FCC TEST REPORT

REPORT NO.: RF970714H07
MODEL NO.: WRT54G2 V1.3
RECEIVED: July 14, 2008
TESTED: July 17 to Aug. 04, 2008
ISSUED: Aug. 13, 2008

APPLICANT: Cisco-Linksys LLC

ADDRESS: 121 Theory Drive Irvine, CA 92617(USA)

ISSUED BY: Advance Data Technology Corporation

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1. CERTIFICATION

PRODUCT:	Wireless-G Broadband Router With 4-Port Switch
BRAND NAME:	Linksys
MODEL NO.:	WRT54G2 V1.3
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	July 17 to Aug. 04, 2008
APPLICANT:	Cisco-Linksys LLC
STANDARDS:	FCC Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment (Model: WRT54G2 V1.3) 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:** Aug. 13, 2008
(Sunny Wen, Specialist)

TECHNICAL ACCEPTANCE : Hank Chung , **DATE:** Aug. 13, 2008
Responsible for RF
(Hank Chung, Deputy Manager)

APPROVED BY : May Chen , **DATE:** Aug. 13, 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 -6.74dB at 0.189MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.58dB 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.

For Lab 1:

Measurement	Frequency	Uncertainty
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~1000MHz	3.21 dB

For Lab 2:

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.33 dB
Radiated emissions (18GHz -40GHz)	2.55 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless-G Broadband Router With 4-Port Switch
MODEL NO.	WRT54G2 V1.3
FCC ID	Q87-WRT54G2V13
POWER SUPPLY	DC 12V from power adapter
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: 91.201mW 802.11g: 96.383mW
ANTENNA TYPE	Fix internal dipole antenna with 4dBi antenna Gain
DATA CABLE	NA
I/O PORT	WAN Port x 1, LAN Port x 4

NOTE:

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

Adapter 1	
Brand:	LINKSYS (EXH)
Model No.:	LS120V05AE
Input power :	AC100-240V, 0.5A, 50-60Hz AC input cable (Unshielded, 0.5m)
Output power :	DC 12V, 0.5A DC output cable (Unshielded, 1.8m)
Adapter 2	
Brand:	LINKSYS (EXH)
Model No.:	AD12V/0.5A-SW
Input power :	AC100-240V, 0.5A, 50-60Hz
Output power :	DC 12V, 0.5A DC output cable (Unshielded, 1.8m)
Adapter 3	
Brand:	LINKSYS (BESTEC)
Model No.:	EA0061WAA
Input power :	AC100-240V, 0.5A, 50-60Hz
Output power :	DC 12V, 0.5A DC output cable (Unshielded, 1.8m)

2. 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.

3. 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	
-	√	√	√	√	-

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)
802.11g	1 to 11	6	OFDM	BPSK	6

☒ For conducted emissions, the EUT was tested as the following test modes:

Test Mode	Description
Mode A	Adapter 1
Mode B	Adapter 2
Mode C	Adapter 3

RADIATED EMISSION TEST (BELOW 1 GHZ):

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

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

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

☒ For spurious emissions, the EUT was tested in chamber as the following test modes:

Test Mode	Description
Mode A	Adapter 1
Mode B	Adapter 2
Mode C	Adapter 3

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

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

☒ 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 3

The worst adapter was found in Adapter 1. 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)
802.11b	1 to 11	1, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 11	OFDM	BPSK	6

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)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless-G Broadband Router With 4-Port Switch. 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.

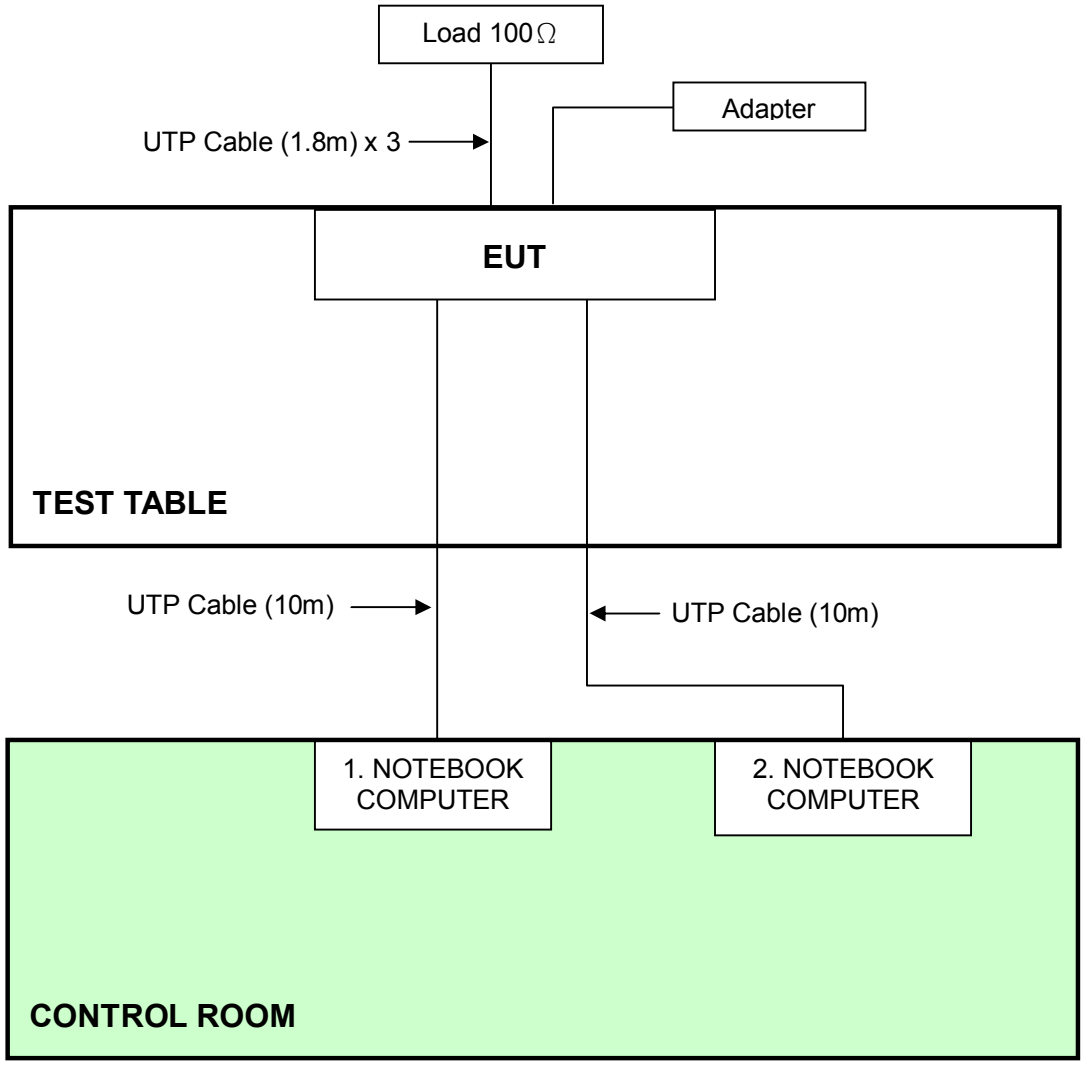
For Radiated test below 1 GHz					
NO.	**PRODUCT**	**BRAND**	**MODEL NO.**	**SERIAL NO.**	**FCC ID**
1	NOTEBOOK COMPUTER	DELL	PP05L	14307680656	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP18L	D1T5W1S 28407620224	QDS-BRCM1019
For Other test					
NO.	**PRODUCT**	**BRAND**	**MODEL NO.**	**SERIAL NO.**	**FCC ID**
1	NOTEBOOK COMPUTER	DELL	PP21L	CN-0GD366-70166-5B3-09ZX	QDS-BRCM1016
2	NOTEBOOK COMPUTER	DELL	PP17L	CN-ONF743-48643-7AV-0124	DoC
3	HUB	AVSYS	110H8	01-20E-000002	DoC

For Radiated test below 1 GHz	
NO.	**SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS**
1	NA
2	NA
For Other test	
NO.	**SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS**
1	NA
2	NA
3	NA

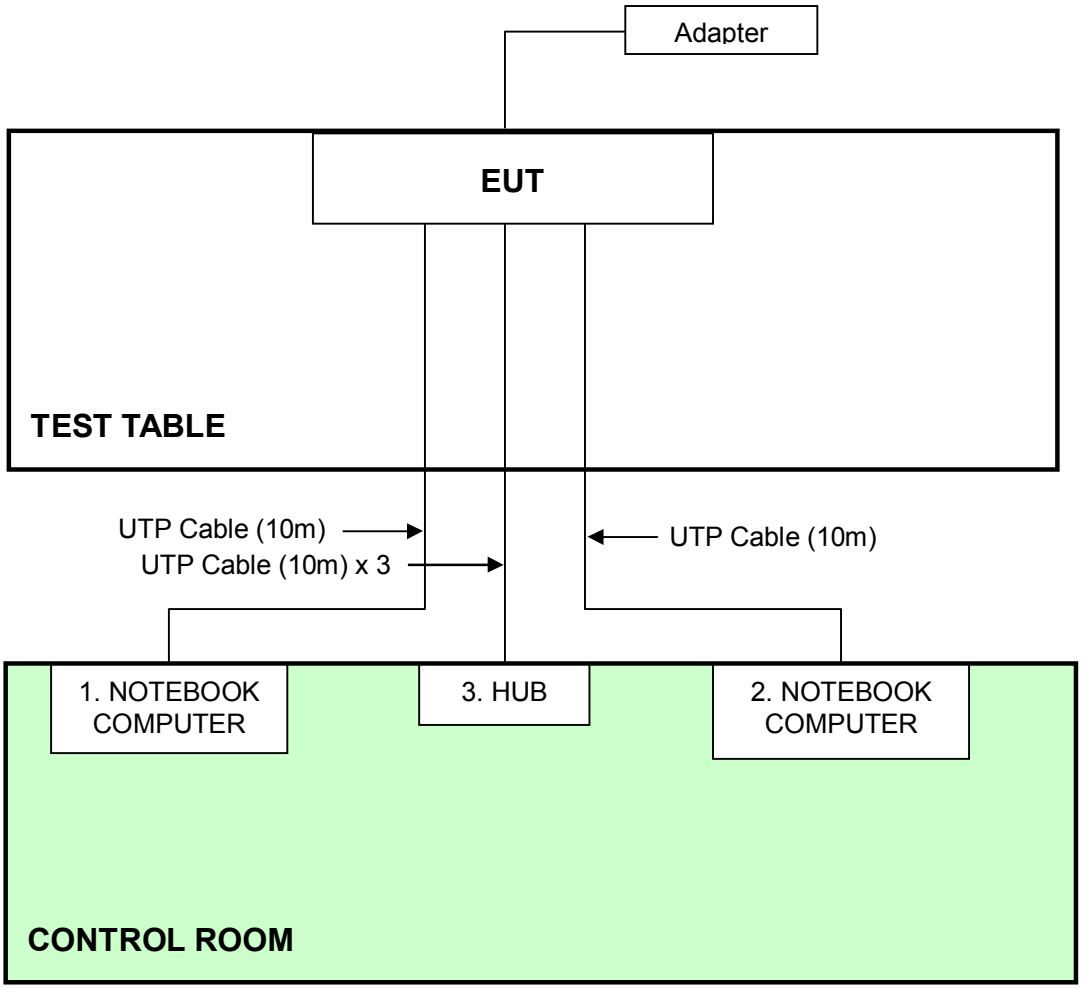
NOTE: All power cords of the above support units are non shielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST

For Radiated test below 1 GHz:



For Other 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 UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 10, 2009
Line-Impedance Stabilization Network(for EUT)	KNW-407	8-1395-12	May. 06, 2009
Line-Impedance Stabilization Network(for Peripheral)	ENV-216	100072	Jun. 12, 2009
RF Cable (JYEBAO)	5DFB	COACAB-001	Jul. 23, 2009
50 ohms Terminator	50	3	Nov. 15, 2008
Software	ADT_Cond_V7.3.2	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. A.
3. The VCCI Con A Registration No. is C-817.
4. The measurement uncertainty is 2.45 dB, which is calculated as per the document CISPR 16-4 This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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.

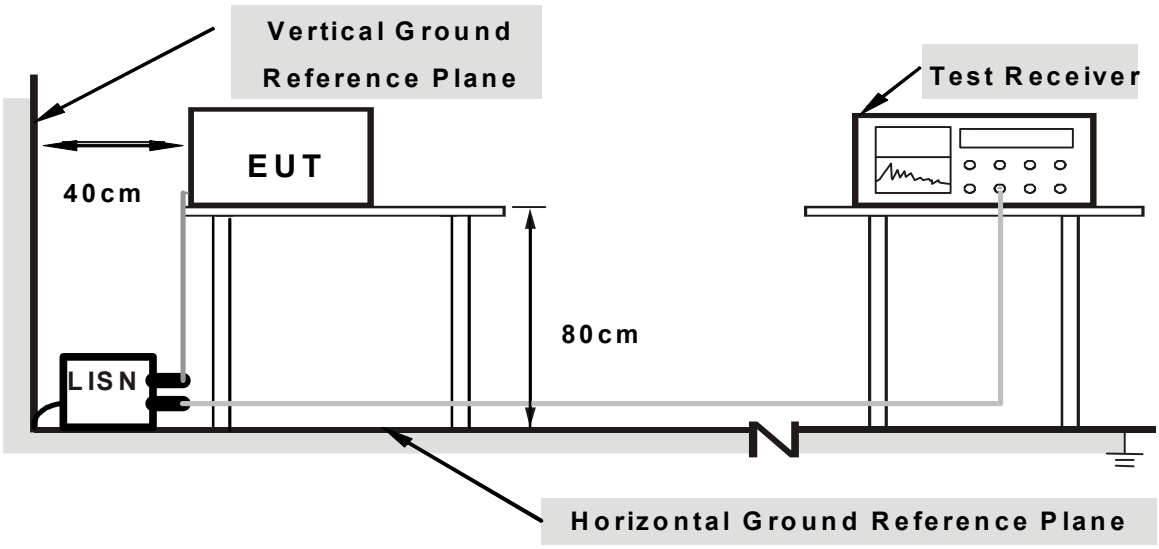
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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 unit 1 ~ 2) to act as communication partners and placed them outside of testing area.
3. The communication partners run test program “MFGTEST” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

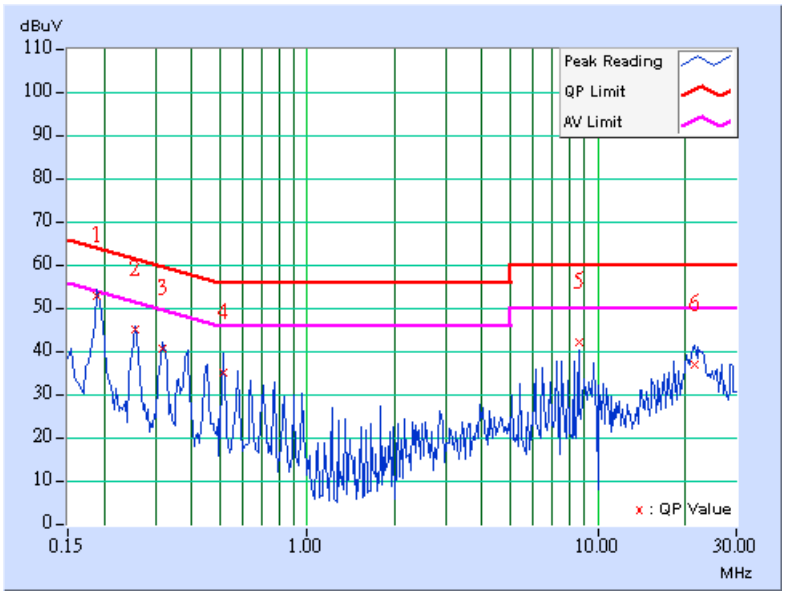
4.1.7 TEST RESULTS

802.11g OFDM MODULATION – adapter 1

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line (L)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	TESTED BY	Max Tseng

