-17.2	1.00 V	113	-2.51	39.31
7	7386.00	60.9 PK	74.0	-13.1	1.00 V	97	14.30	46.60
8	7386.00	47.9 AV	54.0	-6.1	1.00 V	97	1.30	46.60

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

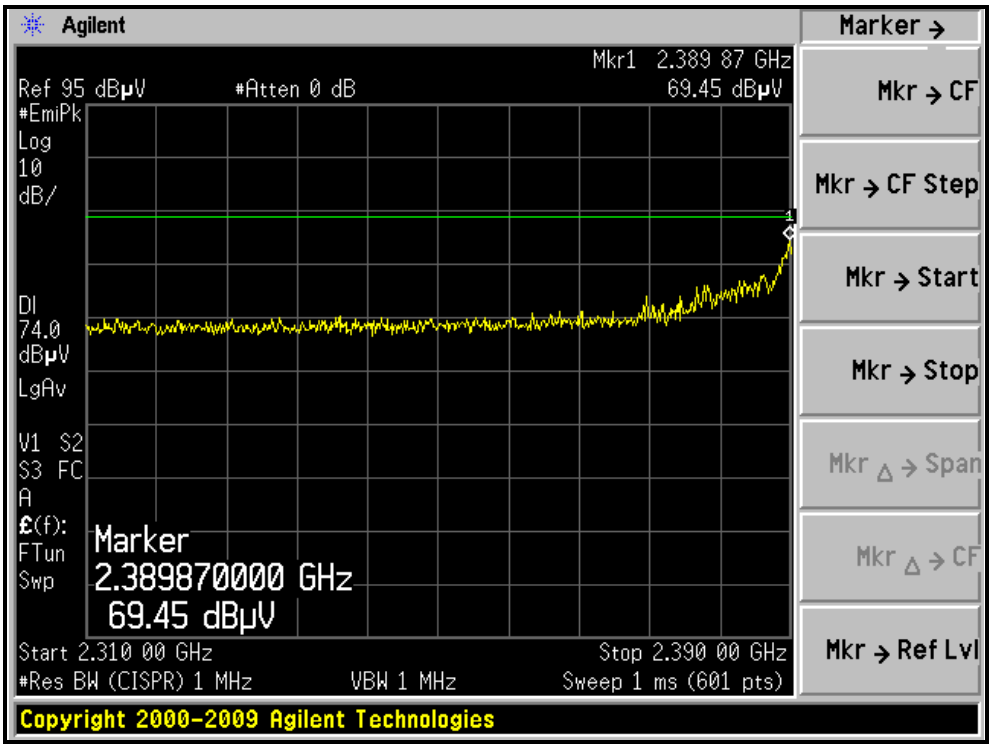
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

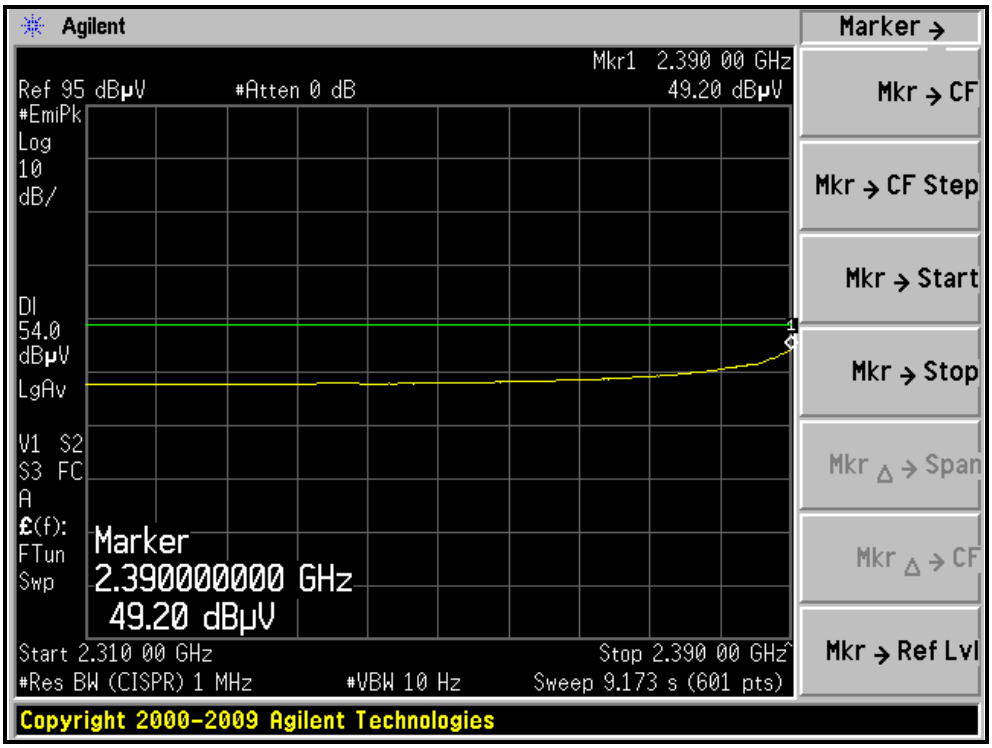
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

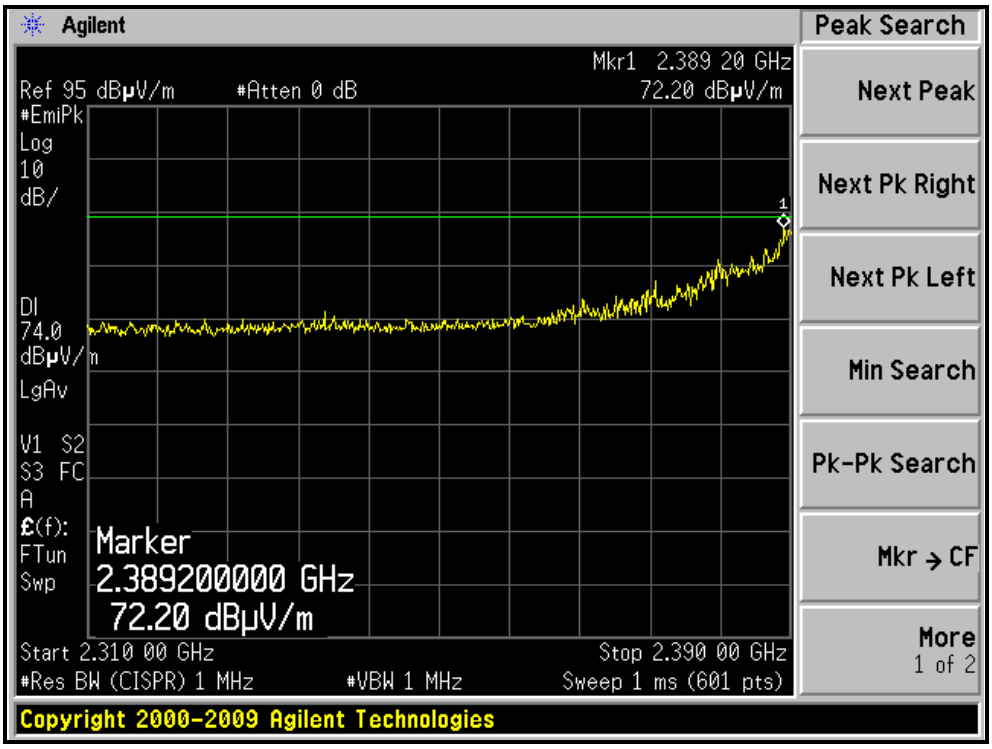
5. " * ": Fundamental frequency.

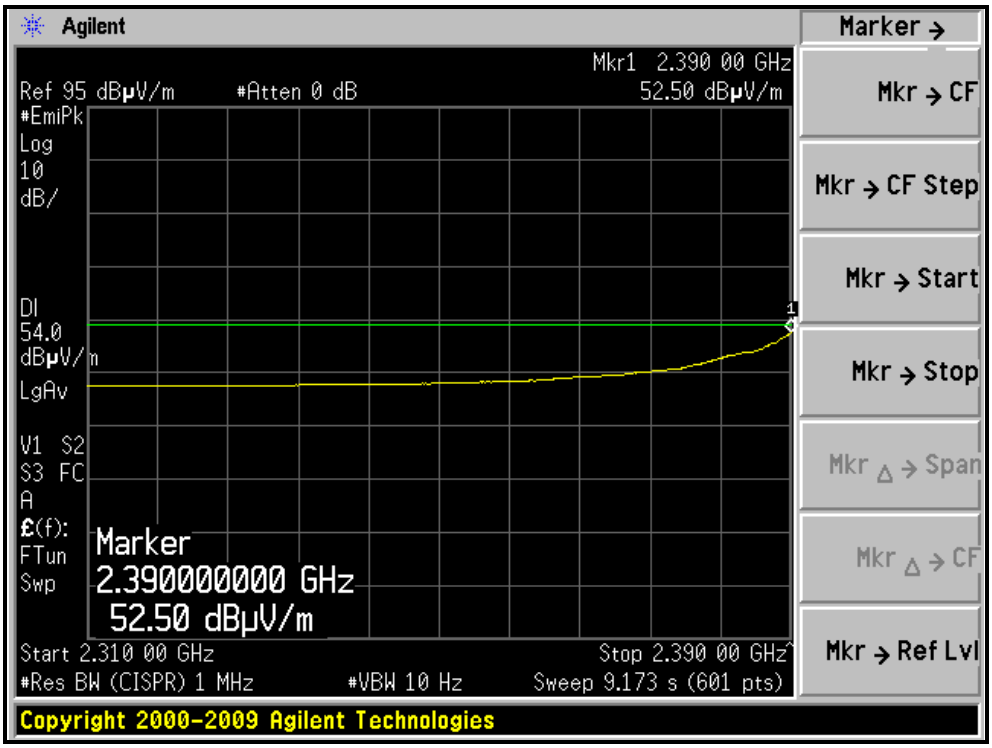
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



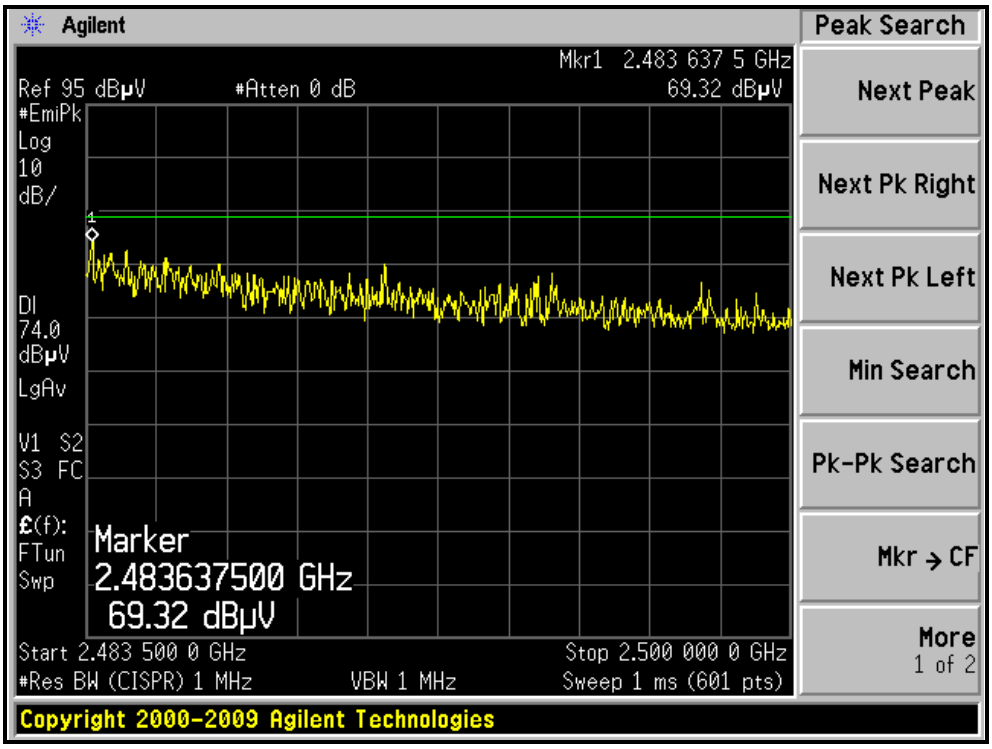


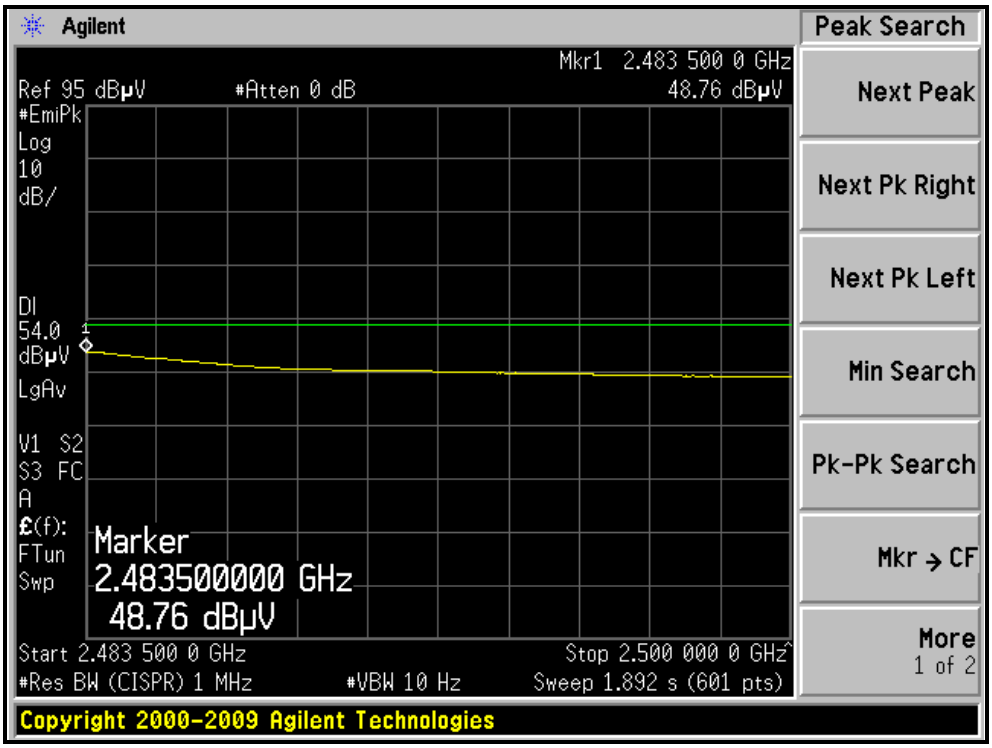
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



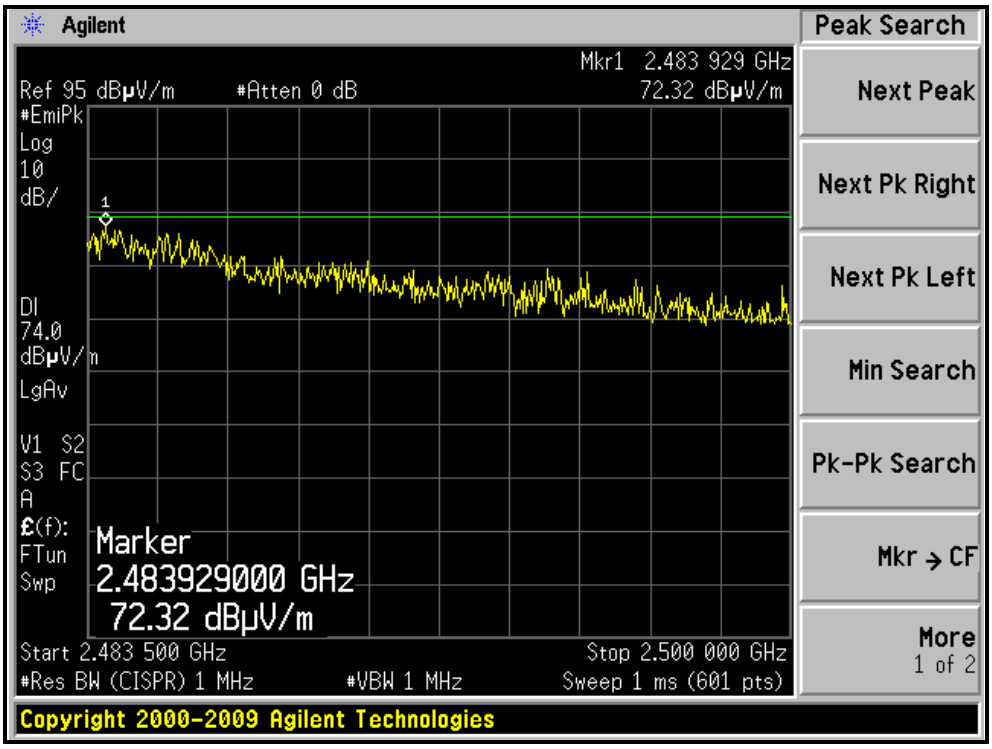


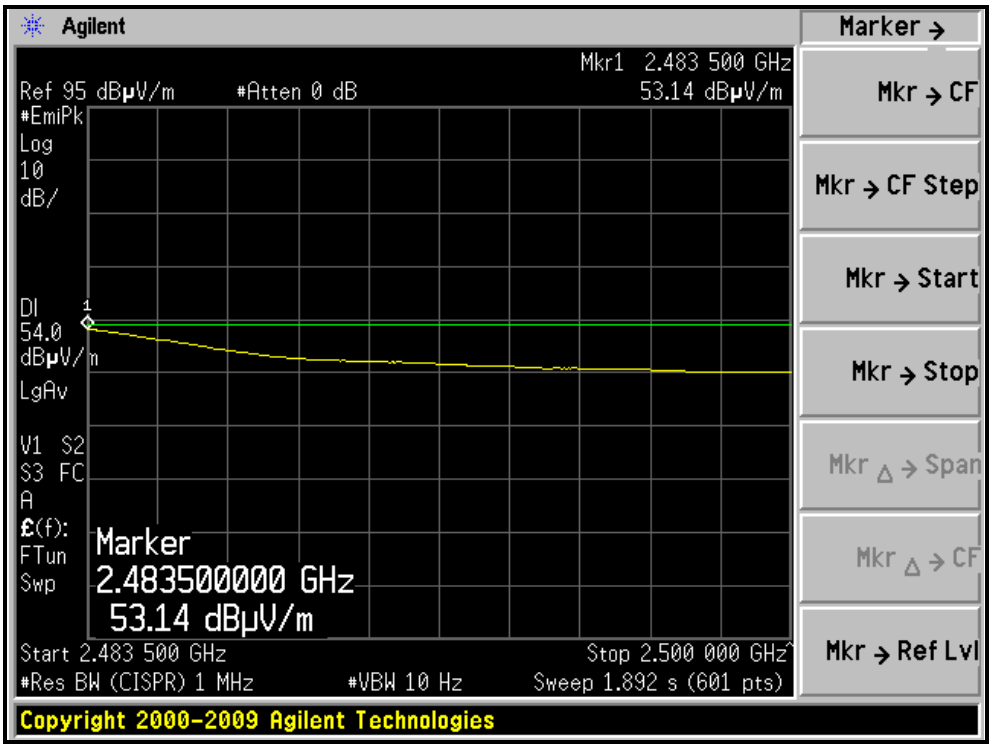
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





Multiple chain : 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	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.4 PK	74.0	-10.6	1.02 H	115	31.74	31.66
2	2390.00	48.1 AV	54.0	-5.9	1.02 H	115	16.44	31.66
3	*2412.00	107.4 PK			1.02 H	115	75.67	31.73
4	*2412.00	97.2 AV			1.02 H	115	65.47	31.73
5	4824.00	49.5 PK	74.0	-24.5	1.06 H	125	10.53	38.97
6	4824.00	36.7 AV	54.0	-17.3	1.06 H	125	-2.27	38.97
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	68.8 PK	74.0	-5.2	1.51 V	112	37.14	31.66
2	2390.00	53.4 AV	54.0	-0.6	1.51 V	112	21.74	31.66
3	*2412.00	112.7 PK			1.51 V	112	80.97	31.73
4	*2412.00	102.7 AV			1.51 V	112	70.97	31.73
5	4824.00	49.1 PK	74.0	-24.9	1.06 V	93	10.13	38.97
6	4824.00	36.7 AV	54.0	-17.3	1.06 V	93	-2.27	38.97

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.1 PK			1.01 H	113	77.29	31.81
2	*2437.00	99.2 AV			1.01 H	113	67.39	31.81
3	4874.00	49.4 PK	74.0	-24.6	1.16 H	102	10.26	39.14
4	4874.00	36.6 AV	54.0	-17.4	1.16 H	102	-2.54	39.14
5	7311.00	59.7 PK	74.0	-14.3	1.00 H	114	13.07	46.63
6	7311.00	45.6 AV	54.0	-8.4	1.00 H	114	-1.03	46.63
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	115.0 PK			1.57 V	118	83.19	31.81
2	*2437.00	104.9 AV			1.57 V	118	73.09	31.81
3	4874.00	48.9 PK	74.0	-25.1	1.09 V	108	9.76	39.14
4	4874.00	36.7 AV	54.0	-17.3	1.09 V	108	-2.44	39.14
5	7311.00	61.2 PK	74.0	-12.8	1.00 V	114	14.57	46.63
6	7311.00	48.2 AV	54.0	-5.8	1.00 V	114	1.57	46.63

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.4 PK			1.00 H	111	74.51	31.89
2	*2462.00	96.2 AV			1.00 H	111	64.31	31.89
3	2483.50	63.8 PK	74.0	-10.2	1.00 H	111	31.83	31.97
4	2483.50	46.6 AV	54.0	-7.4	1.00 H	111	14.63	31.97
5	4924.00	49.5 PK	74.0	-24.5	1.12 H	95	10.19	39.31
6	4924.00	36.5 AV	54.0	-17.5	1.12 H	95	-2.81	39.31
7	7386.00	59.4 PK	74.0	-14.6	1.00 H	123	12.80	46.60
8	7386.00	45.5 AV	54.0	-8.5	1.00 H	123	-1.10	46.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.5 PK			1.51 V	113	79.61	31.89
2	*2462.00	101.1 AV			1.51 V	113	69.21	31.89
3	2483.50	70.4 PK	74.0	-3.6	1.51 V	113	38.43	31.97
4	2483.50	52.3 AV	54.0	-1.7	1.51 V	113	20.33	31.97
5	4924.00	48.8 PK	74.0	-25.2	1.04 V	118	9.49	39.31
6	4924.00	36.5 AV	54.0	-17.5	1.04 V	118	-2.81	39.31
7	7386.00	60.8 PK	74.0	-13.2	1.02 V	101	14.20	46.60
8	7386.00	48.0 AV	54.0	-6.0	1.02 V	101	1.40	46.60

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

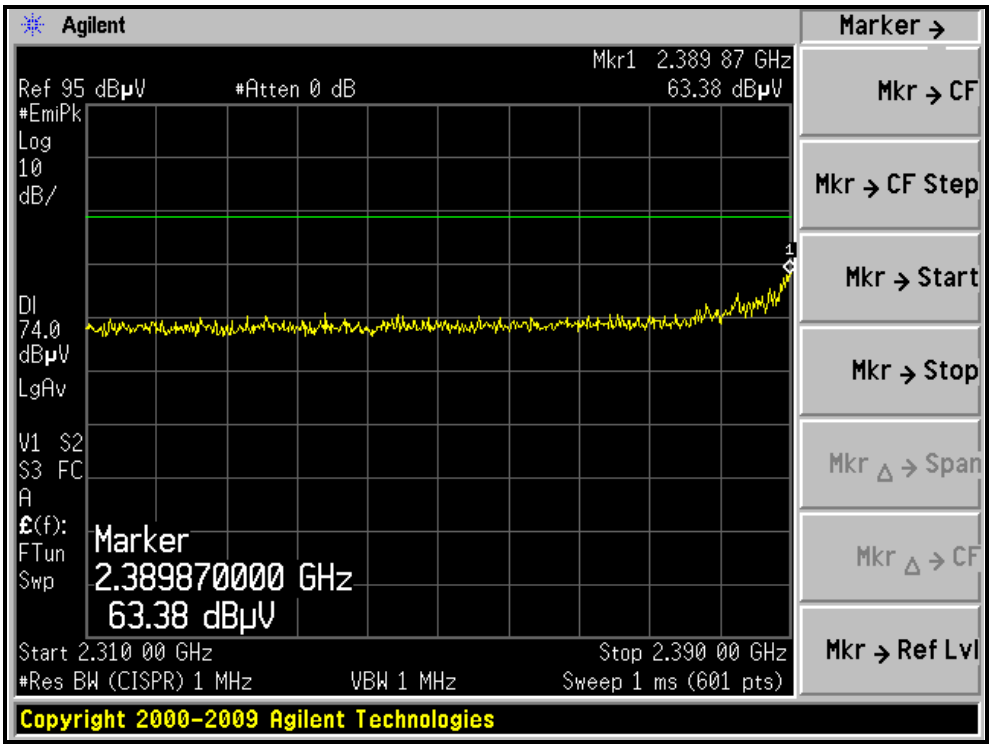
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

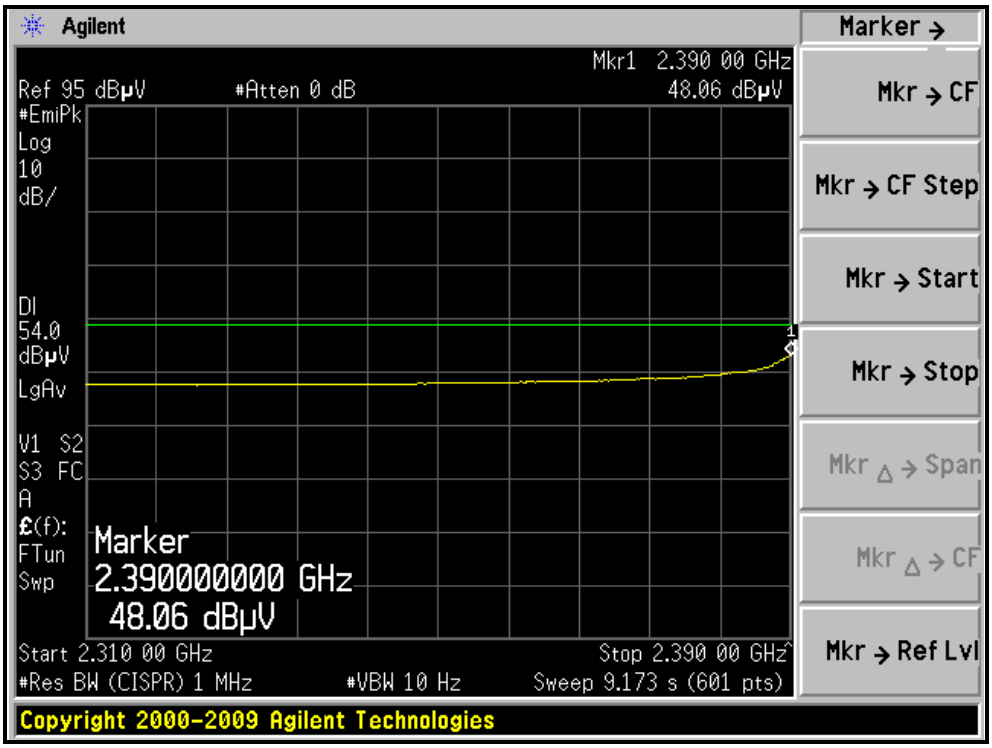
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

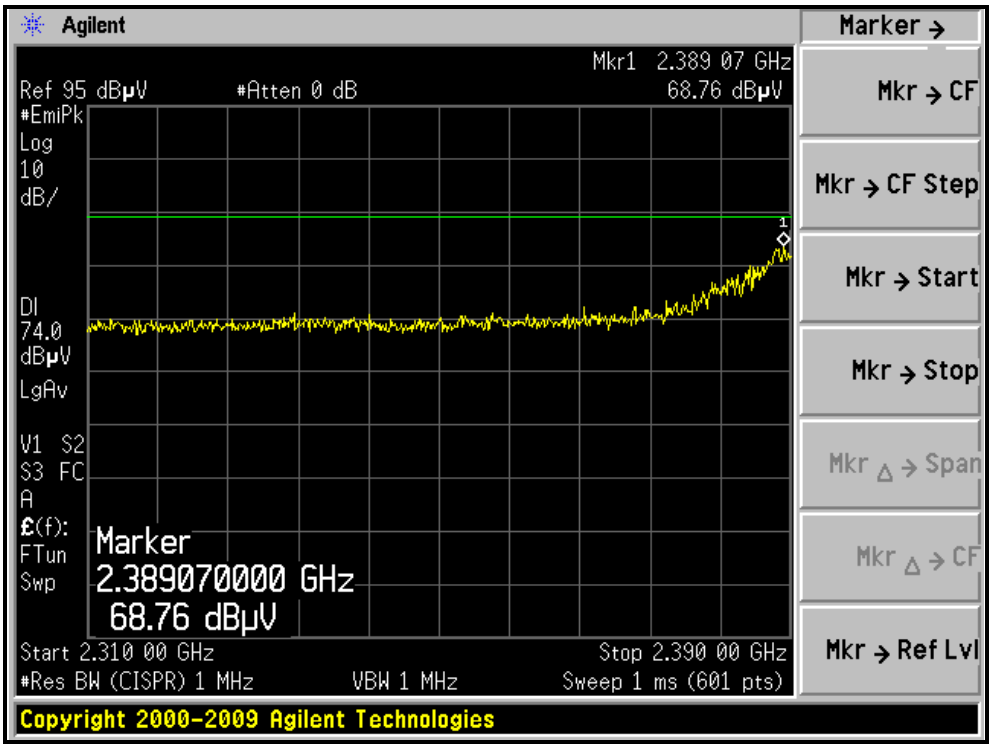
5. " * ": Fundamental frequency.

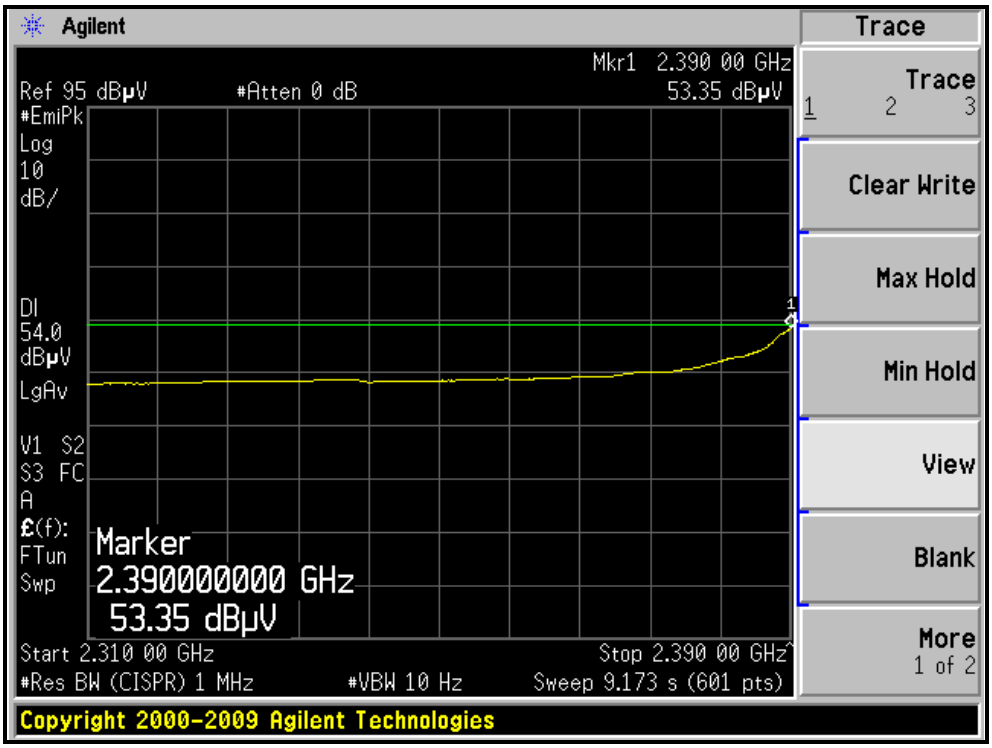
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, HORIZONTAL)



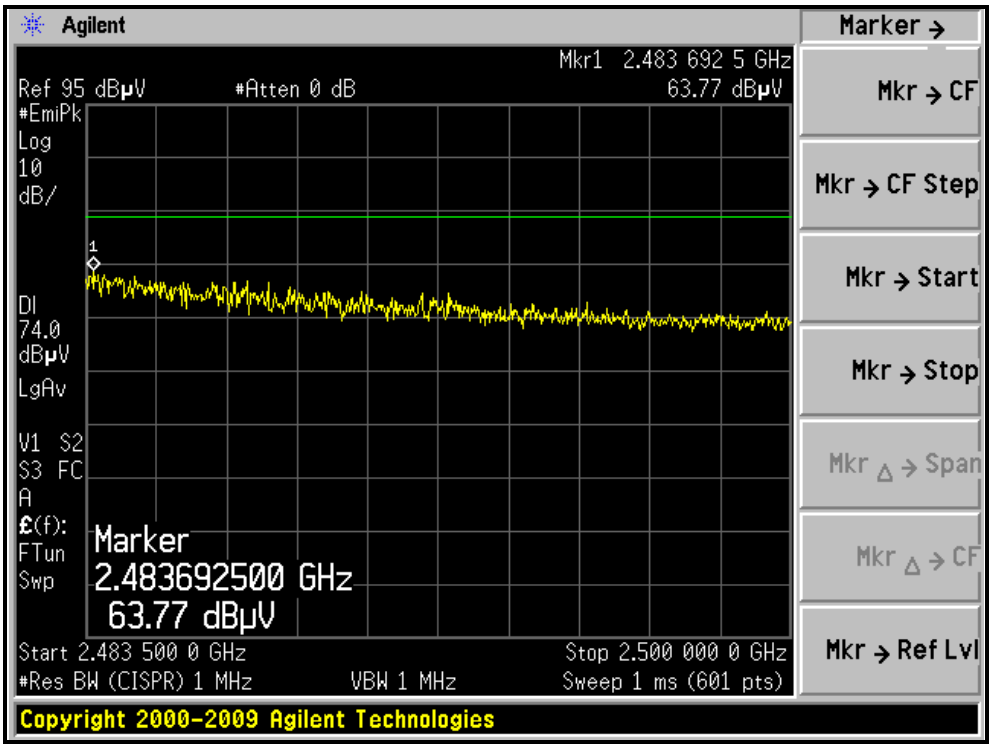


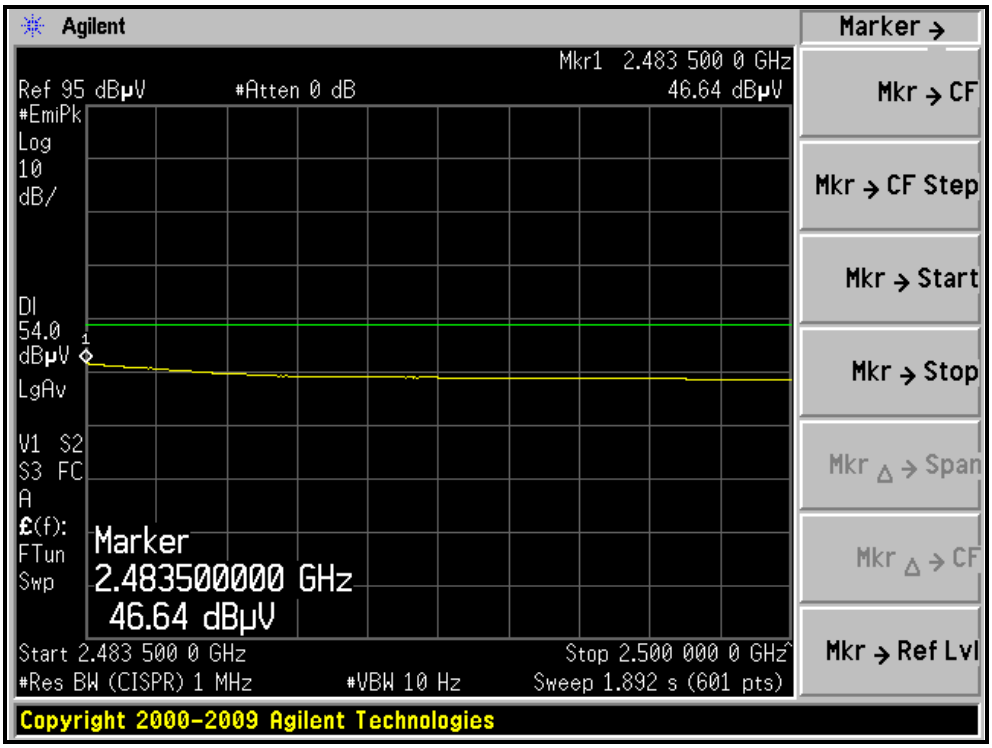
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH1, VERTICAL)



