



FCC TEST REPORT

REPORT NO.: RF971001H01

MODEL NO.: DWG855xx

RECEIVED: Oct. 01, 2008

TESTED: Oct. 31 to Nov. 13, 2008

ISSUED: Nov. 19, 2008

APPLICANT: ASKEY COMPUTER CORP.

ADDRESS: 10F, No. 119, ChienKang RD., Chungho,
Taipei, Taiwan

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien,
Taiwan, R.O.C.

This test report consists of 79 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by TAF or any government agencies. The test results in the report only apply to the tested sample.



Table of Contents

1.	CERTIFICATION	4
2.	SUMMARY OF TEST RESULTS	5
2.1	MEASUREMENT UNCERTAINTY	6
3.	GENERAL INFORMATION	7
3.1	GENERAL DESCRIPTION OF EUT	7
3.2	DESCRIPTION OF TEST MODES	9
3.2.1	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:	10
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	12
3.4	DESCRIPTION OF SUPPORT UNITS	13
3.5	CONFIGURATION OF SYSTEM UNDER TEST	14
4.	TEST TYPES AND RESULTS	15
4.1	CONDUCTED EMISSION MEASUREMENT	15
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	15
4.1.2	TEST INSTRUMENTS	15
4.1.3	TEST PROCEDURES	16
4.1.4	DEVIATION FROM TEST STANDARD	16
4.1.5	TEST SETUP	17
4.1.6	EUT OPERATING CONDITIONS	17
4.1.7	TEST RESULTS	18
4.2	RADIATED EMISSION MEASUREMENT	22
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	22
4.2.2	TEST INSTRUMENTS	23
4.2.3	TEST PROCEDURES	24
4.2.4	DEVIATION FROM TEST STANDARD	25
4.2.5	TEST SETUP	25
4.2.6	EUT OPERATING CONDITIONS	25
4.2.7	TEST RESULTS	26
4.3	6dB BANDWIDTH MEASUREMENT	56
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	56
4.3.2	TEST INSTRUMENTS	56
4.3.3	TEST PROCEDURE	57
4.3.4	DEVIATION FROM TEST STANDARD	57
4.3.5	TEST SETUP	57
4.3.6	EUT OPERATING CONDITIONS	57
4.3.7	TEST RESULTS	58
4.4	MAXIMUM PEAK OUTPUT POWER	62
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	62
4.4.2	INSTRUMENTS	62



4.4.3	TEST PROCEDURES.....	62
4.4.4	DEVIATION FROM TEST STANDARD	62
4.4.5	TEST SETUP	62
4.4.6	EUT OPERATING CONDITIONS.....	62
4.4.7	TEST RESULTS (adapter 1 + dipole antenna).....	63
4.4.8	TEST RESULTS (adapter 1 + PCB antenna).....	64
4.5	POWER SPECTRAL DENSITY MEASUREMENT.....	65
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	65
4.5.2	TEST INSTRUMENTS	65
4.5.3	TEST PROCEDURE	66
4.5.4	DEVIATION FROM TEST STANDARD	66
4.5.5	TEST SETUP	66
4.5.6	EUT OPERATING CONDITION	66
4.5.7	TEST RESULTS.....	67
4.6	CONDUCTED OUT-BAND EMISSION MEASUREMENT.....	71
4.6.1	LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT	71
4.6.2	TEST INSTRUMENTS	71
4.6.3	TEST PROCEDURE	71
4.6.4	DEVIATION FROM TEST STANDARD	72
4.6.5	EUT OPERATING CONDITION	72
4.6.6	TEST RESULTS.....	72
4.7	ANTENNA REQUIREMENT.....	77
4.7.1	STANDARD APPLICABLE	77
4.7.2	ANTENNA CONNECTED CONSTRUCTION.....	77
5.	INFORMATION ON THE TESTING LABORATORIES	78
6.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	79



1. CERTIFICATION

PRODUCT: WiFi EMTA Cable modem
BRAND NAME: Thomson Inc
MODEL NO.: DWG855xx
TEST SAMPLE: ENGINEERING SAMPLE
TESTED: Oct. 31 to Nov. 13, 2008
APPLICANT: ASKEY COMPUTER CORP.
STANDARDS: FCC Part 15, Subpart C (Section 15.247),
ANSI C63.4-2003

The above equipment (Model: DWG855) has been tested by **Advance Data Technology Corporation**, 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 : Sunny Wen , **DATE:** Nov. 19, 2008
(Sunny Wen, Specialist)

TECHNICAL ACCEPTANCE : Hank Chung , **DATE:** Nov. 19, 2008
Responsible for RF (Hank Chung, Deputy Manager)

APPROVED BY : May Chen , **DATE:** Nov. 19, 2008
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)			
Standard Section	Test Type and Limit	Result	Remark
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.70dB at 0.197MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.54dB At 135.20MHz
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	2.44 dB
Radiated emissions (30MHz-1GHz)	2.49 dB
Radiated emissions (1GHz -18GHz)	2.48 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WiFi EMTA Cable modem
MODEL NO.	DWG855xx
FCC ID	H8NDWG855V21
POWER SUPPLY	DC 15V from power adapter or DC 11.1~12.6V from battery
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11 / 5.5 / 2 / 1Mbps 802.11g: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6Mbps
FREQUENCY RANGE	2412 ~ 2462MHz
MAXIMUM OUTPUT POWER	802.11b: 80.724mW (19.07dBm) 802.11g: 162.930mW (22.12dBm)
ANTENNA TYPE	Dipole antenna without connector (Antenna Gain : 5dBi) PCB antenna without connector (Antenna Gain : 2dBi)
DATA CABLE	NA
I/O PORT	BNC Port x 1, Ethernet Port x 4, Phone Port x 2

NOTE:

- The EUT have below different model names which are identical to each other in all aspects except for the following:

Brand	Model No.	Difference
Thomson Inc	DWG855xx the "x" could be 0~9, a~z, A~Z or blank	for market purpose

From the above models, model: **DWG855** was selected as representative model for the test and its data was recorded in this report.

2. The EUT must be supplied with a power adapter or battery and following different models could be chosen:

Adapter 1	
Brand :	AMICO
Model No. :	AMS4-1501600FU
Input power :	100-240V~, 0.8A, 50-60Hz
Output power :	15V, 1.6A DC output cable (unshielded, 1.8m)
Adapter 2	
Brand :	ENERTRONIX
Model No. :	EXA0606UC
Input power :	100-240V~, 0.8A, 50-60Hz
Output power :	15V, 1.6A DC output cable (unshielded, 1.8m)
Battery	
Brand :	MITAC
Model No. :	BP-LC2200/31-A0001 A
Spec. :	DC 11.1V~12.6V

3. For radiated emission test , the EUT was pre-tested in chamber under the following modes:

Test Mode	Description
Mode A	Level-set (Put on tabletop)
Mode B	Tower-set (Wall-mounted)

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

4. For radiated emission test, the EUT was pre-tested in chamber as the following test modes:

Test Mode	Description
Mode A	Adapter 1
Mode B	Adapter 2
Mode C	Adapter 1 + Battery

The worst case was found in **Mode C**. Their test data were recorded in this report individually.

5. 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:

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE [≥] 1G	APCM	
A	√				Adapter 1 + Dipole antenna
B	√				Adapter 2 + Dipole antenna
C		√	√	√	Dipole antenna + Adapter 1+ Battery
D		√	√	√	PCB antenna + Adapter 1 + Battery

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

POWER LINE CONDUCTED EMISSION TEST:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	EUT CONFIGURE MODE
802.11g	1 to 11	11	OFDM	BPSK	6	A&B

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)	EUT CONFIGURE MODE
802.11g	1 to 11	11	OFDM	BPSK	6	C&D

- For spurious emissions (below 1 GHz), the EUT was pre-tested in chamber as the following test modes:

Test Mode	Description
Mode A	Adapter 1
Mode B	Adapter 2
Mode C	Adapter 1 + Battery

The worst case was found in Mode C. Their test data were recorded in this report individually.

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)	EUT CONFIGURE MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	C&D
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C&D

- For spurious emissions (above 1 GHz), the EUT was pre-tested in chamber as the following test modes:

Test Mode	Description
Mode A	Adapter 1
Mode B	Adapter 2
Mode C	Adapter 1 + Battery

The worst case was found in Mode C. Their test data were recorded in this report individually.

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)	EUT CONFIGURE MODE
802.11b	1 to 11	1, 11	DSSS	DBPSK	1	C&D
802.11g	1 to 11	1, 11	OFDM	BPSK	6	C&D

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)	EUT CONFIGURE MODE
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1	C&D
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	C&D



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a WiFi EMTA Cable modem. 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

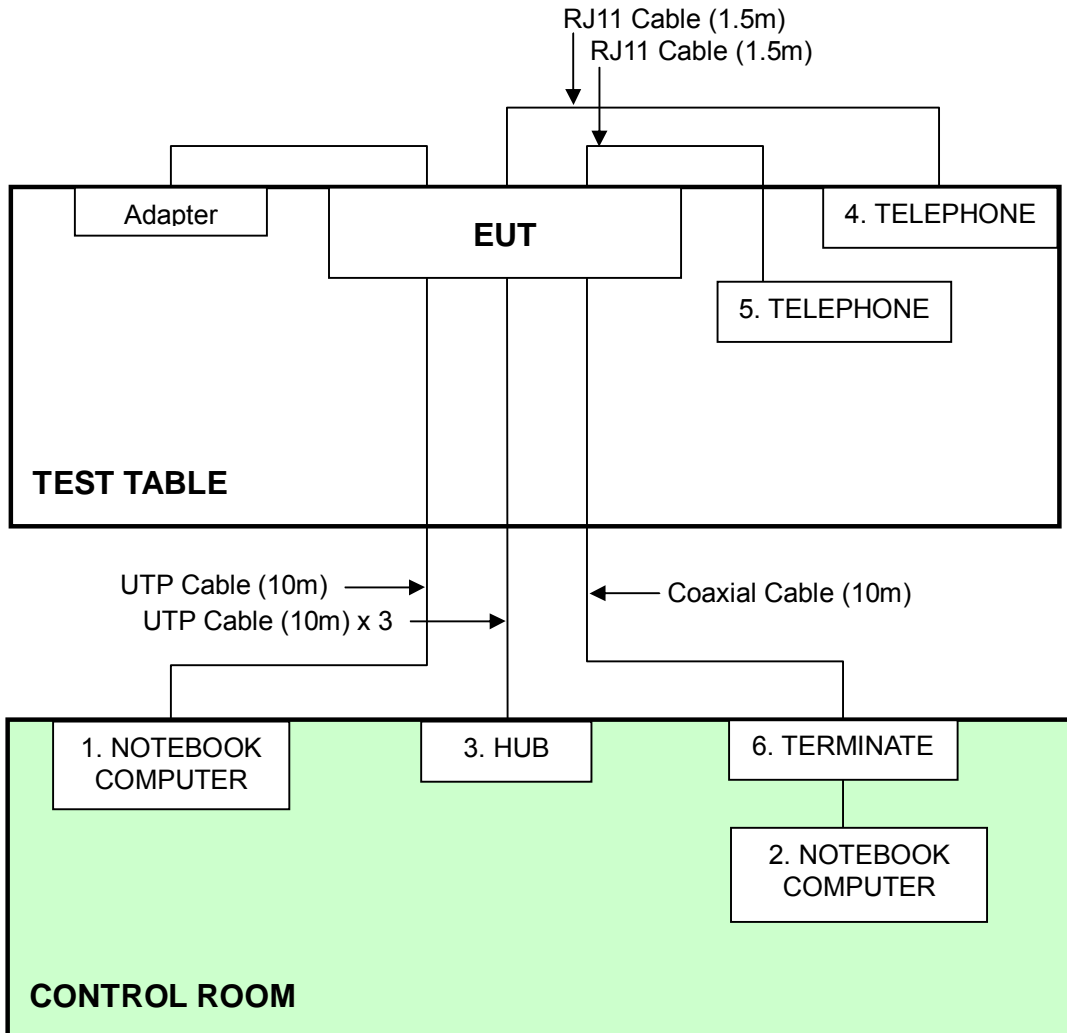
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP18L	6976685584	DoC
2	NOTEBOOK COMPUTER	DELL	PP21L	CN-0GD366-70166-5B3-09ZX	QDS-BRCM1016
3	HUB	AVSYS	110H8	01-20E-000006	DoC
4	TELEPHONE	ROMEO	TE-812	97280903	NA
5	TELEPHONE	ROMEO	TE-812	97285638	NA
6	TERMINATE	Nortel Networks	CUTS1000	01022380	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA
4	1.5 m unshielded cable, RJ11 connector, w/o core.
5	1.5 m unshielded cable, RJ11 connector, w/o core.
6	NA

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	847124/029	Feb. 29, 2008	Feb. 28, 2009
Line-Impedance Stabilization Network (for EUT)	ENV-216	100071	Nov. 27, 2007	Nov. 26, 2008
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 05, 2008	Nov. 04, 2009
RF Cable (JYEBAO)	5DFB	COBCAB-001	July 24, 2008	July 23, 2009
50 ohms Terminator	50	3	Nov. 16, 2007	Nov. 15, 2008
Software	ADT_Cond_V7.3.2	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 ADT Shielded Room No. B.
3. The VCCI Con B Registration No. is C-2193.

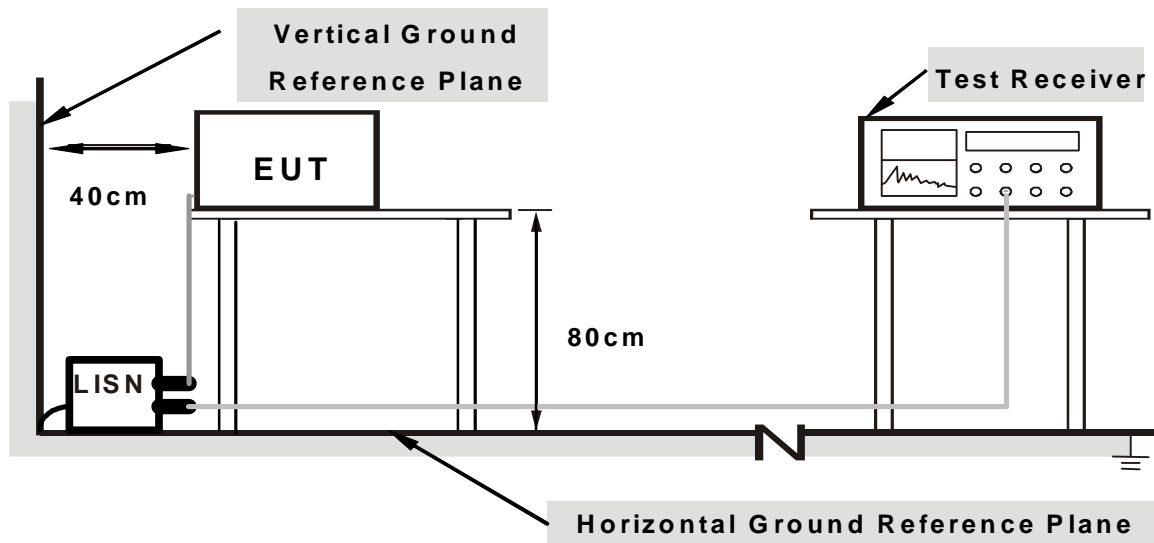
4.1.3 TEST PROCEDURES

- 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 ~ 2) to act as communication partners and placed them outside of testing area.
3. The communication partners run test program “Web Site ,Epi_ttcp” to enable EUT under transmission/receiving condition continuously at specific channel frequency.
4. Support unit 4 (Telephone) communication with the support unit 5 (Telephone) via EUT.

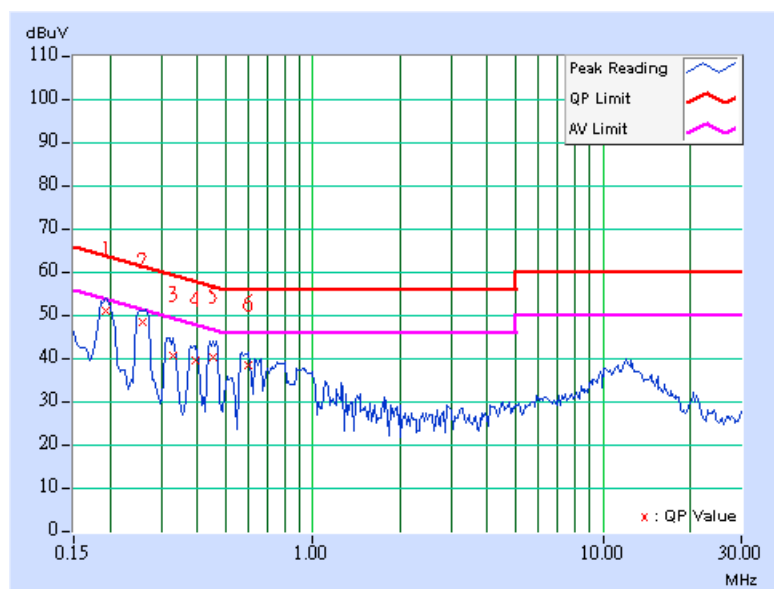
4.1.7 TEST RESULTS

802.11g OFDM MODULATION – adapter 1 + dipole antenna

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line (L)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 60%RH, 972hPa	TESTED BY	Mike Hsieh

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	9.70	41.10	-	50.80	-	63.91	53.91	-13.11	-
2	0.259	9.77	38.69	-	48.46	-	61.45	51.45	-12.99	-
3	0.330	9.86	30.72	-	40.58	-	59.46	49.46	-18.88	-
4	0.392	9.94	29.59	-	39.53	-	58.02	48.02	-18.49	-
5	0.455	9.92	30.40	-	40.32	-	56.79	46.79	-16.46	-
6	0.599	9.86	28.48	-	38.34	-	56.00	46.00	-17.66	-

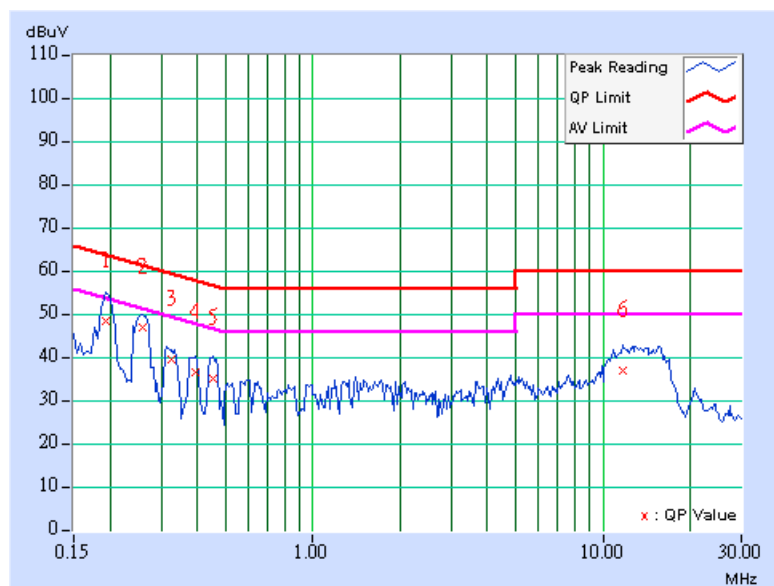
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT test condition		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Neutral (N)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 60%RH, 972hPa	TESTED BY	Mike Hsieh

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	0.193	9.70	38.69	-	48.39	-	63.89
2	0.258	9.77	37.23	-	47.00	-	61.48	51.48	-14.48	-
3	0.327	9.85	29.89	-	39.74	-	59.53	49.53	-19.78	-
4	0.392	9.93	26.84	-	36.77	-	58.02	48.02	-21.25	-
5	0.451	9.92	25.19	-	35.11	-	56.86	46.86	-21.75	-
6	11.738	9.91	27.17	-	37.08	-	60.00	50.00	-22.92	-

- 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.