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.189	0.69	51.82	-	52.51	-	64.08	54.08	-11.57	-
2	0.255	0.61	43.99	-	44.60	-	61.58	51.58	-16.98	-
3	0.318	0.53	39.75	-	40.28	-	59.76	49.76	-19.48	-
4	0.513	0.47	33.96	-	34.43	-	56.00	46.00	-21.57	-
5	8.625	0.81	41.26	-	42.07	-	60.00	50.00	-17.93	-
6	21.555	1.14	36.08	-	37.22	-	60.00	50.00	-22.78	-

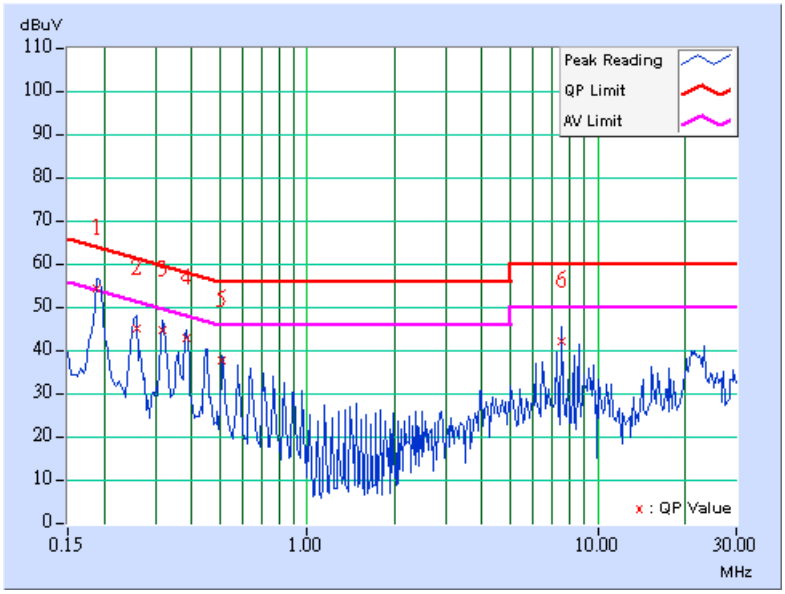
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Neutral (N)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	TESTED BY	Max Tseng

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.189**	**0.44**	**54.02**	**46.90**	**54.46**	**47.34**	**64.08**	**54.08**	**-9.62**	**-6.74**
2	0.259	0.36	44.63	-	44.99	-	61.45	51.45	-16.46	-
3	0.318	0.29	44.21	-	44.50	-	59.76	49.76	-15.26	-
4	0.384	0.22	42.54	-	42.76	-	58.18	48.18	-15.43	-
5	0.509	0.24	37.13	-	37.37	-	56.00	46.00	-18.63	-
6	7.551	0.58	41.79	-	42.37	-	60.00	50.00	-17.63	-

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.

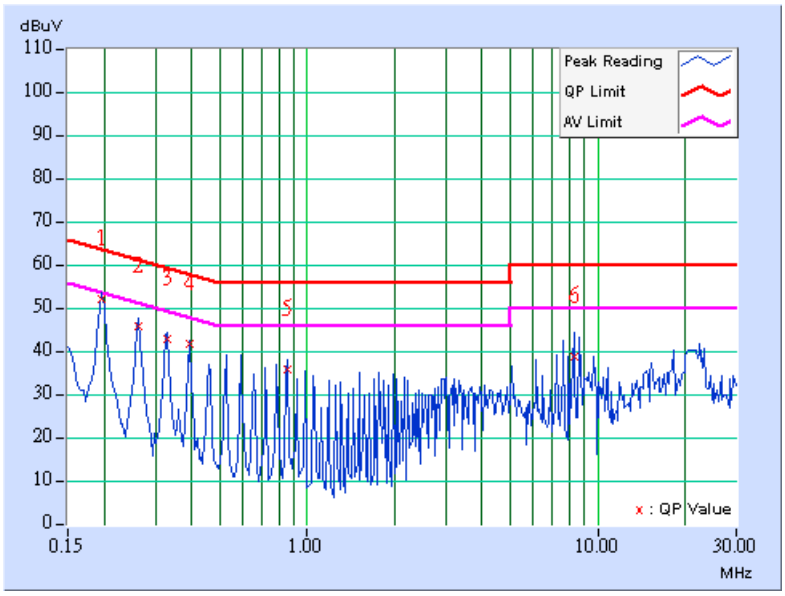


802.11g OFDM MODULATION – adapter 2

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line (L)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	TESTED BY	Max Tseng

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.68	51.40	-	52.08	-	63.74	53.74	-11.66	-
2	0.263	0.60	45.18	-	45.78	-	61.33	51.33	-15.55	-
3	0.330	0.52	42.09	-	42.61	-	59.46	49.46	-16.85	-
4	0.392	0.44	40.88	-	41.32	-	58.02	48.02	-16.70	-
5	0.853	0.60	35.01	-	35.61	-	56.00	46.00	-20.39	-
6	8.293	0.81	38.17	-	38.98	-	60.00	50.00	-21.02	-

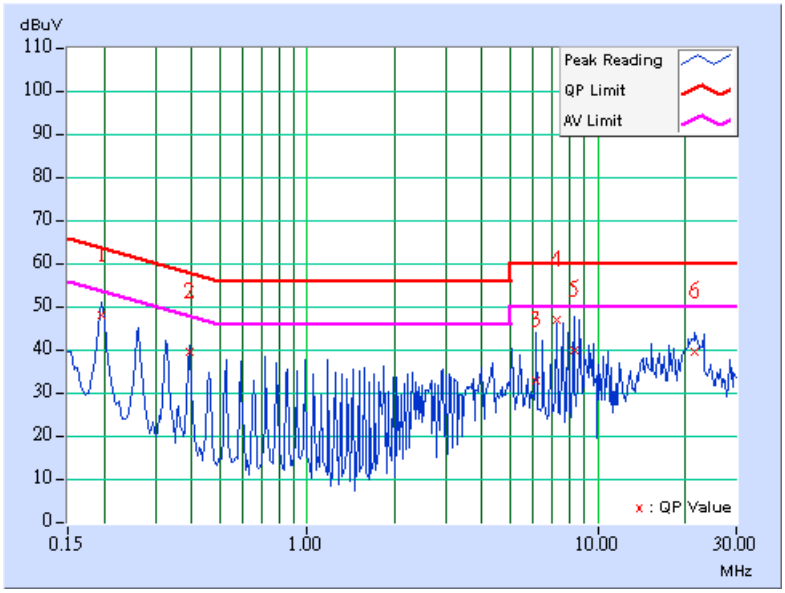
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Neutral (N)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	TESTED BY	Max Tseng

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.43	47.24	-	47.67	-	63.74	53.74	-16.07	-
2	0.392	0.21	38.57	-	38.78	-	58.02	48.02	-19.24	-
3	6.121	0.55	31.89	-	32.44	-	60.00	50.00	-27.56	-
4	7.193	0.57	45.99	-	46.56	-	60.00	50.00	-13.44	-
5	8.281	0.60	39.02	-	39.62	-	60.00	50.00	-20.38	-
6	21.664	0.98	38.83	-	39.81	-	60.00	50.00	-20.19	-

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.

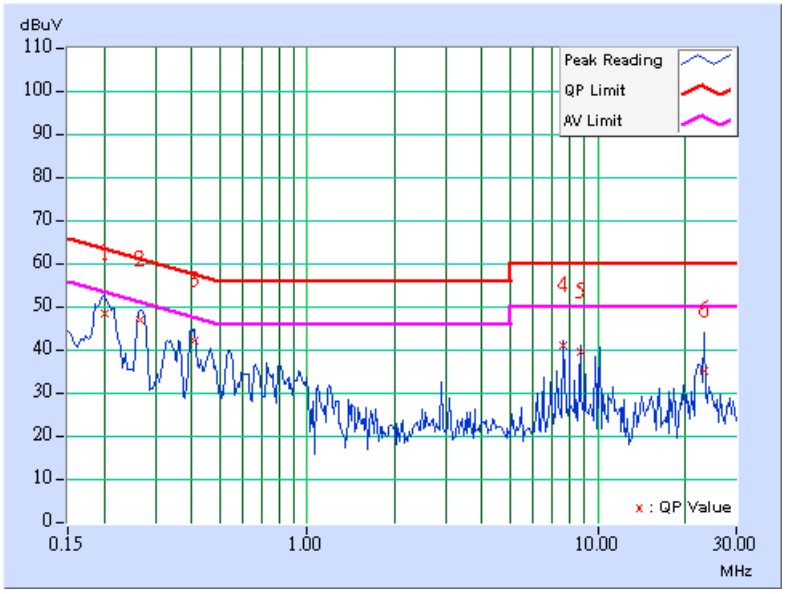


802.11g OFDM MODULATION – adapter 3

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line (L)
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	TESTED BY	Max Tseng

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.50	47.55	-	48.05	-	63.58	53.58	-15.53	-
2	0.267	0.47	46.30	-	46.77	-	61.20	51.20	-14.44	-
3	0.412	0.40	41.18	-	41.58	-	57.61	47.61	-16.03	-
4	7.625	0.57	40.15	-	40.72	-	60.00	50.00	-19.28	-
5	8.715	0.60	38.59	-	39.19	-	60.00	50.00	-20.81	-
6	23.129	0.87	37.72	-	38.59	-	60.00	50.00	-21.41	-

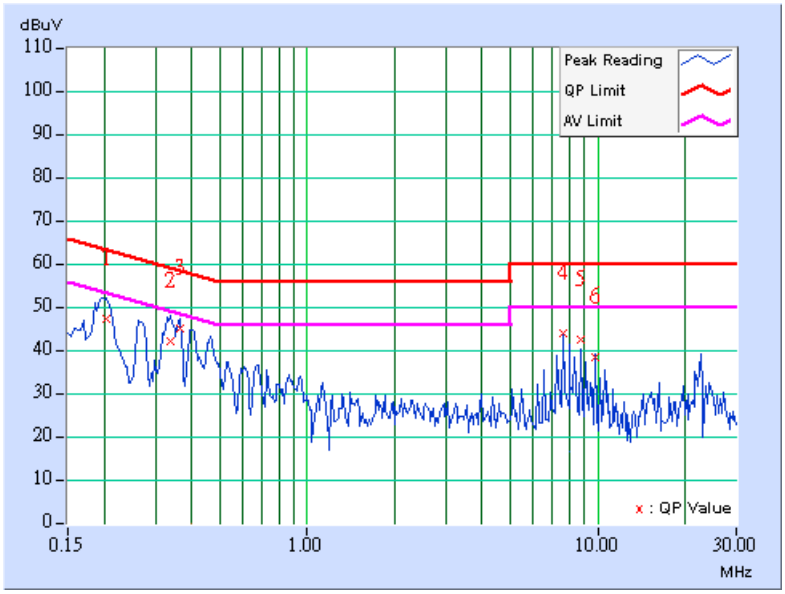
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
Channel	Channel 6	**PHASE**	Neutral (N)
MODULATION TYPE	BPSK	**6dB BANDWIDTH**	9 kHz
TRANSFER RATE	6Mbps	**INPUT POWER**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 972hPa	**TESTED BY**	Max Tseng

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.25	47.14	-	47.39	-	63.42	53.42	-16.03	-
2	0.338	0.20	41.91	-	42.11	-	59.26	49.26	-17.16	-
3	0.365	0.18	44.73	-	44.91	-	58.62	48.62	-13.70	-
4	7.630	0.36	43.64	-	44.00	-	60.00	50.00	-16.00	-
5	8.717	0.39	42.14	-	42.53	-	60.00	50.00	-17.47	-
6	9.808	0.42	38.02	-	38.44	-	60.00	50.00	-21.56	-

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

Below 1 GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 25, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Dec. 02, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Apr. 29, 2009
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-408	Jan. 21, 2009
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009
Preamplifier Agilent	8449B	3008A01960	Oct. 30, 2008
Preamplifier Agilent	8447D	2944A10631	Oct. 31, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274397/4	Nov. 07, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283401/4	Nov. 07, 2008
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA
Turn Table ADT.	TT100.	TT93021704	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	May 05, 2009

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 HwaYa Chamber 4.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 460141.

5. The IC Site Registration No. is IC 3789B-4.

Above 1 GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY46180622	Apr. 17, 2009
HP Pre_Amplifier	8449B	3008A01922	Oct. 04, 2008
ROHDE & SCHWARZ Test Receiver	ESCS30	100375	Mar. 31, 2009
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 16, 2008
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 27, 2009
RF Switches (ARNITSU)	CS-201	1565157	Aug. 13, 2008
RF CABLE (Chaintek)	SF102	22054-2	Dec. 06. 2008
RF Cable	8DFB	STCCAB-30M-1 GHz	Oct. 09, 2008
Software	ADT_Radiated_V 7.6.15.8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	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

Below 1 GHz:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi- anechoic chamber. 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.

