FCC TEST REPORT (15.247)

REPORT NO.:	RF940714L17
MODEL NO.:	WX-7615A (refer to page 7 for other model)
RECEIVED:	Jul. 19, 2005
TESTED:	Aug. 01 ~ Aug. 02, 2005
ISSUED:	Aug. 09, 2005

APPLICANT:	SparkLAN Communications, Inc.
ADDRESS:	3Fl., No. 246, Sec. 1, Neihu Road., Neihu Chiu, Taipei Taiwan 114, R.O.C.

ISSUED BY:	Advance Data Technology Corporation
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

0528
ILAC MRA

No. 2177-01

Table of Contents

1. CERTIFICATION

PRODUCT:	Wireless 11a+g Dual-Band AP Router
BRAND NAME:	SparkLAN (refer to page 7 for other brand)
MODEL NO.:	WX-7615A (refer to page 7 for other model)
APPLICANT:	SparkLAN Communications, Inc.
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	Aug. 01 ~ Aug. 02, 2005
STANDARDS:	FCC Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment 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 : Andrea Hsia , **DATE:** Aug. 09, 2005
(Andrea Hsia)

TECHNICAL ACCEPTANCE : Gary Chang , **DATE:** Aug. 09, 2005
Responsible for RF
(Gary Chang)

APPROVED BY : , **DATE:** Aug. 09, 2005
(Cody Chang, 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 –12.14dB at 3.691MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –1.13 dB at 2483.5 MHz
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:

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz ~ 30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.55 dB
	200MHz ~1000MHz	3.58 dB
	1GHz ~ 18GHz	1.10 dB
	18GHz ~ 40GHz	0.91 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wireless 11a+g Dual-Band AP Router
MODEL NO.	WX-7615A
POWER SUPPLY	5Vdc from AC 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 (Turbo mode: up to 108Mbps *see Note 2) 802.11a: 54/48/36/24/18/12/9/6Mbps (Turbo mode: up to 108Mbps *see Note 2)
FREQUENCY RANGE	802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 5.150 ~ 5.350GHz and 5.725 ~ 5.850GHz
NUMBER OF CHANNEL	802.11b & 802.11g: 11 for Normal mode / 1 for Turbo mode 802.11a: 13 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	802.11b & 802.11g: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	100.000mW for 802.11b 63.096mW for 802.11g 20.417mW for 5.150 ~ 5.350GHz 50.738mW for 5.725 ~ 5.850GHz
ANTENNA TYPE	Dipole antenna with 2dBi gain (for 2.4GHz) Dipole antenna with 4dBi gain (for 5.0GHz)
DATA CABLE	NA
I/O PORTS	RJ45
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.
2. This EUT is capable of providing data rates of up to 108 Mbps in Turbo mode depending upon reception quality.
3. The EUT was powered by the following adapter:

Brand	LEI (LEADER ELECTRONICS INC.)
Model	MT15-5050250-A1
Input	100-120Vac, 50-60Hz, 0.5A
Output	5.0Vdc, 2.5A
Power Line	1.8m nonshielded cable without core

4. The models as below are identical to each other expect for their model designation and brand name due to marketing requirement.

Model Name	Brand	Description
TRENDnet	TEW-511BRP	For Marketing different

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

Operated in 2400 ~ 2483.5MHz band:

For 802.11b/g: Eleven channels are provided to this EUT for normal mode.

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

For 802.11g: One channel is provided to this EUT for turbo mode.