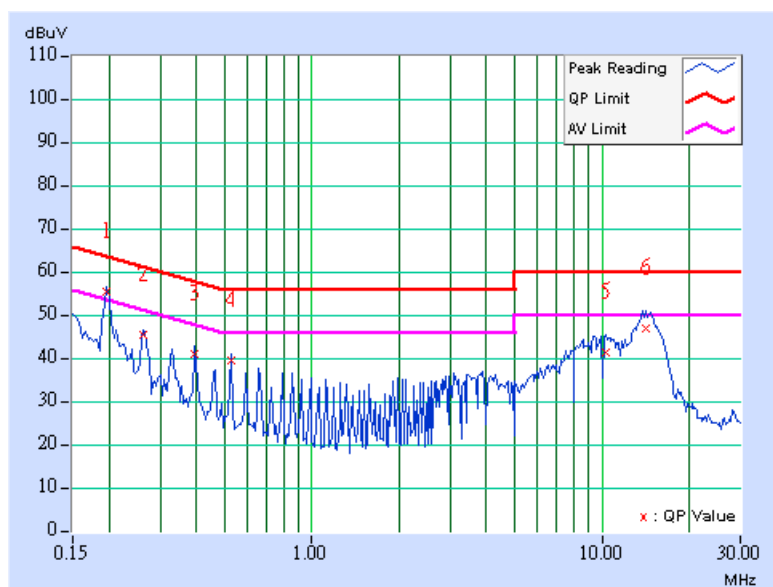


802.11g OFDM MODULATION – adapter 2 + dipole antenna

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line (L)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 60%RH, 972hPa	TESTED BY	Mike Hsieh

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	9.70	45.61	37.34	55.31	47.04	63.74	53.74	-8.43	-6.70
2	0.263	9.78	35.70	-	45.48	-	61.33	51.33	-15.85	-
3	0.396	9.95	31.35	-	41.30	-	57.93	47.93	-16.64	-
4	0.525	9.89	29.68	-	39.57	-	56.00	46.00	-16.43	-
5	10.332	9.85	31.68	-	41.53	-	60.00	50.00	-18.47	-
6	14.180	9.89	37.32	-	47.21	-	60.00	50.00	-12.79	-

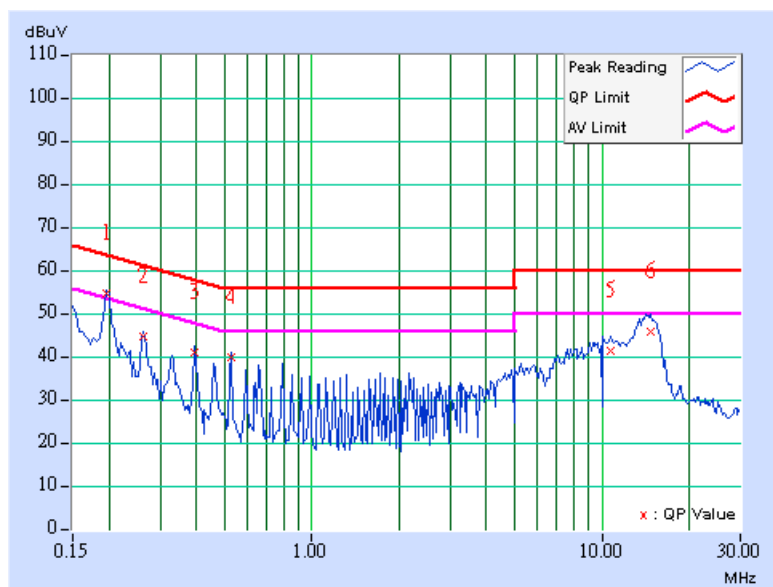
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Neutral (N)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 60%RH, 972hPa	TESTED BY	Mike Hsieh

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	0.197	9.70	44.77	36.51	54.47	46.21	63.74
2	0.263	9.78	34.93	-	44.71	-	61.33	51.33	-16.62	-
3	0.396	9.94	31.31	-	41.25	-	57.93	47.93	-16.69	-
4	0.529	9.88	29.86	-	39.74	-	56.00	46.00	-16.26	-
5	10.734	9.89	31.68	-	41.57	-	60.00	50.00	-18.43	-
6	14.773	9.96	36.09	-	46.05	-	60.00	50.00	-13.95	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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



4.2.2 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	3008A01922	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	BBHA9170153	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-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.8	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 ADT 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 3789C-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 10 dB 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 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

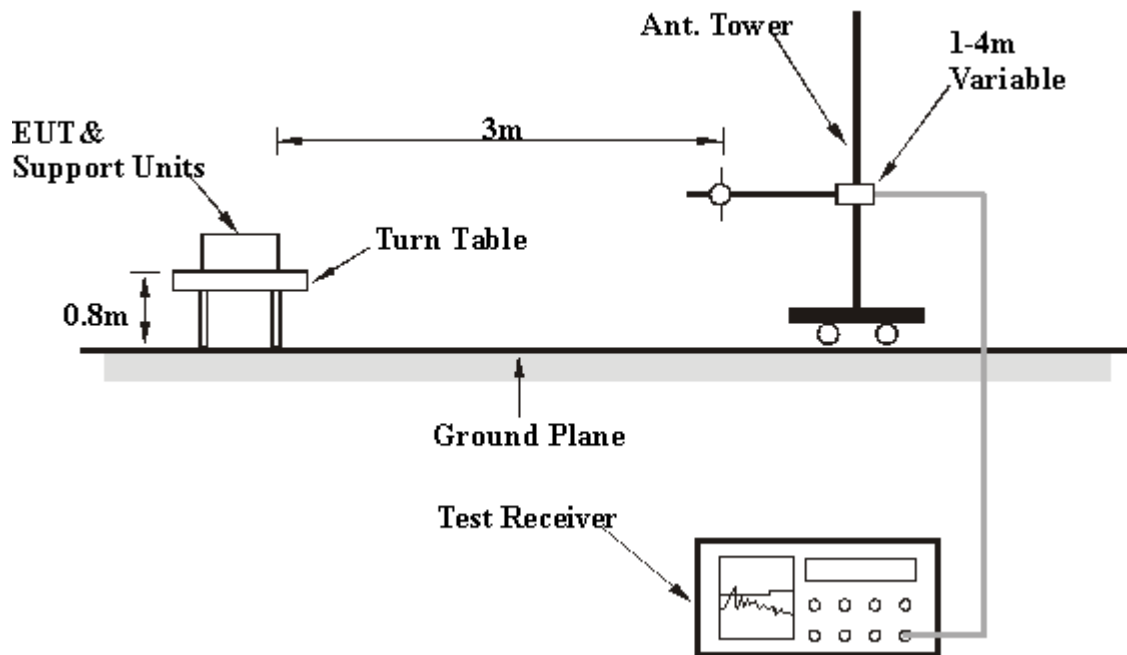
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA : 802.11g OFDM MODULATION adapter 1 + dipole antenna

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 55%RH 972hPa	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	81.47	34.13 QP	40.00	-5.87	1.30 H	211	22.21	11.92
2	115.05	40.01 QP	43.50	-3.49	1.57 H	181	27.01	13.00
3	135.30	38.37 QP	43.50	-5.13	1.82 H	80	23.66	14.71
4	170.65	38.33 QP	43.50	-5.17	1.70 H	155	23.34	14.99
5	184.25	38.81 QP	43.50	-4.69	1.41 H	158	24.61	14.20
6	250.02	40.38 QP	46.00	-5.62	1.00 H	285	24.96	15.42
7	284.13	39.05 QP	46.00	-6.95	1.00 H	172	22.52	16.53
8	716.59	43.05 QP	46.00	-2.95	1.22 H	187	15.54	27.51
9	800.00	34.64 QP	46.00	-11.36	1.22 H	20	4.70	29.94
10	977.16	39.52 QP	54.00	-14.48	1.24 H	78	7.24	32.28
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	135.20	42.96 QP	43.50	-0.54	1.08 V	30	28.26	14.70
2	143.17	40.42 QP	43.50	-3.08	1.00 V	0	25.03	15.39
3	236.38	32.35 QP	46.00	-13.65	1.00 V	0	17.59	14.76
4	282.50	34.08 QP	46.00	-11.92	1.00 V	318	17.60	16.48
5	716.59	41.28 QP	46.00	-4.72	1.84 V	5	13.77	27.51
6	800.00	40.98 QP	46.00	-5.02	1.40 V	158	11.04	29.94
7	977.16	42.45 QP	54.00	-11.55	1.49 V	258	10.17	32.28

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



BELOW 1GHz WORST-CASE DATA : 802.11g OFDM MODULATION adapter 1 + PCB antenna

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 55%RH 972hPa	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	81.47	34.73 QP	40.00	-5.27	1.19 H	260	22.81	11.92
2	115.05	38.94 QP	43.50	-4.56	1.43 H	124	25.94	13.00
3	135.30	38.40 QP	43.50	-5.10	1.63 H	129	23.69	14.71
4	184.25	38.72 QP	43.50	-4.78	1.42 H	172	24.52	14.20
5	250.02	42.34 QP	46.00	-3.66	1.01 H	219	26.92	15.42
6	300.02	43.56 QP	46.00	-2.44	1.01 H	313	26.54	17.02
7	716.59	44.65 QP	46.00	-1.35	1.18 H	163	17.14	27.51
8	800.00	38.45 QP	46.00	-7.55	1.01 H	213	8.51	29.94
9	977.16	38.26 QP	54.00	-15.74	1.33 H	124	5.98	32.28

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.92	31.89 QP	40.00	-8.11	1.01 V	234	18.37	13.52
2	135.20	38.64 QP	43.50	-4.86	1.03 V	126	23.94	14.70
3	236.38	35.13 QP	46.00	-10.87	1.06 V	129	20.37	14.76
4	282.50	34.36 QP	46.00	-11.64	1.13 V	319	17.88	16.48
5	500.00	32.23 QP	46.00	-13.77	1.00 V	153	9.57	22.66
6	716.59	42.34 QP	46.00	-3.66	1.71 V	124	14.83	27.51
7	800.00	43.64 QP	46.00	-2.36	1.34 V	159	13.70	29.94
8	977.16	44.53 QP	54.00	-9.47	1.57 V	253	12.25	32.28

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

802.11b DSSS MODULATION adapter 1 + dipole antenna

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1608.00	40.00 PK	74.00	-34.00	1.04 H	39	11.84	28.16
2	1608.00	32.00 AV	54.00	-22.00	1.04 H	39	3.84	28.16
3	2390.00	56.29 PK	74.00	-17.71	1.17 H	46	26.23	30.06
4	2390.00	43.52 AV	54.00	-10.48	1.17 H	46	13.46	30.06
5	*2412.00	100.60 PK			1.17 H	46	70.45	30.15
6	*2412.00	96.30 AV			1.17 H	46	66.15	30.15
7	4824.00	47.10 PK	74.00	-26.90	1.01 H	205	11.64	35.46
8	4824.00	35.10 AV	54.00	-18.90	1.01 H	205	-0.36	35.46
9	#7236.00	51.70 PK	80.60	-28.90	1.14 H	83	9.85	41.85
10	#7236.00	37.70 AV	76.30	-38.60	1.14 H	83	-4.15	41.85

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	1608.00	48.10 PK	74.00	-25.90	1.15 V	196	19.94	28.16
2	1608.00	43.80 AV	54.00	-10.20	1.15 V	196	15.64	28.16
3	2390.00	57.86 PK	74.00	-16.14	1.01 V	194	27.80	30.06
4	2390.00	46.79 AV	54.00	-7.21	1.01 V	194	16.73	30.06
5	*2412.00	109.80 PK			1.01 V	194	79.65	30.15
6	*2412.00	105.60 AV			1.01 V	194	75.45	30.15
7	4824.00	50.40 PK	74.00	-23.60	1.16 V	168	14.94	35.46
8	4824.00	46.20 AV	54.00	-7.80	1.16 V	168	10.74	35.46
9	#7236.00	51.90 PK	89.80	-37.90	1.27 V	342	10.05	41.85
10	#7236.00	38.40 AV	85.60	-47.20	1.27 V	342	-3.45	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.

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1624.69	41.40 PK	74.00	-32.60	1.06 H	49	13.22	28.18
2	1624.69	34.50 AV	54.00	-19.50	1.06 H	49	6.32	28.18
3	*2437.00	100.30 PK			1.11 H	45	70.06	30.24
4	*2437.00	96.10 AV			1.11 H	45	65.86	30.24
5	4874.00	48.10 PK	74.00	-25.90	1.02 H	184	12.55	35.55
6	4874.00	35.50 AV	54.00	-18.50	1.02 H	184	-0.05	35.55
7	7311.00	51.90 PK	74.00	-22.10	1.06 H	49	9.86	42.04
8	7311.00	34.50 AV	54.00	-19.50	1.06 H	49	-7.54	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	1624.60	52.00 PK	74.00	-22.00	1.11 V	174	23.82	28.18
2	1624.60	48.10 AV	54.00	-5.90	1.11 V	174	19.92	28.18
3	*2437.00	109.30 PK			1.00 V	197	79.06	30.24
4	*2437.00	105.10 AV			1.00 V	197	74.86	30.24
5	4874.00	53.50 PK	74.00	-20.50	1.13 V	189	17.95	35.55
6	4874.00	49.60 AV	54.00	-4.40	1.13 V	189	14.05	35.55
7	7311.00	51.80 PK	74.00	-22.20	1.24 V	337	9.76	42.04
8	7311.00	38.20 AV	54.00	-15.80	1.24 V	337	-3.84	42.04

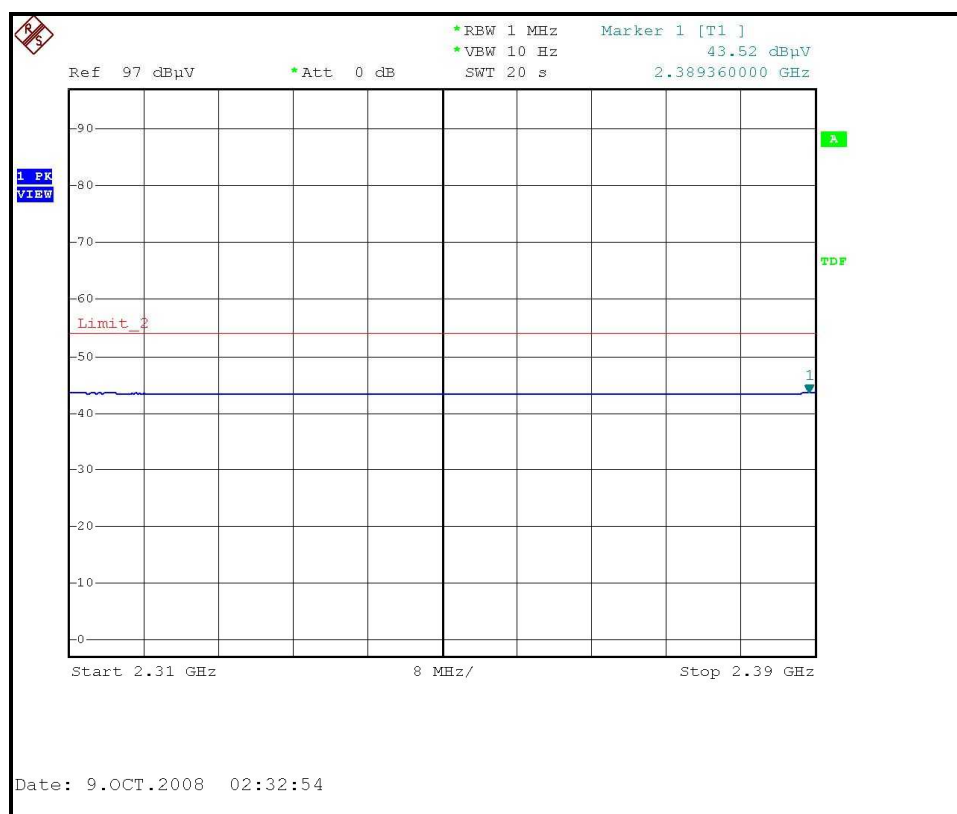
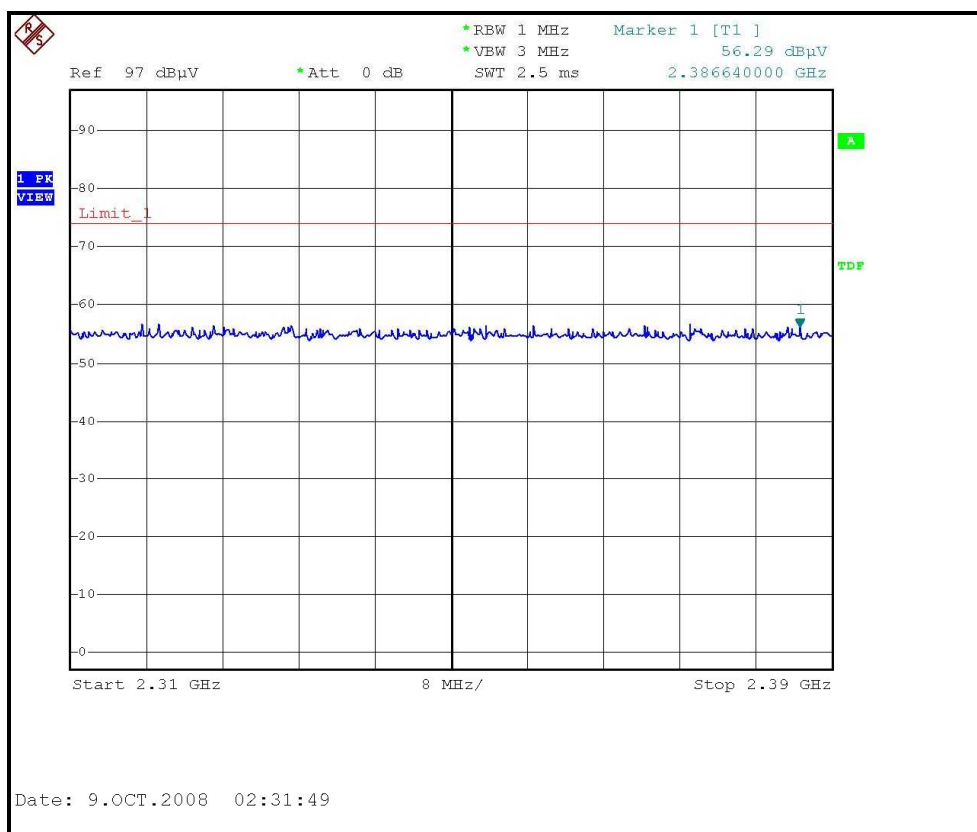
- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.