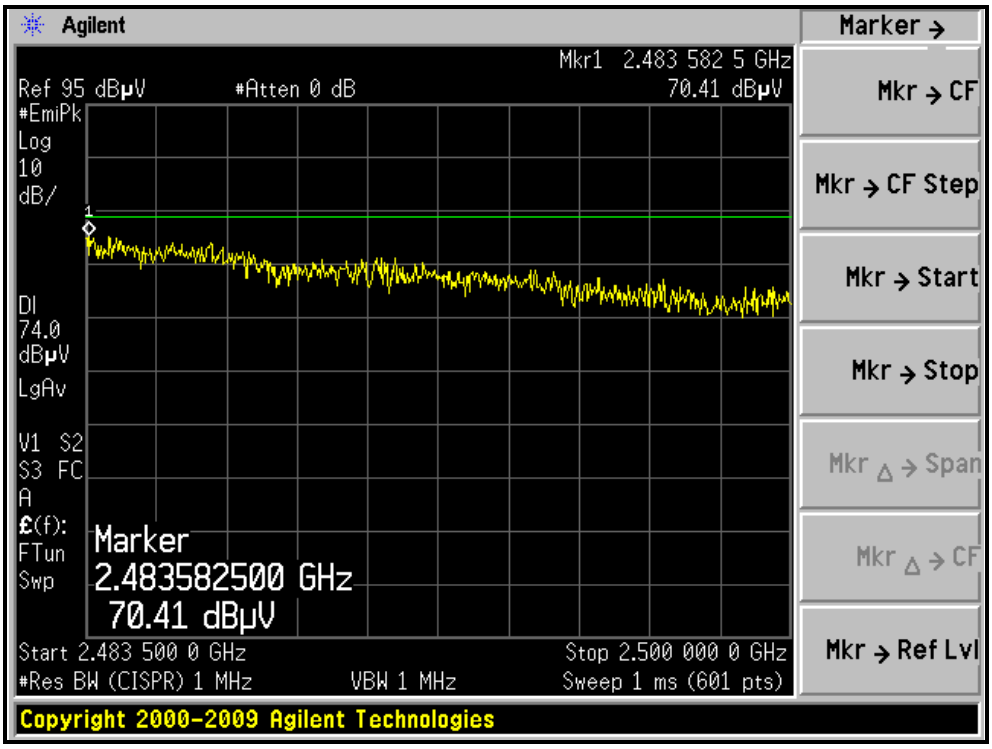


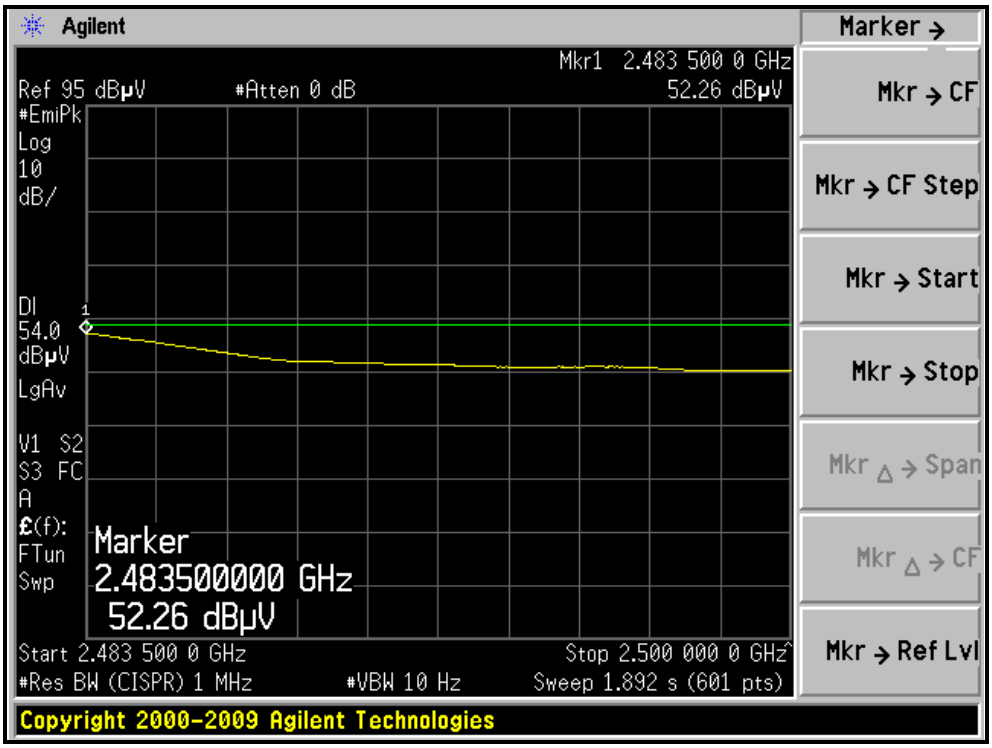
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH11, HORIZONTAL)





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





Single chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.7 PK	74.0	-9.3	1.16 H	359	33.04	31.66
2	2390.00	49.6 AV	54.0	-4.4	1.16 H	359	17.94	31.66
3	*2422.00	99.9 PK			1.16 H	359	68.14	31.76
4	*2422.00	90.7 AV			1.16 H	359	58.94	31.76
5	4844.00	50.4 PK	74.0	-23.6	1.06 H	106	11.36	39.04
6	4844.00	37.0 AV	54.0	-17.0	1.06 H	106	-2.04	39.04
7	7266.00	60.7 PK	74.0	-13.3	1.00 H	117	14.03	46.67
8	7266.00	46.2 AV	54.0	-7.8	1.00 H	117	-0.47	46.67
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	2388.93	71.5 PK	74.0	-2.5	1.15 V	313	39.85	31.65
2	2388.93	52.7 AV	54.0	-1.3	1.15 V	313	21.05	31.65
3	*2422.00	105.7 PK			1.15 V	313	73.94	31.76
4	*2422.00	96.5 AV			1.15 V	313	64.74	31.76
5	4844.00	50.1 PK	74.0	-23.9	1.00 V	113	11.06	39.04
6	4844.00	37.7 AV	54.0	-16.3	1.00 V	113	-1.34	39.04
7	7266.00	59.8 PK	74.0	-14.2	1.00 V	96	13.13	46.67
8	7266.00	48.6 AV	54.0	-5.4	1.00 V	96	1.93	46.67

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	100.6 PK			1.22 H	360	68.79	31.81
2	*2437.00	91.3 AV			1.22 H	360	59.49	31.81
3	4874.00	50.7 PK	74.0	-23.3	1.08 H	111	11.56	39.14
4	4874.00	37.1 AV	54.0	-16.9	1.08 H	111	-2.04	39.14
5	7311.00	60.1 PK	74.0	-13.9	1.00 H	107	13.47	46.63
6	7311.00	45.8 AV	54.0	-8.2	1.00 H	107	-0.83	46.63
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.6 PK			1.20 V	325	74.79	31.81
2	*2437.00	97.1 AV			1.20 V	325	65.29	31.81
3	2483.50	73.3 PK	74.0	-0.7	1.14 V	303	41.33	31.97
4	2483.50	52.8 AV	54.0	-1.2	1.14 V	303	20.83	31.97
5	4874.00	50.0 PK	74.0	-24.0	1.00 V	115	10.86	39.14
6	4874.00	37.4 AV	54.0	-16.6	1.00 V	115	-1.74	39.14
7	7311.00	58.9 PK	74.0	-15.1	1.01 V	92	12.27	46.63
8	7311.00	48.0 AV	54.0	-6.0	1.01 V	92	1.37	46.63

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	98.9 PK			1.13 H	360	67.04	31.86
2	*2452.00	89.6 AV			1.13 H	360	57.74	31.86
3	2483.50	63.8 PK	74.0	-10.2	1.09 H	354	31.83	31.97
4	2483.50	47.9 AV	54.0	-6.1	1.09 H	354	15.93	31.97
5	4904.00	49.8 PK	74.0	-24.2	1.00 H	99	10.56	39.24
6	4904.00	37.1 AV	54.0	-16.9	1.00 H	99	-2.14	39.24
7	7356.00	59.4 PK	74.0	-14.6	1.00 H	104	12.79	46.61
8	7356.00	45.3 AV	54.0	-8.7	1.00 H	104	-1.31	46.61
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	104.2 PK			1.16 V	324	72.34	31.86
2	*2452.00	95.3 AV			1.16 V	324	63.44	31.86
3	2483.50	72.4 PK	74.0	-1.6	1.16 V	312	40.43	31.97
4	2483.50	53.4 AV	54.0	-0.6	1.16 V	312	21.43	31.97
5	4904.00	48.7 PK	74.0	-25.3	1.00 V	116	9.46	39.24
6	4904.00	36.8 AV	54.0	-17.2	1.00 V	116	-2.44	39.24
7	7356.00	59.5 PK	74.0	-14.5	1.00 V	144	12.89	46.61
8	7356.00	45.2 AV	54.0	-8.8	1.00 V	144	-1.41	46.61

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

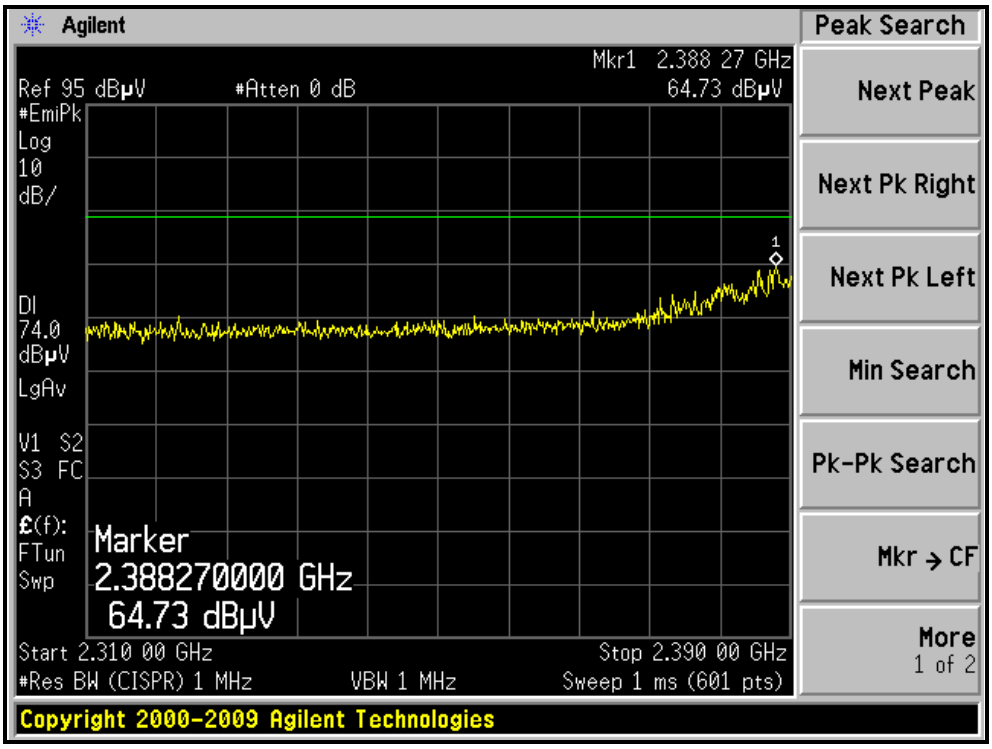
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

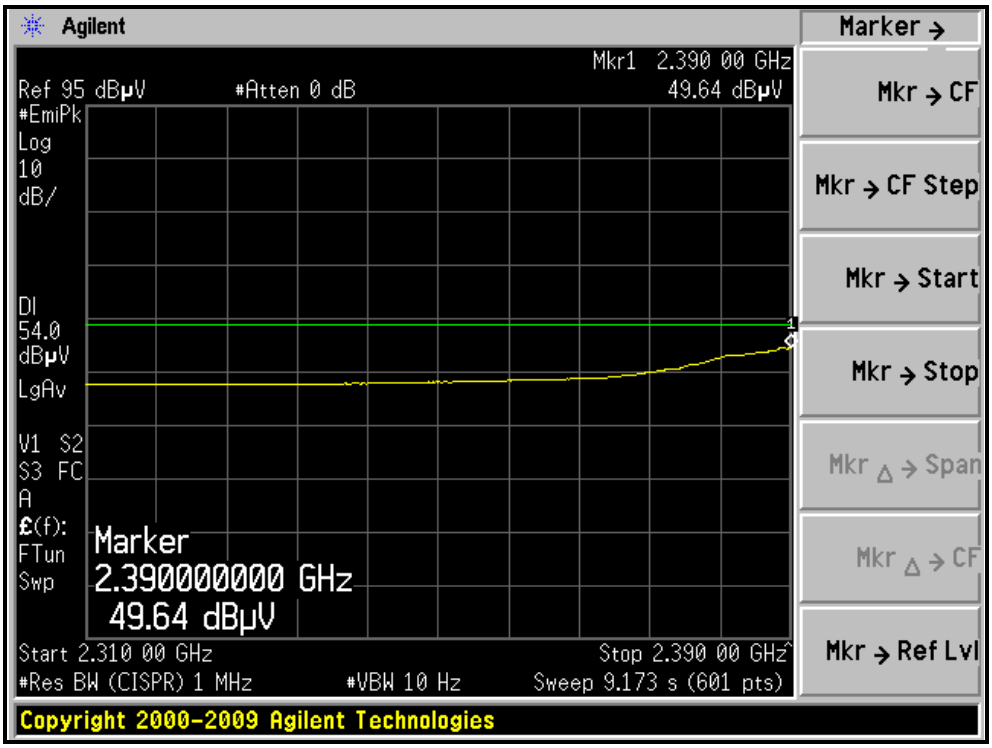
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

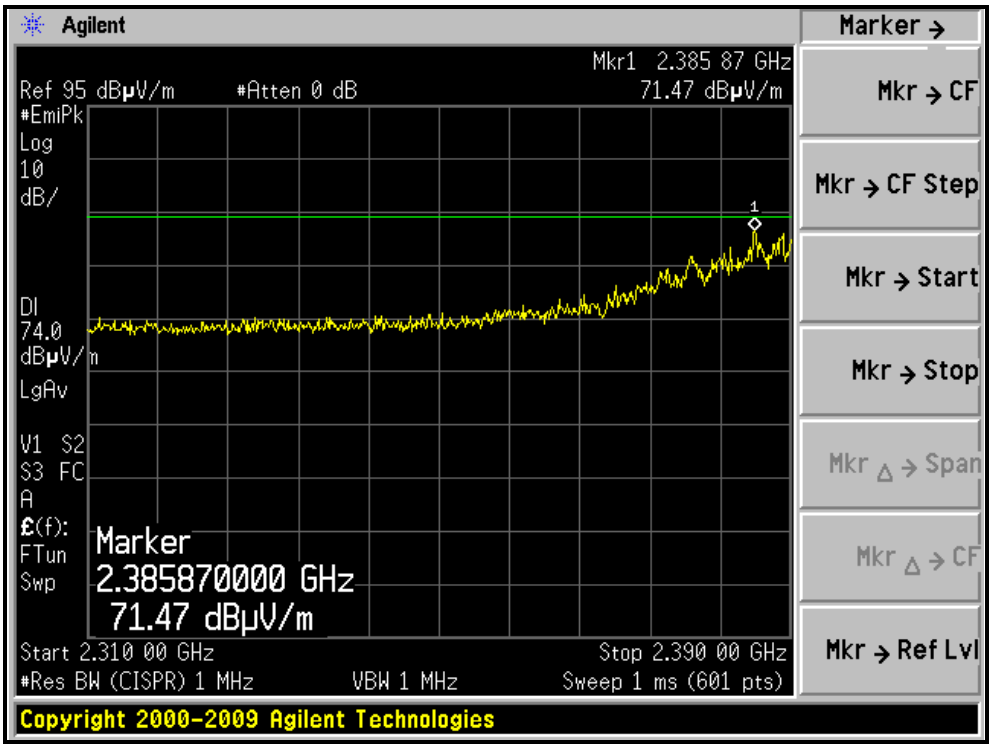
5. " * ": Fundamental frequency.

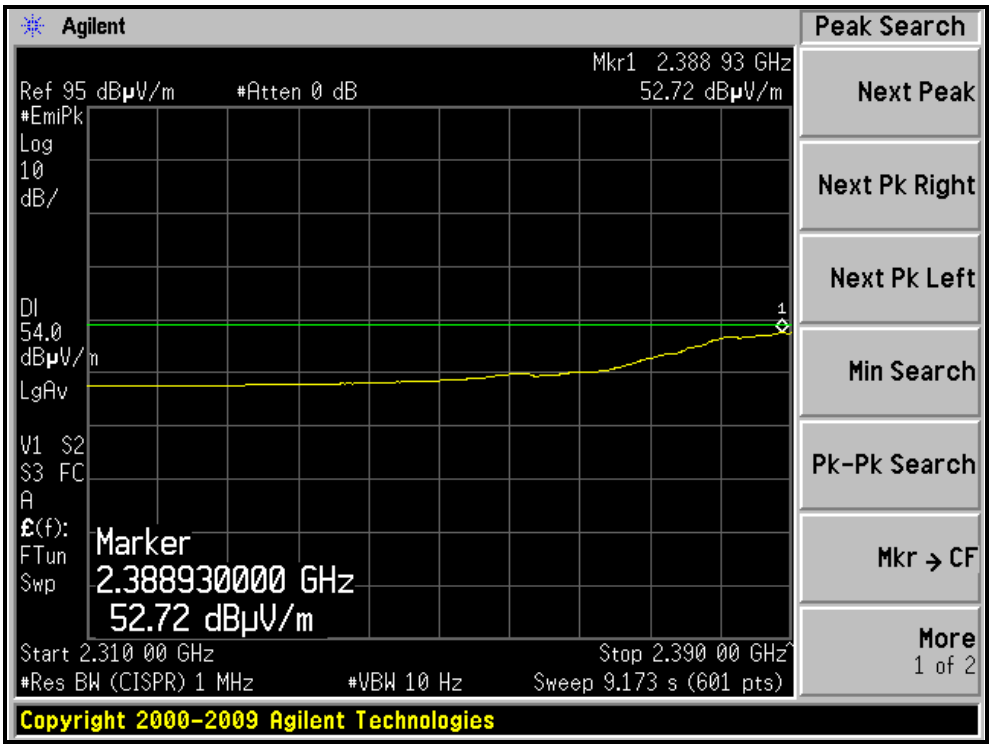
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, HORIZONTAL)



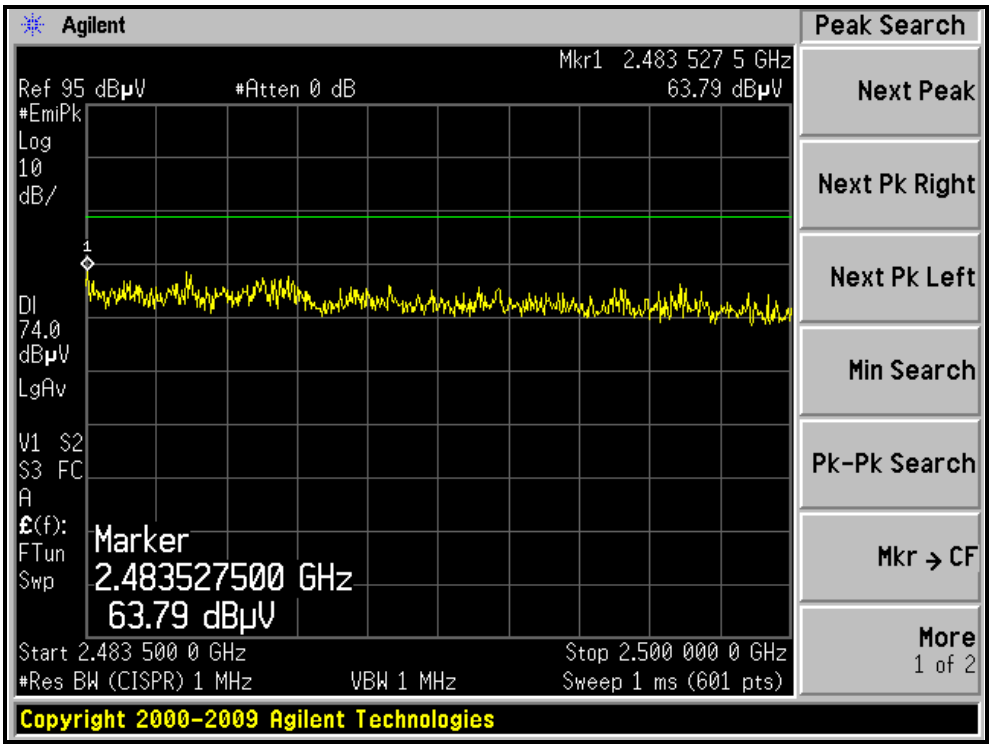


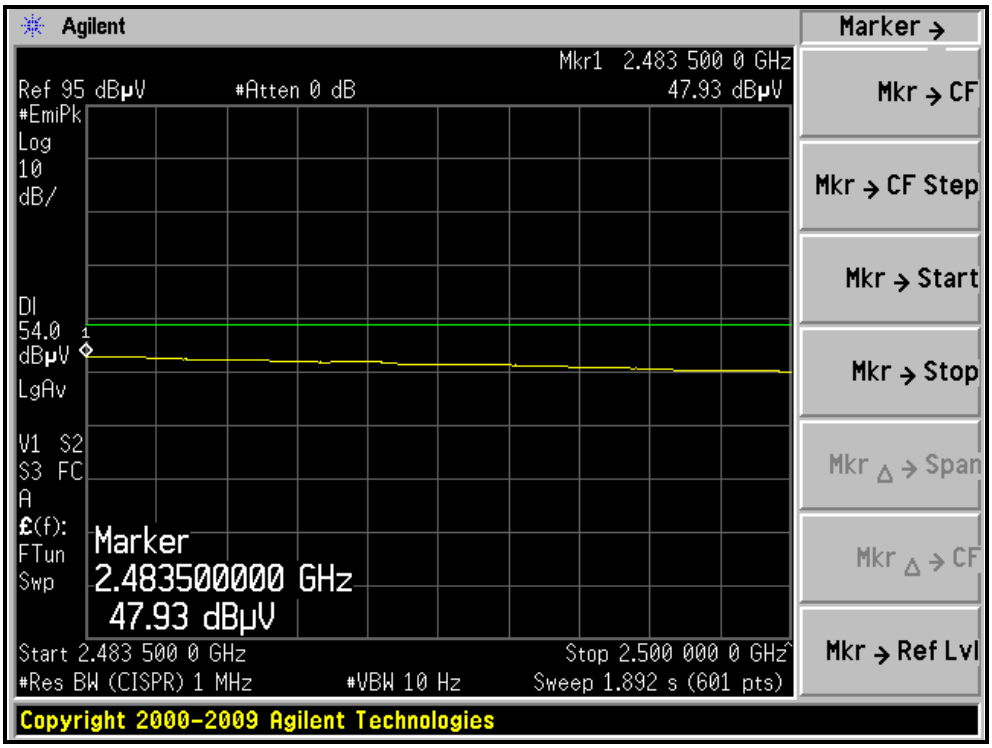
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, VERTICAL)



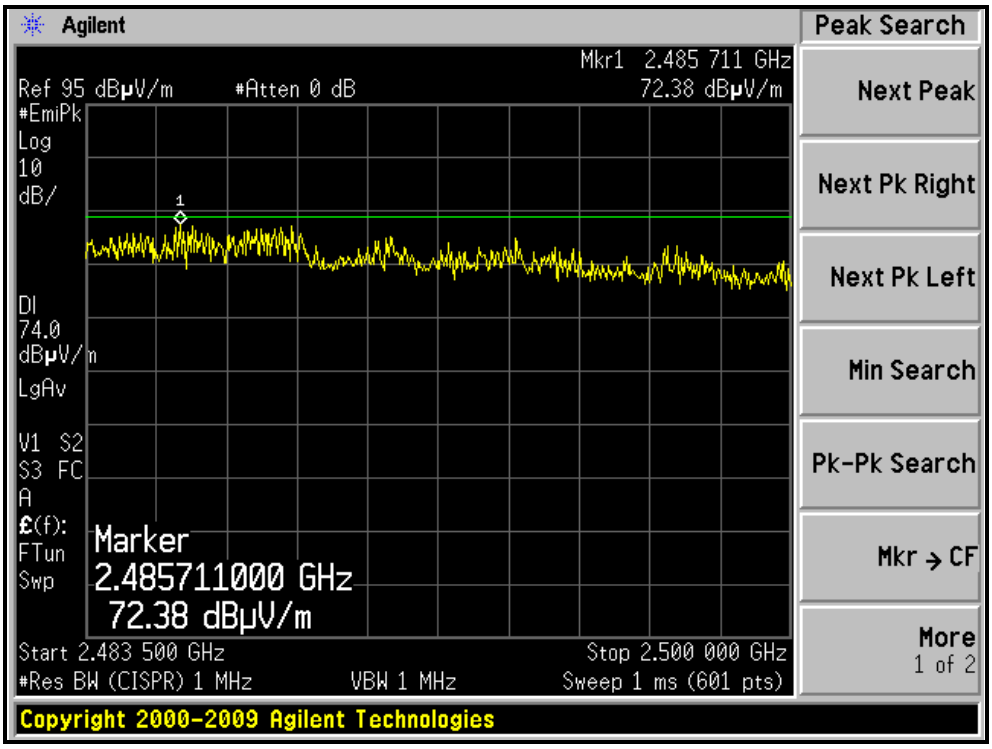


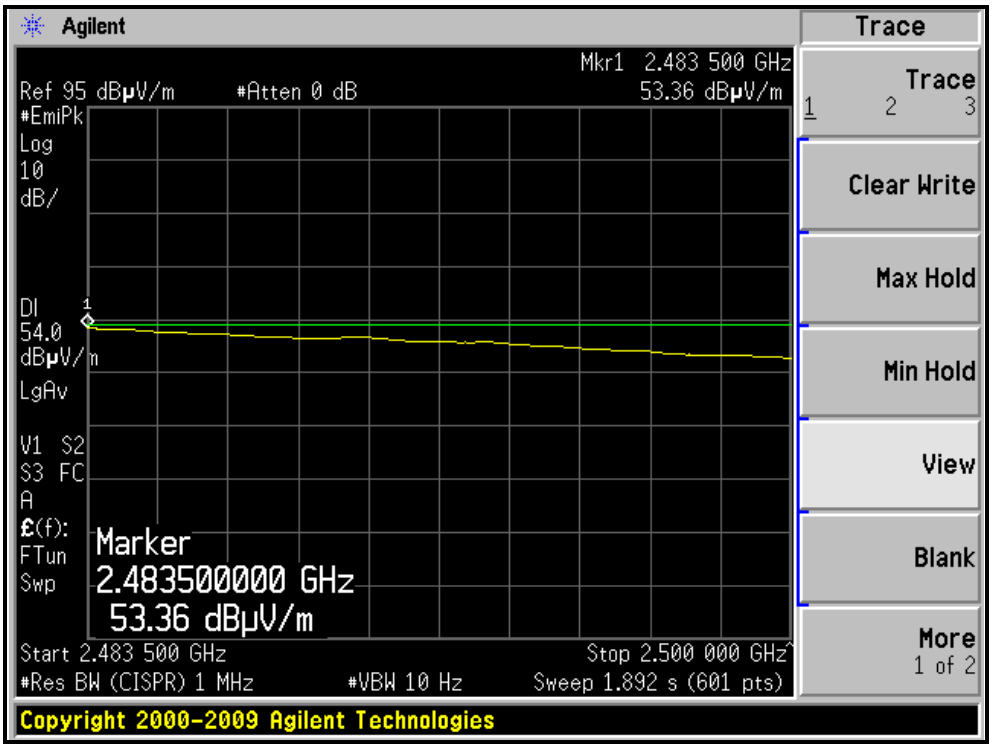
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, HORIZONTAL)





RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, VERTICAL)





Multiple chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.3 PK	74.0	-15.7	1.00 H	108	26.64	31.66
2	2390.00	47.1 AV	54.0	-6.9	1.00 H	108	15.44	31.66
3	*2422.00	103.1 PK			1.00 H	108	71.34	31.76
4	*2422.00	92.5 AV			1.00 H	108	60.74	31.76
5	4844.00	49.3 PK	74.0	-24.7	1.06 H	122	10.26	39.04
6	4844.00	36.6 AV	54.0	-17.4	1.06 H	122	-2.44	39.04
7	7266.00	59.7 PK	74.0	-14.3	1.00 H	108	13.03	46.67
8	7266.00	45.5 AV	54.0	-8.5	1.00 H	108	-1.17	46.67
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	68.3 PK	74.0	-5.7	1.51 V	112	36.64	31.66
2	2390.00	52.1 AV	54.0	-1.9	1.51 V	112	20.44	31.66
3	*2422.00	108.3 PK			1.51 V	112	76.54	31.76
4	*2422.00	97.9 AV			1.51 V	112	66.14	31.76
5	4844.00	48.9 PK	74.0	-25.1	1.01 V	109	9.86	39.04
6	4844.00	36.5 AV	54.0	-17.5	1.01 V	109	-2.54	39.04
7	7266.00	59.7 PK	74.0	-14.3	1.01 V	132	13.03	46.67
8	7266.00	45.6 AV	54.0	-8.4	1.01 V	132	-1.07	46.67

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.2 PK			1.00 H	103	71.39	31.81
2	*2437.00	92.8 AV			1.00 H	103	60.99	31.81
3	4874.00	49.5 PK	74.0	-24.5	1.07 H	119	10.36	39.14
4	4874.00	36.7 AV	54.0	-17.3	1.07 H	119	-2.44	39.14
5	7311.00	59.6 PK	74.0	-14.4	1.03 H	106	12.97	46.63
6	7311.00	45.3 AV	54.0	-8.7	1.03 H	106	-1.33	46.63
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	108.6 PK			1.52 V	121	76.79	31.81
2	*2437.00	98.1 AV			1.52 V	121	66.29	31.81
3	4874.00	49.1 PK	74.0	-24.9	1.00 V	115	9.96	39.14
4	4874.00	36.7 AV	54.0	-17.3	1.00 V	115	-2.44	39.14
5	7311.00	59.7 PK	74.0	-14.3	1.03 V	143	13.07	46.63
6	7311.00	45.4 AV	54.0	-8.6	1.03 V	143	-1.23	46.63

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.5 PK			1.01 H	114	69.64	31.86
2	*2452.00	91.4 AV			1.01 H	114	59.54	31.86
3	2485.39	64.4 PK	74.0	-9.6	1.00 H	111	32.43	31.97
4	2485.39	49.2 AV	54.0	-4.8	1.00 H	111	17.23	31.97
5	4904.00	49.7 PK	74.0	-24.3	1.04 H	107	10.46	39.24
6	4904.00	37.0 AV	54.0	-17.0	1.04 H	107	-2.24	39.24
7	7356.00	59.3 PK	74.0	-14.7	1.00 H	114	12.69	46.61
8	7356.00	45.1 AV	54.0	-8.9	1.00 H	114	-1.51	46.61
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	106.8 PK			1.55 V	117	74.94	31.86
2	*2452.00	96.5 AV			1.55 V	117	64.64	31.86
3	2485.70	69.1 PK	74.0	-4.9	1.55 V	117	37.13	31.97
4	2485.70	52.2 AV	54.0	-1.8	1.55 V	117	20.23	31.97
5	4904.00	49.1 PK	74.0	-24.9	1.00 V	113	9.86	39.24
6	4904.00	37.0 AV	54.0	-17.0	1.00 V	113	-2.24	39.24
7	7356.00	59.7 PK	74.0	-14.3	1.00 V	142	13.09	46.61
8	7356.00	45.4 AV	54.0	-8.6	1.00 V	142	-1.21	46.61

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

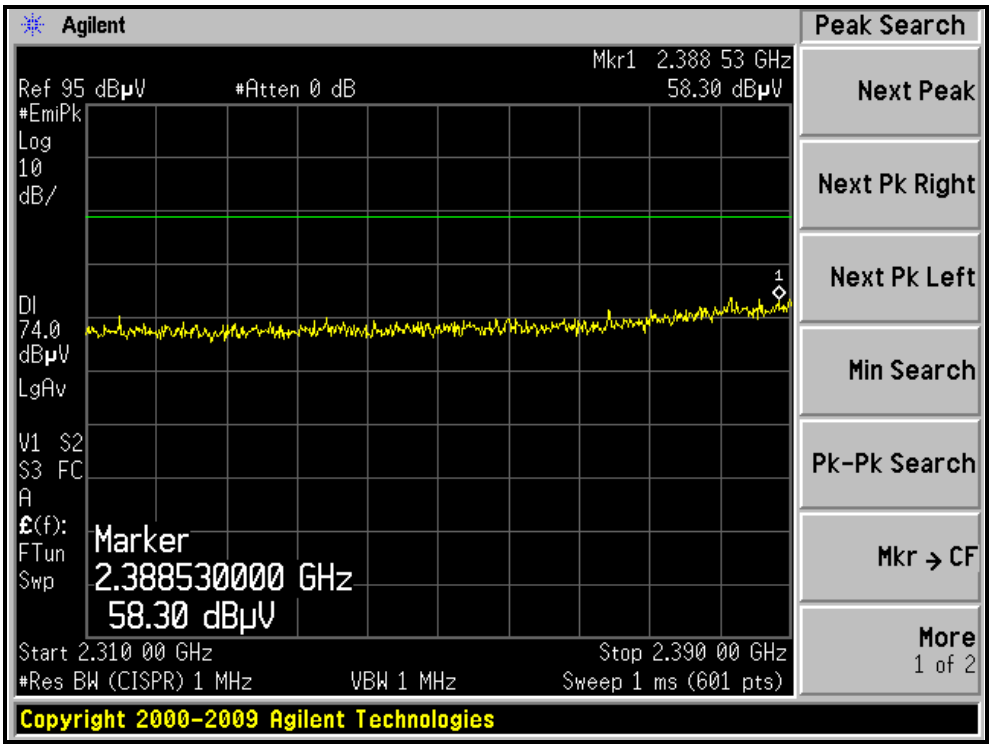
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

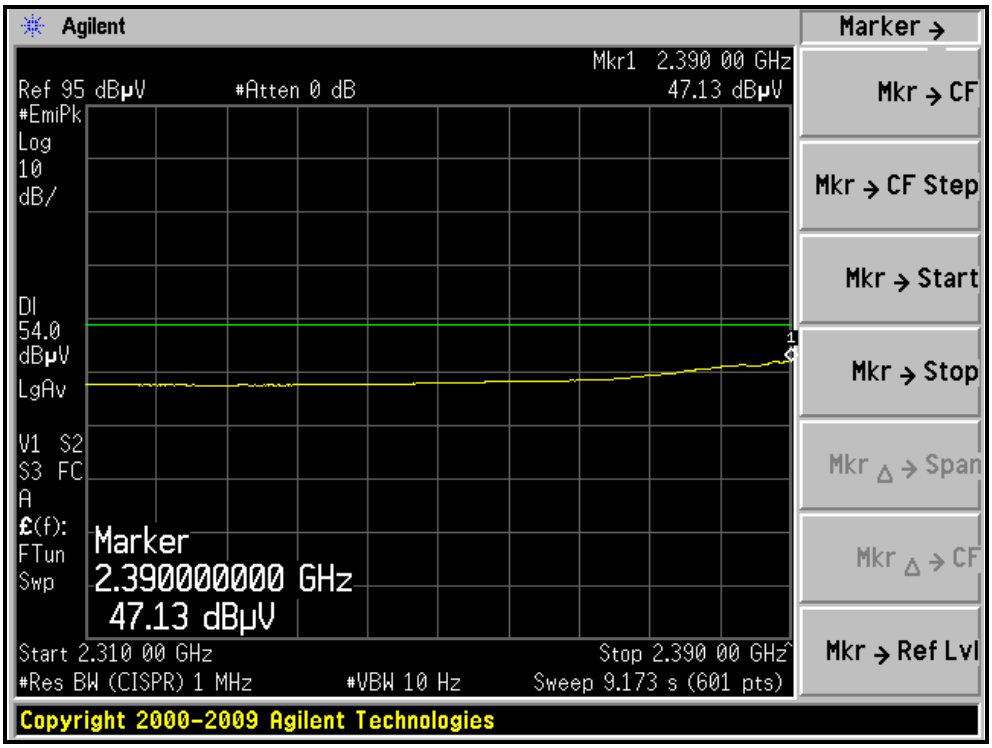
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

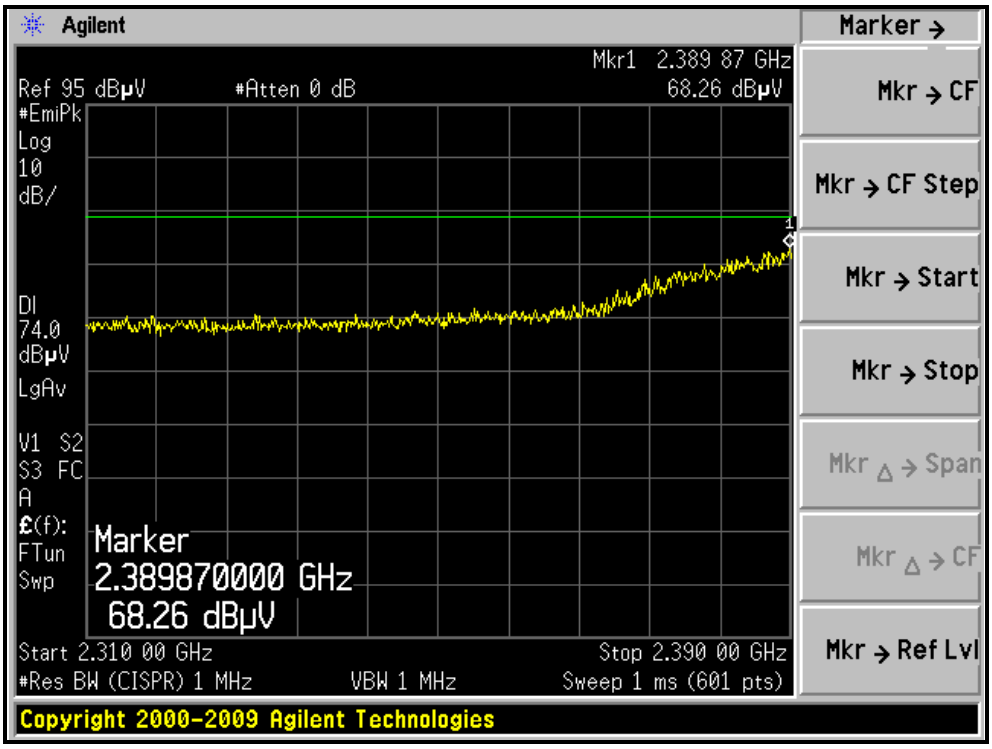
5. " * ": Fundamental frequency.

