



# FCC TEST REPORT

**REPORT NO.:** RF960830H04A  
**MODEL NO.:** SMCWBR14-3GN, MR3306A  
**RECEIVED:** July 18, 2008  
**TESTED:** July 25 to Dec. 01, 2008  
**ISSUED:** Dec. 05, 2008

**APPLICANT:** Accton Technology Corporation

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

**TEST LOCATION:** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung  
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307, Taiwan

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## 1. CERTIFICATION

**PRODUCT:** 802.11b/g/n wireless AP/Router  
**BRAND NAME:** SMC, Accton  
**MODEL NO.:** SMCWBR14-3GN, MR3306A  
**TEST SAMPLE:** R&D SAMPLE  
**TESTED:** July 25 to Dec. 01, 2008  
**APPLICANT:** Accton Technology Corporation  
**STANDARDS:** FCC Part 15, Subpart C (Section 15.247),  
ANSI C63.4-2003

The above equipment (Model: SMCWBR14-3GN) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY** : Carol Liao , **DATE:** Dec. 05, 2008  
( Carol Liao, Specialist )

**TECHNICAL ACCEPTANCE** : Hank Chung , **DATE:** Dec. 05, 2008  
Responsible for RF ( Hank Chung, Deputy Manager )

**APPROVED BY** : May Chen , **DATE:** Dec. 05, 2008  
(May Chen, Deputy Manager )

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

<b>APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)</b>			
<b>Standard Section</b>	<b>Test Type and Limit</b>	<b>Result</b>	<b>Remark</b>
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.72dB at 2.320MHz
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 -1.27dB at 2483.50MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

## 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:

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)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	802.11b/g/n wireless AP/Router
<b>MODEL NO.</b>	SMCWBR14-3GN, MR3306A
<b>FCC ID</b>	HEDWBR143GN
<b>POWER SUPPLY</b>	DC 12V from switching adapter
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11b: 11 / 5.5 / 2 / 1Mbps 802.11g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6Mbps HT20 MCS0~7 (400ns GI): 72.2 / 65 / 57.8 / 43.3 / 28.9 / 21.7 / 14.4 / 7.2Mbps. HT20 MCS8~15 (400ns GI): 144.444 / 130 / 115.556 / 86.667 / 57.778 / 43.333 / 28.889 / 14.444Mbps. HT40 MCS0~7 (400ns GI): 150 / 135 / 120 / 90 / 60 / 45 / 30 / 15Mbps. HT40 MCS8~15 (400ns GI): 300 / 270 / 240 / 180 / 120 / 90 / 60 / 30Mbps.
<b>FREQUENCY RANGE</b>	802.11b & 802.11g: 2412 ~ 2462MHz
<b>NUMBER OF CHANNEL</b>	11 for 802.11b, 802.11g, draft 802.11n (20MHz) 7 for draft 802.11n (40MHz)
<b>MAXIMUM OUTPUT POWER</b>	802.11b: 125.603mW 802.11g: 268.534mW draft 802.11n (20MHz): 384.288mW draft 802.11n (40MHz): 411.822mW
<b>ANTENNA TYPE</b>	Please see note 2 (on next page)
<b>DATA CABLE</b>	RJ45 cable (Unshielded, 1.5m)
<b>I/O PORT</b>	LAN Port x 4, WAN Port x 1, USB Port x 1

**NOTE:**

1. The EUT has two model names which are identical to each other in all aspects except for the followings:

Brand	Model Name	Description
SMC	SMCWBR14-3GN	For marketing requirement
Accton	MR3306A	

From the above models, model: **SMCWBR14-3GN** was selected as representative model for the test and its data was recorded in this report.

2. There are three antennas provided to this EUT, please refer to the following table:

Transmitter Circuit	Antenna Type	Gain (dBi)	Antenna Connector
Chain(0)	monopole	1.7	MHF 20351-1X1R-37
Chain(1)	monopole	1.7	MHF 20351-1X1R-37
Chain(2)	monopole	1.7	MHF 20351-1X1R-37

3. The EUT could be applied with one 3G GSM/UMTS Card and following three different models could be chosen; therefore emission tests are added for simultaneously transmit between wireless LAN and 3G GSM/UMTS function. The emission tests have been performed at the worst channel of both WLAN and 3G GSM/UMTS, and recorded in other report.

Modulation Technology	Interface	Brand name	Model name	FCC ID
GSM	HSDPA USB MODEM (3G Card)	HUAWEI	E220	QISE220
GSM/UMTS	3G Card	Sony Ericsson	MD300	PY7F3232021
GSM	3G Card	Band Luxe	C100S	UZI-C100

4. The EUT incorporates a MIMO function with draft 802.11n. Physically, the EUT provides two completed transmitter and three completed receivers.
5. The EUT is 2 \* 3 spatial MIMO without beam forming function. The antenna configurations are two transmitter antennas and three receiver antennas, as there are 3 monopole antennas. Spatial multiplexing modes for simultaneous transmission using 2 antennas, and for simultaneous receiver using 3 antennas. The 11b/g legacy mode is limited to single transmitter only.



6. When the EUT operating in draft 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
7. The EUT complies with draft 802.11n standards and backwards compatible with 802.11b, 802.11g products.
8. The EUT operates in the 2.4GHz frequency spectrum with data rate up to 300Mbps.
9. The EUT must be supplied with a power adapter as following:

<b>Brand:</b>	UMEC
<b>Model No.:</b>	UP0181A-12PA
<b>Input power :</b>	AC100-240V, 50-60Hz, 0.4A
<b>Output power :</b>	DC 12V, 1.5A Cable:1.8m/unshielded/without core

10. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b and draft 802.11n technique devices to the network.
11. 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

Eleven channels are provided for 802.11b, 802.11g, draft 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 draft 802.11n (40MHz):

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



**3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:**

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	√	-

Where **PLC**: Power Line Conducted Emission      **RE < 1G**: Radiated Emission below 1GHz  
**RE ≥ 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	ü	
B	802.11 g	ü	
C	DRAFT 802.11n(20MHz) for MCS0~7	ü	ü
D	DRAFT 802.11n(20MHz) for MCS8~15	ü	ü
E	DRAFT 802.11n(40MHz) for MCS0~7	ü	ü
F	DRAFT 802.11n(40MHz) for MCS8~15	ü	ü

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

**POWER LINE CONDUCTED EMISSION TEST:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX COMBINATION
802.11b	1 to 11	1	DSSS	DBPSK	1	A

**RADIATED EMISSION TEST (BELOW 1 GHz):**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX COMBINATION
802.11b	1 to 11	1	DSSS	DBPSK	1	A

**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)	TX COMBINATION
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	B
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	14.444	D
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	30	F



**BANDEDGE 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)	TX COMBINATION
802.11b	1 to 11	1, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 11	OFDM	BPSK	6	B
Draft 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	14.444	D
Draft 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	30	F

**ANTENNA PORT CONDUCTED 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)	TX COMBINATION
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	A
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	B
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	14.444	D
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	30	F



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### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11b/g/n wireless AP/Router. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

#### **FCC Part 15, Subpart C. (15.247)**

#### **ANSI C63.4-2003**

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

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It 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

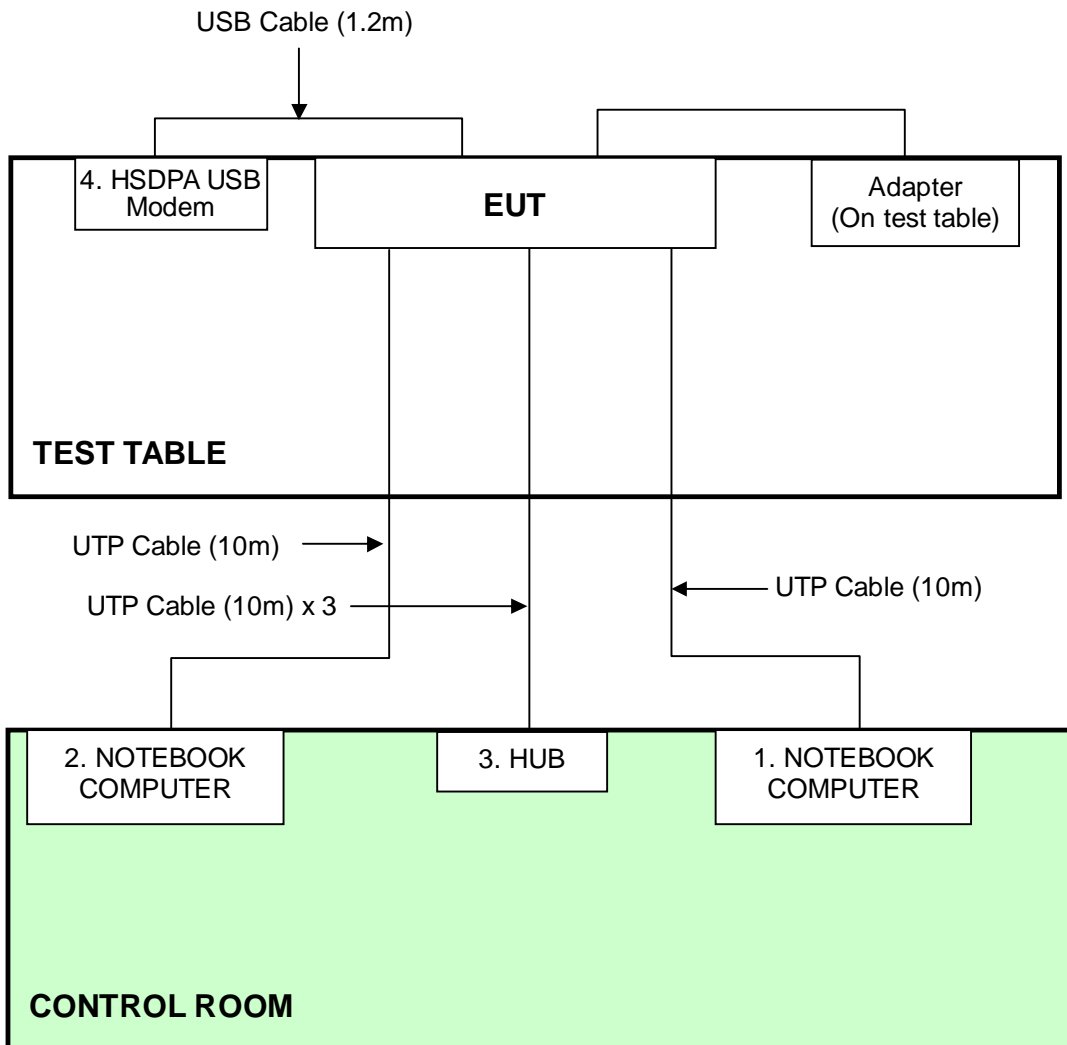
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP18L	6976685584	FCC DoC
2	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-70166-5C A-0448	PIW632500516610
3	HUB	AVSYS	110H8	01-20E-000002	DoC
4	HSDPA USB Modem	Chunghwa Telecom	E220	E01AA107C1700326	QISE220

No.	Signal cable description
1	NA
2	NA
3	NA
4	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

Note: 1. All power cords of the above support units are unshielded (1.8m).

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST



**NOTE:** 1. Support units 1-3 were kept in the control room during the test.





## 4. TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 11, 2008	Mar. 10, 2009
Line-Impedance Stabilization Network(for EUT)	KNW-407	8-1395-12	May 07, 2008	May 06, 2009
Line-Impedance Stabilization Network(for Peripheral)	ENV-216	100072	June 13, 2008	June 12, 2009
RF Cable (JYEBAO)	5DFB	COACAB-001	July 24, 2008	July 23, 2009
50 ohms Terminator	50	3	Nov. 15, 2008	Nov. 14, 2009
Software	BV ADT_Conc _V7.3.6	NA	NA	NA

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



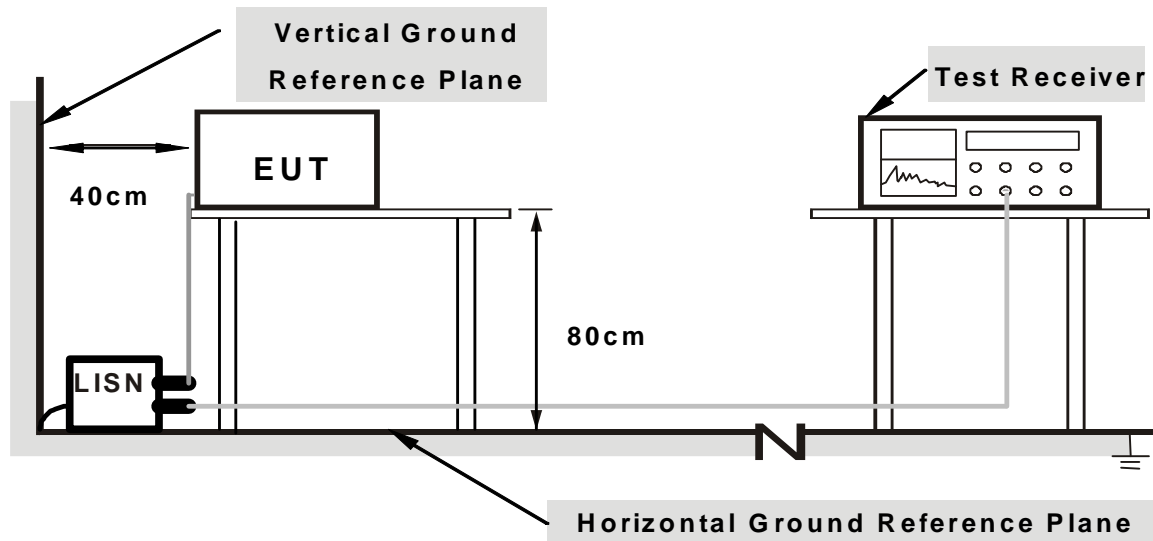
#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes**

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

#### 4.1.6 EUT OPERATING CONDITIONS

1. Placed the EUT on testing table.
2. Prepared other computer systems (support units 1 ~ 3) to act as communication partners and placed them outside of testing area.
3. The communication partners run test program “RT2880QA” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

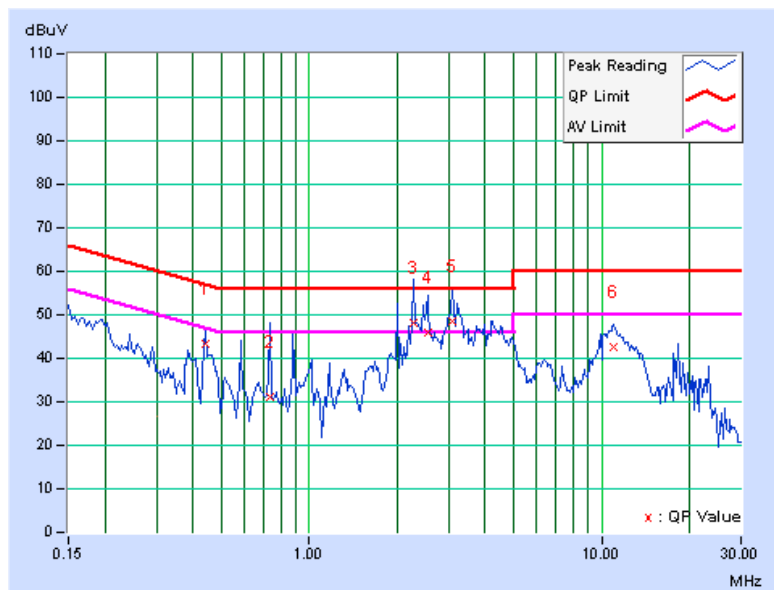
### 4.1.7 TEST RESULTS

#### 802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line (L)
MODULATION TYPE	DBPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	1Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 965hPa	TESTED BY	Eagle Chen

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.439	0.40	42.84	-	43.24	-	57.08
2	0.732	0.44	30.53	-	30.97	-	56.00	46.00	-25.03	-
3	2.273	0.47	47.86	37.54	48.33	38.01	56.00	46.00	-7.67	-7.99
4	2.535	0.47	45.48	-	45.95	-	56.00	46.00	-10.05	-
5	3.094	0.48	48.19	38.51	48.67	38.99	56.00	46.00	-7.33	-7.01
6	10.996	0.64	42.13	-	42.77	-	60.00	50.00	-17.23	-

- 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.



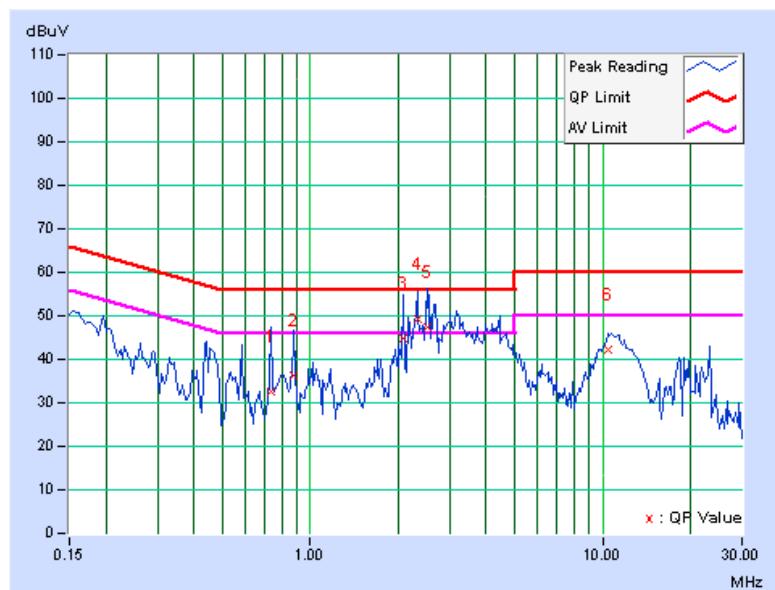


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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Neutral (N)
MODULATION TYPE	DBPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	1Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 965hPa	TESTED BY	Eagle Chen

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.732	0.20	32.27	-	32.47	-	56.00	46.00	-23.53
2	0.877	0.22	36.14	-	36.36	-	56.00	46.00	-19.64	-
3	2.078	0.25	44.70	-	44.95	-	56.00	46.00	-11.05	-
<b>4</b>	<b>2.320</b>	<b>0.25</b>	<b>49.03</b>	<b>38.42</b>	<b>49.28</b>	<b>38.67</b>	<b>56.00</b>	<b>46.00</b>	<b>-6.72</b>	<b>-7.33</b>
5	2.504	0.25	47.15	37.83	47.40	38.08	56.00	46.00	-8.60	-7.92
6	10.473	0.43	41.68	-	42.11	-	60.00	50.00	-17.89	-

- 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.



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#### 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ADVANTEST Spectrum Analyzer	R3271A	85060311	July 16, 2008	July 15, 2009
HP Pre_Amplifier	8449B	3008A0192 2	Sep. 25, 2008	Sep. 24, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	100375	April 01, 2008	Mar. 31, 2009
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 30, 2008	April 29, 2009
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 17, 2007	Dec. 16, 2008
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA91701 53	Jan. 28, 2008	Jan. 27, 2009
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	SF102	22054-2	Dec. 07, 2007	Dec. 06, 2008
RF Cable	8DFB	STCCAB-30 M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated _V7.6.15.9.2	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, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: R3271A) are used only for the measurement of emission frequency above 1GHz if tested.  
3. The test was performed in Open Site No. C.  
4. The FCC Site Registration No. is 656396.  
5. The VCCI Site Registration No. is R-1626.  
6. The CANADA Site Registration No. is IC 7450G-3.

#### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

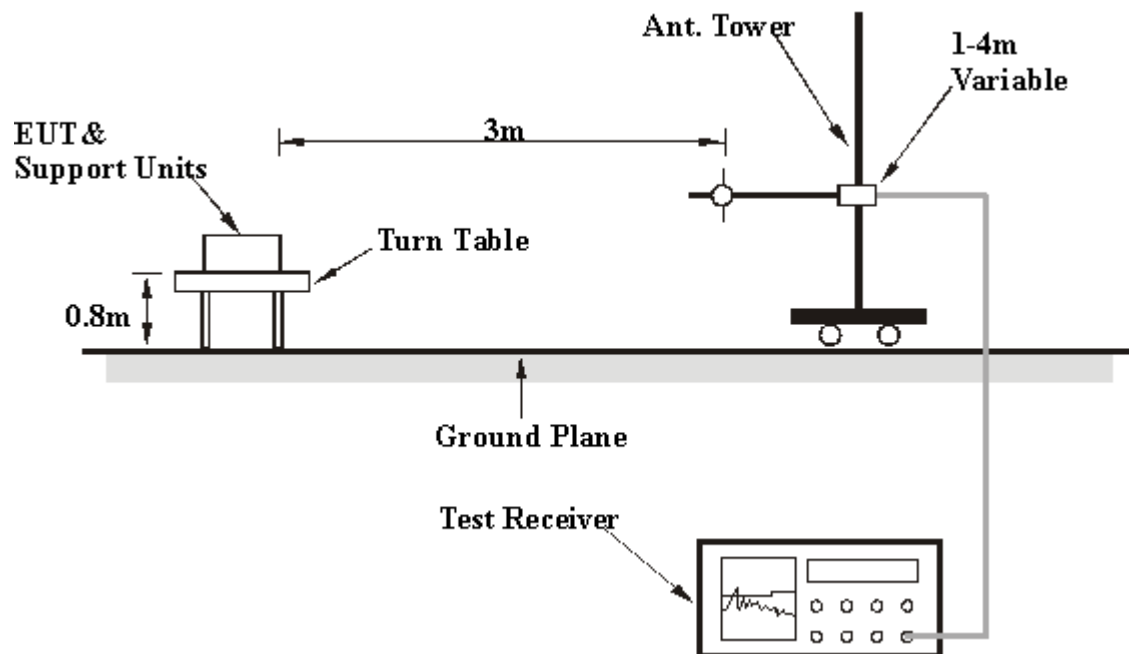
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
- 4.

#### 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

- a. Placed the EUT on testing table.
- b. Prepared other computer systems (support units 1 ~ 3) to act as communication partners and placed them outside of testing area.
- c. The communication partners run test program “RT2880QA” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

## Below 1GHz Test Data

### 4.2.7 TEST RESULTS

#### BELOW 1GHz WORST-CASE DATA : 802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28deg. C, 68%RH 965hPa	TESTED BY	Frank Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	125.00	30.91 QP	43.50	-12.59	1.51 H	264	17.46	13.46
2	240.01	39.37 QP	46.00	-6.63	1.00 H	58	25.34	14.03
3	300.02	37.42 QP	46.00	-8.58	1.11 H	145	21.24	16.18
4	333.33	39.39 QP	46.00	-6.61	1.00 H	178	21.87	17.52
5	375.02	37.28 QP	46.00	-8.72	1.00 H	56	18.12	19.16
6	446.05	36.00 QP	46.00	-10.00	1.00 H	160	15.34	20.66
7	660.04	31.98 QP	46.00	-14.02	1.06 H	96	7.23	24.75
8	780.05	36.52 QP	46.00	-9.48	1.00 H	79	8.65	27.87
9	800.00	35.57 QP	46.00	-10.43	1.15 H	74	7.12	28.45
10	900.06	37.00 QP	46.00	-9.00	1.00 H	94	7.44	29.56

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	72.00	38.14 QP	40.00	-1.86	1.00 V	350	25.40	12.74
2	125.00	29.81 QP	43.50	-13.69	1.00 V	259	15.69	14.12
3	250.00	33.29 QP	46.00	-12.71	1.00 V	65	17.87	15.42
4	400.00	33.60 QP	46.00	-12.40	1.18 V	130	12.46	21.14
5	446.05	37.21 QP	46.00	-8.79	1.09 V	154	15.37	21.84
6	500.01	31.08 QP	46.00	-14.92	1.86 V	194	8.42	22.66
7	766.66	31.37 QP	46.00	-14.63	1.26 V	269	2.42	28.95
8	780.05	31.54 QP	46.00	-14.46	1.17 V	281	2.19	29.35
9	900.06	34.17 QP	46.00	-11.83	1.80 V	311	3.16	31.01

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



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### Above 1GHz Test Data

#### 4.2.8 TEST RESULTS

#### 802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 55%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.41 PK	74.00	-16.59	1.34 H	20	27.35	30.06
2	2390.00	44.84 AV	54.00	-9.16	1.34 H	20	14.78	30.06
3	*2412.00	98.24 PK			1.34 H	162	68.09	30.15
4	*2412.00	94.02 AV			1.34 H	162	63.87	30.15
5	#3216.00	49.78 PK	78.24	-28.46	1.53 H	64	17.70	32.08
6	#3216.00	36.79 AV	74.02	-37.23	1.53 H	64	4.71	32.08
7	3840.00	48.89 PK	74.00	-25.11	1.48 H	256	15.69	33.20
8	3840.00	42.28 AV	54.00	-11.72	1.48 H	256	9.08	33.20
9	4824.00	48.79 PK	74.00	-25.21	1.21 H	294	13.33	35.46
10	4824.00	37.00 AV	54.00	-17.00	1.21 H	294	1.54	35.46
11	#7236.00	53.14 PK	78.24	-25.10	1.48 H	276	11.29	41.85
12	#7236.00	39.69 AV	74.02	-34.33	1.48 H	276	-2.16	41.85

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 55%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.03 PK	74.00	-12.97	1.41 V	14	30.97	30.06
2	2390.00	48.10 AV	54.00	-5.90	1.41 V	14	18.04	30.06
3	*2412.00	106.23 PK			1.05 V	359	76.08	30.15
4	*2412.00	101.99 AV			1.05 V	359	71.84	30.15
5	#3216.00	49.99 PK	86.23	-36.24	1.04 V	103	17.91	32.08
6	#3216.00	44.67 AV	81.99	-37.32	1.04 V	103	12.59	32.08
7	3840.00	51.42 PK	74.00	-22.58	1.46 V	357	18.22	33.20
8	3840.00	46.68 AV	54.00	-7.32	1.46 V	357	13.48	33.20
9	4824.00	49.49 PK	74.00	-24.51	1.24 V	54	14.03	35.46
10	4824.00	41.59 AV	54.00	-12.41	1.24 V	54	6.13	35.46
11	#7236.00	54.78 PK	86.23	-31.45	1.14 V	55	12.93	41.85
12	#7236.00	41.22 AV	81.99	-40.77	1.14 V	55	-0.63	41.85

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 55%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.49 PK			1.41 H	170	68.25	30.24
2	*2437.00	94.32 AV			1.41 H	170	64.08	30.24
3	#3249.00	46.11 PK	78.49	-32.38	1.71 H	20	14.00	32.11
4	#3249.00	35.80 AV	74.32	-38.52	1.71 H	20	3.69	32.11
5	3840.00	49.58 PK	74.00	-24.42	1.50 H	358	16.38	33.20
6	3840.00	43.84 AV	54.00	-10.16	1.50 H	358	10.64	33.20
7	4874.00	48.93 PK	74.00	-25.07	1.23 H	296	13.38	35.55
8	4874.00	38.62 AV	54.00	-15.38	1.23 H	296	3.07	35.55
9	7311.00	54.55 PK	74.00	-19.45	1.51 H	118	12.51	42.04
10	7311.00	38.76 AV	54.00	-15.24	1.51 H	118	-3.28	42.04

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.59 PK			1.04 V	20	76.35	30.24
2	*2437.00	102.29 AV			1.04 V	20	72.05	30.24
3	#3249.00	50.58 PK	86.59	-36.01	1.09 V	98	18.47	32.11
4	#3249.00	45.77 AV	82.29	-36.52	1.09 V	98	13.66	32.11
5	3840.00	50.79 PK	74.00	-23.21	1.50 V	63	17.59	33.20
6	3840.00	45.49 AV	54.00	-8.51	1.50 V	63	12.29	33.20
7	4874.00	50.40 PK	74.00	-23.60	1.25 V	60	14.85	35.55
8	4874.00	42.60 AV	54.00	-11.40	1.25 V	60	7.05	35.55
9	7311.00	54.53 PK	74.00	-19.47	1.20 V	73	12.49	42.04
10	7311.00	41.33 AV	54.00	-12.67	1.20 V	73	-0.71	42.04

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 55%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.73 PK			1.38 H	150	68.39	30.34
2	*2462.00	95.11 AV			1.38 H	150	64.77	30.34
3	2483.50	56.97 PK	74.00	-17.03	1.30 H	79	26.54	30.43
4	2483.50	44.07 AV	54.00	-9.93	1.30 H	79	13.64	30.43
5	#3282.00	45.80 PK	78.73	-32.93	1.53 H	48	13.66	32.14
6	#3282.00	35.94 AV	75.11	-39.17	1.53 H	48	3.80	32.14
7	3840.00	49.04 PK	74.00	-24.96	1.50 H	269	15.84	33.20
8	3840.00	43.09 AV	54.00	-10.91	1.50 H	269	9.89	33.20
9	4924.00	48.53 PK	74.00	-25.47	1.21 H	100	12.90	35.63
10	4924.00	38.09 AV	54.00	-15.91	1.21 H	100	2.46	35.63
11	7386.00	53.64 PK	74.00	-20.36	1.14 H	350	11.41	42.23
12	7386.00	39.14 AV	54.00	-14.86	1.14 H	350	-3.09	42.23

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 55%RH 965hPa	TESTED BY	Eric Lee