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, 65%RH 972hPa	TESTED BY	Rex Huang

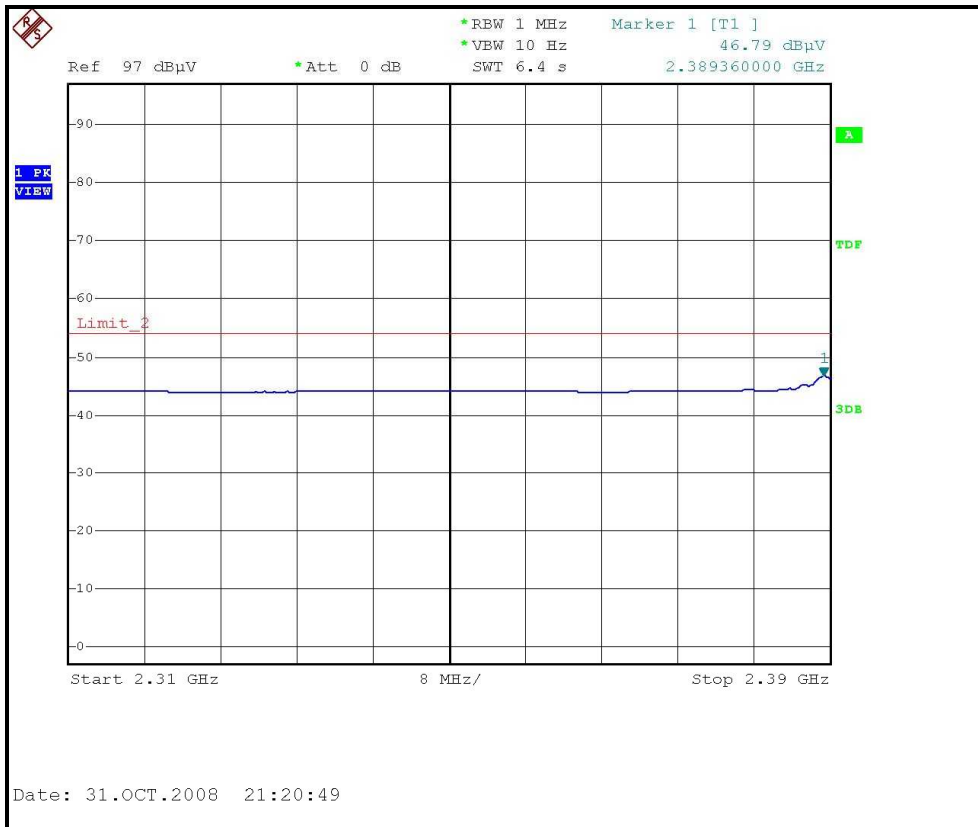
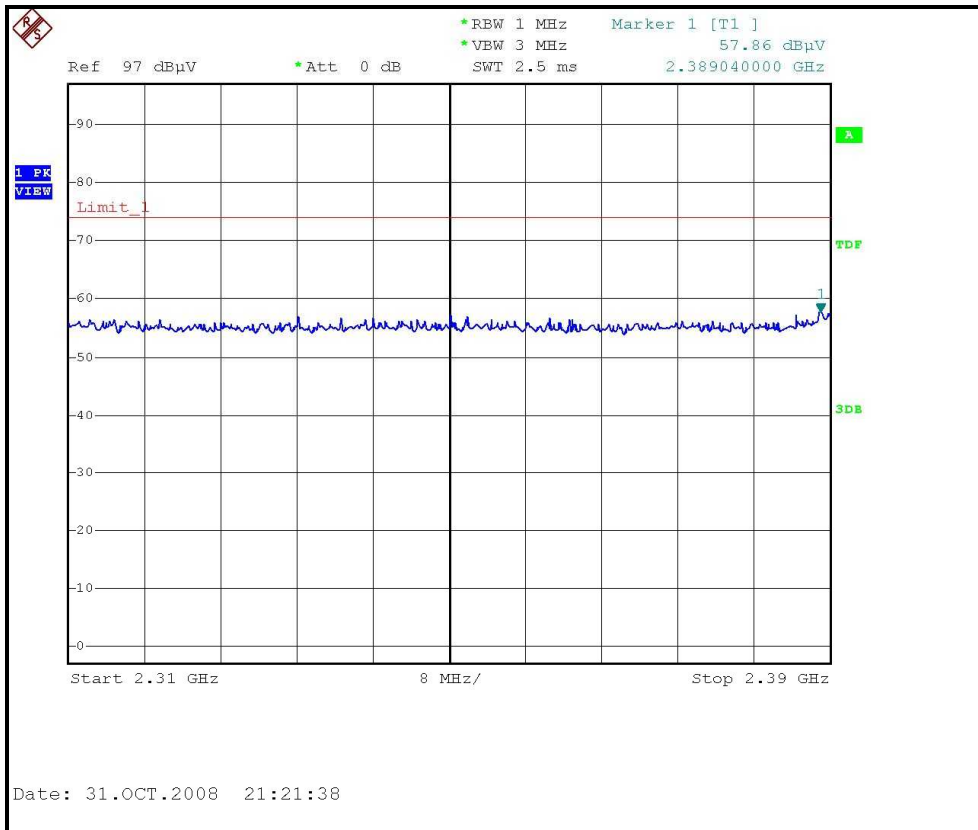
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.10 PK			1.12 H	47	69.76	30.34
2	*2462.00	95.80 AV			1.12 H	47	65.46	30.34
3	2483.50	56.41 PK	74.00	-17.59	1.12 H	47	25.98	30.43
4	2483.50	43.85 AV	54.00	-10.15	1.12 H	47	13.42	30.43
5	4924.00	46.90 PK	74.00	-27.10	1.03 H	142	11.27	35.63
6	4924.00	34.70 AV	54.00	-19.30	1.03 H	142	-0.93	35.63
7	7386.00	51.80 PK	74.00	-22.20	1.16 H	64	9.57	42.23
8	7386.00	37.90 AV	54.00	-16.10	1.16 H	64	-4.33	42.23
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	109.50 PK			1.00 V	198	79.16	30.34
2	*2462.00	105.30 AV			1.00 V	198	74.96	30.34
3	2483.50	58.31 PK	74.00	-15.69	1.00 V	198	27.88	30.43
4	2483.50	47.38 AV	54.00	-6.62	1.00 V	198	16.95	30.43
5	4924.00	53.70 PK	74.00	-20.30	1.22 V	169	18.07	35.63
6	4924.00	50.00 AV	54.00	-4.00	1.22 V	169	14.37	35.63
7	7386.00	51.60 PK	74.00	-22.40	1.27 V	343	9.37	42.23
8	7386.00	38.10 AV	54.00	-15.90	1.27 V	343	-4.13	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.

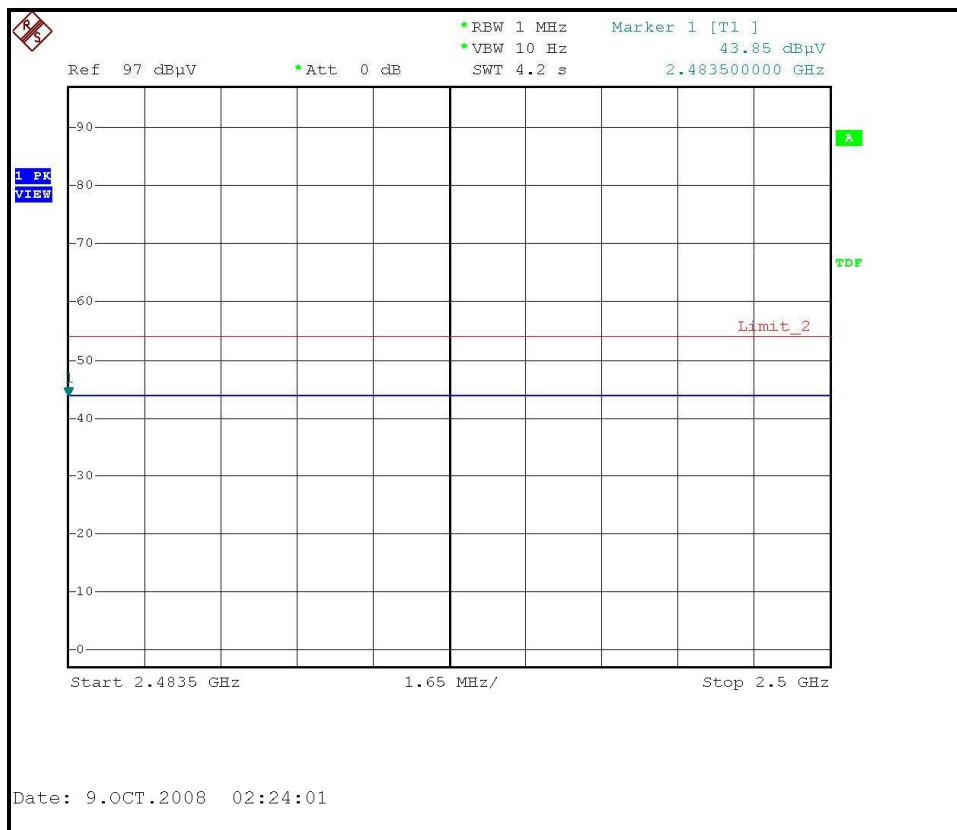
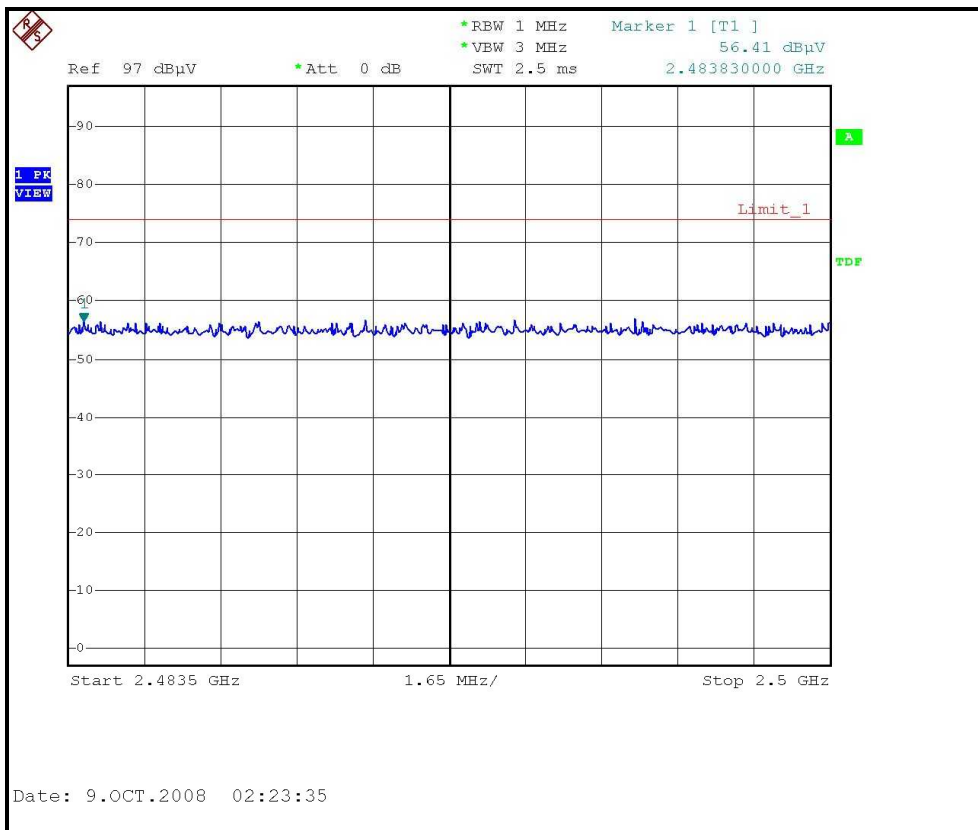
RESTRICTED BANDEDGE (802.11b MODE, CH1, HORIZONTAL)



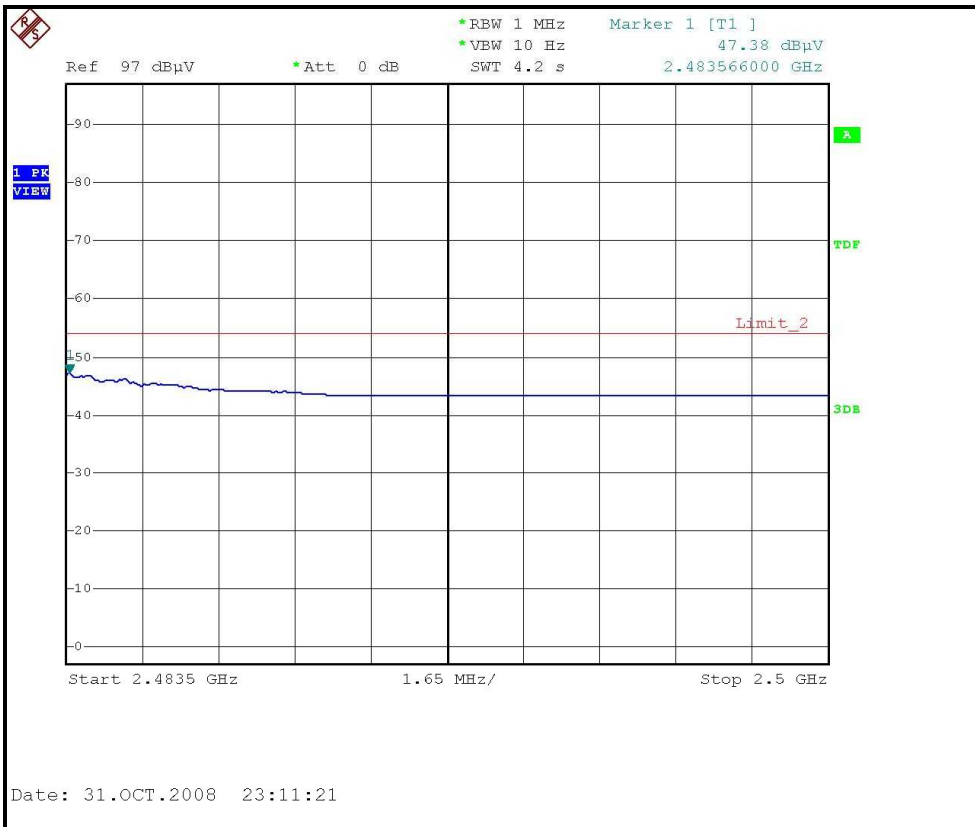
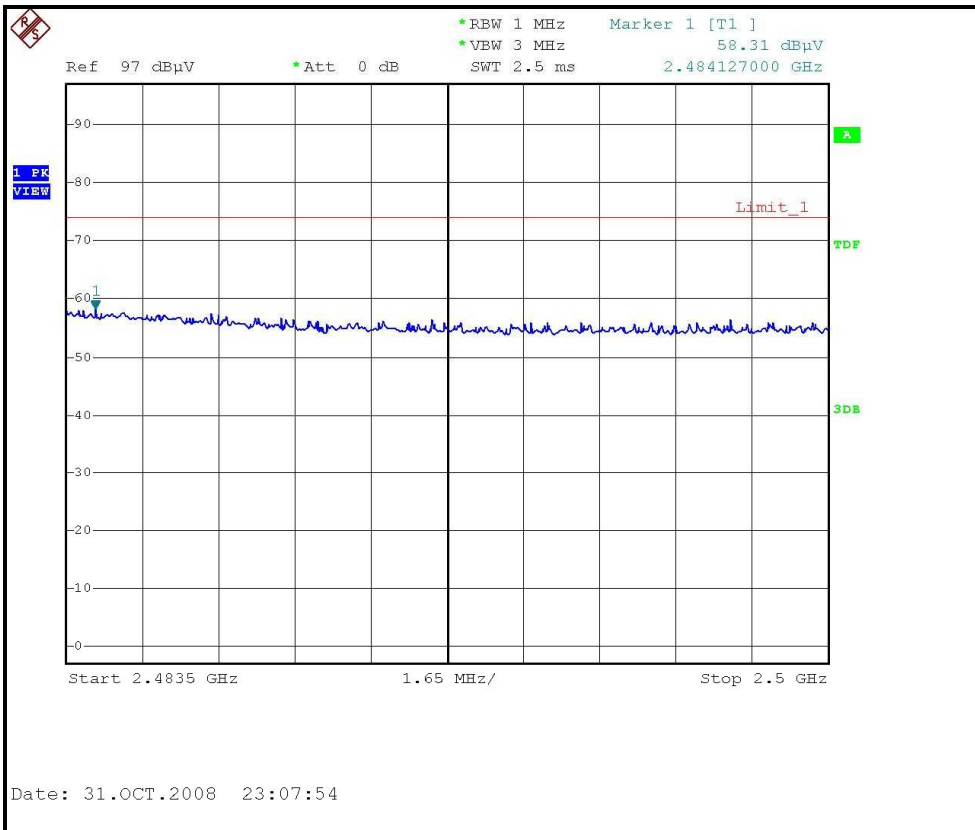
RESTRICTED BANDEDGE (802.11b MODE, CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11b MODE, CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11b MODE, CH11, VERTICAL)



802.11g OFDM MODULATION adapter 1 + dipole antenna

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1608.00	40.20 PK	74.00	-33.80	1.05 H	42	12.04	28.16
2	1608.00	32.10 AV	54.00	-21.90	1.05 H	42	3.94	28.16
3	2390.00	64.07 PK	74.00	-9.93	1.18 H	48	34.01	30.06
4	2390.00	44.53 AV	54.00	-9.43	1.18 H	48	14.47	30.06
5	*2412.00	103.10 PK			1.18 H	48	72.95	30.15
6	*2412.00	92.10 AV			1.18 H	48	61.95	30.15
7	4824.00	49.20 PK	74.00	-24.80	1.00 H	179	13.74	35.46
8	4824.00	34.10 AV	54.00	-19.90	1.00 H	179	-1.36	35.46
9	#7236.00	51.80 PK	83.10	-31.30	1.07 H	56	9.95	41.85
10	#7236.00	37.80 AV	72.10	-34.30	1.07 H	56	-4.05	41.85

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	1608.00	47.70 PK	74.00	-26.30	1.14 V	197	19.54	28.16
2	1608.00	43.60 AV	54.00	-10.40	1.14 V	197	15.44	28.16
3	2390.00	71.55 PK	74.00	-2.45	1.00 V	196	41.49	30.06
4	2390.00	48.80 AV	54.00	-5.20	1.00 V	196	18.74	30.06
5	*2412.00	111.60 PK			1.00 V	192	81.45	30.15
6	*2412.00	101.00 AV			1.00 V	192	70.85	30.15
7	4824.00	51.10 PK	74.00	-22.90	1.15 V	168	15.64	35.46
8	4824.00	33.50 AV	54.00	-20.50	1.15 V	168	-1.96	35.46
9	#7236.00	51.80 PK	91.60	-39.80	1.24 V	330	9.95	41.85
10	#7236.00	38.10 AV	81.00	-42.90	1.24 V	330	-3.75	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.

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1624.60	41.40 PK	74.00	-32.60	1.05 H	50	13.22	28.18
2	1624.60	34.40 AV	54.00	-19.60	1.05 H	50	6.22	28.18
3	*2437.00	104.30 PK			1.11 H	43	74.06	30.24
4	*2437.00	93.40 AV			1.11 H	43	63.16	30.24
5	4874.00	50.60 PK	74.00	-23.40	1.03 H	360	15.05	35.55
6	4874.00	35.20 AV	54.00	-18.80	1.03 H	360	-0.35	35.55
7	7311.00	51.70 PK	74.00	-22.30	1.09 H	36	9.66	42.04
8	7311.00	37.60 AV	54.00	-16.40	1.09 H	36	-4.44	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	1624.60	52.20 PK	74.00	-21.80	1.11 V	173	24.02	28.18
2	1624.60	48.20 AV	54.00	-5.80	1.11 V	173	20.02	28.18
3	*2437.00	112.40 PK			1.00 V	195	82.16	30.24
4	*2437.00	101.50 AV			1.00 V	195	71.26	30.24
5	4874.00	53.30 PK	74.00	-20.70	1.15 V	184	17.75	35.55
6	4874.00	35.90 AV	54.00	-18.10	1.15 V	184	0.35	35.55
7	7311.00	51.90 PK	74.00	-22.10	1.27 V	343	9.86	42.04
8	7311.00	39.30 AV	54.00	-14.70	1.27 V	343	-2.74	42.04

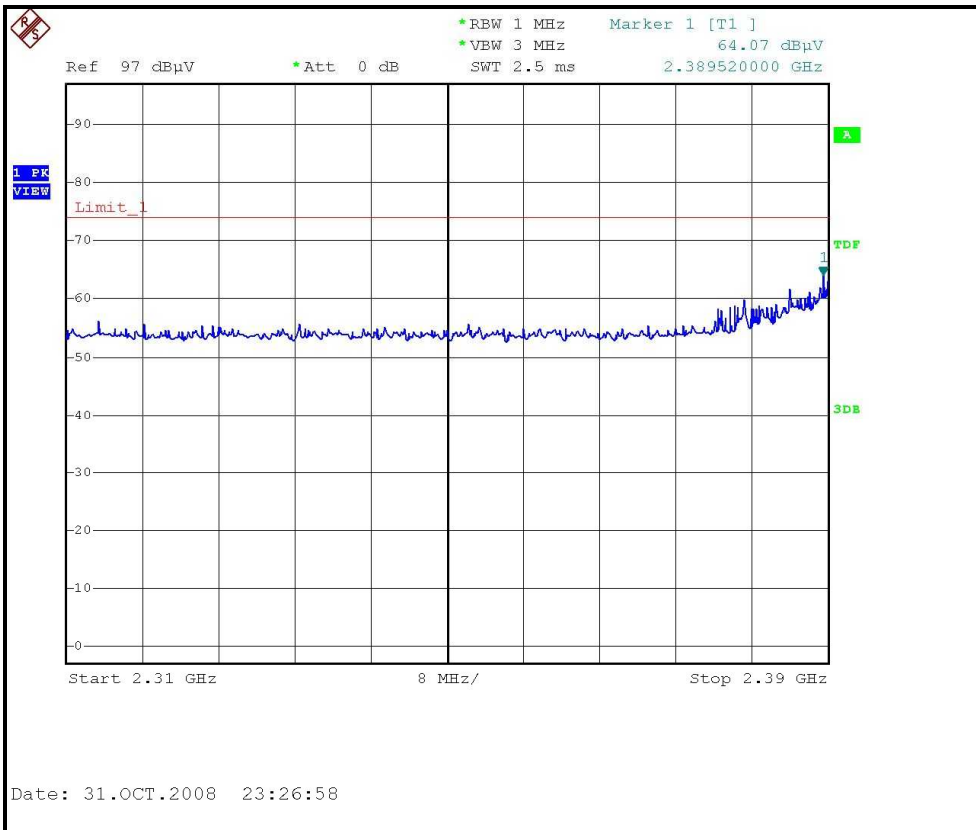
- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.