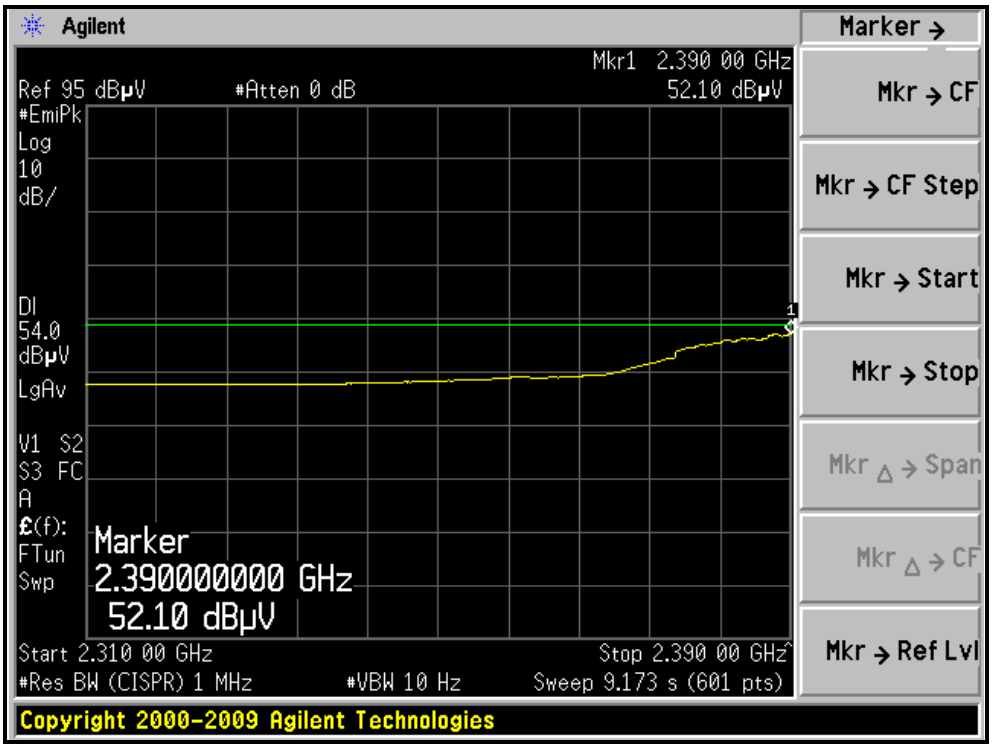
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, HORIZONTAL)



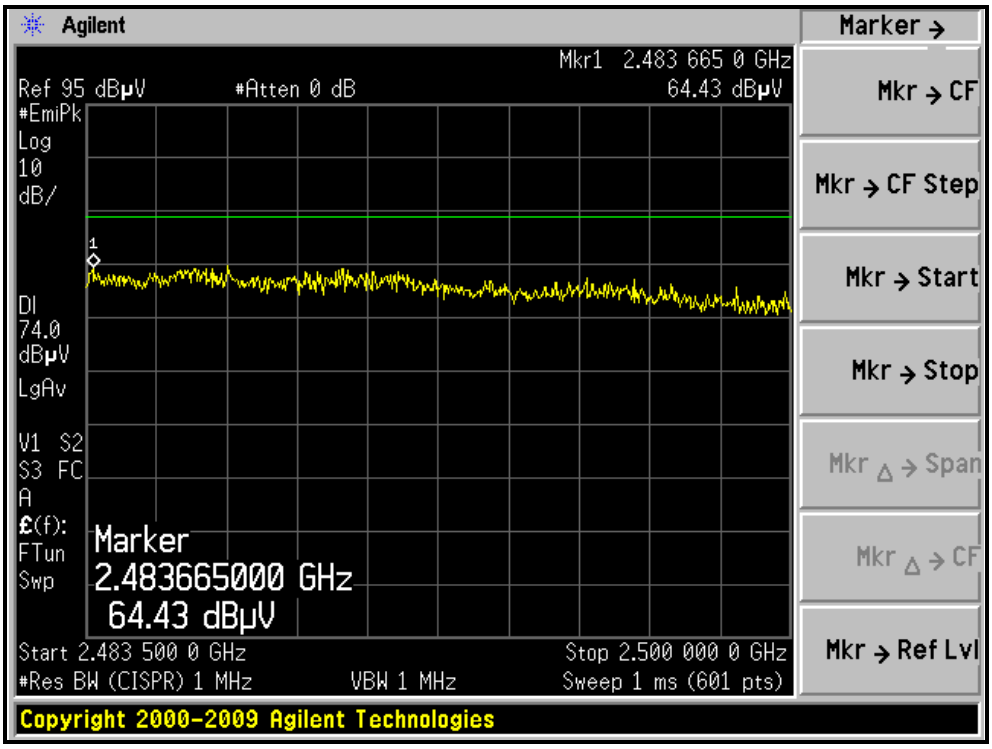


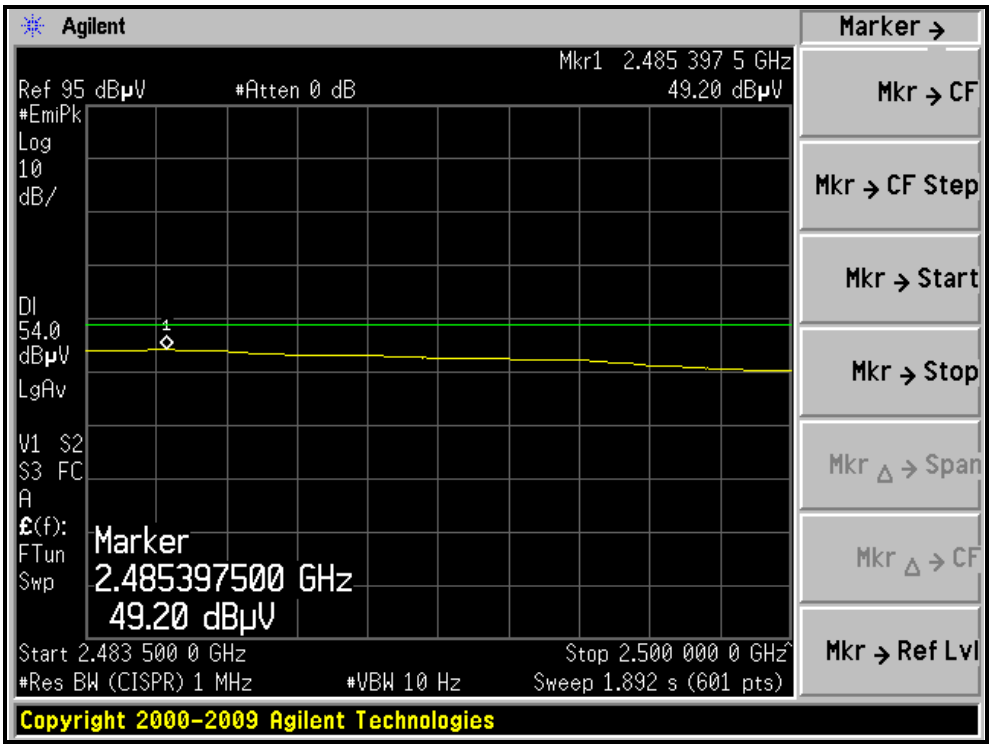
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH3, VERTICAL)



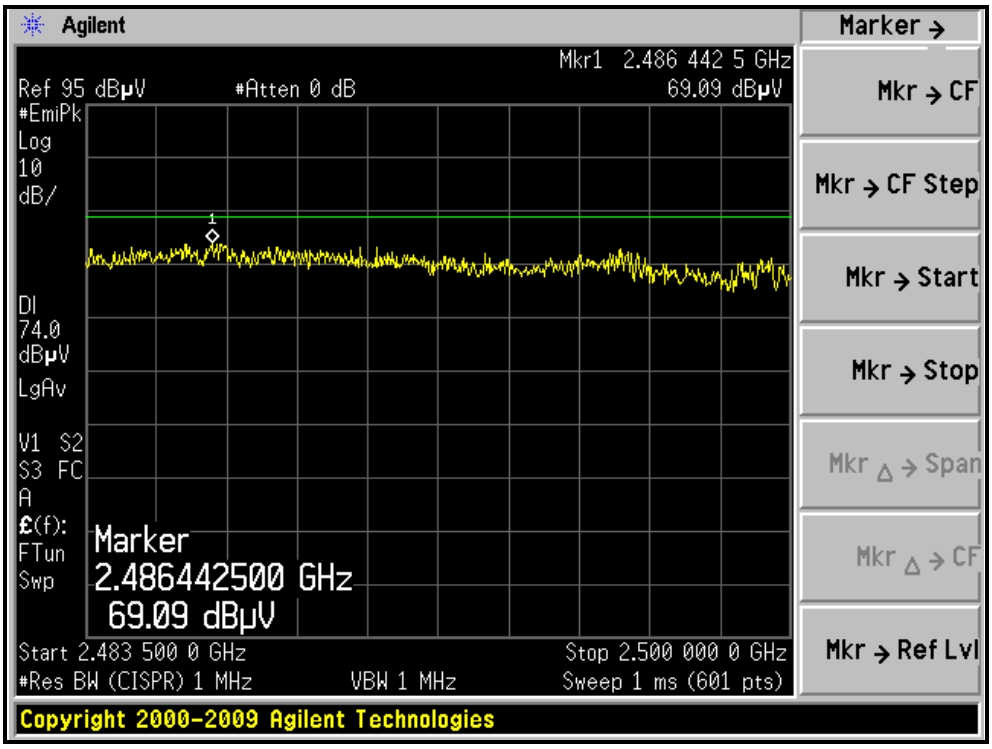


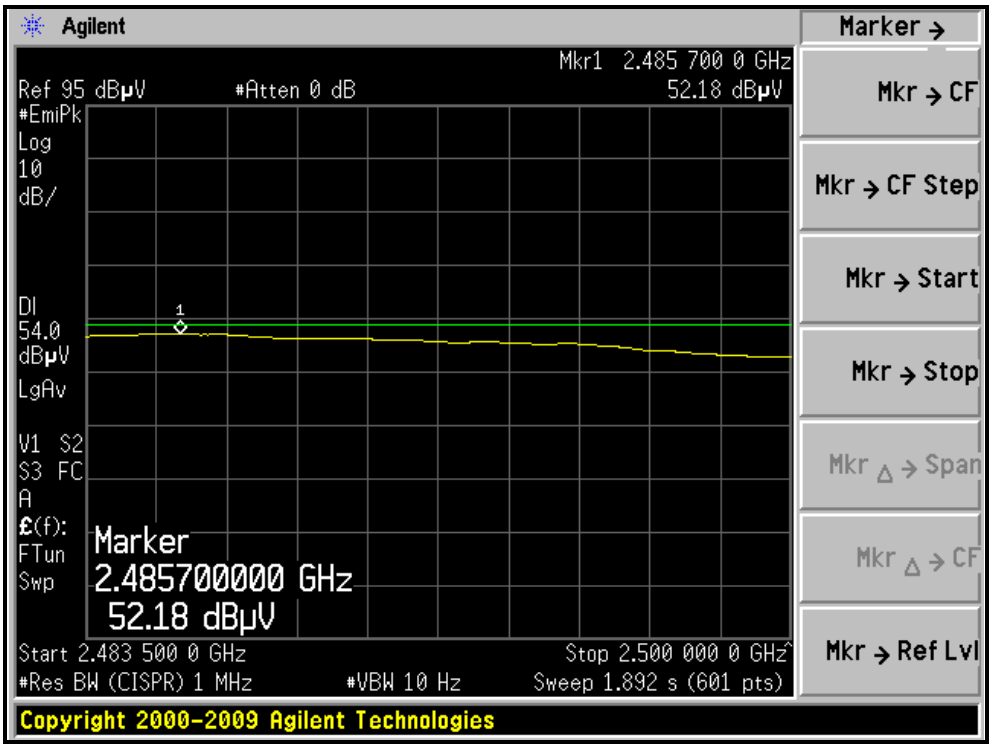
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, HORIZONTAL)





RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH9, VERTICAL)





4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Test date: June 23, 2011

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

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

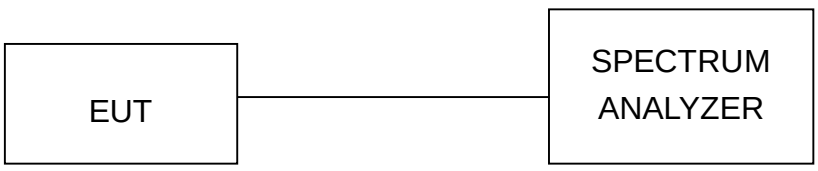
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

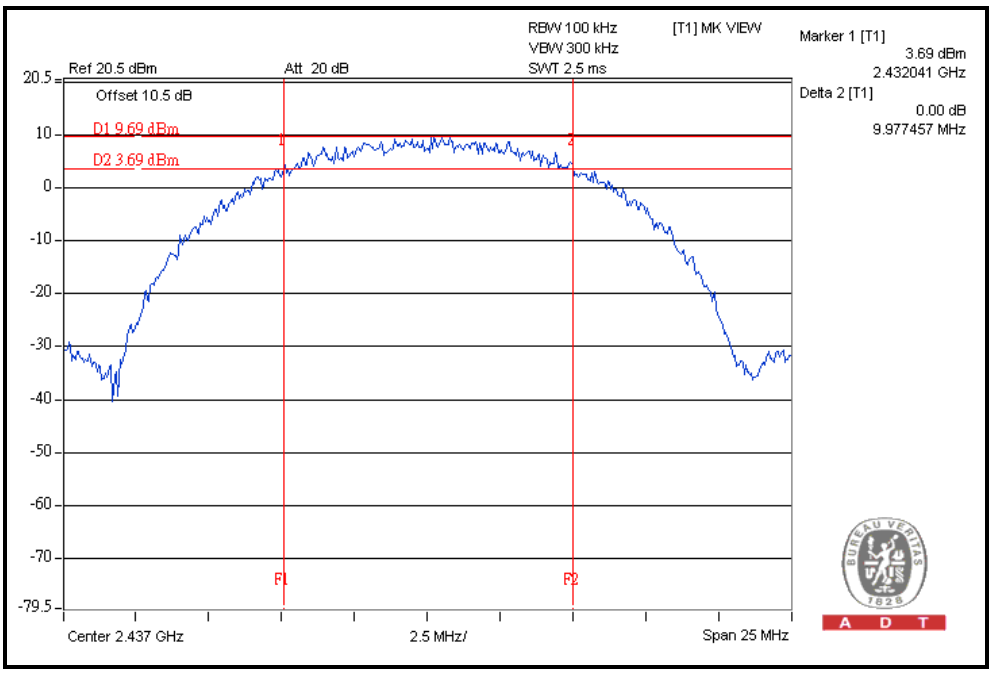
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.97	0.5	PASS
6	2437	9.97	0.5	PASS
11	2462	8.71	0.5	PASS

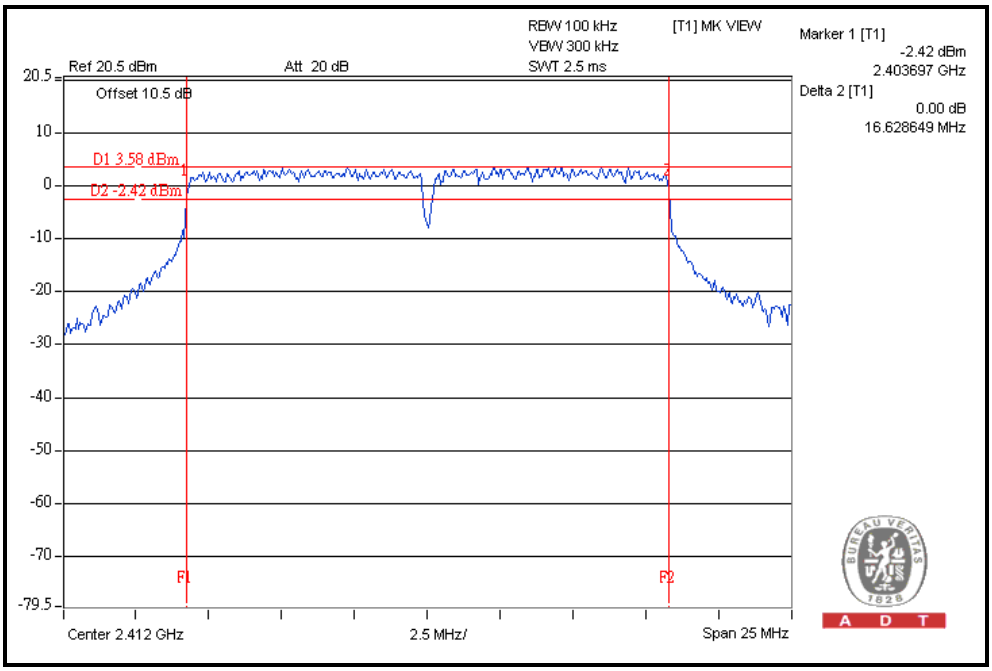
CH6



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.62	0.5	PASS
6	2437	16.61	0.5	PASS
11	2462	16.60	0.5	PASS

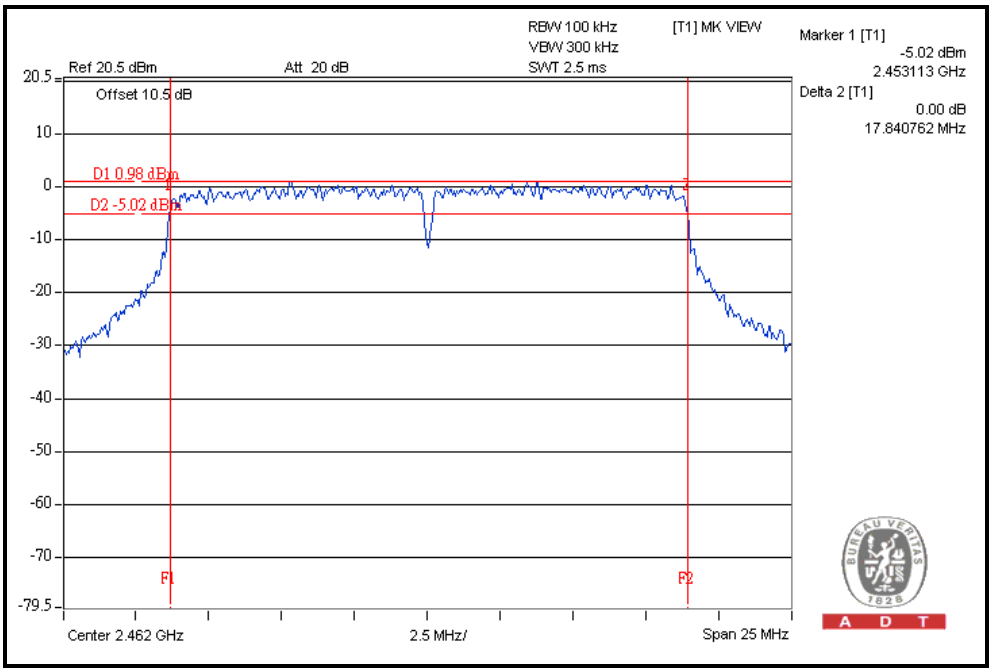
CH1



Single Chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.83	0.5	PASS
6	2437	17.83	0.5	PASS
11	2462	17.84	0.5	PASS

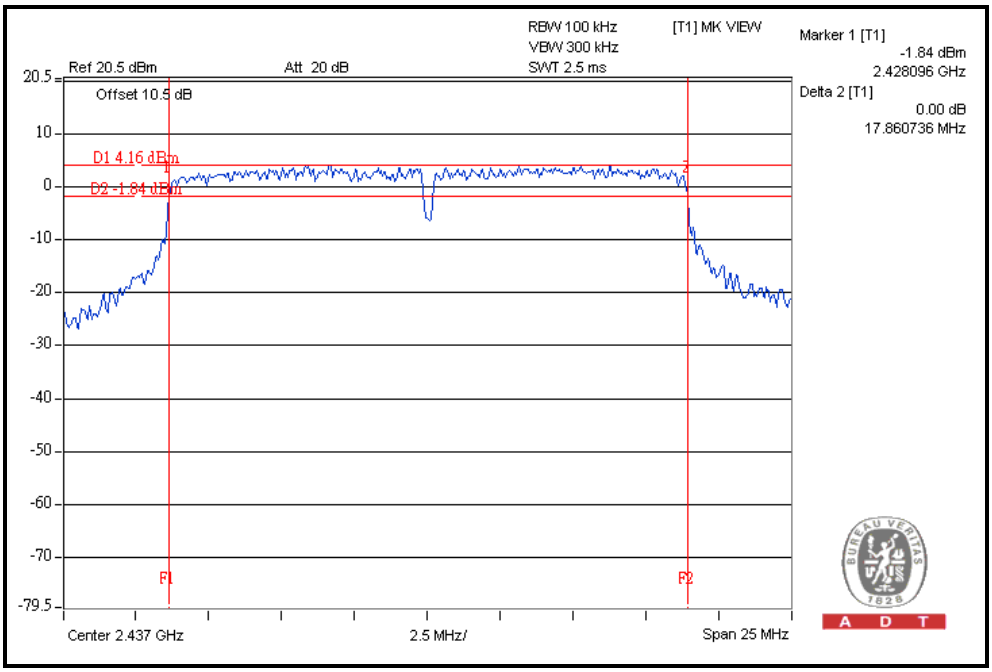
CH11



Multiple chain - 802.11n (20MHz) OFDM modulation:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.85	0.5	PASS
6	2437	17.86	0.5	PASS
11	2462	17.81	0.5	PASS

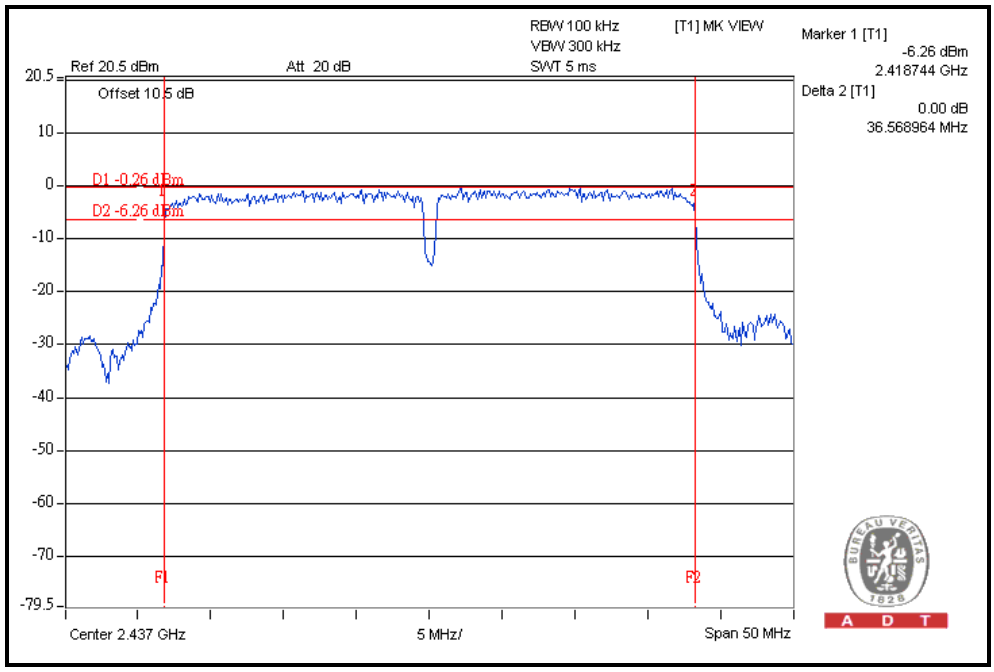
CH6



Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	36.54	0.5	PASS
6	2437	36.56	0.5	PASS
9	2452	36.56	0.5	PASS

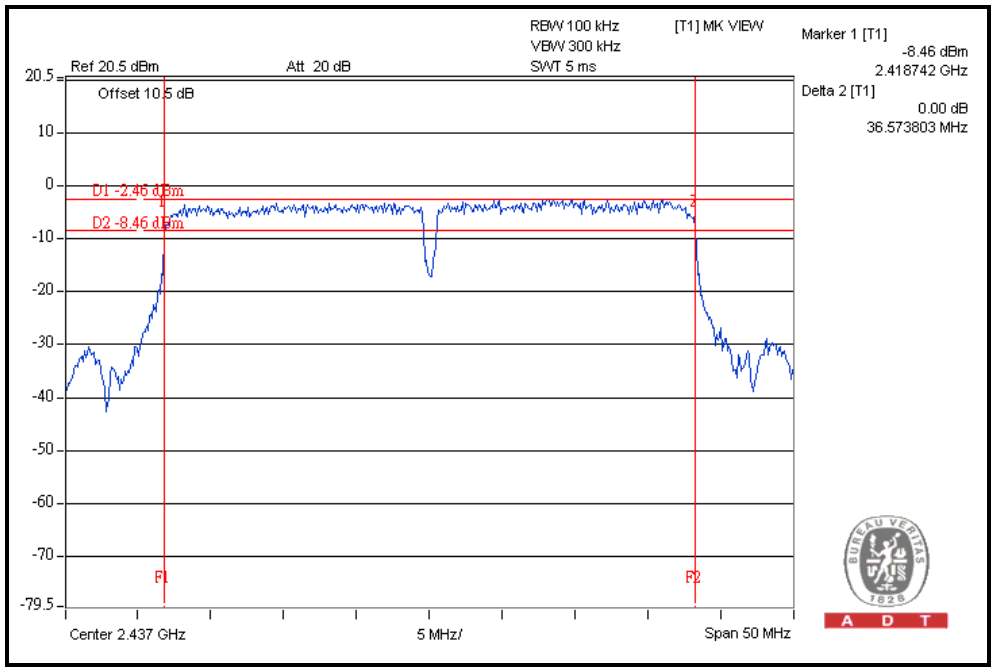
CH6



Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	36.53	0.5	PASS
6	2437	36.57	0.5	PASS
9	2452	36.54	0.5	PASS

CH6



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

Test date: June 23, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
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.

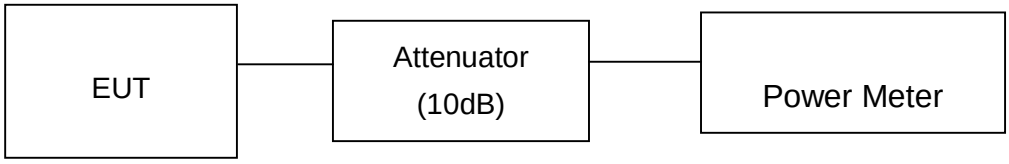
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	107.2	20.3	30	PASS
6	2437	114.8	20.6	30	PASS
11	2462	112.2	20.5	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	371.5	25.7	30	PASS
6	2437	371.5	25.7	30	PASS
11	2462	257.0	24.1	30	PASS

Single Chain - 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	316.2	25.0	30	PASS
6	2437	346.7	25.4	30	PASS
11	2462	263.0	24.2	30	PASS

Multiple chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
1	2412	23.8	24.0	491.1	26.9	30	PASS
6	2437	25.3	25.2	670.0	28.3	30	PASS
11	2462	24.1	23.9	502.5	27.0	30	PASS

Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
3	2422	251.2	24.0	30	PASS
6	2437	275.4	24.4	30	PASS
9	2452	147.9	21.7	30	PASS

Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
3	2422	23.5	23.7	458.3	26.6	30	PASS
6	2437	23.7	23.6	463.5	26.7	30	PASS
9	2452	22.0	21.6	303.0	24.8	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Test date: June 23, 2011

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

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

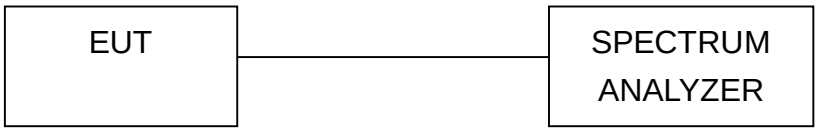
4.5.3 TEST PROCEDURE

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

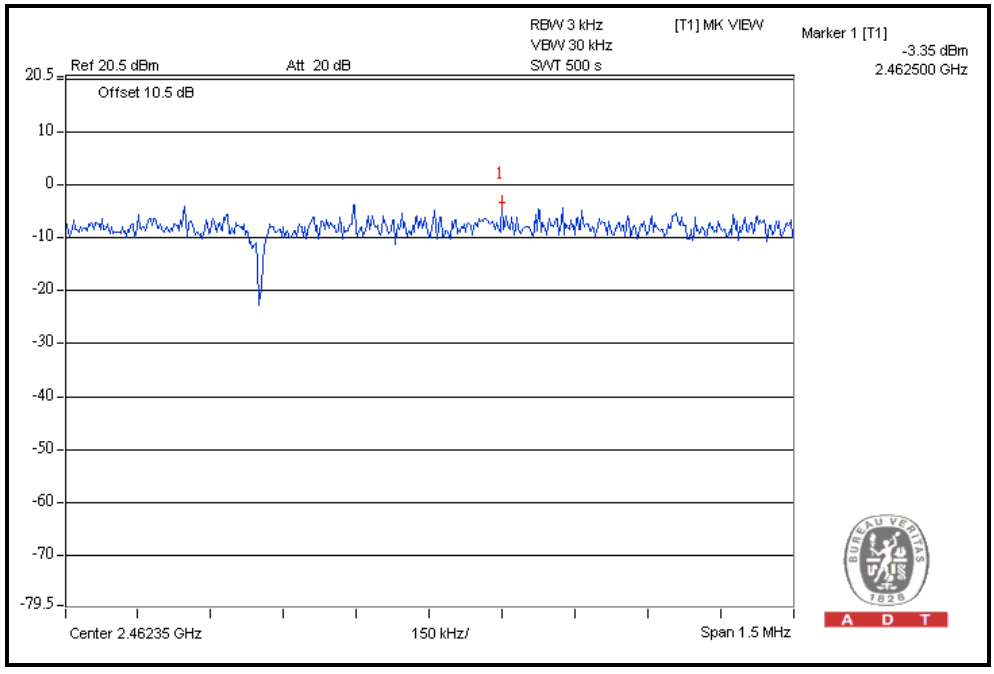
Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-5.6	8	PASS
6	2437	-4.7	8	PASS
11	2462	-3.4	8	PASS

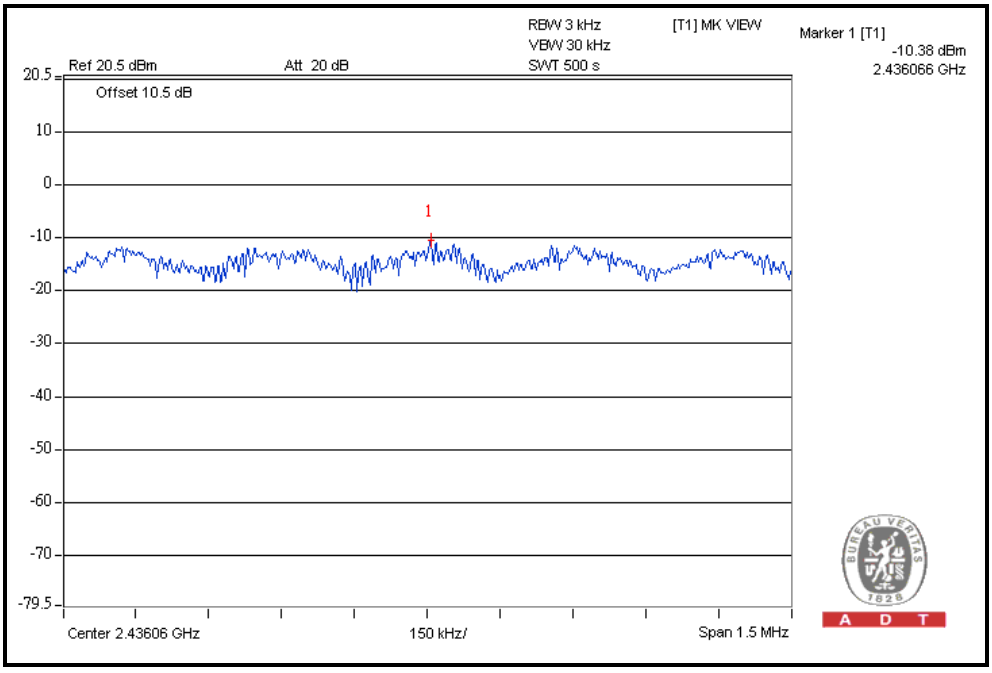
CH11



802.11g OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-10.7	8	PASS
6	2437	-10.4	8	PASS
11	2462	-13.6	8	PASS

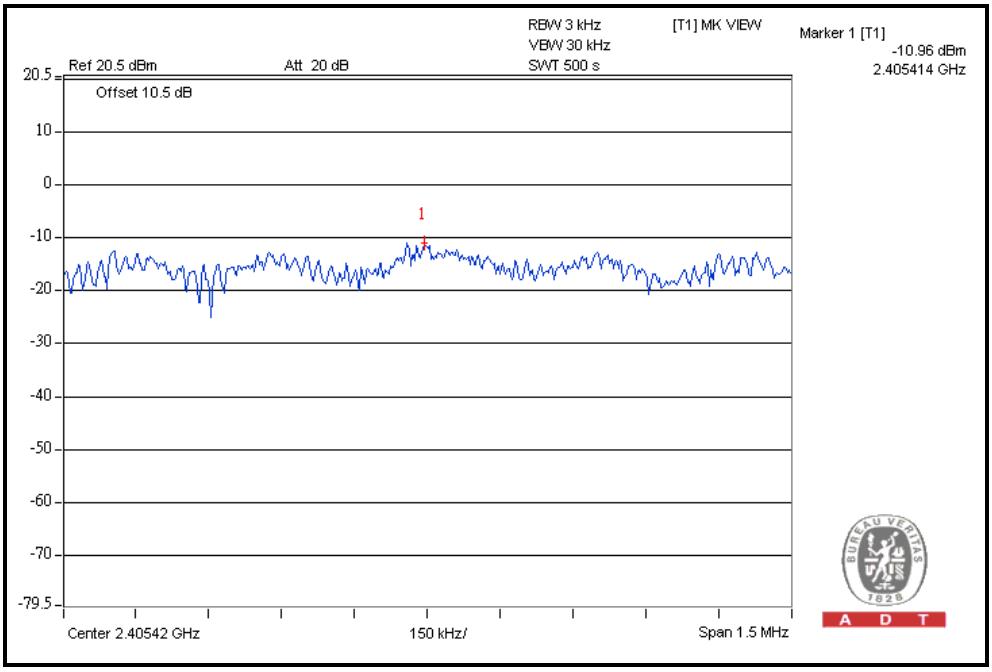
CH6



Single Chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-11.0	8	PASS
6	2437	-11.2	8	PASS
11	2462	-13.7	8	PASS

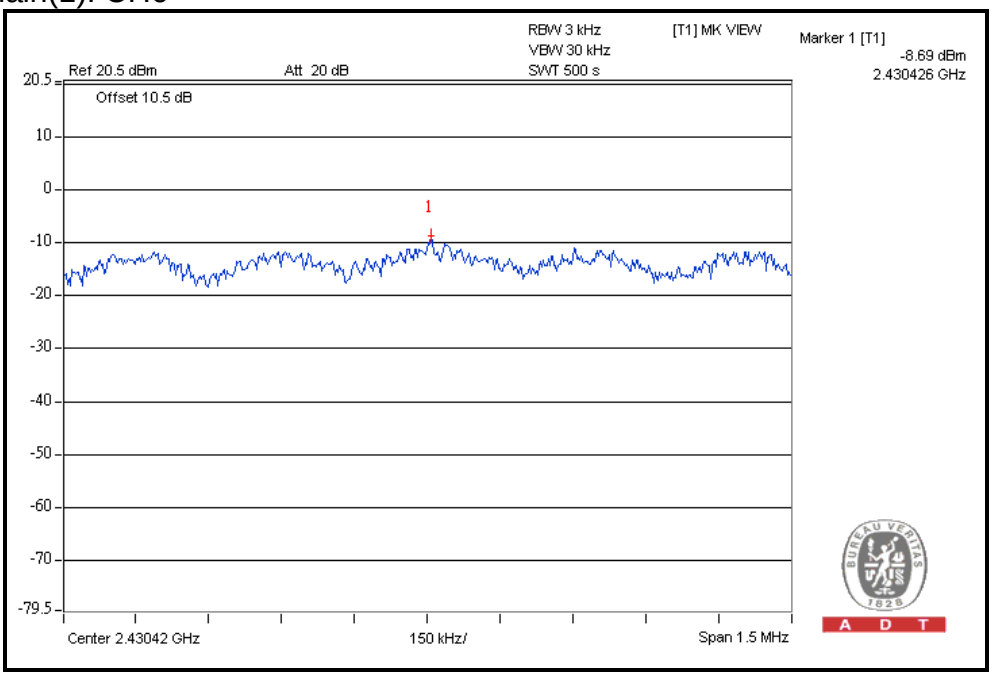
CH1



Multiple chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
1	2412	-12.1	-12.8	-9.4	8	PASS
6	2437	-9.5	-8.7	-6.1	8	PASS
11	2462	-13.7	-13.6	-10.6	8	PASS

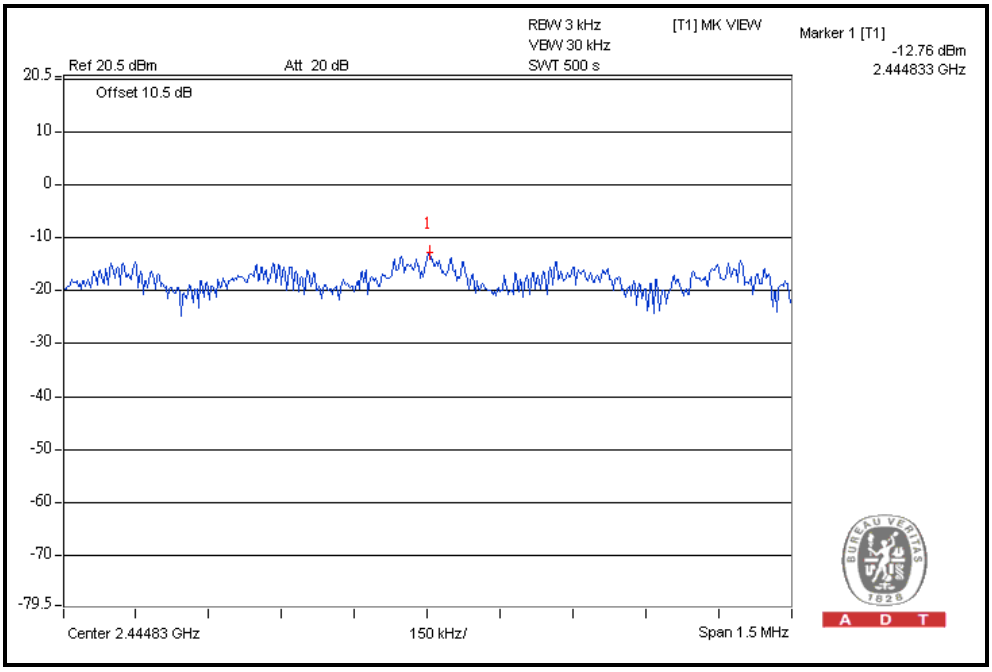
For Chain(1): CH6



Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
3	2422	-14.4	8	PASS
6	2437	-12.8	8	PASS
9	2452	-14.7	8	PASS