Above 1 GHz:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10-meter open field 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 and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

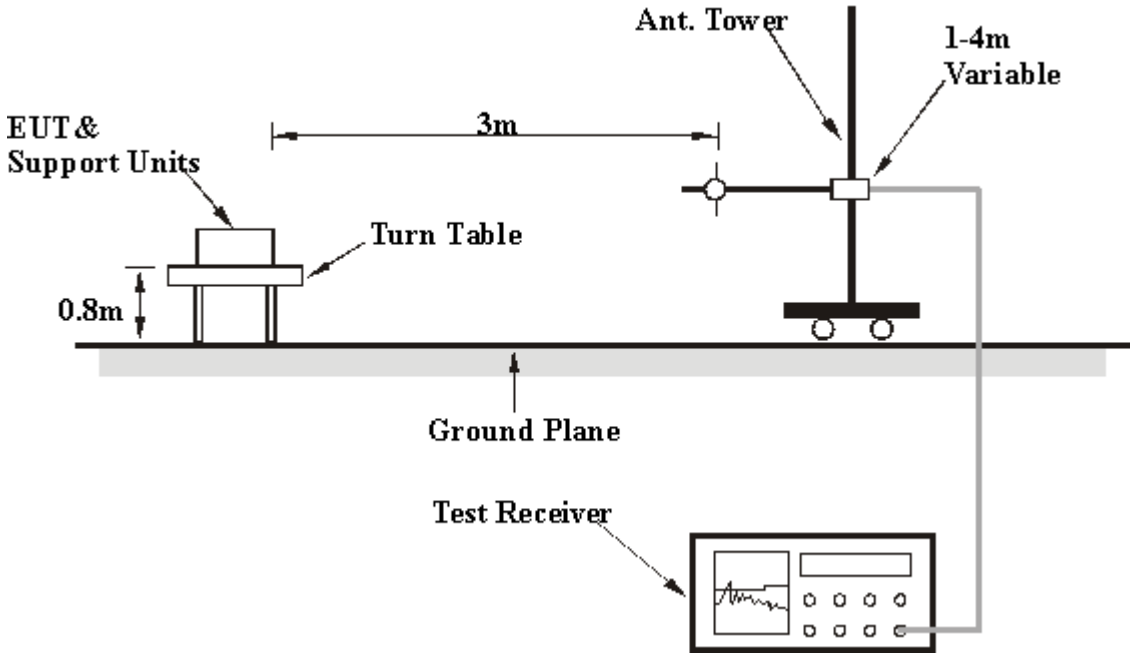
NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
2. 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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 67%RH 972hPa	TESTED BY	Mark Liao
TEST MODE	adapter 1		

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	119.34	40.76 QP	43.50	-2.74	1.50 H	265	28.74	12.02
2	232.11	39.84 QP	46.00	-6.16	1.00 H	280	27.01	12.84
3	249.60	40.08 QP	46.00	-5.92	1.00 H	268	26.40	13.68
4	300.16	37.30 QP	46.00	-8.70	1.00 H	4	22.52	14.78
5	360.43	39.50 QP	46.00	-6.50	2.00 H	247	23.19	16.31
6	599.58	38.42 QP	46.00	-7.58	1.50 H	196	15.31	23.11
7	720.12	41.06 QP	46.00	-4.94	1.00 H	325	15.57	25.49
8	961.21	38.30 QP	54.00	-15.70	1.50 H	181	9.44	28.86
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	35.73	37.87 QP	40.00	-2.13	1.00 V	112	25.31	12.56
2	119.00	41.35 QP	43.50	-2.15	1.25 V	195	29.37	11.98
3	125.17	37.73 QP	43.50	-5.77	1.00 V	133	25.33	12.40
4	239.88	37.97 QP	46.00	-8.03	2.00 V	1	24.76	13.21
5	360.43	39.97 QP	46.00	-6.03	1.00 V	133	23.66	16.31
6	624.85	34.90 QP	46.00	-11.10	1.50 V	160	11.26	23.64
7	720.12	33.57 QP	46.00	-12.43	1.50 V	193	8.08	25.49
8	961.21	36.55 QP	54.00	-17.45	1.00 V	85	7.69	28.86

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 67%RH 972hPa	TESTED BY	Mark Liao
TEST MODE	adapter 2		

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	119.34	40.25 QP	43.50	-3.25	2.00 H	274	28.23	12.02
2	239.88	42.06 QP	46.00	-3.94	1.00 H	70	28.85	13.21
3	360.43	39.99 QP	46.00	-6.01	2.00 H	235	23.68	16.31
4	479.03	35.37 QP	46.00	-10.63	2.00 H	169	15.52	19.86
5	599.58	39.21 QP	46.00	-6.79	1.50 H	178	16.10	23.11
6	720.12	40.58 QP	46.00	-5.42	1.00 H	322	15.09	25.49
7	961.21	38.91 QP	54.00	-15.09	2.00 H	190	10.05	28.86
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	39.00	37.16 QP	40.00	-2.84	1.23 V	236	24.67	12.49
2	119.34	41.27 QP	43.50	-2.23	1.00 V	271	29.25	12.02
3	239.88	39.01 QP	46.00	-6.99	1.50 V	349	25.79	13.21
4	249.60	37.20 QP	46.00	-8.80	1.00 V	58	23.52	13.68
5	360.43	42.62 QP	46.00	-3.38	1.50 V	118	26.31	16.31
6	500.42	33.68 QP	46.00	-12.32	1.00 V	28	13.18	20.50
7	599.58	36.25 QP	46.00	-9.75	1.00 V	226	13.14	23.11
8	961.21	35.67 QP	54.00	-18.33	1.00 V	100	6.80	28.86

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 67%RH 972hPa	TESTED BY	Mark Liao
TEST MODE	adapter 3		

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	119.35	40.51 QP	43.50	-2.99	1.50 H	345	28.49	12.02
2	232.11	42.24 QP	46.00	-3.76	1.25 H	274	29.40	12.84
3	239.88	42.60 QP	46.00	-3.40	1.25 H	88	29.39	13.21
4	249.60	39.37 QP	46.00	-6.63	1.25 H	100	25.69	13.68
5	360.43	38.93 QP	46.00	-7.07	2.00 H	241	22.62	16.31
6	599.58	39.66 QP	46.00	-6.34	1.25 H	346	16.56	23.11
7	720.12	41.53 QP	46.00	-4.47	1.00 H	331	16.04	25.49
8	961.21	40.00 QP	54.00	-14.00	1.25 H	202	11.13	28.86
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	39.00	37.05 QP	40.00	-2.95	1.00 V	152	24.55	12.49
2	119.34	41.11 QP	43.50	-2.39	1.00 V	304	29.09	12.02
3	239.88	37.15 QP	46.00	-8.85	1.50 V	349	23.94	13.21
4	249.60	36.83 QP	46.00	-9.17	1.00 V	130	23.15	13.68
5	360.43	40.93 QP	46.00	-5.07	1.25 V	115	24.62	16.31
6	500.42	33.93 QP	46.00	-12.07	1.00 V	13	13.43	20.50
7	624.85	35.51 QP	46.00	-10.49	1.75 V	151	11.86	23.64
8	961.21	34.09 QP	54.00	-19.91	1.00 V	100	5.22	28.86

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

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, 54%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	2359.00	57.50 PK	74.00	-16.50	1.70 H	305	27.24	30.26
2	2359.00	47.04 AV	54.00	-6.96	1.70 H	305	16.78	30.26
3	*2412.00	104.30 PK			1.57 H	295	73.81	30.49
4	*2412.00	99.30 AV			1.57 H	295	68.81	30.49
5	4824.00	52.00 PK	74.00	-22.00	1.44 H	125	16.31	35.69
6	4824.00	49.00 AV	54.00	-5.00	1.44 H	125	13.31	35.69
7	14472.00	61.60 PK	74.00	-12.40	1.49 H	225	12.37	49.23
8	14472.00	53.40 AV	54.00	-0.60	1.49 H	225	4.17	49.23
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	2359.00	62.30 PK	74.00	-11.70	1.33 V	81	32.04	30.26
2	2359.00	51.44 AV	54.00	-2.56	1.33 V	81	21.18	30.26
3	*2412.00	110.50 PK			1.67 V	100	80.01	30.49
4	*2412.00	105.60 AV			1.67 V	100	75.11	30.49
5	4824.00	51.70 PK	74.00	-22.30	1.37 V	347	16.01	35.69
6	4824.00	48.30 AV	54.00	-5.70	1.37 V	347	12.61	35.69
7	14472.00	59.80 PK	74.00	-14.20	1.62 V	197	10.57	49.23
8	14472.00	49.20 AV	54.00	-4.80	1.62 V	197	-0.03	49.23

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.

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, 54%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	*2437.00	104.90 PK			1.61 H	237	74.29	30.61
2	*2437.00	100.32 AV			1.61 H	237	69.71	30.61
3	4874.00	56.00 PK	74.00	-18.00	1.42 H	138	20.20	35.80
4	4874.00	53.30 AV	54.00	-0.70	1.42 H	138	17.50	35.80
5	7311.00	50.40 PK	74.00	-23.60	1.31 H	294	7.88	42.52
6	7311.00	40.80 AV	54.00	-13.20	1.31 H	294	-1.72	42.52
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	111.50 PK			1.56 V	96	80.89	30.61
2	*2437.00	107.00 AV			1.56 V	96	76.39	30.61
3	4874.00	55.00 PK	74.00	-19.00	1.36 V	344	19.20	35.80
4	4874.00	51.70 AV	54.00	-2.30	1.36 V	344	15.90	35.80
5	7311.00	47.30 PK	74.00	-26.70	1.13 V	19	4.78	42.52
6	7311.00	39.10 AV	54.00	-14.90	1.13 V	19	-3.42	42.52

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, 54%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	*2462.00	103.30 PK			1.80 H	231	72.58	30.72
2	*2462.00	98.60 AV			1.80 H	231	67.88	30.72
3	2483.50	58.20 PK	74.00	-15.80	1.80 H	239	27.38	30.82
4	2483.50	47.01 AV	54.00	-6.99	1.80 H	239	16.19	30.82
5	4924.00	54.60 PK	74.00	-19.40	1.52 H	124	18.70	35.90
6	4924.00	50.66 AV	54.00	-3.34	1.52 H	124	14.76	35.90
7	7386.00	49.80 PK	74.00	-24.20	1.37 H	214	7.00	42.80
8	7386.00	39.70 AV	54.00	-14.30	1.37 H	214	-3.10	42.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.60 PK			1.32 V	96	80.88	30.72
2	*2462.00	106.70 AV			1.32 V	96	75.98	30.72
3	2483.50	59.16 PK	74.00	-14.84	1.54 V	77	28.34	30.82
4	2483.50	47.48 AV	54.00	-6.52	1.54 V	77	16.66	30.82
5	4924.00	50.90 PK	74.00	-23.10	1.34 V	5	15.00	35.90
6	4924.00	46.10 AV	54.00	-7.90	1.34 V	5	10.20	35.90
7	7386.00	50.30 PK	74.00	-23.70	1.12 V	14	7.50	42.80
8	7386.00	38.30 AV	54.00	-15.70	1.12 V	14	-4.50	42.80

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

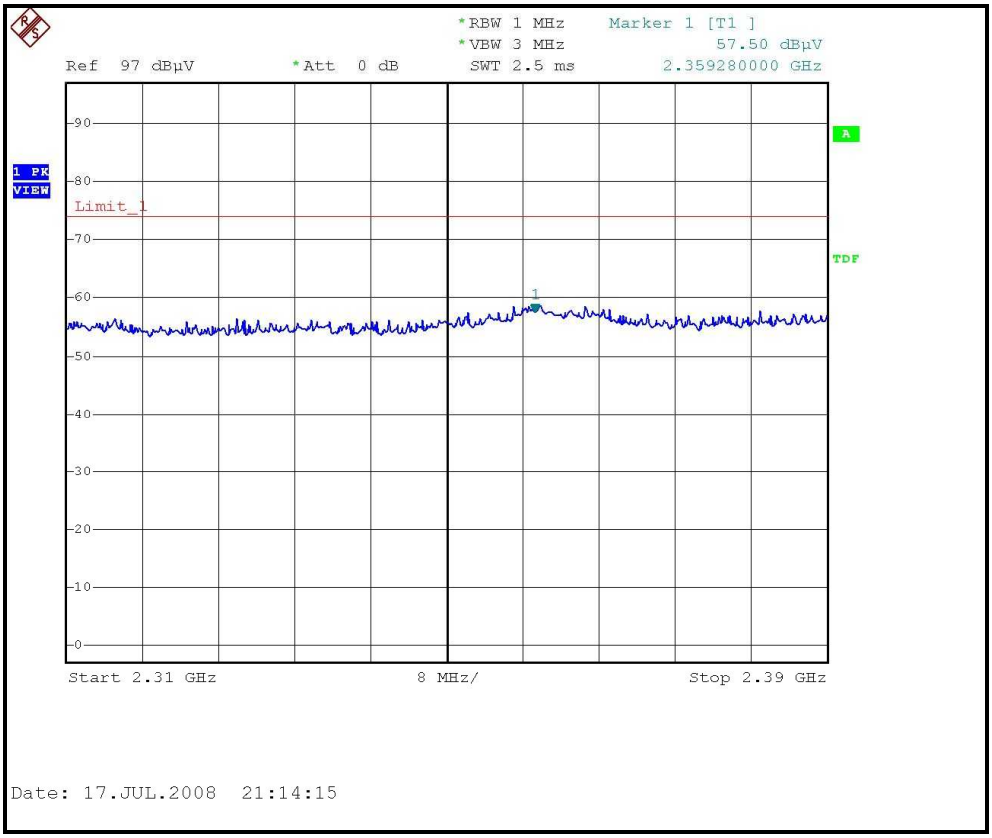
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

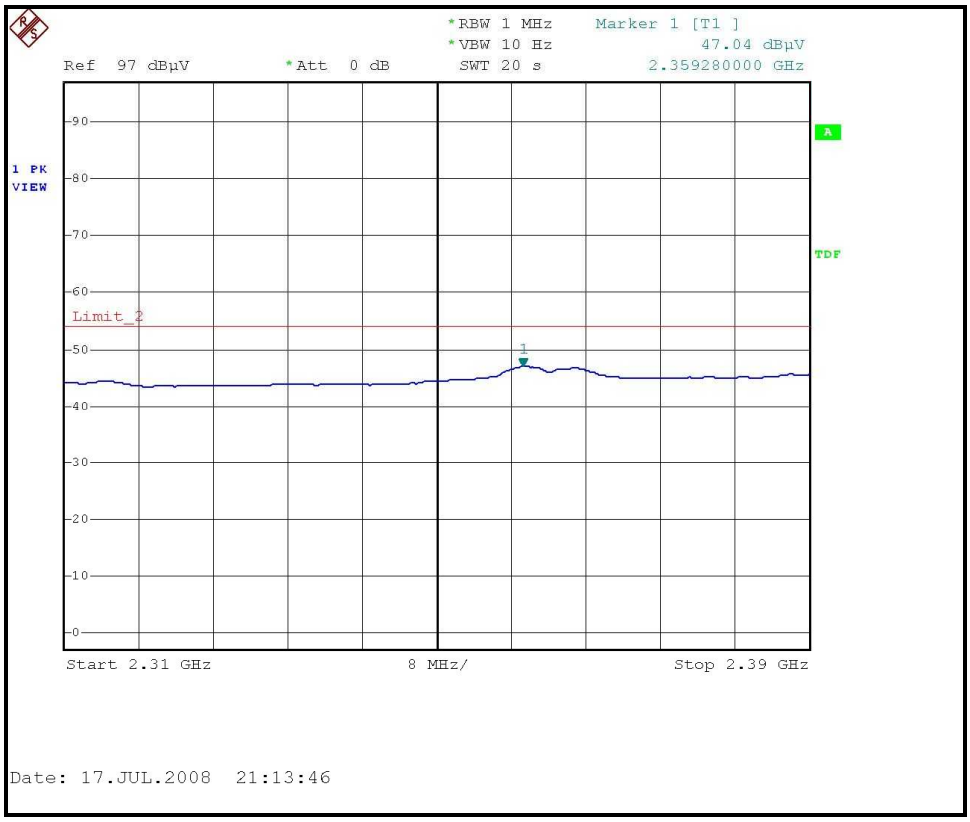
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

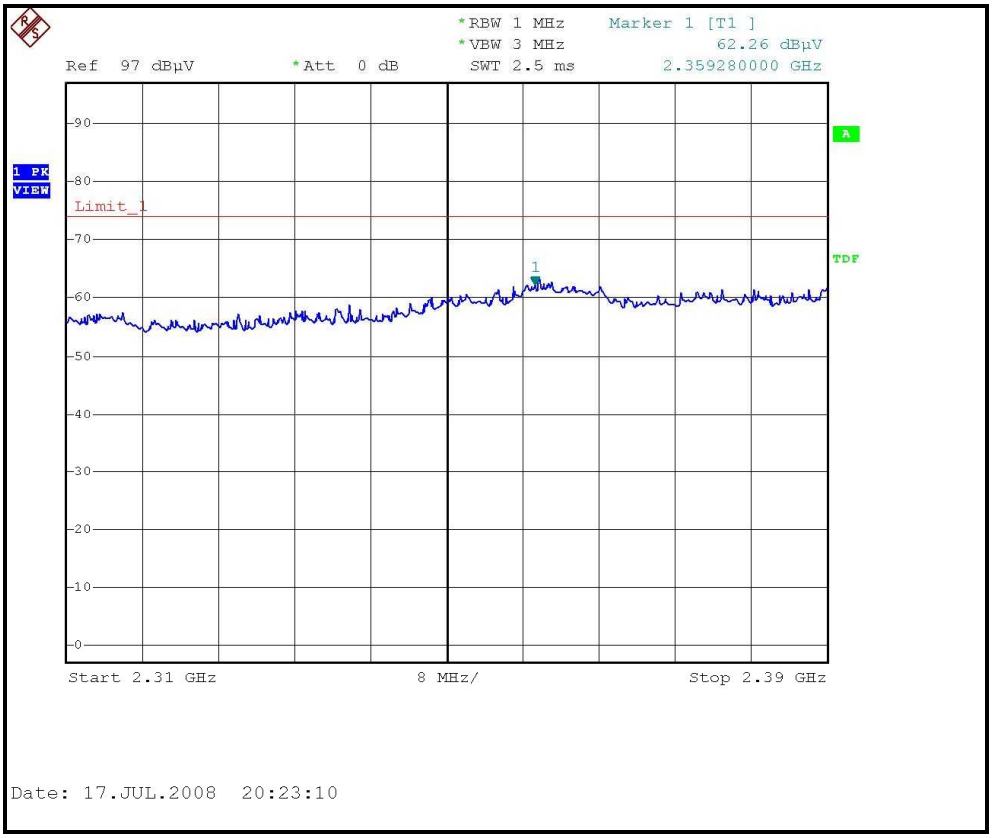
5. " * ": Fundamental frequency.