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, 65%RH 972hPa	TESTED BY	Rex Huang

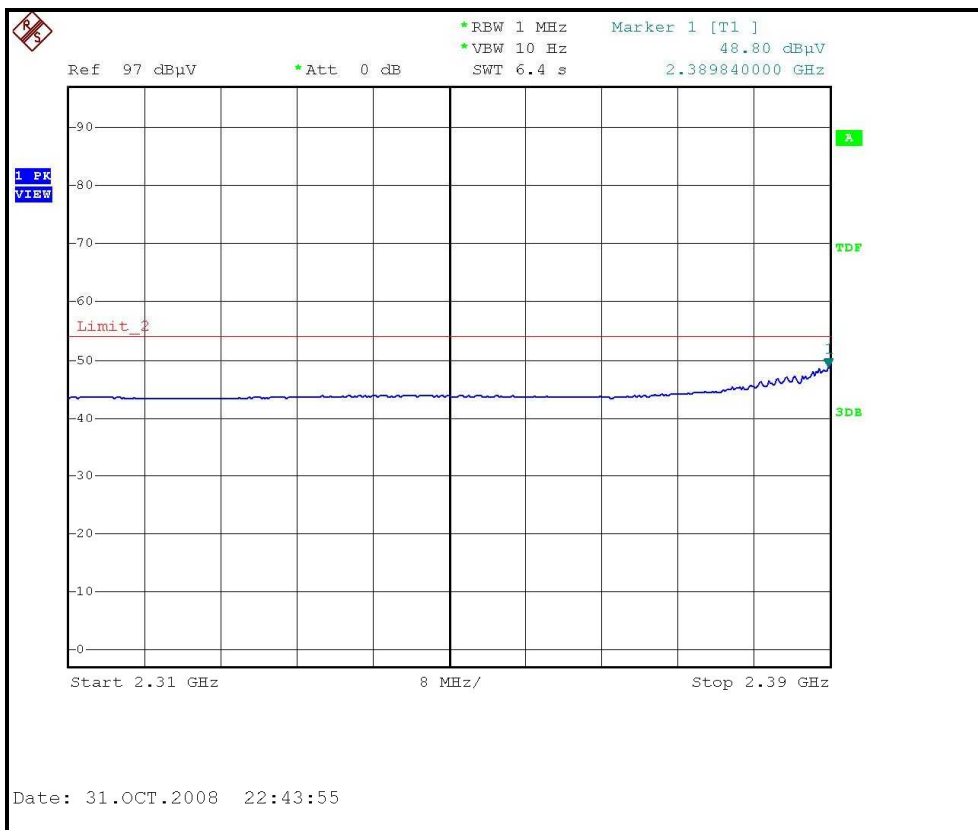
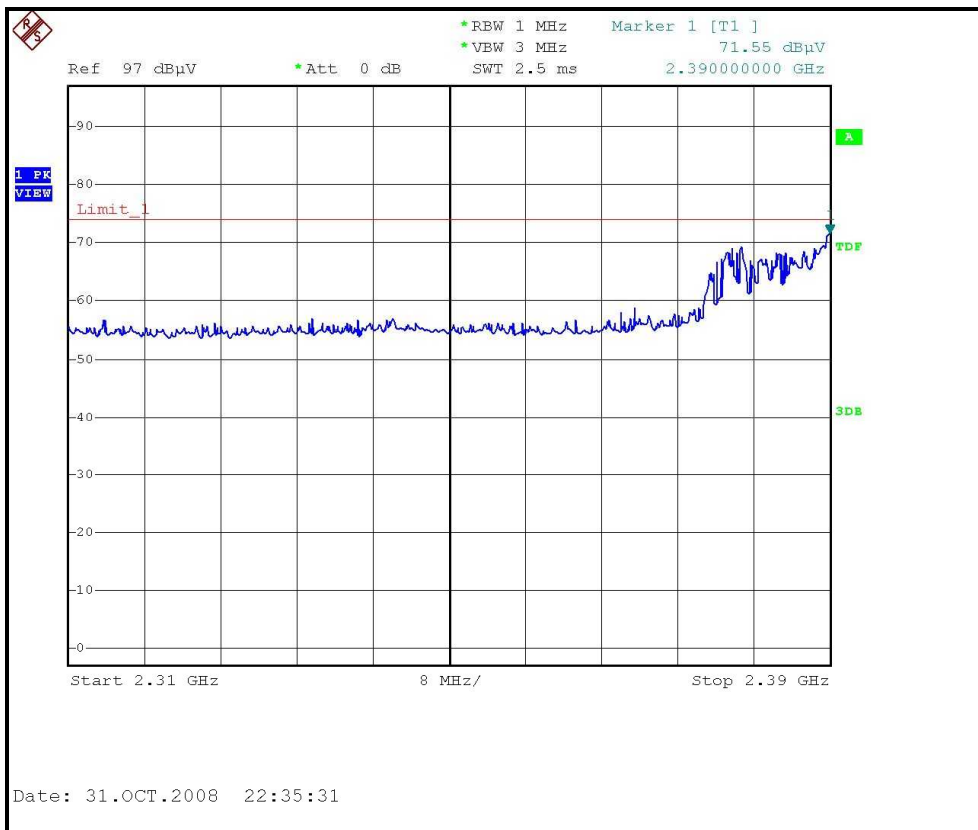
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.70 PK			1.12 H	48	72.36	30.34
2	*2462.00	91.70 AV			1.12 H	48	61.36	30.34
3	2483.50	65.87 PK	74.00	-8.13	1.12 H	48	35.44	30.43
4	2483.50	45.30 AV	54.00	-8.70	1.12 H	48	14.87	30.43
5	4924.00	49.50 PK	74.00	-24.50	1.02 H	137	13.87	35.63
6	4924.00	34.60 AV	54.00	-19.40	1.02 H	137	-1.03	35.63
7	7386.00	51.70 PK	74.00	-22.30	1.12 H	54	9.47	42.23
8	7386.00	37.50 AV	54.00	-16.50	1.12 H	54	-4.73	42.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.90 PK			1.00 V	196	80.56	30.34
2	*2462.00	100.10 AV			1.00 V	196	69.76	30.34
3	2483.50	73.36 PK	74.00	-0.64	1.00 V	196	42.93	30.43
4	2483.50	49.26 AV	54.00	-4.74	1.00 V	196	18.83	30.43
5	4924.00	53.60 PK	74.00	-20.40	1.20 V	172	17.97	35.63
6	4924.00	36.20 AV	54.00	-17.80	1.20 V	172	0.57	35.63
7	7386.00	51.90 PK	74.00	-22.10	1.25 V	334	9.67	42.23
8	7386.00	38.40 AV	54.00	-15.60	1.25 V	334	-3.83	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.

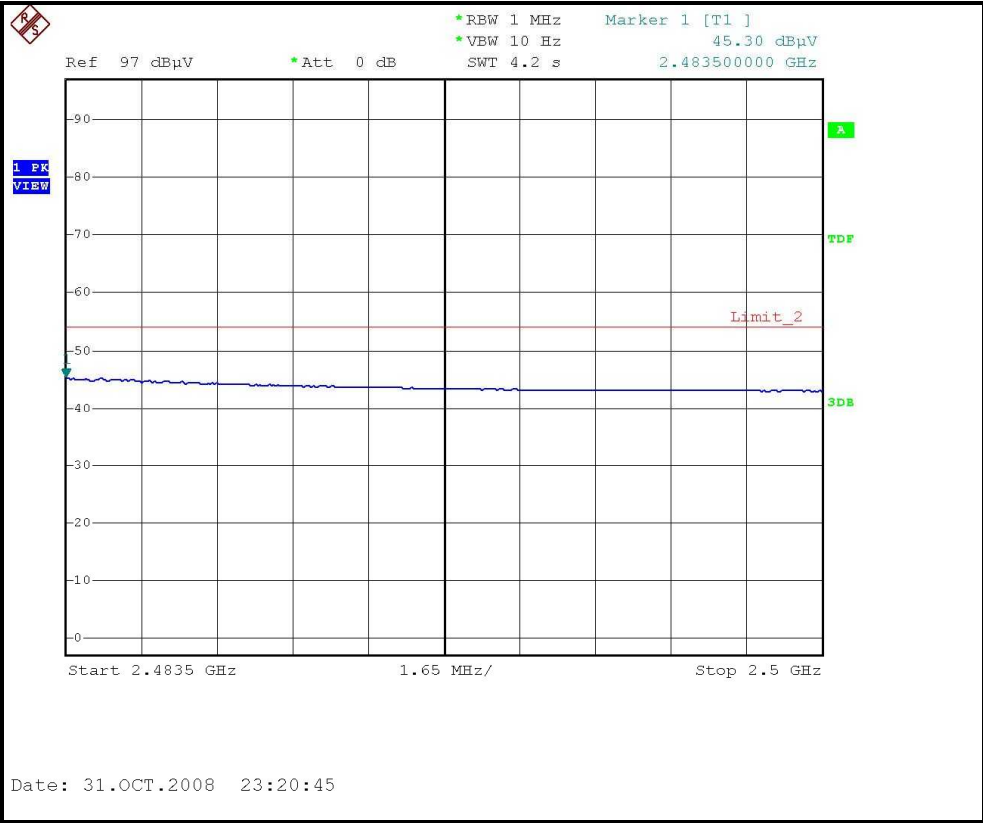
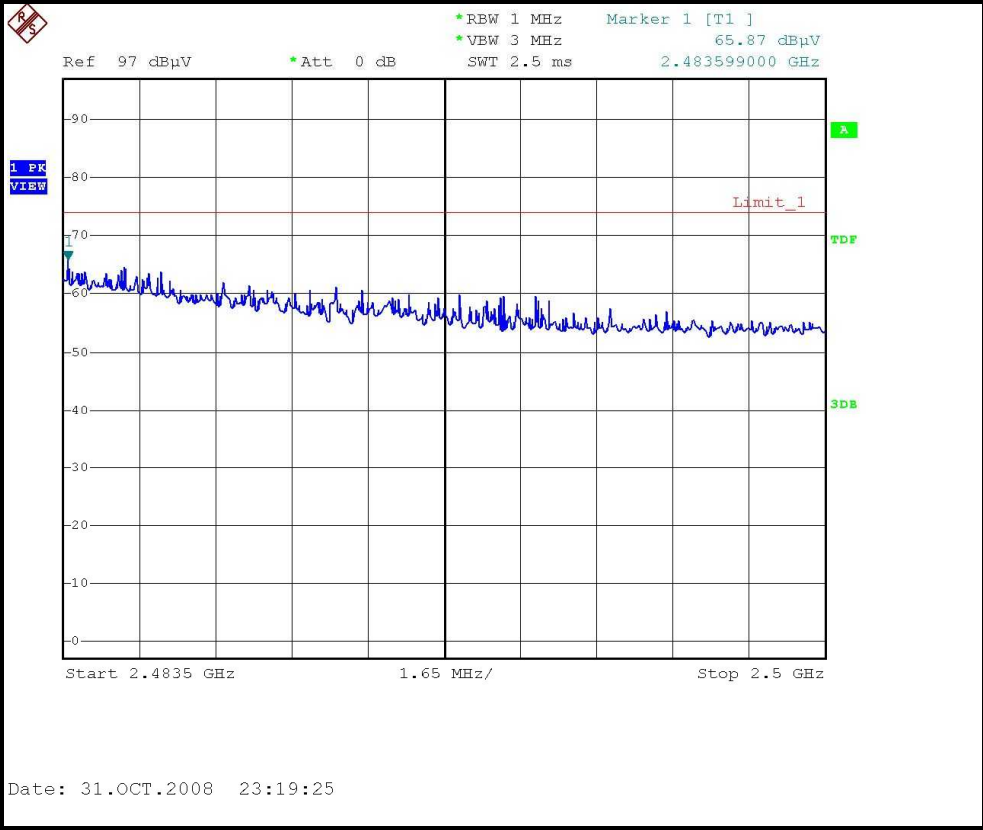
RESTRICTED BANDEDGE (802.11g MODE, CH1, HORIZONTAL)



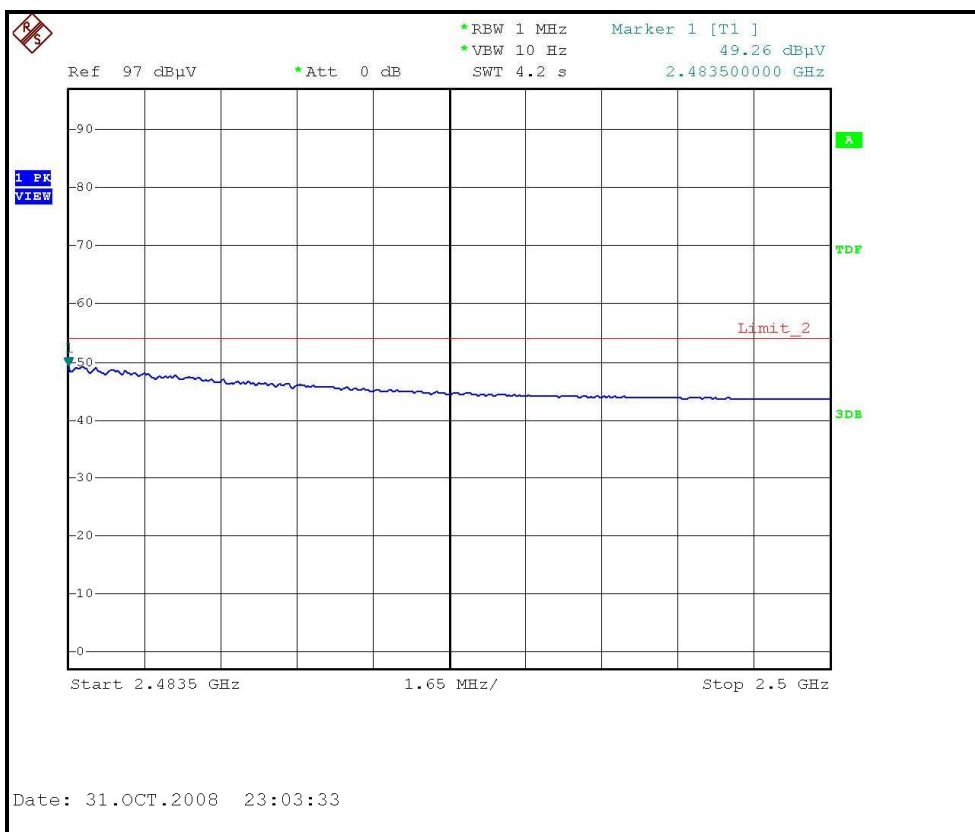
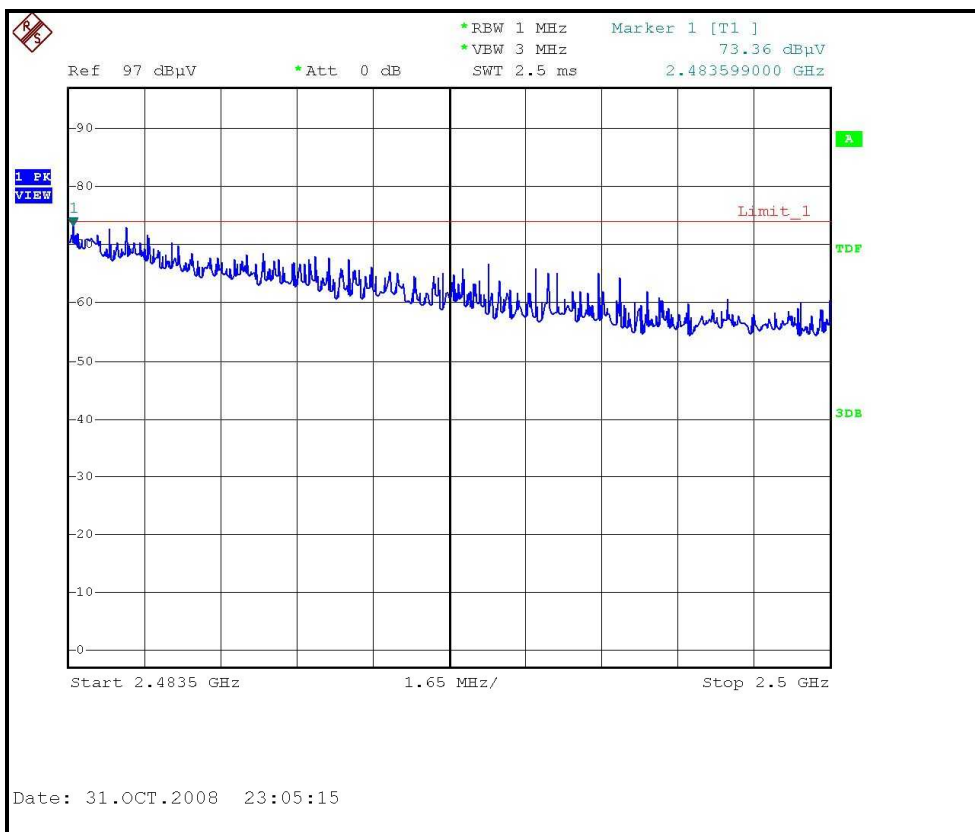
RESTRICTED BANDEDGE (802.11g MODE, CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11g MODE, CH11, VERTICAL)



802.11b DSSS MODULATION adapter 1 + PCB antenna

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1608.00	45.60 PK	74.00	-28.40	1.06 H	132	17.44	28.16
2	1608.00	39.90 AV	54.00	-14.10	1.06 H	132	11.74	28.16
3	2390.00	55.65 PK	74.00	-18.35	1.35 H	191	25.59	30.06
4	2390.00	43.55 AV	54.00	-10.45	1.35 H	191	13.49	30.06
5	*2412.00	105.20 PK			1.35 H	191	75.05	30.15
6	*2412.00	101.00 AV			1.35 H	191	70.85	30.15
7	4824.00	50.00 PK	74.00	-24.00	1.02 H	157	14.54	35.46
8	4824.00	44.90 AV	54.00	-9.10	1.02 H	157	9.44	35.46
9	#7236.00	51.80 PK	85.20	-33.40	1.00 H	20	9.95	41.85
10	#7236.00	38.00 AV	81.00	-43.00	1.00 H	20	-3.85	41.85

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	1608.00	45.20 PK	74.00	-28.80	1.00 V	79	17.04	28.16
2	1608.00	39.70 AV	54.00	-14.30	1.00 V	79	11.54	28.16
3	2390.00	57.38 PK	74.00	-16.62	1.00 V	210	27.32	30.06
4	2390.00	44.18 AV	54.00	-9.82	1.00 V	210	14.12	30.06
5	*2412.00	98.80 PK			1.00 V	210	68.65	30.15
6	*2412.00	94.40 AV			1.00 V	210	64.25	30.15
7	4824.00	48.90 PK	74.00	-25.10	1.01 V	269	13.44	35.46
8	4824.00	43.30 AV	54.00	-10.70	1.01 V	269	7.84	35.46
9	#7236.00	51.90 PK	78.80	-26.90	1.00 V	79	10.05	41.85
10	#7236.00	39.70 AV	74.40	-34.70	1.00 V	79	-2.15	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.