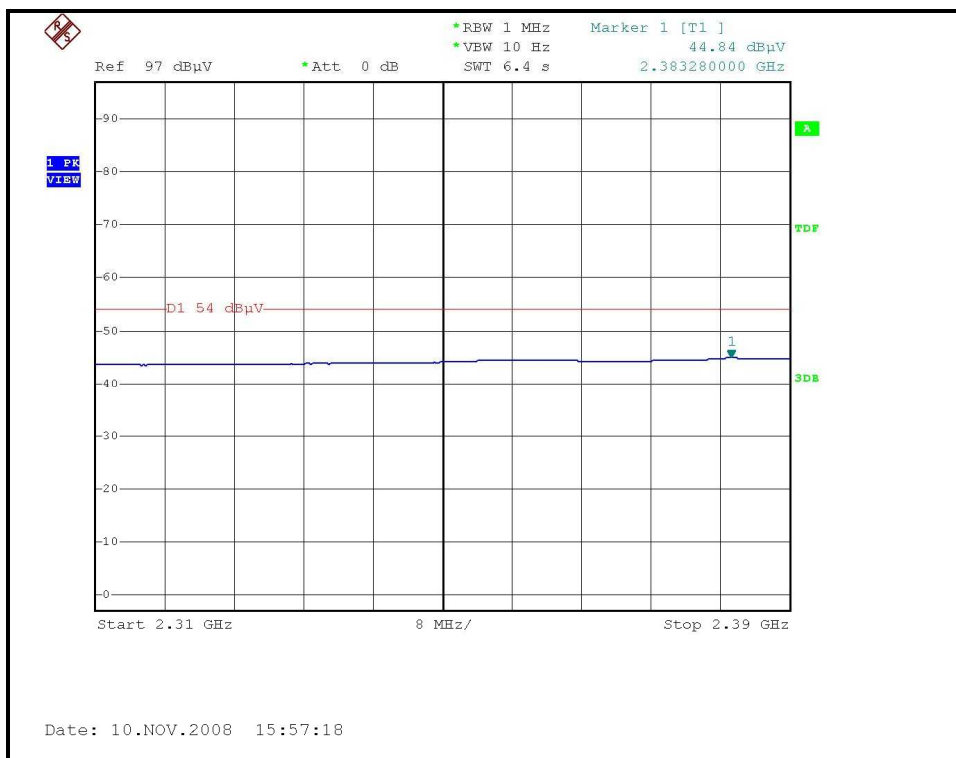
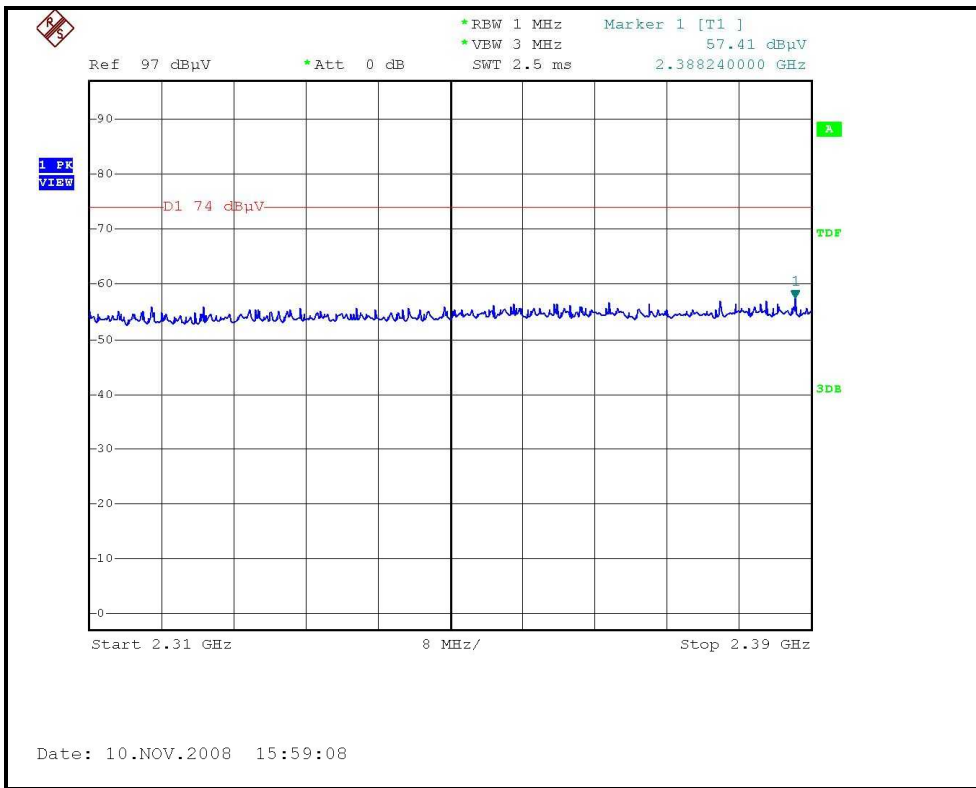
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NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.02 PK			1.04 V	359	76.68	30.34
2	*2462.00	103.01 AV			1.04 V	359	72.67	30.34
3	2483.50	59.94 PK	74.00	-14.06	1.35 V	255	29.51	30.43
4	2483.50	47.39 AV	54.00	-6.61	1.35 V	255	16.96	30.43
5	#3282.00	52.71 PK	87.02	-34.31	1.50 V	3	20.57	32.14
6	#3282.00	48.63 AV	83.01	-34.38	1.50 V	3	16.49	32.14
7	3840.00	51.50 PK	74.00	-22.50	1.53 V	68	18.30	33.20
8	3840.00	47.53 AV	54.00	-6.47	1.53 V	68	14.33	33.20
9	4924.00	49.98 PK	74.00	-24.02	1.21 V	78	14.35	35.63
10	4924.00	41.94 AV	54.00	-12.06	1.21 V	78	6.31	35.63
11	7386.00	53.67 PK	74.00	-20.33	1.30 V	69	11.44	42.23
12	7386.00	41.09 AV	54.00	-12.91	1.30 V	69	-1.14	42.23

- 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 radiated frequency is out the restricted band.



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### RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL )

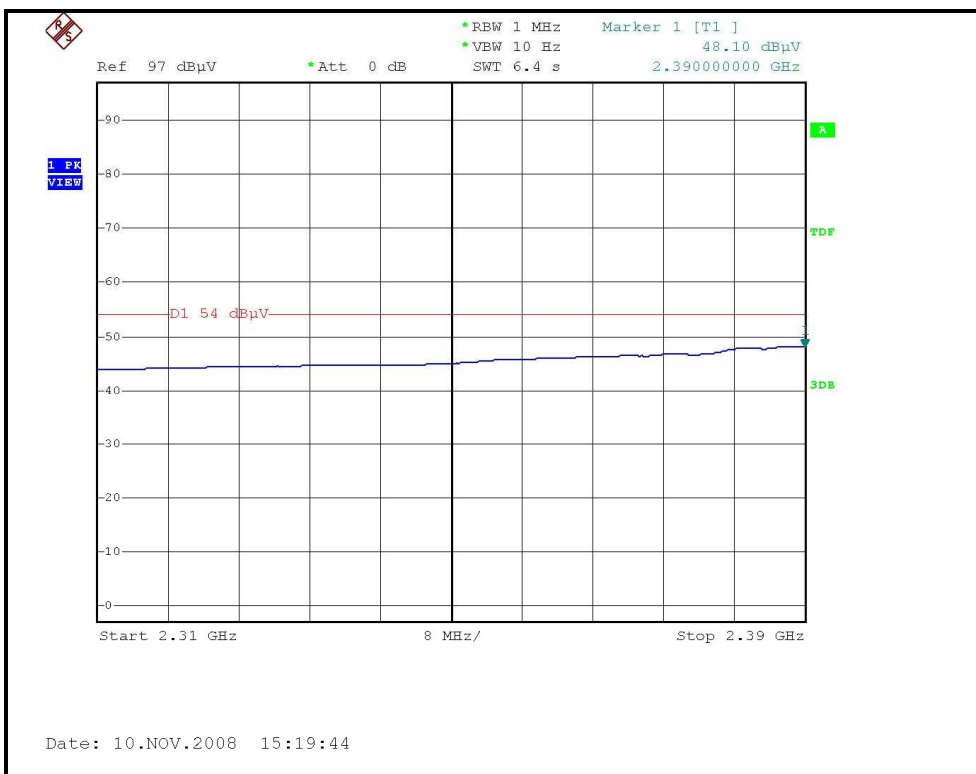
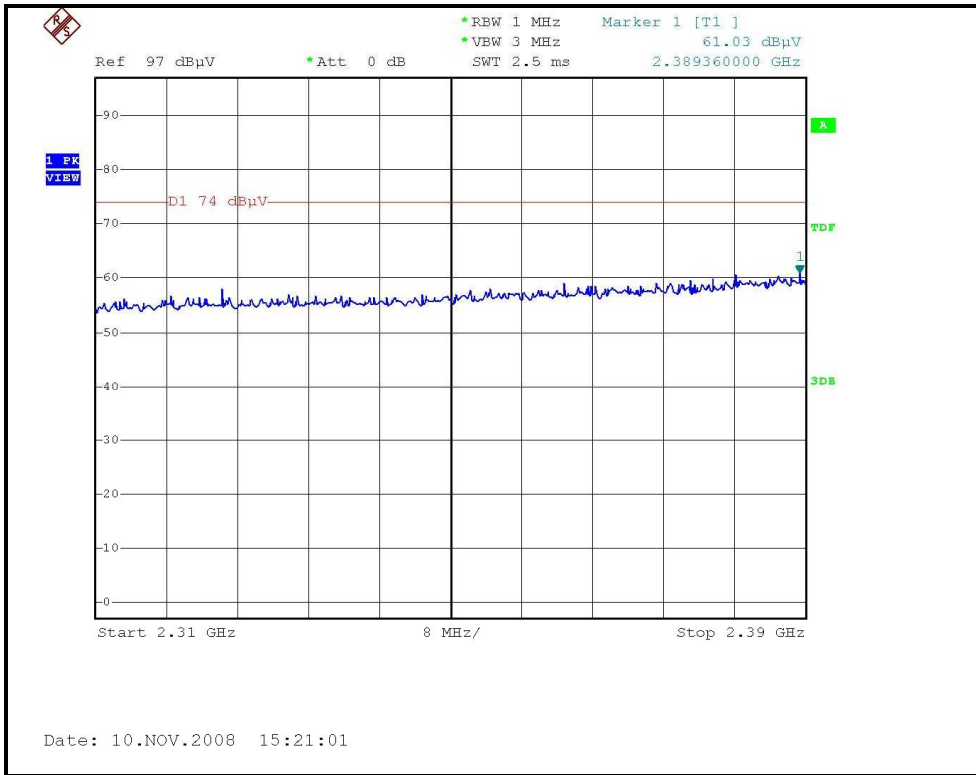






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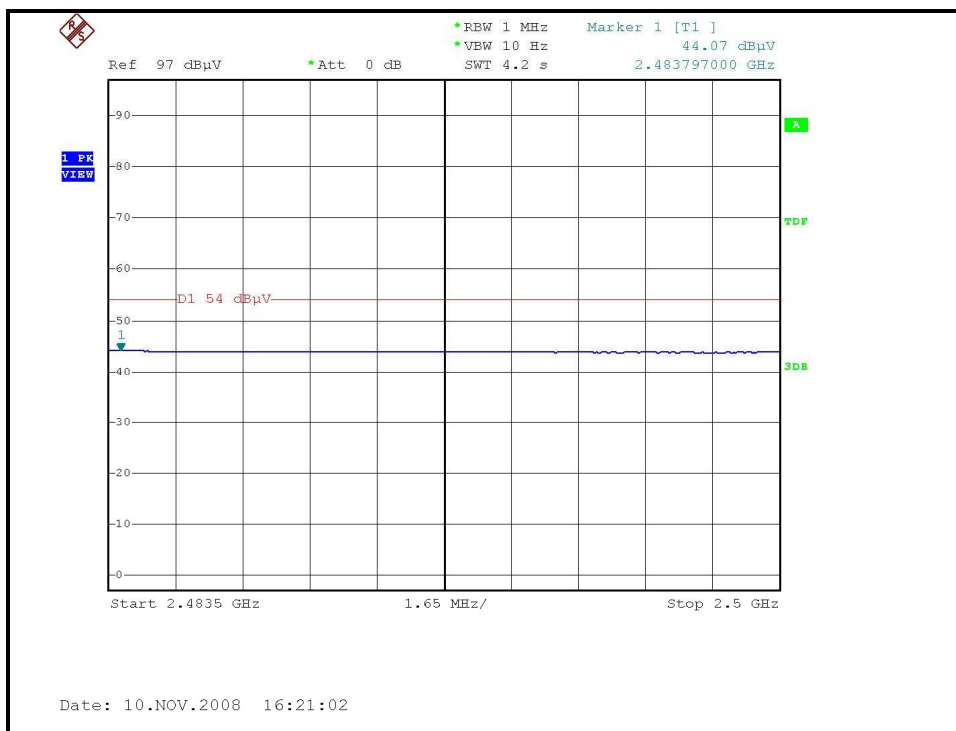
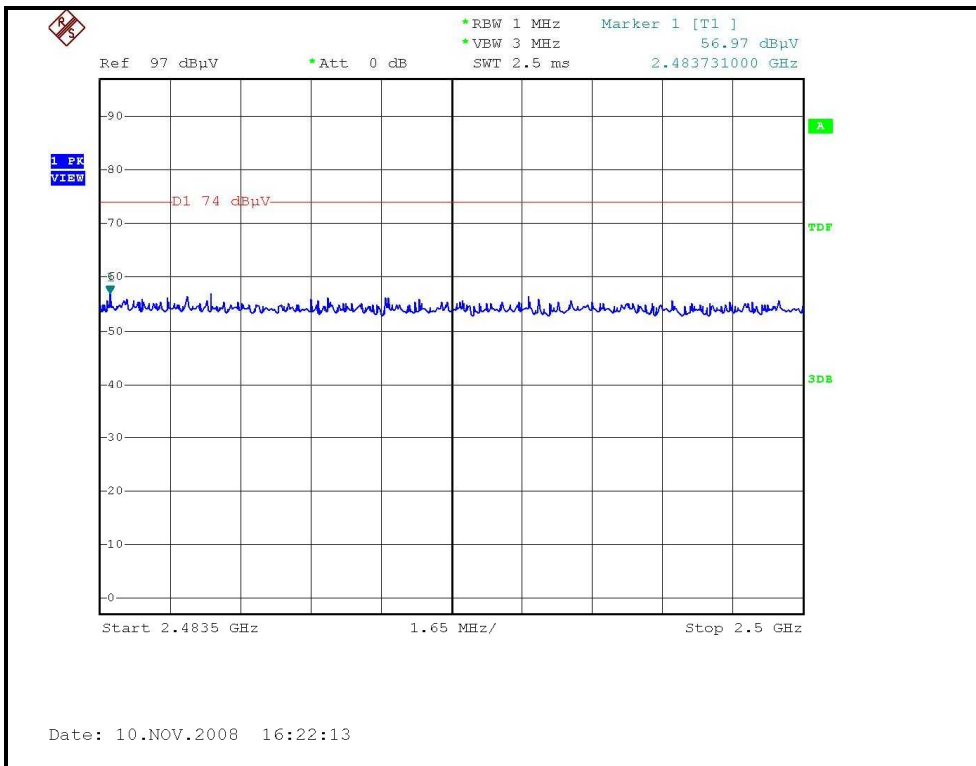
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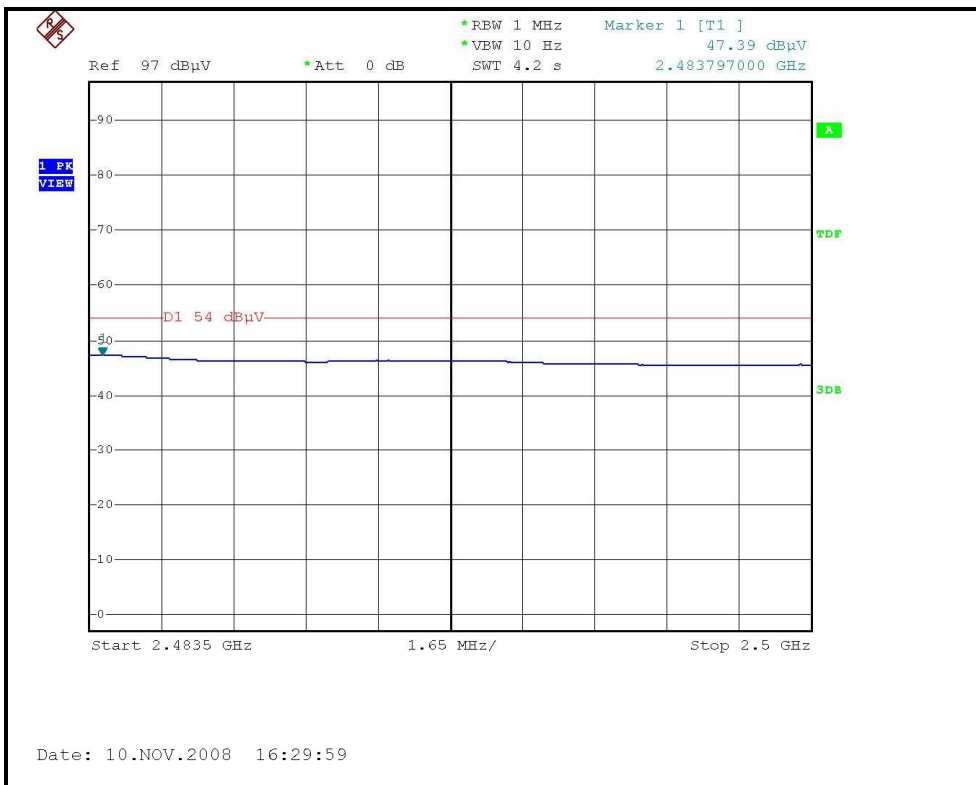
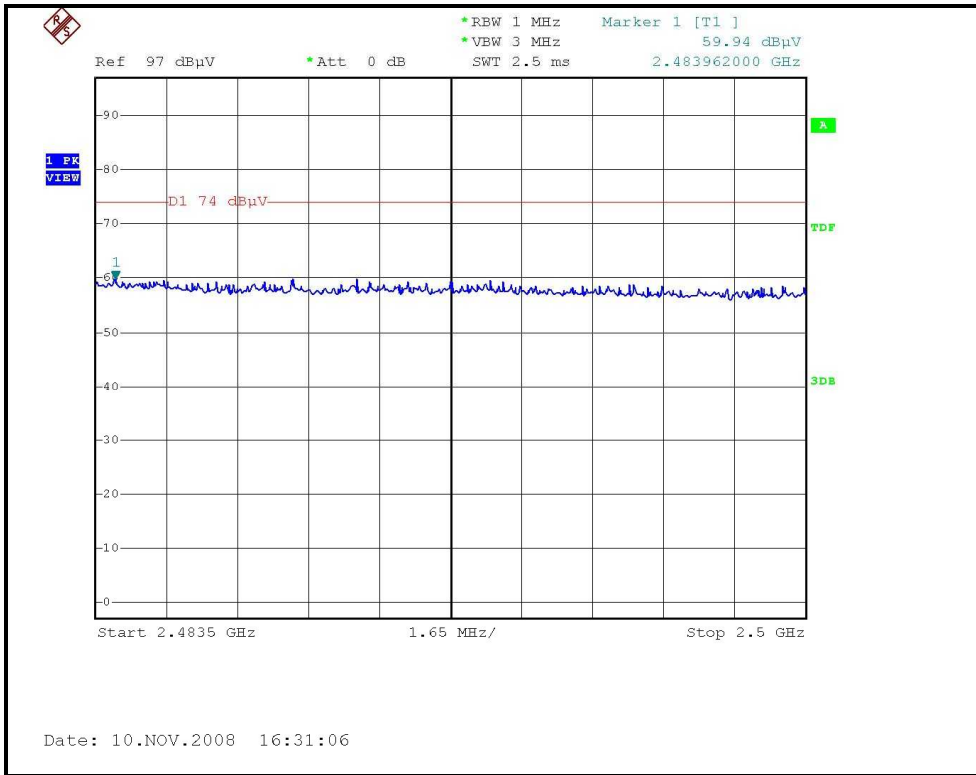
### RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL )





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### RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL )





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**802.11g OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.28 PK	74.00	-14.72	1.27 H	172	29.22	30.06
2	2390.00	44.16 AV	54.00	-9.84	1.27 H	172	14.10	30.06
3	*2412.00	100.01 PK			1.28 H	185	69.86	30.15
4	*2412.00	89.75 AV			1.28 H	185	59.60	30.15
5	#3216.00	46.04 PK	80.01	-33.97	1.00 H	2	13.96	32.08
6	#3216.00	36.64 AV	69.75	-33.11	1.00 H	2	4.56	32.08
7	3840.00	44.60 PK	74.00	-29.40	1.60 H	46	11.40	33.20
8	3840.00	35.84 AV	54.00	-18.16	1.60 H	46	2.64	33.20
9	4824.00	46.38 PK	74.00	-27.62	1.44 H	159	10.92	35.46
10	4824.00	33.50 AV	54.00	-20.50	1.44 H	159	-1.96	35.46
11	#7236.00	51.45 PK	80.01	-28.56	1.51 H	175	9.60	41.85
12	#7236.00	37.01 AV	69.75	-32.74	1.51 H	175	-4.84	41.85

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

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	67.22 PK	74.00	-6.78	1.60 V	199	37.16	30.06
2	2390.00	47.95 AV	54.00	-6.05	1.60 V	199	17.89	30.06
3	*2412.00	109.14 PK			1.61 V	163	78.99	30.15
4	*2412.00	98.30 AV			1.61 V	163	68.15	30.15
5	#3216.00	48.62 PK	89.14	-40.52	1.24 V	71	16.54	32.08
6	#3216.00	43.41 AV	78.30	-34.89	1.24 V	71	11.33	32.08
7	3840.00	49.03 PK	74.00	-24.97	1.11 V	200	15.83	33.20
8	3840.00	41.73 AV	54.00	-12.27	1.11 V	200	8.53	33.20
9	4824.00	45.96 PK	74.00	-28.04	1.57 V	30	10.50	35.46
10	4824.00	33.71 AV	54.00	-20.29	1.57 V	30	-1.75	35.46
11	#7236.00	54.44 PK	89.14	-34.70	1.20 V	138	12.59	41.85
12	#7236.00	39.65 AV	78.30	-38.65	1.20 V	138	-2.20	41.85

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.18 PK			1.30 H	193	70.94	30.24
2	*2437.00	89.98 AV			1.30 H	193	59.74	30.24
3	#3249.00	45.80 PK	81.18	-35.38	1.36 H	145	13.69	32.11
4	#3249.00	36.43 AV	69.98	-33.55	1.36 H	145	4.32	32.11
5	3840.00	45.22 PK	74.00	-28.78	1.52 H	283	12.02	33.20
6	3840.00	36.82 AV	54.00	-17.18	1.52 H	283	3.62	33.20
7	4874.00	45.68 PK	74.00	-28.32	1.23 H	319	10.13	35.55
8	4874.00	34.03 AV	54.00	-19.97	1.23 H	319	-1.52	35.55
9	7311.00	51.48 PK	74.00	-22.52	1.44 H	60	9.44	42.04
10	7311.00	37.62 AV	54.00	-16.38	1.44 H	60	-4.42	42.04

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.22 PK			1.58 V	170	78.98	30.24
2	*2437.00	98.60 AV			1.58 V	170	68.36	30.24
3	#3249.00	50.62 PK	89.22	-38.60	1.26 V	21	18.51	32.11
4	#3249.00	46.73 AV	78.60	-31.87	1.26 V	21	14.62	32.11
5	3840.00	49.63 PK	74.00	-24.37	1.01 V	269	16.43	33.20
6	3840.00	43.71 AV	54.00	-10.29	1.01 V	269	10.51	33.20
7	4874.00	45.73 PK	74.00	-28.27	1.60 V	204	10.18	35.55
8	4874.00	33.89 AV	54.00	-20.11	1.60 V	204	-1.66	35.55
9	7311.00	52.50 PK	74.00	-21.50	1.00 V	288	10.46	42.04
10	7311.00	38.96 AV	54.00	-15.04	1.00 V	288	-3.08	42.04

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.11 PK			1.41 H	139	69.77	30.34
2	*2462.00	90.01 AV			1.41 H	139	59.67	30.34
3	2483.50	66.45 PK	74.00	-7.55	1.64 H	247	36.02	30.43
4	2483.50	48.81 AV	54.00	-5.19	1.64 H	247	18.38	30.43
5	#3282.00	46.37 PK	80.11	-33.74	1.03 H	196	14.23	32.14
6	#3282.00	37.91 AV	70.01	-32.10	1.03 H	196	5.77	32.14
7	3840.00	45.18 PK	74.00	-28.82	1.03 H	283	11.98	33.20
8	3840.00	36.11 AV	54.00	-17.89	1.03 H	283	2.91	33.20
9	4924.00	45.73 PK	74.00	-28.27	1.70 H	183	10.10	35.63
10	4924.00	32.80 AV	54.00	-21.20	1.70 H	183	-2.83	35.63
11	7386.00	51.50 PK	74.00	-22.50	1.43 H	46	9.27	42.23
12	7386.00	37.04 AV	54.00	-16.96	1.43 H	46	-5.19	42.23

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

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	109.84 PK			1.63 V	182	79.50	30.34
2	*2462.00	98.74 AV			1.63 V	182	68.40	30.34
3	2483.50	72.20 PK	74.00	-1.80	1.62 V	22	41.77	30.43
4	<b>2483.50</b>	<b>52.73 AV</b>	<b>54.00</b>	<b>-1.27</b>	<b>1.62 V</b>	<b>22</b>	<b>22.30</b>	<b>30.43</b>
5	#3282.00	51.99 PK	89.84	-37.85	1.00 V	360	19.85	32.14
6	#3282.00	49.16 AV	78.74	-29.58	1.00 V	360	17.02	32.14
7	3840.00	49.45 PK	74.00	-24.55	1.00 V	288	16.25	33.20
8	3840.00	44.57 AV	54.00	-9.43	1.00 V	288	11.37	33.20
9	4924.00	46.03 PK	74.00	-27.97	1.50 V	69	10.40	35.63
10	4924.00	33.50 AV	54.00	-20.50	1.50 V	69	-2.13	35.63
11	7386.00	52.93 PK	74.00	-21.07	1.04 V	319	10.70	42.23
12	7386.00	39.04 AV	54.00	-14.96	1.04 V	319	-3.19	42.23

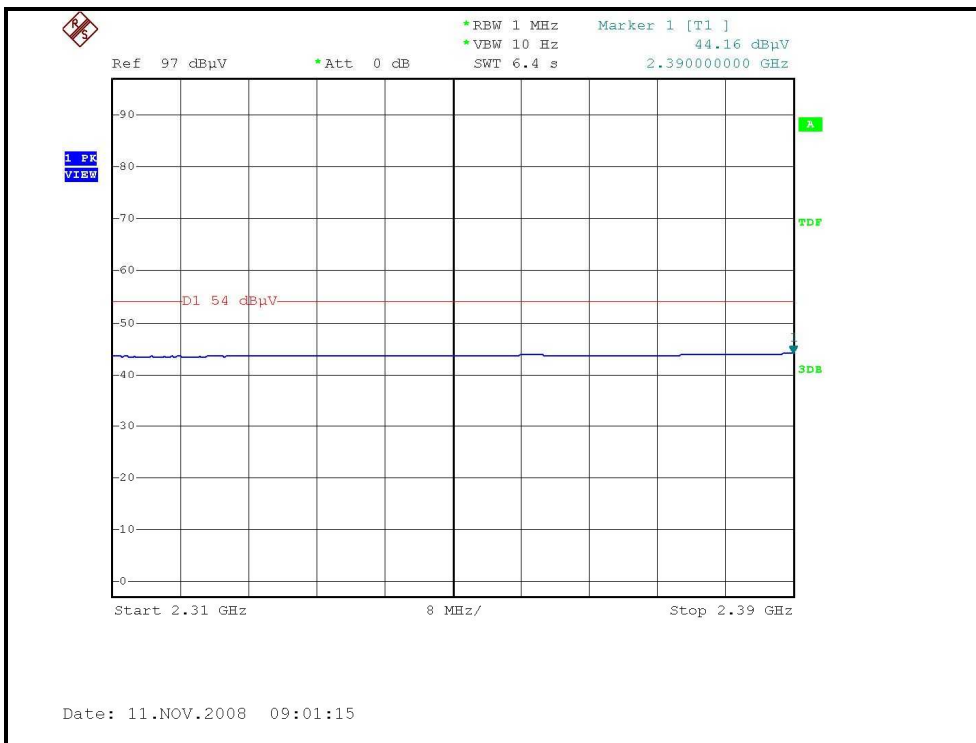
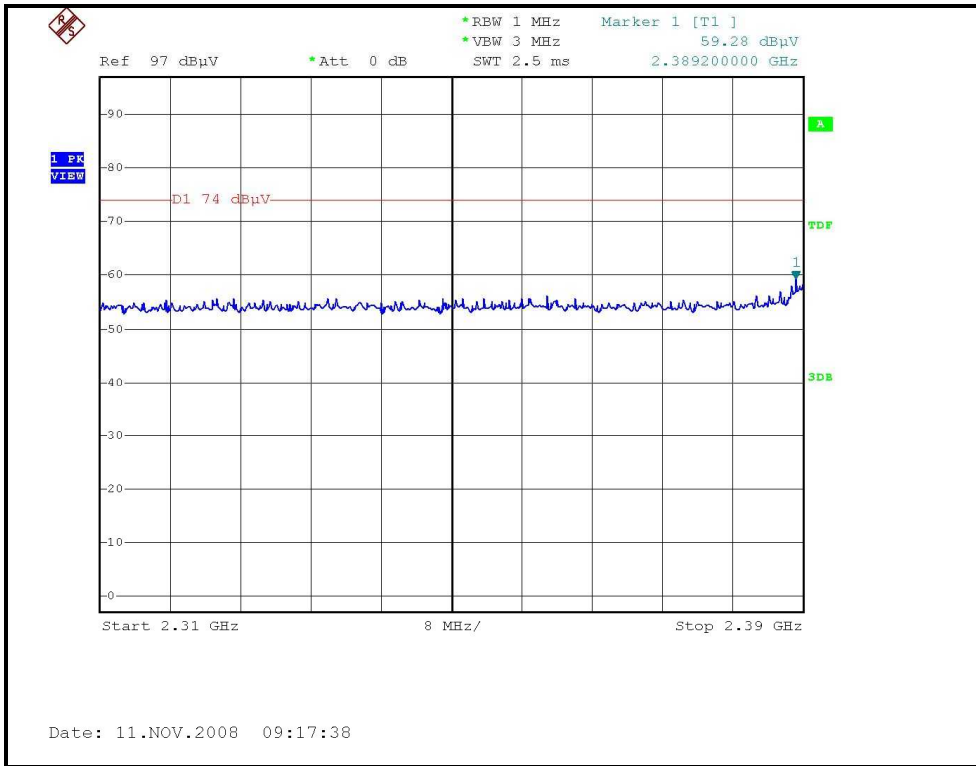
- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental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