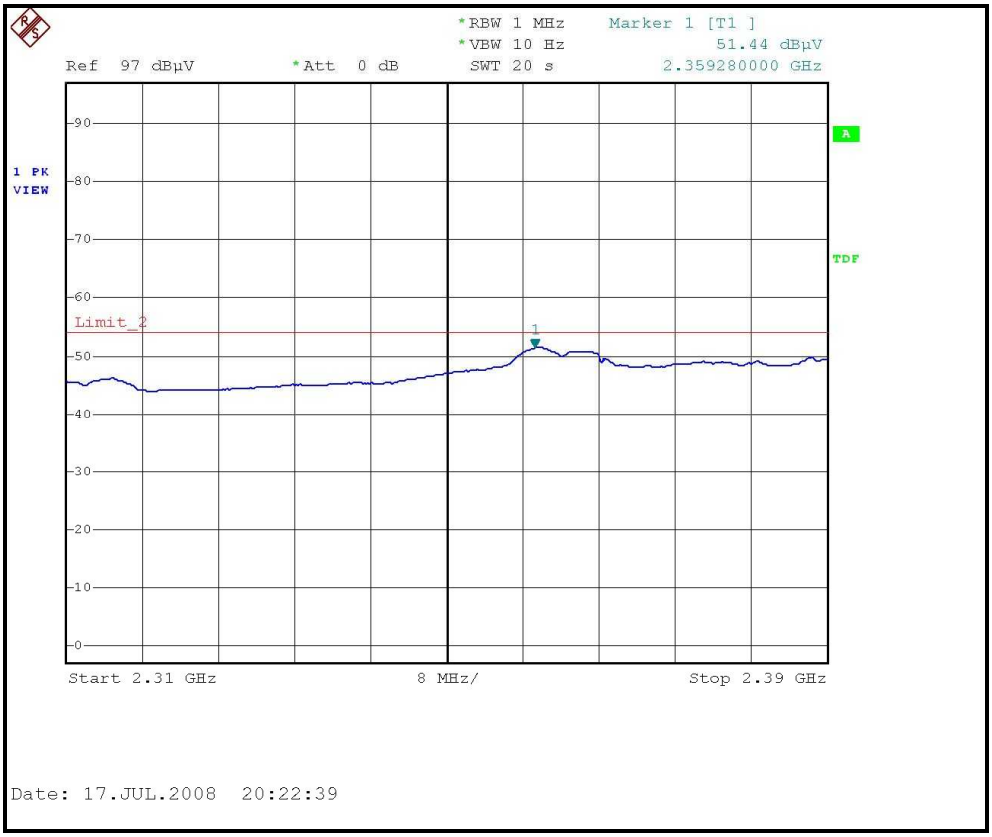
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)



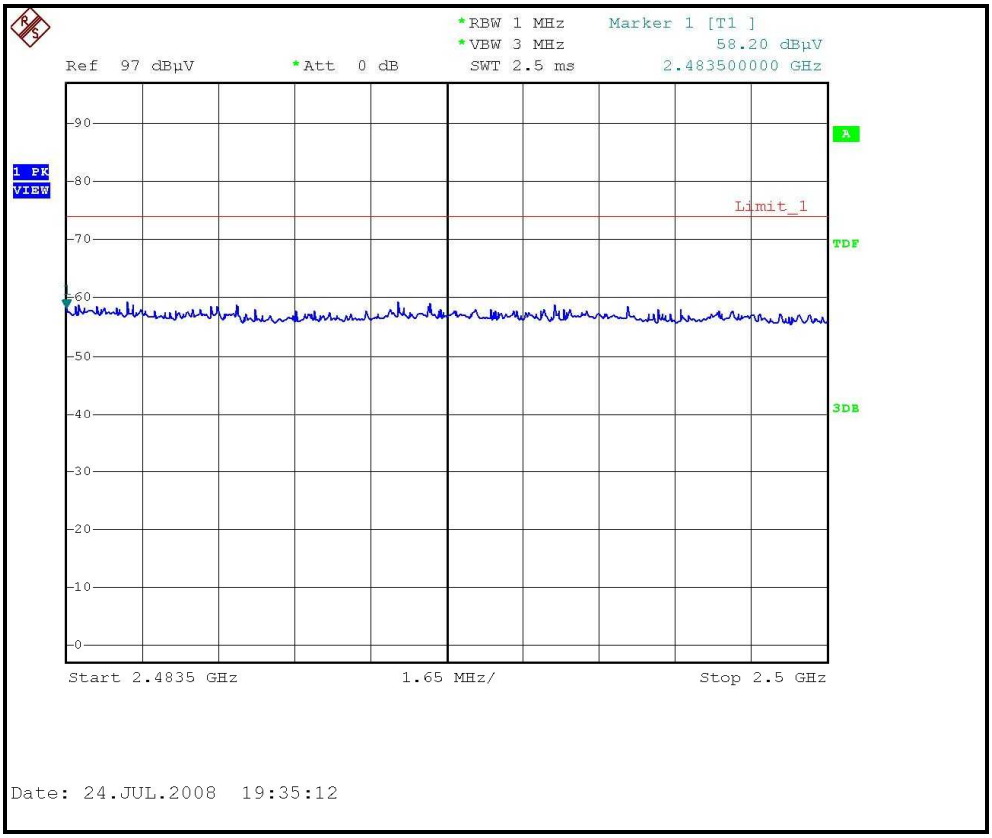


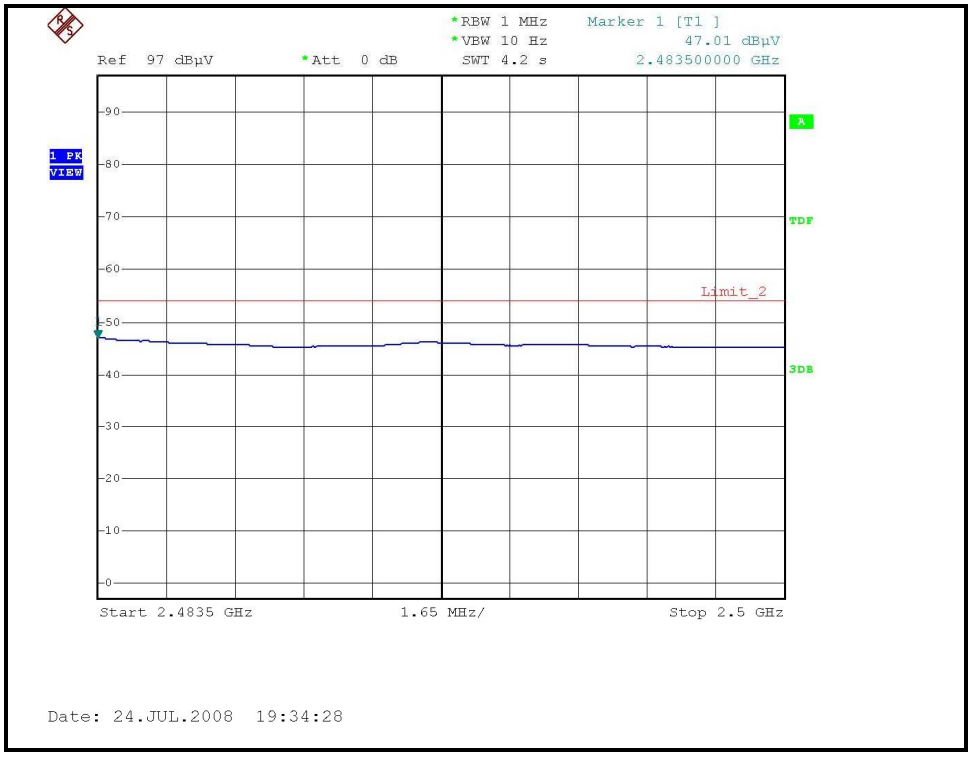
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)



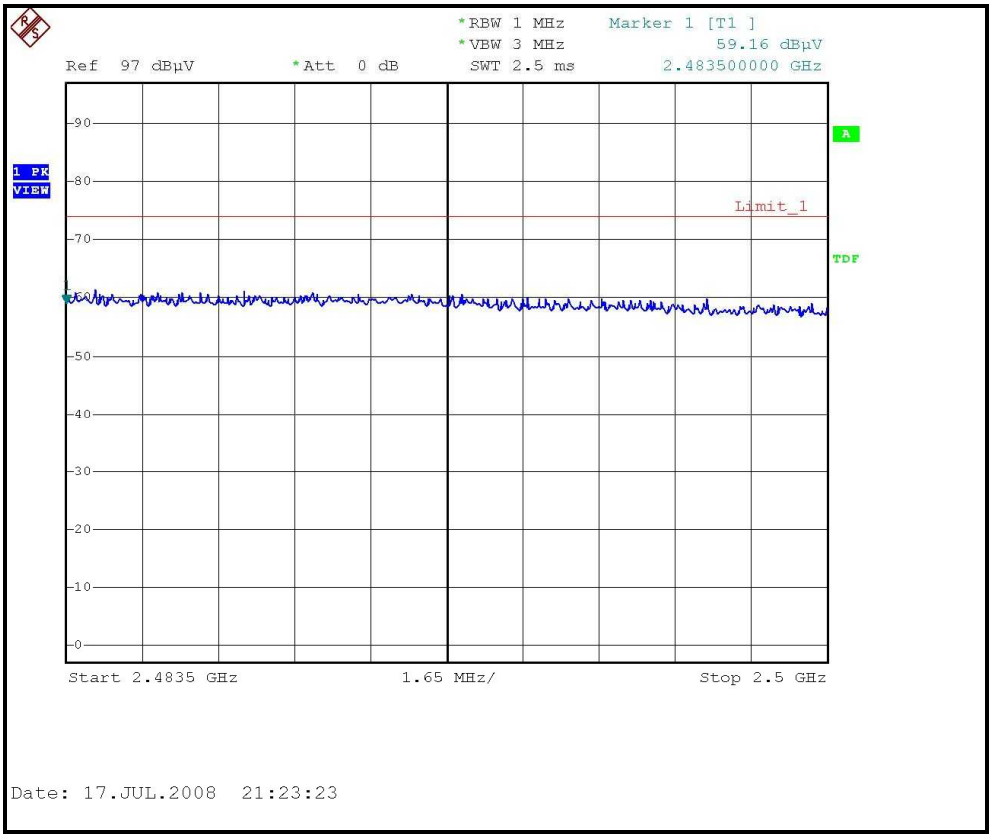


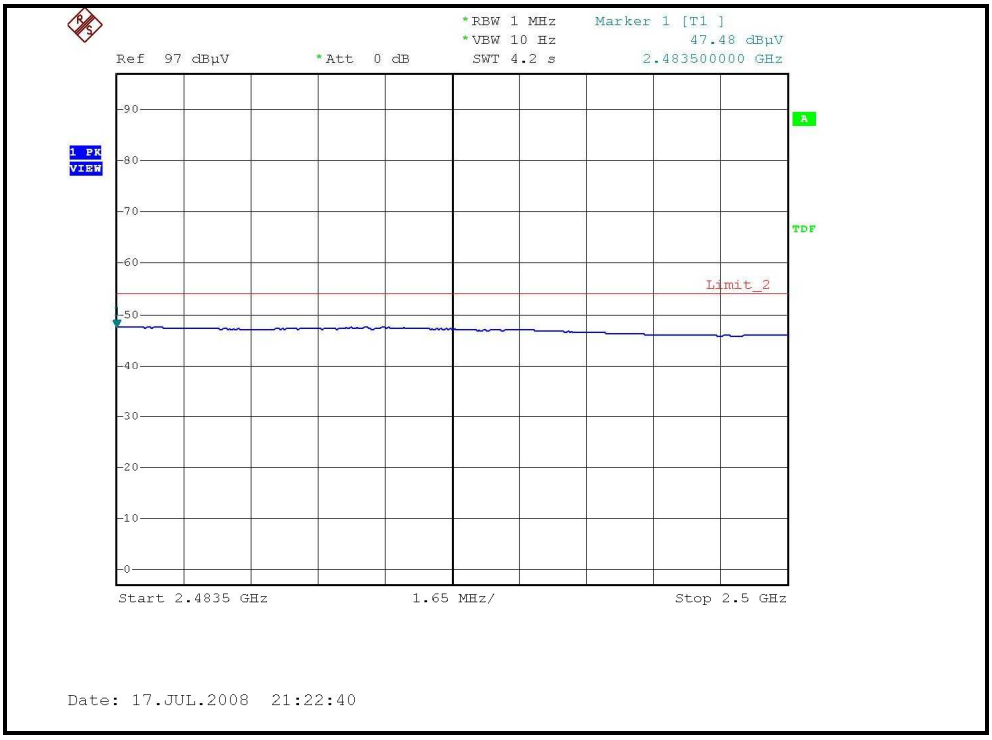
RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





802.11g OFDM MODULATION

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, 54%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	2390.00	65.80 PK	74.00	-8.20	1.92 H	231	35.40	30.40
2	2390.00	47.51 AV	54.00	-6.49	1.92 H	231	17.11	30.40
3	*2412.00	106.90 PK			1.79 H	230	76.41	30.49
4	*2412.00	94.60 AV			1.79 H	230	64.11	30.49
5	4824.00	51.50 PK	74.00	-22.50	1.39 H	201	15.81	35.69
6	4824.00	37.70 AV	54.00	-16.30	1.39 H	201	2.01	35.69
7	14472.00	63.30 PK	74.00	-10.70	1.46 H	237	14.07	49.23
8	14472.00	49.70 AV	54.00	-4.30	1.46 H	237	0.47	49.23
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	2390.00	70.33 PK	74.00	-3.67	1.31 V	269	39.93	30.40
2	2390.00	51.51 AV	54.00	-2.49	1.31 V	269	21.11	30.40
3	*2412.00	110.70 PK			1.30 V	258	80.21	30.49
4	*2412.00	98.60 AV			1.30 V	258	68.11	30.49
5	4824.00	51.40 PK	74.00	-22.60	1.35 V	346	15.71	35.69
6	4824.00	37.30 AV	54.00	-16.70	1.35 V	346	1.61	35.69
7	14472.00	62.70 PK	74.00	-11.30	1.13 V	178	13.47	49.23
8	14472.00	47.20 AV	54.00	-6.80	1.13 V	178	-2.03	49.23

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.