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1624.60	47.20 PK	74.00	-26.80	1.06 H	125	19.02	28.18
2	1624.60	42.90 AV	54.00	-11.10	1.06 H	125	14.72	28.18
3	*2437.00	105.50 PK			1.34 H	187	75.26	30.24
4	*2437.00	101.20 AV			1.34 H	187	70.96	30.24
5	4874.00	50.40 PK	74.00	-23.60	1.04 H	163	14.85	35.55
6	4874.00	45.20 AV	54.00	-8.80	1.04 H	163	9.65	35.55
7	7311.00	51.50 PK	74.00	-22.50	1.07 H	212	9.46	42.04
8	7311.00	37.70 AV	54.00	-16.30	1.07 H	212	-4.34	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	1624.60	47.60 PK	74.00	-26.40	1.00 V	277	19.42	28.18
2	1624.60	43.00 AV	54.00	-11.00	1.00 V	277	14.82	28.18
3	*2437.00	99.10 PK			1.00 V	212	68.86	30.24
4	*2437.00	94.70 AV			1.00 V	212	64.46	30.24
5	4874.00	48.70 PK	74.00	-25.30	1.00 V	267	13.15	35.55
6	4874.00	43.10 AV	54.00	-10.90	1.00 V	267	7.55	35.55
7	7311.00	51.80 PK	74.00	-22.20	1.12 V	27	9.76	42.04
8	7311.00	37.90 AV	54.00	-16.10	1.12 V	27	-4.14	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.

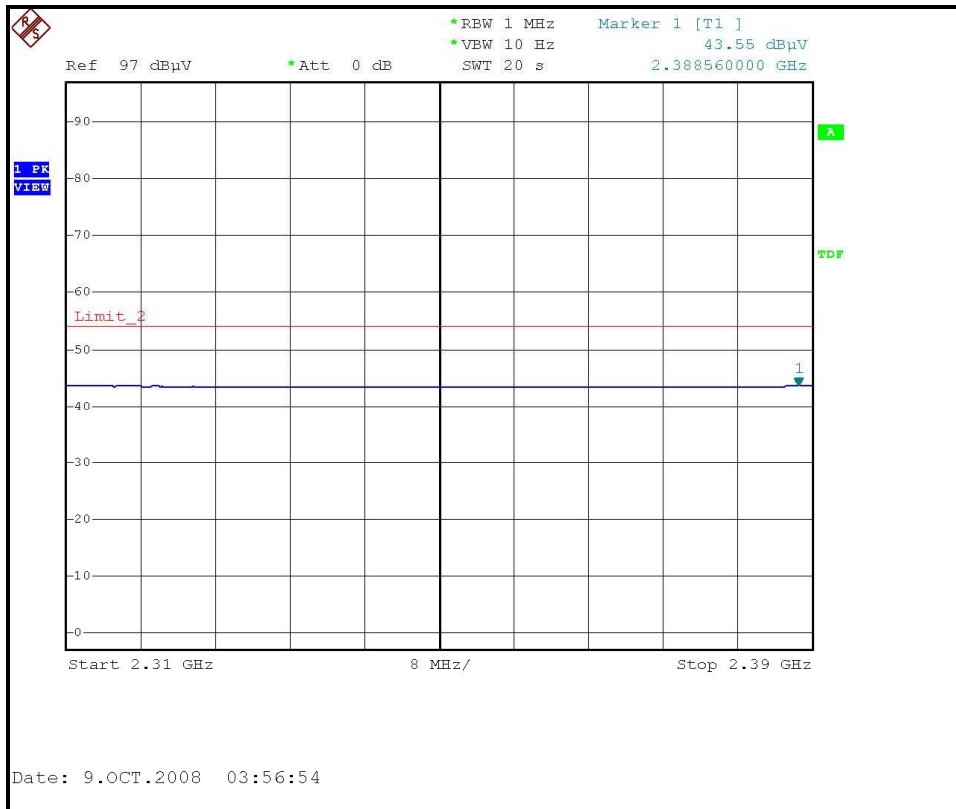
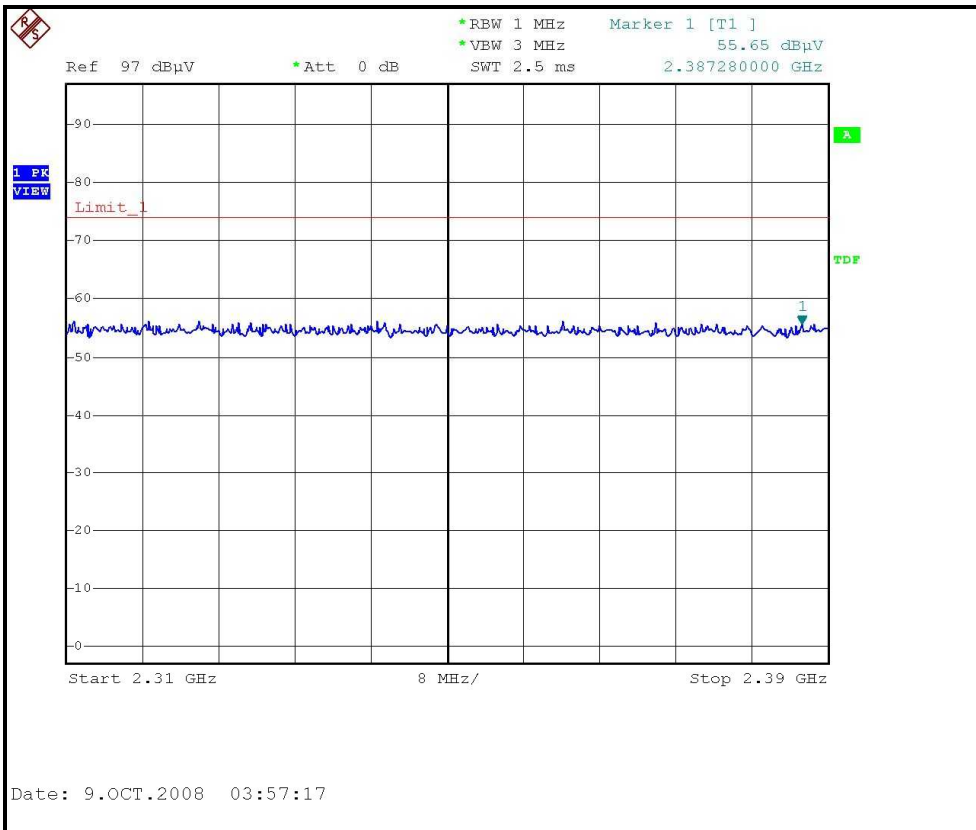
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 65%RH 972hPa	TESTED BY	Rex Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.90 PK			1.33 H	194	74.56	30.34
2	*2462.00	100.90 AV			1.33 H	194	70.56	30.34
3	2483.50	56.47 PK	74.00	-17.53	1.33 H	194	26.04	30.43
4	2483.50	43.88 AV	54.00	-10.12	1.33 H	194	13.45	30.43
5	4924.00	50.50 PK	74.00	-23.50	1.05 H	168	14.87	35.63
6	4924.00	45.40 AV	54.00	-8.60	1.05 H	168	9.77	35.63
7	7386.00	51.70 PK	74.00	-22.30	1.12 H	231	9.47	42.23
8	7386.00	37.50 AV	54.00	-16.50	1.12 H	231	-4.73	42.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.90 PK			1.00 V	211	68.56	30.34
2	*2462.00	94.60 AV			1.00 V	211	64.26	30.34
3	2483.50	56.74 PK	74.00	-17.26	1.00 V	211	26.31	30.43
4	2483.50	43.97 AV	54.00	-10.03	1.00 V	211	13.54	30.43
5	4924.00	49.10 PK	74.00	-24.90	1.02 V	275	13.47	35.63
6	4924.00	43.40 AV	54.00	-10.60	1.02 V	275	7.77	35.63
7	7386.00	51.80 PK	74.00	-22.20	1.14 V	34	9.57	42.23
8	7386.00	37.70 AV	54.00	-16.30	1.14 V	34	-4.53	42.23

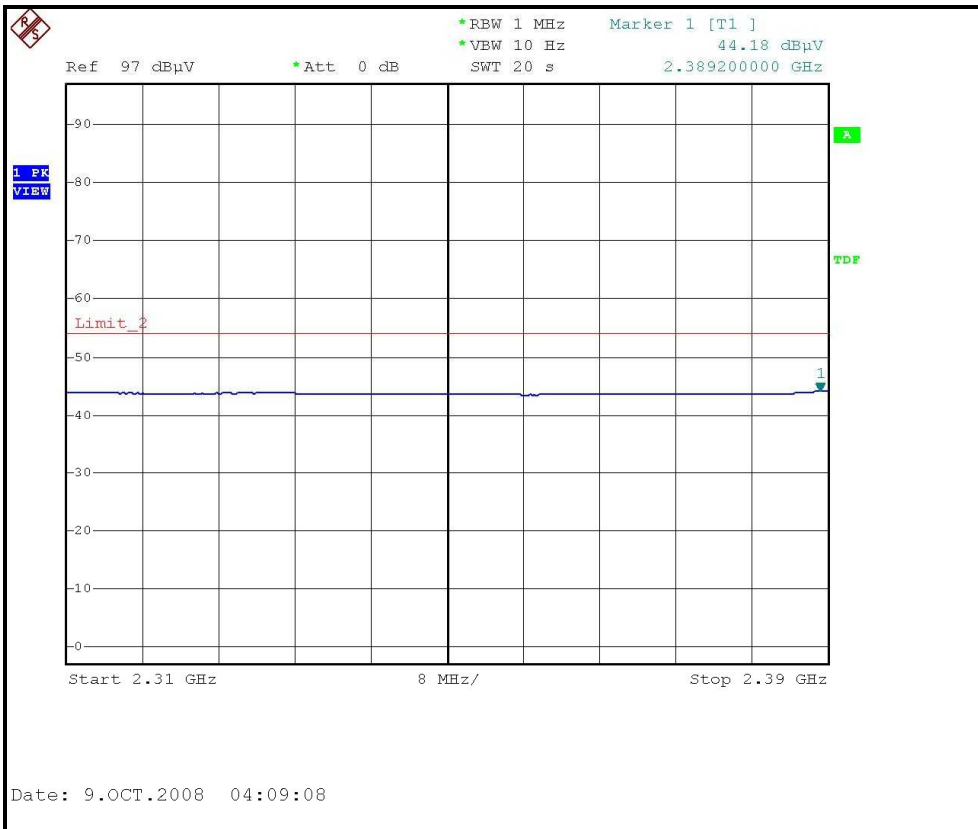
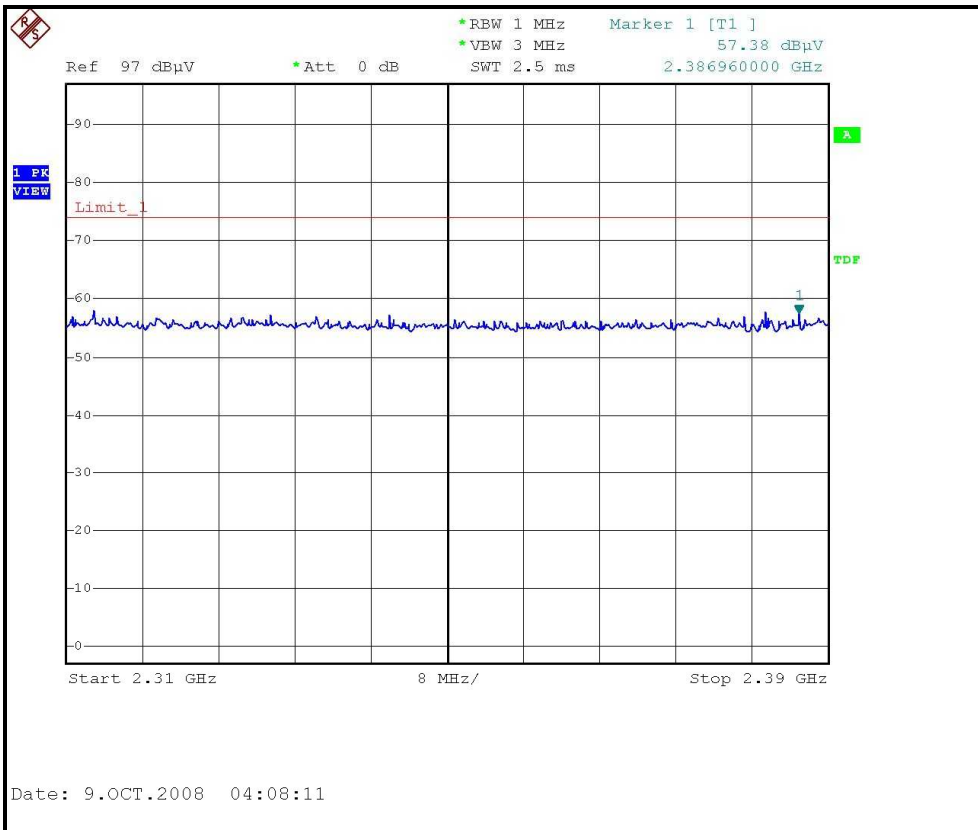
- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.



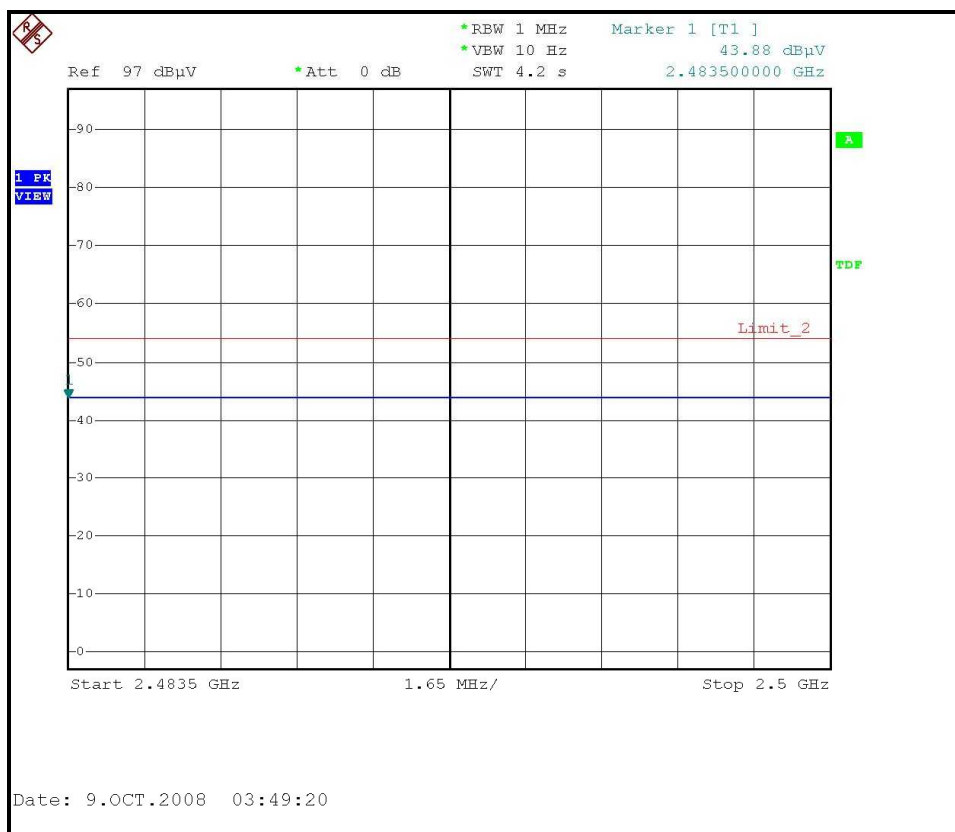
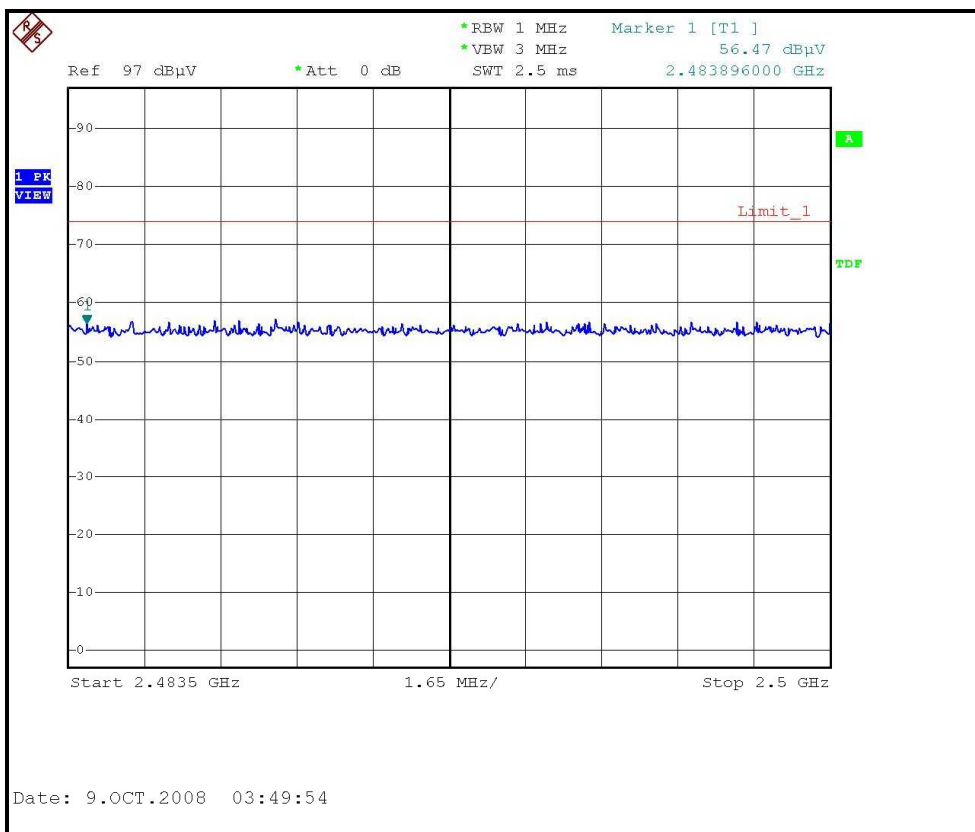
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)