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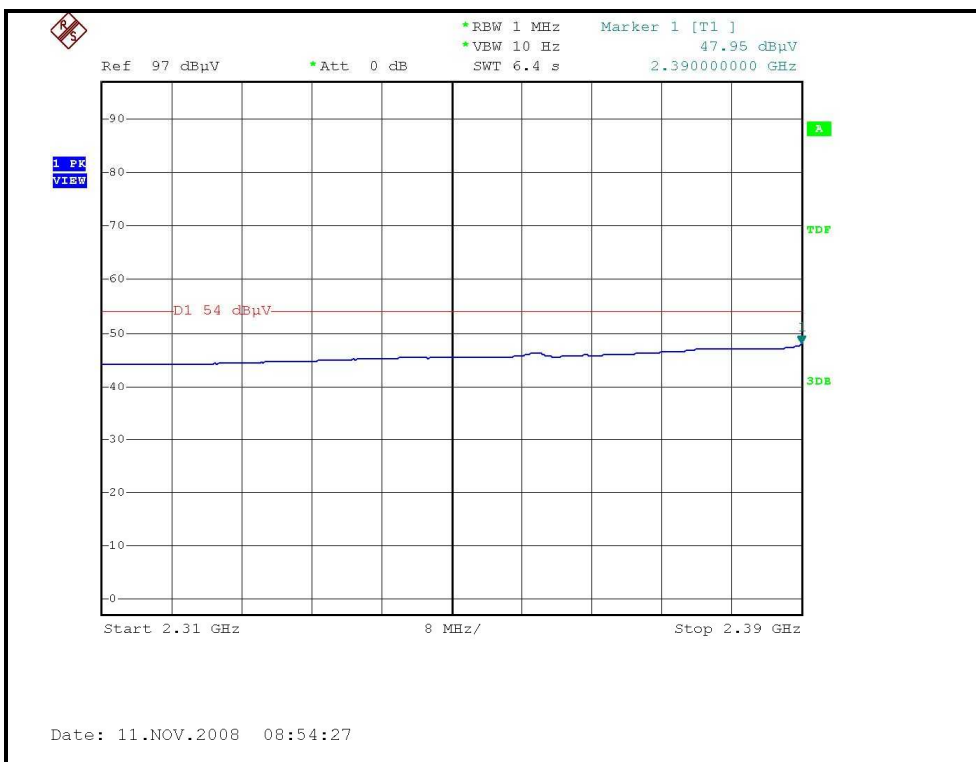
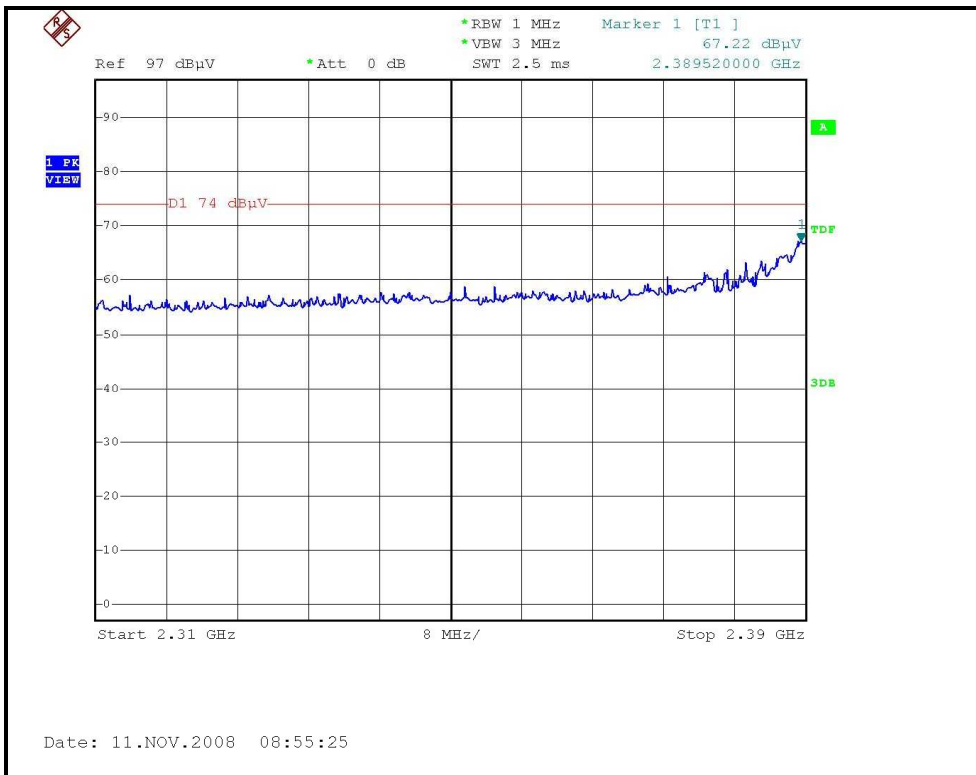
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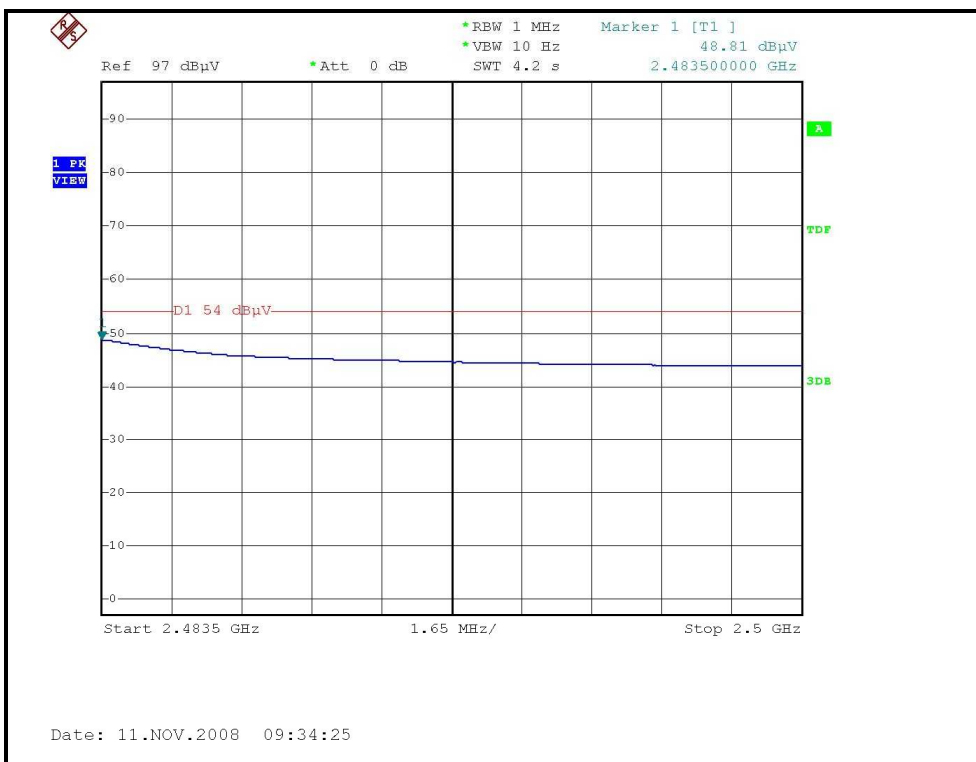
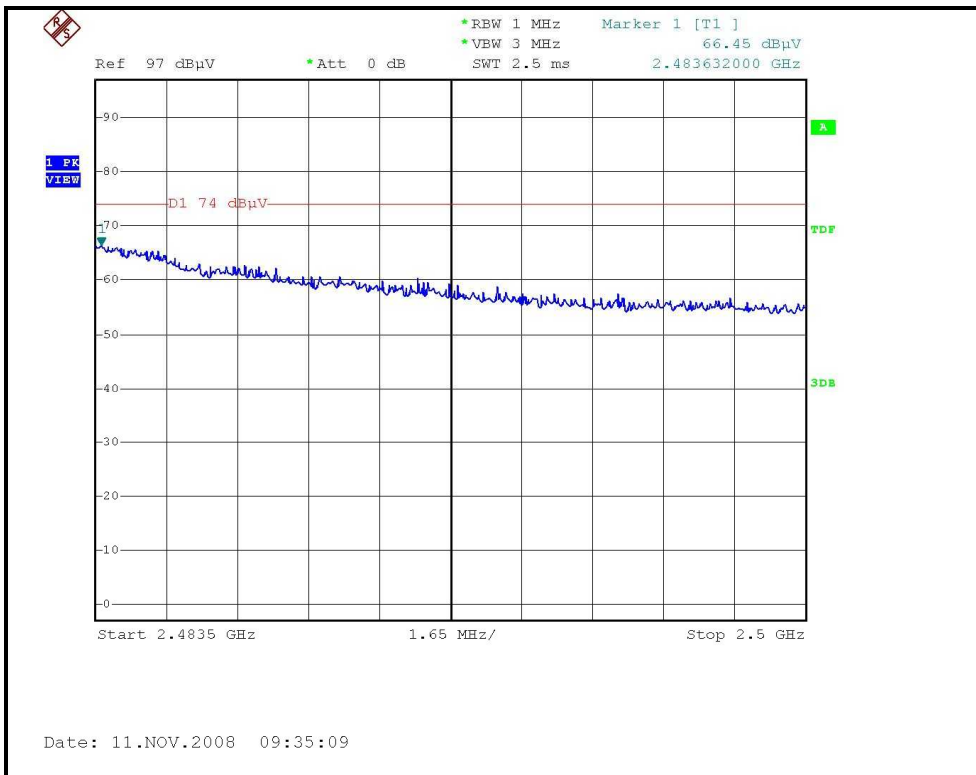
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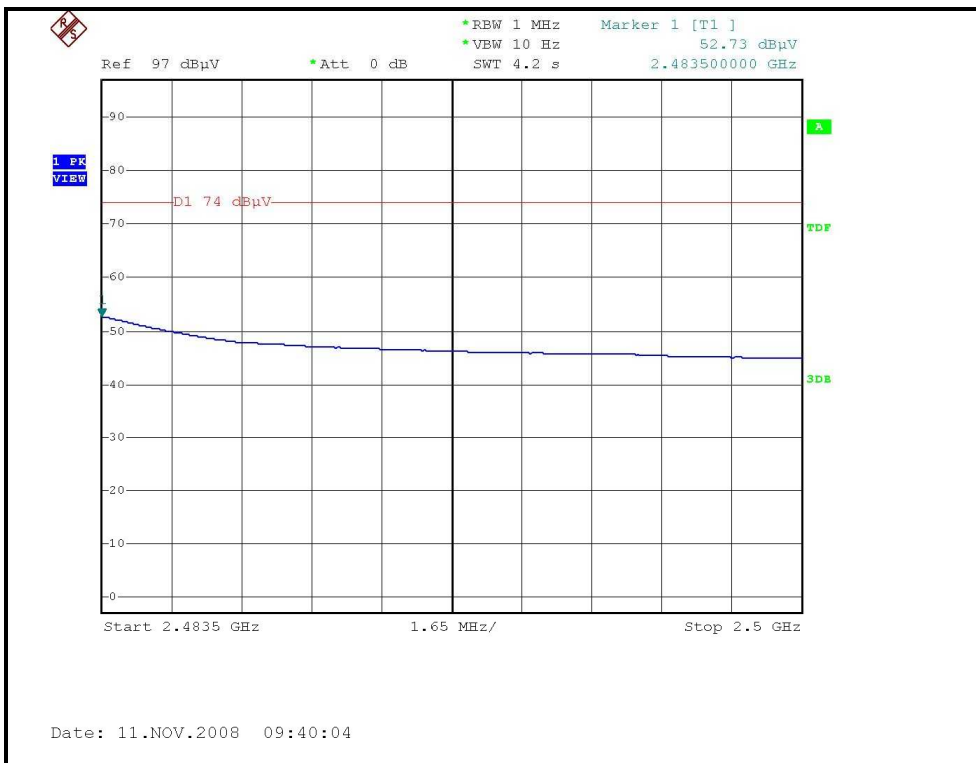
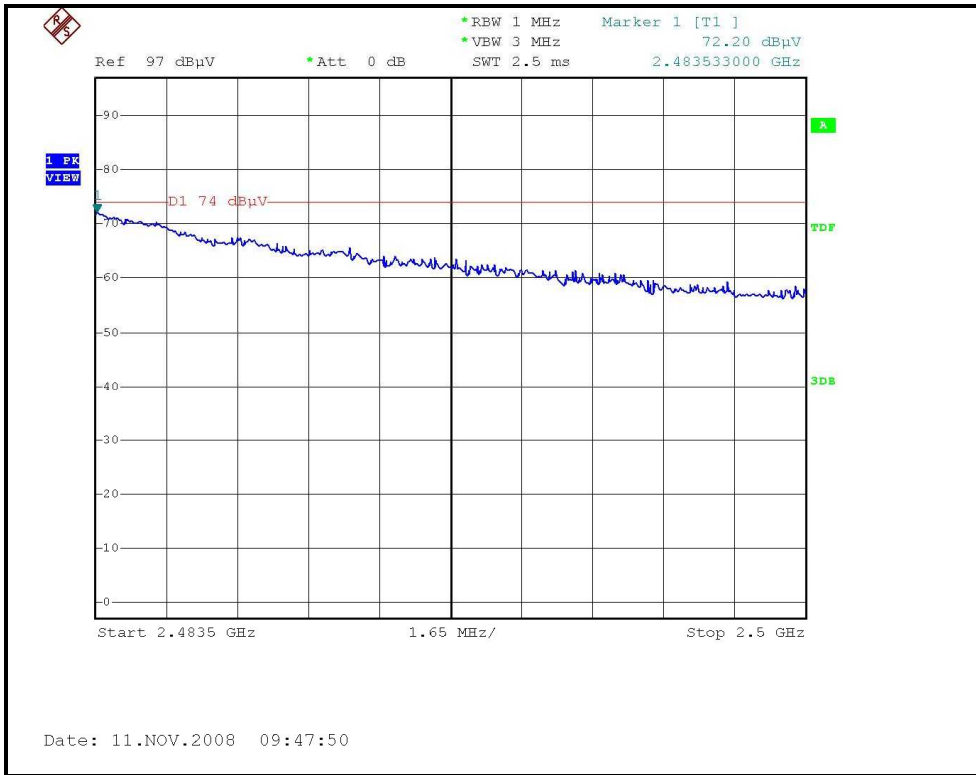
### RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL )





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### RESTRICTED BANDEDGE (802.11g MODE, CH11, VERTICAL )





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**DRAFT 802.11n (20MHz) OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.30 PK	74.00	-17.70	1.33 H	344	56.30	0.00
2	2390.00	44.20 AV	54.00	-9.80	1.33 H	344	44.20	0.00
3	*2412.00	102.03 PK			1.28 H	240	102.03	0.00
4	*2412.00	90.33 AV			1.28 H	240	90.33	0.00
5	#3216.00	45.83 PK	82.03	-36.20	1.20 H	161	45.83	0.00
6	#3216.00	36.72 AV	70.33	-33.61	1.20 H	161	36.72	0.00
7	3840.00	46.14 PK	74.00	-27.86	1.32 H	70	46.14	0.00
8	3840.00	37.48 AV	54.00	-16.52	1.32 H	70	37.48	0.00
9	4824.00	46.04 PK	74.00	-27.96	1.20 H	62	46.04	0.00
10	4824.00	33.62 AV	54.00	-20.38	1.20 H	62	33.62	0.00
11	#7236.00	51.73 PK	82.03	-30.30	1.18 H	78	51.73	0.00
12	#7236.00	38.04 AV	70.33	-32.29	1.18 H	78	38.04	0.00

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.14 PK	74.00	-12.86	1.61 V	201	31.08	30.06
2	2390.00	48.72 AV	54.00	-5.28	1.61 V	201	18.66	30.06
3	*2412.00	110.51 PK			1.35 V	329	80.36	30.15
4	*2412.00	99.45 AV			1.35 V	329	69.30	30.15
5	#3216.00	51.40 PK	90.51	-39.11	1.32 V	178	19.32	32.08
6	#3216.00	45.84 AV	79.45	-33.61	1.32 V	178	13.76	32.08
7	3840.00	47.42 PK	74.00	-26.58	1.40 V	8	14.22	33.20
8	3840.00	44.11 AV	54.00	-9.89	1.40 V	8	10.91	33.20
9	4824.00	47.65 PK	74.00	-26.35	1.01 V	38	12.19	35.46
10	4824.00	35.70 AV	54.00	-18.30	1.01 V	38	0.24	35.46
11	#7236.00	52.04 PK	90.51	-38.47	1.23 V	189	10.19	41.85
12	#7236.00	37.98 AV	79.45	-41.47	1.23 V	189	-3.87	41.85

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.63 PK			1.29 H	241	71.39	30.24
2	*2437.00	90.39 AV			1.29 H	241	60.15	30.24
3	#3249.00	46.11 PK	81.63	-35.52	1.02 H	24	14.00	32.11
4	#3249.00	38.64 AV	70.39	-31.75	1.02 H	24	6.53	32.11
5	3840.00	45.80 PK	74.00	-28.20	1.31 H	200	12.60	33.20
6	3840.00	37.40 AV	54.00	-16.60	1.31 H	200	4.20	33.20
7	4874.00	45.08 PK	74.00	-28.92	1.30 H	280	9.53	35.55
8	4874.00	33.24 AV	54.00	-20.76	1.30 H	280	-2.31	35.55
9	7311.00	50.63 PK	74.00	-23.37	1.35 H	62	8.59	42.04
10	7311.00	37.98 AV	54.00	-16.02	1.35 H	62	-4.06	42.04

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.01 PK			1.29 V	330	80.77	30.24
2	*2437.00	99.93 AV			1.29 V	330	69.69	30.24
3	#3249.00	50.28 PK	91.01	-40.73	1.01 V	287	18.17	32.11
4	#3249.00	47.50 AV	79.93	-32.43	1.01 V	287	15.39	32.11
5	3840.00	49.03 PK	74.00	-24.97	1.09 V	200	15.83	33.20
6	3840.00	43.50 AV	54.00	-10.50	1.09 V	200	10.30	33.20
7	4874.00	46.65 PK	74.00	-27.35	1.31 V	58	11.10	35.55
8	4874.00	34.71 AV	54.00	-19.29	1.31 V	58	-0.84	35.55
9	7311.00	51.99 PK	74.00	-22.01	1.40 V	40	9.95	42.04
10	7311.00	38.65 AV	54.00	-15.35	1.40 V	40	-3.39	42.04

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.43 PK			1.30 H	236	71.09	30.34
2	*2462.00	90.20 AV			1.30 H	236	59.86	30.34
3	2483.50	56.32 PK	74.00	-17.68	1.33 H	1	25.89	30.43
4	2483.50	43.86 AV	54.00	-10.14	1.33 H	1	13.43	30.43
5	#3282.00	45.26 PK	81.43	-36.17	1.18 H	291	13.12	32.14
6	#3282.00	36.22 AV	70.20	-33.98	1.18 H	291	4.08	32.14
7	3840.00	46.51 PK	74.00	-27.49	1.05 H	199	13.31	33.20
8	3840.00	37.84 AV	54.00	-16.16	1.05 H	199	4.64	33.20
9	4924.00	45.62 PK	74.00	-28.38	1.32 H	145	9.99	35.63
10	4924.00	33.43 AV	54.00	-20.57	1.32 H	145	-2.20	35.63
11	7386.00	51.80 PK	74.00	-22.20	1.40 H	79	9.57	42.23
12	7386.00	37.09 AV	54.00	-16.91	1.40 H	79	-5.14	42.23

- 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 radiated frequency is out the restricted band.





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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

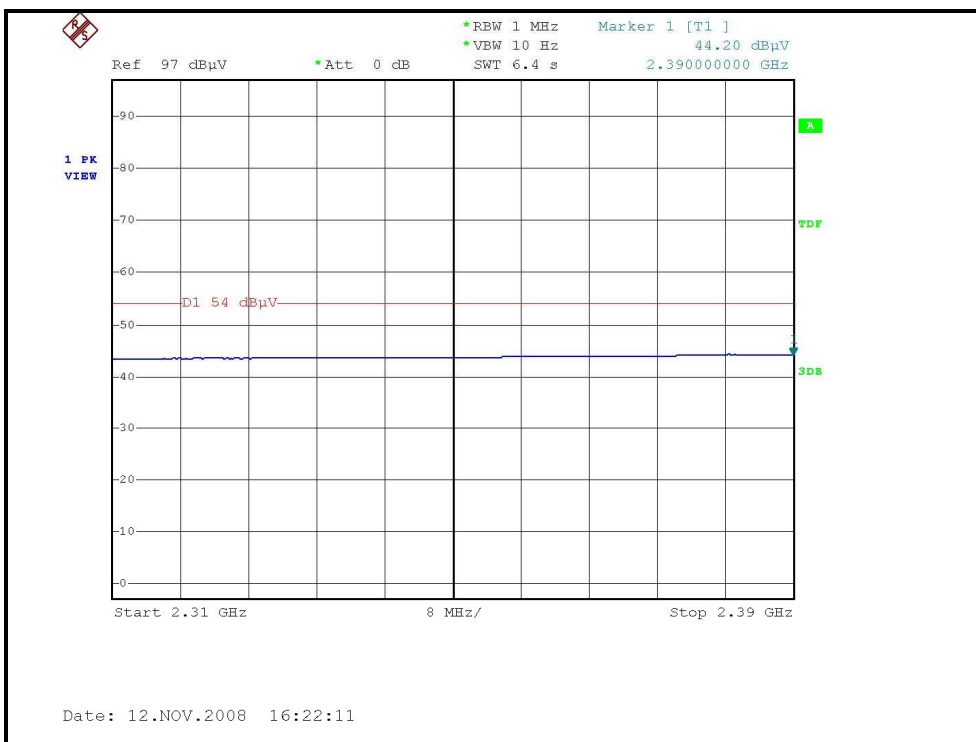
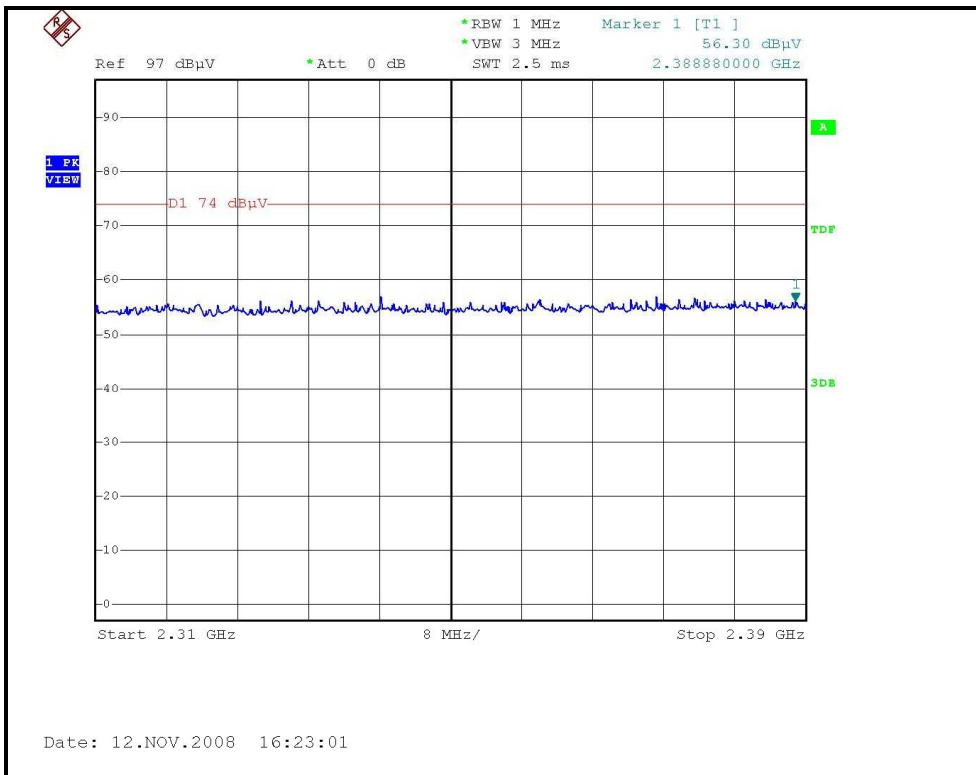
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NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.89 PK			1.30 V	329	80.55	30.34
2	*2462.00	99.59 AV			1.30 V	329	69.25	30.34
3	2483.50	65.85 PK	74.00	-8.15	1.33 V	10	35.42	30.43
4	2483.50	49.00 AV	54.00	-5.00	1.33 V	10	18.57	30.43
5	#3282.00	51.83 PK	90.89	-39.06	1.00 V	23	19.69	32.14
6	#3282.00	48.72 AV	79.59	-30.87	1.00 V	23	16.58	32.14
7	3840.00	48.58 PK	74.00	-25.42	1.00 V	288	15.38	33.20
8	3840.00	43.60 AV	54.00	-10.40	1.00 V	288	10.40	33.20
9	4924.00	47.83 PK	74.00	-26.17	1.01 V	78	12.20	35.63
10	4924.00	34.56 AV	54.00	-19.44	1.01 V	78	-1.07	35.63
11	7386.00	52.70 PK	74.00	-21.30	1.01 V	287	10.47	42.23
12	7386.00	37.62 AV	54.00	-16.38	1.01 V	287	-4.61	42.23

- 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 radiated frequency is out the restricted band.