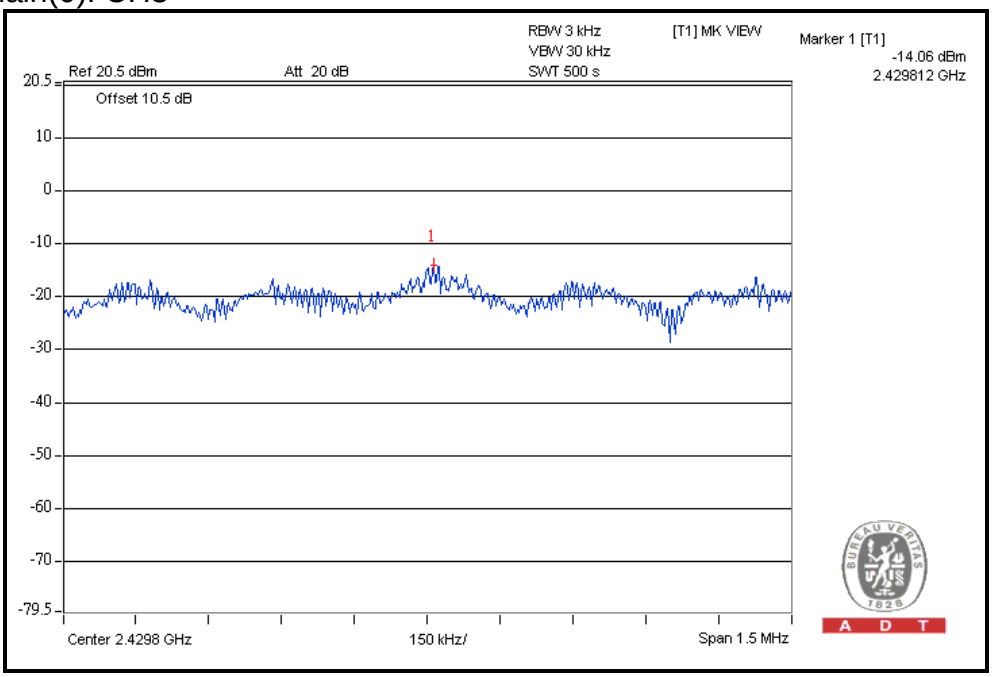
CH6



Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
3	2422	-14.1	-17.2	-12.4	8	PASS
6	2437	-14.2	-16.9	-12.3	8	PASS
9	2452	-17.2	-18.3	-14.7	8	PASS

For Chain(0): CH3



4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Test date: June 23, 2011

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

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

4.6.3 TEST PROCEDURE

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

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

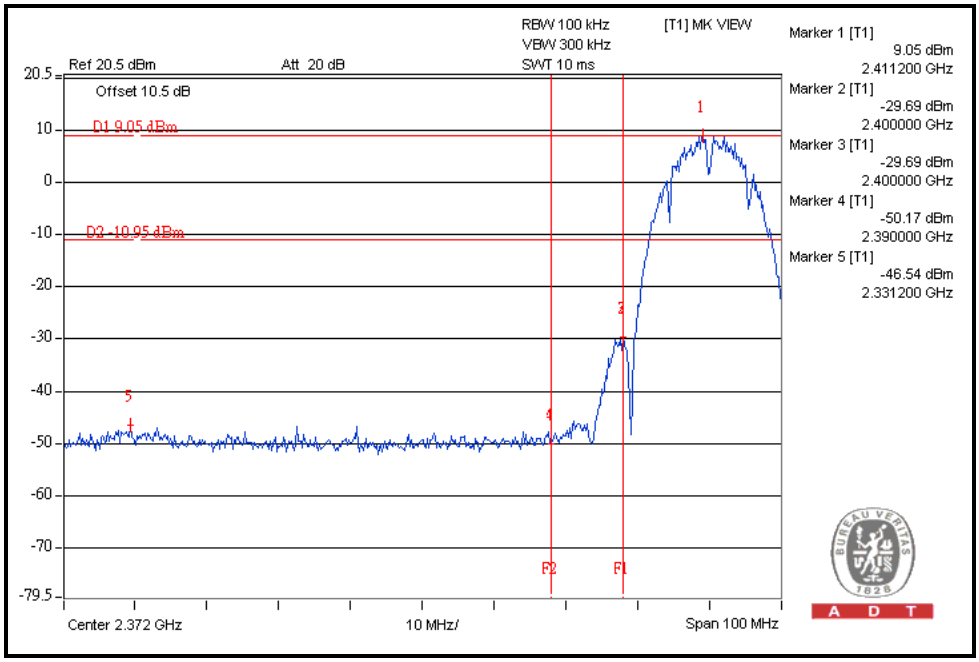
Same as Item 4.3.6

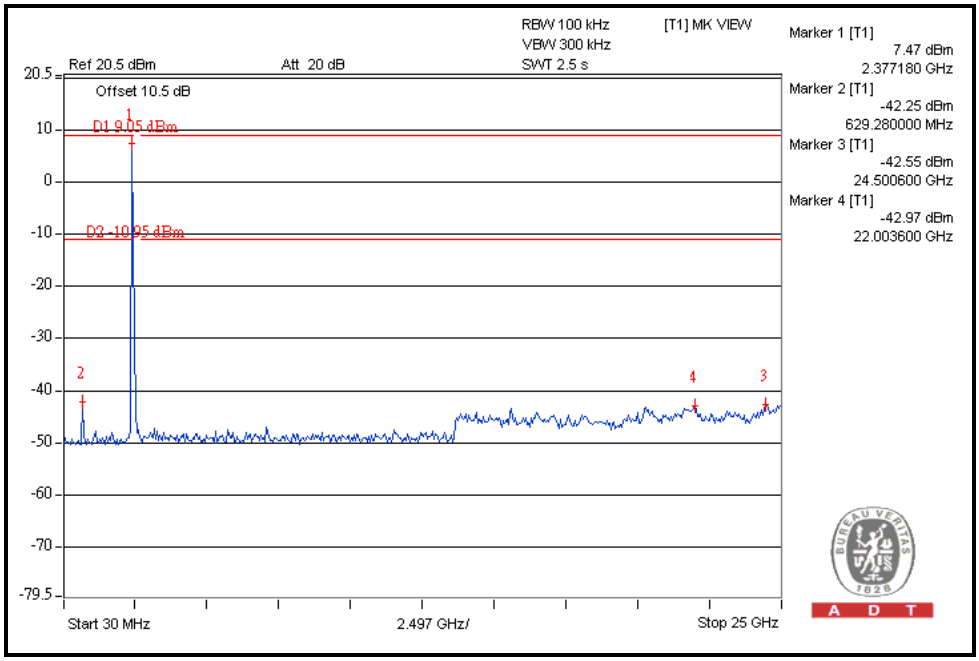
4.6.6 TEST RESULTS

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

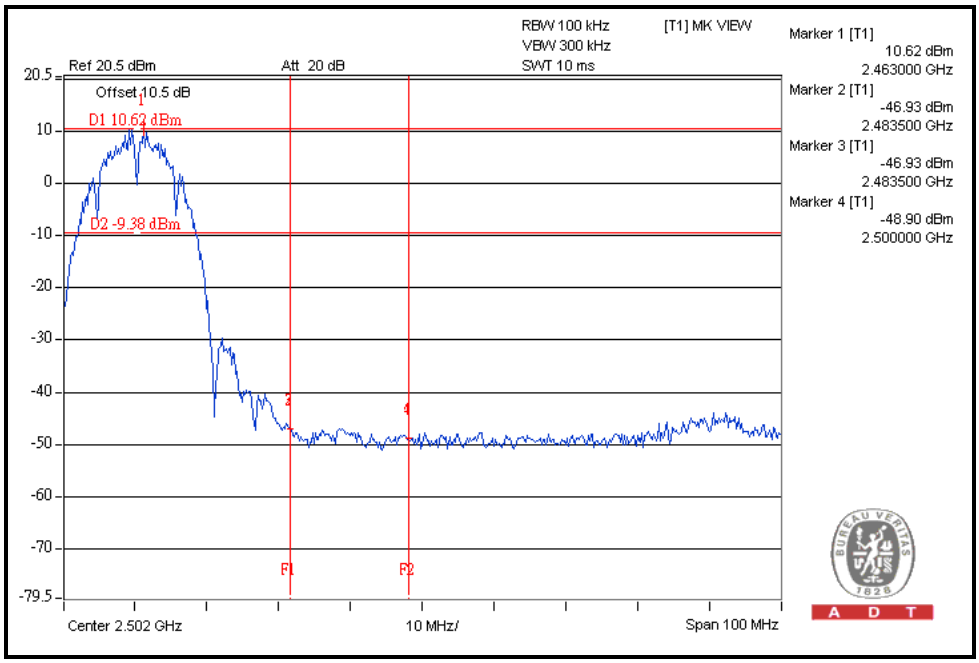
802.11b DSSS MODULATION:

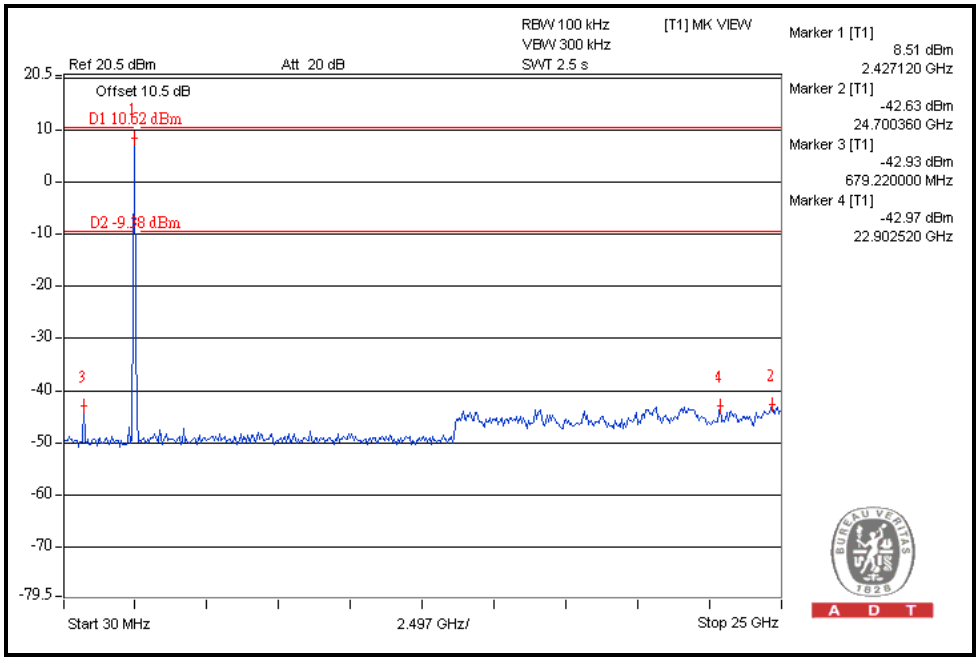
CH1





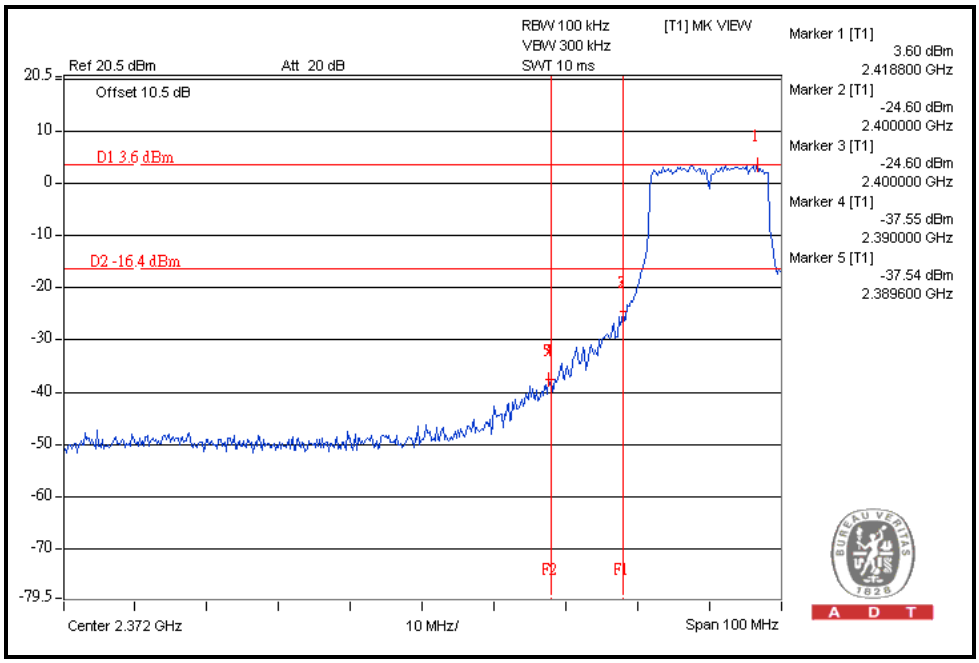
CH11

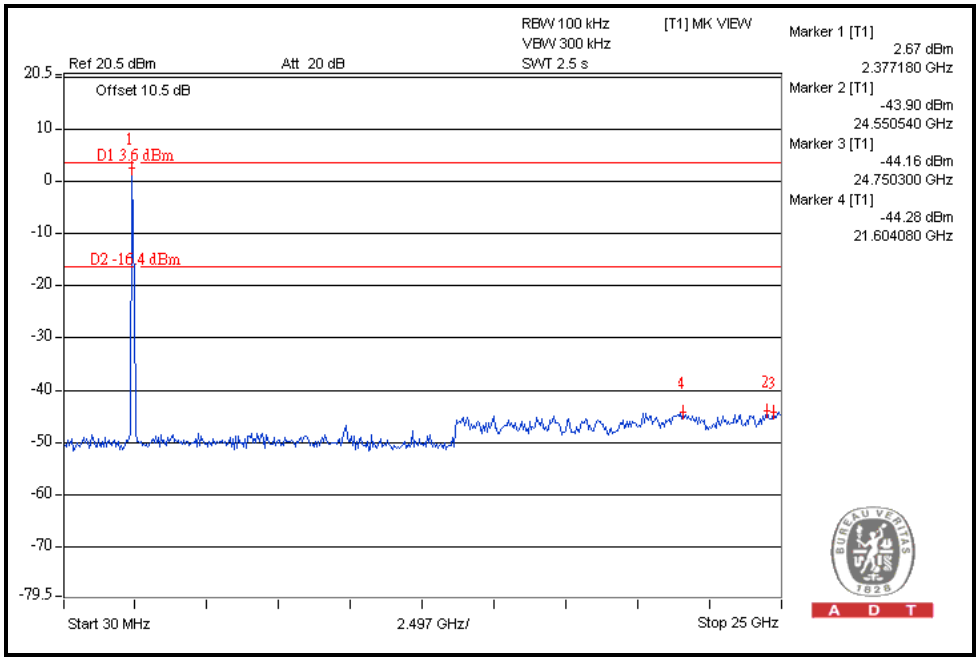

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 10.62 dBm
D2 -9.38 dBm
Marker 1 [T1]
10.62 dBm
2.463000 GHz
Marker 2 [T1]
-46.93 dBm
2.483500 GHz
Marker 3 [T1]
-46.93 dBm
2.483500 GHz
Marker 4 [T1]
-48.90 dBm
2.500000 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 10.62 dBm
D2 -9.38 dBm
Marker 1 [T1]
8.51 dBm
2.427120 GHz
Marker 2 [T1]
-42.63 dBm
24.700360 GHz
Marker 3 [T1]
-42.93 dBm
679.220000 MHz
Marker 4 [T1]
-42.97 dBm
22.902520 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

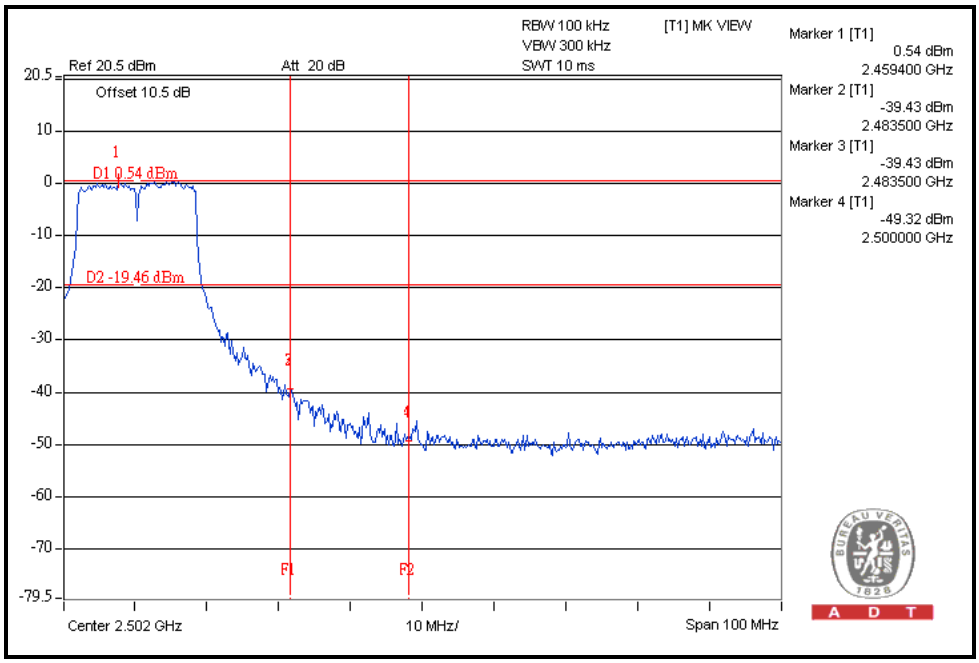
802.11g OFDM MODULATION:

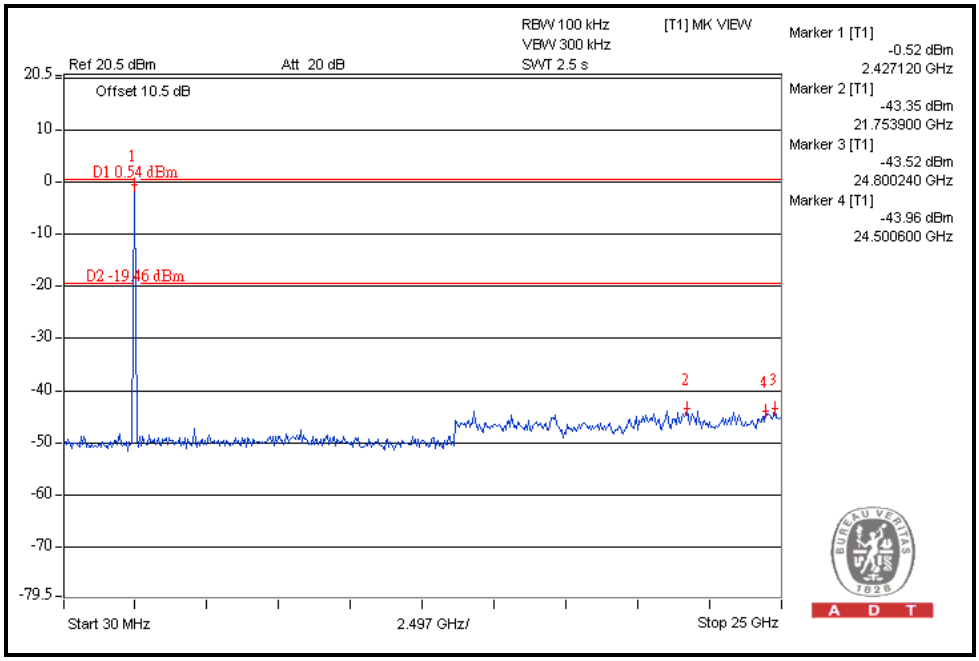
CH1





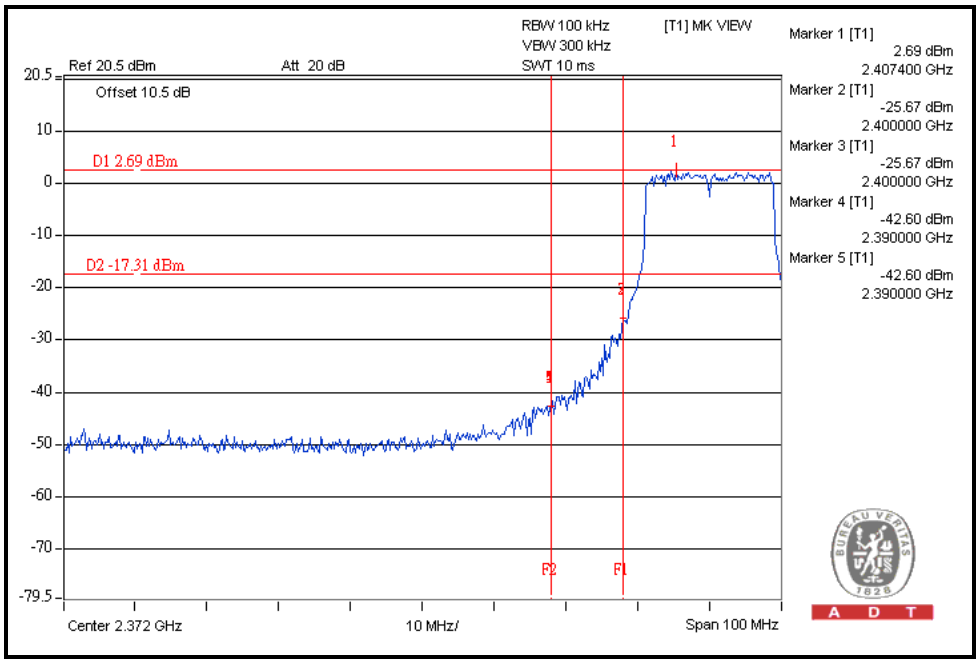
CH11

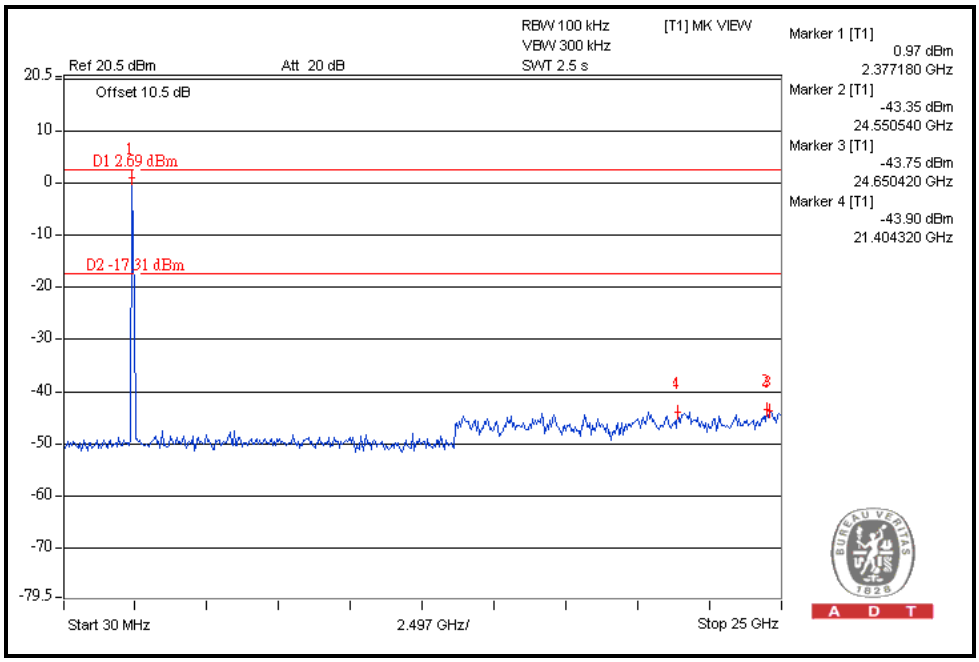

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 0.54 dBm
D2 -19.46 dBm
Marker 1 [T1]
0.54 dBm
2.459400 GHz
Marker 2 [T1]
-39.43 dBm
2.483500 GHz
Marker 3 [T1]
-39.43 dBm
2.483500 GHz
Marker 4 [T1]
-49.32 dBm
2.500000 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 0.54 dBm
D2 -19.46 dBm
Marker 1 [T1]
-0.52 dBm
2.427120 GHz
Marker 2 [T1]
-43.35 dBm
21.753900 GHz
Marker 3 [T1]
-43.52 dBm
24.800240 GHz
Marker 4 [T1]
-43.96 dBm
24.500600 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

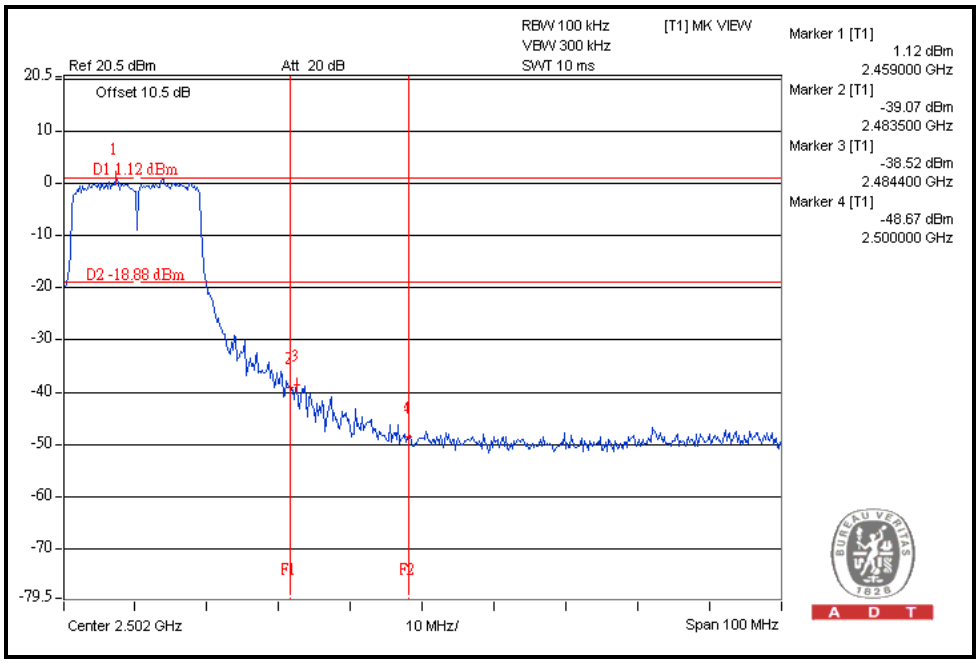
Single Chain - 802.11n (20MHz) OFDM MODULATION:

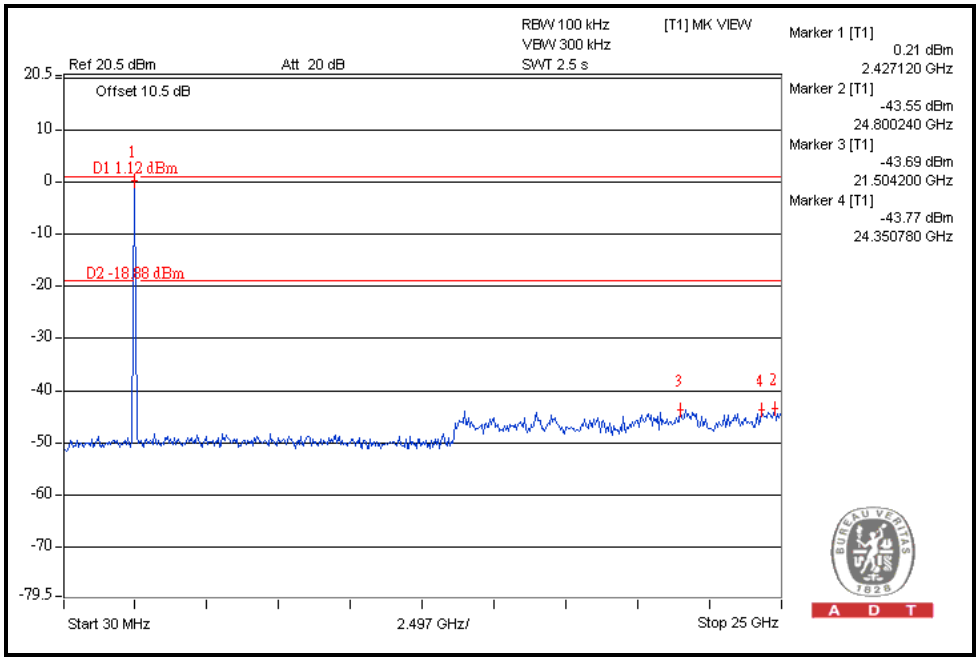
CH1





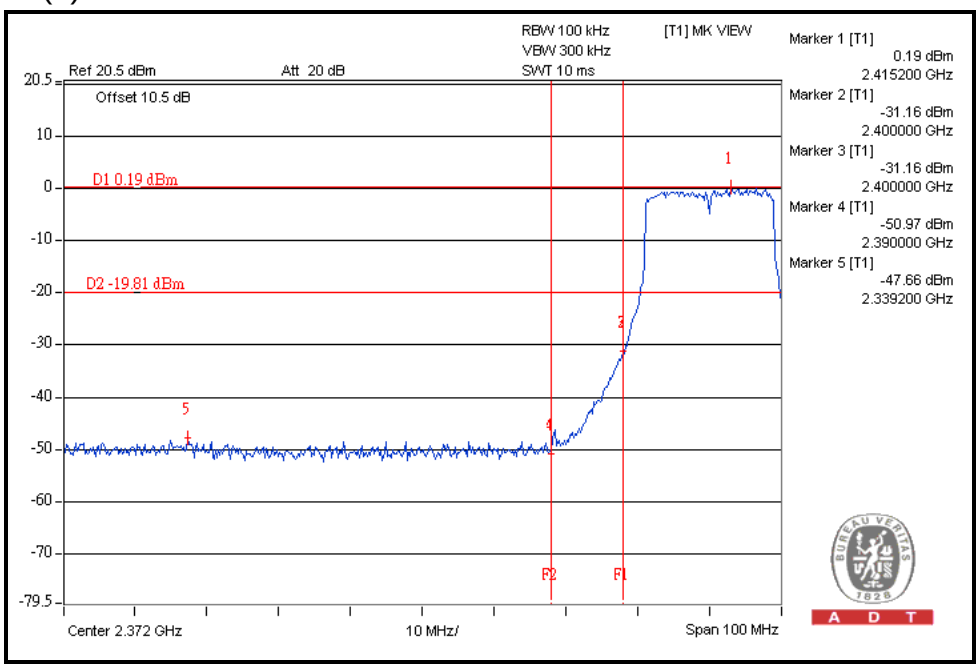
CH11

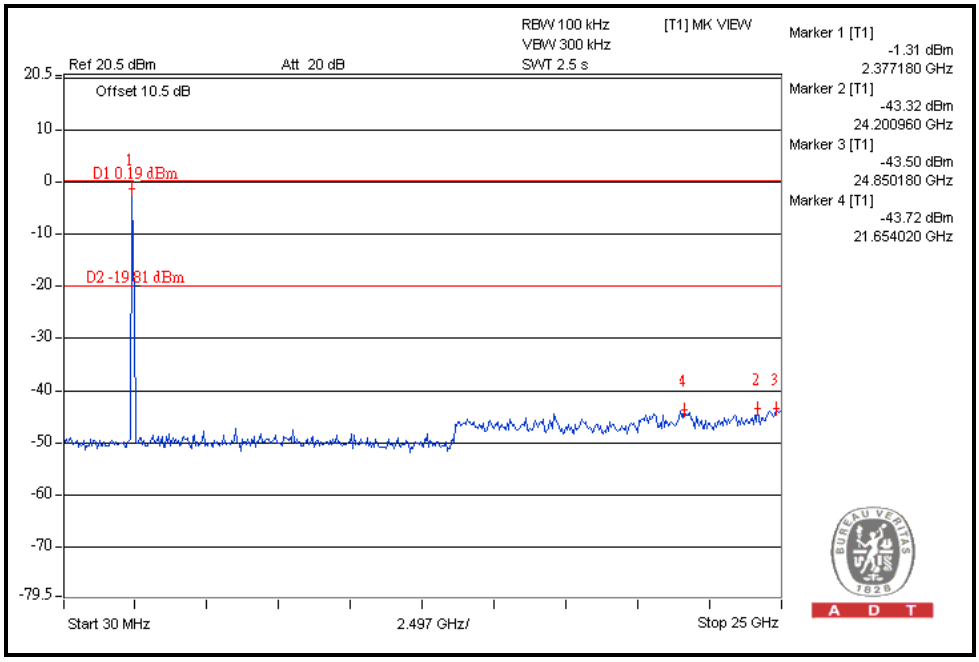

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 1.12 dBm
D2 -18.88 dBm
Marker 1 [T1]
1.12 dBm
2.459000 GHz
Marker 2 [T1]
-39.07 dBm
2.483500 GHz
Marker 3 [T1]
-38.52 dBm
2.484400 GHz
Marker 4 [T1]
-48.67 dBm
2.500000 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 1.12 dBm
D2 -18.88 dBm
Marker 1 [T1]
0.21 dBm
2.427120 GHz
Marker 2 [T1]
-43.55 dBm
24.800240 GHz
Marker 3 [T1]
-43.69 dBm
21.504200 GHz
Marker 4 [T1]
-43.77 dBm
24.350780 GHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

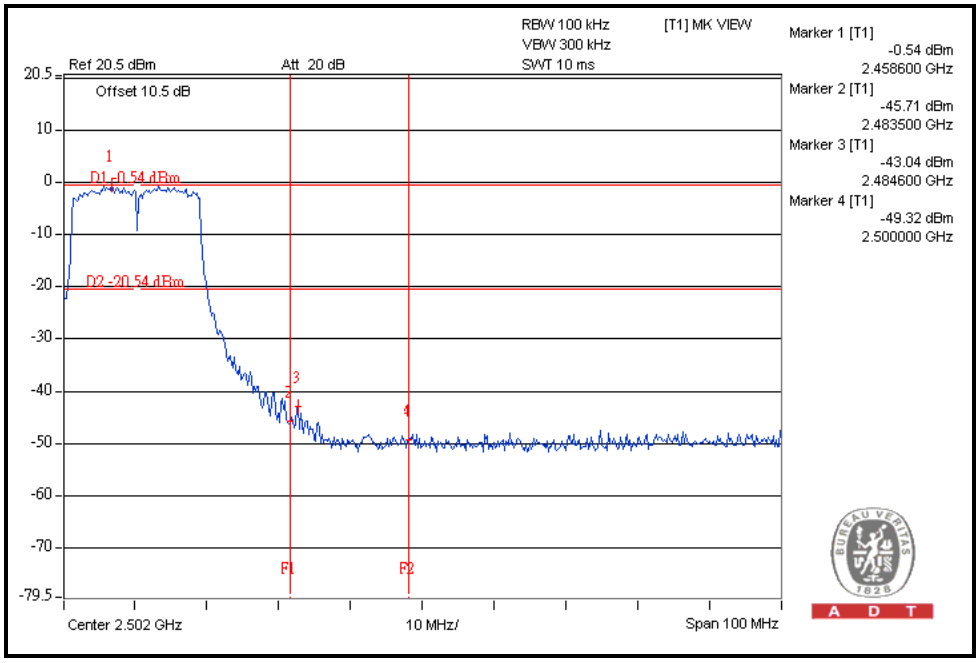
Multiple chain - 802.11n (20MHz) OFDM MODULATION:

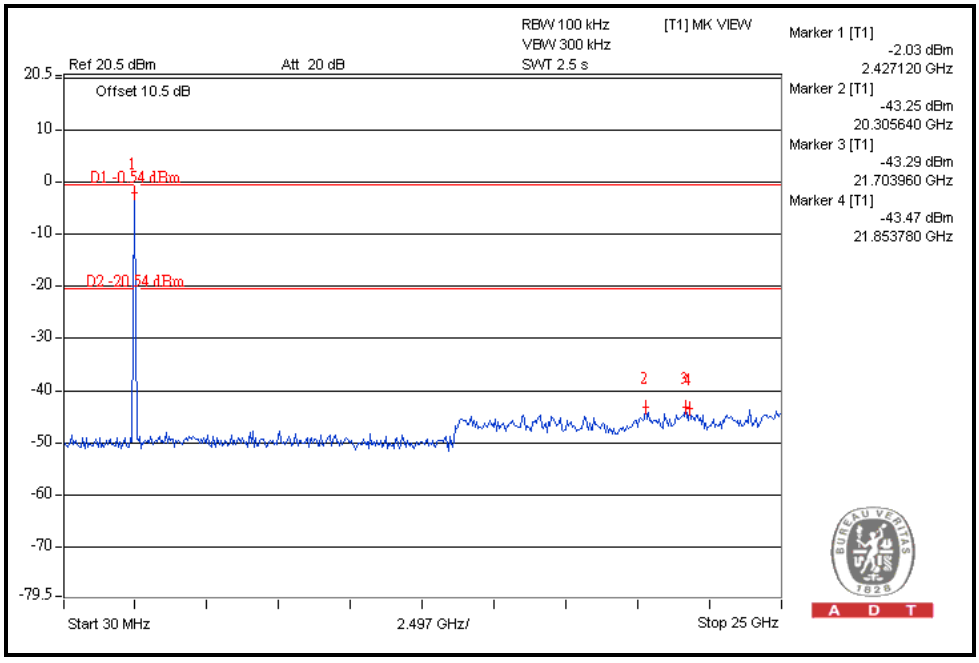
For Chain(0) : CH1



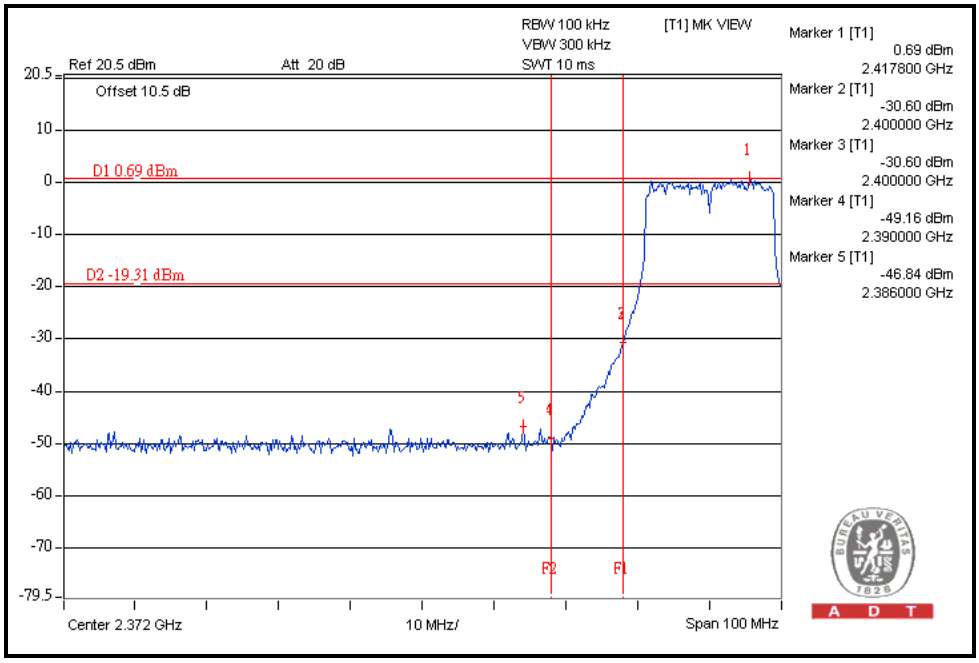


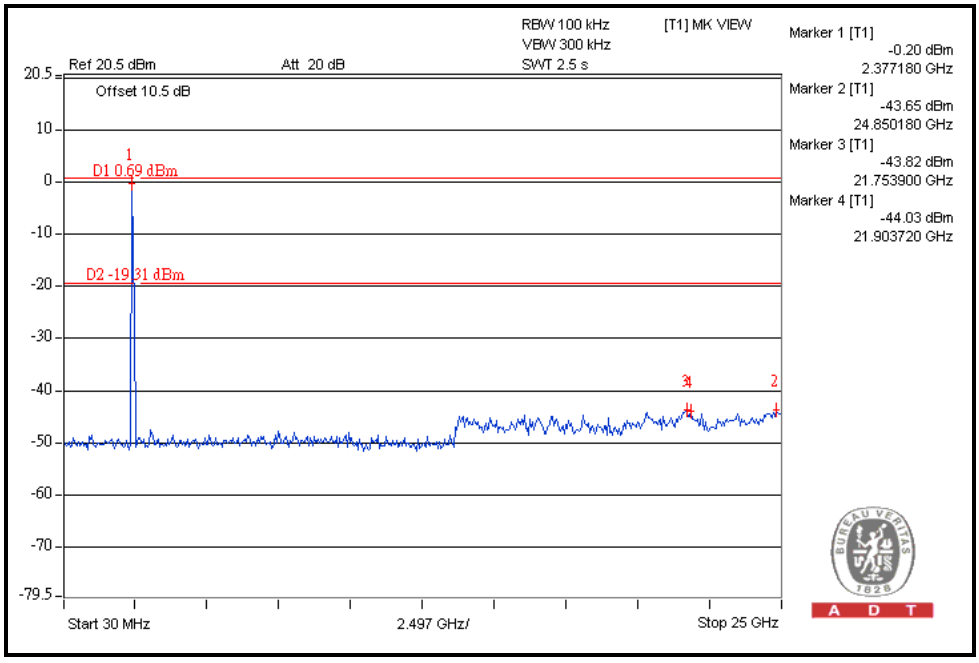
For Chain(0) : CH11



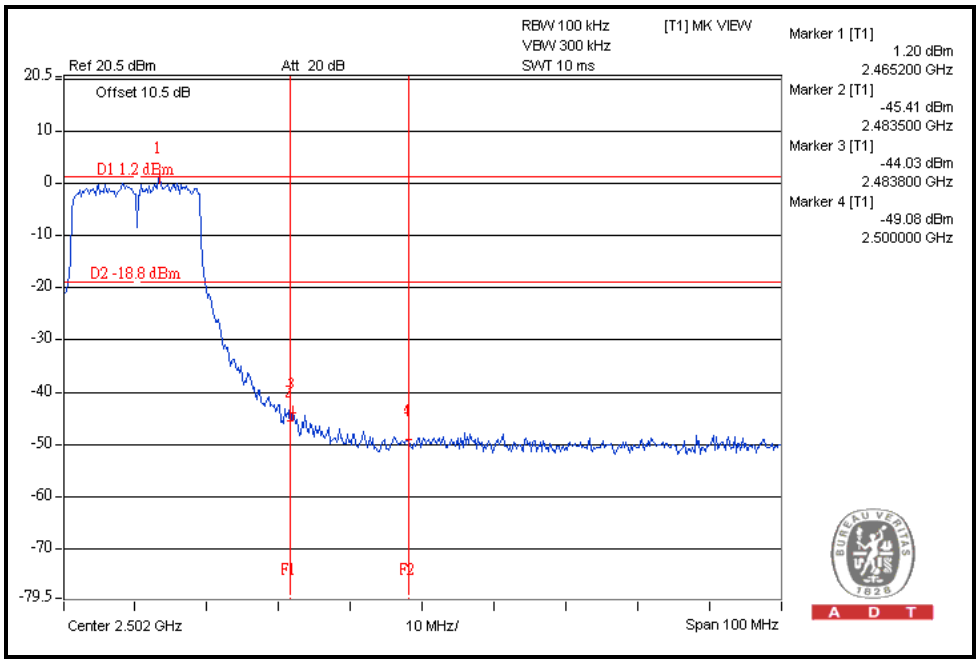


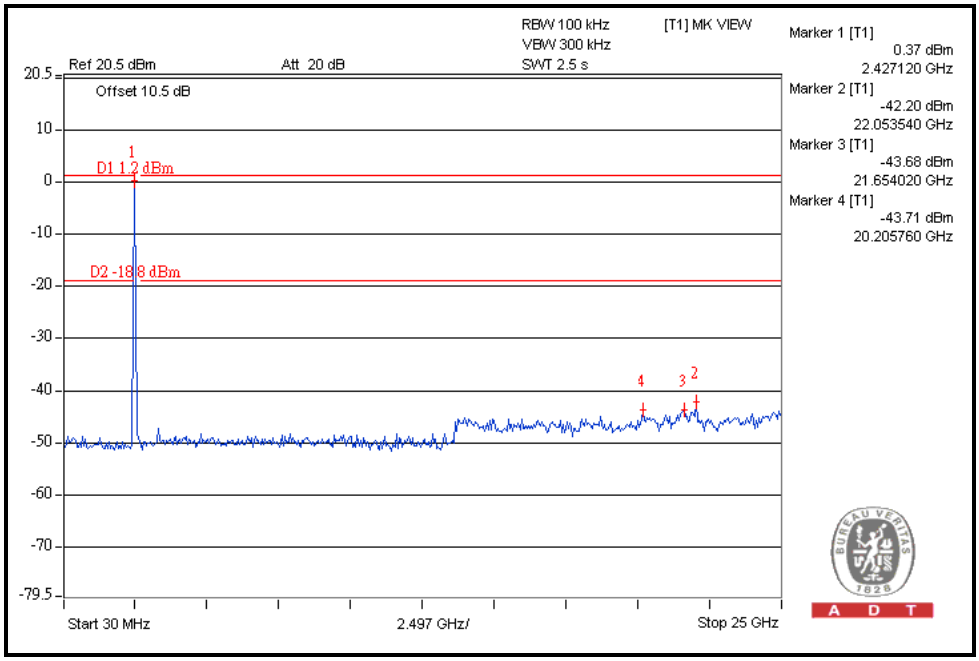
For Chain(1) : CH1





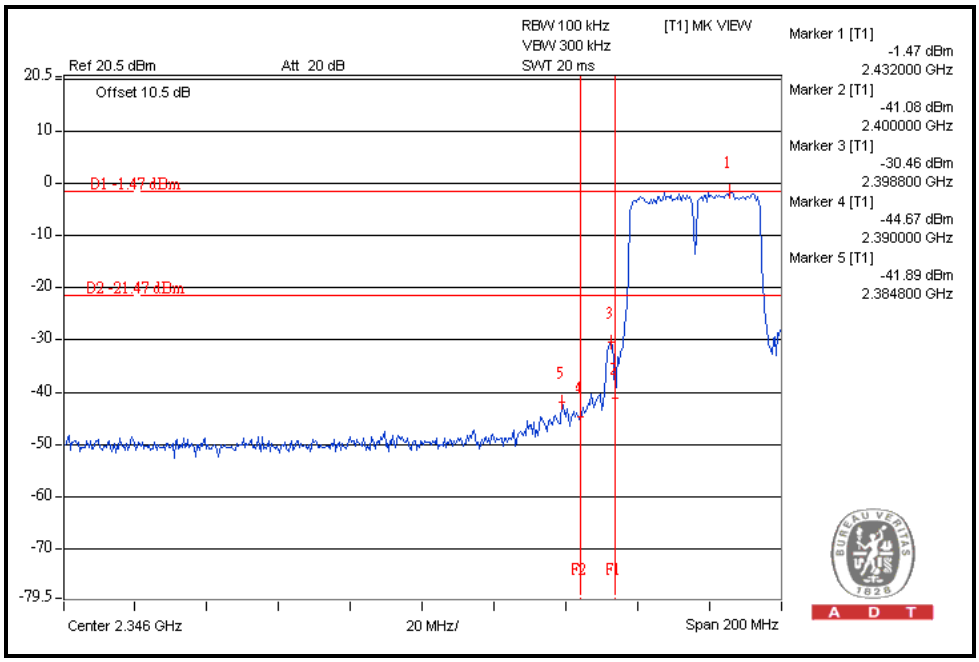
For Chain(1) : CH11

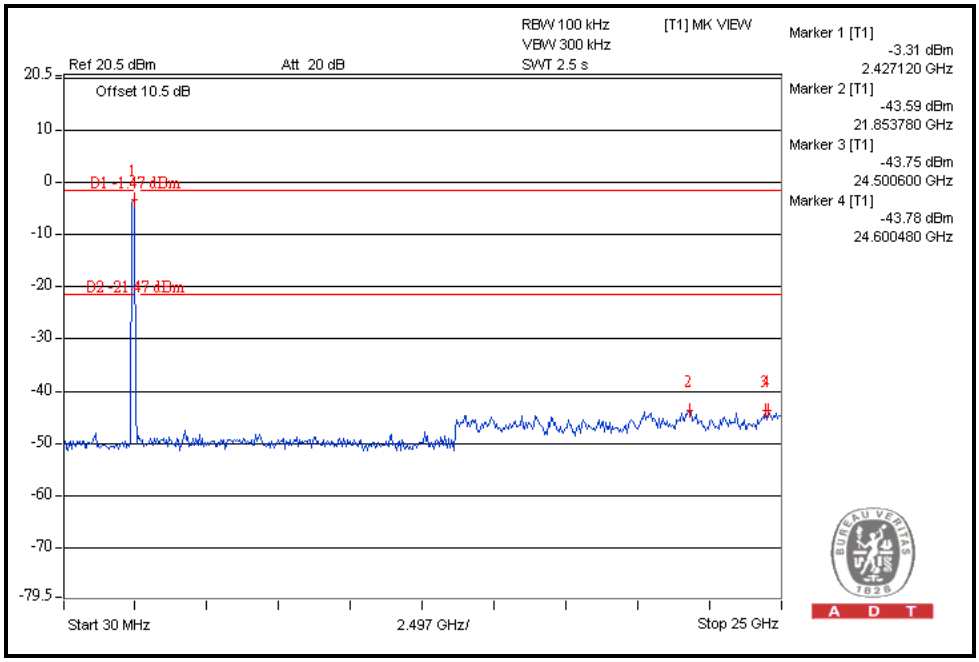




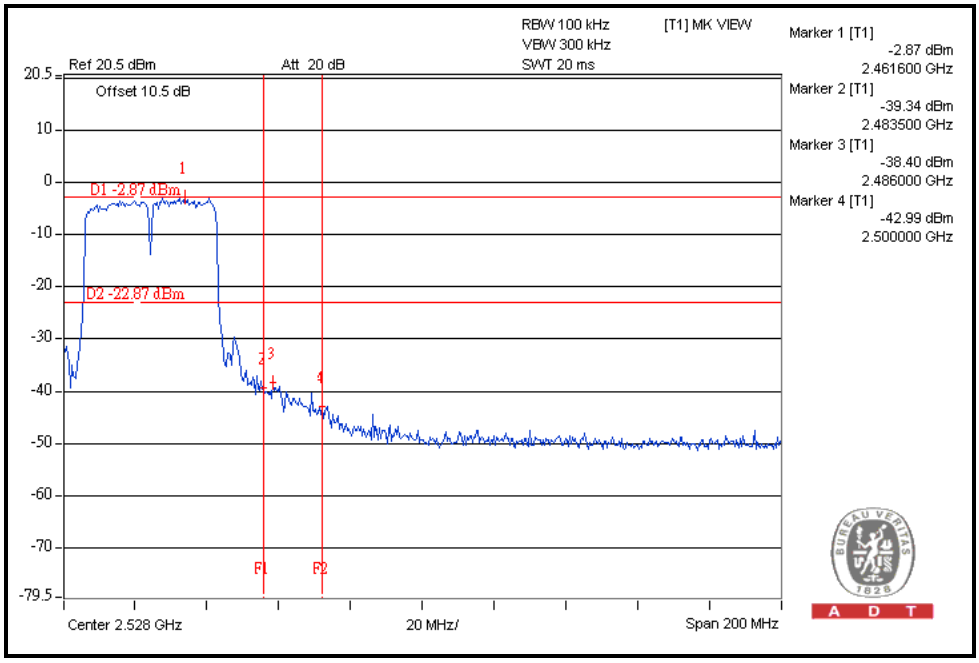
Single Chain - 802.11n (40MHz) OFDM MODULATION:

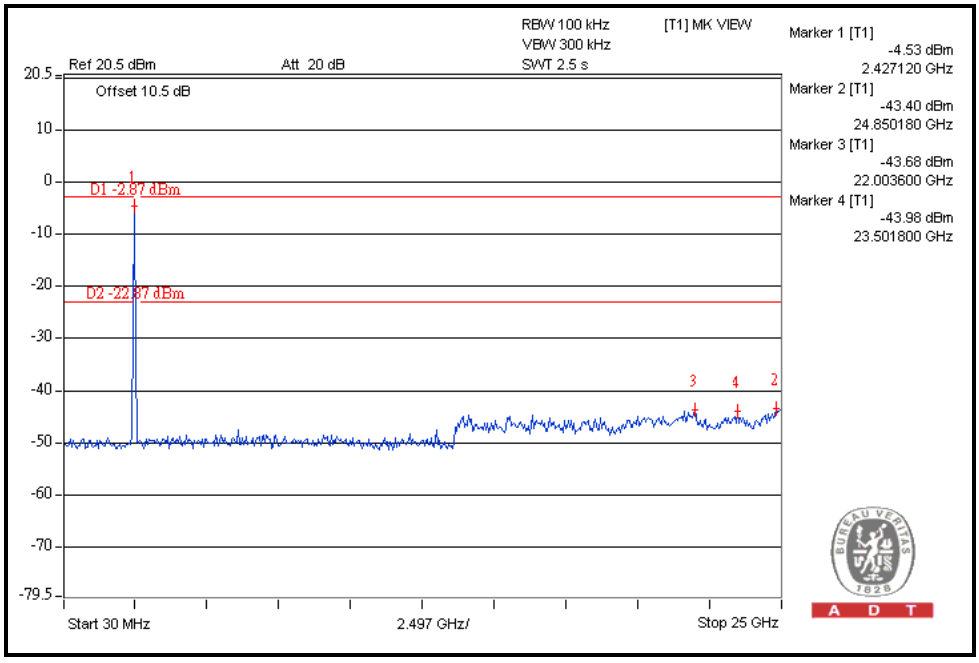
CH3





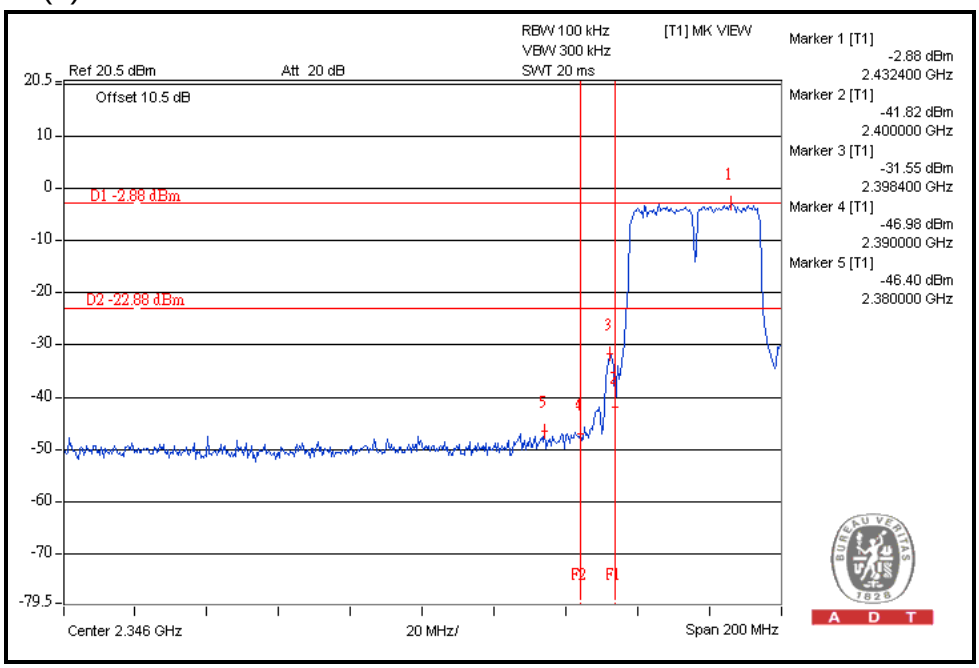
CH9

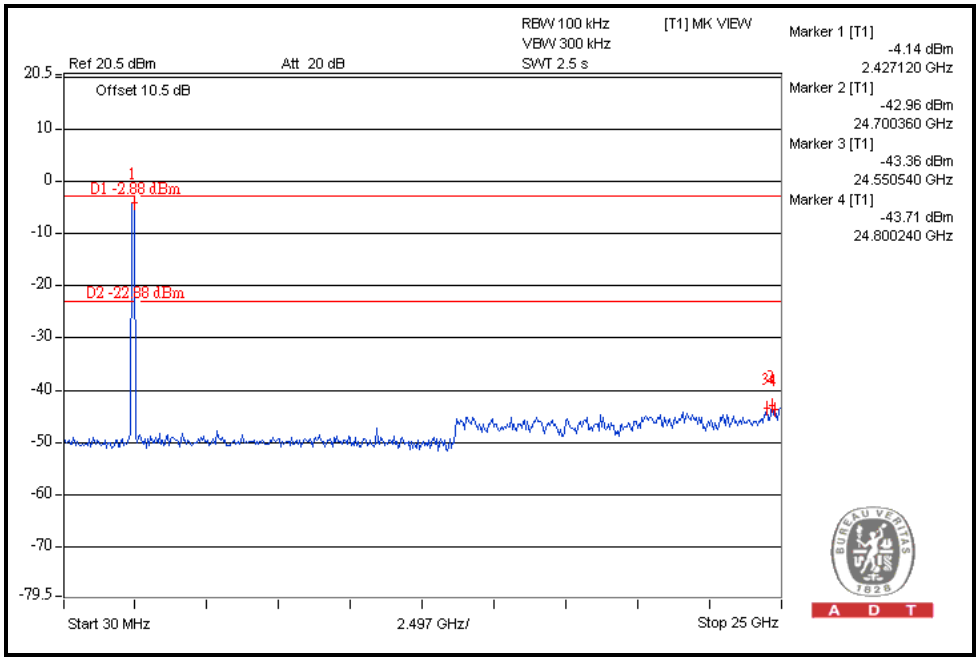

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -2.87 dBm
D2 -22.87 dBm
Marker 1 [T1]
-2.87 dBm
2.461600 GHz
Marker 2 [T1]
-39.34 dBm
2.483500 GHz
Marker 3 [T1]
-38.40 dBm
2.486000 GHz
Marker 4 [T1]
-42.99 dBm
2.500000 GHz
Center 2.528 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.5 dBm
Att 20 dB
Offset 10.5 dB
D1 -2.87 dBm
D2 -22.87 dBm
Marker 1 [T1]
-4.53 dBm
2.427120 GHz
Marker 2 [T1]
-43.40 dBm
24.850180 GHz
Marker 3 [T1]
-43.68 dBm
22.003600 GHz
Marker 4 [T1]
-43.98 dBm
23.501800 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz

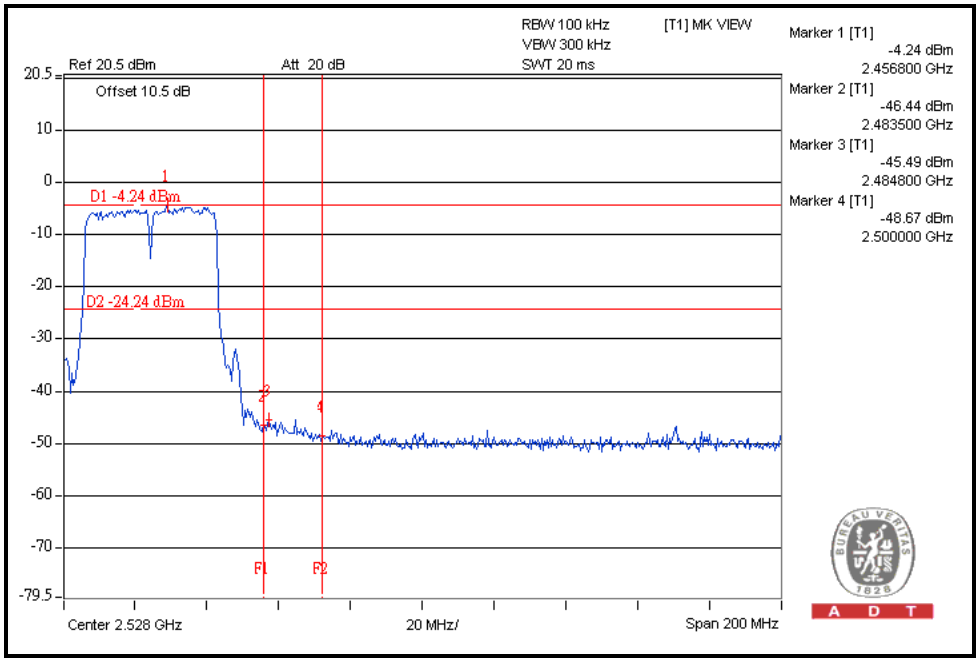
Multiple chain - 802.11n (40MHz) OFDM MODULATION:

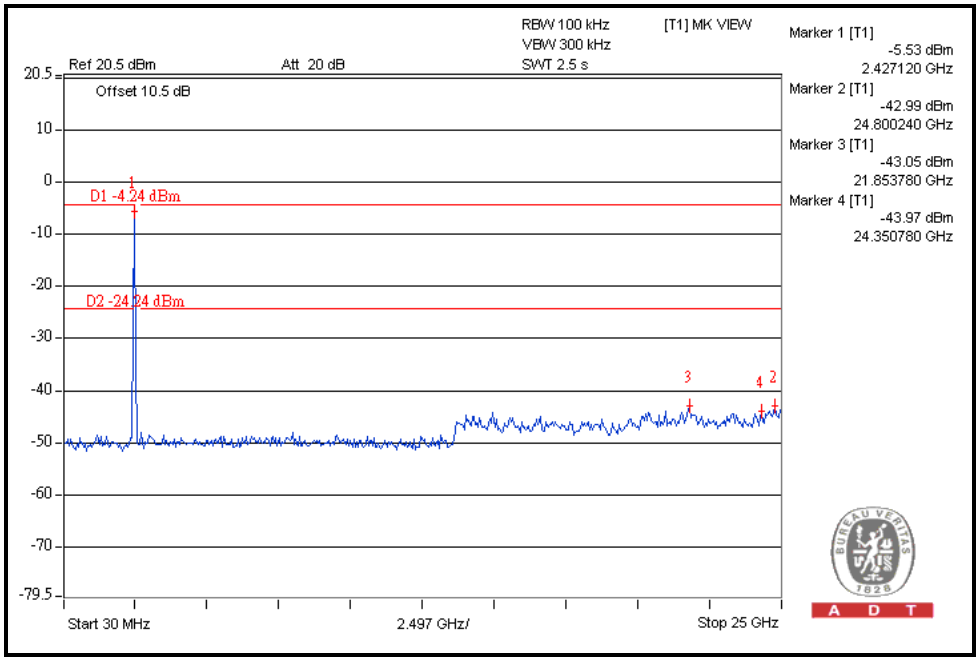
For Chain(0) : CH3



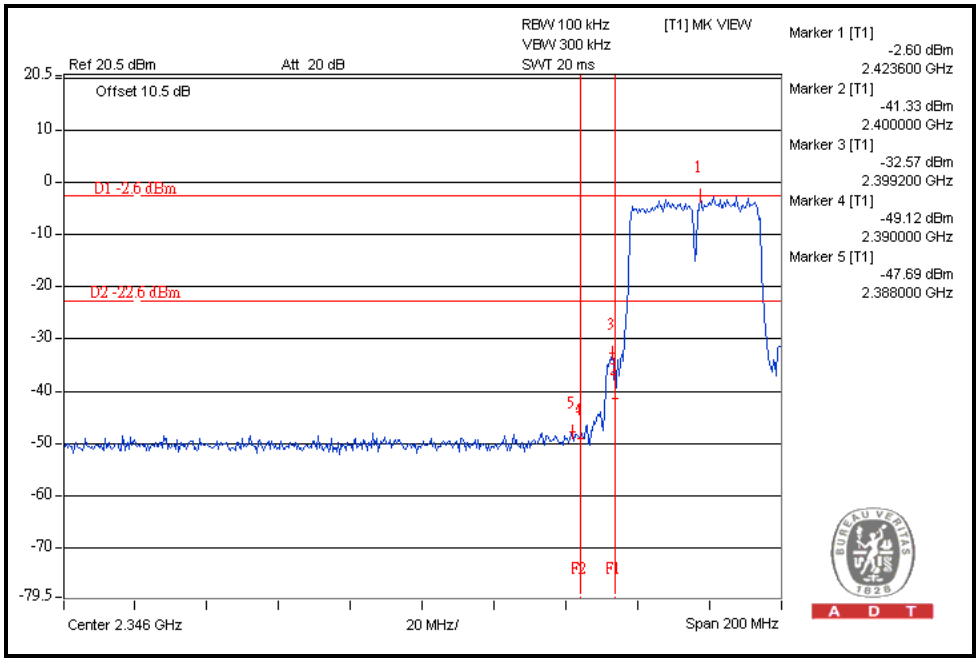


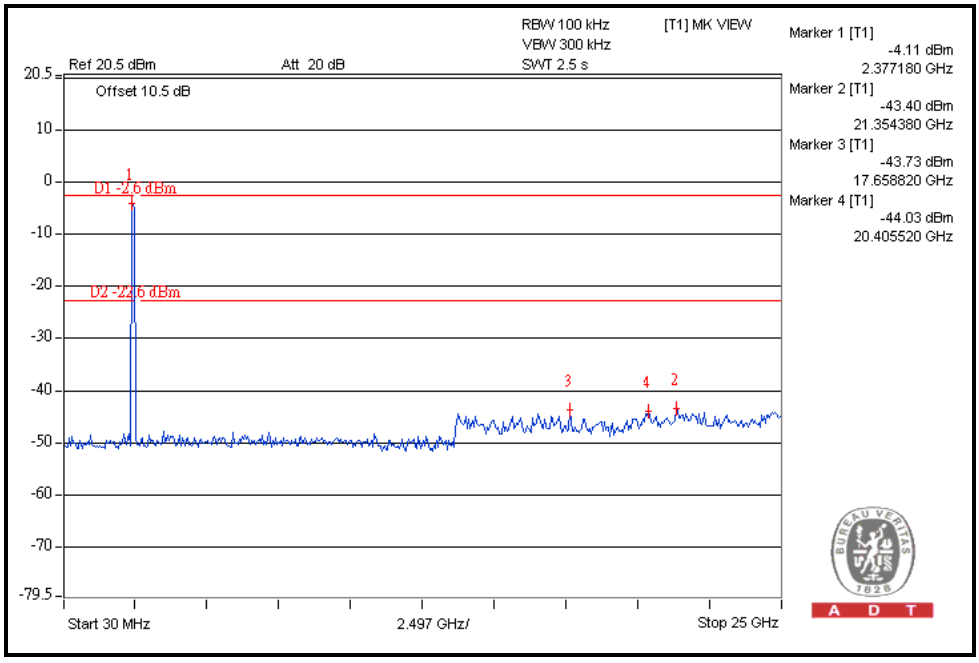
For Chain(0) : CH9



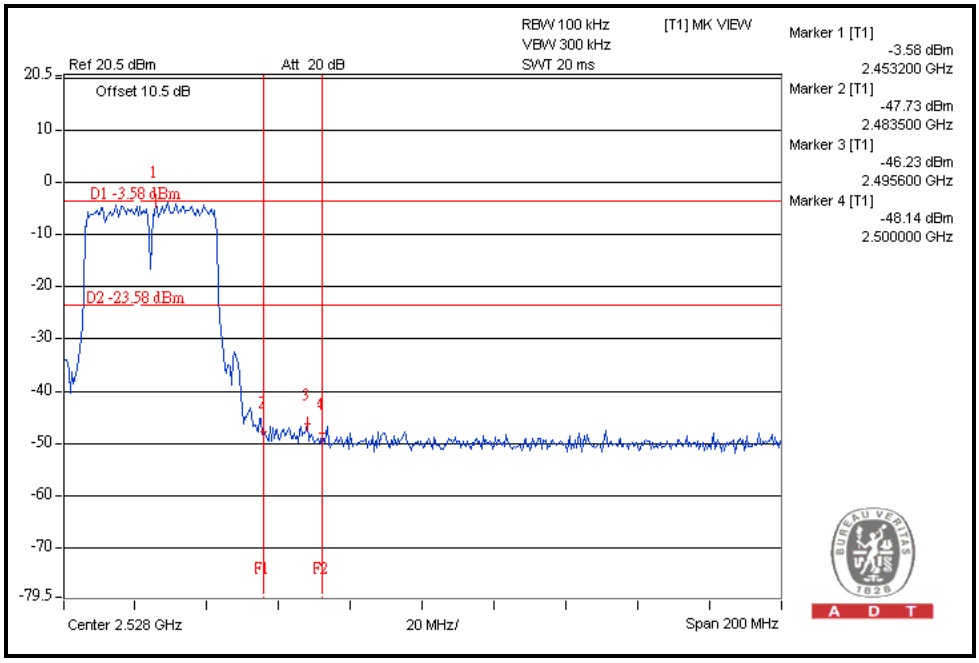


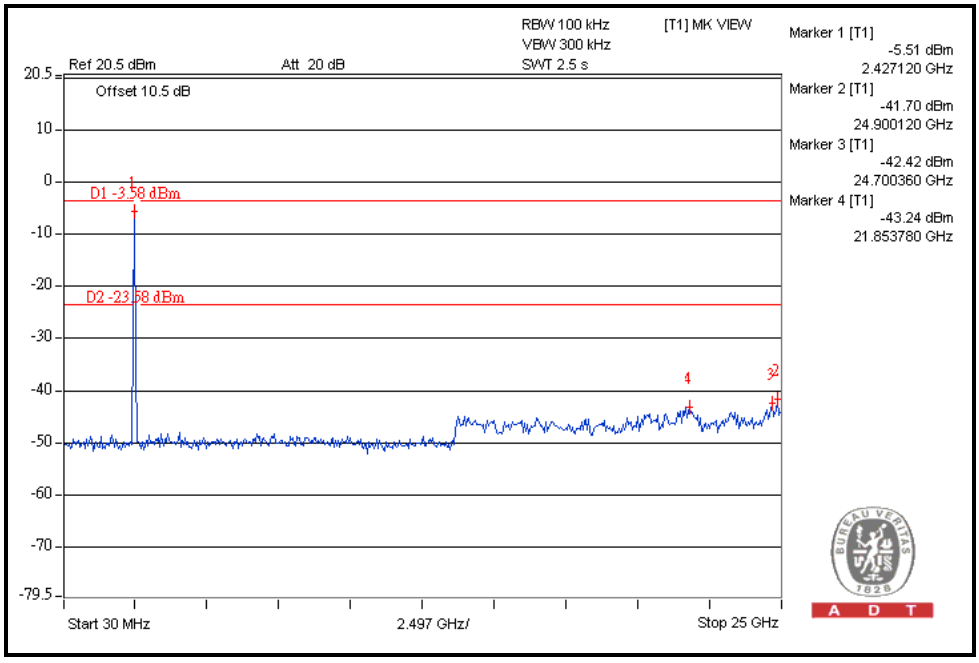
For Chain(1) : CH3





For Chain(1) : CH9





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

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	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.

5.1.2 TEST INSTRUMENTS

Test date: July 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2011	Mar. 08, 2012
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-522	Sep. 08, 2010	Sep. 07, 2011
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 03, 2010	Nov. 02, 2011
RF Cable (JYEBAO)	5DFB	COCCAB-002	Aug. 30, 2010	Aug. 29, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

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

5.1.3 TEST PROCEDURES

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

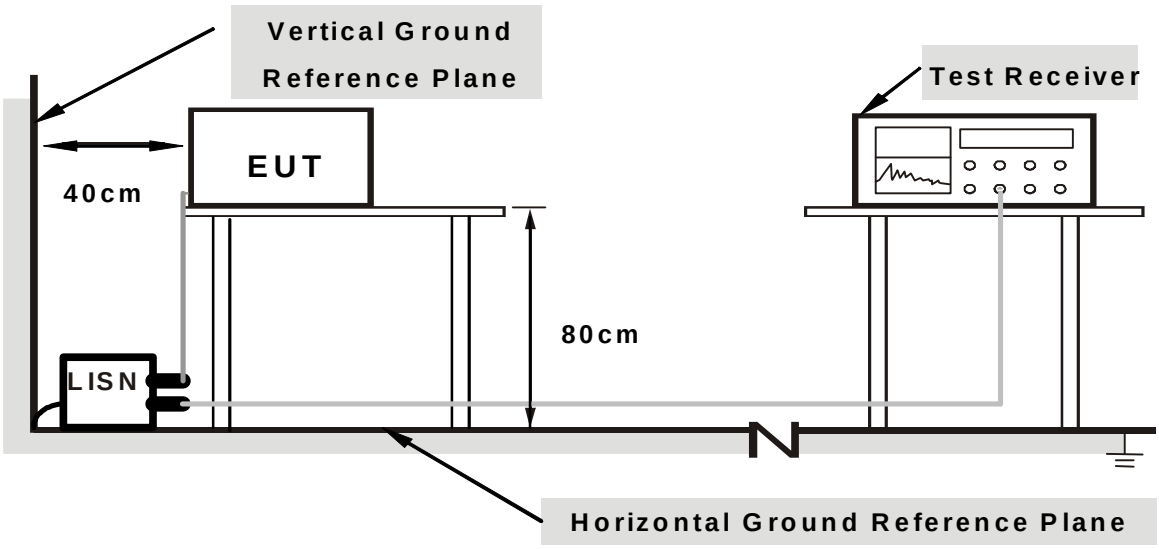
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

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

5.1.6 EUT OPERATING CONDITIONS

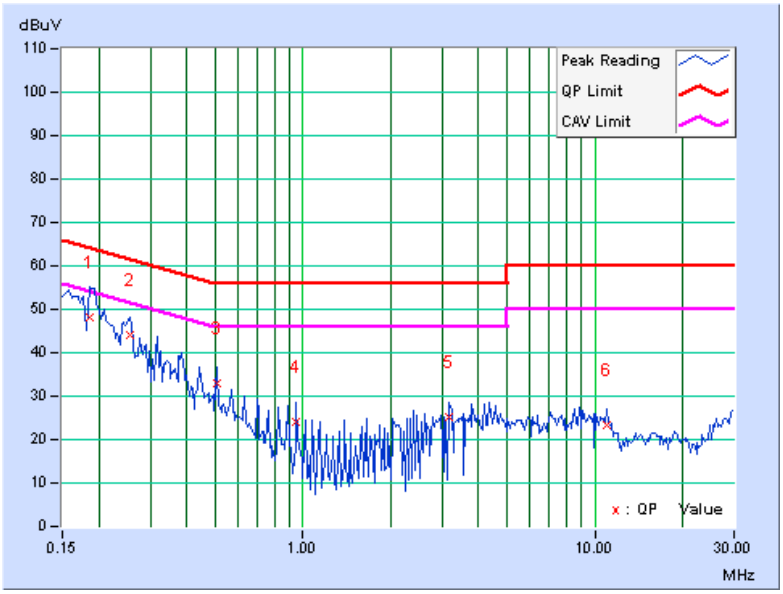
Same as the 4.1.6

5.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.185	0.12	48.11	-	48.23	-	64.25	54.25	-16.02	-
2	0.255	0.13	43.95	-	44.08	-	61.58	51.58	-17.50	-
3	0.505	0.13	32.78	-	32.91	-	56.00	46.00	-23.09	-
4	0.951	0.14	23.93	-	24.07	-	56.00	46.00	-31.93	-
5	3.168	0.18	24.84	-	25.02	-	56.00	46.00	-30.98	-
6	10.965	0.50	22.88	-	23.38	-	60.00	50.00	-36.62	-

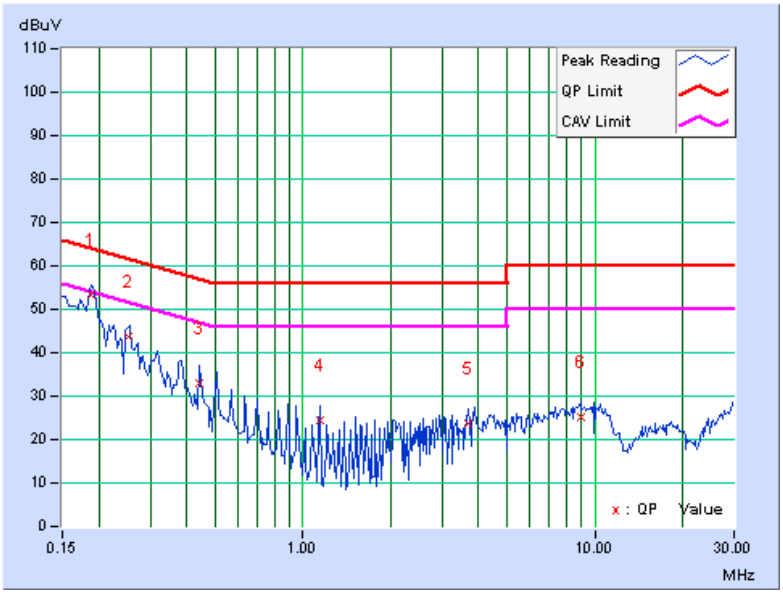
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.189**	**0.13**	**53.24**	**-**	**53.37**	**-**	**64.10**	**54.10**	**-10.73**	**-**
2	0.252	0.14	43.72	-	43.86	-	61.71	51.71	-17.84	-
3	0.443	0.15	32.84	-	32.99	-	57.01	47.01	-24.02	-
4	1.141	0.16	24.15	-	24.31	-	56.00	46.00	-31.69	-
5	3.676	0.27	23.38	-	23.65	-	56.00	46.00	-32.35	-
6	8.938	0.73	24.28	-	25.01	-	60.00	50.00	-34.99	-

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



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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

5.2.2 TEST INSTRUMENTS

Test date: June 24 to 25, 2011

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

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

5.2.3 TEST PROCEDURES

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

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

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

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

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

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

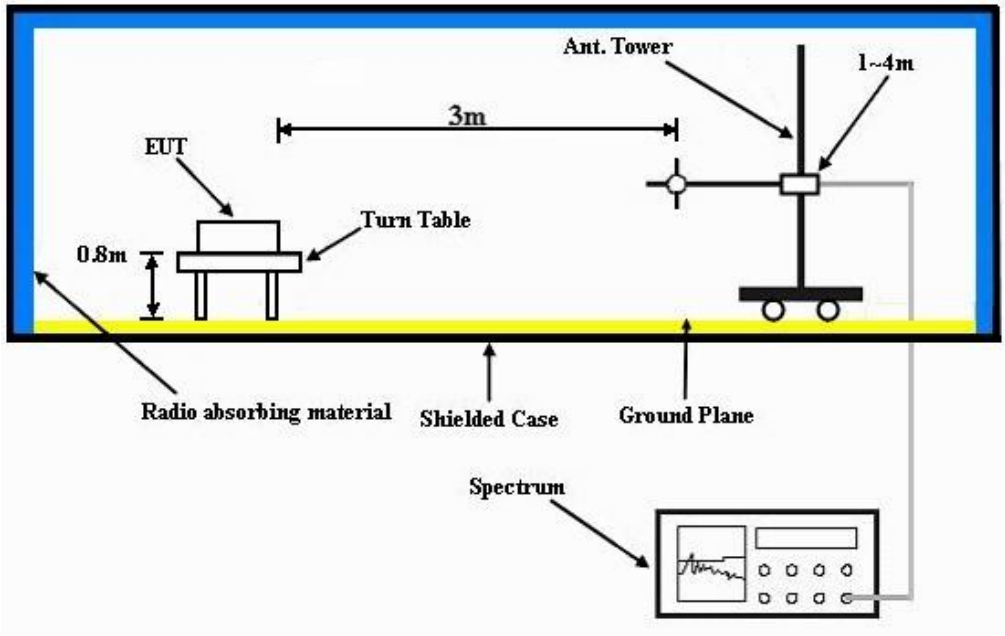
NOTE:

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

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



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

5.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

5.2.7 TEST RESULTS (With PIFA Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	**TESTED BY**	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	64.61	32.7 QP	40.0	-7.3	1.25 H	143	20.00	12.73
2	**199.88**	**41.1 QP**	**43.5**	**-2.4**	**1.38 H**	**299**	**30.55**	**10.59**
3	299.83	41.4 QP	46.0	-4.6	2.00 H	320	26.22	15.19
4	324.71	39.1 QP	46.0	-6.9	1.75 H	260	23.35	15.74
5	537.61	35.9 QP	46.0	-10.1	1.00 H	188	15.34	20.55
6	796.19	38.6 QP	46.0	-7.5	1.25 H	324	14.12	24.43
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	237.21	35.9 QP	46.0	-10.1	1.25 V	12	23.37	12.52
2	325.23	34.7 QP	46.0	-11.3	1.25 V	347	18.95	15.75
3	349.72	37.2 QP	46.0	-8.8	1.25 V	8	20.96	16.28
4	625.08	37.7 QP	46.0	-8.3	1.25 V	26	15.43	22.25
5	799.69	39.1 QP	46.0	-6.9	1.00 V	287	14.61	24.47
6	874.78	39.9 QP	46.0	-6.1	1.00 V	359	14.11	25.81

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.