Channel	Frequency
6	2437 MHz

Operated in 5725 ~ 5850MHz band:

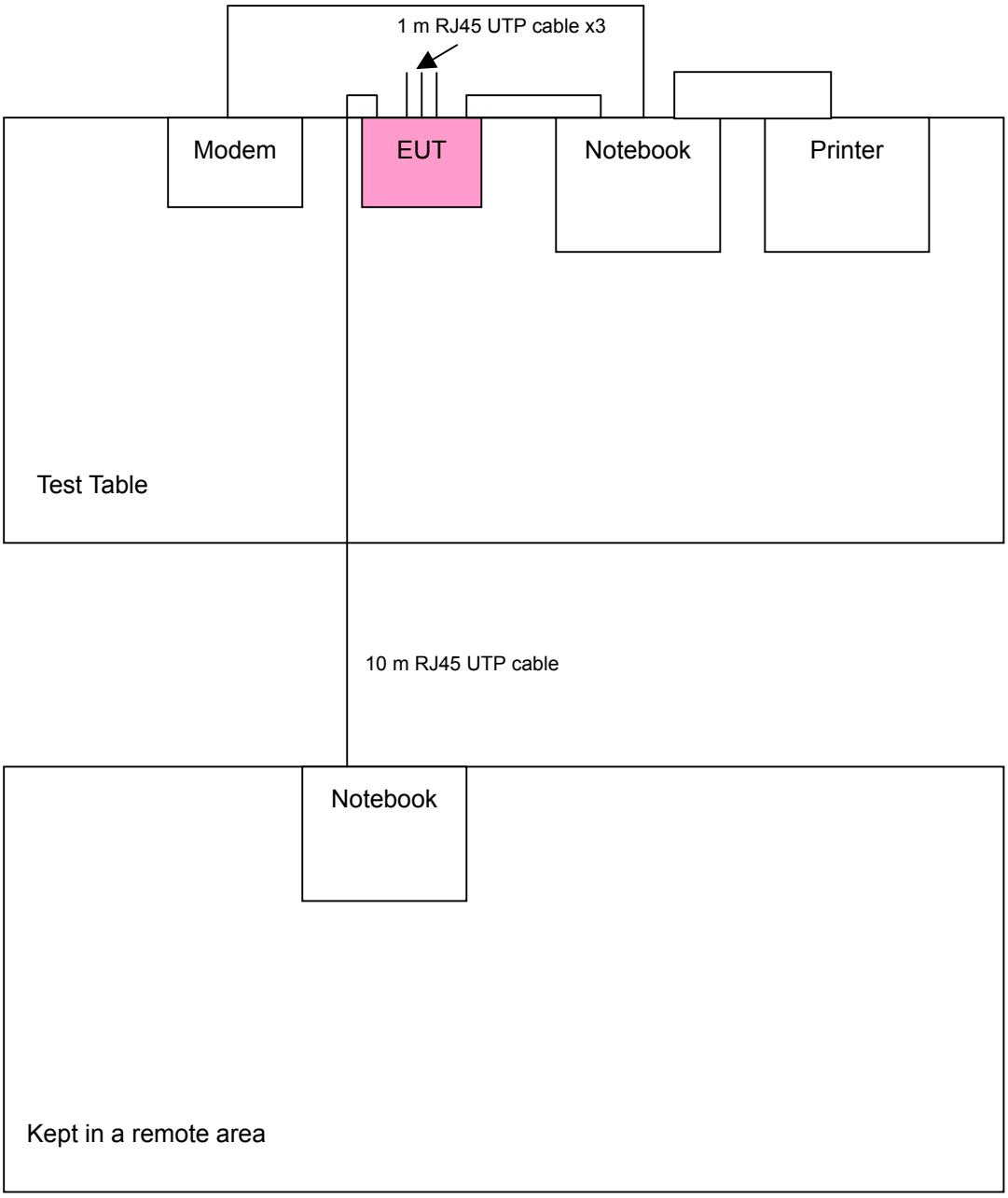
For 802.11a: Five channels are provided to this EUT for normal mode.

Channel	Frequency
1	5745 MHz
2	5765 MHz
3	5785 MHz
4	5805 MHz
5	5825 MHz

For 802.11a: Two channels are provided to this EUT for turbo mode.