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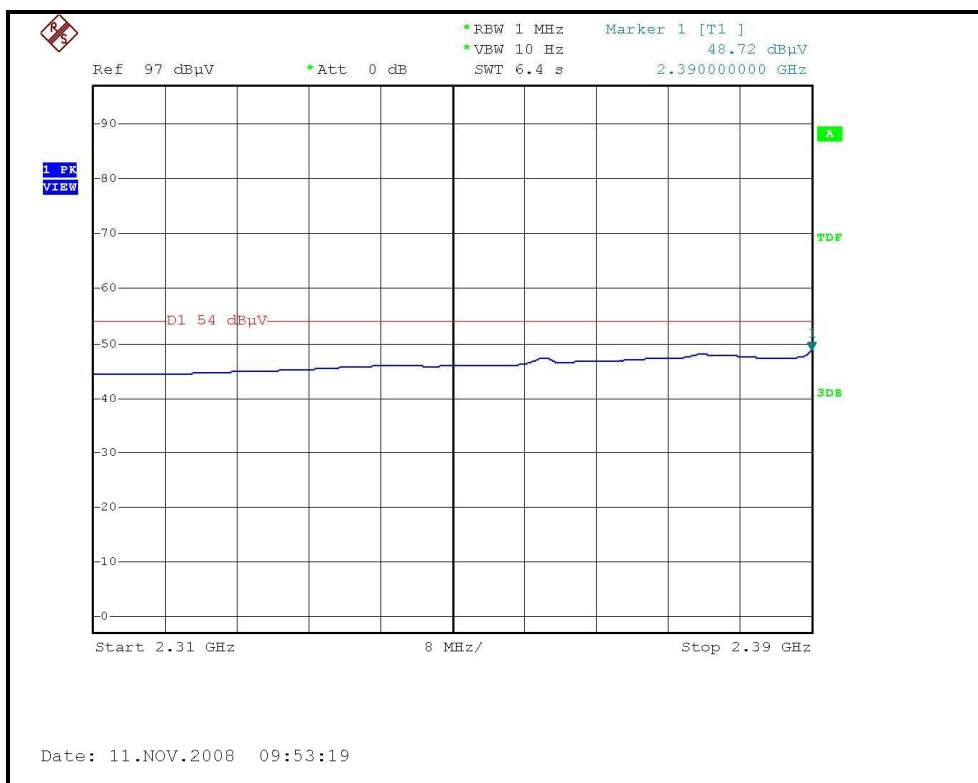
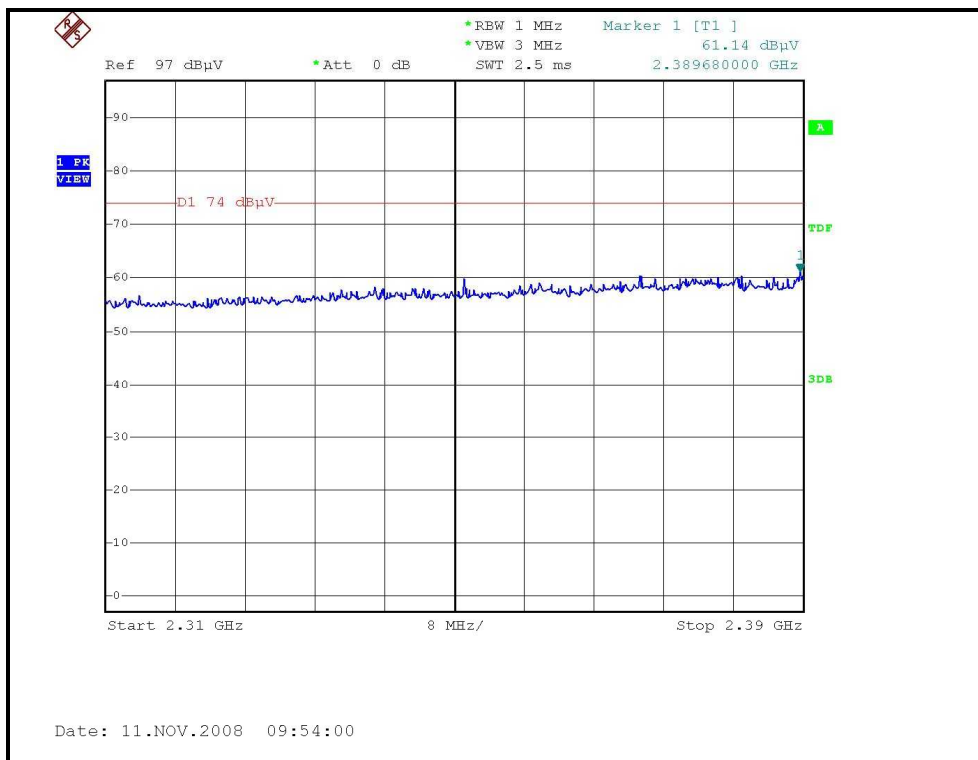
RESTRICTED BANDEDGE (DRAFT 802.11n (20MHz) MODE, CH1, HORIZONTAL )





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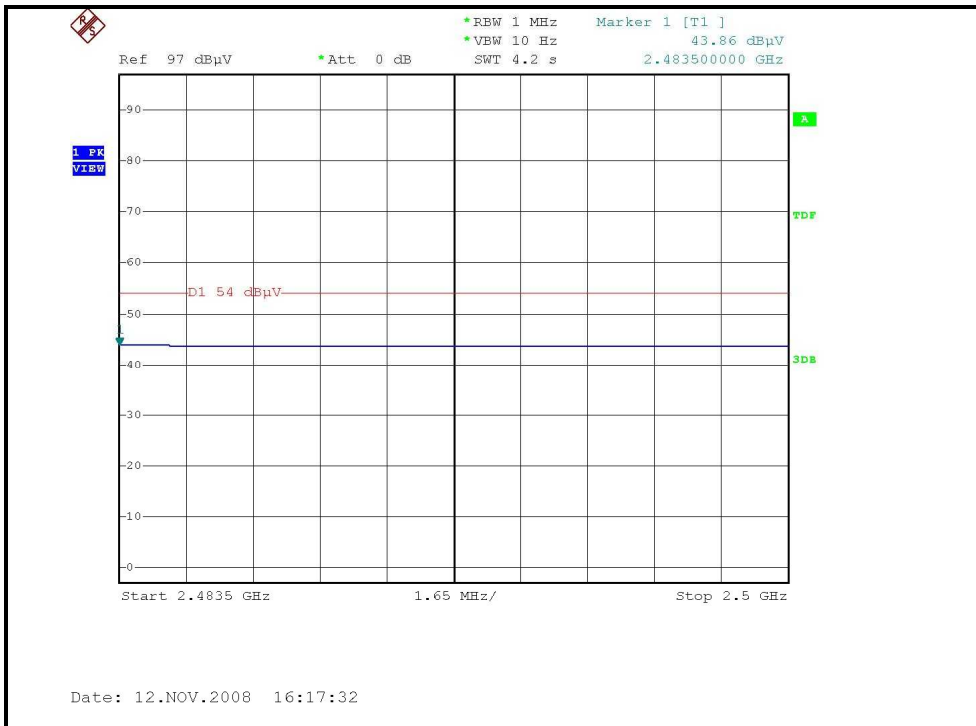
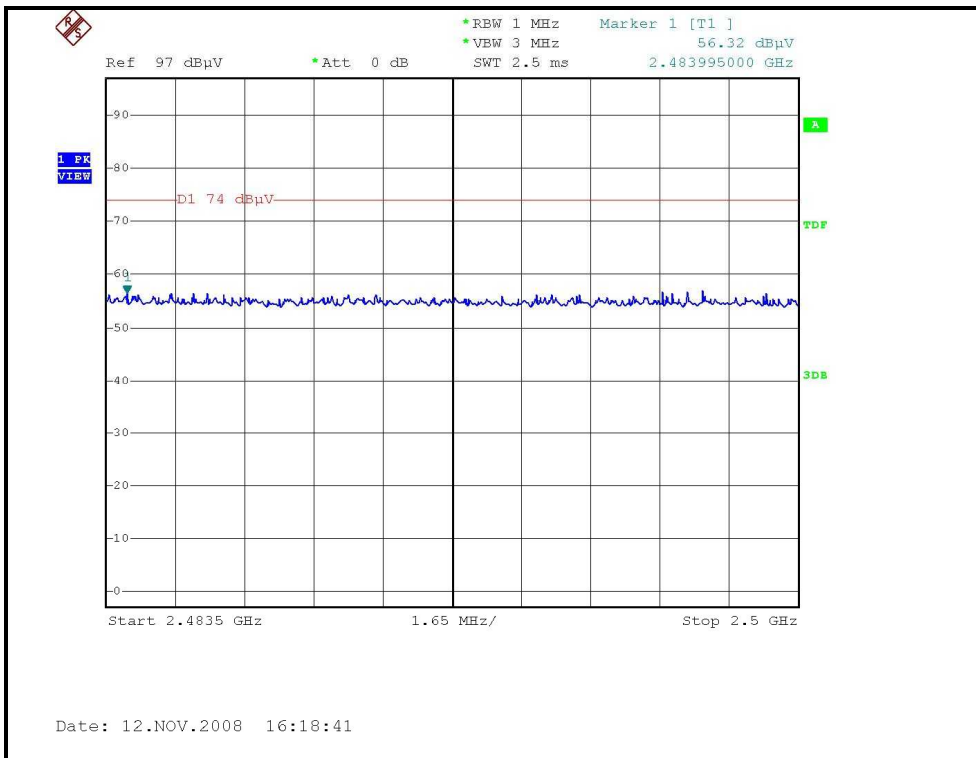
### RESTRICTED BANDEDGE (DRAFT 802.11n (20MHz) MODE, CH1, VERTICAL )





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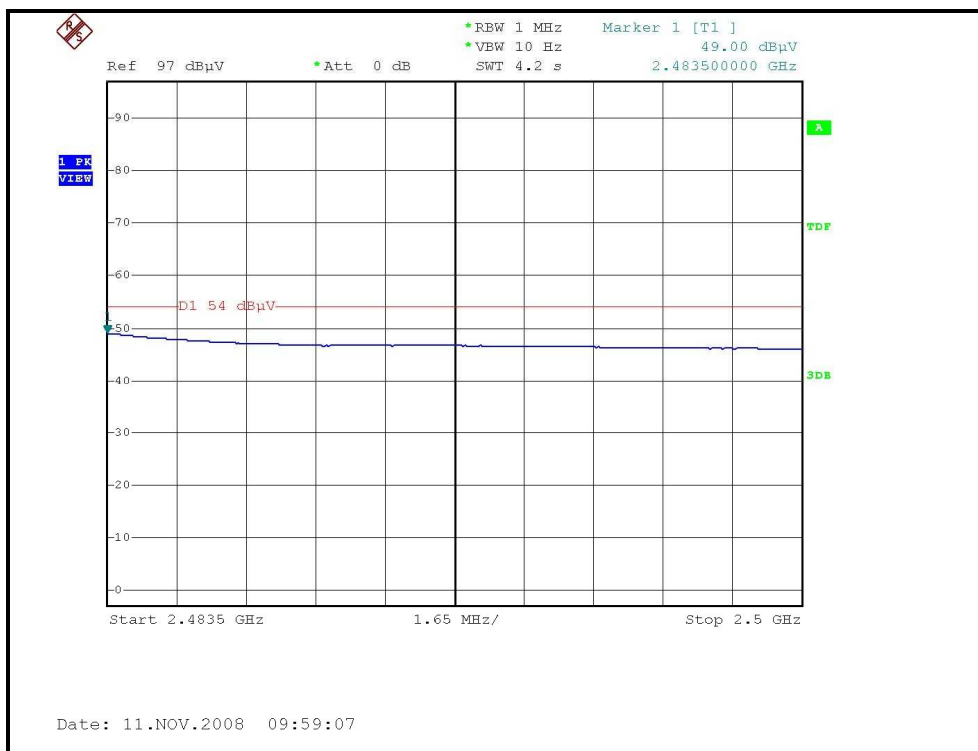
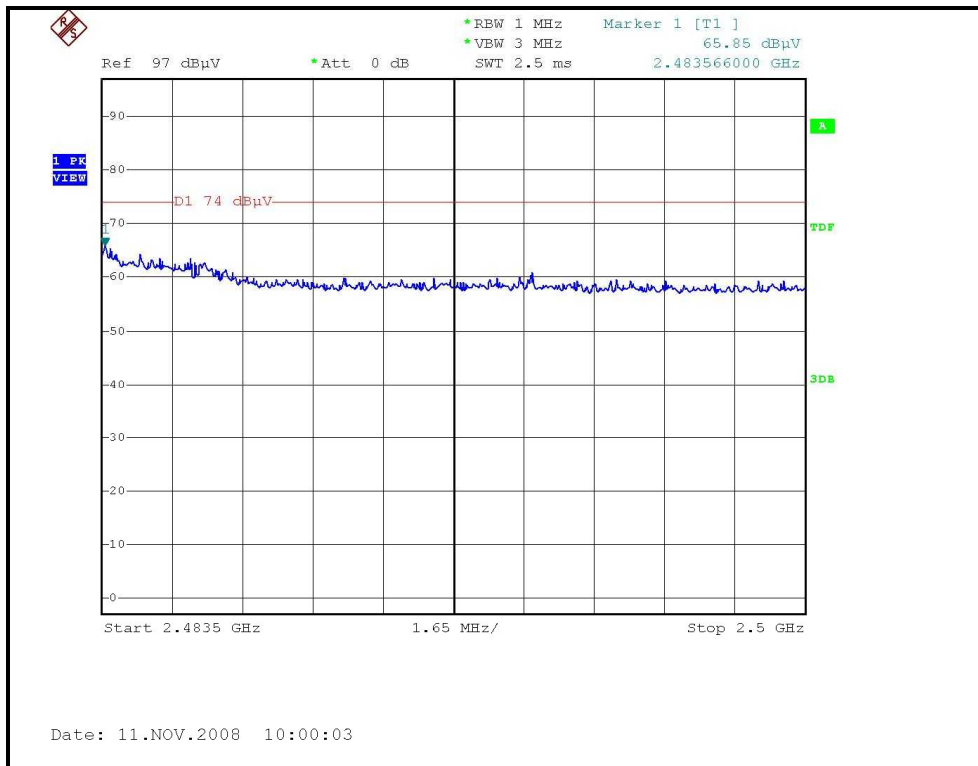
### RESTRICTED BANDEDGE (DRAFT 802.11n (20MHz) MODE, CH11, HORIZONTAL )





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





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**DRAFT 802.11n (40MHz) OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.21 PK	74.00	-17.79	1.45 H	328	26.15	30.06
2	2390.00	44.33 AV	54.00	-9.67	1.45 H	328	14.27	30.06
3	*2422.00	96.76 PK			2.02 H	305	66.57	30.19
4	*2422.00	86.32 AV			2.02 H	305	56.13	30.19
5	#3229.30	46.50 PK	76.76	-30.26	2.00 H	2	14.41	32.09
6	#3229.30	37.58 AV	66.32	-28.74	2.00 H	2	5.49	32.09
7	3840.00	46.70 PK	74.00	-27.30	1.44 H	6	13.50	33.20
8	3840.00	35.48 AV	54.00	-18.52	1.44 H	6	2.28	33.20
9	4844.00	45.64 PK	74.00	-28.36	1.50 H	300	10.14	35.50
10	4844.00	32.09 AV	54.00	-21.91	1.50 H	300	-3.41	35.50
11	7266.00	51.24 PK	74.00	-22.76	1.08 H	269	9.31	41.93
12	7266.00	37.42 AV	54.00	-16.58	1.08 H	269	-4.51	41.93

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

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	65.04 PK	74.00	-8.96	1.38 V	343	34.98	30.06
2	2390.00	52.31 AV	54.00	-1.69	1.38 V	343	22.25	30.06
3	*2422.00	107.71 PK			1.62 V	159	77.52	30.19
4	*2422.00	96.98 AV			1.62 V	159	66.79	30.19
5	#3229.30	49.96 PK	87.71	-37.75	1.00 V	13	17.87	32.09
6	#3229.30	46.05 AV	76.98	-30.93	1.00 V	13	13.96	32.09
7	3840.00	49.52 PK	74.00	-24.48	1.00 V	289	16.32	33.20
8	3840.00	44.53 AV	54.00	-9.47	1.00 V	289	11.33	33.20
9	4844.00	46.14 PK	74.00	-27.86	1.01 V	78	10.64	35.50
10	4844.00	32.33 AV	54.00	-21.67	1.01 V	78	-3.17	35.50
11	7266.00	52.45 PK	74.00	-21.55	1.10 V	114	10.52	41.93
12	7266.00	38.96 AV	54.00	-15.04	1.10 V	114	-2.97	41.93

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	97.42 PK			1.99 H	311	67.18	30.24
2	*2437.00	86.92 AV			1.99 H	311	56.68	30.24
3	#3249.00	46.11 PK	77.42	-31.31	1.04 H	80	14.00	32.11
4	#3249.00	36.58 AV	66.92	-30.34	1.04 H	80	4.47	32.11
5	3840.00	45.62 PK	74.00	-28.38	1.73 H	69	12.42	33.20
6	3840.00	37.11 AV	54.00	-16.89	1.73 H	69	3.91	33.20
7	4874.00	45.82 PK	74.00	-28.18	1.82 H	100	10.27	35.55
8	4874.00	33.11 AV	54.00	-20.89	1.82 H	100	-2.44	35.55
9	7311.00	51.63 PK	74.00	-22.37	1.70 H	265	9.59	42.04
10	7311.00	36.58 AV	54.00	-17.42	1.70 H	265	-5.46	42.04

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.31 PK			1.59 V	163	78.07	30.24
2	*2437.00	97.23 AV			1.59 V	163	66.99	30.24
3	#3249.00	50.48 PK	88.31	-37.83	1.00 V	291	18.37	32.11
4	#3249.00	49.38 AV	77.23	-27.85	1.00 V	291	17.27	32.11
5	3840.00	48.93 PK	74.00	-25.07	1.01 V	301	15.73	33.20
6	3840.00	44.58 AV	54.00	-9.42	1.01 V	301	11.38	33.20
7	4874.00	47.50 PK	74.00	-26.50	1.00 V	269	11.95	35.55
8	4874.00	33.53 AV	54.00	-20.47	1.00 V	269	-2.02	35.55
9	7311.00	52.46 PK	74.00	-21.54	1.03 V	56	10.42	42.04
10	7311.00	38.69 AV	54.00	-15.31	1.03 V	56	-3.35	42.04

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





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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	98.50 PK			1.98 H	314	68.20	30.30
2	*2452.00	87.04 AV			1.98 H	314	56.74	30.30
3	2483.50	58.26 PK	74.00	-15.74	1.04 H	211	27.83	30.43
4	2483.50	44.49 AV	54.00	-9.51	1.04 H	211	14.06	30.43
5	#3269.30	46.01 PK	78.50	-32.49	1.50 H	271	13.88	32.13
6	#3269.30	36.70 AV	67.04	-30.34	1.50 H	271	4.57	32.13
7	3840.00	45.83 PK	74.00	-28.17	1.40 H	38	12.63	33.20
8	3840.00	38.04 AV	54.00	-15.96	1.40 H	38	4.84	33.20
9	4904.00	45.64 PK	74.00	-28.36	1.48 H	3	10.04	35.60
10	4904.00	33.50 AV	54.00	-20.50	1.48 H	3	-2.10	35.60
11	7356.00	50.99 PK	74.00	-23.01	1.32 H	256	8.83	42.16
12	7356.00	37.43 AV	54.00	-16.57	1.32 H	256	-4.73	42.16

- 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 radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH 965hPa	TESTED BY	Eric Lee

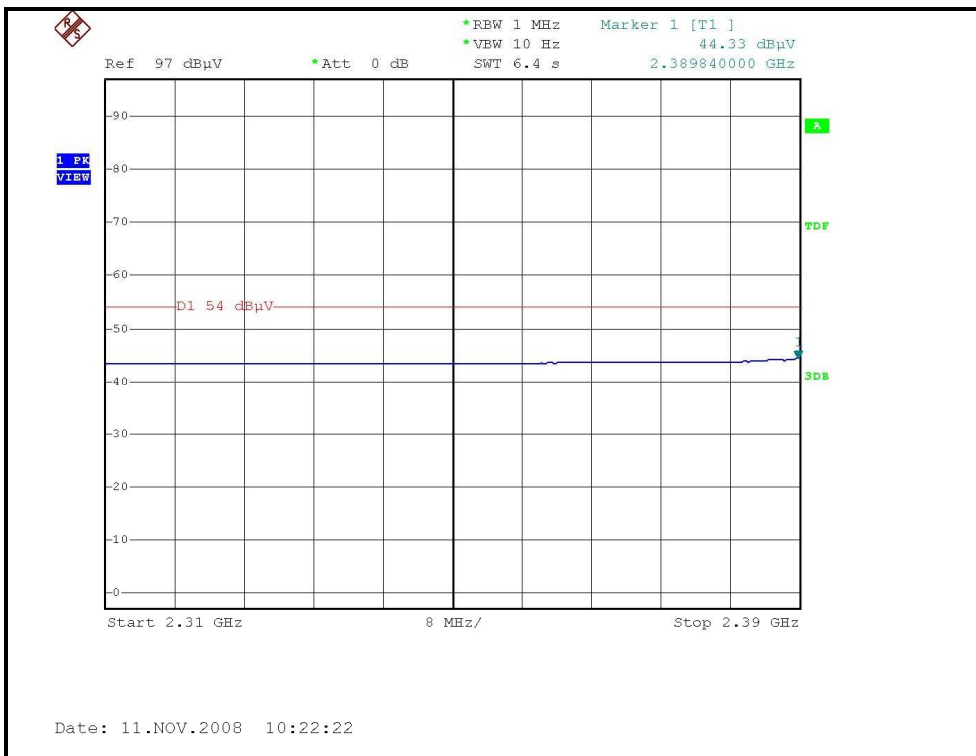
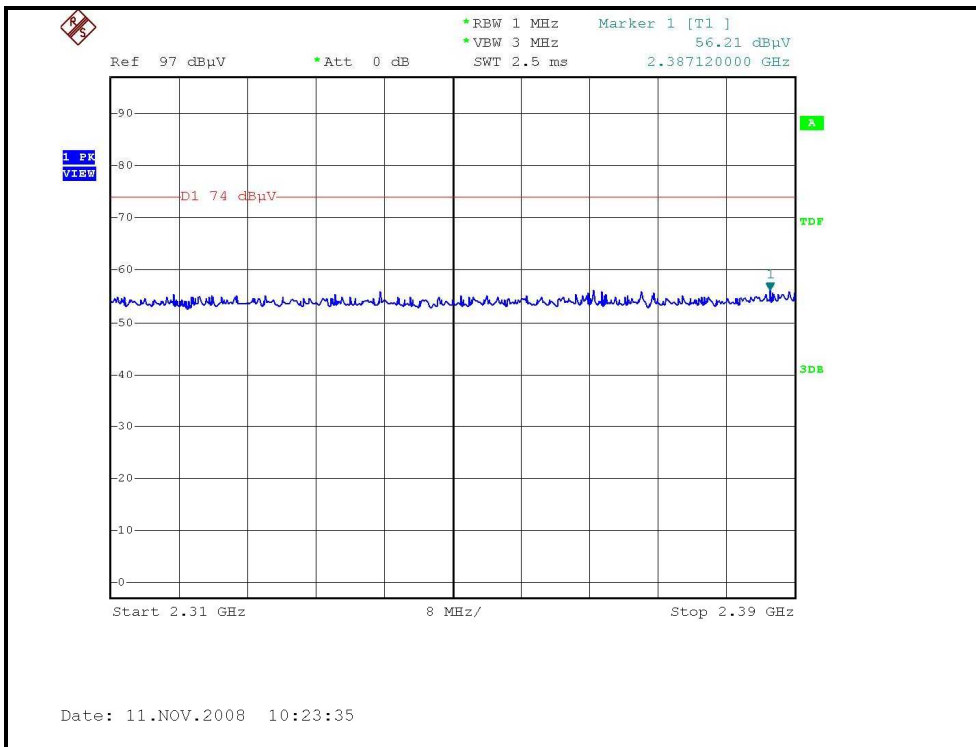
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	108.14 PK			1.62 V	161	77.84	30.30
2	*2452.00	97.04 AV			1.62 V	161	66.74	30.30
3	2483.50	65.38 PK	74.00	-8.62	1.38 V	156	34.95	30.43
4	2483.50	51.63 AV	54.00	-2.37	1.38 V	156	21.20	30.43
5	#3269.30	51.29 PK	88.14	-36.85	1.01 V	293	19.16	32.13
6	#3269.30	48.08 AV	77.04	-28.96	1.01 V	293	15.95	32.13
7	3840.00	48.69 PK	74.00	-25.31	1.00 V	20	15.49	33.20
8	3840.00	44.02 AV	54.00	-9.98	1.00 V	20	10.82	33.20
9	4904.00	47.63 PK	74.00	-26.37	1.00 V	289	12.03	35.60
10	4904.00	33.43 AV	54.00	-20.57	1.00 V	289	-2.17	35.60
11	7356.00	52.50 PK	74.00	-21.50	1.03 V	59	10.34	42.16
12	7356.00	39.43 AV	54.00	-14.57	1.03 V	59	-2.73	42.16

- 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 radiated frequency is out the restricted band.



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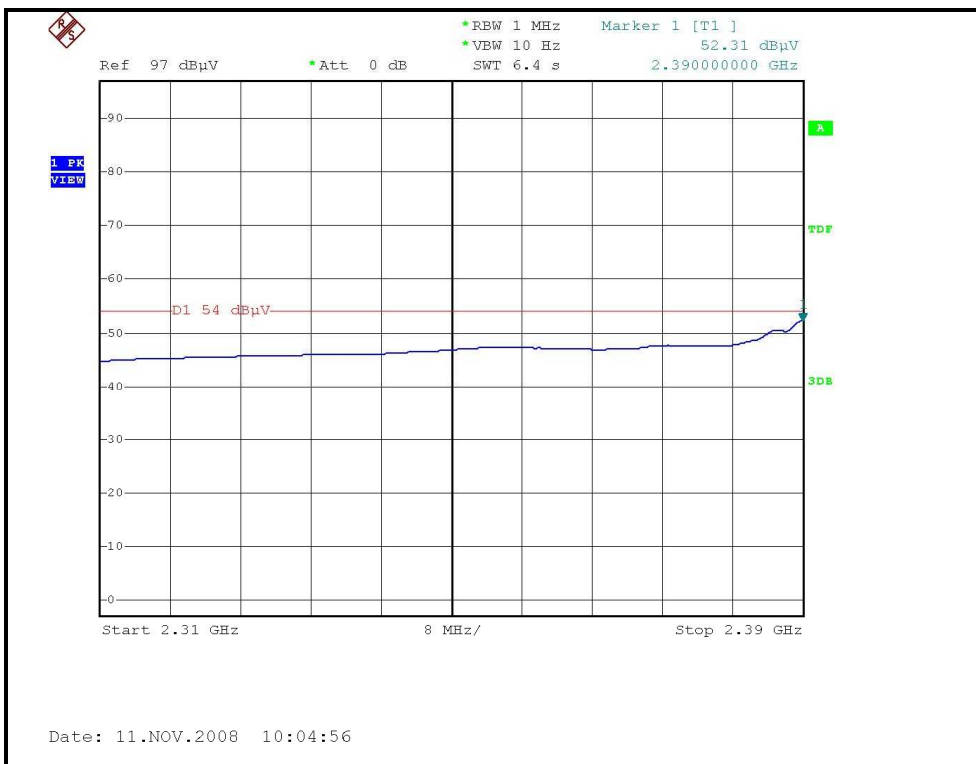
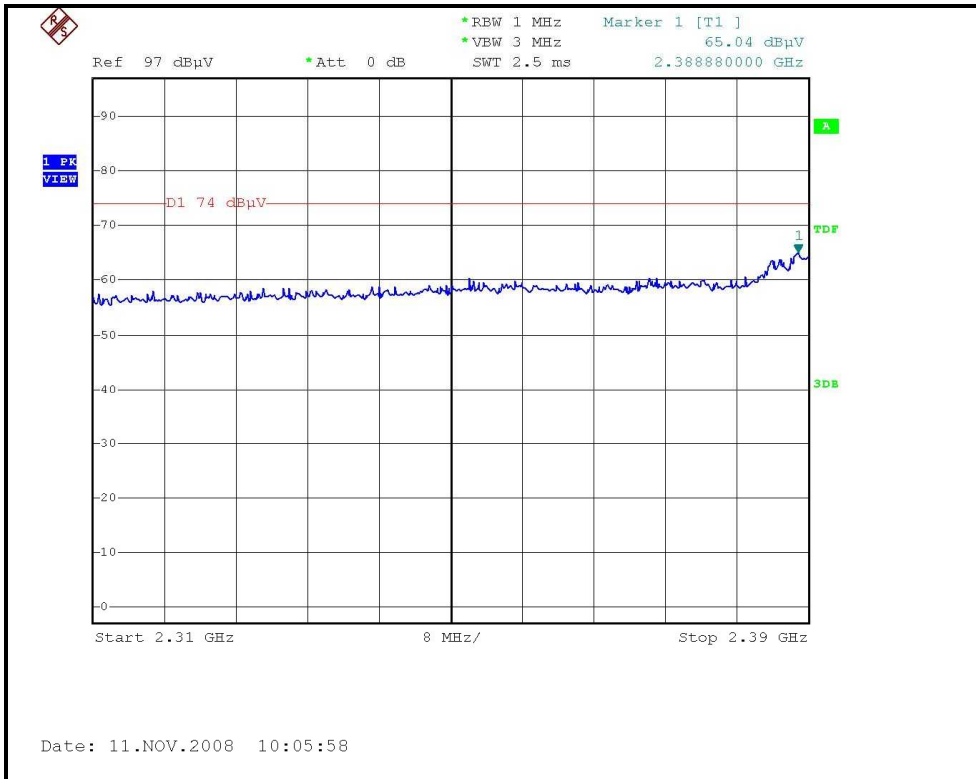
### RESTRICTED BANDEDGE (DRAFT 802.11n (40MHz) MODE, CH1, HORIZONTAL )