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, 54%RH 972hPa	TESTED BY	Frank Liu
TEST MODE	**adapter 1**		

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	106.40 PK			1.44 H	234	75.79	30.61
2	*2437.00	94.30 AV			1.44 H	234	63.69	30.61
3	4874.00	51.80 PK	74.00	-22.20	1.37 H	210	16.00	35.80
4	4874.00	37.60 AV	54.00	-16.40	1.37 H	210	1.80	35.80
5	7311.00	51.30 PK	74.00	-22.70	1.22 H	310	8.78	42.52
6	7311.00	39.20 AV	54.00	-14.80	1.22 H	310	-3.32	42.52
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.60 PK			1.37 V	269	79.99	30.61
2	*2437.00	98.50 AV			1.37 V	269	67.89	30.61
3	4874.00	51.40 PK	74.00	-22.60	1.40 V	310	15.60	35.80
4	4874.00	37.60 AV	54.00	-16.40	1.40 V	310	1.80	35.80
5	7311.00	50.60 PK	74.00	-23.40	1.23 V	24	8.08	42.52
6	7311.00	38.10 AV	54.00	-15.90	1.23 V	24	-4.42	42.52

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, 54%RH 972hPa	TESTED BY	Frank Liu
TEST MODE	**adapter 1**		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.90 PK			1.79 H	236	75.18	30.72
2	*2462.00	93.80 AV			1.79 H	236	63.08	30.72
3	2483.50	66.95 PK	74.00	-7.05	1.79 H	236	36.13	30.82
4	2483.50	47.56 AV	54.00	-6.44	1.79 H	236	16.74	30.82
5	4924.00	53.63 PK	74.00	-20.37	1.40 H	209	17.73	35.90
6	4924.00	37.00 AV	54.00	-17.00	1.40 H	209	1.10	35.90
7	7386.00	51.60 PK	74.00	-22.40	1.30 H	300	8.80	42.80
8	7386.00	36.90 AV	54.00	-17.10	1.30 H	300	-5.90	42.80
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	110.40 PK			1.56 V	271	79.68	30.72
2	*2462.00	98.48 AV			1.56 V	271	67.76	30.72
3	**2483.50**	**73.42 PK**	**74.00**	**-0.58**	**1.52 V**	**258**	**42.60**	**30.82**
4	2483.50	52.84 AV	54.00	-1.16	1.52 V	258	22.02	30.82
5	4924.00	50.80 PK	74.00	-23.20	1.20 V	338	14.90	35.90
6	4924.00	36.20 AV	54.00	-17.80	1.20 V	338	0.30	35.90
7	7386.00	50.20 PK	74.00	-23.80	1.19 V	23	7.40	42.80
8	7386.00	35.80 AV	54.00	-18.20	1.19 V	23	-7.00	42.80

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

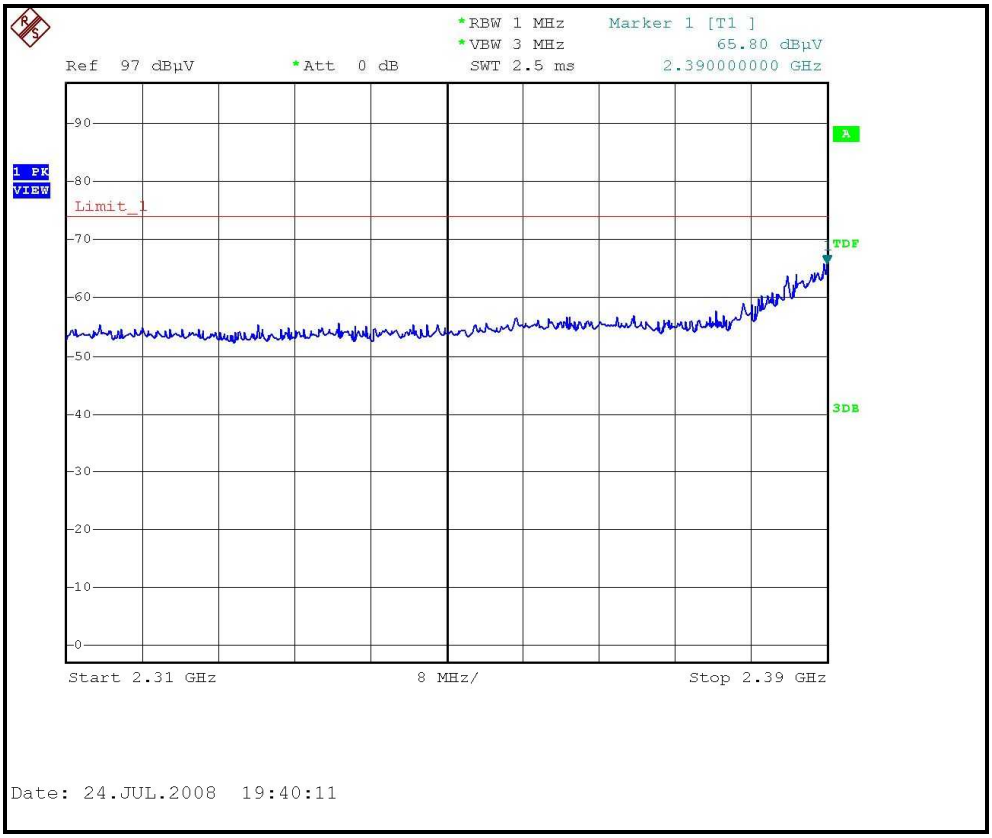
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

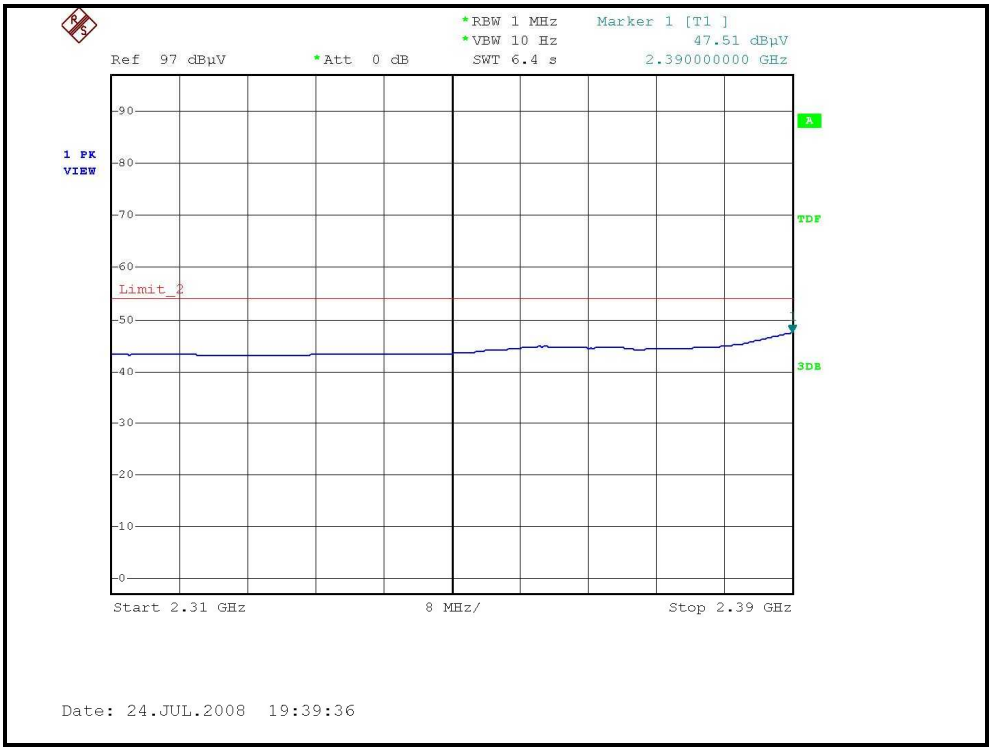
3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

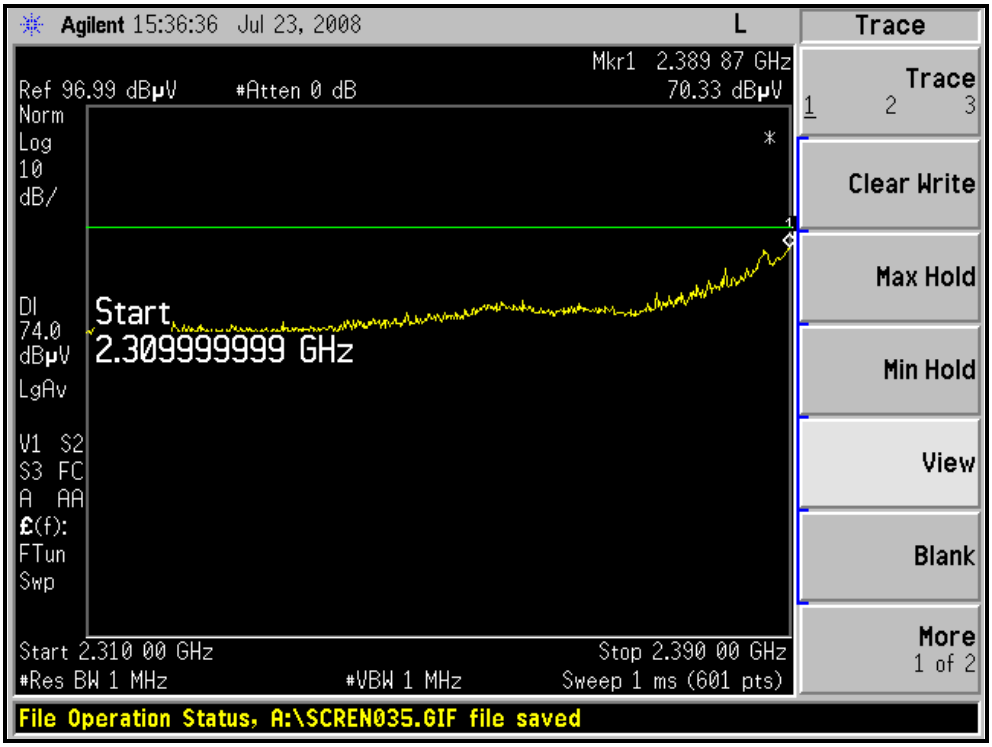
5. " * ": Fundamental frequency.

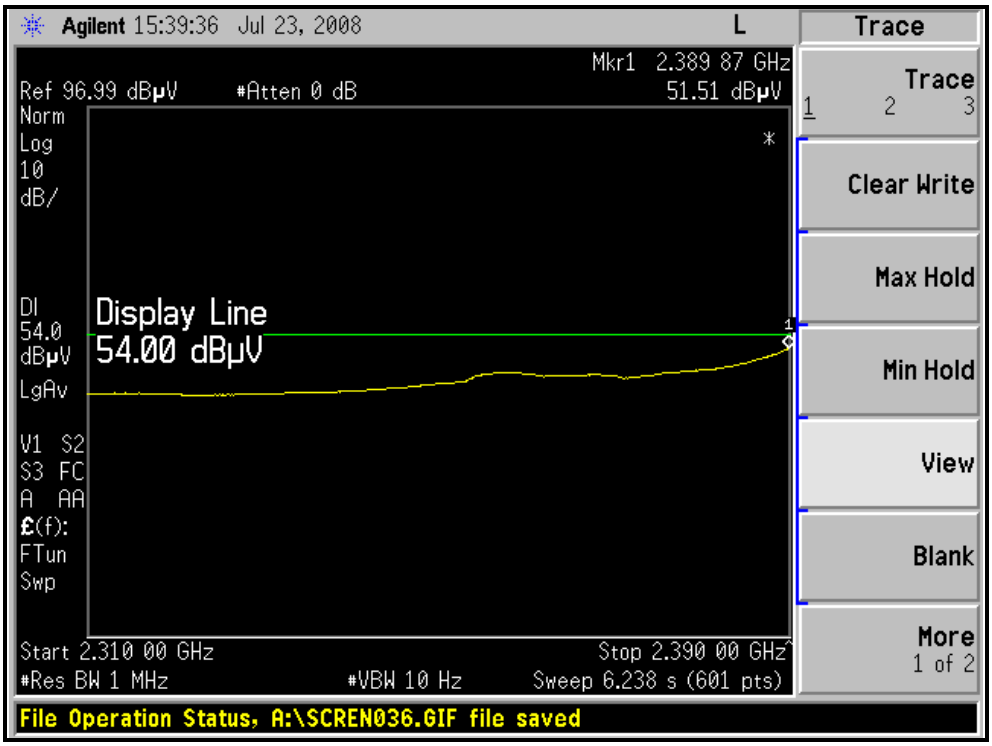
RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