Channel	Frequency
1	5760 MHz
2	5800 MHz

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	V	V	V	V	-

Where PLC: Power Line Conducted Emission RE<1G RE: 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	1, 6, 11	OFDM	BPSK	6
802.11a	1 to 5	3	OFDM	BPSK	6

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, rotatable angle of EUT 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
802.11a	1 to 5	3	OFDM	BPSK	6

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, rotatable angle of EUT 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	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11g Turbo	6	6	OFDM	BPSK	12
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6
802.11a Turbo	1 to 2	1, 2	OFDM	BPSK	12

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	CCK	11
802.11g	1 to 11	1, 11	OFDM	BPSK	6
802.11g Turbo	6	6	OFDM	BPSK	12
802.11a	1 to 5	1, 5	OFDM	BPSK	6
802.11a Turbo	1 to 2	1, 2	OFDM	BPSK	12

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	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11g Turbo	6	6	OFDM	BPSK	12
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6
802.11a Turbo	1 to 2	1, 2	OFDM	BPSK	12

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless 11a+g Dual-Band AP Router. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247)
ANSI C63.4-2003

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS
3	PRINTER	EPSON	LQ-300+	DCGY054147	FCC DoC Approved
4	MODEM	ACEEX	1414V/3	0401008269	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	1.2m shielded without core
4	1.2m shielded without core

NOTE: 1. All power cords of the above support units are non shielded (1.8m).

2. Item 2 acted as a communication partner to transfer data.

4. TEST TYPES AND RESULTS (802.11b & g 2412~2462MHz Band)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 06, 2005
RF signal cable Woken	5D-FB	Cable-HyC02-01	Jan. 09, 2006
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 20, 2006
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jan. 20, 2006
Software ADT	ADT_Cond_V3	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 HwaYa Shielded Room 3.
3. The VCCI Site Registration No. is C-2047.

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.

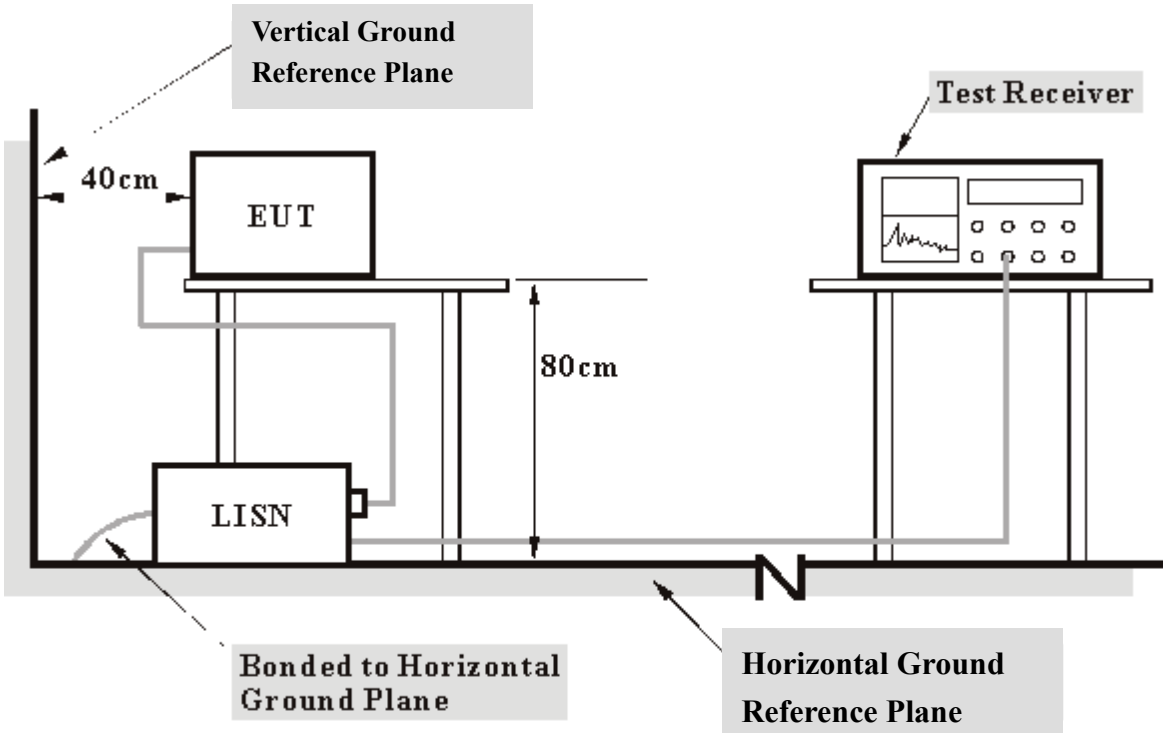
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was 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) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