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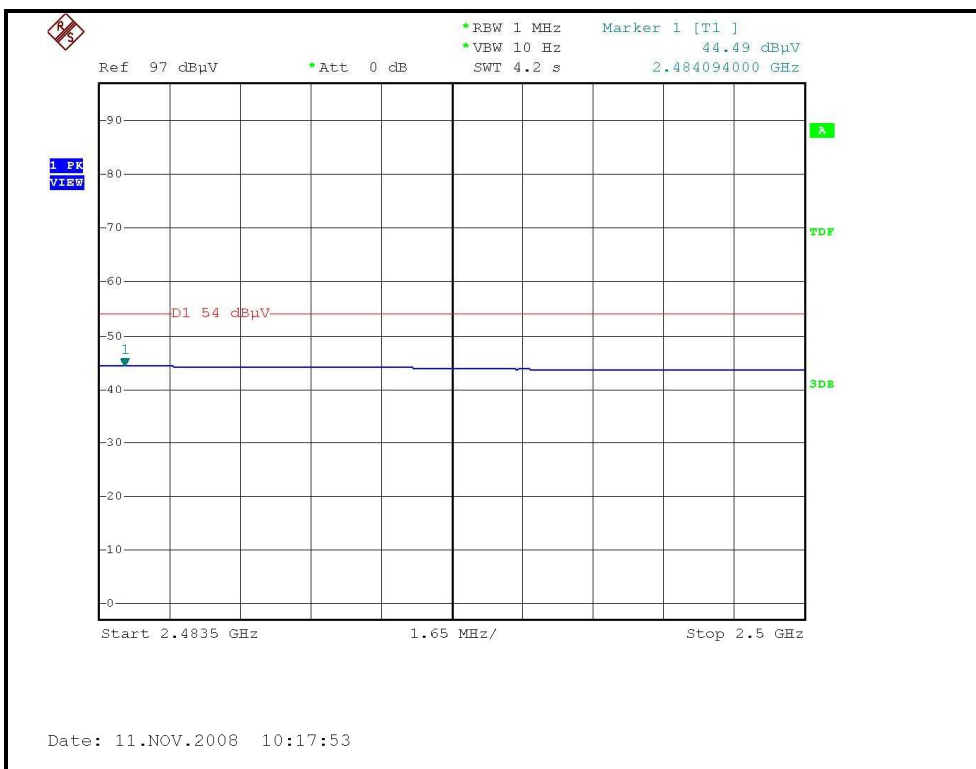
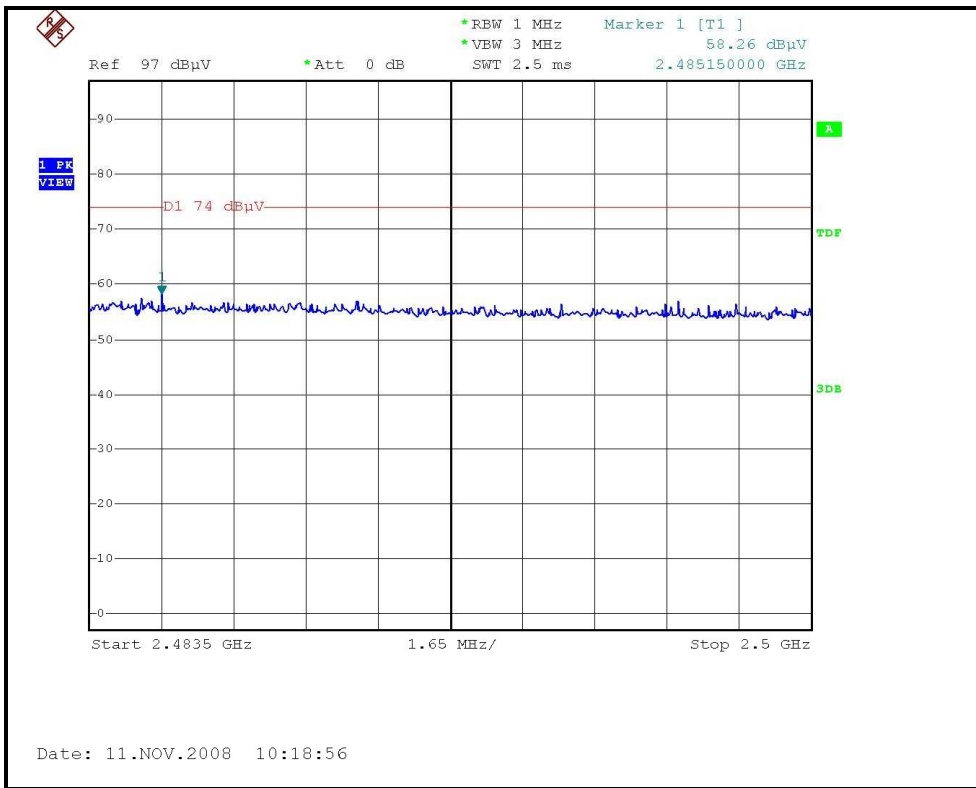
### RESTRICTED BANDEDGE (DRAFT 802.11n (40MHz) MODE, CH1, VERTICAL )





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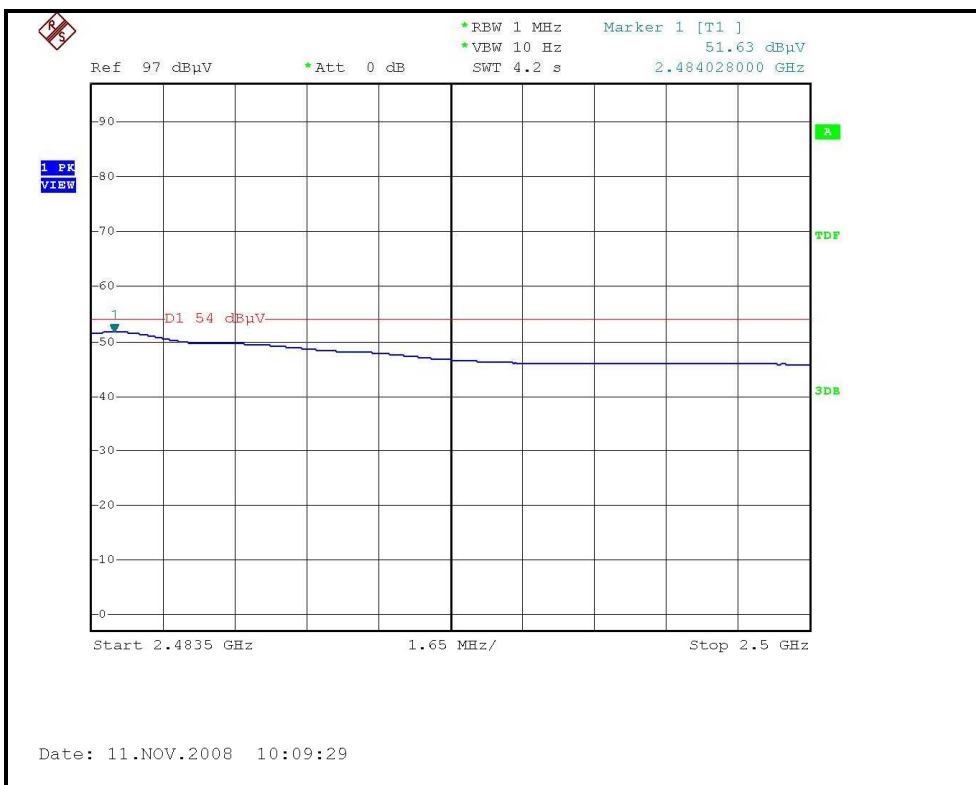
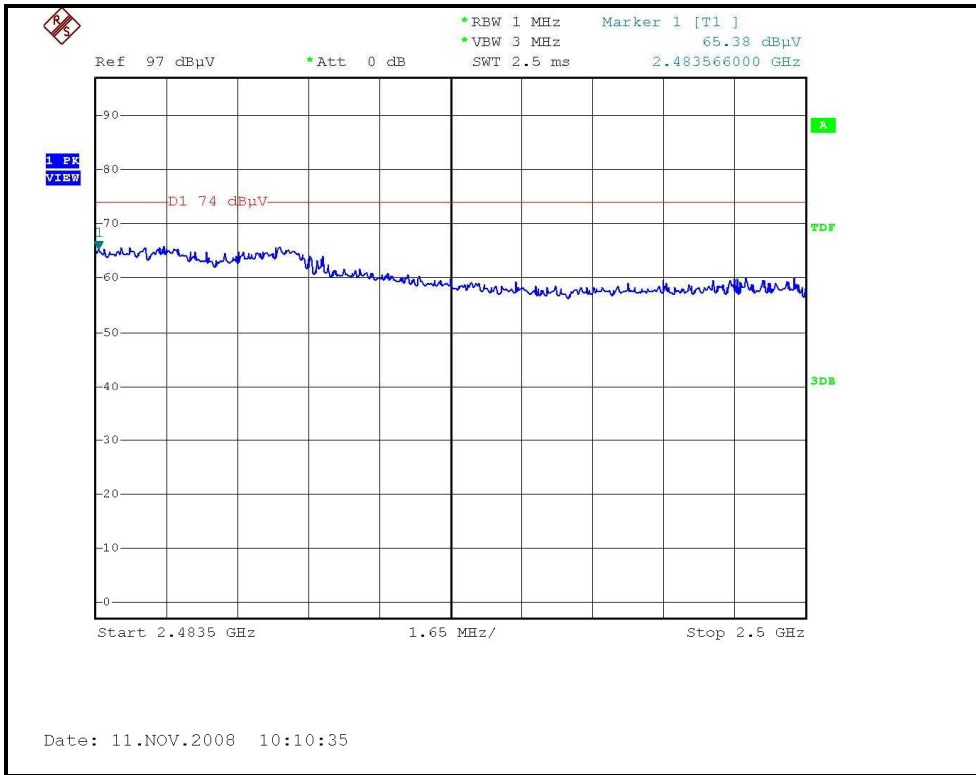
### RESTRICTED BANDEGE (DRAFT 802.11n (40MHz) MODE,CH7, HORIZONTAL )





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



### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST PROCEDURE

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

### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.3.5 TEST SETUP



### 4.3.6 EUT OPERATING CONDITIONS

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





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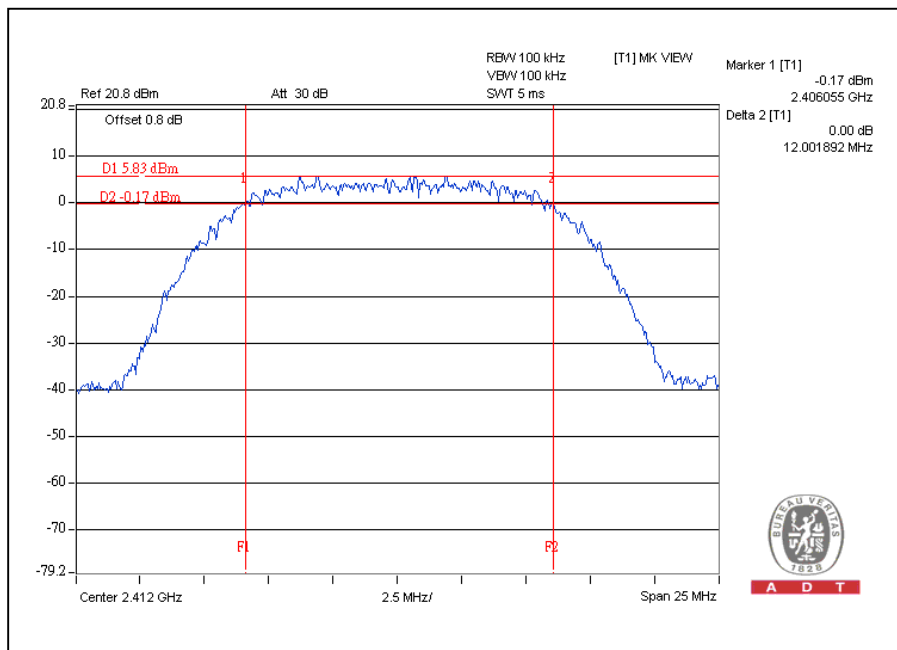
### 4.3.7 TEST RESULTS

#### 802.11b DSSS MODULATION:

<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.00	0.5	PASS
6	2437	12.23	0.5	PASS
11	2462	12.22	0.5	PASS

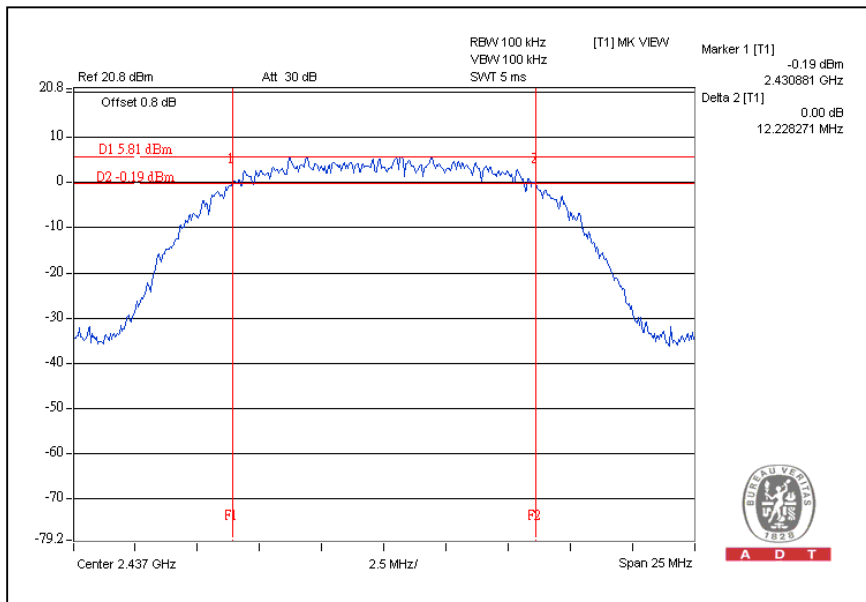
CH1



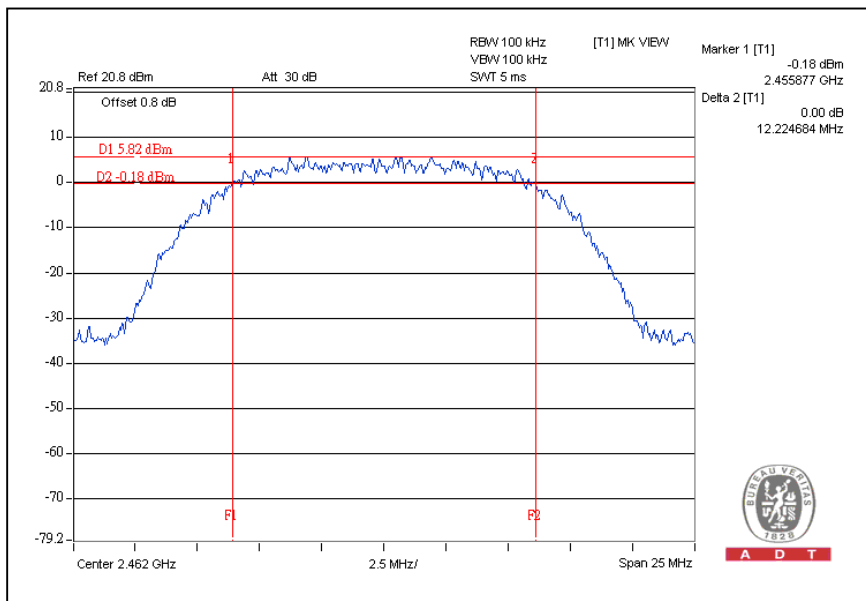


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### CH6



### CH11





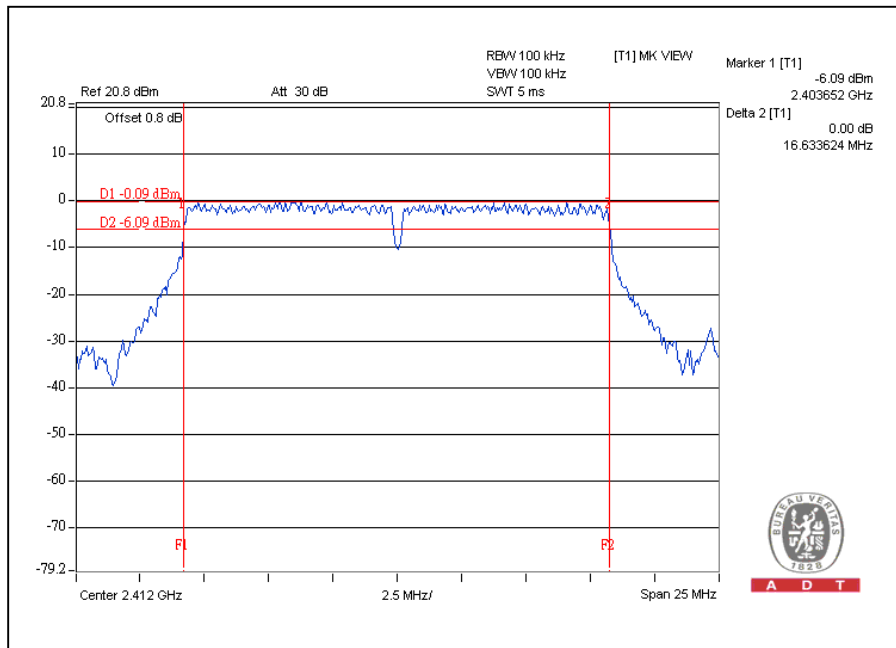
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### 802.11g OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.63	0.5	PASS
6	2437	16.62	0.5	PASS
11	2462	16.60	0.5	PASS

CH1

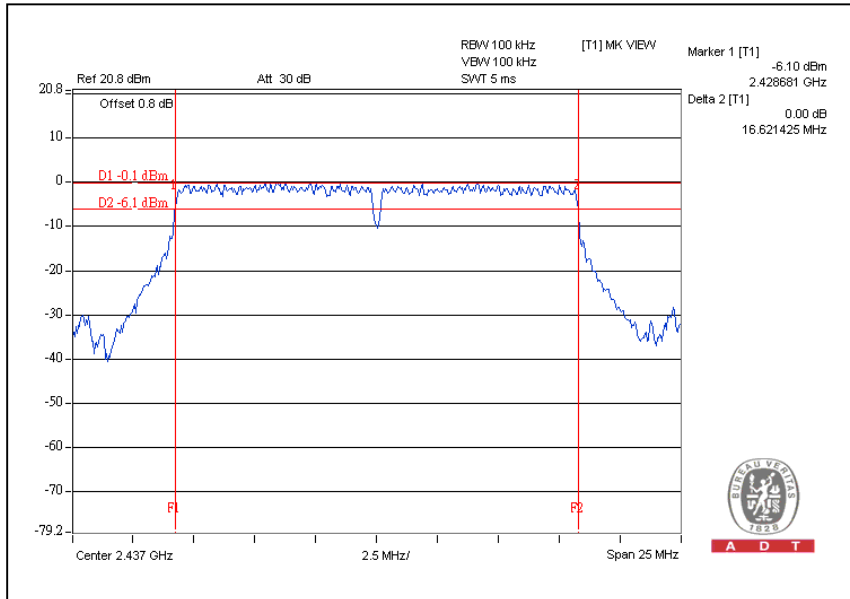


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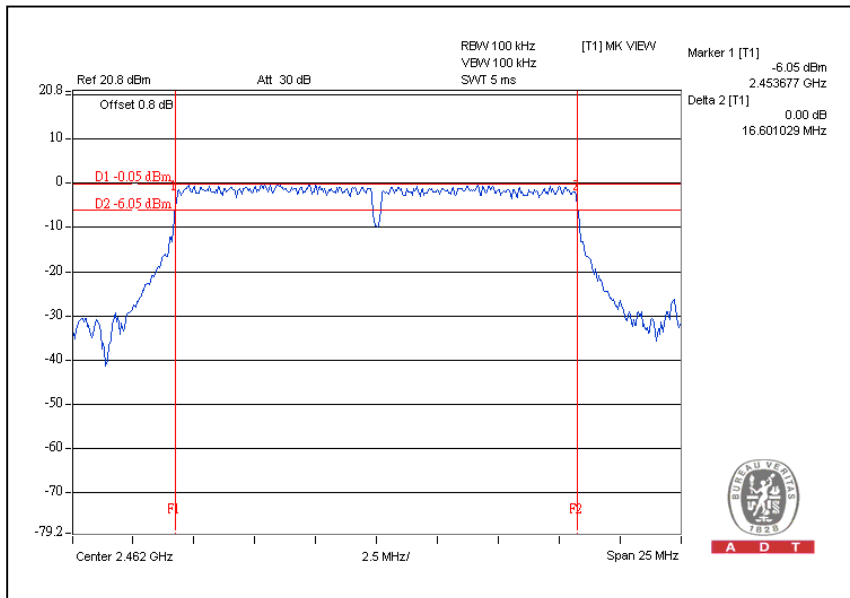


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### CH6



### CH11





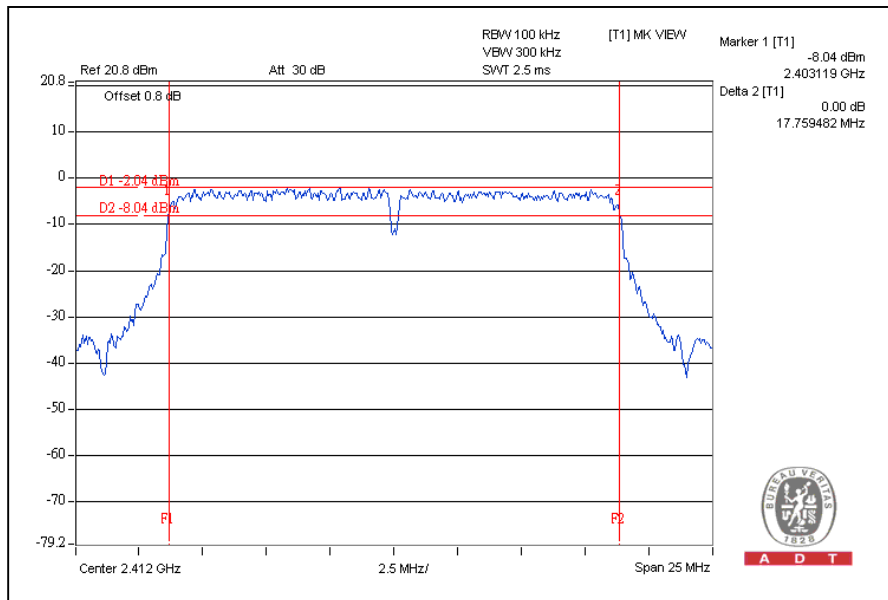
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### DRAFT 802.11n (20MHz) OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	14.444Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
1	2412	17.76	17.75	0.5	PASS
6	2437	17.79	17.71	0.5	PASS
11	2462	17.78	17.72	0.5	PASS

For Chain(0): CH1

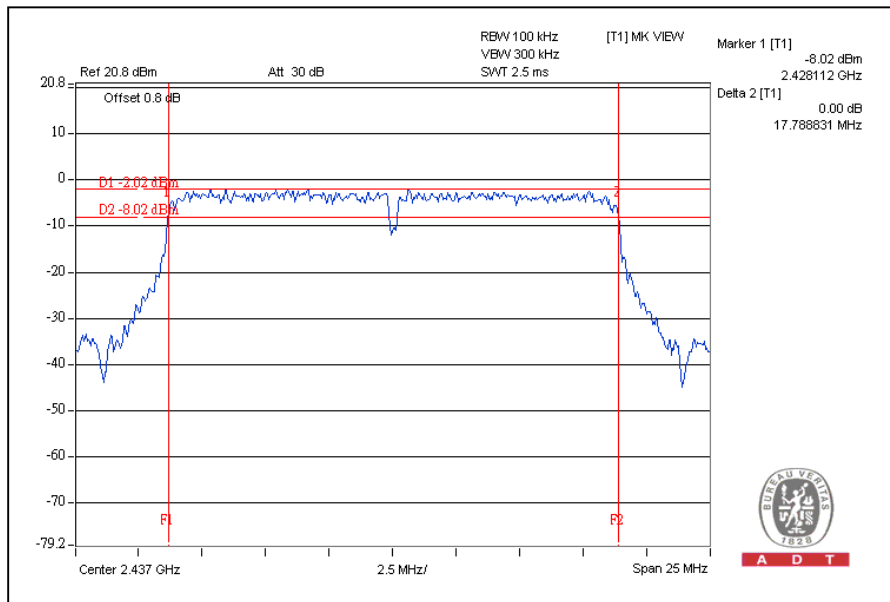


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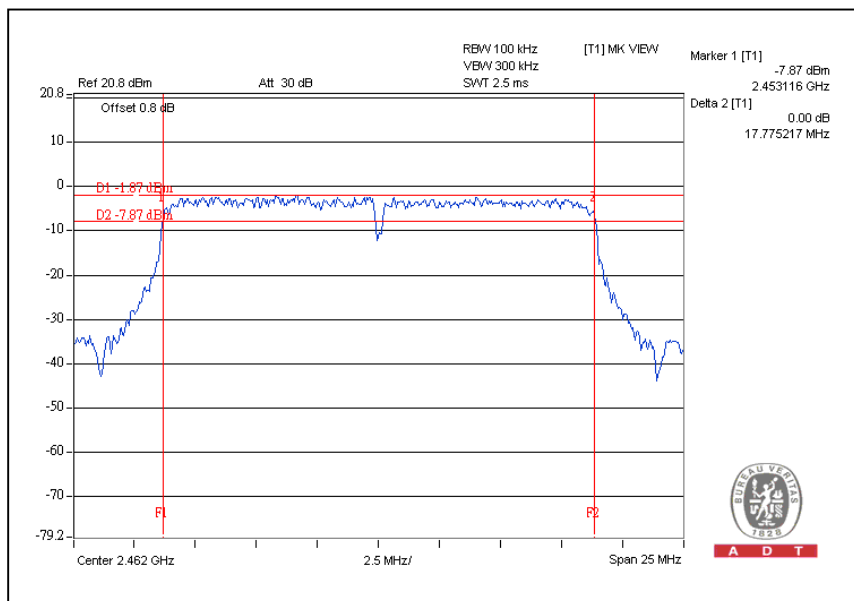


A D T

### CH6



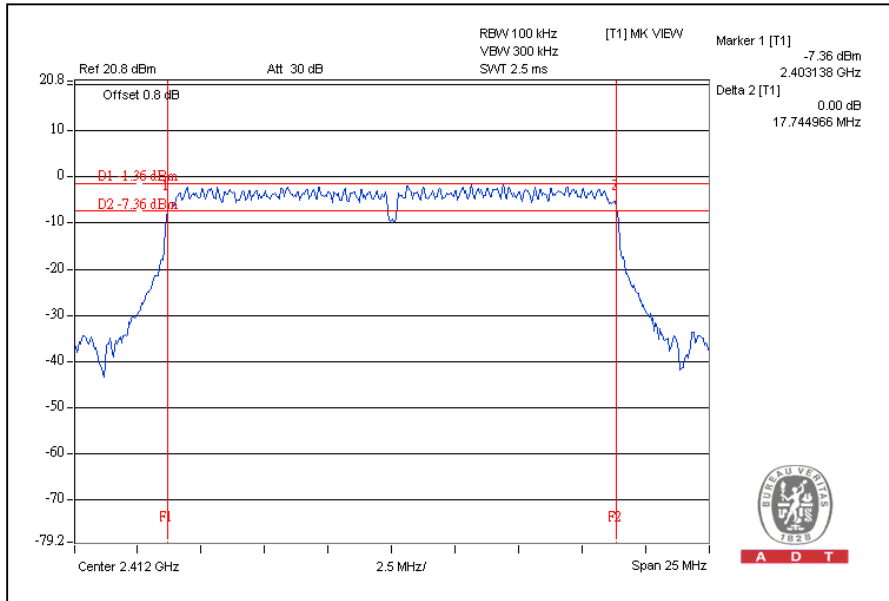
### CH11



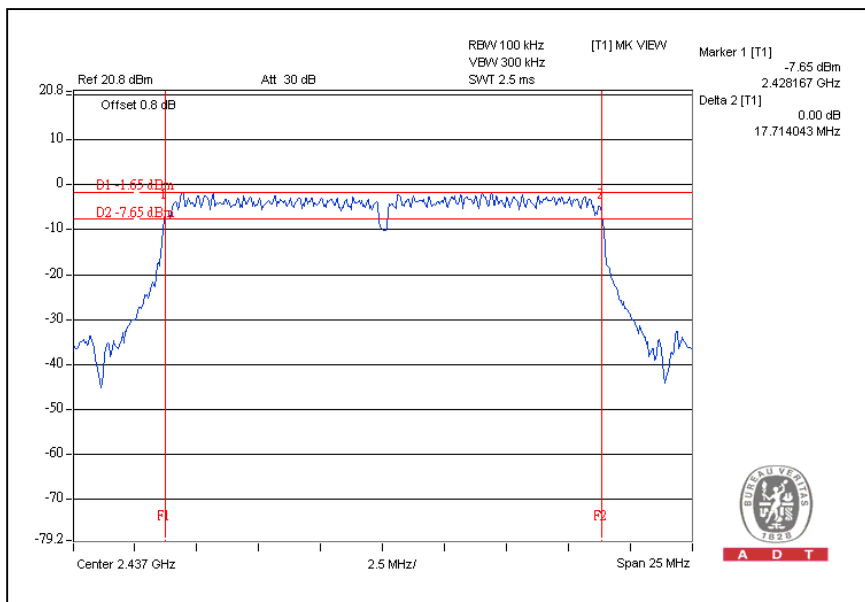


A D T

### For CHAIN(1): CH1



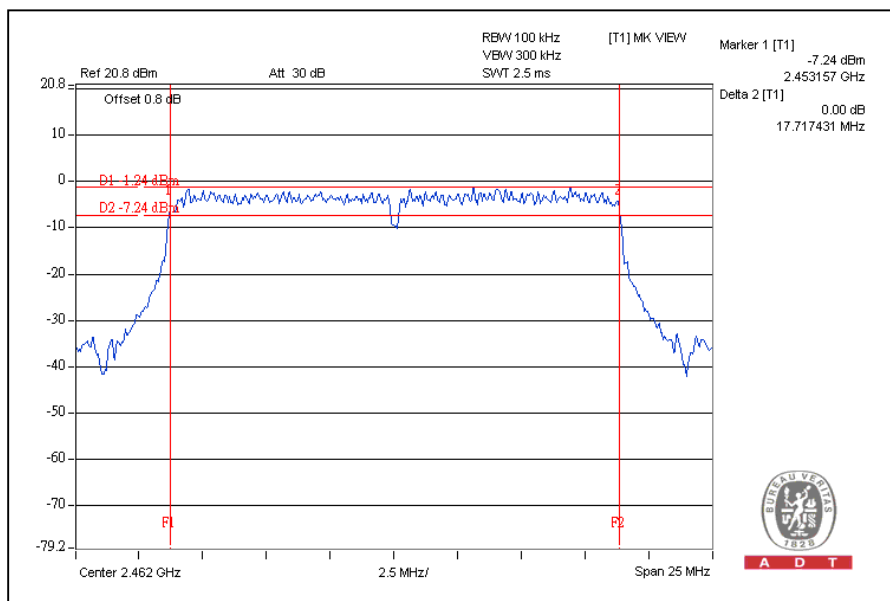
### CH6





A D T

CH11







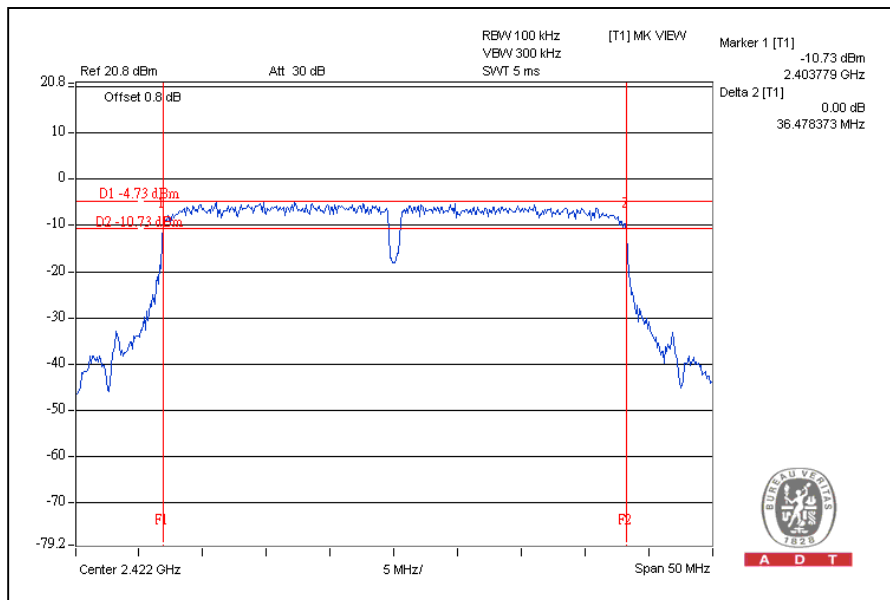
A D T

### DRAFT 802.11n (40MHz) OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	30Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)		
1	2422	36.48	36.51	0.5	PASS
4	2437	36.50	36.47	0.5	PASS
7	2452	36.51	36.46	0.5	PASS