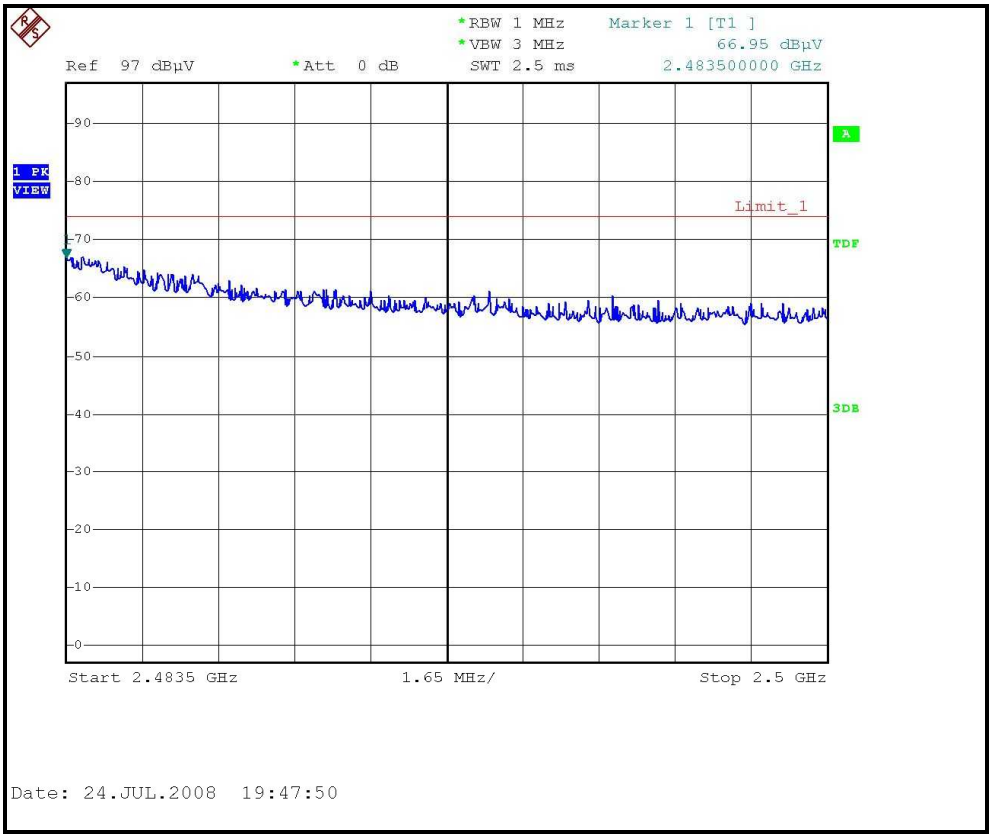


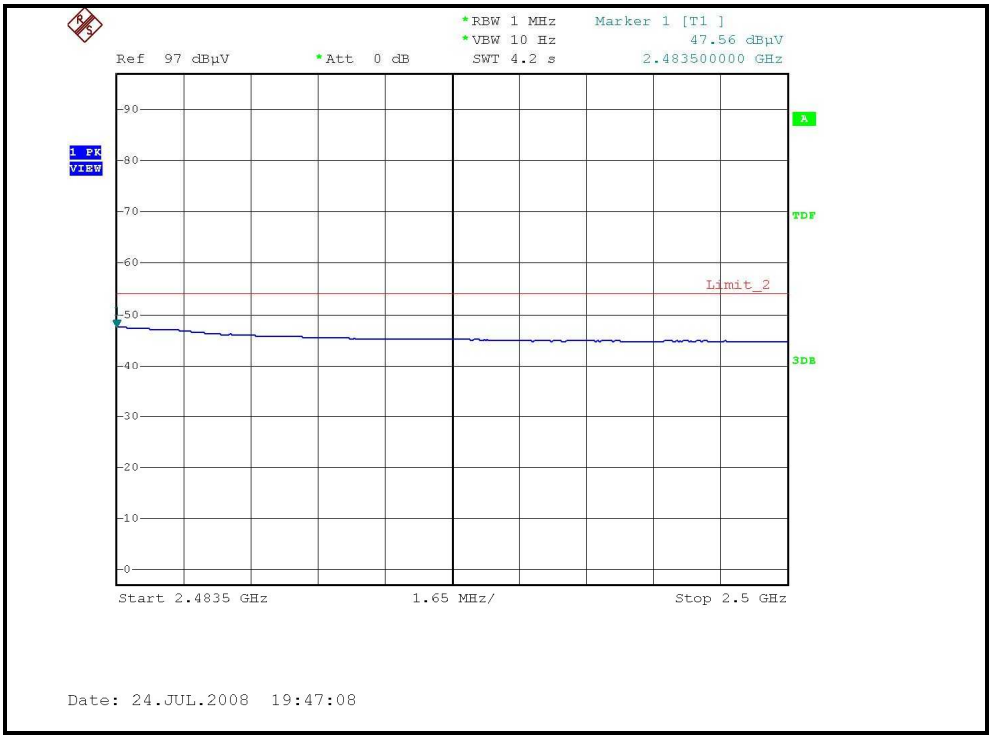
RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)



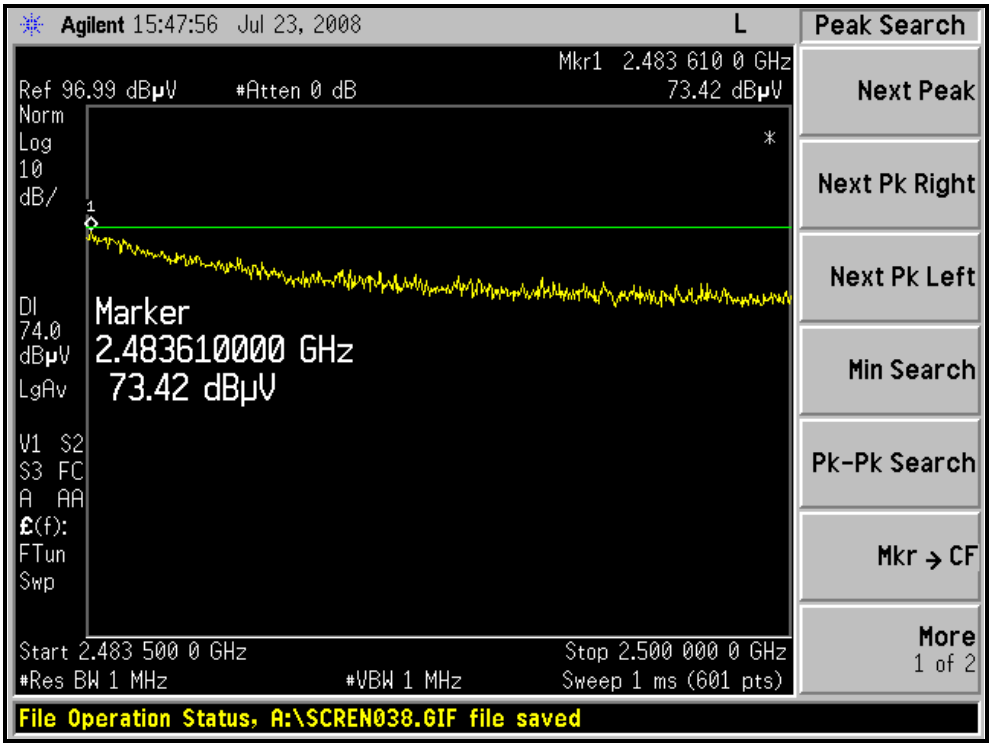


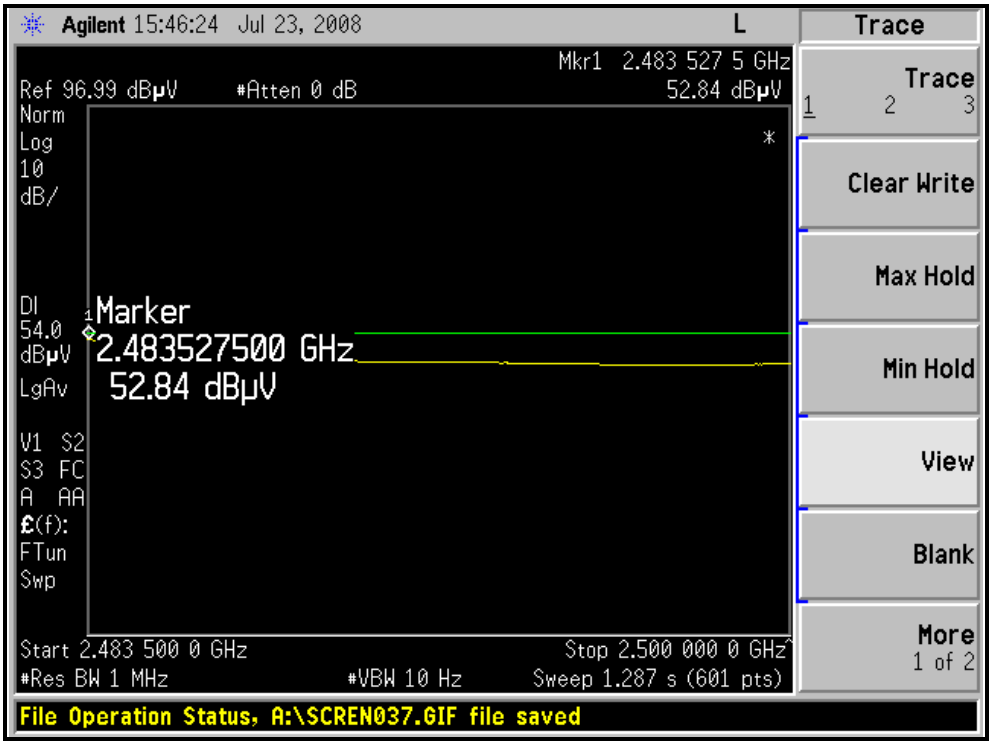
RESTRICTED BANDEDGE (802.11g MODE,CH11, HORIZONTAL)





RESTRICTED BANDEDGE (802.11g MODE,CH11, VERTICAL)





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 Until
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 12, 2008

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.

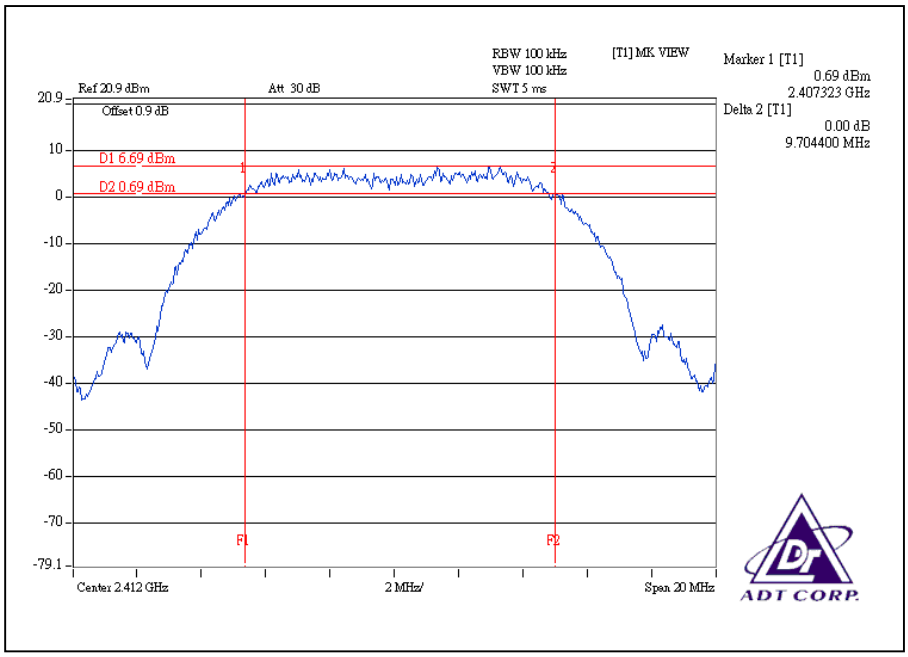
4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

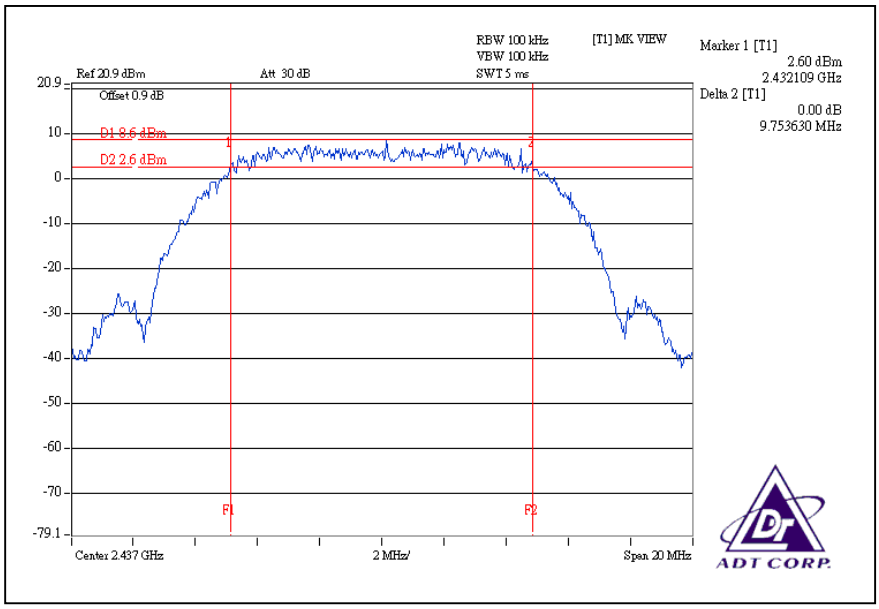
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Phoenix Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	9.70	0.5	PASS
6	2437	9.75	0.5	PASS
11	2462	10.00	0.5	PASS

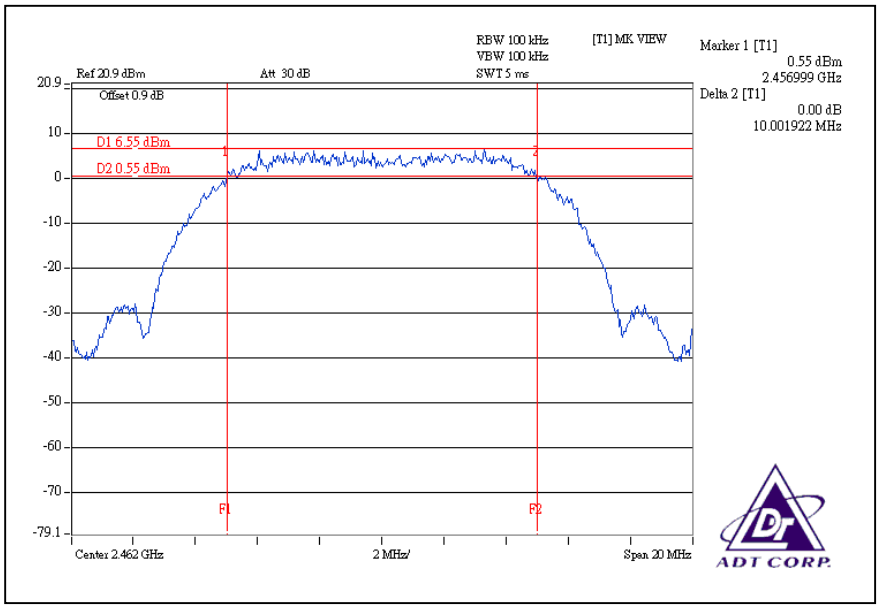
CH1



CH6


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
2.60 dBm
2.432109 GHz
Delta 2 [T1]
0.00 dB
9.753630 MHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 8.6 dBm
D2 2.6 dBm
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

CH11

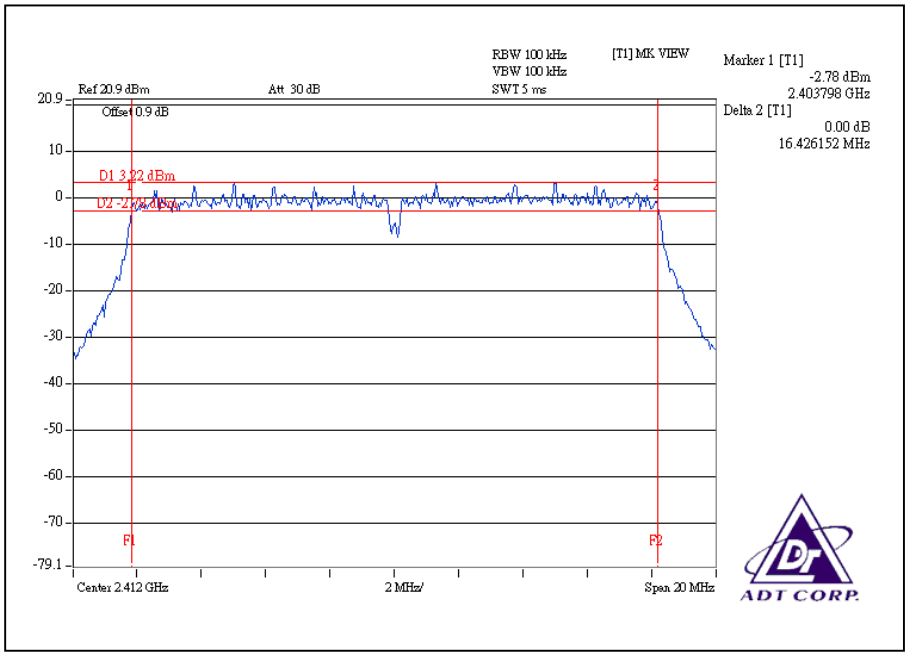

RBW 100 kHz
VBW 100 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
0.55 dBm
2.456999 GHz
Delta 2 [T1]
0.00 dB
10.001922 MHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 6.55 dBm
D2 0.55 dBm
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

802.11g OFDM MODULATION:

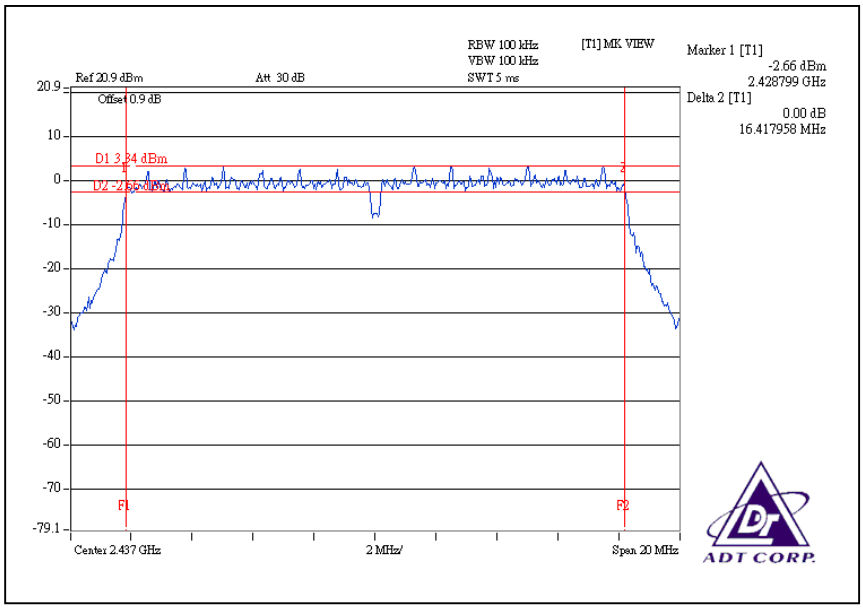
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Phoenix Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.43	0.5	PASS
6	2437	16.42	0.5	PASS
11	2462	16.42	0.5	PASS

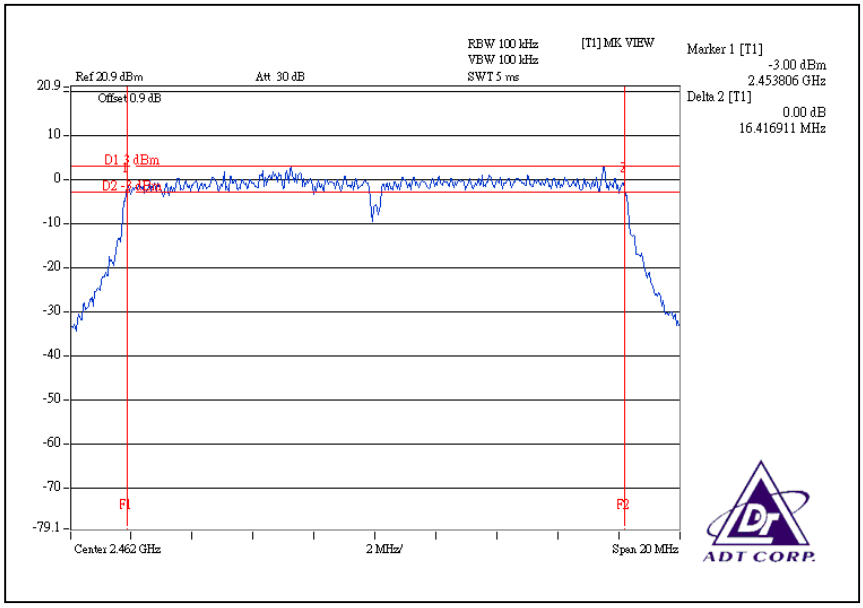
CH1



CH6


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-2.66 dBm
2.428799 GHz
Delta 2 [T1]
0.00 dB
16.417958 MHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
D1 3.34 dBm
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

CH11


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-3.00 dBm
2.453806 GHz
Delta 2 [T1]
0.00 dB
16.416911 MHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
D1 3 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

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 Until
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 12, 2008
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Dec. 25, 2008
TEKTRONIX OSCILLOSCOPE	TDS380	B016335	Aug. 15, 2008
NARDA DETECTOR	4503A	FSCM99899	NA

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. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. 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:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Phoenix 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	91.201	19.60	30	PASS
11	2462	69.183	18.40	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	Phoenix Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	95.499	19.80	30	PASS
6	2437	96.383	19.84	30	PASS
11	2462	91.201	19.60	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 Until
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 12, 2008

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.

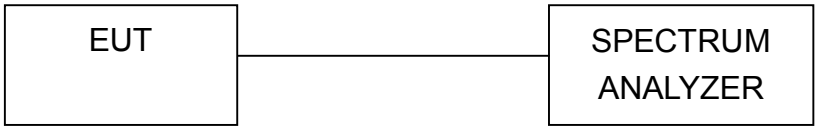
4.5.3 TEST PROCEDURE

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

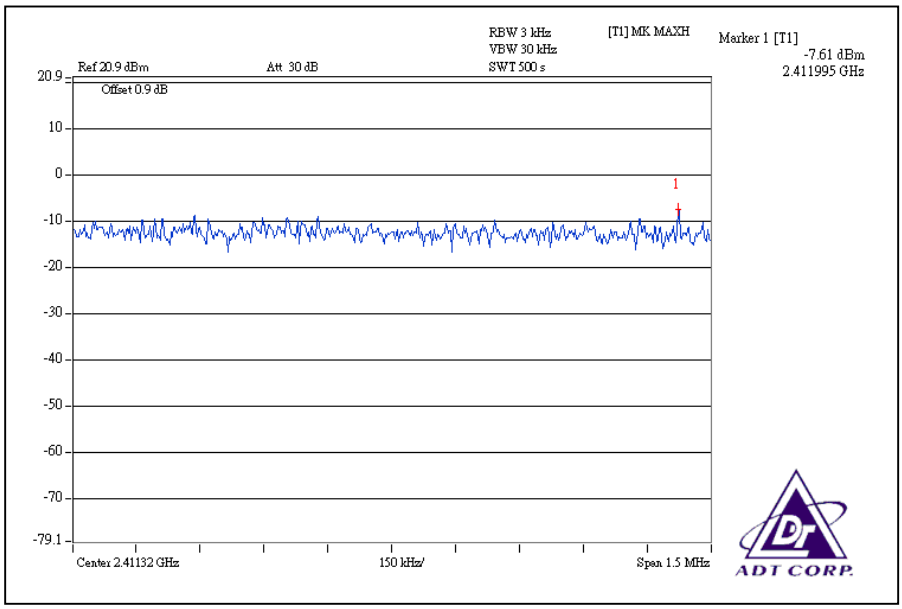
4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

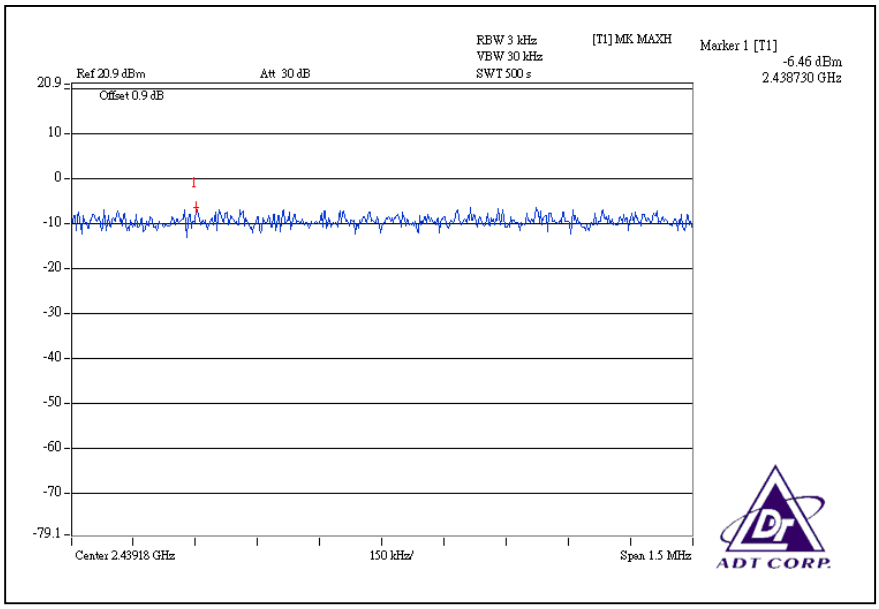
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Phoenix Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-7.61	8	PASS
6	2437	-6.46	8	PASS
11	2462	-8.35	8	PASS

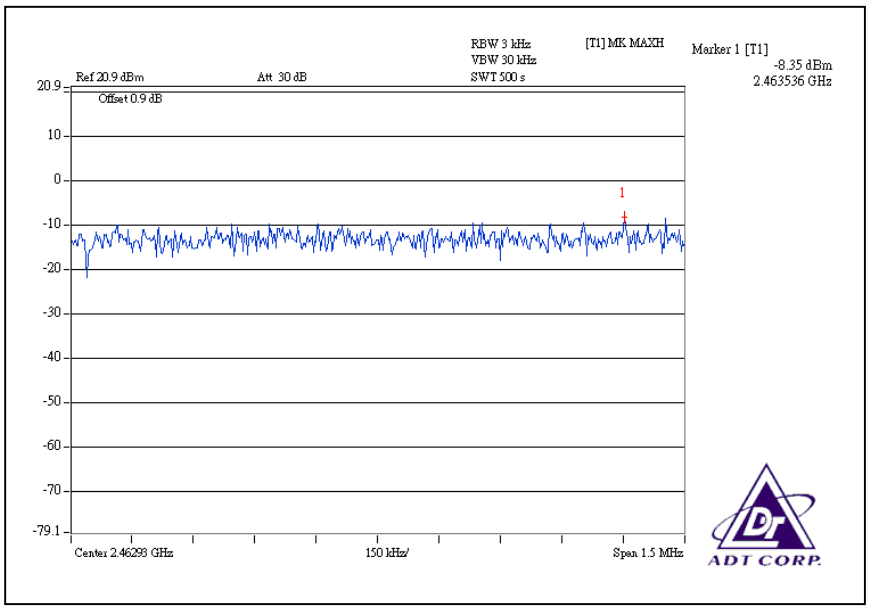
CH1



CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-6.46 dBm
2.438730 GHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Center 2.43918 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH11

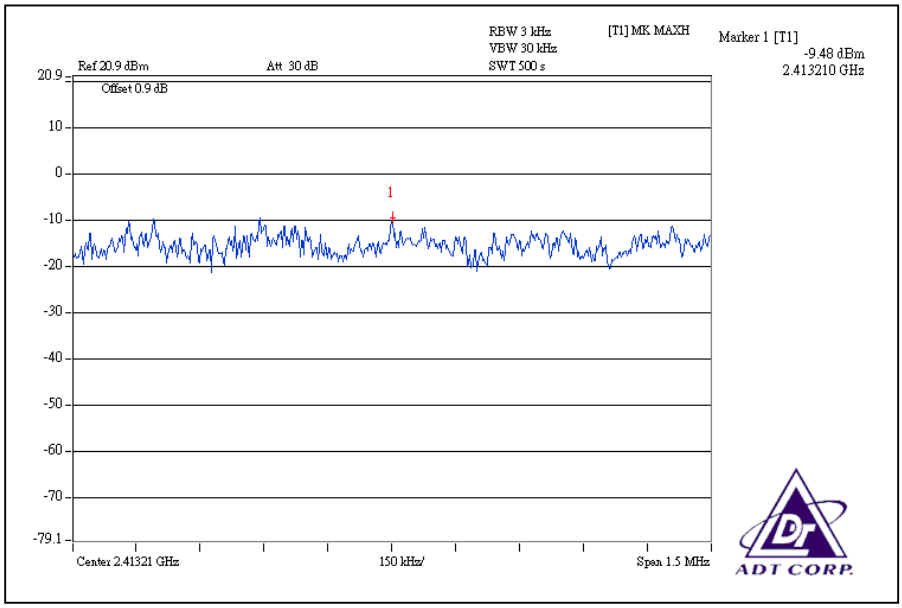

RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-8.35 dBm
2.463536 GHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Center 2.46299 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

802.11g OFDM MODULATION:

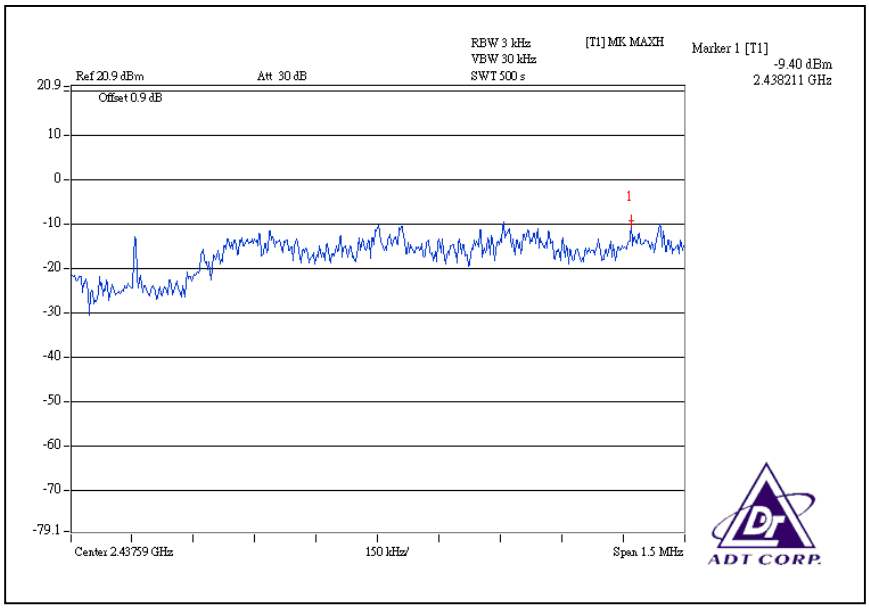
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 972hPa
TESTED BY	Phoenix Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-9.48	8	PASS
6	2437	-9.40	8	PASS
11	2462	-9.65	8	PASS

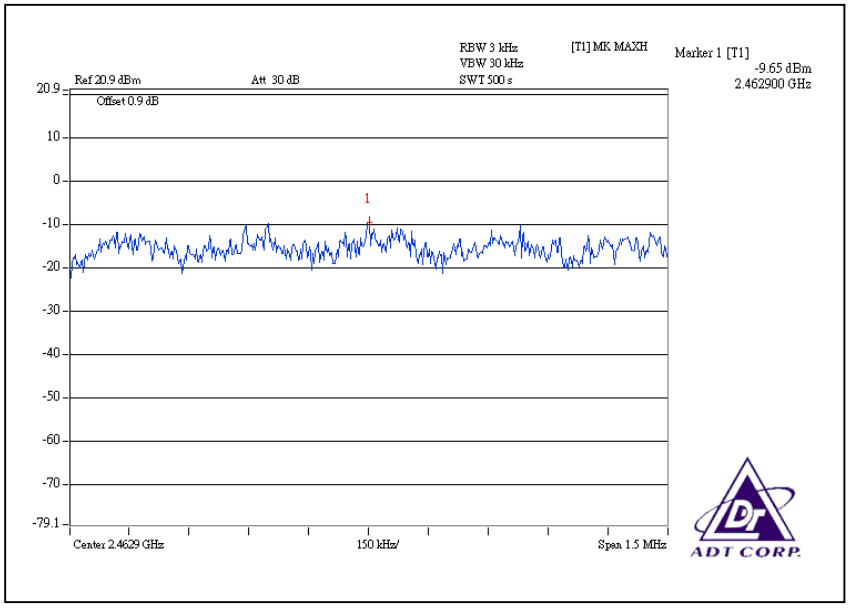
CH1



CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-9.40 dBm
2.438211 GHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Center 2.43759 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-9.65 dBm
2.462900 GHz
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Center 2.4629 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

4.6 OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF 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 Until
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 12, 2008

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 lose 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 band edges was measured and recorded.