4.1.6 EUT OPERATING CONDITIONS

a. Connected the EUT to the notebook via the RJ45 cable and placed on a testing table.
b. The notebook ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
c. The notebook sent "H" messages to its screen.
d. The notebook sent “H” messages to the modem.
e. The notebook sent "H" messages to the printer, and the printer printed them on paper.
f. Steps c~e are repeated.

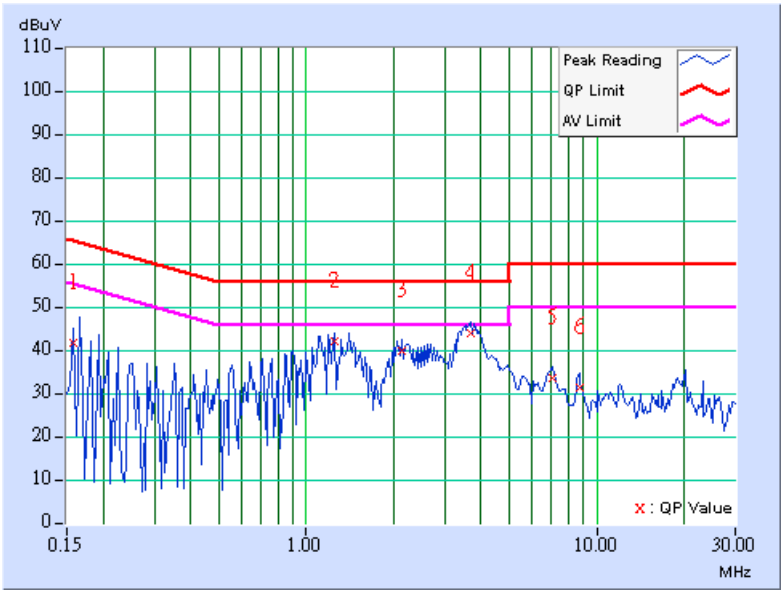
4.1.7 TEST RESULTS

Conducted Worst-Case Data

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 1
CHANNEL	Channel 1	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.158	0.10	41.52	-	41.62	-	65.58	55.58	-23.96	-
2	1.250	0.20	42.09	-	42.29	-	56.00	46.00	-13.71	-
3	2.125	0.20	39.62	-	39.82	-	56.00	46.00	-16.18	-
4	**3.691**	**0.20**	**43.66**	**-**	**43.86**	**-**	**56.00**	**46.00**	**-12.14**	**-**
5	7.012	0.25	33.43	-	33.68	-	60.00	50.00	-26.32	-
6	8.719	0.28	31.38	-	31.66	-	60.00	50.00	-28.34	-