ABOVE 1GHz WORST-CASE DATA

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	110.9 PK			1.37 H	27	69.35	41.55
2	*5745.00	102.6 AV			1.37 H	27	61.05	41.55
3	7660.00	54.6 PK	74.0	-19.4	1.13 H	155	8.26	46.34
4	7660.00	42.8 AV	54.0	-11.2	1.13 H	155	-3.54	46.34
5	11490.00	55.3 PK	74.0	-18.7	1.67 H	28	7.59	47.71
6	11490.00	43.6 AV	54.0	-10.4	1.67 H	28	-4.11	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	105.6 PK			1.18 V	313	64.05	41.55
2	*5745.00	96.7 AV			1.18 V	313	55.15	41.55
3	7660.00	54.8 PK	74.0	-19.2	1.36 V	79	8.46	46.34
4	7660.00	43.0 AV	54.0	-11.0	1.36 V	79	-3.34	46.34
5	11490.00	55.6 PK	74.0	-18.4	1.18 V	176	7.89	47.71
6	11490.00	43.6 AV	54.0	-10.4	1.18 V	176	-4.11	47.71

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	110.6 PK			1.41 H	14	68.92	41.68
2	*5785.00	102.5 AV			1.41 H	14	60.82	41.68
3	7713.33	54.8 PK	74.0	-19.2	1.08 H	162	8.52	46.28
4	7713.33	42.9 AV	54.0	-11.1	1.08 H	162	-3.38	46.28
5	11570.00	55.2 PK	74.0	-18.8	1.68 H	34	7.45	47.75
6	11570.00	43.3 AV	54.0	-10.7	1.68 H	34	-4.45	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	105.4 PK			1.23 V	307	63.72	41.68
2	*5785.00	96.5 AV			1.23 V	307	54.82	41.68
3	7713.33	54.8 PK	74.0	-19.2	1.39 V	71	8.52	46.28
4	7713.33	43.2 AV	54.0	-10.8	1.39 V	71	-3.08	46.28
5	11570.00	55.2 PK	74.0	-18.8	1.13 V	182	7.45	47.75
6	11570.00	43.4 AV	54.0	-10.6	1.13 V	182	-4.35	47.75

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.1 PK			1.34 H	25	69.32	41.78
2	*5825.00	102.6 AV			1.34 H	25	60.82	41.78
3	#7766.67	55.0 PK	91.1	-36.1	1.08 H	162	8.78	46.22
4	#7766.67	43.1 AV	82.6	-39.5	1.08 H	162	-3.12	46.22
5	11650.00	55.1 PK	74.0	-18.9	1.63 H	23	7.27	47.83
6	11650.00	43.5 AV	54.0	-10.5	1.63 H	23	-4.33	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	105.6 PK			1.22 V	320	63.82	41.78
2	*5825.00	96.9 AV			1.22 V	320	55.12	41.78
3	#7766.67	54.9 PK	85.6	-30.7	1.35 V	75	8.68	46.22
4	#7766.67	42.9 AV	76.9	-34.0	1.35 V	75	-3.32	46.22
5	11650.00	55.8 PK	74.0	-18.2	1.17 V	175	7.97	47.83
6	11650.00	43.8 AV	54.0	-10.2	1.17 V	175	-4.03	47.83

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

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

Single chain : 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	110.1 PK			1.31 H	38	68.55	41.55
2	*5745.00	101.7 AV			1.31 H	38	60.15	41.55
3	7660.00	54.8 PK	74.0	-19.2	1.11 H	155	8.46	46.34
4	7660.00	42.7 AV	54.0	-11.3	1.11 H	155	-3.64	46.34
5	11490.00	55.2 PK	74.0	-18.8	1.66 H	38	7.49	47.71
6	11490.00	43.5 AV	54.0	-10.5	1.66 H	38	-4.21	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	104.6 PK			1.16 V	301	63.05	41.55
2	*5745.00	96.0 AV			1.16 V	301	54.45	41.55
3	7660.00	54.7 PK	74.0	-19.3	1.31 V	84	8.36	46.34
4	7660.00	42.8 AV	54.0	-11.2	1.31 V	84	-3.54	46.34
5	11490.00	56.2 PK	74.0	-17.8	1.13 V	171	8.49	47.71
6	11490.00	43.9 AV	54.0	-10.1	1.13 V	171	-3.81	47.71

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	109.8 PK			1.30 H	26	68.12	41.68
2	*5785.00	101.8 AV			1.30 H	26	60.12	41.68
3	7713.33	54.5 PK	74.0	-19.5	1.14 H	147	8.22	46.28
4	7713.33	42.7 AV	54.0	-11.3	1.14 H	147	-3.58	46.28
5	11570.00	54.9 PK	74.0	-19.1	1.70 H	51	7.15	47.75
6	11570.00	43.5 AV	54.0	-10.5	1.70 H	51	-4.25	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.3 PK			1.15 V	306	62.62	41.68
2	*5785.00	95.6 AV			1.15 V	306	53.92	41.68
3	7713.33	55.0 PK	74.0	-19.0	1.33 V	85	8.72	46.28
4	7713.33	42.8 AV	54.0	-11.2	1.33 V	85	-3.48	46.28
5	11570.00	56.5 PK	74.0	-17.5	1.11 V	167	8.75	47.75
6	11570.00	43.9 AV	54.0	-10.1	1.11 V	167	-3.85	47.75

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.3 PK			1.33 H	45	68.52	41.78
2	*5825.00	102.0 AV			1.33 H	45	60.22	41.78
3	#7766.67	54.5 PK	90.3	-35.8	1.12 H	154	8.28	46.22
4	#7766.67	42.7 AV	82.0	-39.3	1.12 H	154	-3.52	46.22
5	11650.00	54.9 PK	74.0	-19.1	1.69 H	43	7.07	47.83
6	11650.00	43.5 AV	54.0	-10.5	1.69 H	43	-4.33	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	104.5 PK			1.13 V	290	62.72	41.78
2	*5825.00	95.8 AV			1.13 V	290	54.02	41.78
3	#7766.67	54.6 PK	84.5	-29.9	1.27 V	85	8.38	46.22
4	#7766.67	42.8 AV	75.8	-33.0	1.27 V	85	-3.42	46.22
5	11650.00	55.9 PK	74.0	-18.1	1.15 V	167	8.07	47.83
6	11650.00	43.9 AV	54.0	-10.1	1.15 V	167	-3.93	47.83

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

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

Multiple chain : 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	113.8 PK			1.32 H	13	72.25	41.55
2	*5745.00	105.3 AV			1.32 H	13	63.75	41.55
3	7660.00	54.4 PK	74.0	-19.6	1.13 H	152	8.06	46.34
4	7660.00	42.8 AV	54.0	-11.2	1.13 H	152	-3.54	46.34
5	11490.00	54.9 PK	74.0	-19.1	1.62 H	34	7.19	47.71
6	11490.00	43.4 AV	54.0	-10.6	1.62 H	34	-4.31	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	108.2 PK			1.17 V	301	66.65	41.55
2	*5745.00	99.2 AV			1.17 V	301	57.65	41.55
3	7660.00	54.6 PK	74.0	-19.4	1.38 V	92	8.26	46.34
4	7660.00	42.8 AV	54.0	-11.2	1.38 V	92	-3.54	46.34
5	11490.00	55.6 PK	74.0	-18.4	1.19 V	180	7.89	47.71
6	11490.00	43.9 AV	54.0	-10.1	1.19 V	180	-3.81	47.71

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	113.9 PK			1.28 H	5	72.22	41.68
2	*5785.00	105.5 AV			1.28 H	5	63.82	41.68
3	7713.33	54.3 PK	74.0	-19.7	1.17 H	164	8.02	46.28
4	7713.33	42.6 AV	54.0	-11.4	1.17 H	164	-3.68	46.28
5	11570.00	54.8 PK	74.0	-19.2	1.67 H	23	7.05	47.75
6	11570.00	43.4 AV	54.0	-10.6	1.67 H	23	-4.35	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	107.8 PK			1.18 V	290	66.12	41.68
2	*5785.00	99.1 AV			1.18 V	290	57.42	41.68
3	7713.33	54.4 PK	74.0	-19.6	1.33 V	104	8.12	46.28
4	7713.33	42.6 AV	54.0	-11.4	1.33 V	104	-3.68	46.28
5	11570.00	55.5 PK	74.0	-18.5	1.22 V	168	7.75	47.75
6	11570.00	44.0 AV	54.0	-10.0	1.22 V	168	-3.75	47.75

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	113.9 PK			1.26 H	0	72.12	41.78
2	*5825.00	105.4 AV			1.26 H	0	63.62	41.78
3	#7766.67	54.7 PK	93.9	-39.2	1.17 H	159	8.48	46.22
4	#7766.67	43.0 AV	85.4	-42.4	1.17 H	159	-3.22	46.22
5	11650.00	55.1 PK	74.0	-18.9	1.61 H	33	7.27	47.83
6	11650.00	43.7 AV	54.0	-10.3	1.61 H	33	-4.13	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	108.1 PK			1.16 V	313	66.32	41.78
2	*5825.00	99.1 AV			1.16 V	313	57.32	41.78
3	#7766.67	54.6 PK	88.1	-33.5	1.32 V	97	8.38	46.22
4	#7766.67	42.7 AV	79.1	-36.4	1.32 V	97	-3.52	46.22
5	11650.00	55.3 PK	74.0	-18.7	1.15 V	193	7.47	47.83
6	11650.00	43.8 AV	54.0	-10.2	1.15 V	193	-4.03	47.83

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

Single chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	107.2 PK			1.25 H	31	65.61	41.59
2	*5755.00	98.7 AV			1.25 H	31	57.11	41.59
3	7673.33	54.4 PK	74.0	-19.6	1.16 H	149	8.08	46.32
4	7673.33	42.5 AV	54.0	-11.5	1.16 H	149	-3.82	46.32
5	11510.00	55.3 PK	74.0	-18.7	1.68 H	36	7.58	47.72
6	11510.00	43.5 AV	54.0	-10.5	1.68 H	36	-4.22	47.72
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	*5755.00	101.1 PK			1.21 V	310	59.51	41.59
2	*5755.00	92.7 AV			1.21 V	310	51.11	41.59
3	7673.33	54.7 PK	74.0	-19.3	1.34 V	86	8.38	46.32
4	7673.33	42.7 AV	54.0	-11.3	1.34 V	86	-3.62	46.32
5	11510.00	56.3 PK	74.0	-17.7	1.12 V	174	8.58	47.72
6	11510.00	43.7 AV	54.0	-10.3	1.12 V	174	-4.02	47.72

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	107.3 PK			1.25 H	42	65.60	41.70
2	*5795.00	98.7 AV			1.25 H	42	57.00	41.70
3	7726.67	54.5 PK	74.0	-19.5	1.21 H	138	8.24	46.26
4	7726.67	42.5 AV	54.0	-11.5	1.21 H	138	-3.76	46.26
5	11590.00	55.1 PK	74.0	-18.9	1.69 H	49	7.34	47.76
6	11590.00	43.5 AV	54.0	-10.5	1.69 H	49	-4.26	47.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	100.9 PK			1.19 V	320	59.20	41.70
2	*5795.00	92.7 AV			1.19 V	320	51.00	41.70
3	7726.67	54.6 PK	74.0	-19.4	1.35 V	100	8.34	46.26
4	7726.67	42.7 AV	54.0	-11.3	1.35 V	100	-3.56	46.26
5	11590.00	56.4 PK	74.0	-17.6	1.11 V	184	8.64	47.76
6	11590.00	43.7 AV	54.0	-10.3	1.11 V	184	-4.06	47.76

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

Multiple chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	109.9 PK			1.40 H	37	68.31	41.59
2	*5755.00	101.3 AV			1.40 H	37	59.71	41.59
3	7673.33	54.9 PK	74.0	-19.1	1.19 H	147	8.58	46.32
4	7673.33	43.0 AV	54.0	-11.0	1.19 H	147	-3.32	46.32
5	11510.00	55.6 PK	74.0	-18.4	1.69 H	24	7.88	47.72
6	11510.00	43.7 AV	54.0	-10.3	1.69 H	24	-4.02	47.72
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	*5755.00	104.5 PK			1.16 V	305	62.91	41.59
2	*5755.00	95.8 AV			1.16 V	305	54.21	41.59
3	7673.33	55.0 PK	74.0	-19.0	1.32 V	89	8.68	46.32
4	7673.33	42.9 AV	54.0	-11.1	1.32 V	89	-3.42	46.32
5	11510.00	55.6 PK	74.0	-18.4	1.22 V	167	7.88	47.72
6	11510.00	43.7 AV	54.0	-10.3	1.22 V	167	-4.02	47.72

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	110.0 PK			1.41 H	41	68.30	41.70
2	*5795.00	101.4 AV			1.41 H	41	59.70	41.70
3	7726.67	55.0 PK	74.0	-19.0	1.15 H	153	8.74	46.26
4	7726.67	43.0 AV	54.0	-11.0	1.15 H	153	-3.26	46.26
5	11590.00	55.5 PK	74.0	-18.5	1.64 H	28	7.74	47.76
6	11590.00	43.4 AV	54.0	-10.6	1.64 H	28	-4.36	47.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	104.5 PK			1.19 V	317	62.80	41.70
2	*5795.00	95.9 AV			1.19 V	317	54.20	41.70
3	7726.67	55.2 PK	74.0	-18.8	1.37 V	102	8.94	46.26
4	7726.67	42.8 AV	54.0	-11.2	1.37 V	102	-3.46	46.26
5	11590.00	55.5 PK	74.0	-18.5	1.18 V	171	7.74	47.76
6	11590.00	43.5 AV	54.0	-10.5	1.18 V	171	-4.26	47.76

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

5.2.8 TEST RESULTS (With Dipole Antenna)

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	63.99	32.8 QP	40.0	-7.2	1.25 H	135	19.96	12.83
2	200.16	40.9 QP	43.5	-2.6	1.38 H	318	30.31	10.59
3	300.25	40.9 QP	46.0	-5.1	2.00 H	306	25.73	15.20
4	324.35	39.3 QP	46.0	-6.7	1.75 H	250	23.59	15.73
5	537.99	36.2 QP	46.0	-9.8	1.00 H	191	15.63	20.56
6	796.18	38.4 QP	46.0	-7.6	1.25 H	360	13.94	24.43
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	237.70	35.5 QP	46.0	-10.5	1.25 V	11	22.99	12.55
2	325.40	34.6 QP	46.0	-11.4	1.25 V	115	18.87	15.75
3	349.89	36.9 QP	46.0	-9.1	1.25 V	89	20.62	16.28
4	625.25	37.2 QP	46.0	-8.8	1.25 V	23	14.97	22.25
5	799.50	39.7 QP	46.0	-6.3	1.00 V	325	15.19	24.47
6	875.05	40.2 QP	46.0	-5.8	1.00 V	357	14.40	25.81

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.

ABOVE 1GHz WORST-CASE DATA

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	102.9 PK			1.11 H	272	61.35	41.55
2	*5745.00	93.7 AV			1.11 H	272	52.15	41.55
3	7660.00	56.4 PK	74.0	-17.6	1.38 H	68	10.06	46.34
4	7660.00	48.7 AV	54.0	-5.3	1.38 H	68	2.36	46.34
5	11490.00	54.8 PK	74.0	-19.2	1.64 H	31	7.09	47.71
6	11490.00	43.3 AV	54.0	-10.7	1.64 H	31	-4.41	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	114.8 PK			1.14 V	257	73.25	41.55
2	*5745.00	105.2 AV			1.14 V	257	63.65	41.55
3	7660.00	55.2 PK	74.0	-18.8	1.26 V	261	8.86	46.34
4	7660.00	47.0 AV	54.0	-7.0	1.26 V	261	0.66	46.34
5	11490.00	55.4 PK	74.0	-18.6	1.21 V	184	7.69	47.71
6	11490.00	43.9 AV	54.0	-10.1	1.21 V	184	-3.81	47.71

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	102.7 PK			1.07 H	274	61.02	41.68
2	*5785.00	93.4 AV			1.07 H	274	51.72	41.68
3	7713.33	56.7 PK	74.0	-17.3	1.32 H	77	10.42	46.28
4	7713.33	48.7 AV	54.0	-5.3	1.32 H	77	2.42	46.28
5	11570.00	54.9 PK	74.0	-19.1	1.67 H	26	7.15	47.75
6	11570.00	43.4 AV	54.0	-10.6	1.67 H	26	-4.35	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	114.8 PK			1.09 V	243	73.12	41.68
2	*5785.00	105.2 AV			1.09 V	243	63.52	41.68
3	7713.33	55.3 PK	74.0	-18.7	1.30 V	266	9.02	46.28
4	7713.33	47.0 AV	54.0	-7.0	1.30 V	266	0.72	46.28
5	11570.00	55.5 PK	74.0	-18.5	1.16 V	174	7.75	47.75
6	11570.00	44.0 AV	54.0	-10.0	1.16 V	174	-3.75	47.75

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.0 PK			1.11 H	271	61.22	41.78
2	*5825.00	93.6 AV			1.11 H	271	51.82	41.78
3	#7766.67	56.9 PK	83.0	-26.1	1.40 H	68	10.68	46.22
4	#7766.67	48.9 AV	73.6	-24.7	1.40 H	68	2.68	46.22
5	11650.00	54.8 PK	74.0	-19.2	1.64 H	43	6.97	47.83
6	11650.00	43.2 AV	54.0	-10.8	1.64 H	43	-4.63	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	115.0 PK			1.20 V	244	73.22	41.78
2	*5825.00	105.2 AV			1.20 V	244	63.42	41.78
3	#7766.67	55.2 PK	95.0	-39.8	1.24 V	253	8.98	46.22
4	#7766.67	47.1 AV	85.2	-38.1	1.24 V	253	0.88	46.22
5	11650.00	55.2 PK	74.0	-18.8	1.18 V	196	7.37	47.83
6	11650.00	43.6 AV	54.0	-10.4	1.18 V	196	-4.23	47.83

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

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

Single chain : 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	103.9 PK			1.12 H	285	62.35	41.55
2	*5745.00	94.5 AV			1.12 H	285	52.95	41.55
3	7660.00	56.1 PK	74.0	-17.9	1.43 H	59	9.76	46.34
4	7660.00	48.6 AV	54.0	-5.4	1.43 H	59	2.26	46.34
5	11490.00	54.9 PK	74.0	-19.1	1.69 H	41	7.19	47.71
6	11490.00	43.3 AV	54.0	-10.7	1.69 H	41	-4.41	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	115.8 PK			1.10 V	258	74.25	41.55
2	*5745.00	106.1 AV			1.10 V	258	64.55	41.55
3	7660.00	55.7 PK	74.0	-18.3	1.23 V	255	9.36	46.34
4	7660.00	47.3 AV	54.0	-6.7	1.23 V	255	0.96	46.34
5	11490.00	55.6 PK	74.0	-18.4	1.20 V	174	7.89	47.71
6	11490.00	44.2 AV	54.0	-9.8	1.20 V	174	-3.51	47.71

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.0 PK			1.16 H	281	62.32	41.68
2	*5785.00	94.4 AV			1.16 H	281	52.72	41.68
3	7713.33	55.9 PK	74.0	-18.1	1.38 H	48	9.62	46.28
4	7713.33	48.6 AV	54.0	-5.4	1.38 H	48	2.32	46.28
5	11570.00	54.7 PK	74.0	-19.3	1.66 H	45	6.95	47.75
6	11570.00	43.4 AV	54.0	-10.6	1.66 H	45	-4.35	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	115.3 PK			1.10 V	257	73.62	41.68
2	*5785.00	105.9 AV			1.10 V	257	64.22	41.68
3	7713.33	55.5 PK	74.0	-18.5	1.19 V	259	9.22	46.28
4	7713.33	47.0 AV	54.0	-7.0	1.19 V	259	0.72	46.28
5	11570.00	55.5 PK	74.0	-18.5	1.18 V	173	7.75	47.75
6	11570.00	44.1 AV	54.0	-9.9	1.18 V	173	-3.65	47.75

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	104.2 PK			1.17 H	278	62.42	41.78
2	*5825.00	94.7 AV			1.17 H	278	52.92	41.78
3	#7766.67	56.3 PK	84.2	-27.9	1.44 H	69	10.08	46.22
4	#7766.67	48.7 AV	74.7	-26.0	1.44 H	69	2.48	46.22
5	11650.00	54.8 PK	74.0	-19.2	1.71 H	39	6.97	47.83
6	11650.00	43.2 AV	54.0	-10.8	1.71 H	39	-4.63	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	116.0 PK			1.04 V	267	74.22	41.78
2	*5825.00	106.3 AV			1.04 V	267	64.52	41.78
3	#7766.67	55.7 PK	96.0	-40.3	1.24 V	261	9.48	46.22
4	#7766.67	47.0 AV	86.3	-39.3	1.24 V	261	0.78	46.22
5	11650.00	55.8 PK	74.0	-18.2	1.25 V	163	7.97	47.83
6	11650.00	44.2 AV	54.0	-9.8	1.25 V	163	-3.63	47.83

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

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

Multiple chain : 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	107.1 PK			1.12 H	272	65.55	41.55
2	*5745.00	96.9 AV			1.12 H	272	55.35	41.55
3	7660.00	56.5 PK	74.0	-17.5	1.44 H	59	10.16	46.34
4	7660.00	48.6 AV	54.0	-5.4	1.44 H	59	2.26	46.34
5	11490.00	54.9 PK	74.0	-19.1	1.62 H	34	7.19	47.71
6	11490.00	43.4 AV	54.0	-10.6	1.62 H	34	-4.31	47.71
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	116.8 PK			1.10 V	258	75.25	41.55
2	*5745.00	107.1 AV			1.10 V	258	65.55	41.55
3	7660.00	55.7 PK	74.0	-18.3	1.23 V	255	9.36	46.34
4	7660.00	47.3 AV	54.0	-6.7	1.23 V	255	0.96	46.34
5	11490.00	55.6 PK	74.0	-18.4	1.20 V	174	7.89	47.71
6	11490.00	44.2 AV	54.0	-9.8	1.20 V	174	-3.51	47.71

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	106.8 PK			1.16 H	274	65.12	41.68
2	*5785.00	96.7 AV			1.16 H	274	55.02	41.68
3	7713.33	56.8 PK	74.0	-17.2	1.46 H	60	10.52	46.28
4	7713.33	48.8 AV	54.0	-5.2	1.46 H	60	2.52	46.28
5	11570.00	54.9 PK	74.0	-19.1	1.62 H	31	7.15	47.75
6	11570.00	43.4 AV	54.0	-10.6	1.62 H	31	-4.35	47.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	116.9 PK			1.09 V	265	75.22	41.68
2	*5785.00	106.9 AV			1.09 V	265	65.22	41.68
3	7713.33	55.8 PK	74.0	-18.2	1.17 V	269	9.52	46.28
4	7713.33	47.5 AV	54.0	-6.5	1.17 V	269	1.22	46.28
5	11570.00	56.1 PK	74.0	-17.9	1.22 V	188	8.35	47.75
6	11570.00	44.4 AV	54.0	-9.6	1.22 V	188	-3.35	47.75

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

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.1 PK			1.10 H	269	65.32	41.78
2	*5825.00	97.0 AV			1.10 H	269	55.22	41.78
3	#7766.67	56.4 PK	87.1	-30.7	1.41 H	60	10.18	46.22
4	#7766.67	48.5 AV	77.0	-28.5	1.41 H	60	2.28	46.22
5	11650.00	55.3 PK	74.0	-18.7	1.65 H	24	7.47	47.83
6	11650.00	43.5 AV	54.0	-10.5	1.65 H	24	-4.33	47.83
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	116.7 PK			1.13 V	265	74.92	41.78
2	*5825.00	106.8 AV			1.13 V	265	65.02	41.78
3	#7766.67	55.9 PK	96.7	-40.8	1.23 V	256	9.68	46.22
4	#7766.67	47.4 AV	86.8	-39.4	1.23 V	256	1.18	46.22
5	11650.00	55.3 PK	74.0	-18.7	1.16 V	170	7.47	47.83
6	11650.00	44.1 AV	54.0	-9.9	1.16 V	170	-3.73	47.83

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

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

Single chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	100.8 PK			1.10 H	294	59.21	41.59
2	*5755.00	91.2 AV			1.10 H	294	49.61	41.59
3	7673.33	56.2 PK	74.0	-17.8	1.47 H	61	9.88	46.32
4	7673.33	48.7 AV	54.0	-5.3	1.47 H	61	2.38	46.32
5	11510.00	55.1 PK	74.0	-18.9	1.65 H	35	7.38	47.72
6	11510.00	43.5 AV	54.0	-10.5	1.65 H	35	-4.22	47.72
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	*5755.00	112.3 PK			1.15 V	254	70.71	41.59
2	*5755.00	102.6 AV			1.15 V	254	61.01	41.59
3	7673.33	55.7 PK	74.0	-18.3	1.20 V	264	9.38	46.32
4	7673.33	47.1 AV	54.0	-6.9	1.20 V	264	0.78	46.32
5	11510.00	55.5 PK	74.0	-18.5	1.23 V	177	7.78	47.72
6	11510.00	44.2 AV	54.0	-9.8	1.23 V	177	-3.52	47.72

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	101.2 PK			1.08 H	289	59.50	41.70
2	*5795.00	91.4 AV			1.08 H	289	49.70	41.70
3	7726.67	56.4 PK	74.0	-17.6	1.53 H	57	10.14	46.26
4	7726.67	48.9 AV	54.0	-5.1	1.53 H	57	2.64	46.26
5	11590.00	55.4 PK	74.0	-18.6	1.64 H	37	7.64	47.76
6	11590.00	43.7 AV	54.0	-10.3	1.64 H	37	-4.06	47.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	112.5 PK			1.17 V	250	70.80	41.70
2	*5795.00	102.7 AV			1.17 V	250	61.00	41.70
3	7726.67	54.6 PK	74.0	-19.4	1.19 V	264	8.34	46.26
4	7726.67	46.2 AV	54.0	-7.8	1.19 V	264	-0.06	46.26
5	11590.00	55.5 PK	74.0	-18.5	1.20 V	152	7.74	47.76
6	11590.00	45.1 AV	54.0	-8.9	1.20 V	152	-2.66	47.76

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

Multiple chain : 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5755.00	104.4 PK			1.12 H	268	62.81	41.59
2	*5755.00	94.1 AV			1.12 H	268	52.51	41.59
3	7673.33	56.1 PK	74.0	-17.9	1.48 H	55	9.78	46.32
4	7673.33	48.4 AV	54.0	-5.6	1.48 H	55	2.08	46.32
5	11510.00	55.1 PK	74.0	-18.9	1.65 H	41	7.38	47.72
6	11510.00	43.3 AV	54.0	-10.7	1.65 H	41	-4.42	47.72
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	*5755.00	113.4 PK			1.17 V	263	71.81	41.59
2	*5755.00	103.8 AV			1.17 V	263	62.21	41.59
3	7673.33	55.7 PK	74.0	-18.3	1.22 V	247	9.38	46.32
4	7673.33	47.6 AV	54.0	-6.4	1.22 V	247	1.28	46.32
5	11510.00	55.6 PK	74.0	-18.4	1.23 V	163	7.88	47.72
6	11510.00	44.3 AV	54.0	-9.7	1.23 V	163	-3.42	47.72

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	22deg. C, 64%RH 1004 hPa	TESTED BY	Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	104.6 PK			1.08 H	268	62.90	41.70
2	*5795.00	94.2 AV			1.08 H	268	52.50	41.70
3	7726.67	56.2 PK	74.0	-17.8	1.48 H	46	9.94	46.26
4	7726.67	48.7 AV	54.0	-5.3	1.48 H	46	2.44	46.26
5	11590.00	55.3 PK	74.0	-18.7	1.65 H	53	7.54	47.76
6	11590.00	43.2 AV	54.0	-10.8	1.65 H	53	-4.56	47.76
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	113.6 PK			1.18 V	275	71.90	41.70
2	*5795.00	103.8 AV			1.18 V	275	62.10	41.70
3	7726.67	54.6 PK	74.0	-19.4	1.19 V	264	8.34	46.26
4	7726.67	46.2 AV	54.0	-7.8	1.19 V	264	-0.06	46.26
5	11590.00	55.5 PK	74.0	-18.5	1.20 V	152	7.74	47.76
6	11590.00	45.1 AV	54.0	-8.9	1.20 V	152	-2.66	47.76

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

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

Test date: June 23, 2011

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

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

5.3.3 TEST PROCEDURE

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

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP

5.3.6 EUT OPERATING CONDITIONS

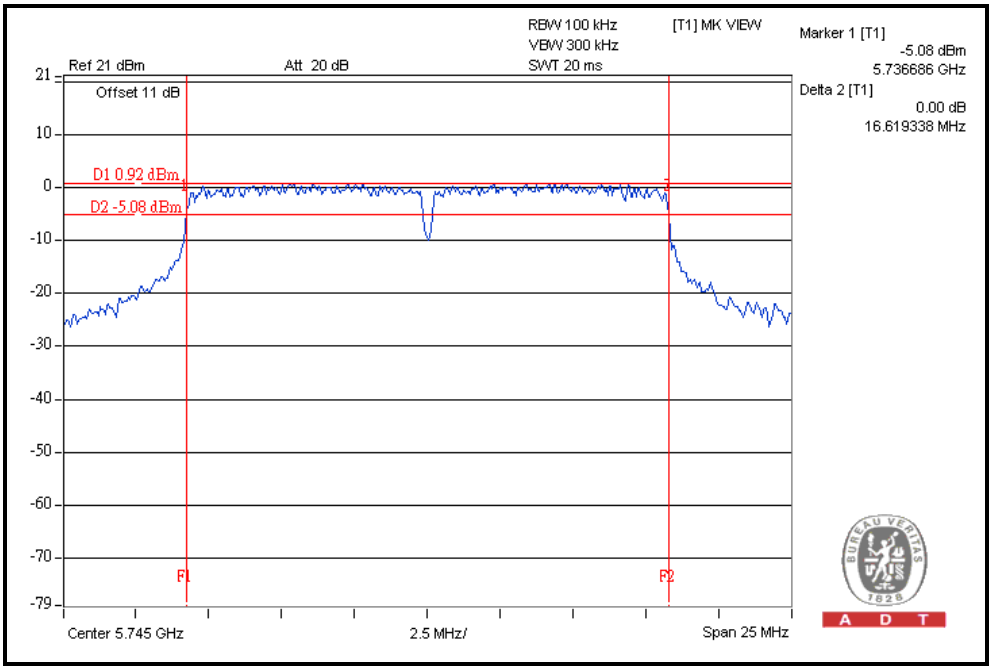
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.3.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.61	0.5	PASS
157	5785	16.61	0.5	PASS
165	5825	16.61	0.5	PASS

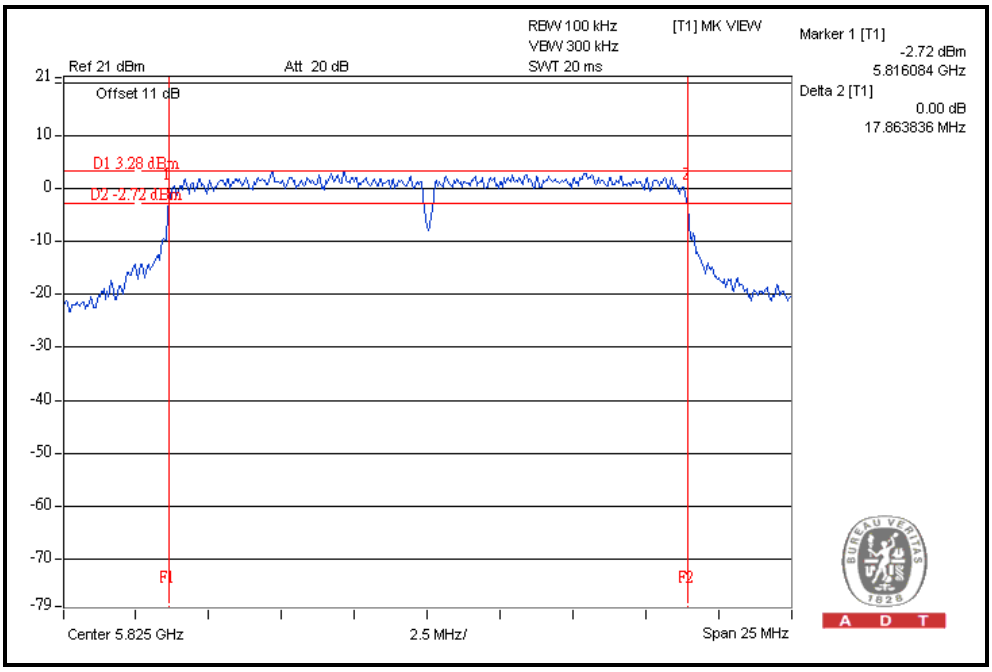
CH149



Single Chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.81	0.5	PASS
157	5785	17.85	0.5	PASS
165	5825	17.86	0.5	PASS

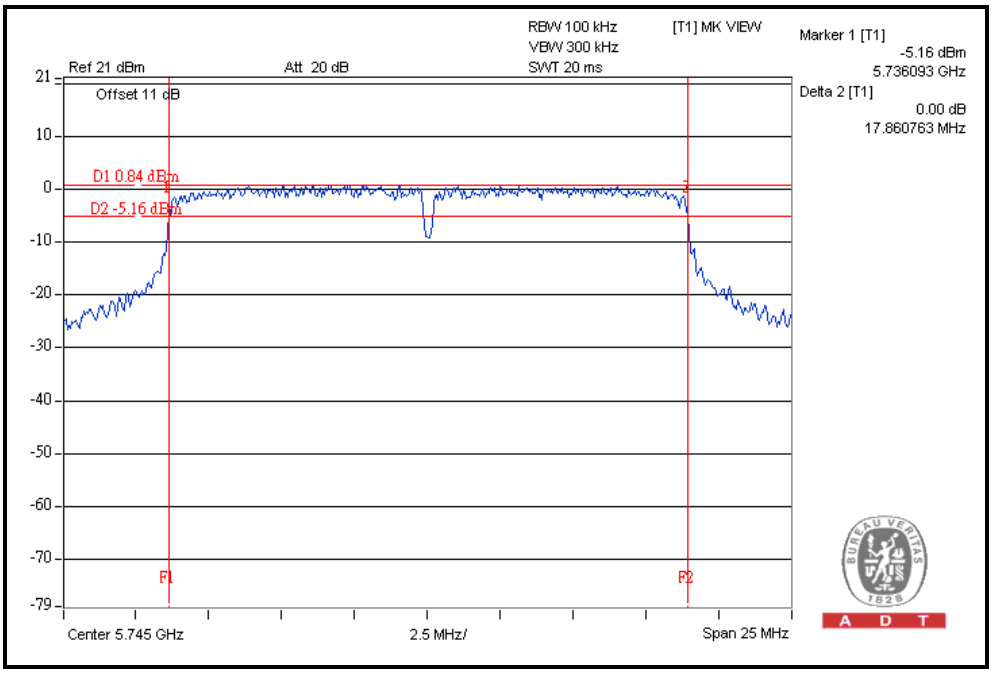
CH165



Multiple chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.86	0.5	PASS
157	5785	17.85	0.5	PASS
165	5825	17.85	0.5	PASS

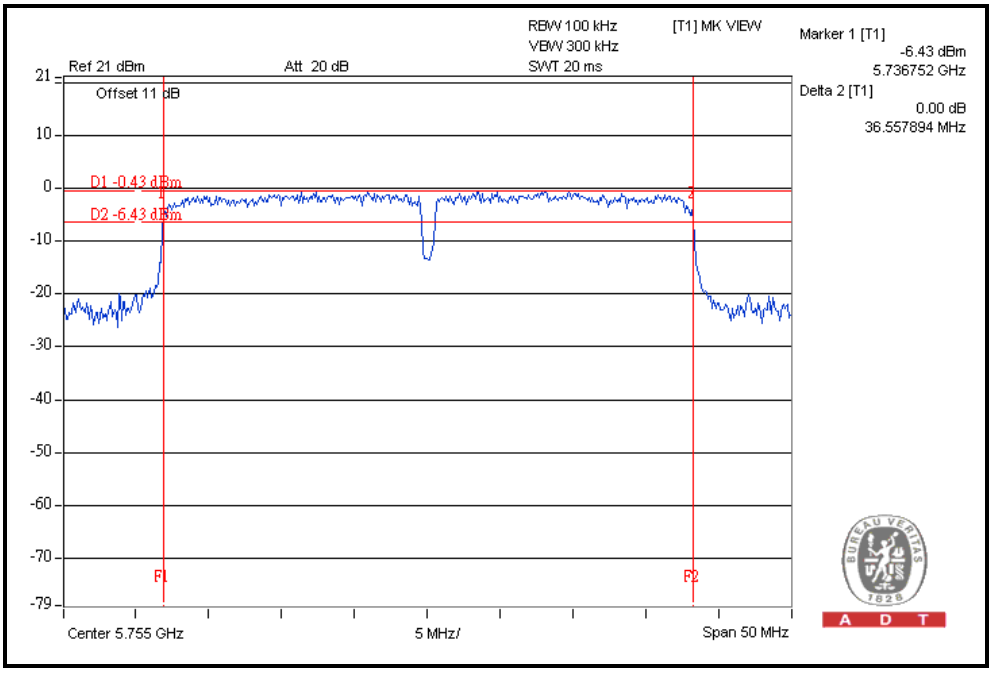
CH149



Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.55	0.5	PASS
159	5795	36.53	0.5	PASS

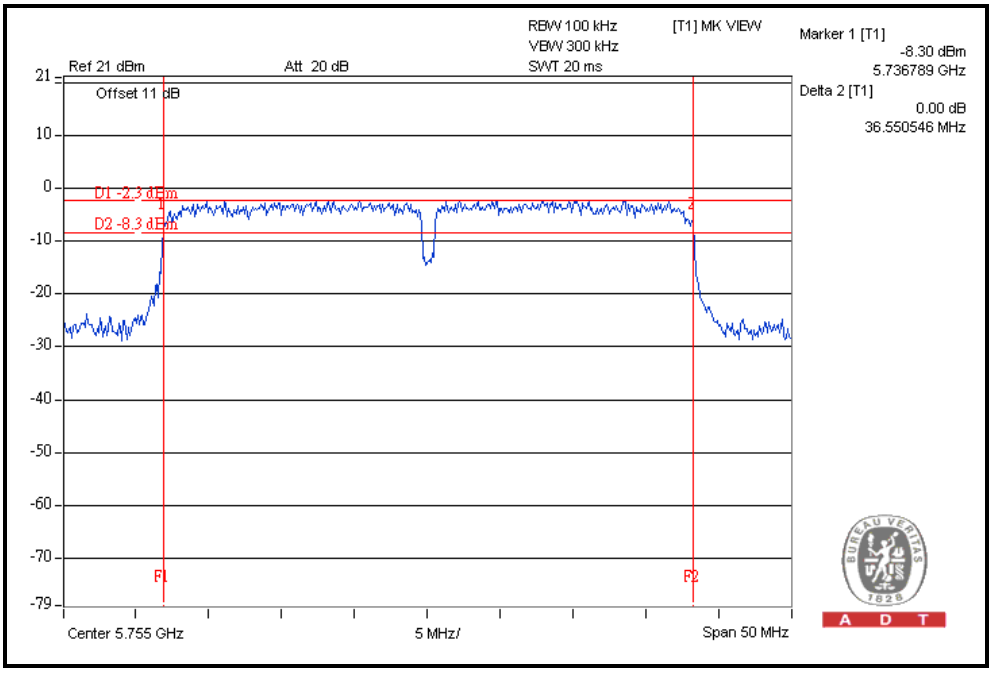
CH151



Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.55	0.5	PASS
159	5795	36.55	0.5	PASS

CH151



5.4 MAXIMUM PEAK OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

Test date: June 23, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
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.