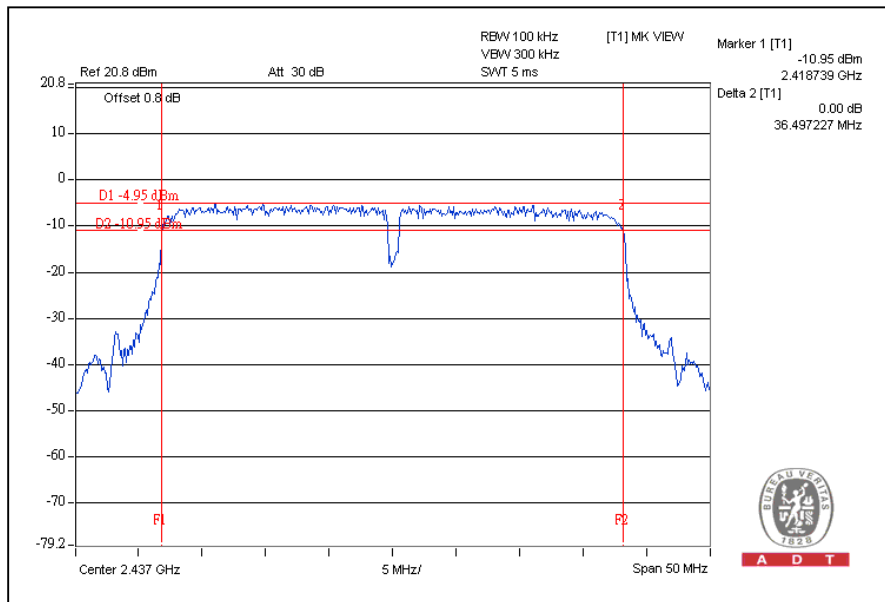
For Chain (0): CH1



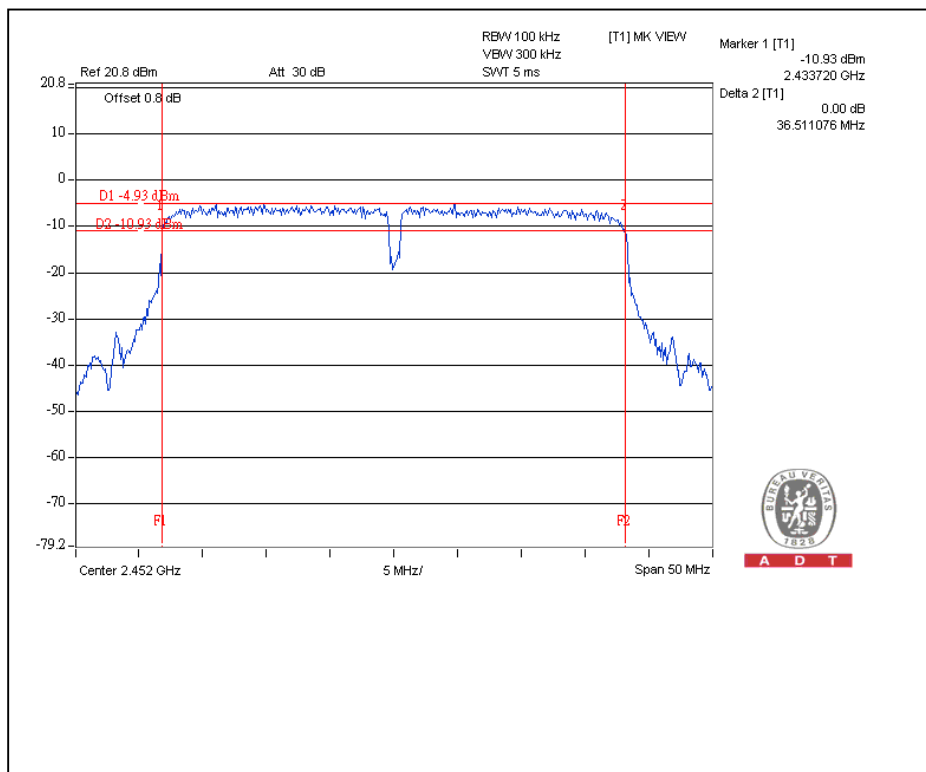


A D T

### CH4



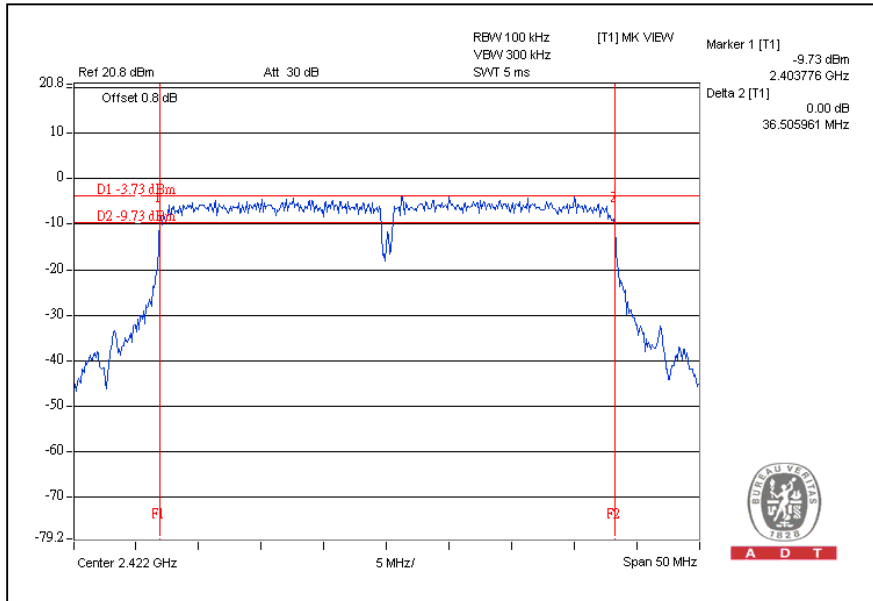
### CH7



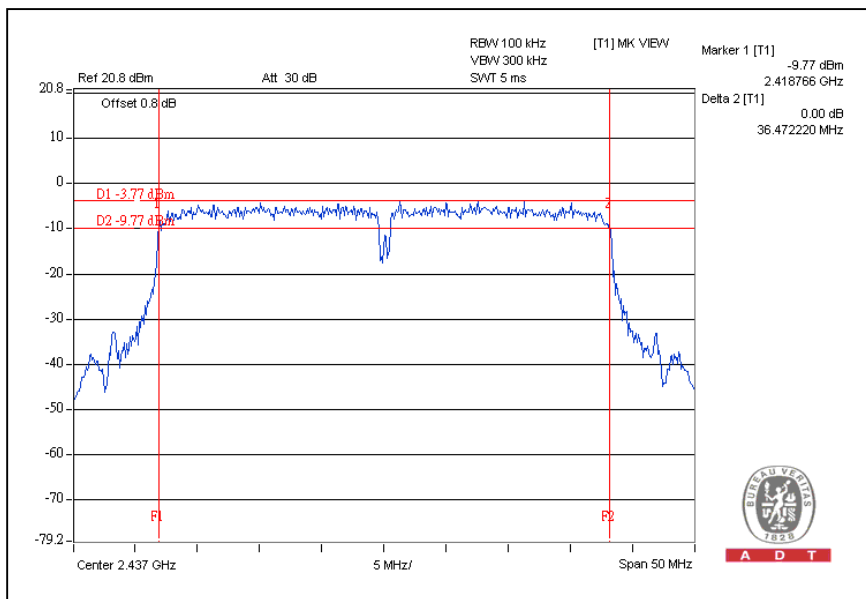


A D T

### For Chain (1): CH1



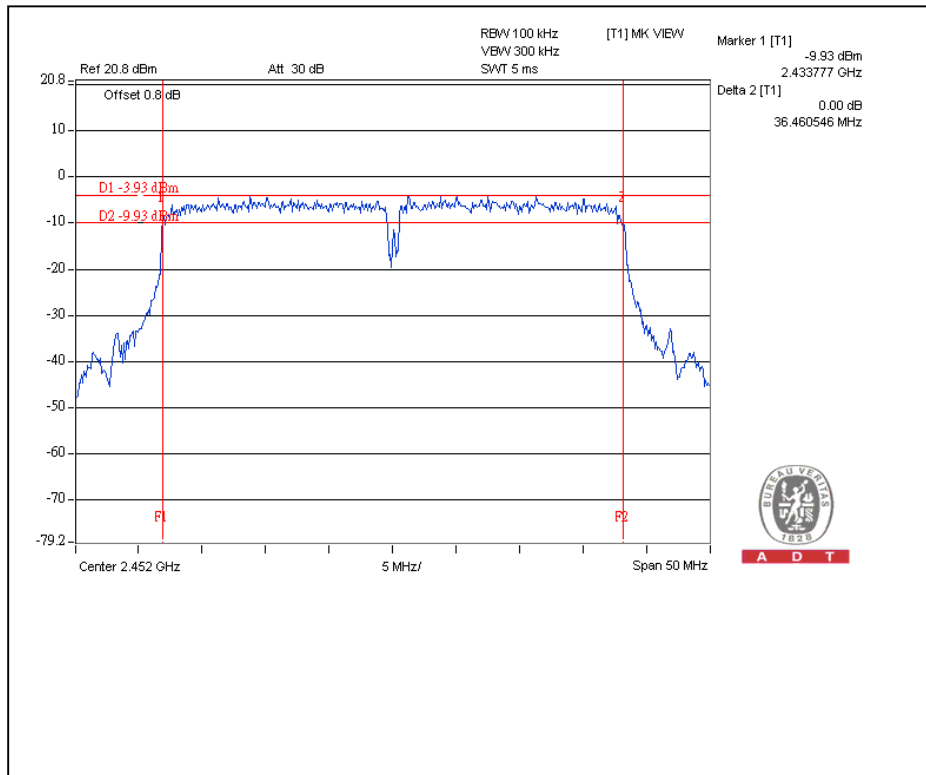
### CH4





A D T

CH7





A D T

#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 13, 2008	Aug. 12, 2009
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Dec. 26, 2007	Dec. 25, 2008
Anritsu Power Meter	ML2495A	0824006	June 14, 2008	June 13, 2009
Pulse Power Sensor	MA2411B	0738172	April 17, 2008	April 16, 2009

**NOTE:**

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

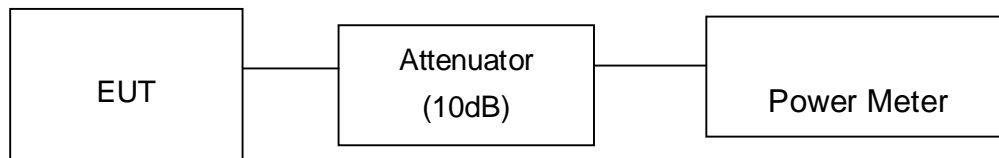
#### 4.4.3 TEST PROCEDURES

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:

<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	119.124	20.76	30	PASS
6	2437	122.462	20.88	30	PASS
11	2462	125.603	20.99	30	PASS

##### 802.11g OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	264.850	24.23	30	PASS
6	2437	268.534	24.29	30	PASS
11	2462	256.448	24.09	30	PASS



A D T

**DRAFT 802.11n (20MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	14.444Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
1	2412	154.882	166.725	21.90	22.22	321.607	25.07	30	PASS
6	2437	196.789	187.499	22.94	22.73	384.288	25.85	30	PASS
11	2462	160.325	193.197	22.05	22.86	353.522	25.48	30	PASS

**DRAFT 802.11n (40MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	26Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
1	2422	199.986	211.836	23.01	23.26	411.822	26.15	30	PASS
4	2437	196.789	212.814	22.94	23.28	409.603	26.12	30	PASS
7	2452	164.437	173.780	22.16	22.40	338.217	25.29	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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

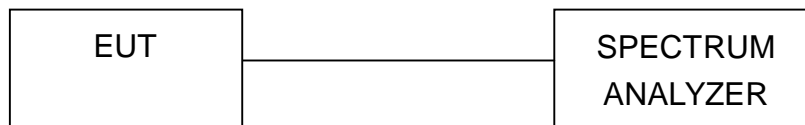
#### 4.5.3 TEST PROCEDURE

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



A D T

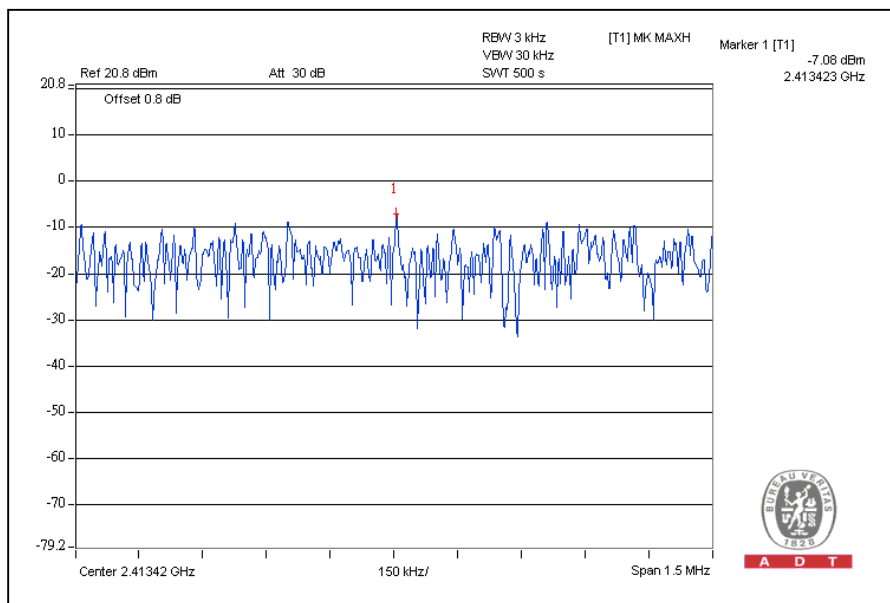
### 4.5.7 TEST RESULTS

#### 802.11b DSSS MODULATION:

<b>MODULATION TYPE</b>	CCK	<b>TRANSFER RATE</b>	11Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-7.08	8	PASS
6	2437	-7.05	8	PASS
11	2462	-7.07	8	PASS

CH1

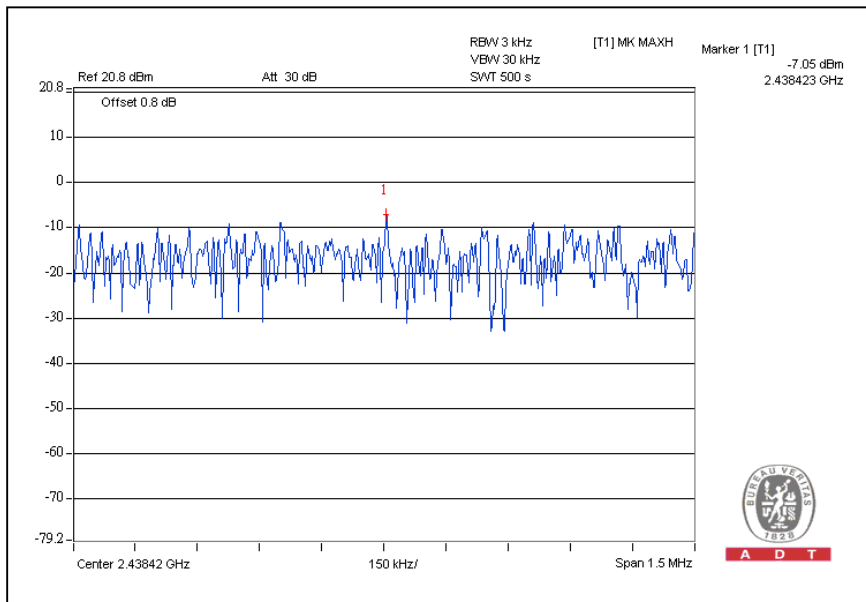


A D T

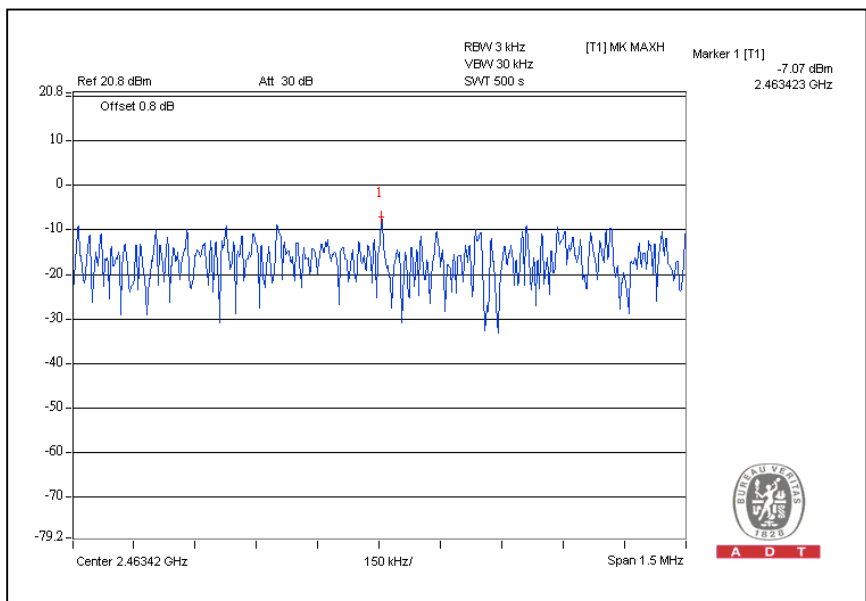


A D T

### CH6



### CH11





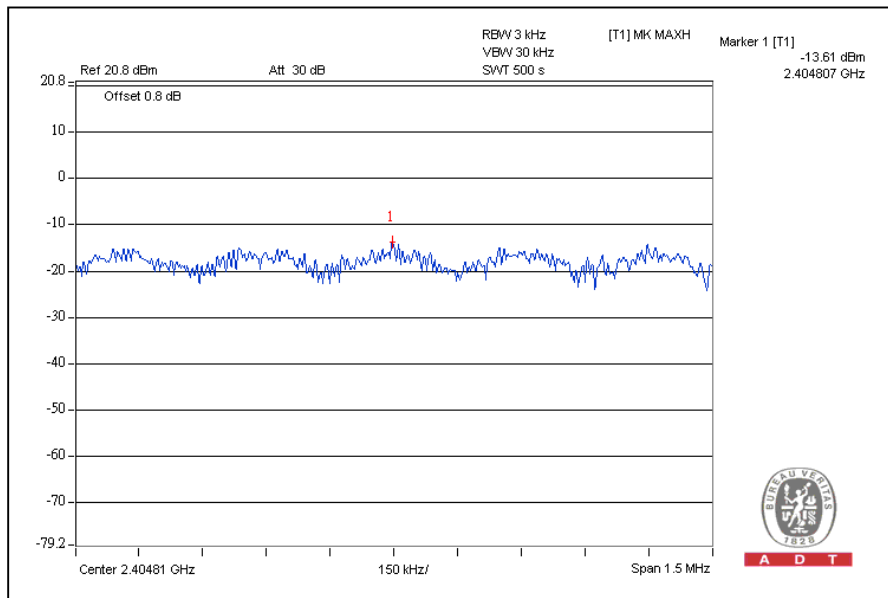
A D T

### 802.11g OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-13.61	8	PASS
6	2437	-13.69	8	PASS
11	2462	-13.35	8	PASS

CH1

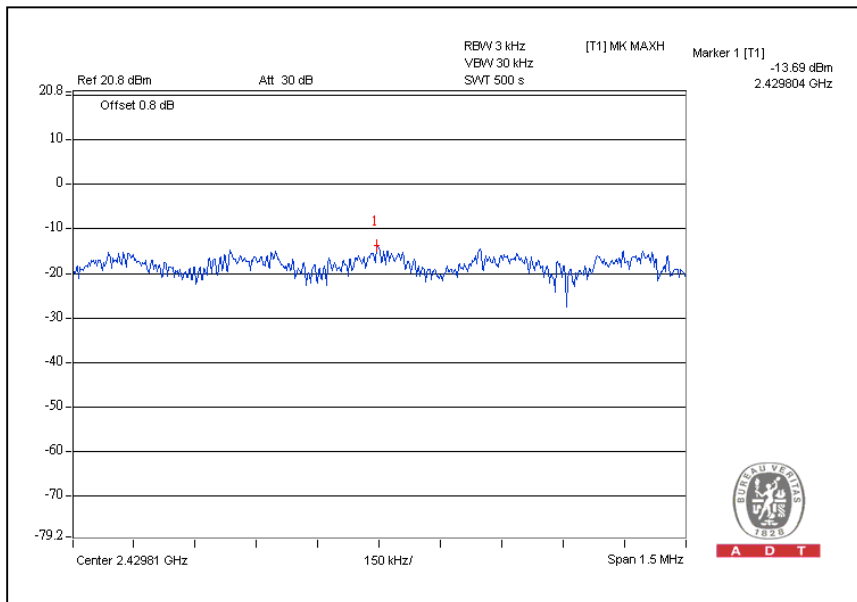


A D T

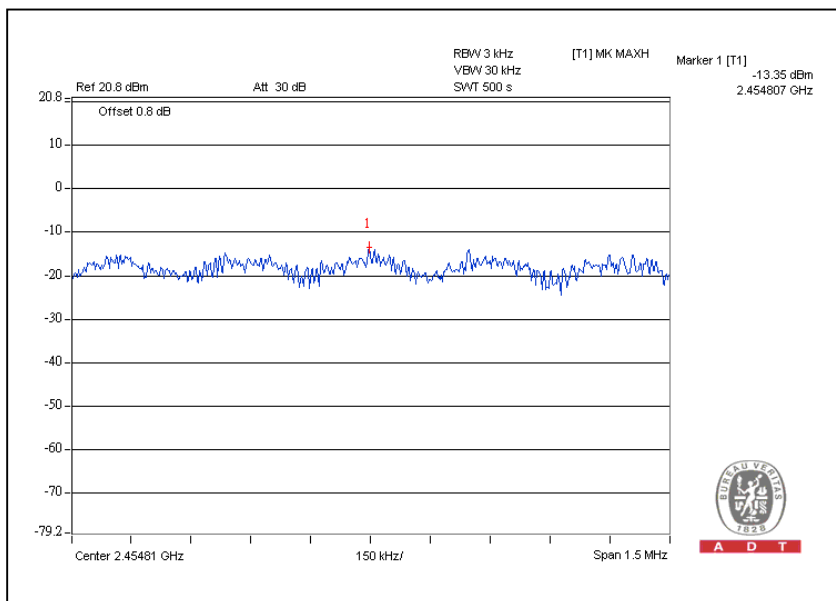


A D T

### CH6



### CH11





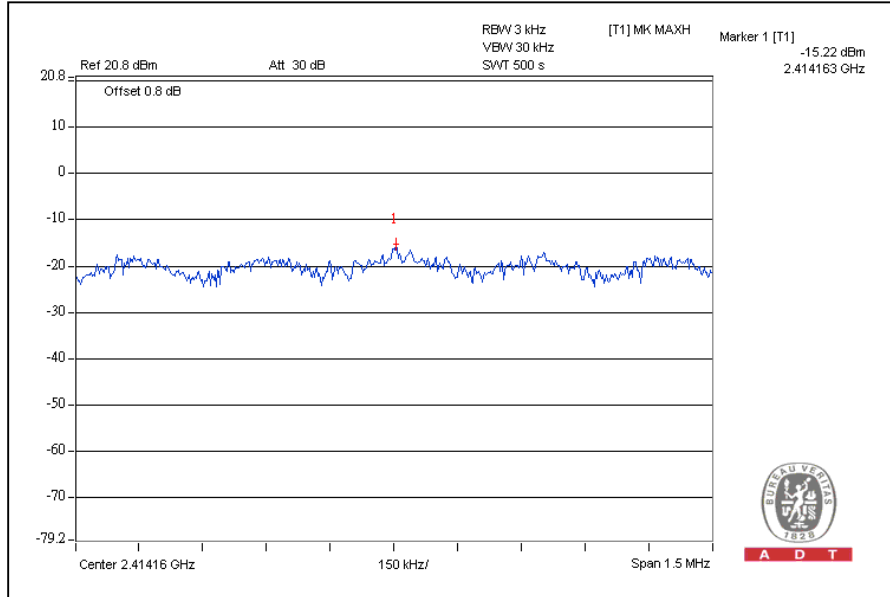
A D T

**DRAFT 802.11n (20MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	14.444Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (mW)		RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
1	2412	0.030	0.027	-15.22	-15.62	0.057	-12.44	8	PASS
6	2437	0.025	0.023	-16.04	-16.32	0.048	-13.19	8	PASS
11	2462	0.029	0.026	-15.43	-15.80	0.055	-12.60	8	PASS