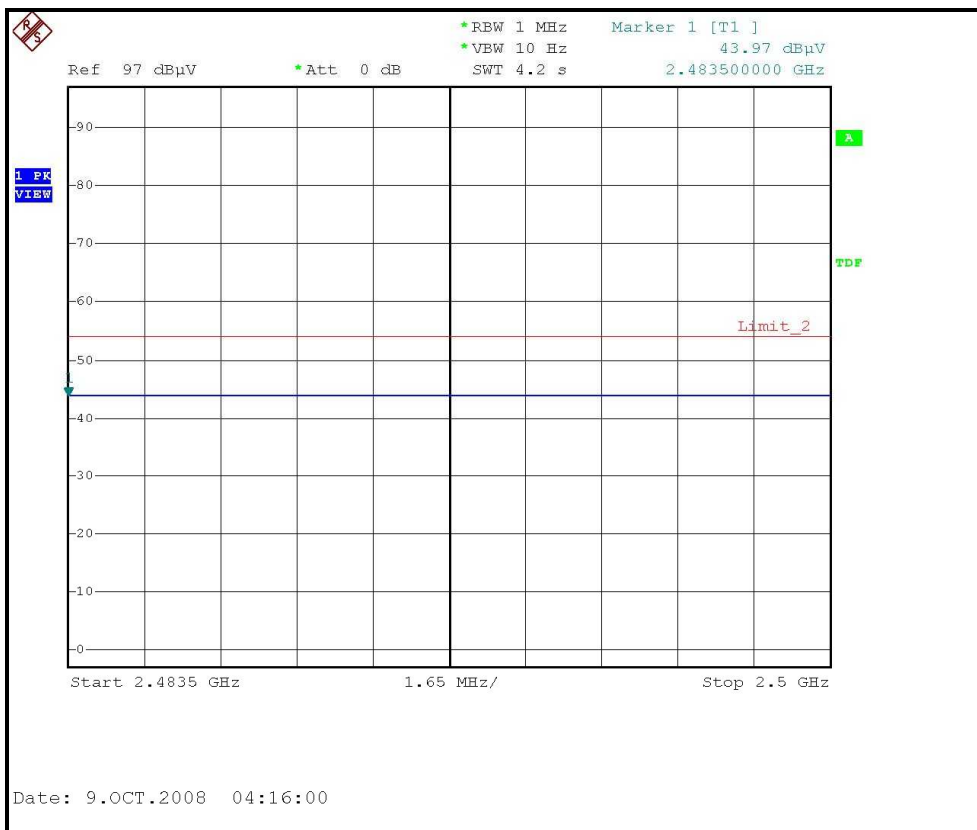
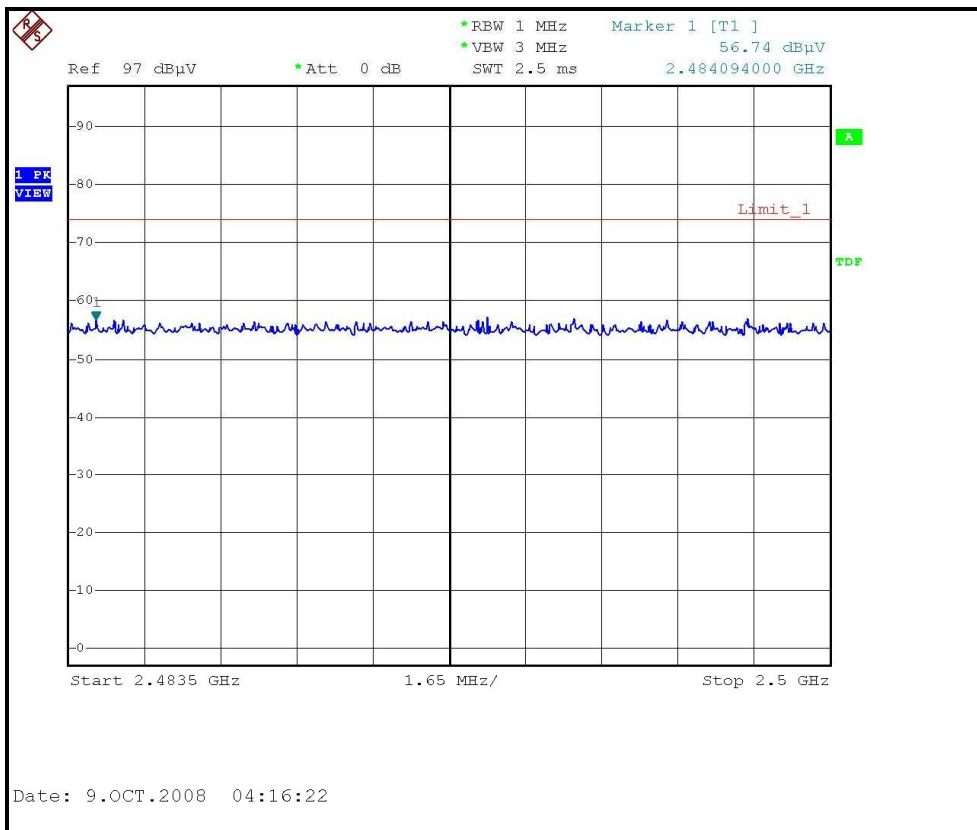
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11b MODE, CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11b MODE, CH11, VERTICAL)



802.11g OFDM MODULATION adapter 1 + PCB antenna

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1608.00	45.80 PK	74.00	-28.20	1.05 H	131	17.64	28.16
2	1608.00	40.00 AV	54.00	-14.00	1.05 H	131	11.84	28.16
3	2390.00	64.83 PK	74.00	-9.17	1.34 H	192	34.77	30.06
4	2390.00	45.79 AV	54.00	-8.21	1.34 H	192	15.73	30.06
5	*2412.00	106.90 PK			1.34 H	192	76.75	30.15
6	*2412.00	95.60 AV			1.34 H	192	65.45	30.15
7	4824.00	50.20 PK	74.00	-23.80	1.03 H	156	14.74	35.46
8	4824.00	38.80 AV	54.00	-15.20	1.03 H	156	3.34	35.46
9	#7236.00	51.50 PK	86.90	-35.40	1.05 H	224	9.65	41.85
10	#7236.00	37.80 AV	75.60	-37.80	1.05 H	224	-4.05	41.85

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	1608.00	45.10 PK	74.00	-28.90	1.00 V	78	16.94	28.16
2	1608.00	39.60 AV	54.00	-14.40	1.00 V	78	11.44	28.16
3	2390.00	59.41 PK	74.00	-14.59	1.00 V	211	29.35	30.06
4	2390.00	43.89 AV	54.00	-10.11	1.00 V	211	13.83	30.06
5	*2412.00	99.70 PK			1.00 V	211	69.55	30.15
6	*2412.00	89.60 AV			1.00 V	211	59.45	30.15
7	4824.00	49.50 PK	74.00	-24.50	1.02 V	271	14.04	35.46
8	4824.00	37.10 AV	54.00	-16.90	1.02 V	271	1.64	35.46
9	#7236.00	51.60 PK	79.70	-28.10	1.12 V	27	9.75	41.85
10	#7236.00	37.70 AV	69.60	-31.90	1.12 V	27	-4.15	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.

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, 65%RH 972hPa	TESTED BY	Rex Huang

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	1624.60	47.30 PK	74.00	-26.70	1.06 H	124	19.12	28.18
2	1624.60	43.10 AV	54.00	-10.90	1.06 H	124	14.92	28.18
3	*2437.00	107.20 PK			1.33 H	194	76.96	30.24
4	*2437.00	96.10 AV			1.33 H	194	65.86	30.24
5	4874.00	50.70 PK	74.00	-23.30	1.04 H	162	15.15	35.55
6	4874.00	38.70 AV	54.00	-15.30	1.04 H	162	3.15	35.55
7	7311.00	51.90 PK	74.00	-22.10	1.09 H	205	9.86	42.04
8	7311.00	37.90 AV	54.00	-16.10	1.09 H	205	-4.14	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	1624.60	47.80 PK	74.00	-26.20	1.00 V	276	19.62	28.18
2	1624.60	43.30 AV	54.00	-10.70	1.00 V	276	15.12	28.18
3	*2437.00	100.30 PK			1.00 V	224	70.06	30.24
4	*2437.00	90.10 AV			1.00 V	224	59.86	30.24
5	4874.00	49.60 PK	74.00	-24.40	1.04 V	275	14.05	35.55
6	4874.00	36.90 AV	54.00	-17.10	1.04 V	275	1.35	35.55
7	7311.00	51.70 PK	74.00	-22.30	1.14 V	31	9.66	42.04
8	7311.00	37.60 AV	54.00	-16.40	1.14 V	31	-4.44	42.04

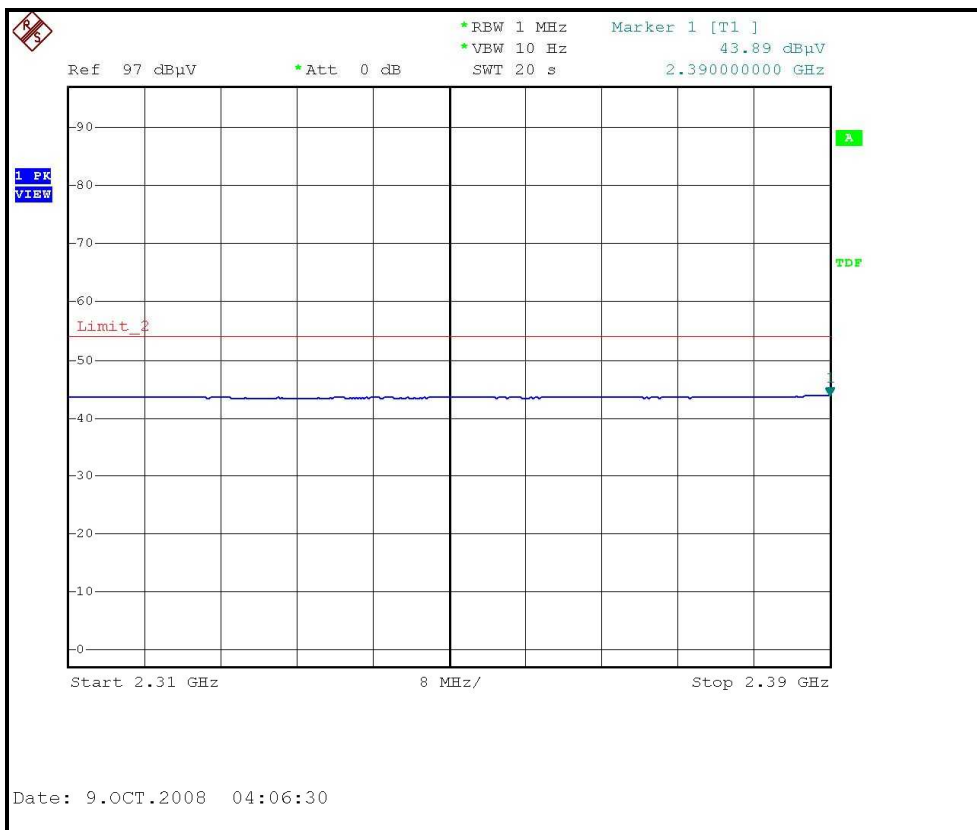
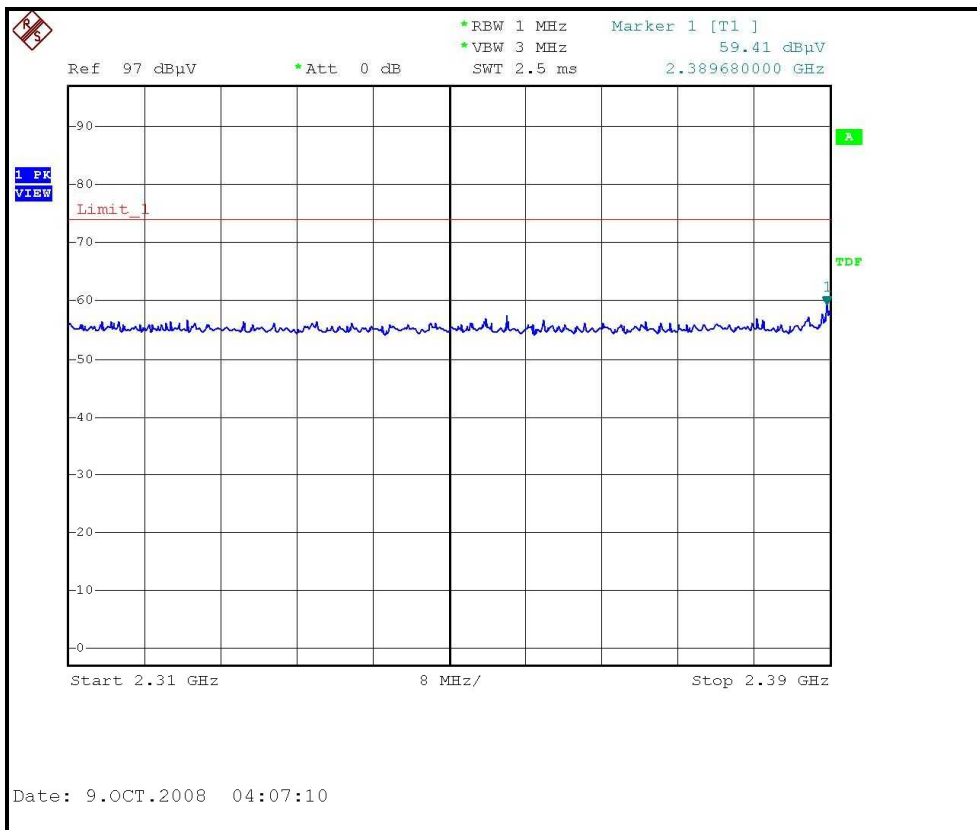
- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.

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, 65%RH 972hPa	TESTED BY	Rex Huang

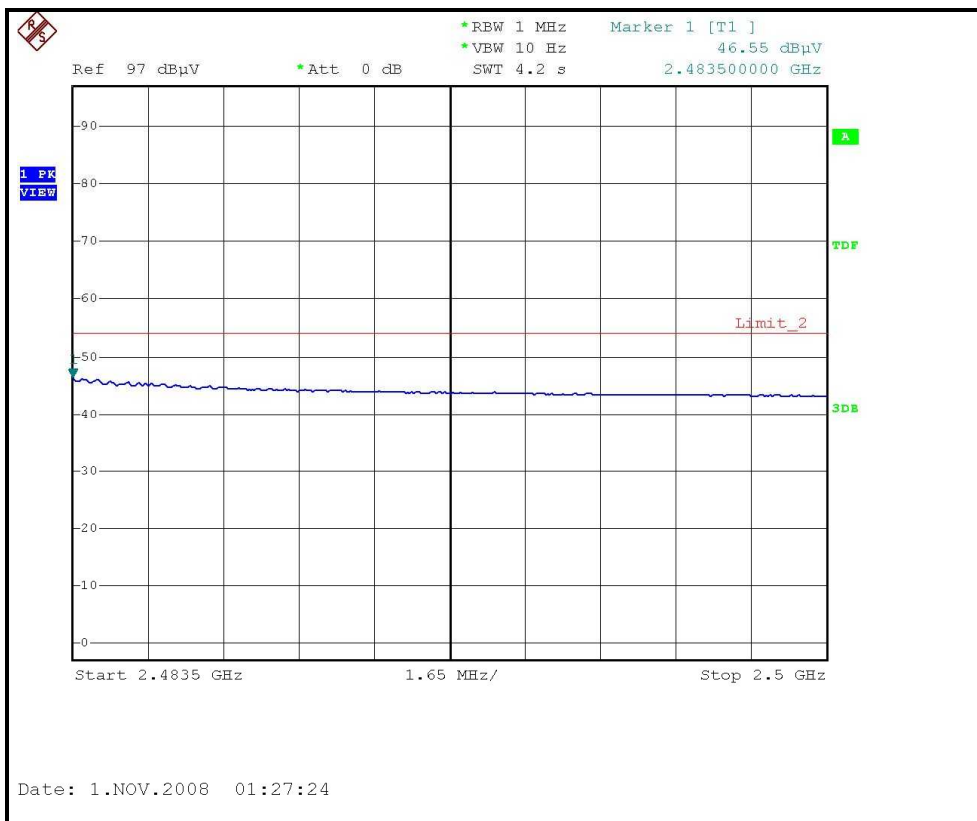
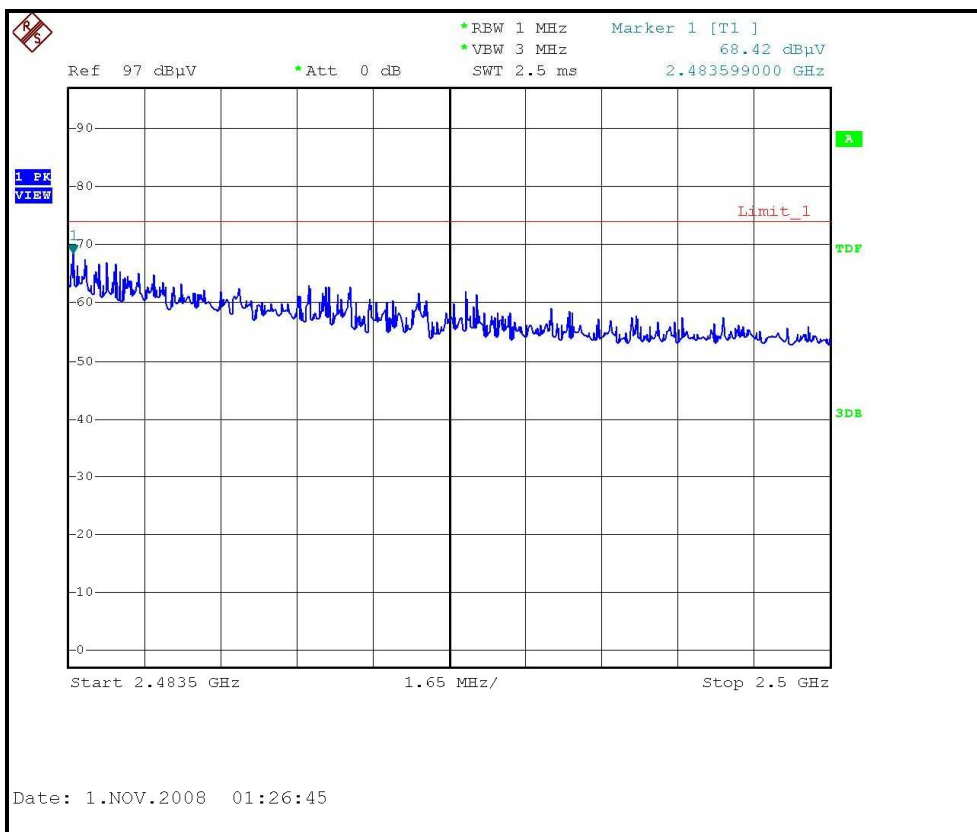
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.00 PK			1.34 H	194	76.66	30.34
2	*2462.00	95.80 AV			1.34 H	194	65.46	30.34
3	2483.50	68.42 PK	74.00	-5.58	1.34 H	194	37.99	30.43
4	2483.50	46.55 AV	54.00	-7.45	1.34 H	194	16.12	30.43
5	4924.00	51.80 PK	74.00	-22.20	1.03 H	174	16.17	35.63
6	4924.00	38.10 AV	54.00	-15.90	1.03 H	174	2.47	35.63
7	7386.00	51.80 PK	74.00	-22.20	1.13 H	227	9.57	42.23
8	7386.00	37.80 AV	54.00	-16.20	1.13 H	227	-4.43	42.23
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.10 PK			1.00 V	227	69.76	30.34
2	*2462.00	89.90 AV			1.00 V	227	59.56	30.34
3	2483.50	61.02 PK	74.00	-12.98	1.00 V	227	30.59	30.43
4	2483.50	44.42 AV	54.00	-9.58	1.00 V	227	13.99	30.43
5	4924.00	49.90 PK	74.00	-24.10	1.05 V	284	14.27	35.63
6	4924.00	37.30 AV	54.00	-16.70	1.05 V	284	1.67	35.63
7	7386.00	51.80 PK	74.00	-22.20	1.13 V	29	9.57	42.23
8	7386.00	37.70 AV	54.00	-16.30	1.13 V	29	-4.53	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.