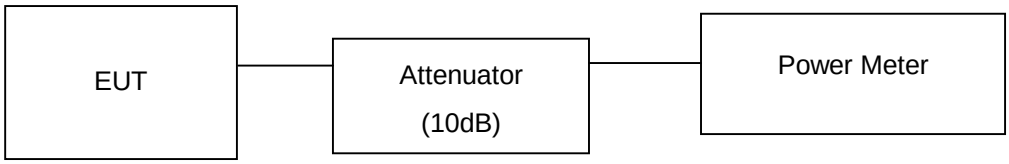
5.4.3 TEST PROCEDURES

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

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

5.4.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
149	5745	229.1	23.6	30	PASS
157	5785	223.9	23.5	30	PASS
165	5825	229.1	23.6	30	PASS

Single Chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
149	5745	223.9	23.5	30	PASS
157	5785	218.8	23.4	30	PASS
165	5825	229.1	23.6	30	PASS

Multiple chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	23.2	23.3	422.7	26.3	30	PASS
157	5785	23.1	23.3	418.0	26.2	30	PASS
165	5825	23.2	23.4	427.7	26.3	30	PASS

Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
151	5755	223.9	23.5	30	PASS
159	5795	229.1	23.6	30	PASS

Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
151	5755	23.2	23.1	413.1	26.2	30	PASS
159	5795	23.1	23.2	413.1	26.2	30	PASS

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

Test date: June 23, 2011

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

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

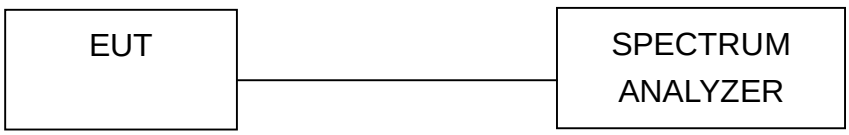
5.5.3 TEST PROCEDURE

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

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

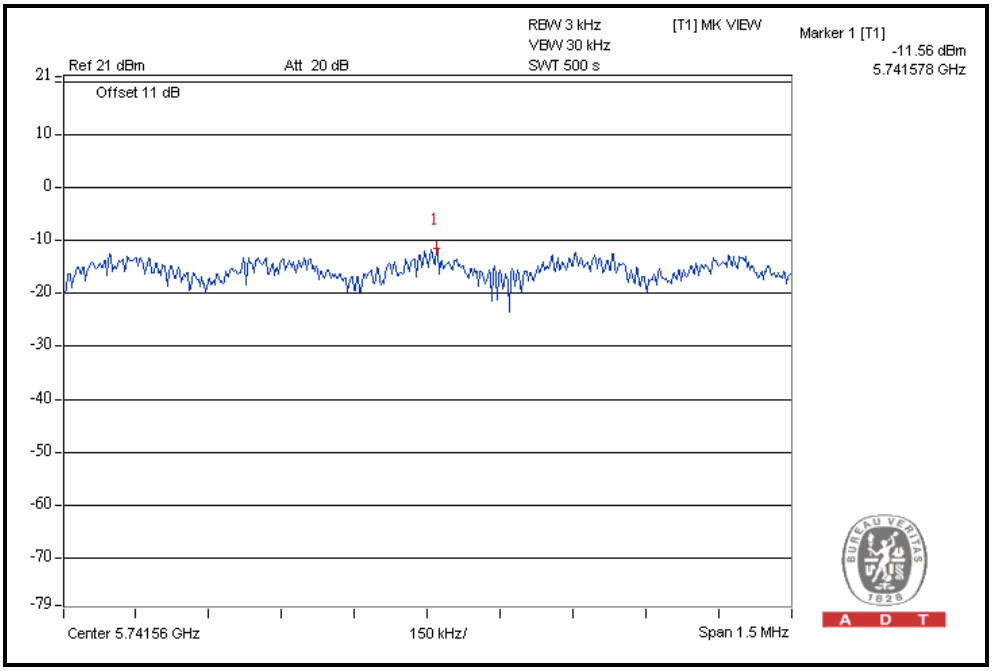
Same as Item 4.3.6

5.5.7 TEST RESULTS

802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
149	5745	-11.6	8	PASS
157	5785	-11.8	8	PASS
165	5825	-11.7	8	PASS

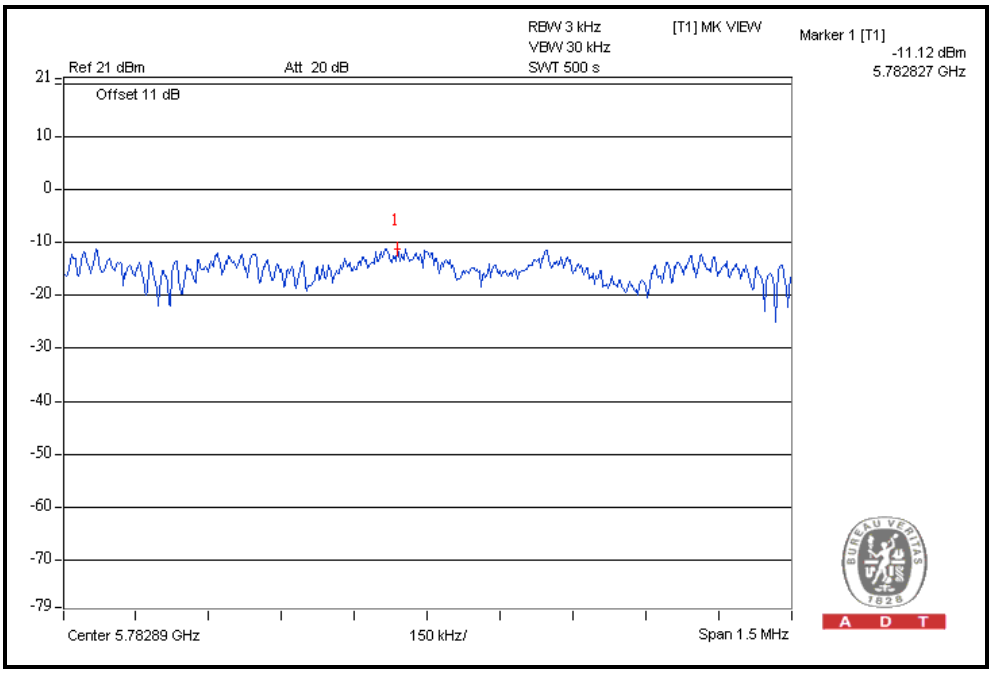
CH149



Single Chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
149	5745	-11.3	8	PASS
157	5785	-11.1	8	PASS
165	5825	-11.9	8	PASS

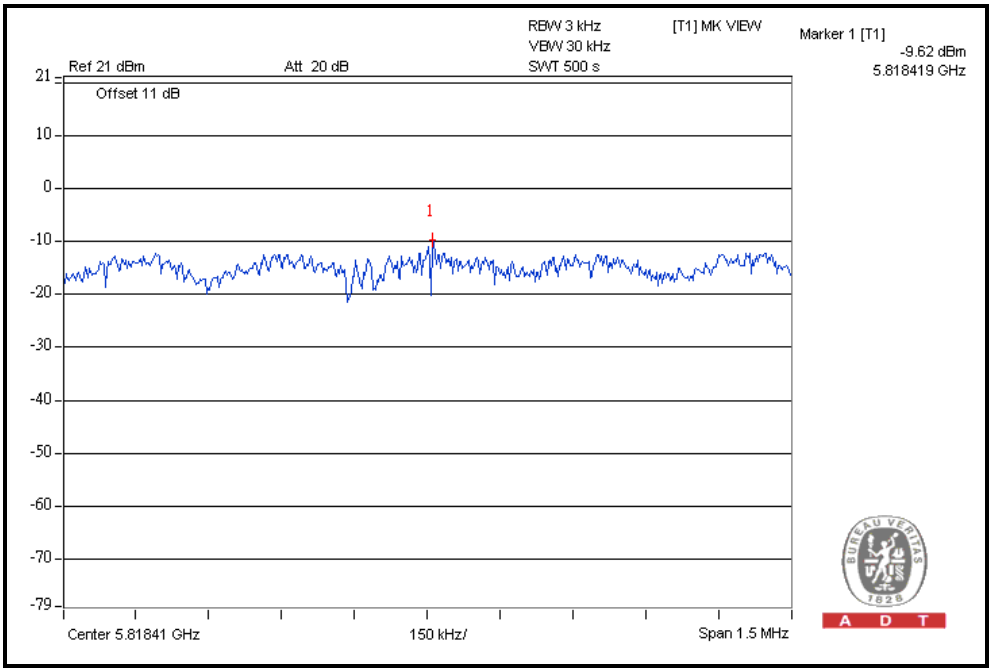
CH157



Multiple chain - 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
149	5745	-10.7	-10.4	-7.5	8	PASS
157	5785	-11.8	-10.0	-7.8	8	PASS
165	5825	-10.8	-9.6	-7.1	8	PASS

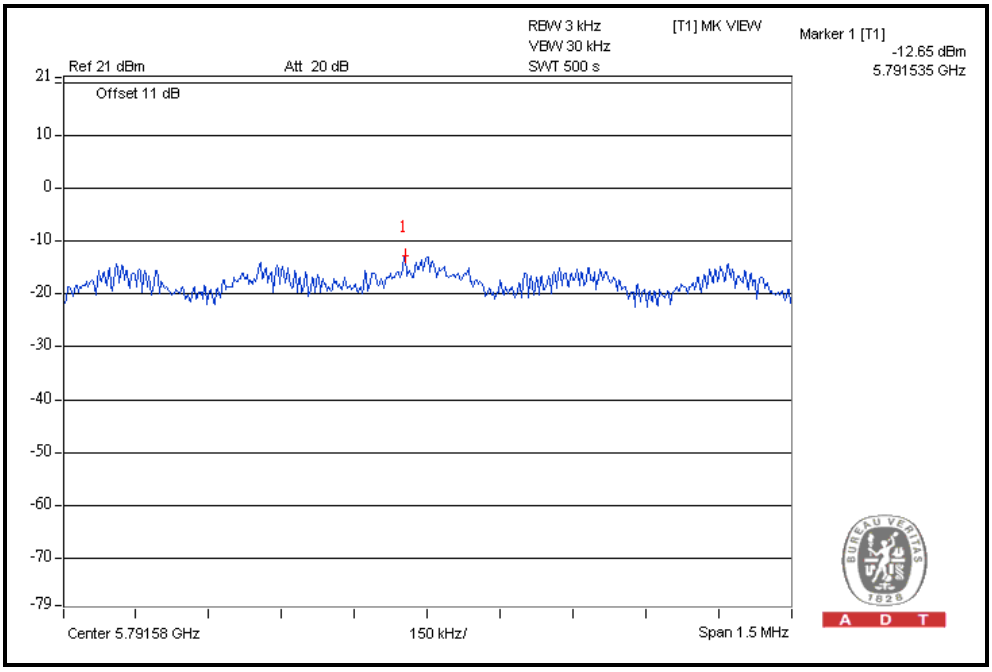
For Chain(1): CH165



Single Chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
151	5755	-13.2	8	PASS
159	5795	-12.7	8	PASS

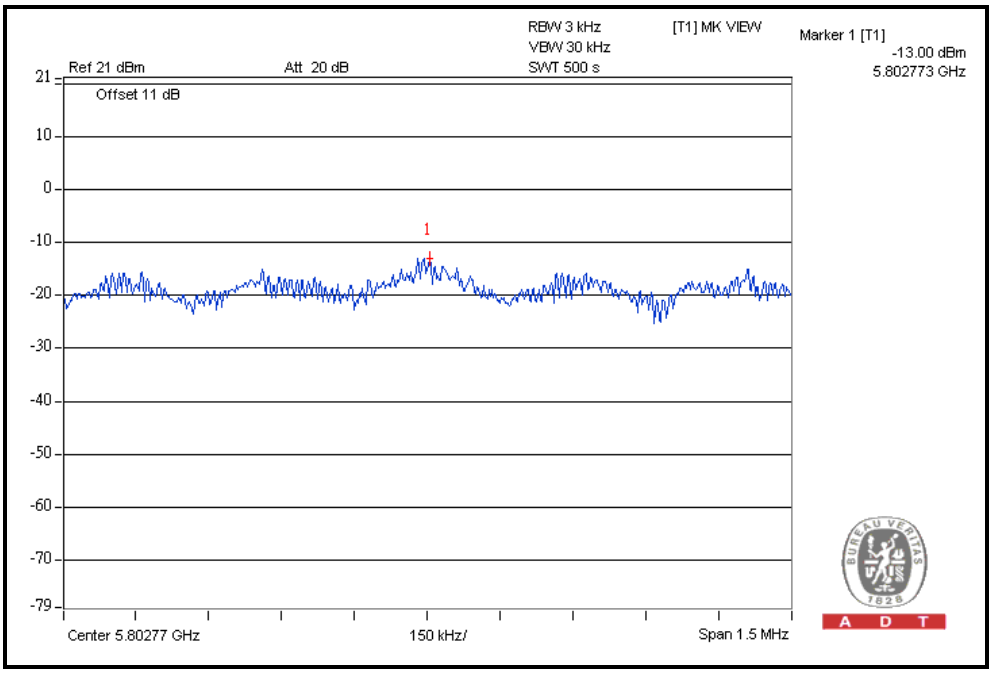
CH159



Multiple chain - 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
151	5755	-15.0	-14.0	-11.5	8	PASS
159	5795	-13.0	-13.5	-10.2	8	PASS

For Chain(0): CH159



5.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

5.6.2 TEST INSTRUMENTS

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

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

5.6.3 TEST PROCEDURE

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

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 EUT OPERATING CONDITION

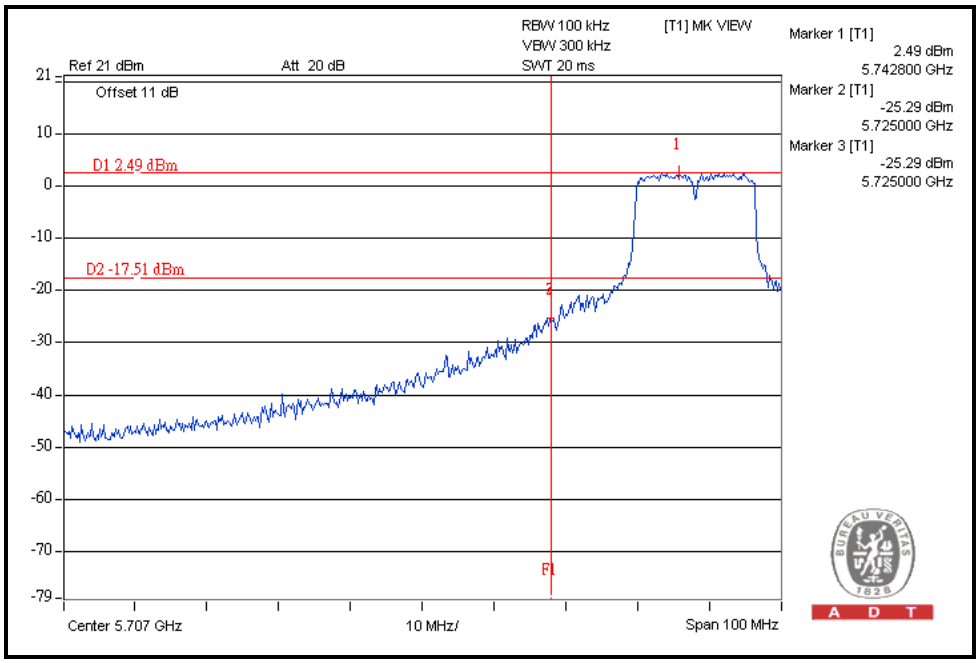
Same as Item 4.3.6

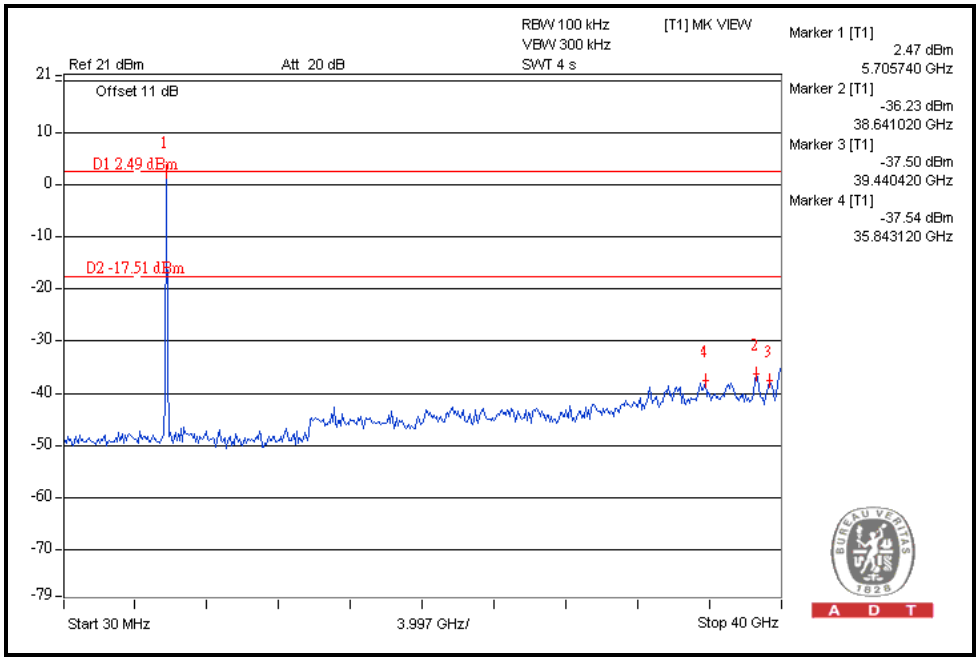
5.6.6 TEST RESULTS

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

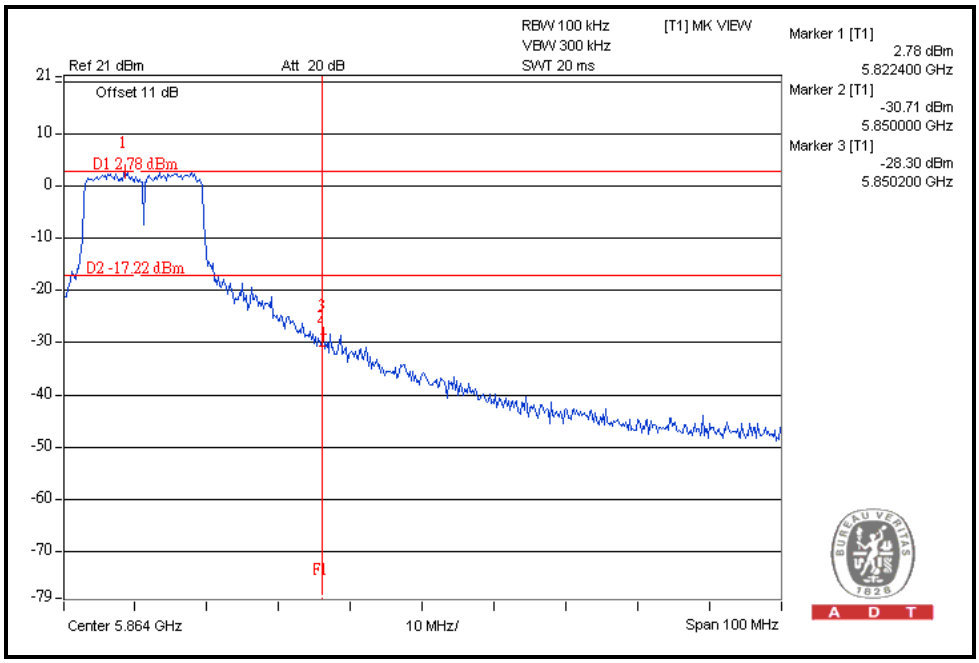
802.11a OFDM modulation

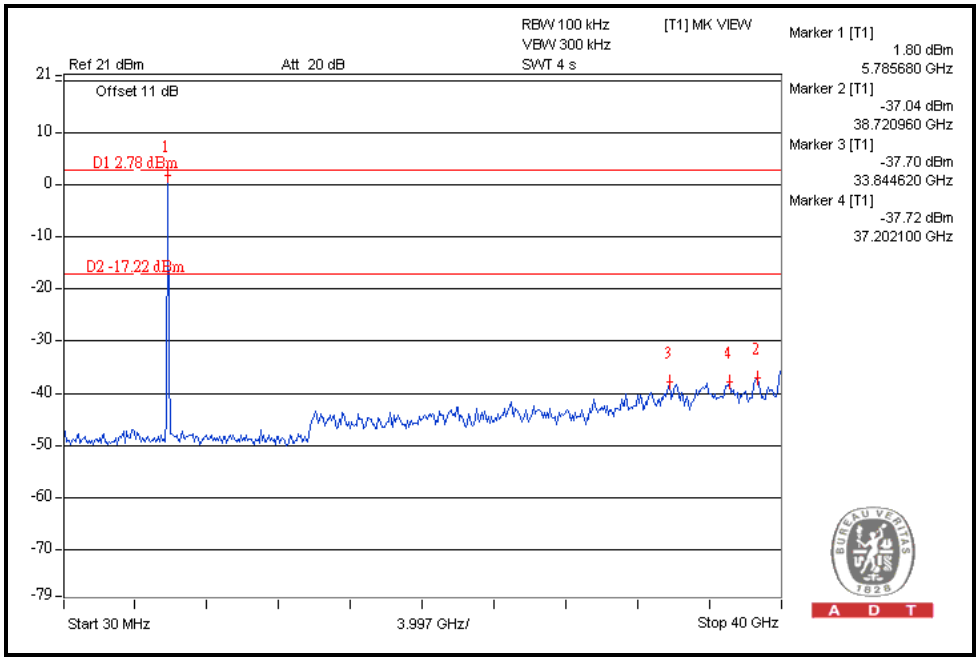
CH149





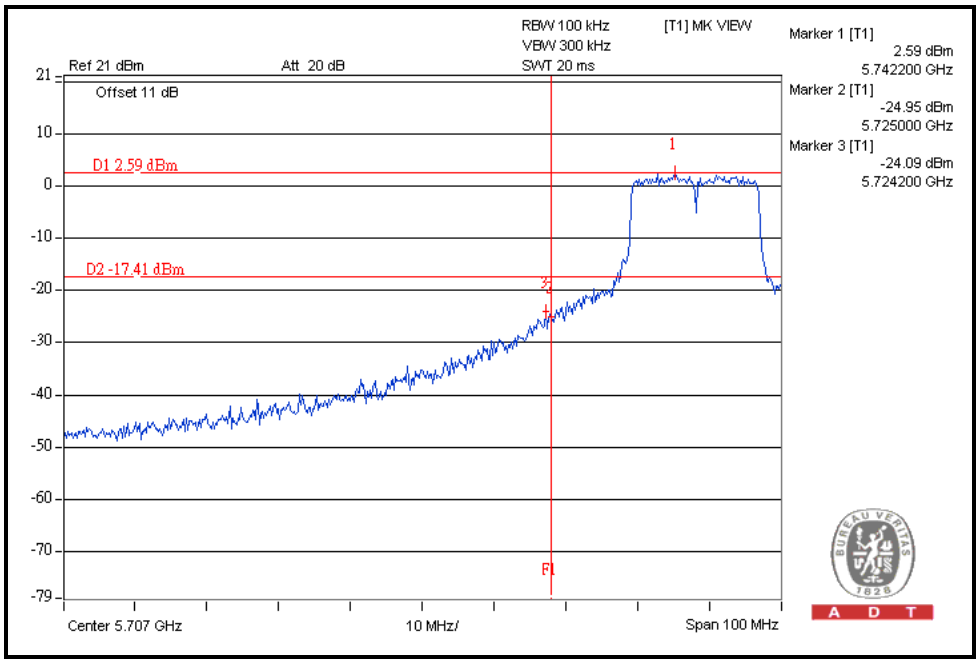
CH165

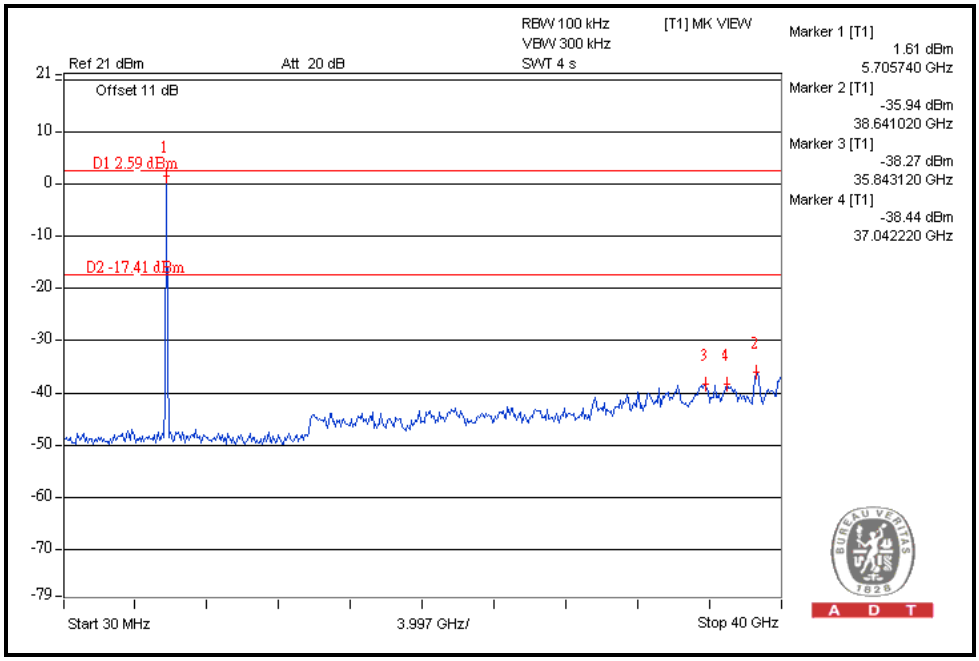

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Marker 1 [T1]
2.78 dBm
5.822400 GHz
Marker 2 [T1]
-30.71 dBm
5.850000 GHz
Marker 3 [T1]
-28.30 dBm
5.850200 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 2.78 dBm
D2 -17.22 dBm
Center 5.864 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Marker 1 [T1]
1.80 dBm
5.785680 GHz
Marker 2 [T1]
-37.04 dBm
38.720960 GHz
Marker 3 [T1]
-37.70 dBm
33.844620 GHz
Marker 4 [T1]
-37.72 dBm
37.202100 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 2.78 dBm
D2 -17.22 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

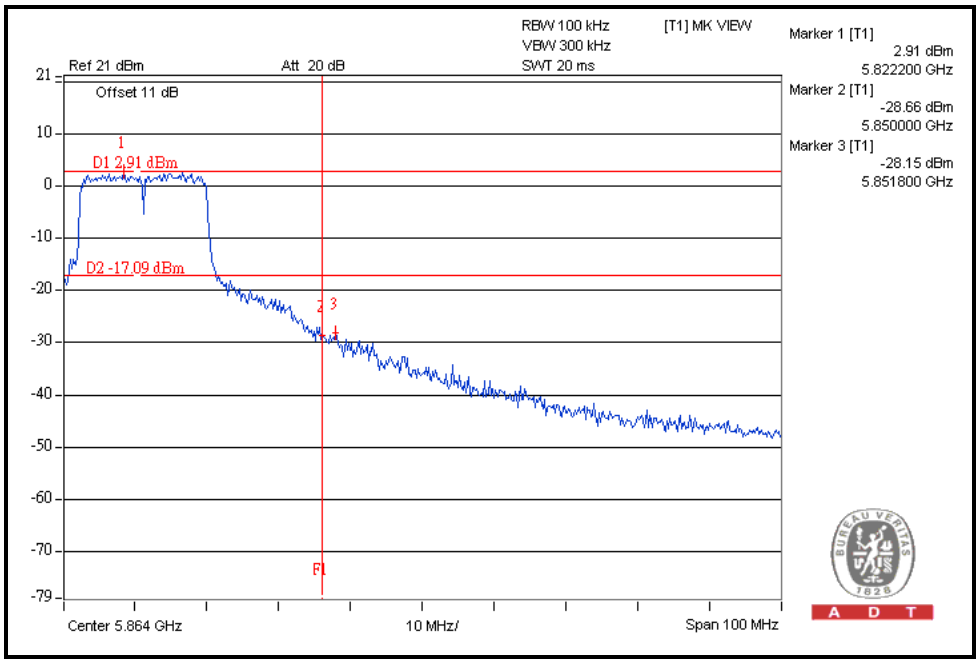
Single Chain - 802.11n (20MHz) OFDM MODULATION:

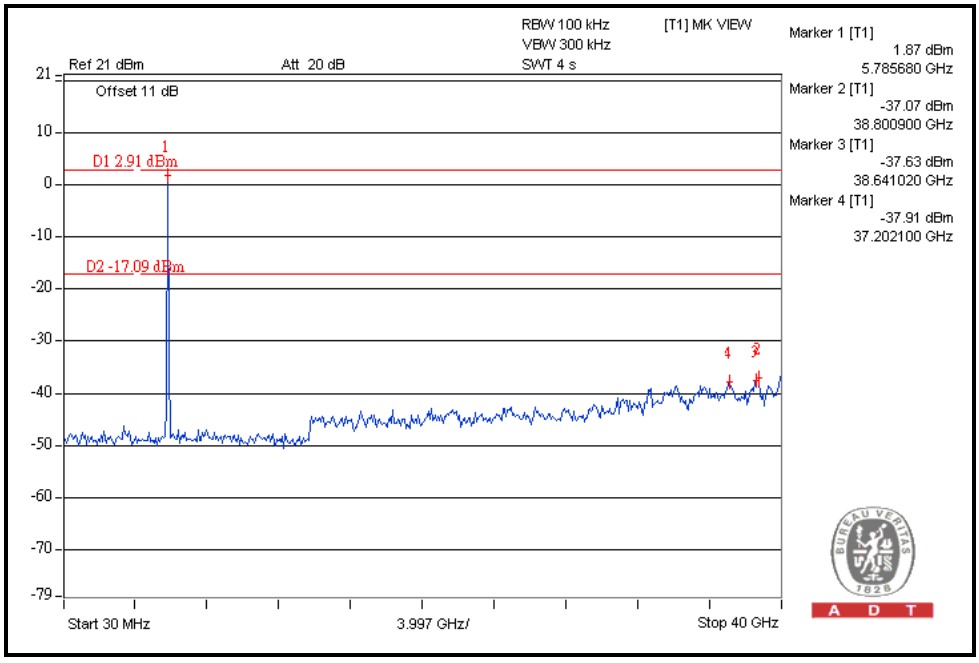
CH149





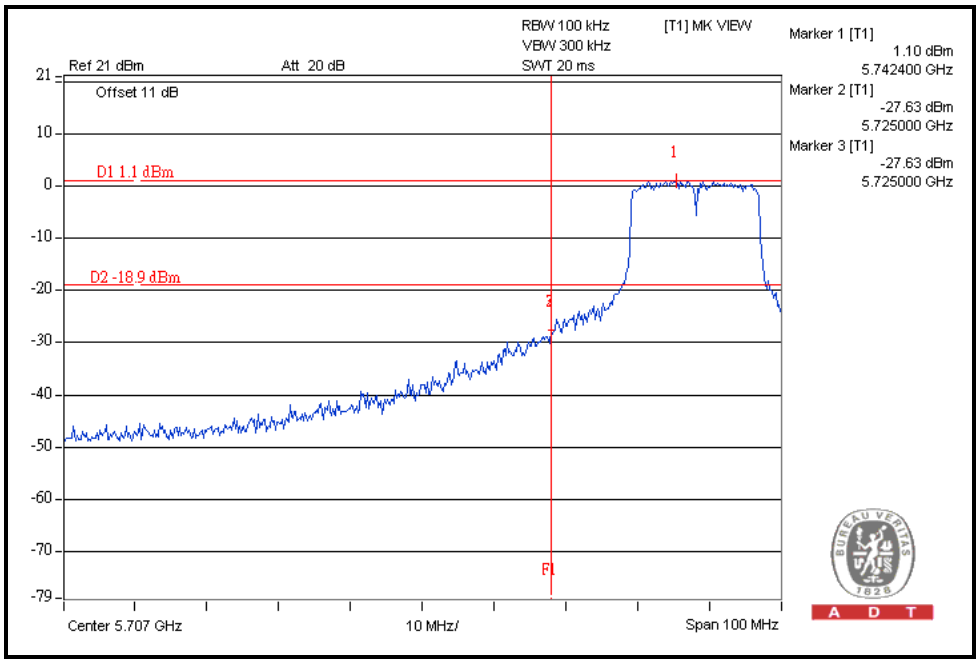
CH165

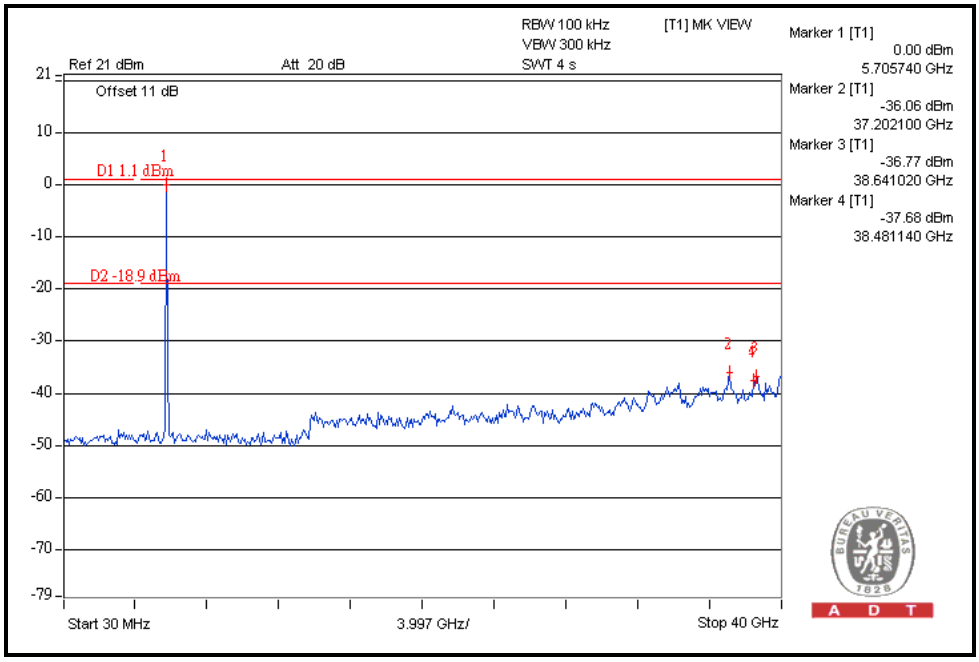

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Marker 1 [T1]
2.91 dBm
5.822200 GHz
Marker 2 [T1]
-28.66 dBm
5.850000 GHz
Marker 3 [T1]
-28.15 dBm
5.851800 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 2.91 dBm
D2 -17.09 dBm
Center 5.864 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 4 s
[T1] MK VIEW
Marker 1 [T1]
1.87 dBm
5.785680 GHz
Marker 2 [T1]
-37.07 dBm
38.800900 GHz
Marker 3 [T1]
-37.63 dBm
38.641020 GHz
Marker 4 [T1]
-37.91 dBm
37.202100 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 2.91 dBm
D2 -17.09 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