For Chain(0): CH1

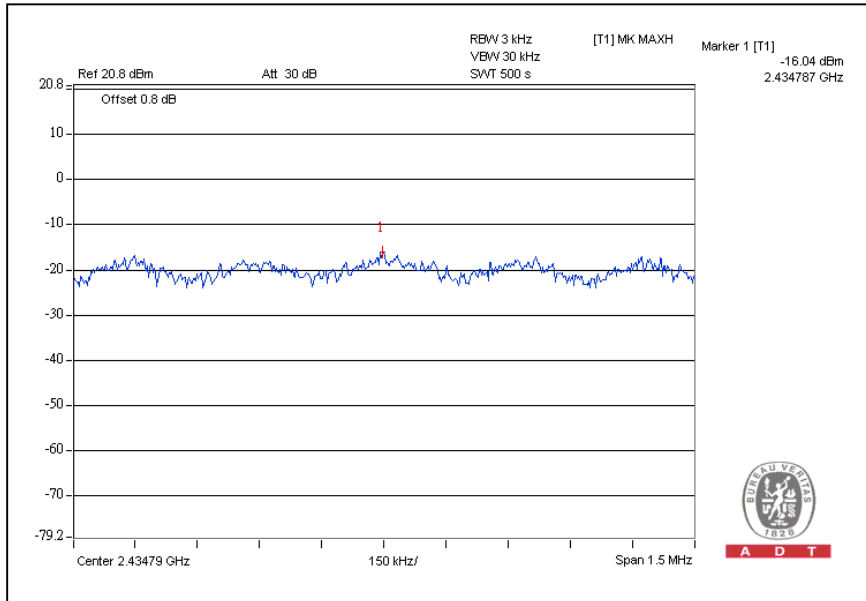


A D T

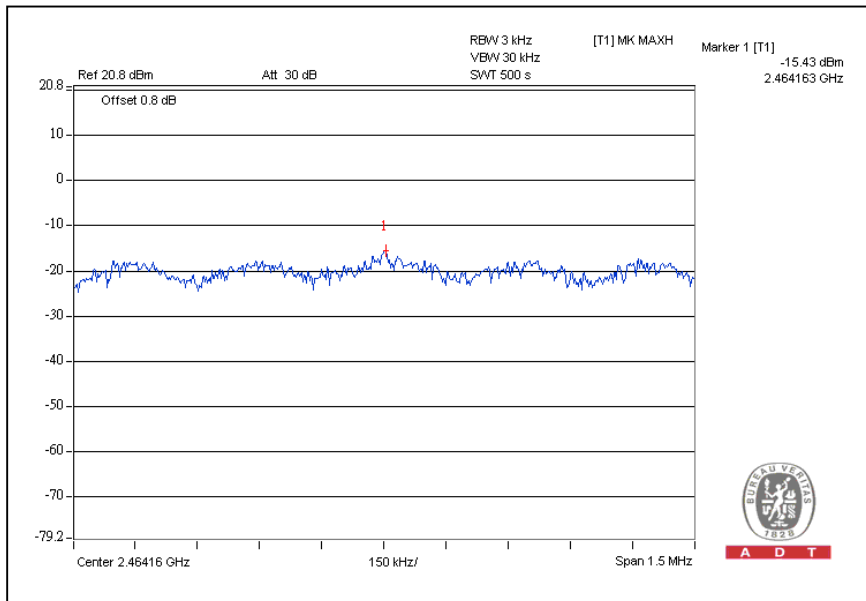


A D T

### CH6

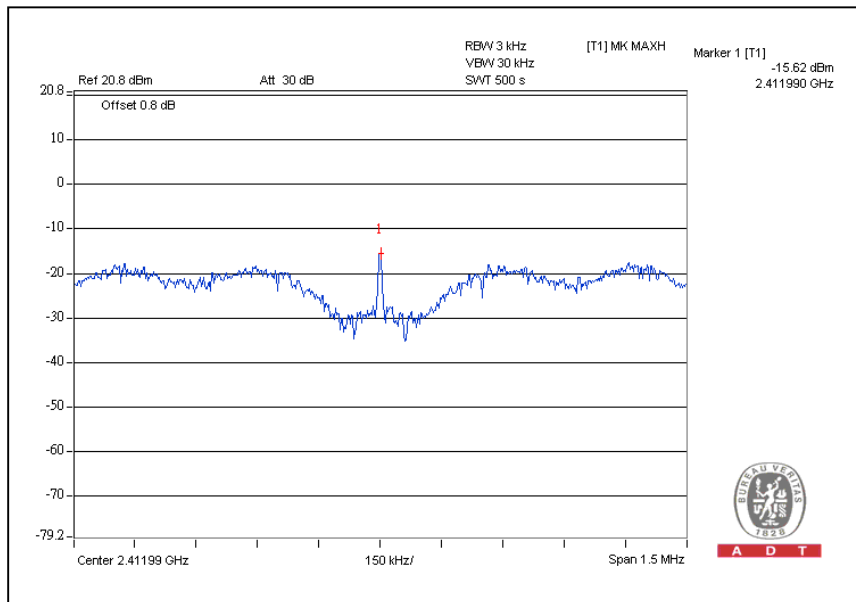


### CH11

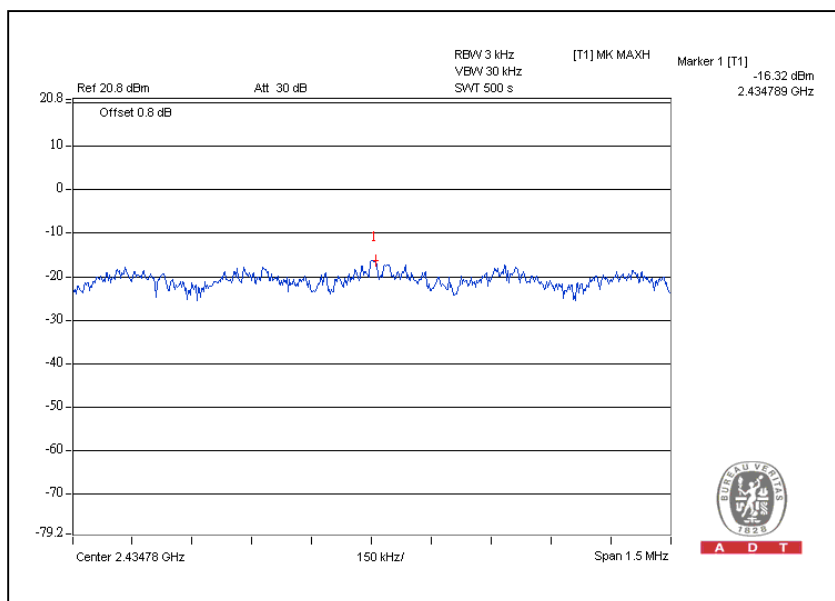




### For Chain (1): CH1



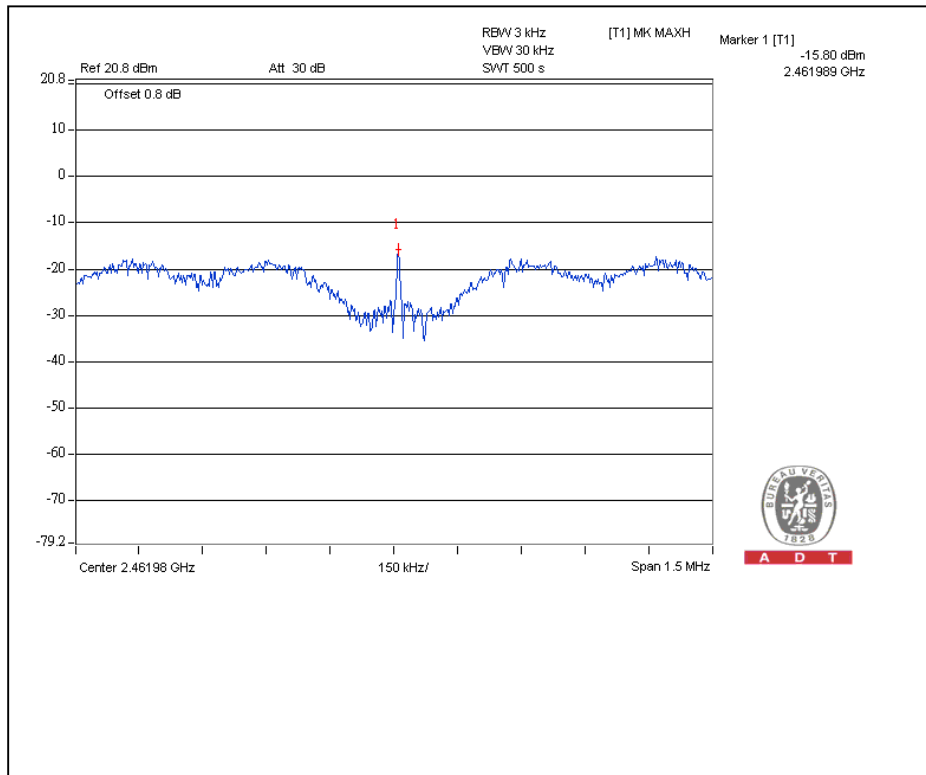
### CH6





A D T

# CH11





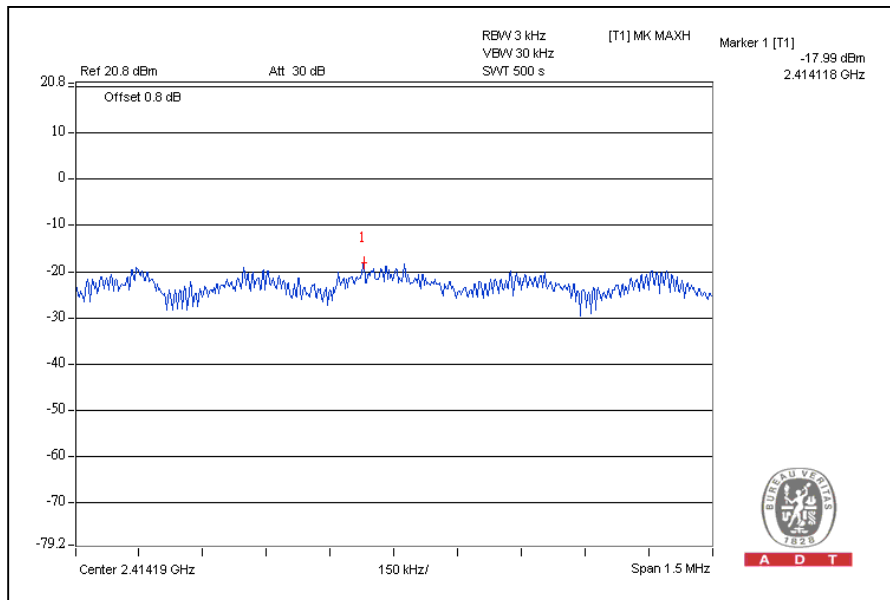
A D T

### DRAFT 802.11n (40MHz) OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	30Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	20deg.C, 60%RH, 965hPa
<b>TESTED BY</b>	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (mW)		RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)	CHAIN(0)	CHAIN(1)				
1	2422	0.016	0.032	-17.99	-14.91	0.048	-13.19	8	PASS
4	2437	0.011	0.032	-19.77	-14.98	0.043	-13.67	8	PASS
7	2452	0.012	0.031	-19.04	-15.11	0.043	-13.67	8	PASS

For Chain (0): CH1

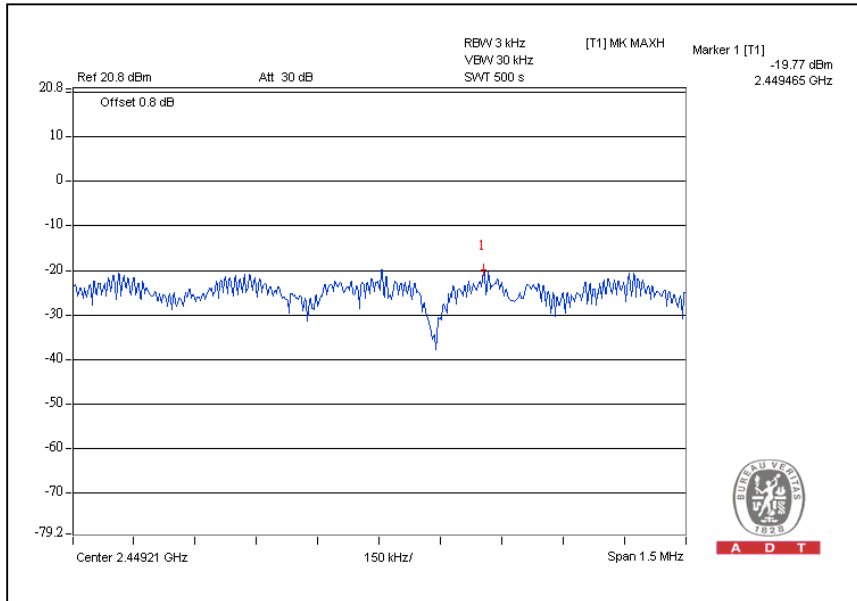


A D T

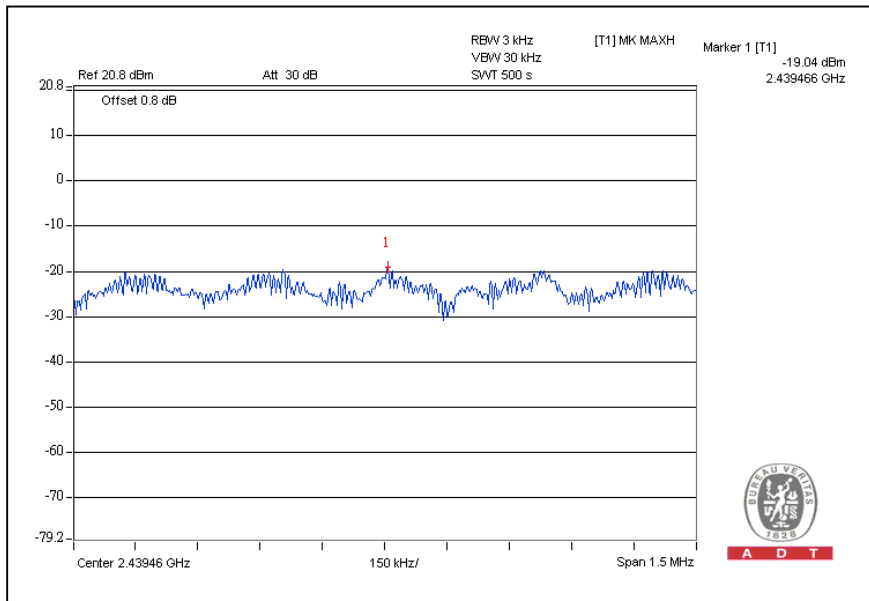


A D T

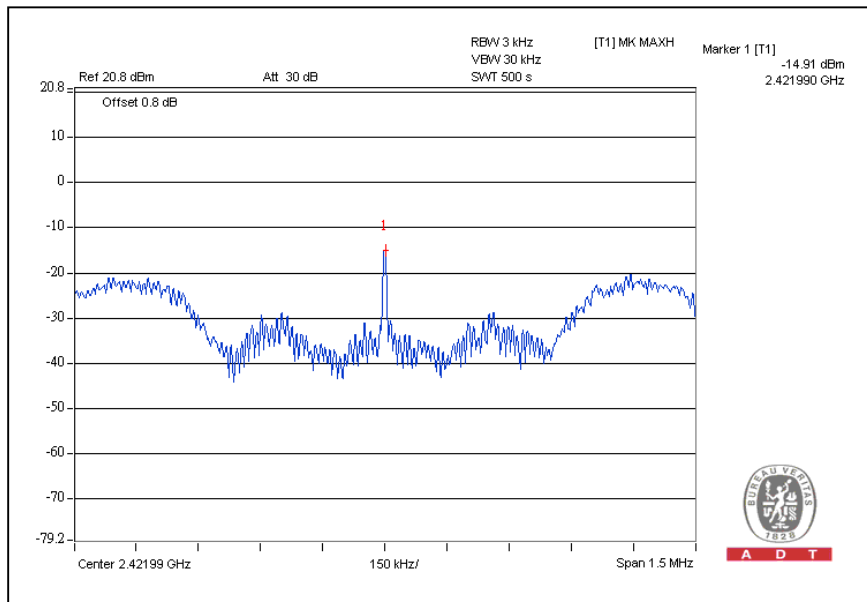
### CH4



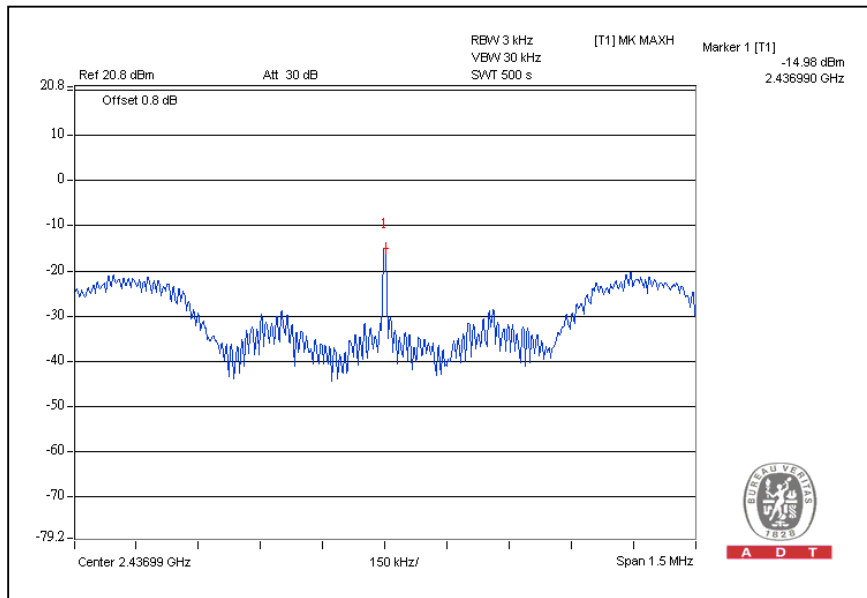
### CH7



### For Chain (1): CH1



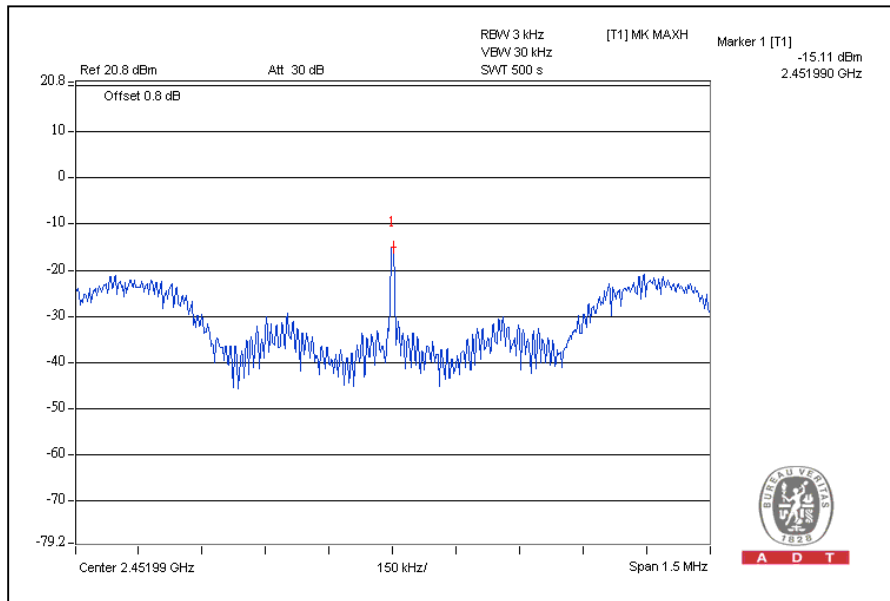
### CH4





A D T

CH7





## 4.6 OUTBAND EMISSION MEASUREMENT

### 4.6.1 LIMITS OF OUTBAND EMISSION MEASUREMENT

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

### 4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- 2.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 loss cable. Set RBW of spectrum analyzer to 100kHz and VBW of spectrum analyzer to 300kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

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



A D T

#### 4.6.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.6.5 EUT OPERATING CONDITION

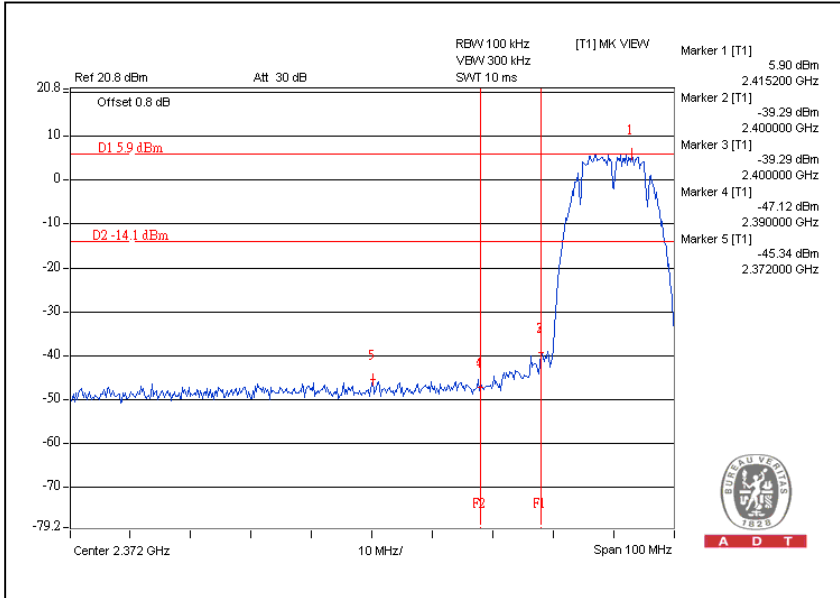
Same as Item 4.3.6

#### 4.6.6 TEST RESULTS

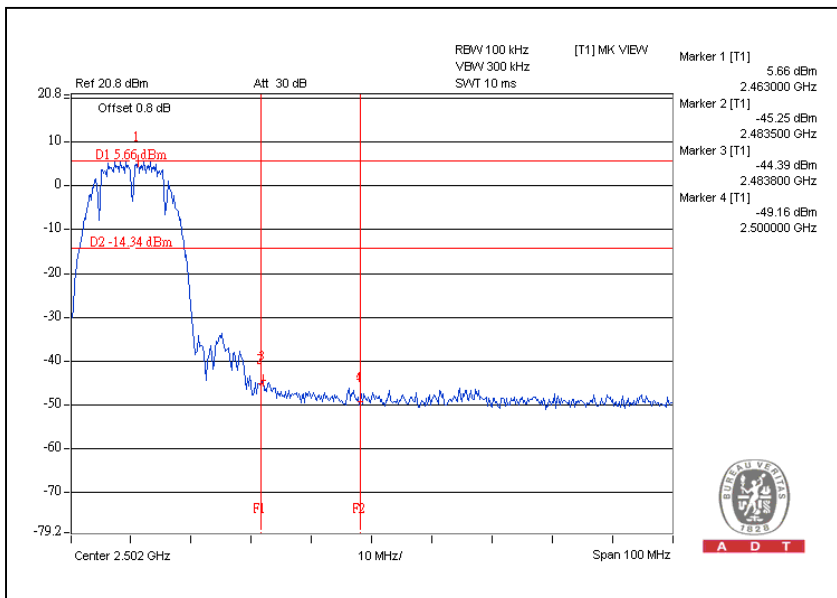
The spectrum plots are attached on the following images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).