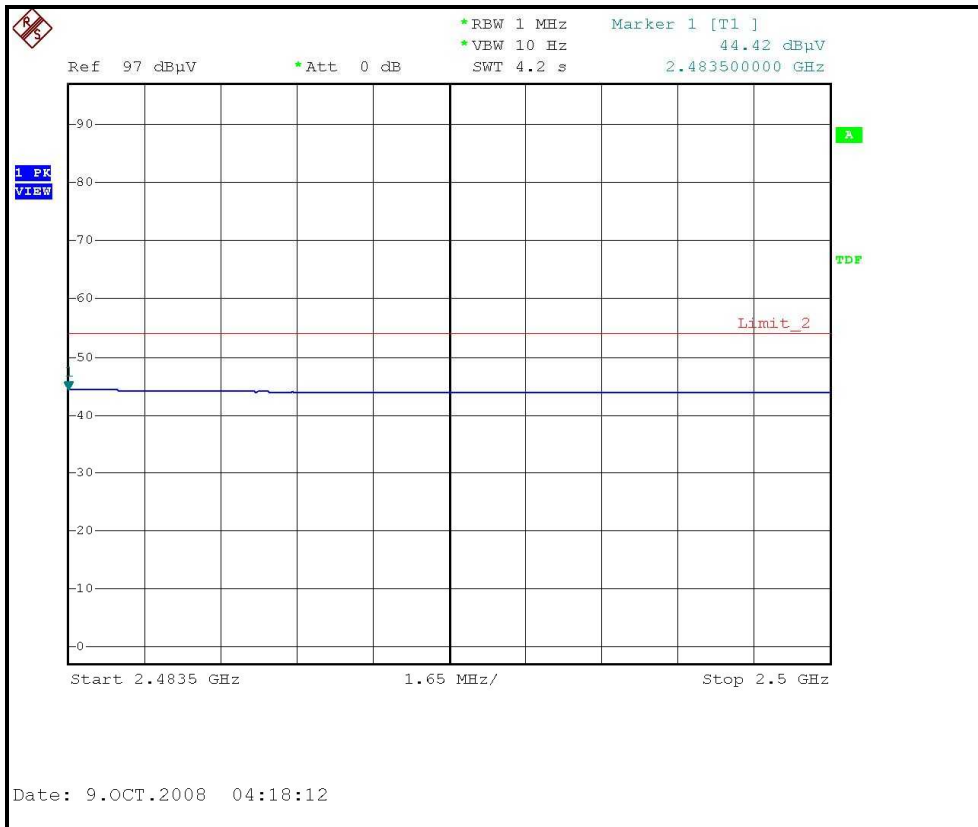
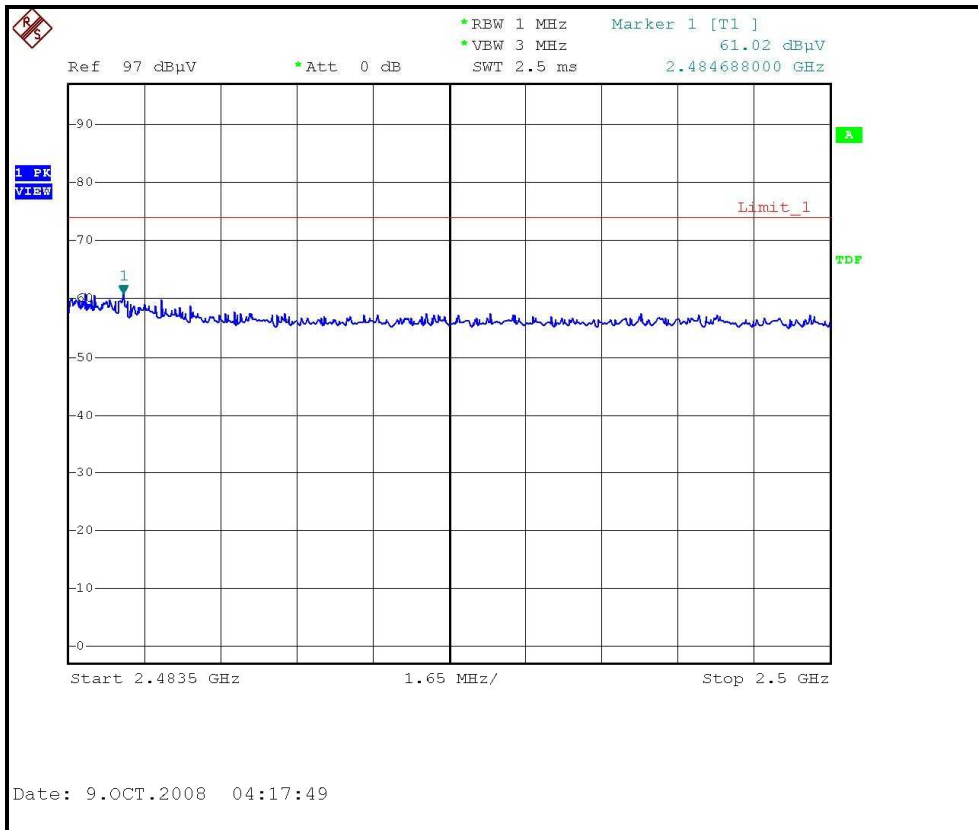
RESTRICTED BANDEDGE (802.11g MODE, CH1, VERTICAL)



RESTRICTED BANDEDGE (802.11g MODE, CH11, HORIZONTAL)



RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated DATE	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 16, 2007	Dec. 17, 2008

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 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.

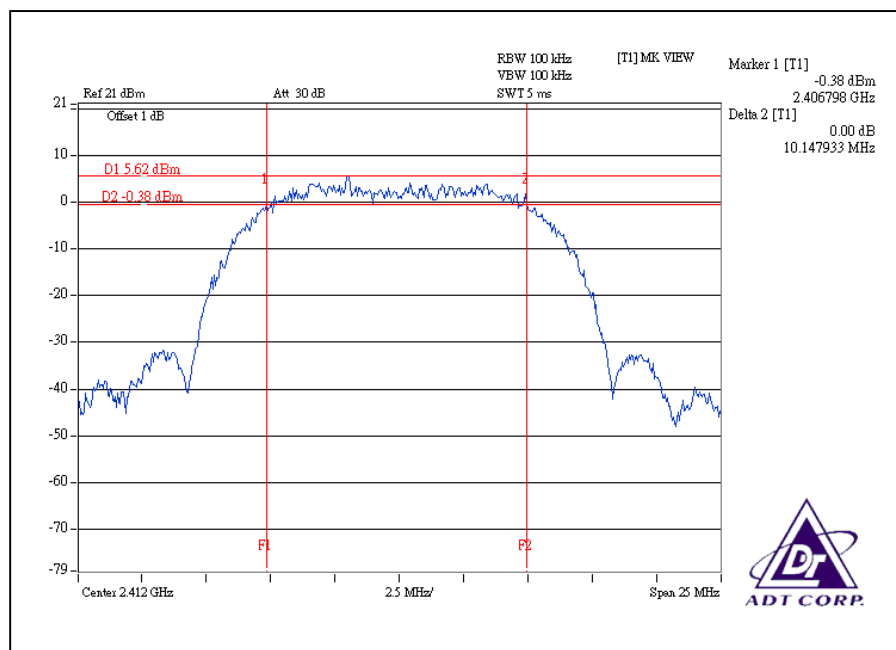
4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

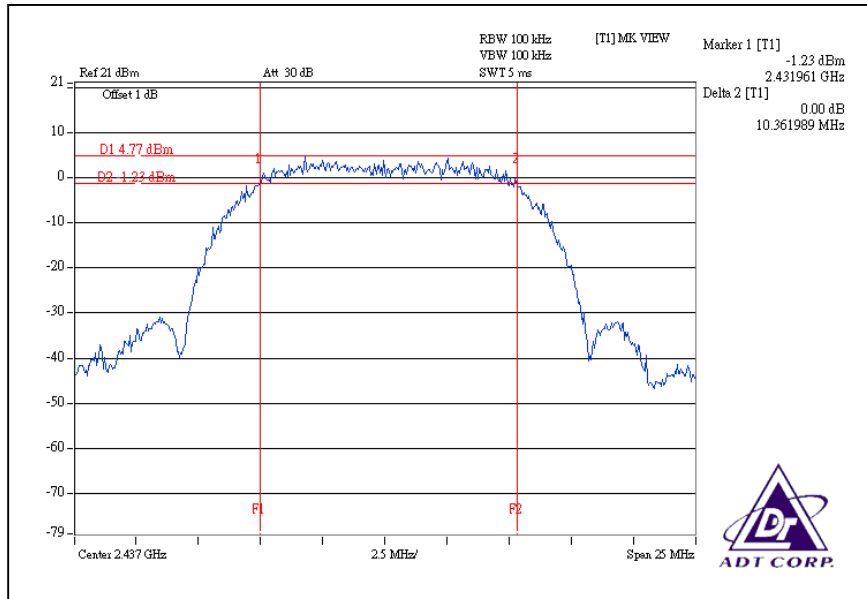
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.15	0.5	PASS
6	2437	10.36	0.5	PASS
11	2462	10.61	0.5	PASS

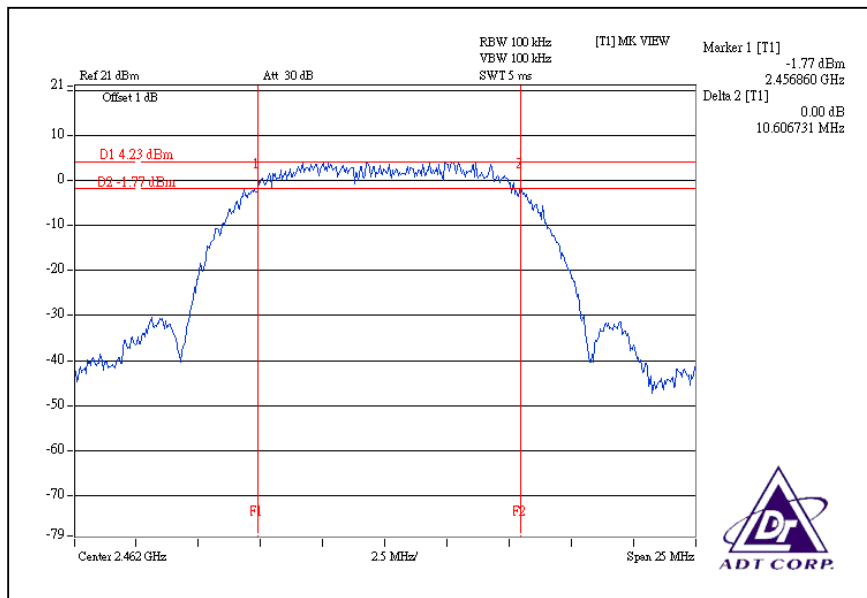
CH1



CH6



CH11

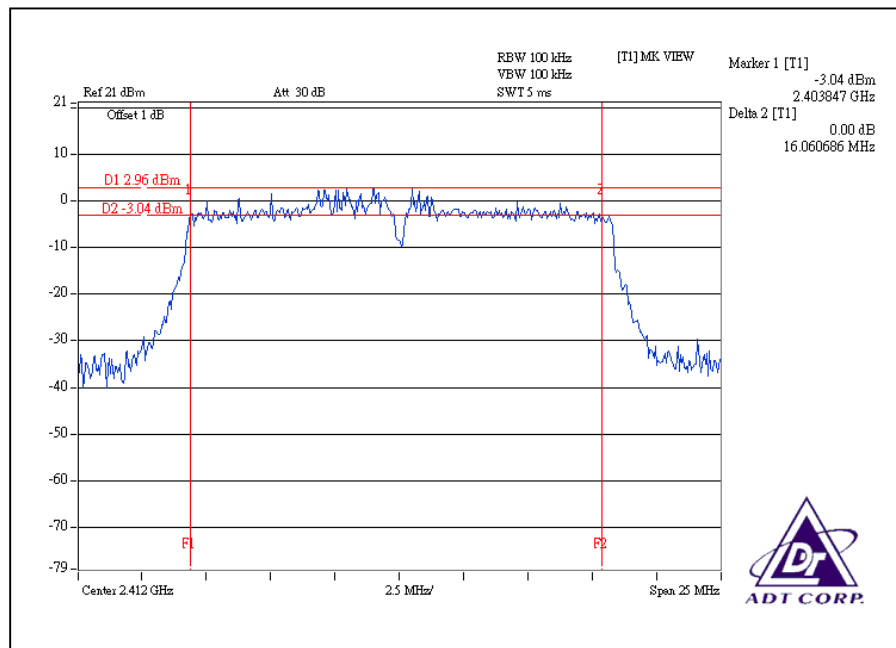


802.11g OFDM MODULATION:

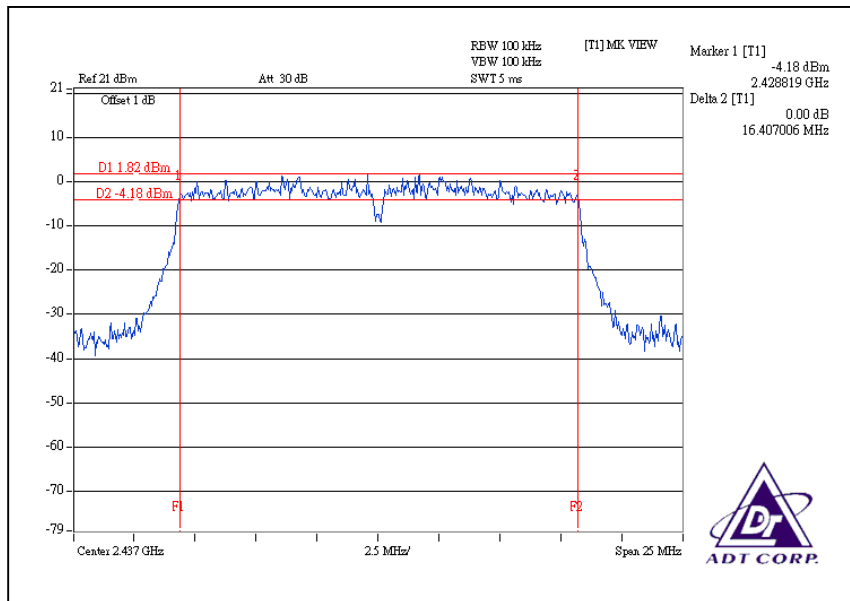
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.06	0.5	PASS
6	2437	16.41	0.5	PASS
11	2462	15.74	0.5	PASS

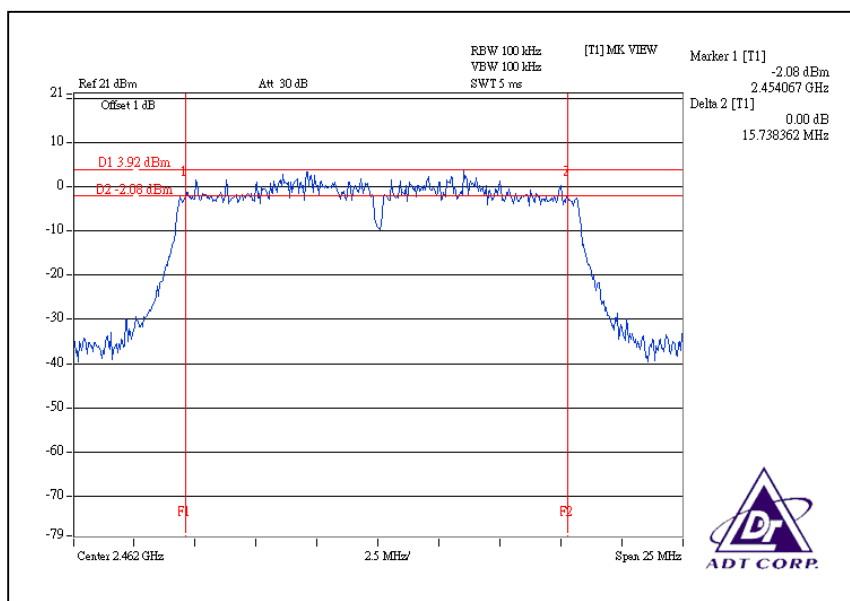
CH1



CH6



CH11



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	NA	NA
Pulse Power Sensor	MA2411B	0738172	NA	NA

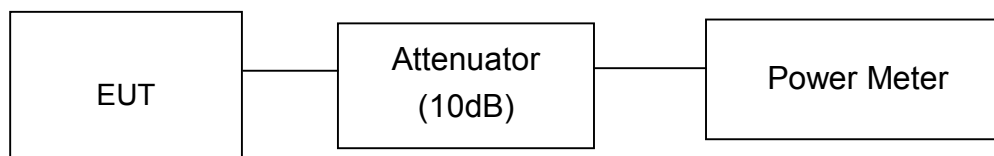
4.4.3 TEST PROCEDURES

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 (adapter 1 + dipole antenna)

802.11b DSSS MODULATION:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	79.433	19.00	30	PASS
6	2437	76.033	18.81	30	PASS
11	2462	80.724	19.07	30	PASS

802.11g OFDM MODULATION:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	146.218	21.65	30	PASS
6	2437	150.314	21.77	30	PASS
11	2462	162.930	22.12	30	PASS

4.4.8 TEST RESULTS (adapter 1 + PCB antenna)

802.11b DSSS MODULATION:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	79.433	19.00	30	PASS
6	2437	76.033	18.81	30	PASS
11	2462	80.724	19.07	30	PASS

802.11g OFDM MODULATION:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	146.218	21.65	30	PASS
6	2437	150.314	21.77	30	PASS
11	2462	162.930	22.12	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	100036	Dec. 16, 2007	Dec. 17, 2008

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

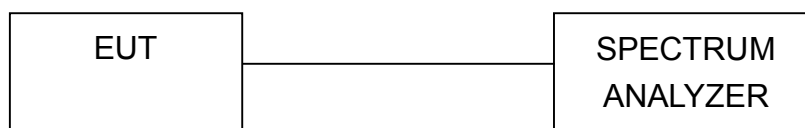
4.5.3 TEST PROCEDURE

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

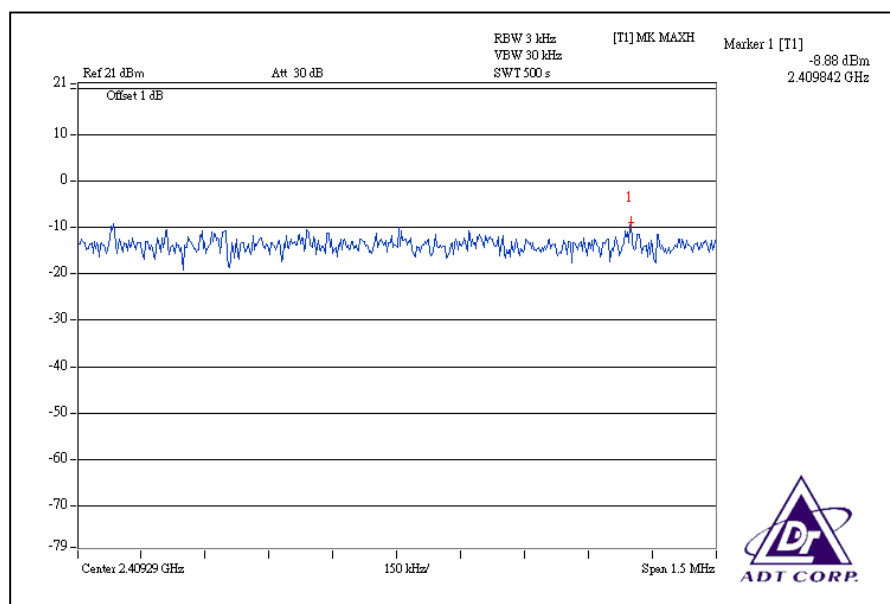
4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

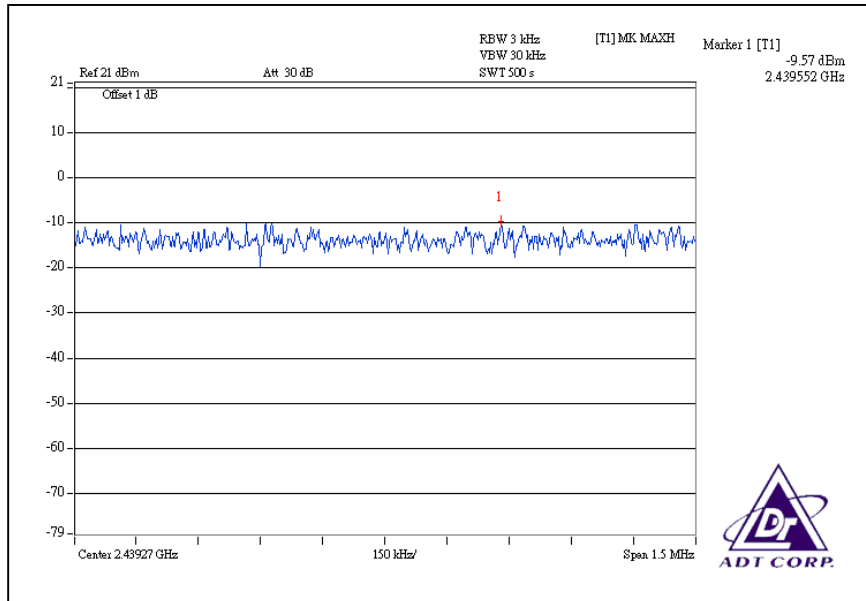
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-8.88	8	PASS
6	2437	-9.57	8	PASS
11	2462	-9.61	8	PASS