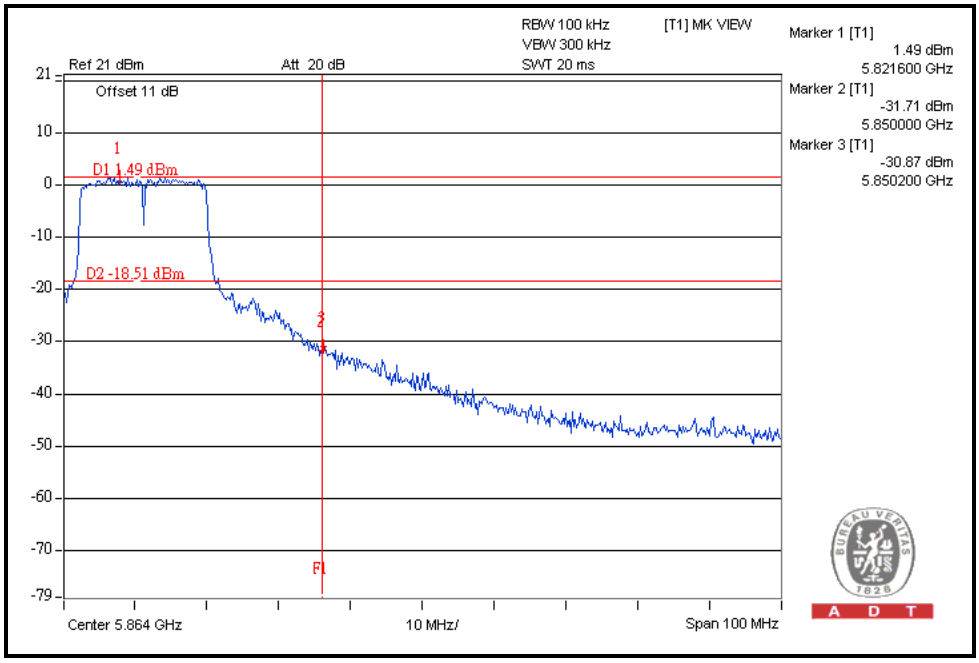
Multiple chain - 802.11n (20MHz) OFDM MODULATION:

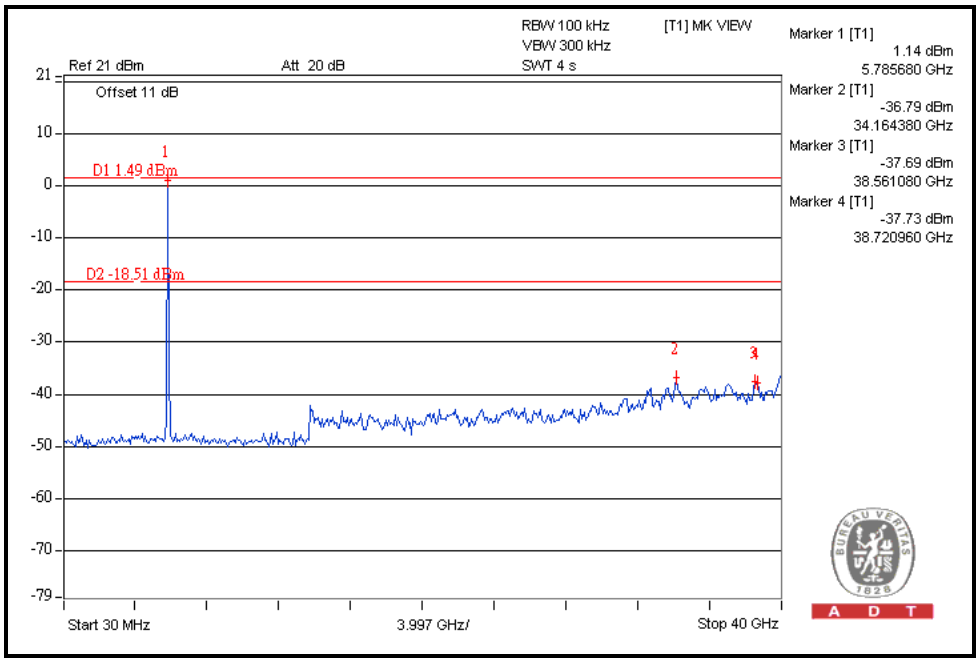
For Chain(0) : CH149



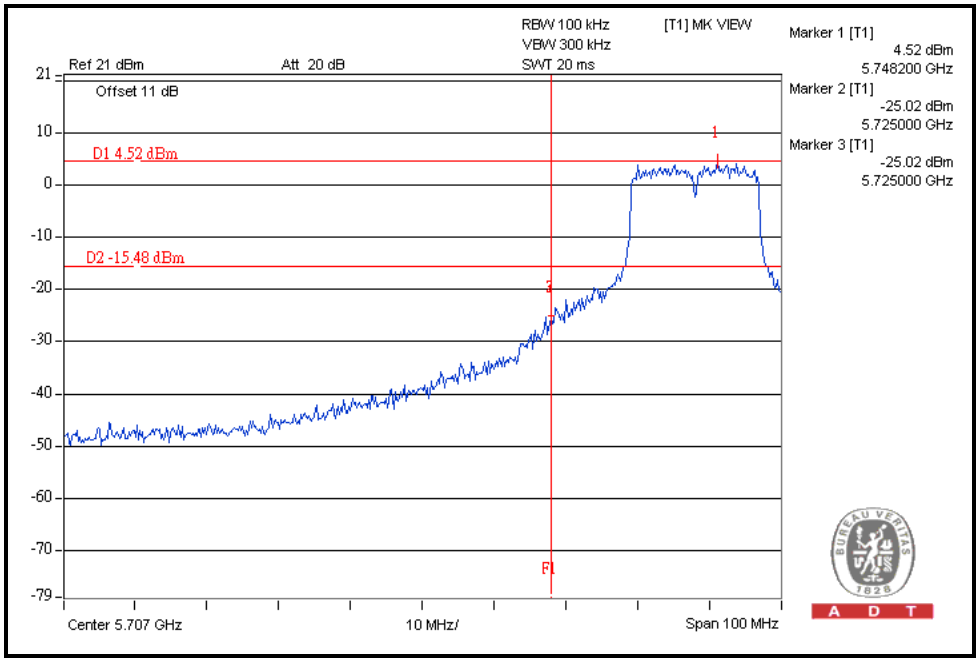


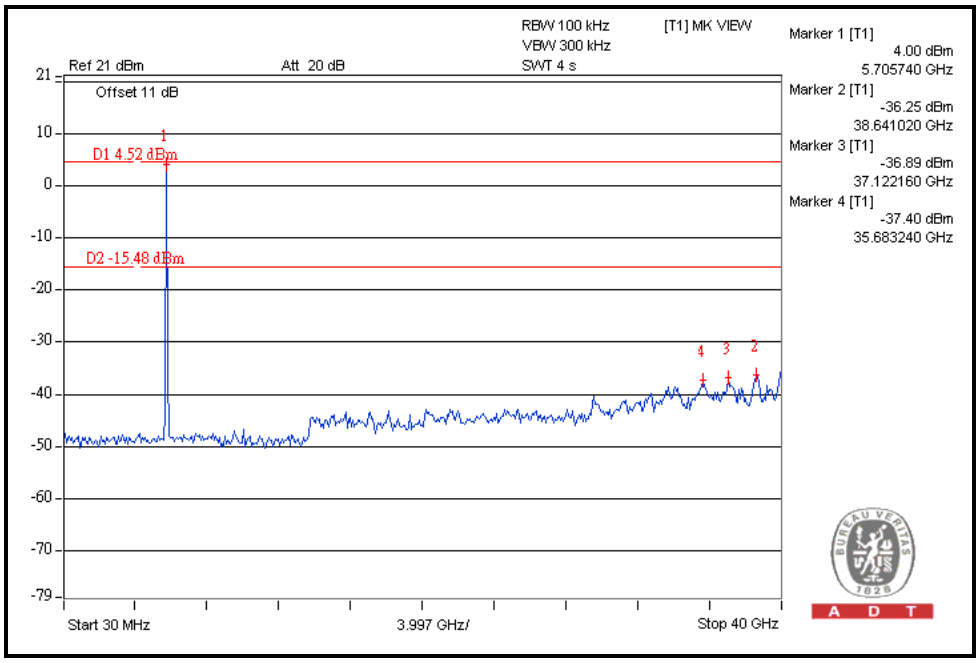
For Chain(0) : CH165



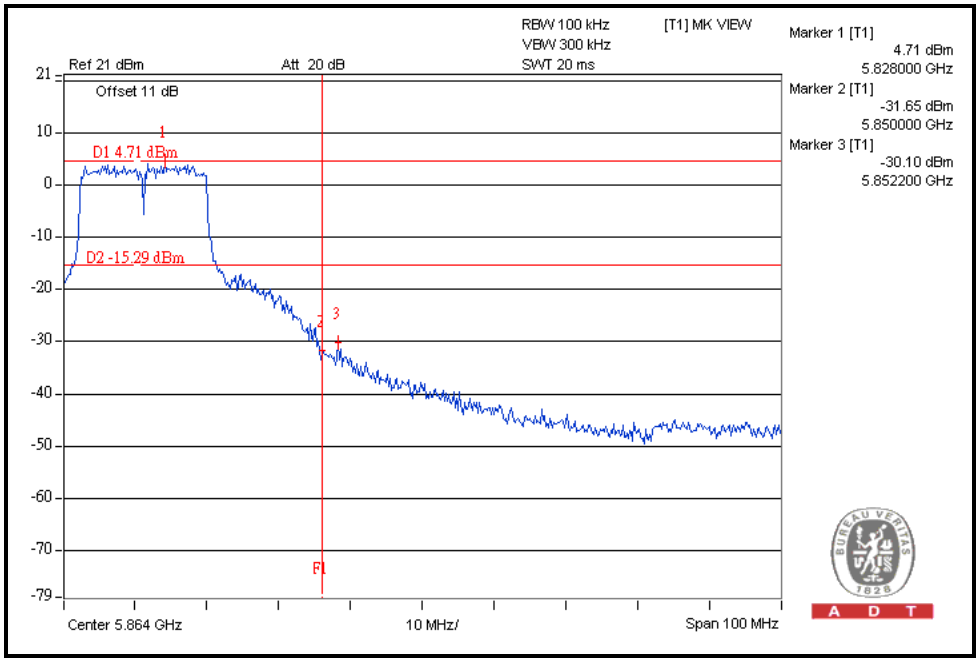


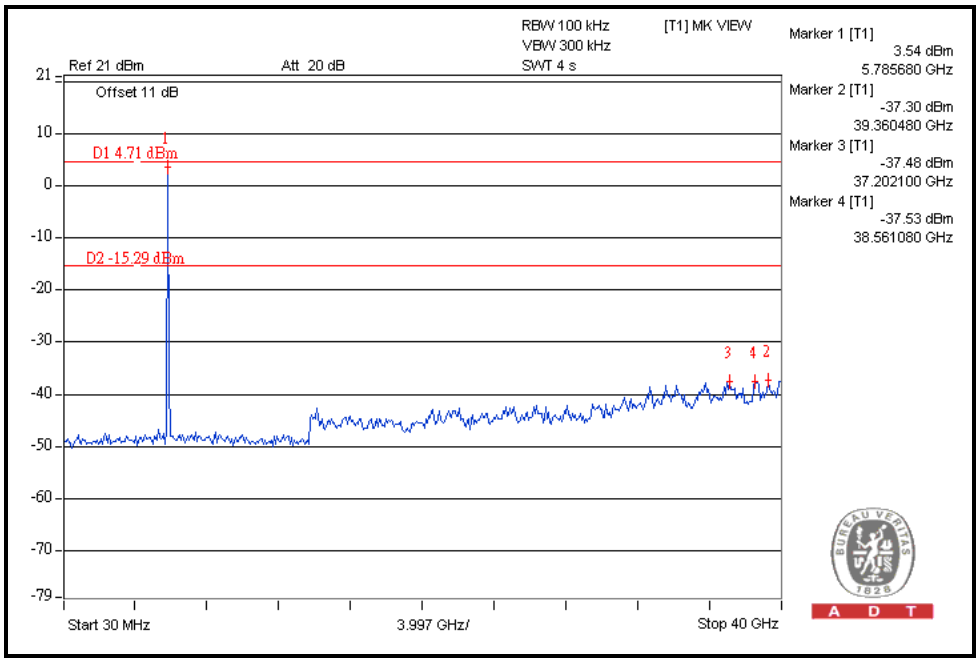
For Chain(1) : CH149





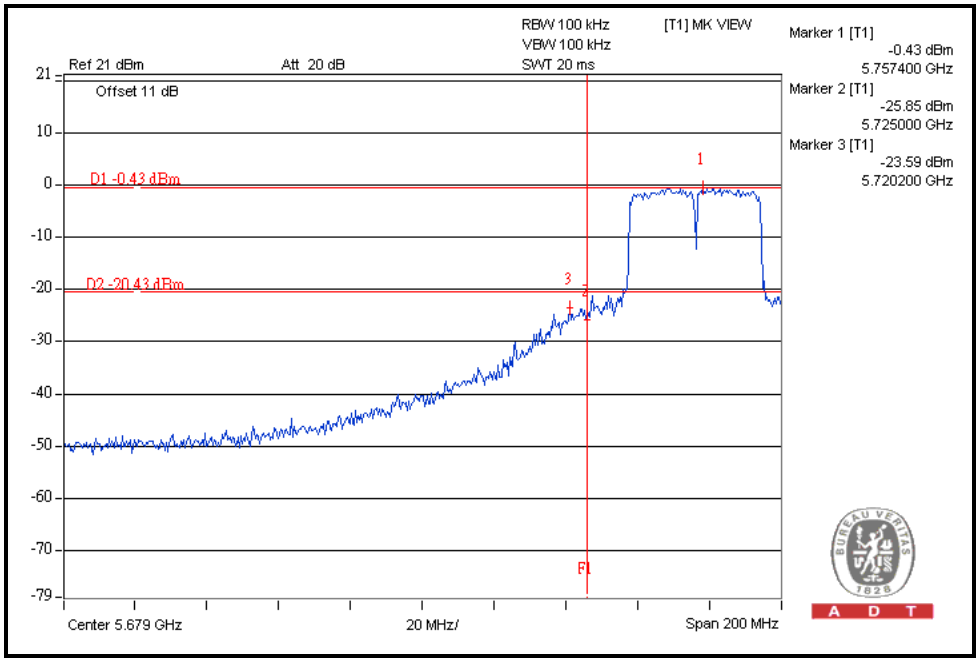
For Chain(1) : CH165

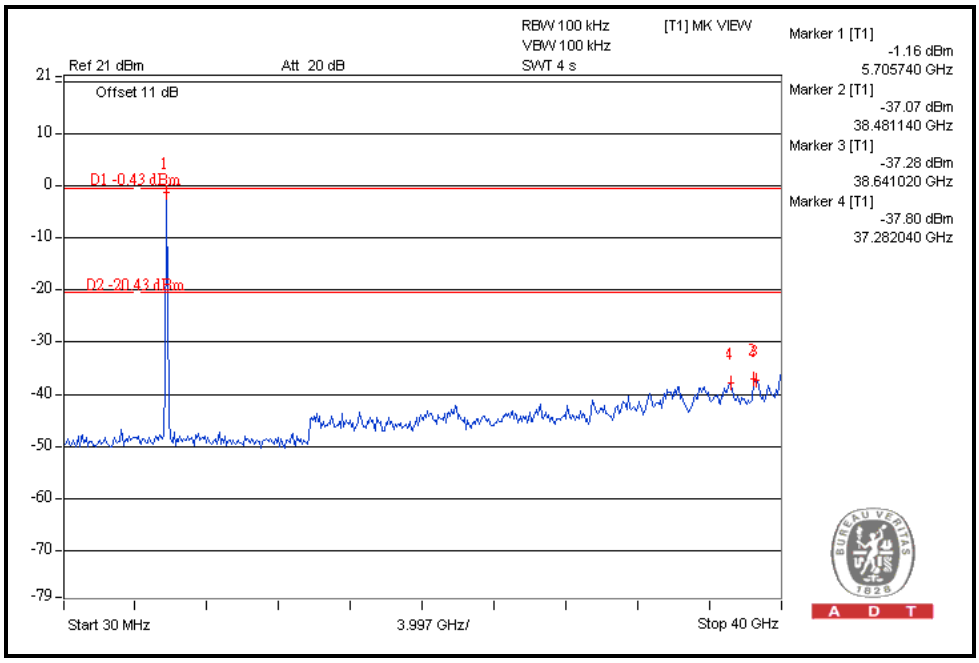




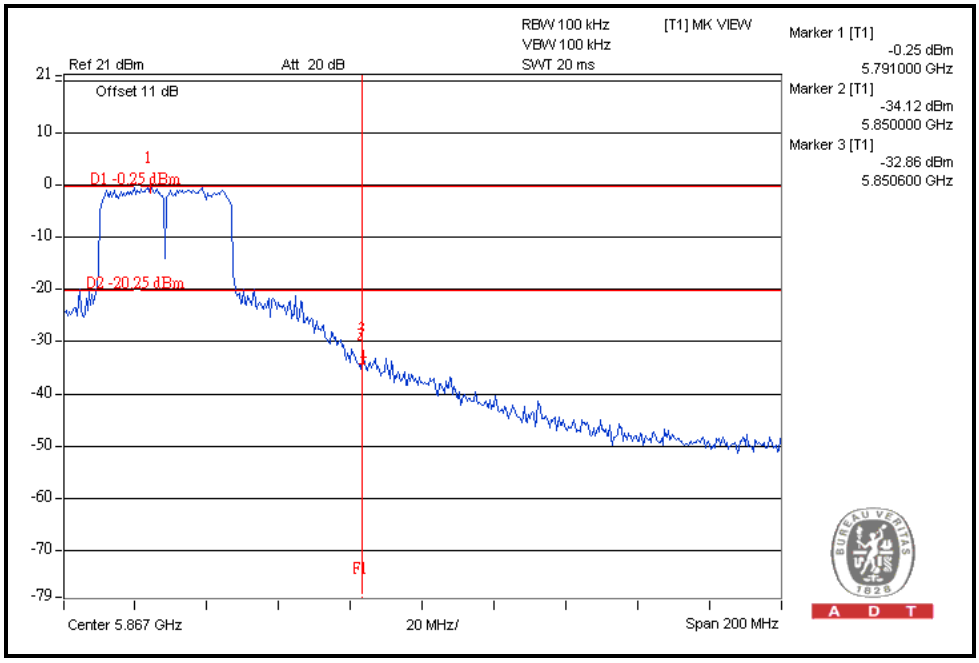
Single Chain - 802.11n (40MHz) OFDM MODULATION:

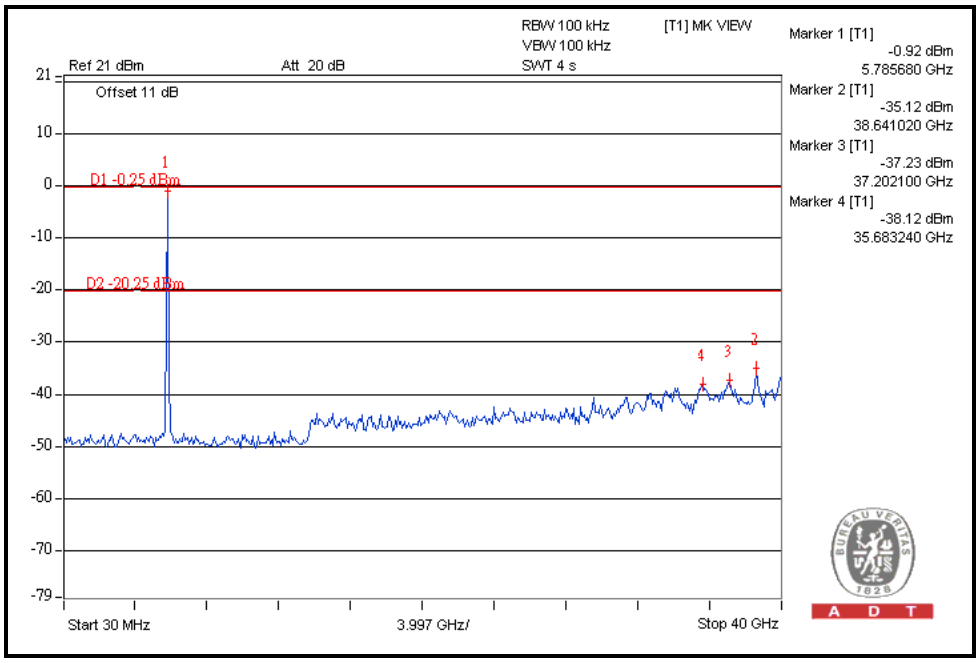
CH149





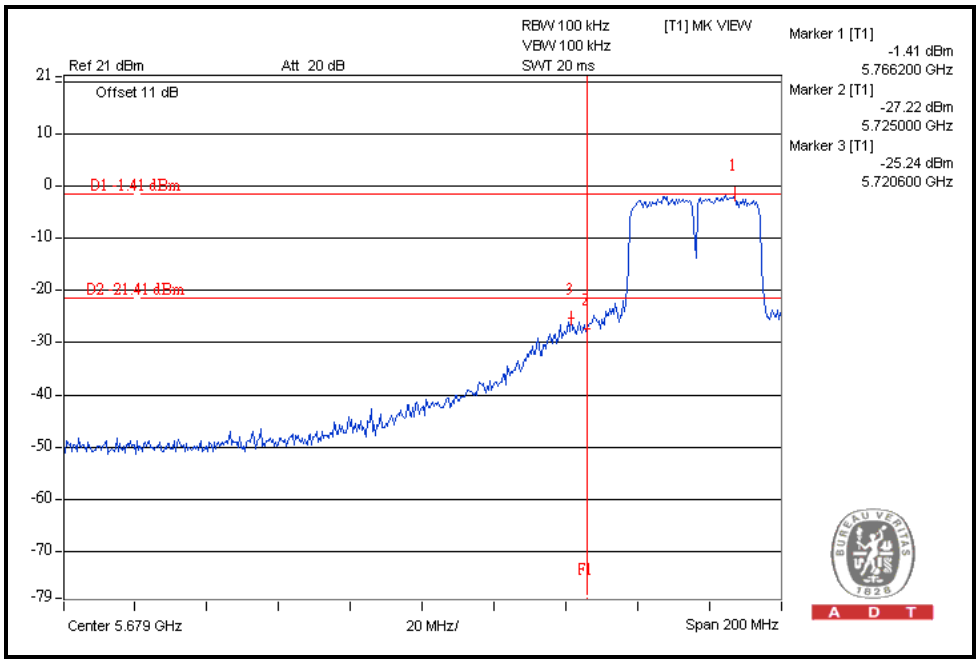
CH165

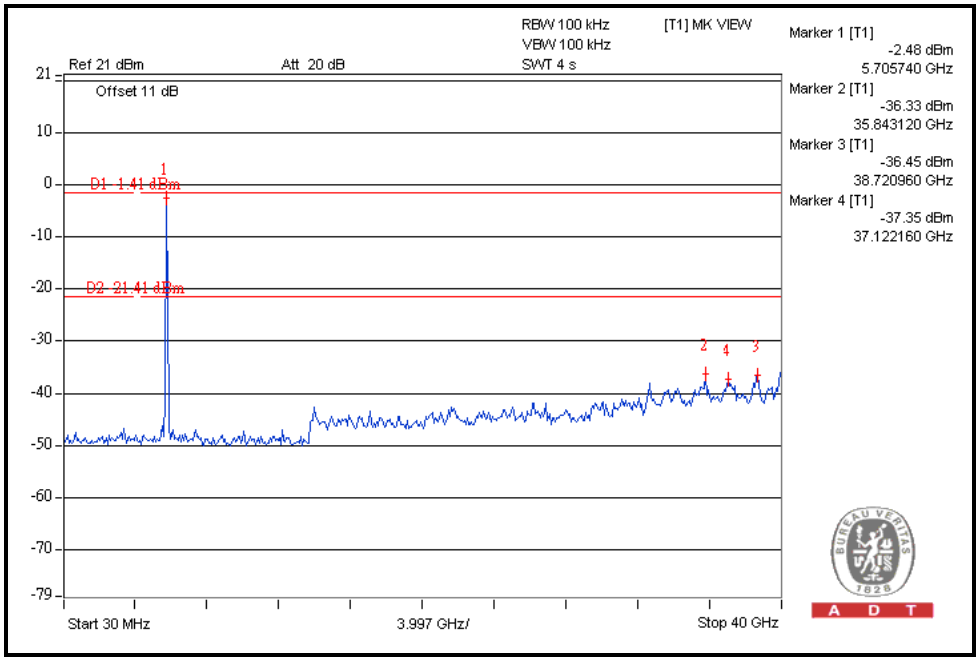

RBW 100 kHz
VBW 100 kHz
SWT 20 ms
[T1] MK VIEW
Marker 1 [T1]
-0.25 dBm
5.791000 GHz
Marker 2 [T1]
-34.12 dBm
5.850000 GHz
Marker 3 [T1]
-32.86 dBm
5.850600 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -0.25 dBm
D2 -20.25 dBm
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Center 5.867 GHz
20 MHz/
Span 200 MHz


RBW 100 kHz
VBW 100 kHz
SWT 4 s
[T1] MK VIEW
Marker 1 [T1]
-0.92 dBm
5.785680 GHz
Marker 2 [T1]
-35.12 dBm
38.641020 GHz
Marker 3 [T1]
-37.23 dBm
37.202100 GHz
Marker 4 [T1]
-38.12 dBm
35.683240 GHz
Ref 21 dBm
Att 20 dB
Offset 11 dB
D1 -0.25 dBm
D2 -20.25 dBm
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Start 30 MHz
3.997 GHz/
Stop 40 GHz

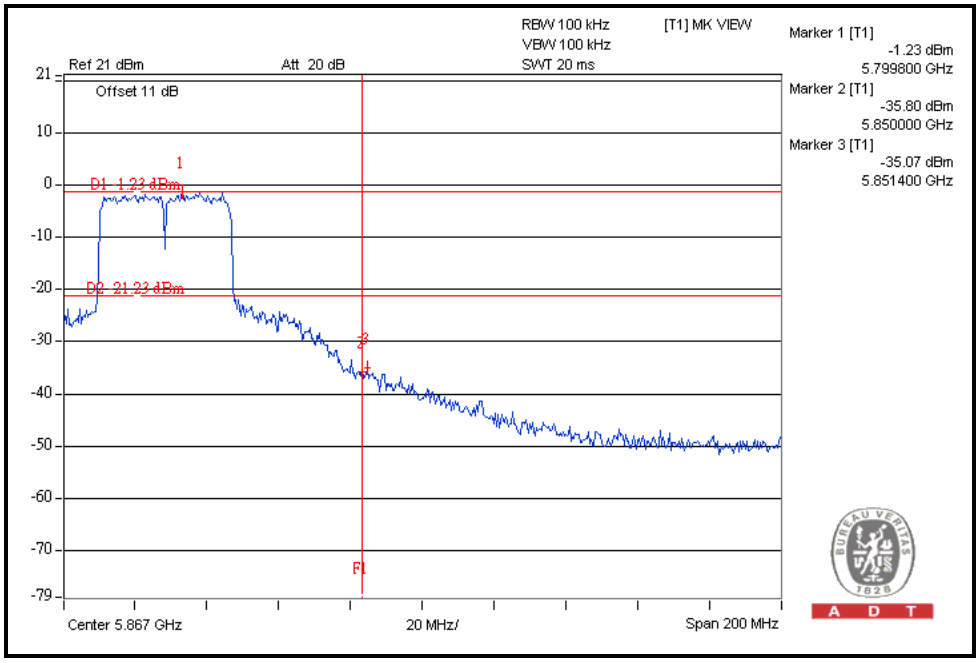
Multiple chain - 802.11n (40MHz) OFDM MODULATION:

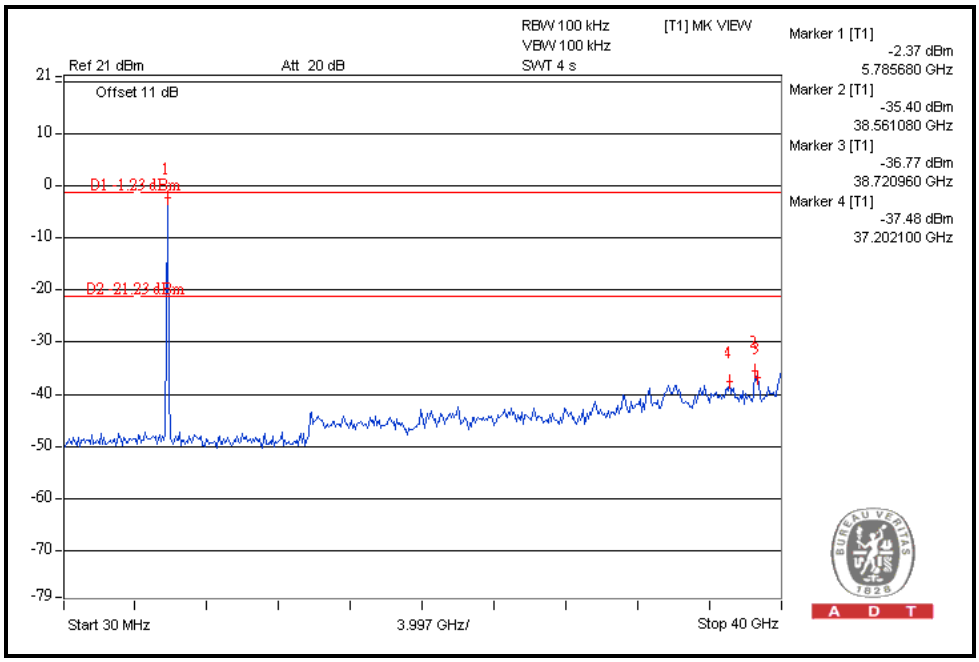
For Chain(0) : CH151



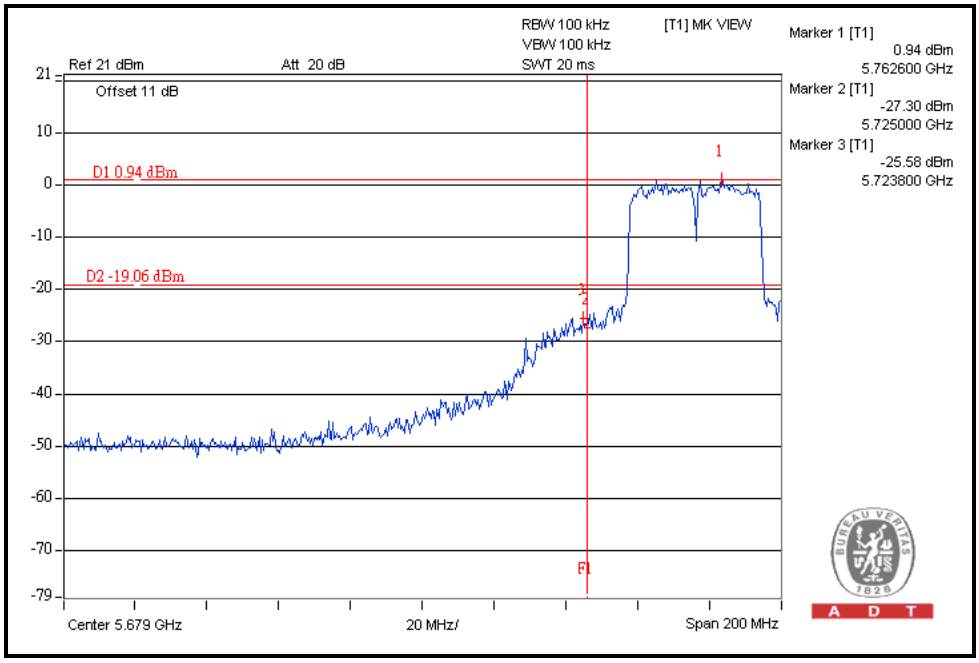


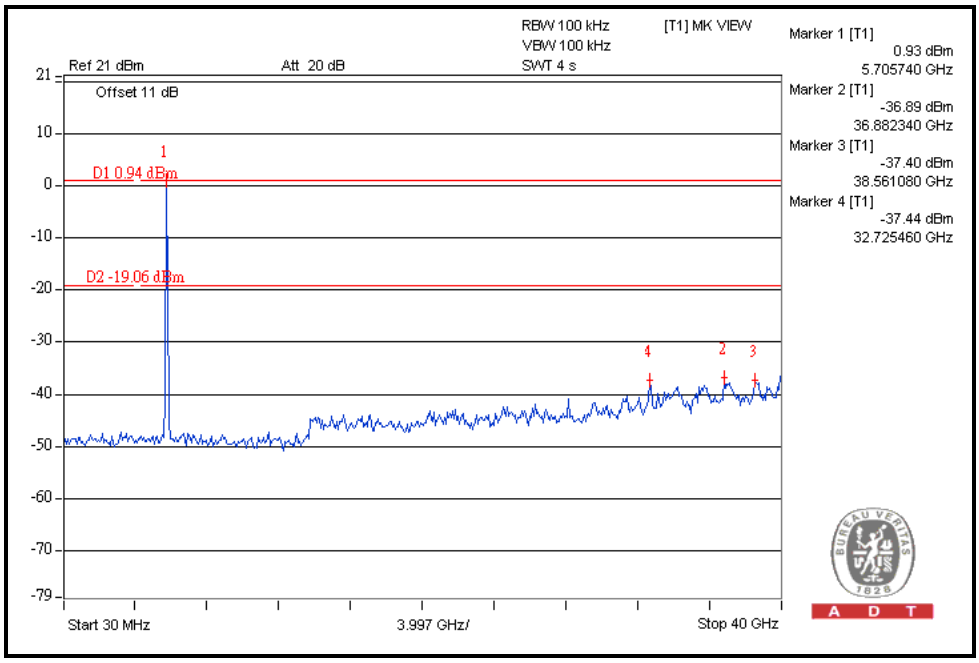
For Chain(0) : CH159



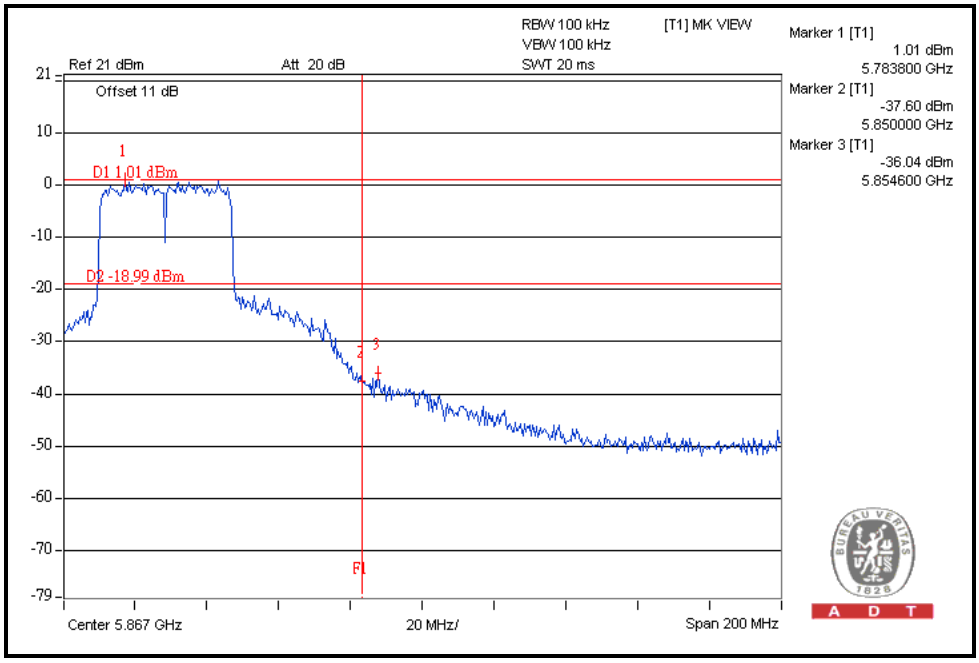


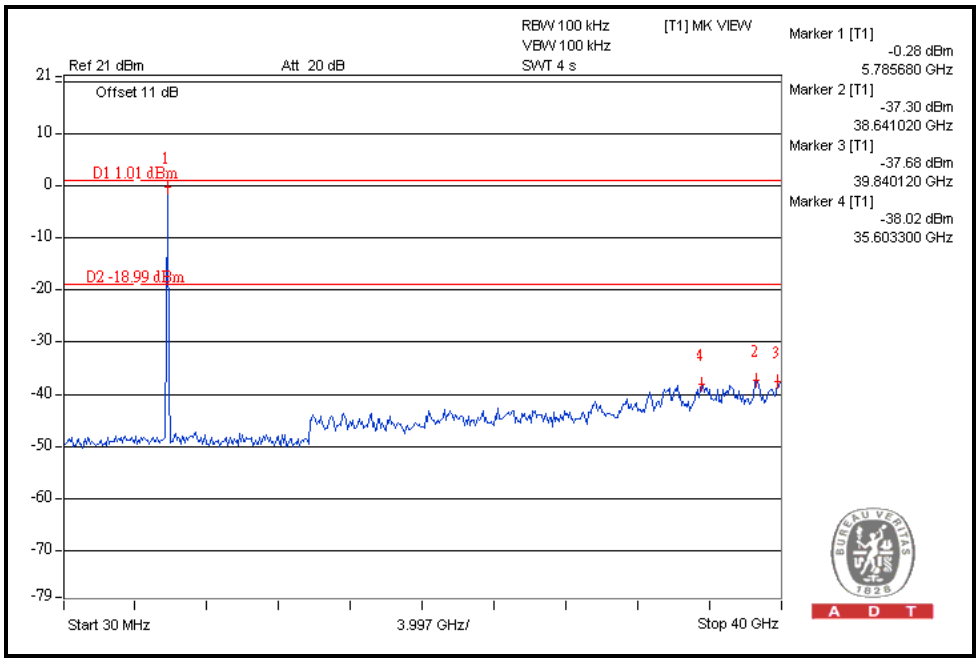
For Chain(1) : CH151





For Chain(1) : CH159





6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

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.

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

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

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