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

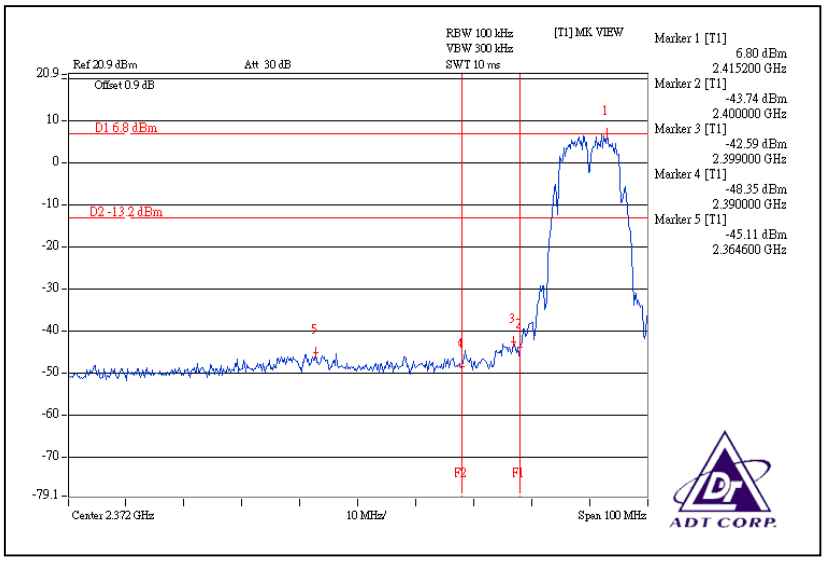
Same as Item 4.3.6

4.6.6 TEST RESULTS

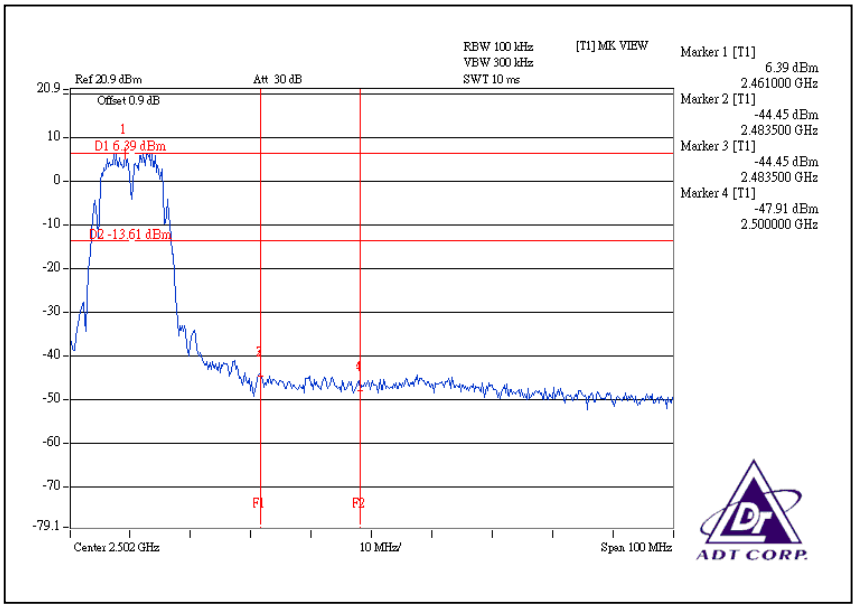
The spectrum plots are attached on the following below images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION:

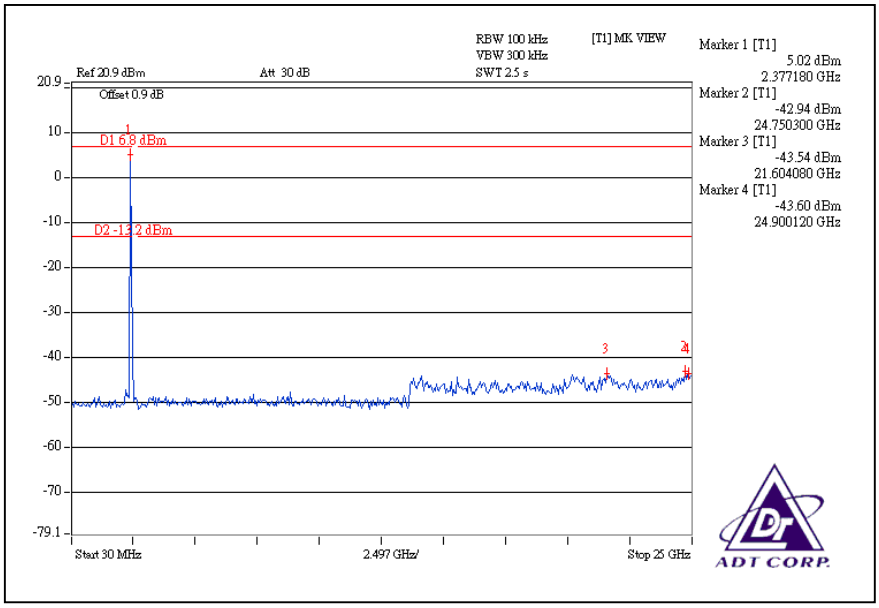
CH1



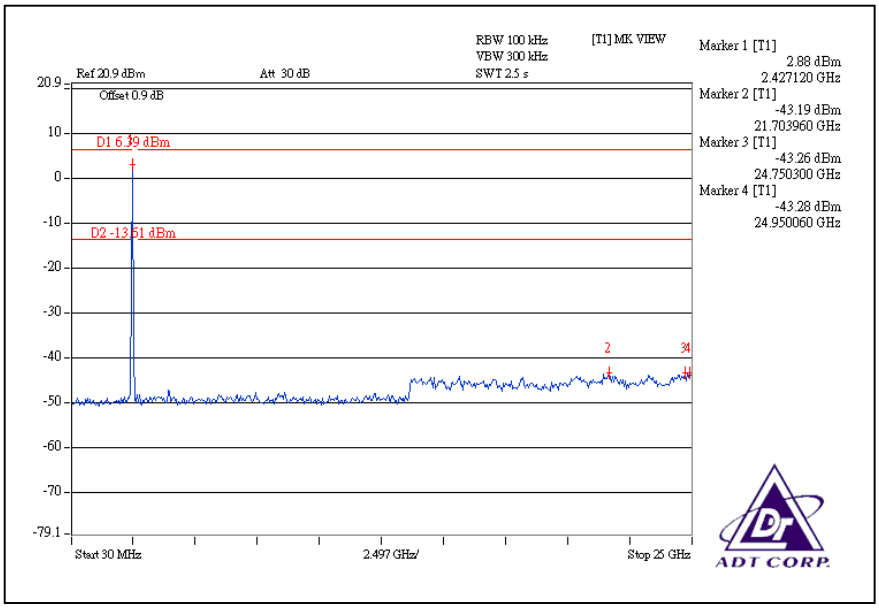
CH11



CH1

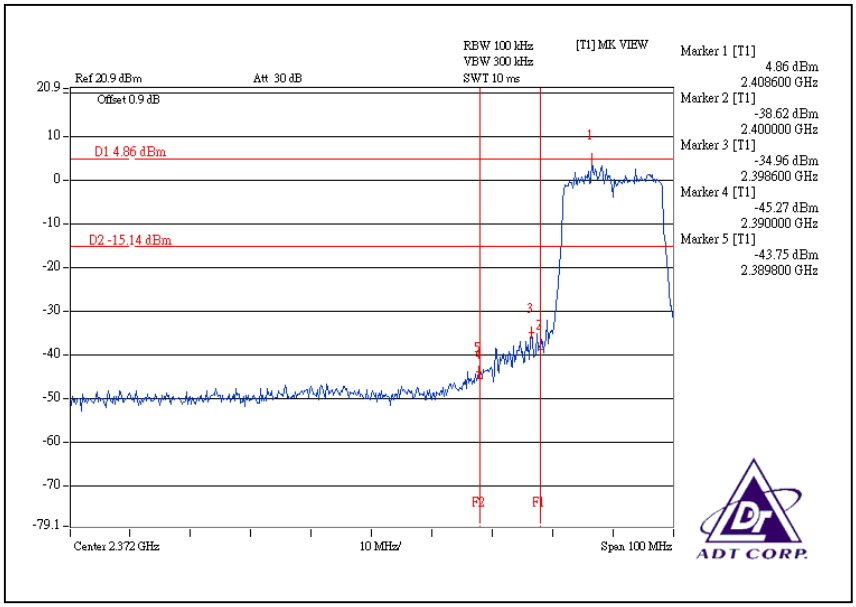

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 6.8 dBm
D2 -13.2 dBm
Marker 1 [T1]
5.02 dBm
2.377180 GHz
Marker 2 [T1]
-42.94 dBm
24.750300 GHz
Marker 3 [T1]
-43.54 dBm
21.604080 GHz
Marker 4 [T1]
-43.60 dBm
24.900120 GHz
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

CH11

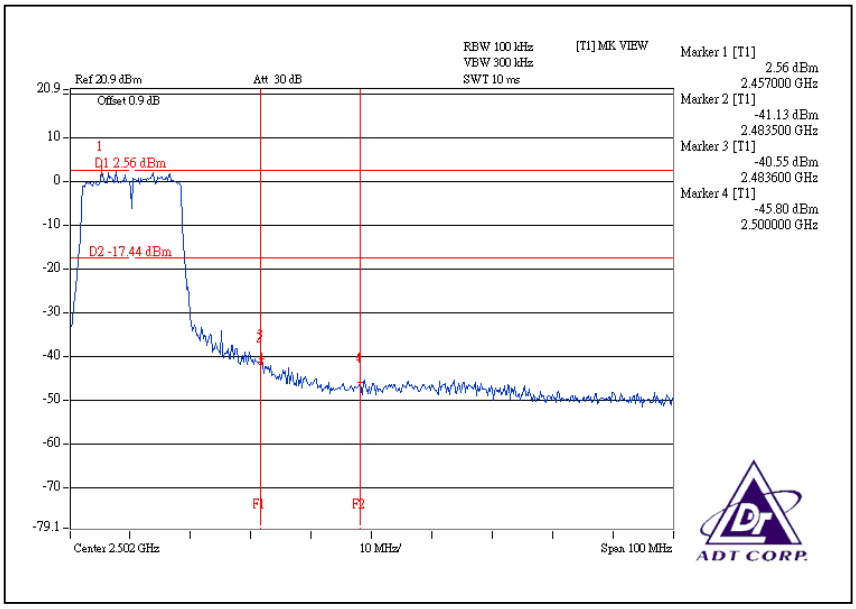

RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 6.39 dBm
D2 -13.61 dBm
Marker 1 [T1]
2.88 dBm
2.427120 GHz
Marker 2 [T1]
-43.19 dBm
21.703960 GHz
Marker 3 [T1]
-43.26 dBm
24.750300 GHz
Marker 4 [T1]
-43.28 dBm
24.950060 GHz
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

802.11g OFDM MODULATION:

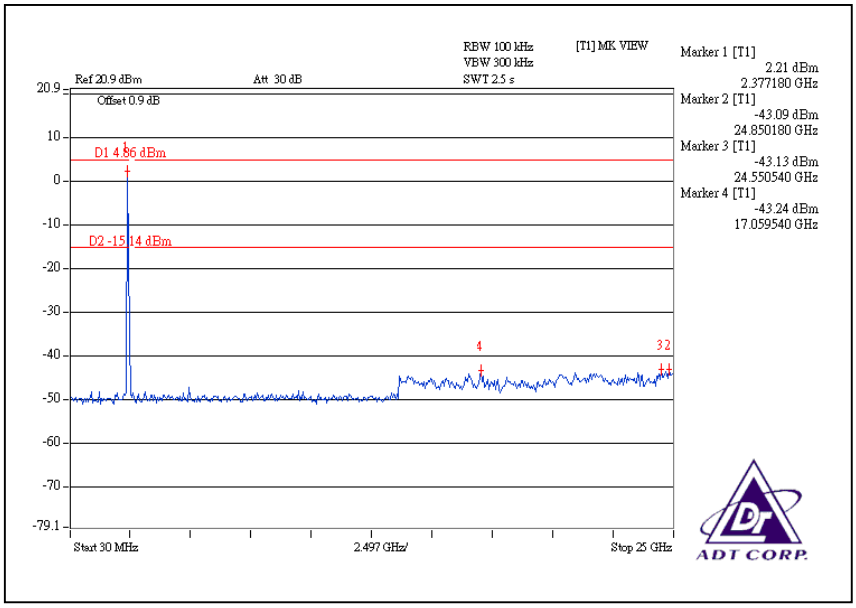
CH 1



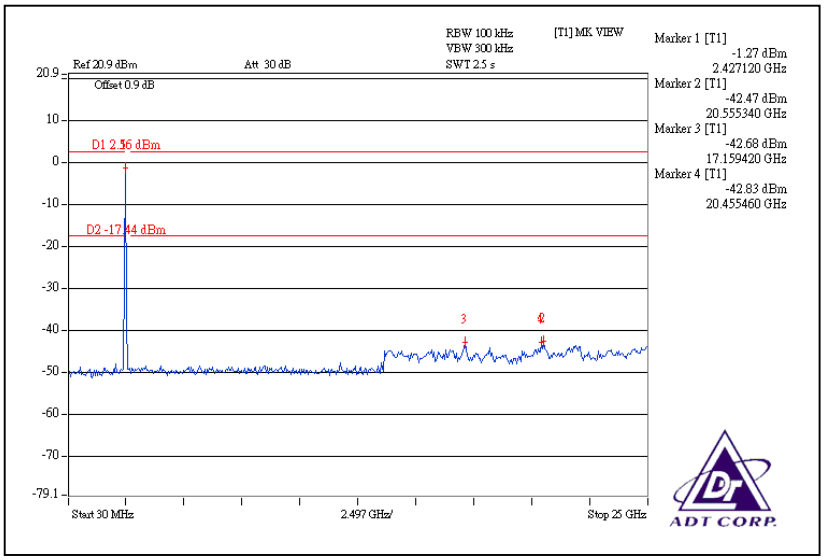
CH11



CH1


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 4.86 dBm
D2 -15.14 dBm
Marker 1 [T1]
2.21 dBm
2.377180 GHz
Marker 2 [T1]
-43.09 dBm
24.850180 GHz
Marker 3 [T1]
-43.13 dBm
24.550540 GHz
Marker 4 [T1]
-43.24 dBm
17.059540 GHz
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

CH11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20.9 dBm
Att 30 dB
Offset 0.9 dB
D1 2.56 dBm
D2 -17.44 dBm
Marker 1 [T1]
-1.27 dBm
2.427120 GHz
Marker 2 [T1]
-42.47 dBm
20.555340 GHz
Marker 3 [T1]
-42.68 dBm
17.159420 GHz
Marker 4 [T1]
-42.83 dBm
20.455460 GHz
20.9
10
0
-10
-20
-30
-40
-50
-60
-70
-79.1
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

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 Fix internal dipole Antenna without Connector. The maximum Gain of the antenna is 4dBi.

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 --