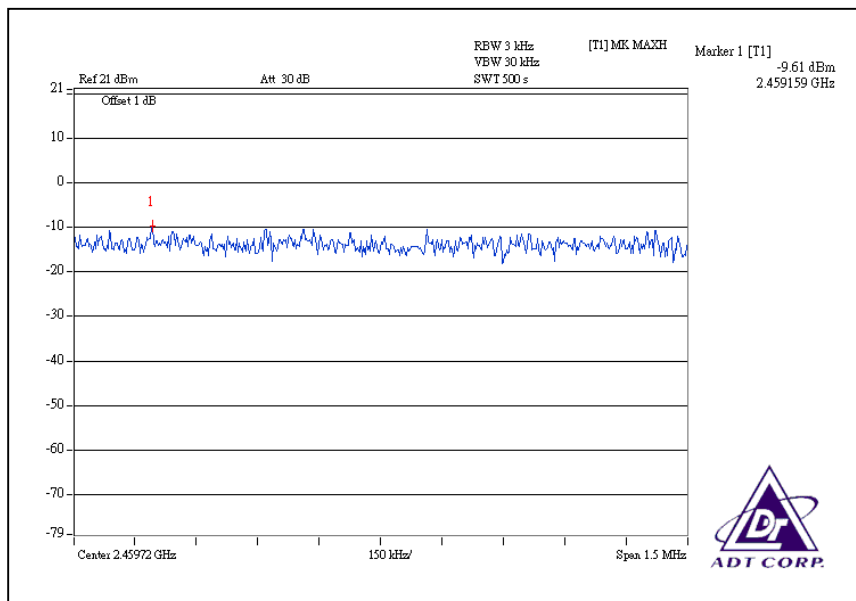
CH1



CH6



CH11

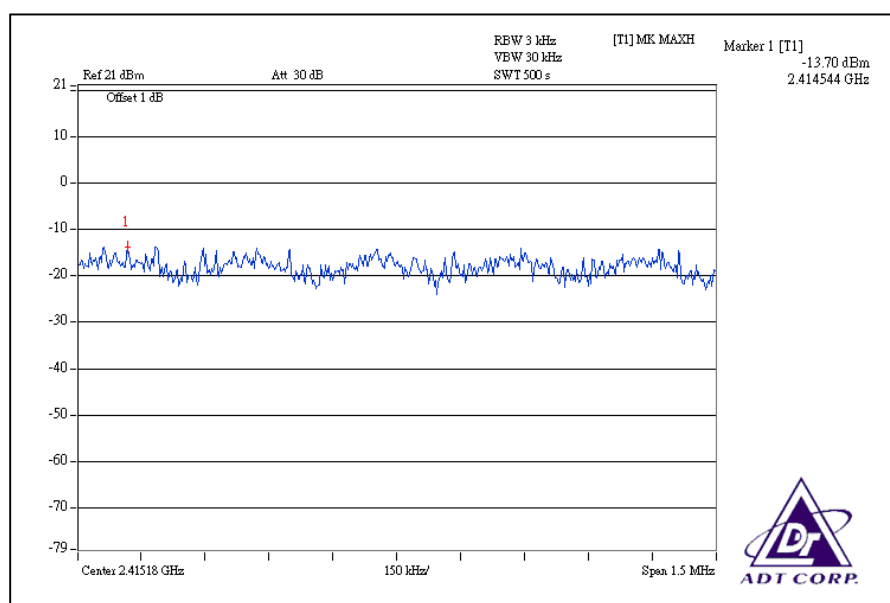


802.11g OFDM MODULATION:

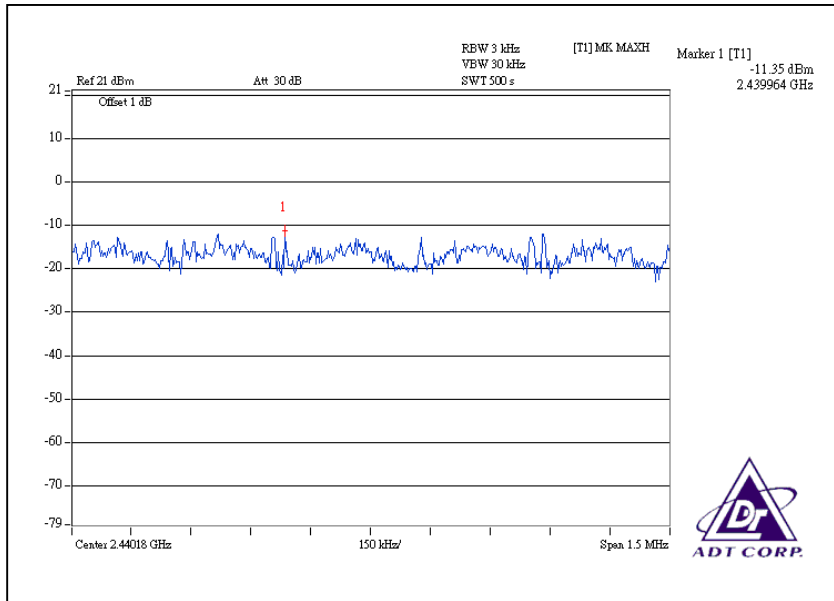
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-13.70	8	PASS
6	2437	-11.35	8	PASS
11	2462	-10.51	8	PASS

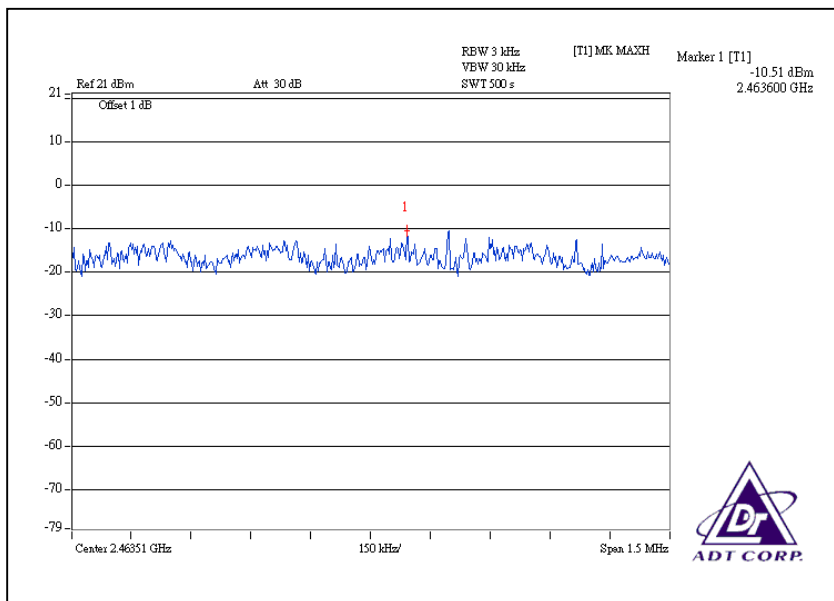
CH1



CH6



CH11





4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated DATE	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 16, 2007	Dec. 17, 2008

NOTE:

- 1.The measurement uncertainty is less than $\pm 2.6\text{dB}$, which is calculated as per the NAMAS document NIS81.
- 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 both 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 conducted out-band emission was measured and recorded.

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

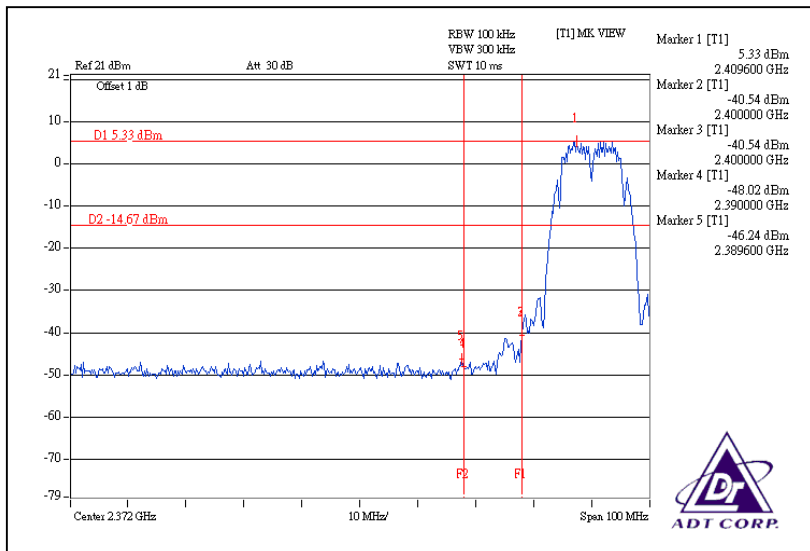
Same as Item 4.3.6

4.6.6 TEST RESULTS

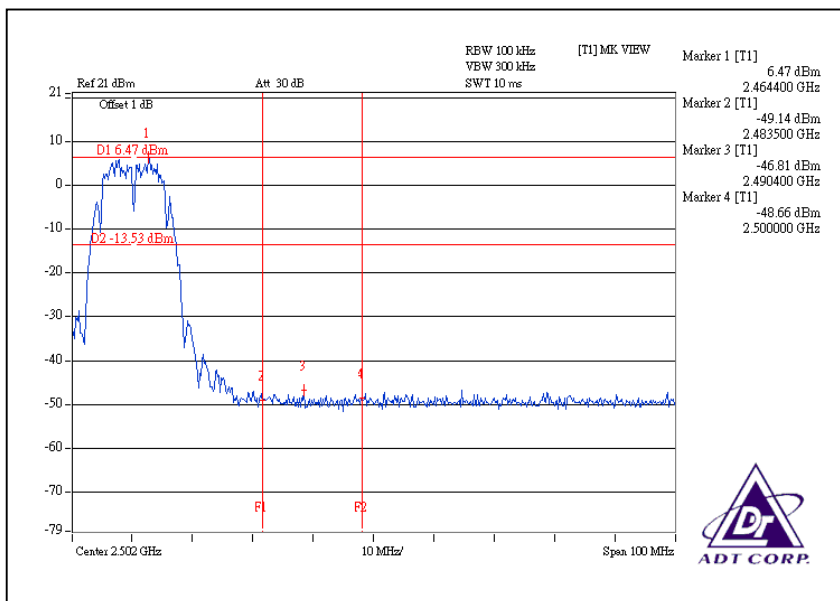
The spectrum plots are attached on the following below images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

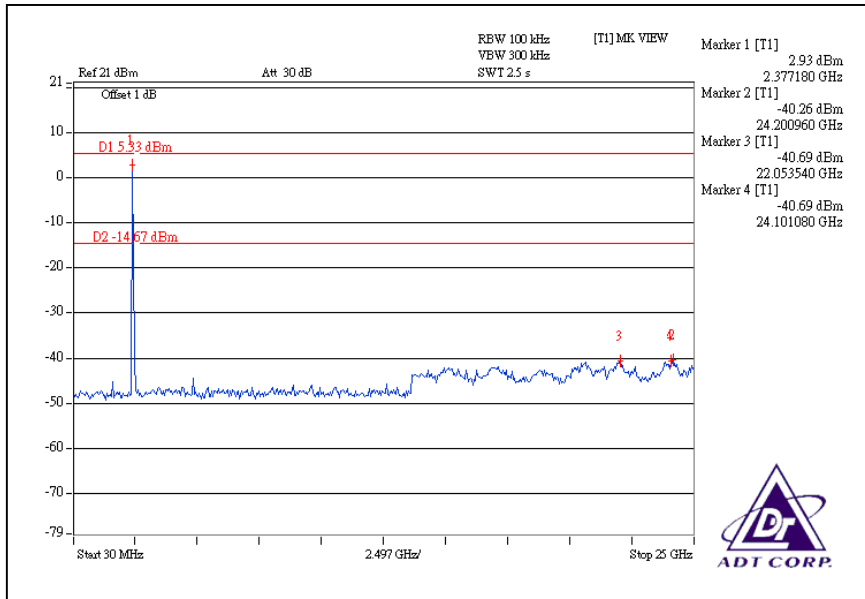
CH1



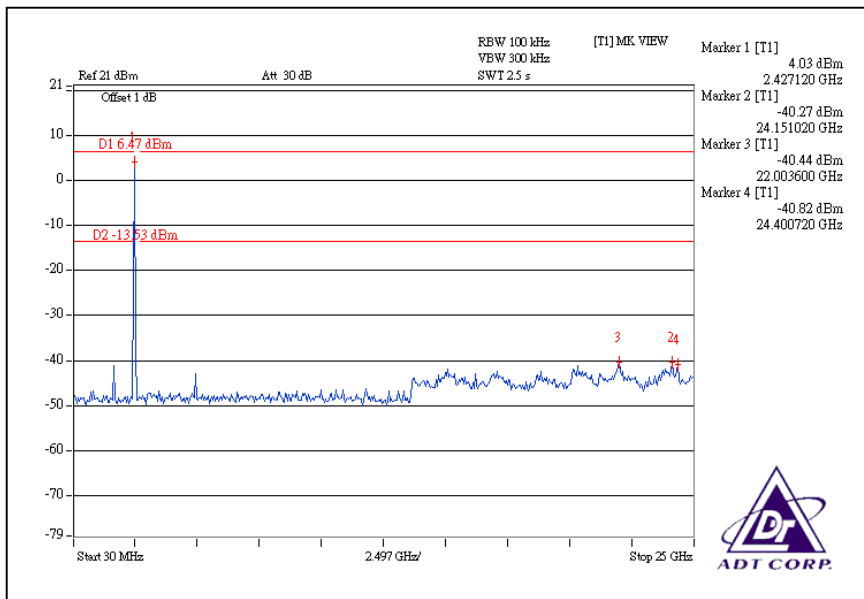
CH11



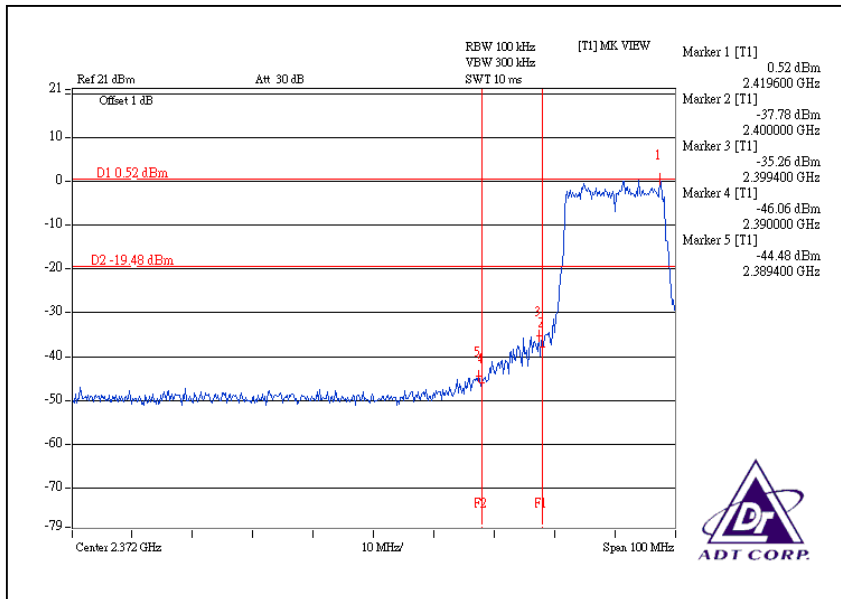
CH1



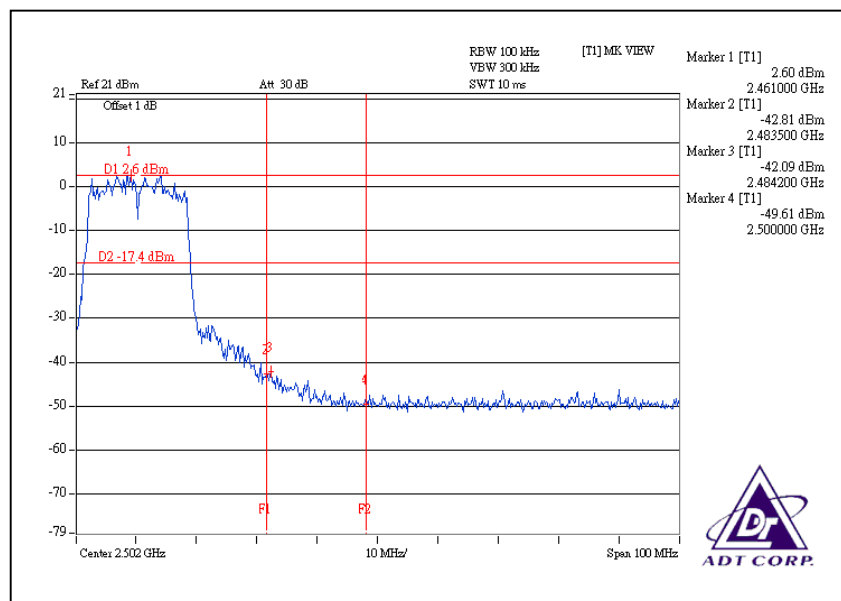
CH11



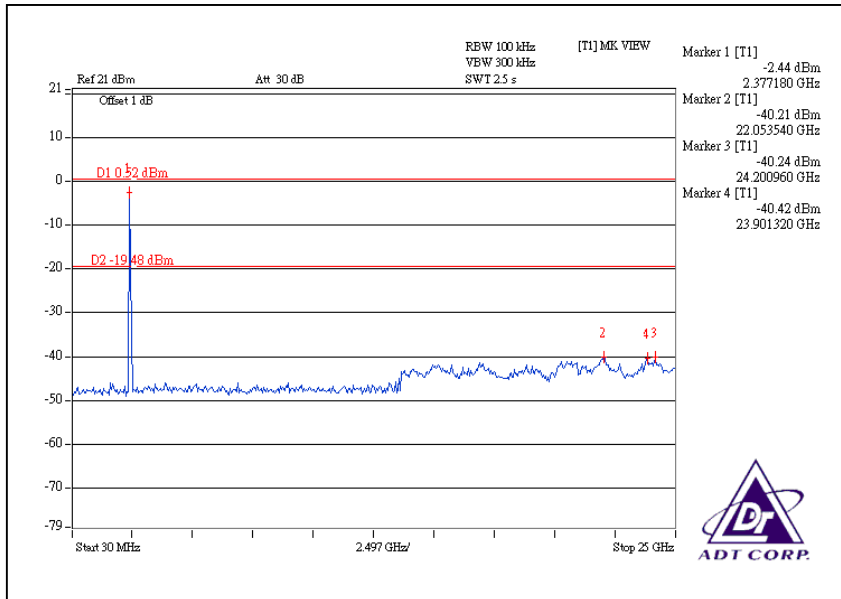
802.11g OFDM MODULATION: CH 1



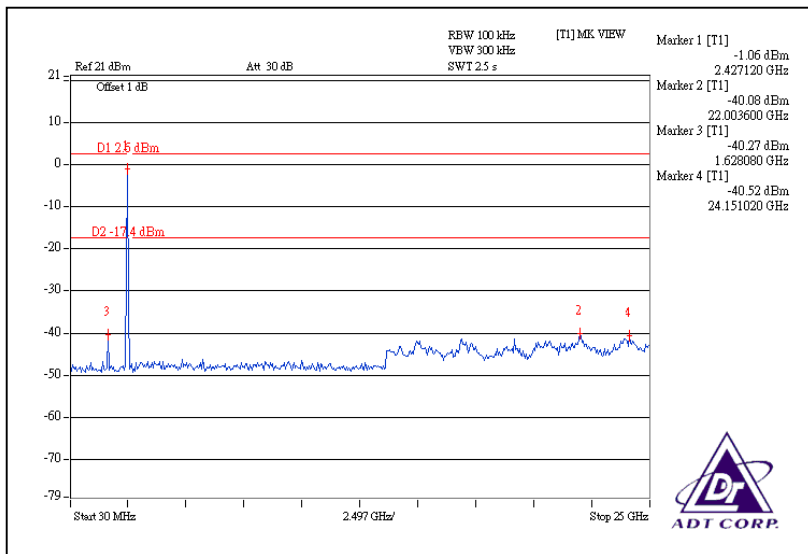
CH11



CH1



CH11





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

The antenna used in this product is Dipole and PCB antenna without connector. The maximum Gain of the antenna is 5dBi for Dipole antenna or 2dBi for PCB antenna.



5. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., 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.

USA	FCC, UL
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	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. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3185050

Web Site: www.adt.com.tw

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



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 ---