### 802.11b DSSS MODULATION: CH1



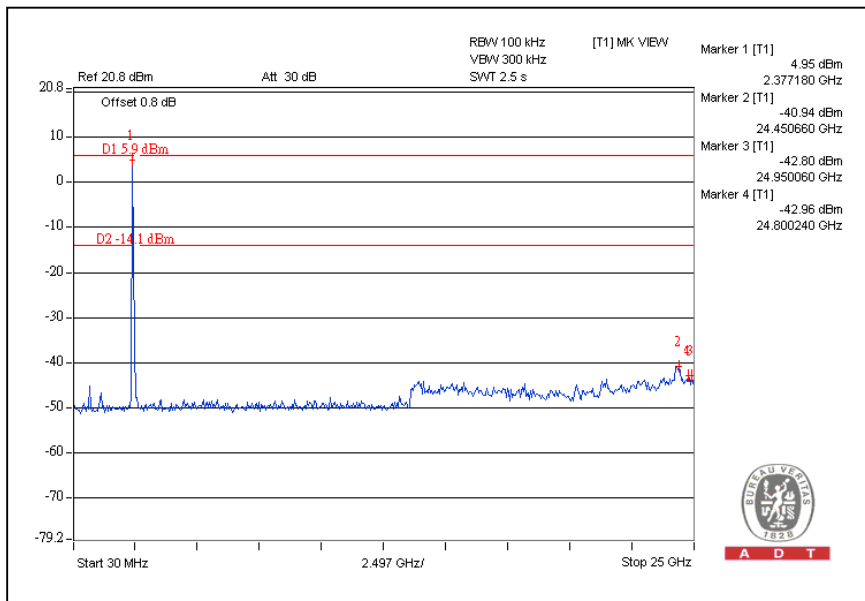
### CH11



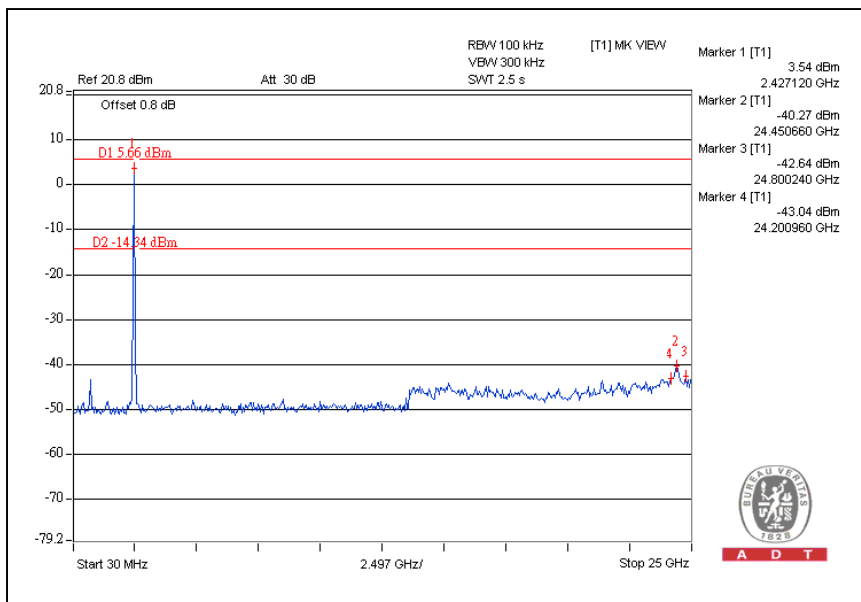


A D T

### CH1



### CH11

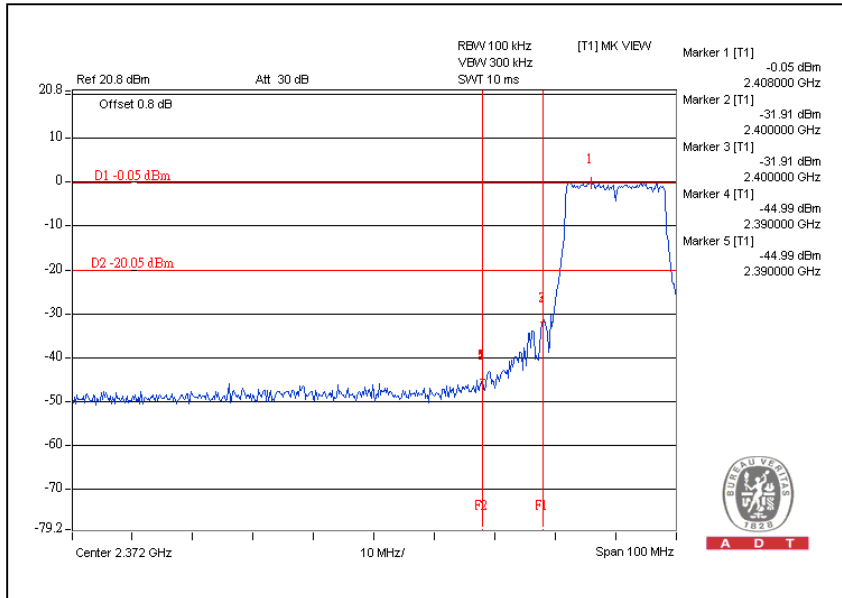




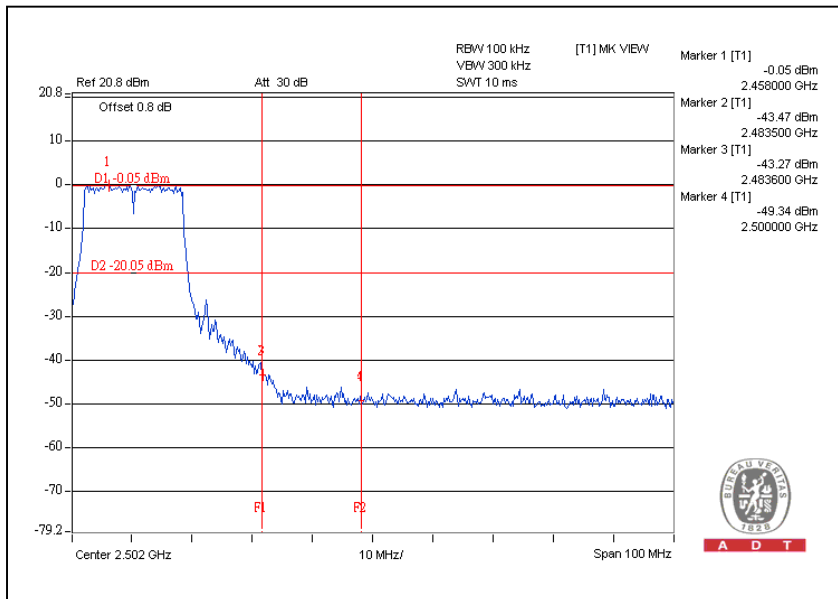
A D T

### 802.11g OFDM MODULATION:

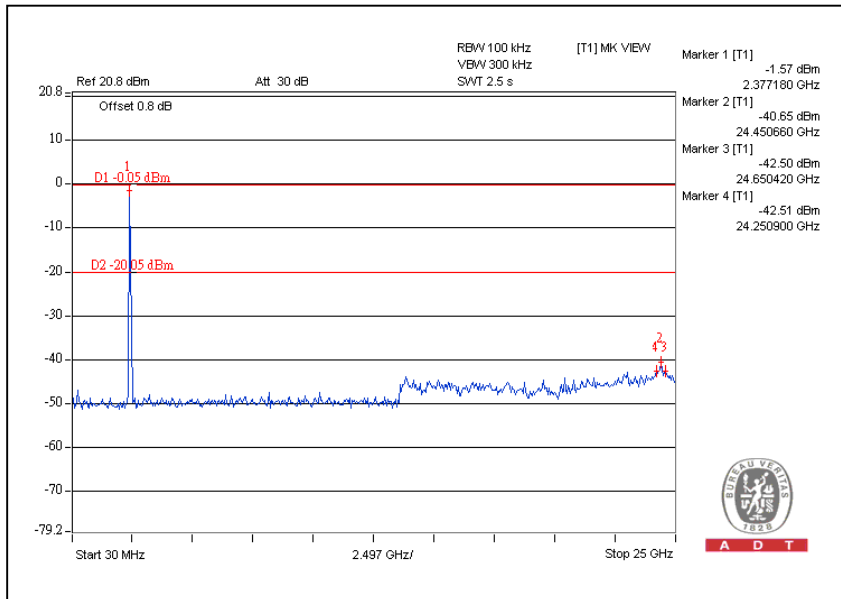
#### CH 1



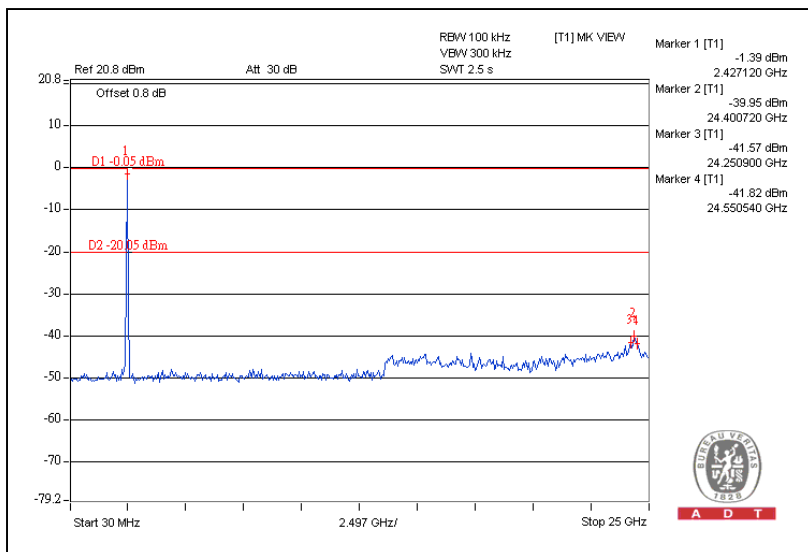
#### CH11



### CH1



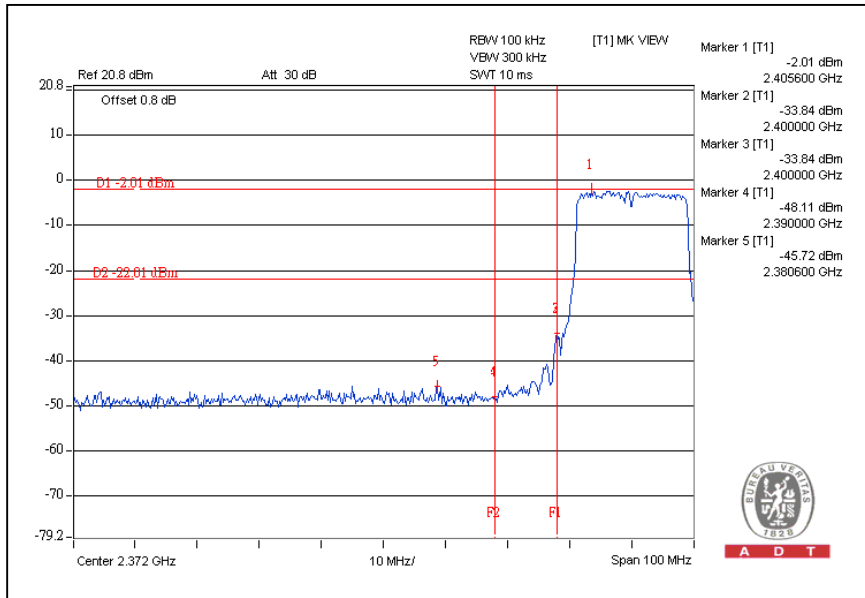
### CH11



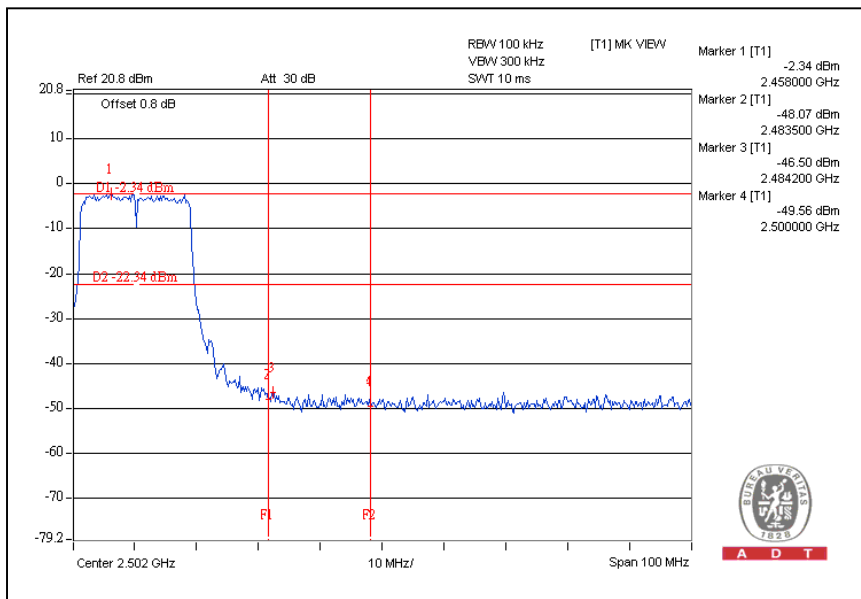


A D T

### DRAFT 802.11n (20MHz) OFDM MODULATION: For Chain (0):CH1



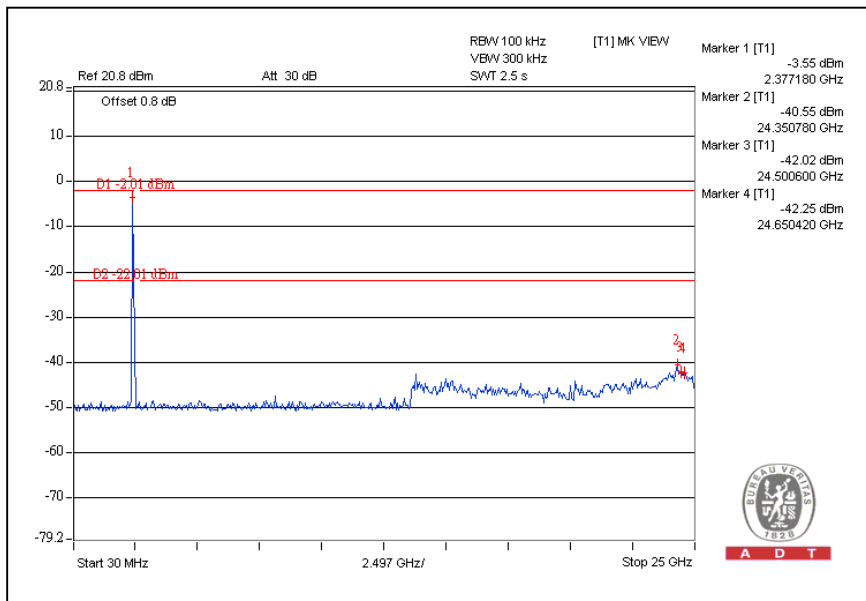
CH11



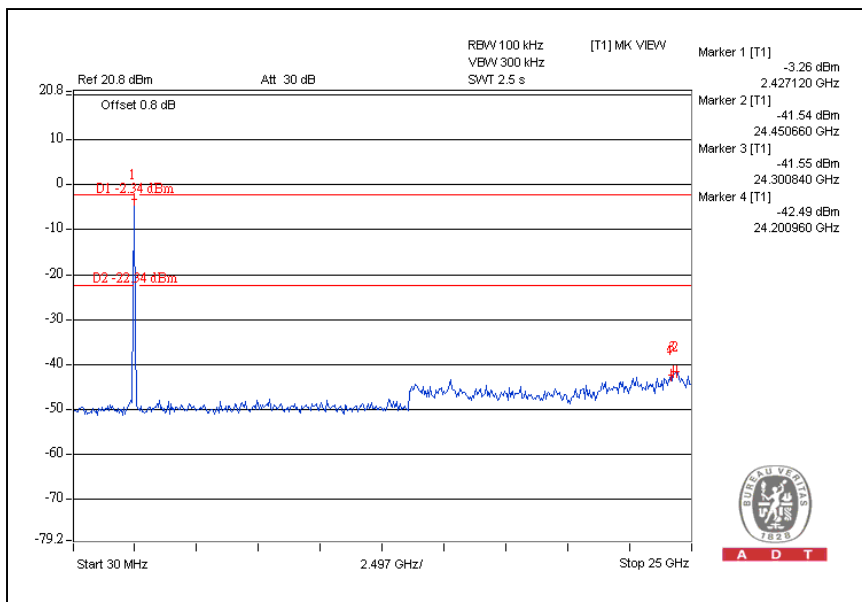


A D T

### CH1



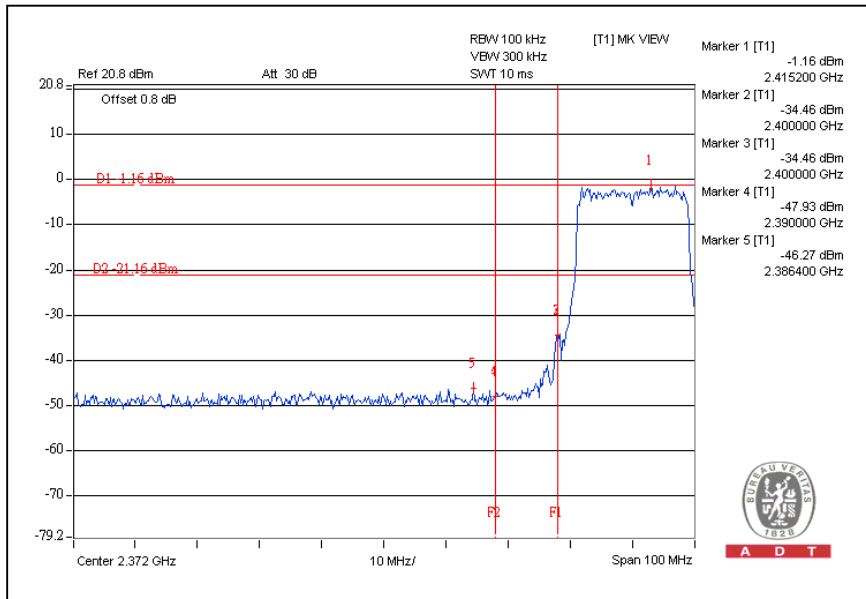
### CH11



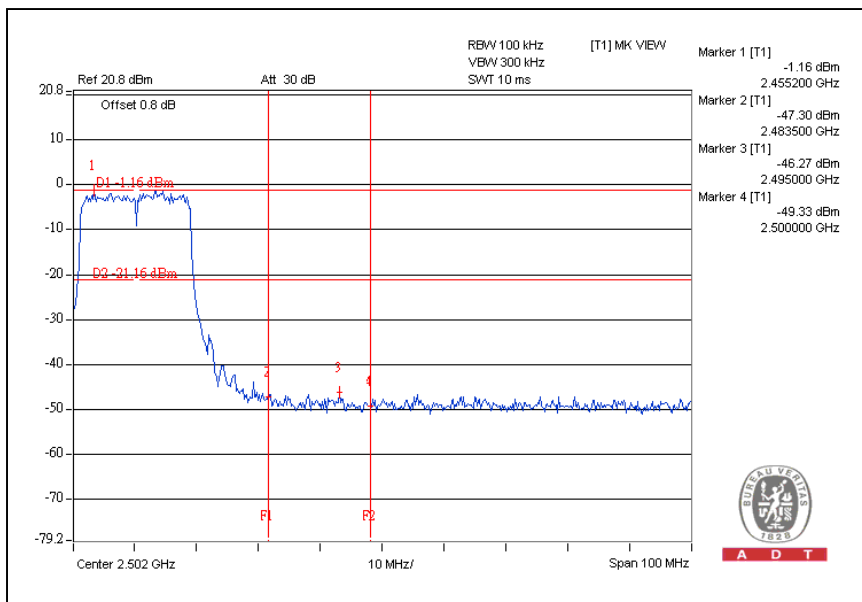


A D T

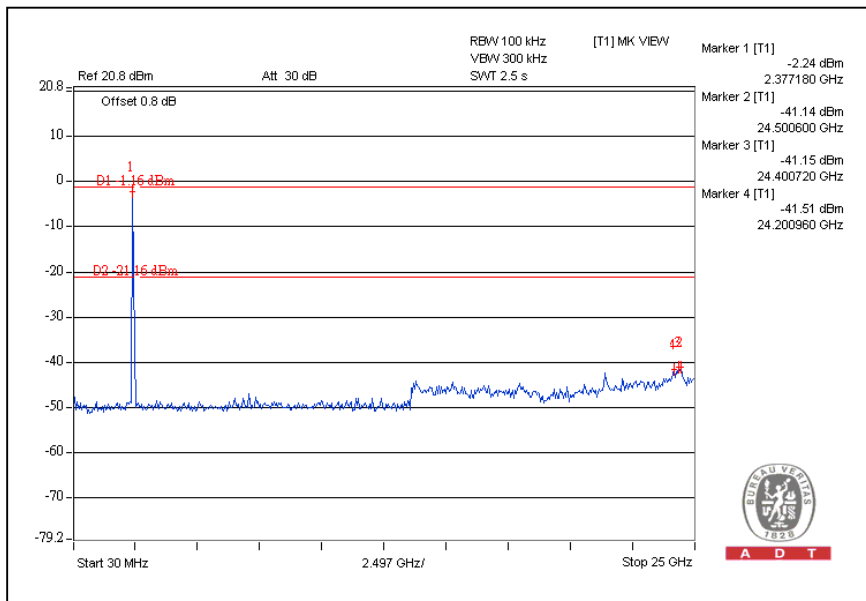
### For Chain (1):CH1



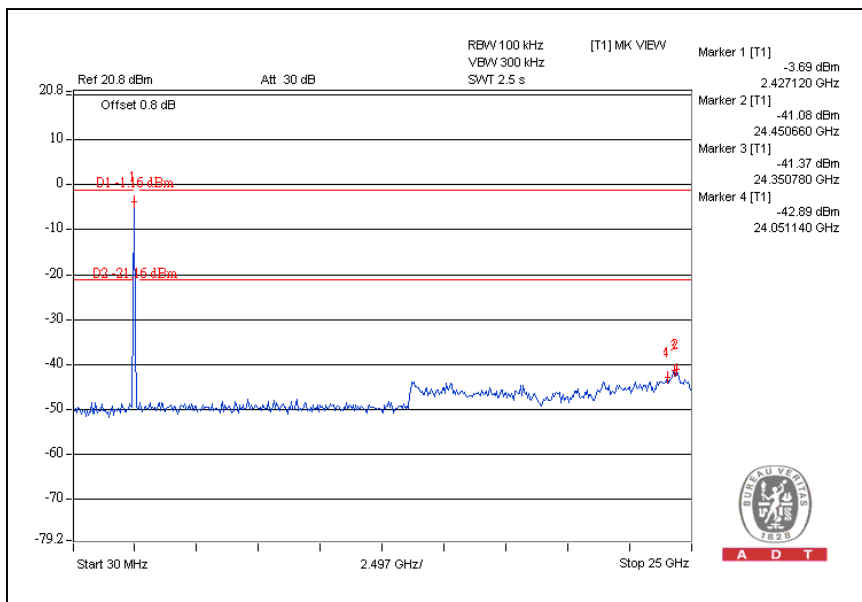
### CH11



### CH1



### CH11

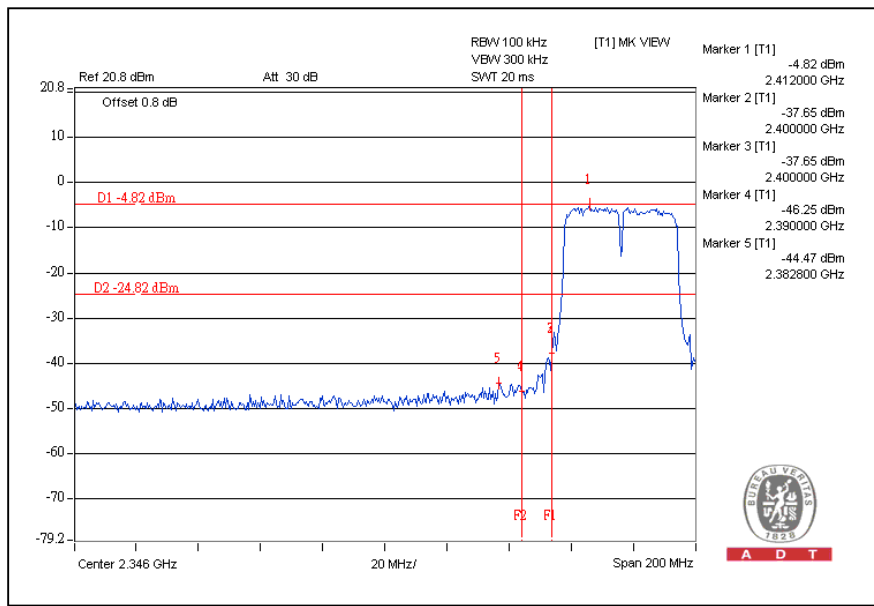




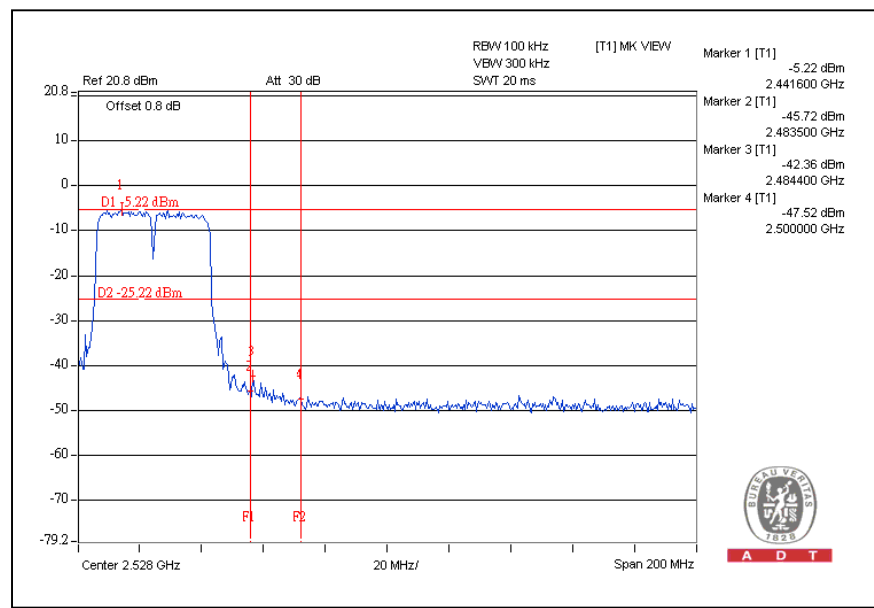


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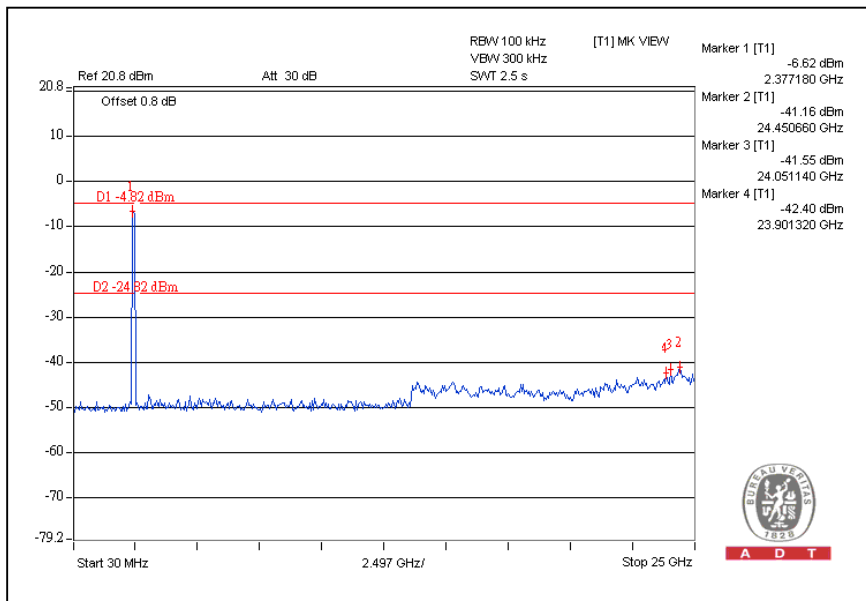
### DRAFT 802.11n (40MHz) OFDM MODULATION: For Chain (0):CH1



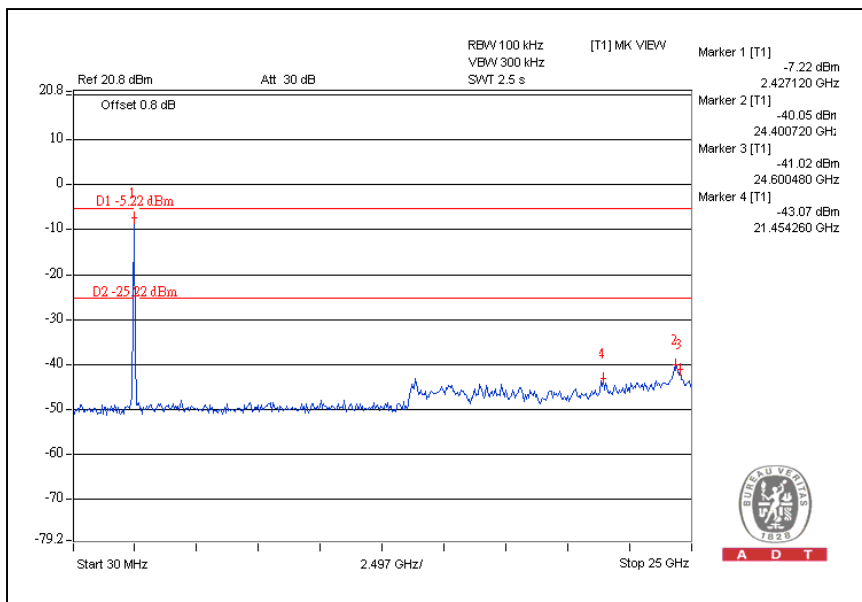
CH7



### CH1



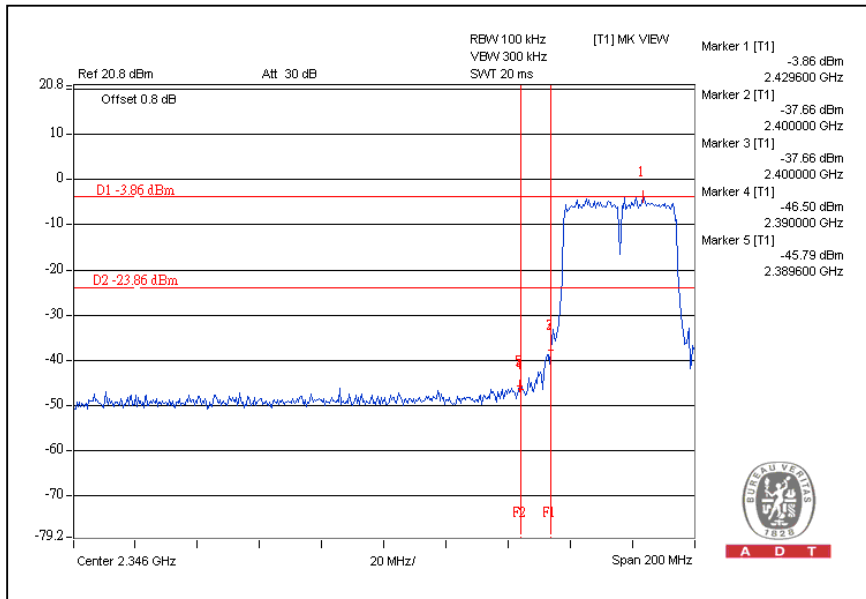
### CH7



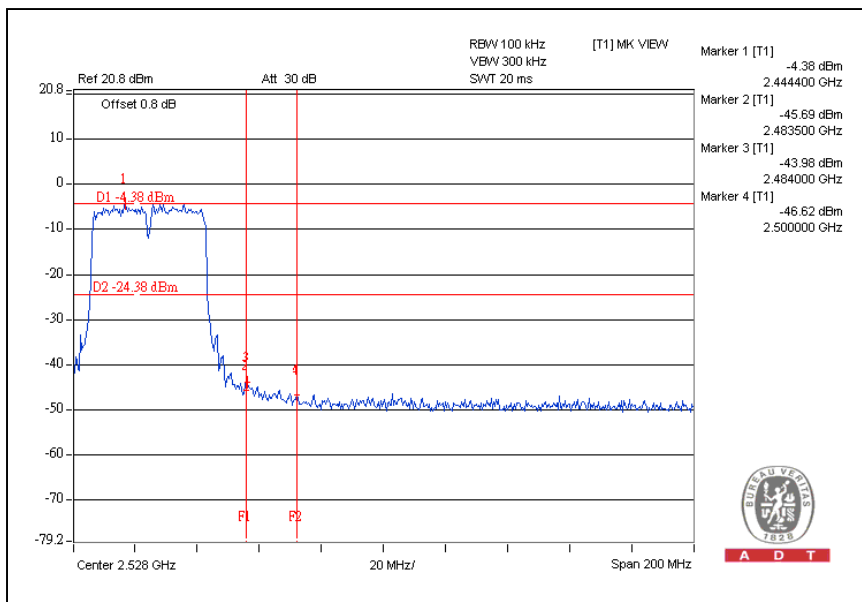


A D T

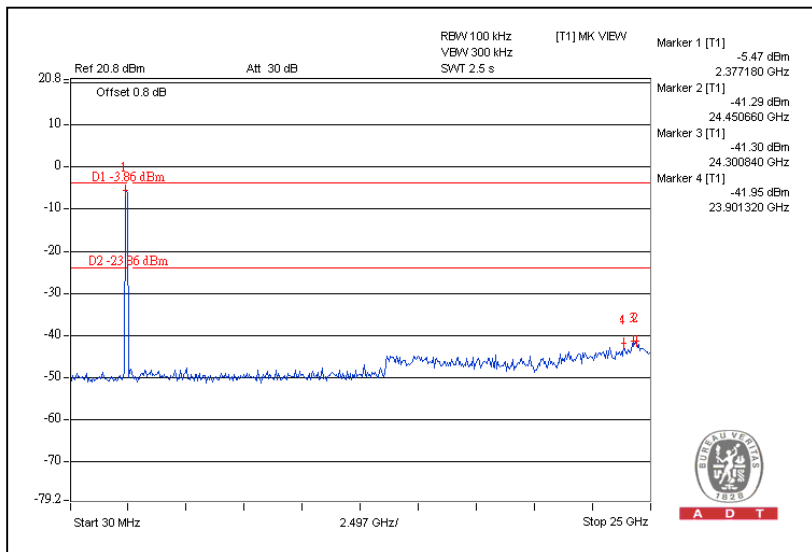
### For Chain (1):CH1



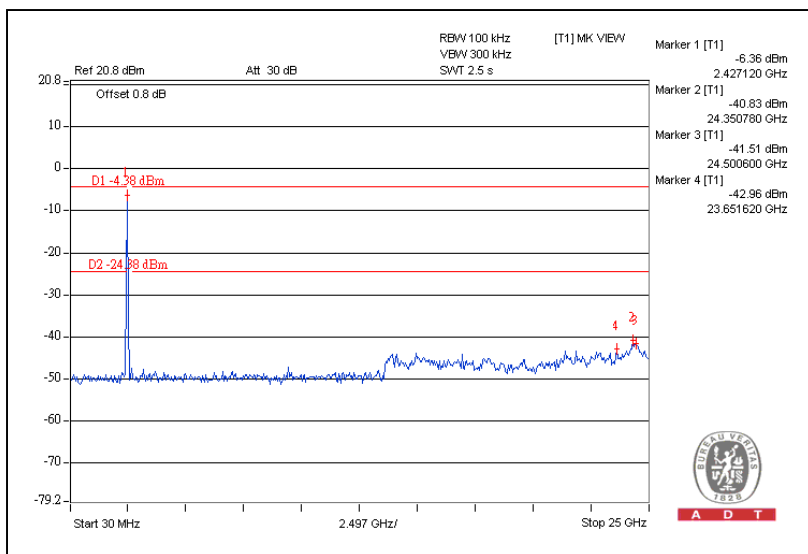
### CH7



### CH1



### CH7



## 4.7 ANTENNA REQUIREMENT

### 4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### 4.7.2 ANTENNA CONNECTED CONSTRUCTION

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

Transmitter Circuit	Antenna Type	Gain (dBi)	Antenna Connector
Chain(0)	monopole	1.7	MHF 20351-1X1R-37
Chain(1)	monopole	1.7	MHF 20351-1X1R-37
Chain(2)	monopole	1.7	MHF 20351-1X1R-37



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## 5. INFORMATION ON THE TESTING LABORATORIES

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

<b>USA</b>	FCC, NVLAP
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>Norway</b>	NEMKO
<b>Canada</b>	INDUSTRY CANADA, CSA
<b>R.O.C.</b>	TAF, BSMI, NCC
<b>Netherlands</b>	Telefication
<b>Singapore</b>	GOST-ASIA (MOU)
<b>Russia</b>	CERTIS (MOU)

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](http://www.adt.com.tw/index.5/phtml). If you have any comments, please feel free to contact us at the following:

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**Hsin Chu EMC/RF Lab:**

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**Email:** [service@adt.com.tw](mailto:service@adt.com.tw)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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



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

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

**---END---**