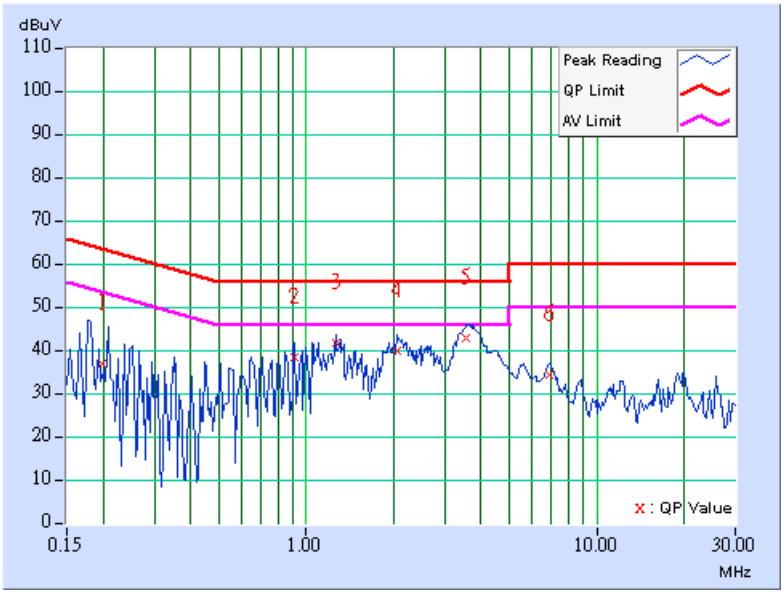
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 2
CHANNEL	Channel 1	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.199	0.10	36.91	-	37.01	-	63.65	53.65	-26.64	-
2	0.916	0.19	38.31	-	38.50	-	56.00	46.00	-17.50	-
3	1.262	0.20	41.57	-	41.77	-	56.00	46.00	-14.23	-
4	2.063	0.20	39.82	-	40.02	-	56.00	46.00	-15.98	-
5	3.559	0.20	42.75	-	42.95	-	56.00	46.00	-13.05	-
6	6.887	0.30	33.97	-	34.27	-	60.00	50.00	-25.73	-

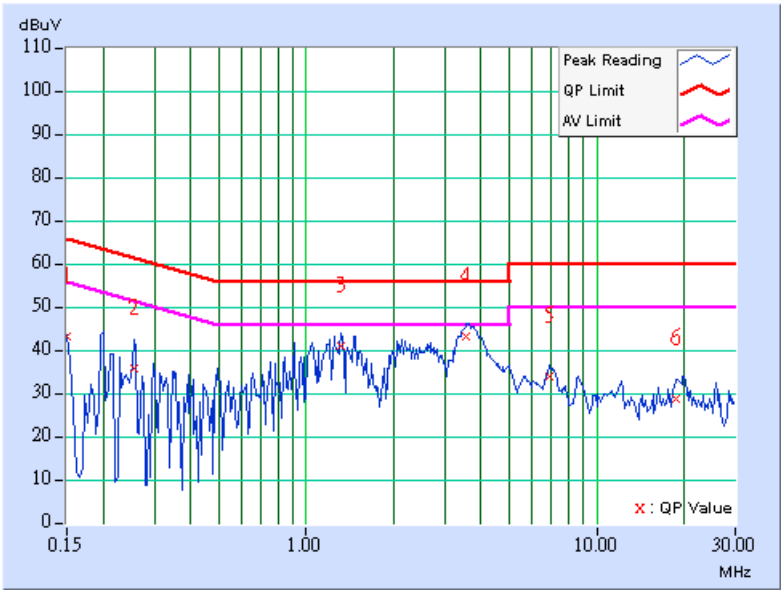
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 1
CHANNEL	Channel 6	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.150	0.10	42.61	-	42.71	-	66.00	56.00	-23.29	-
2	0.255	0.10	35.22	-	35.32	-	61.58	51.58	-26.26	-
3	1.320	0.20	40.26	-	40.46	-	56.00	46.00	-15.54	-
4	3.563	0.20	42.47	-	42.67	-	56.00	46.00	-13.33	-
5	6.879	0.25	33.37	-	33.62	-	60.00	50.00	-26.38	-
6	18.742	0.70	28.36	-	29.06	-	60.00	50.00	-30.94	-

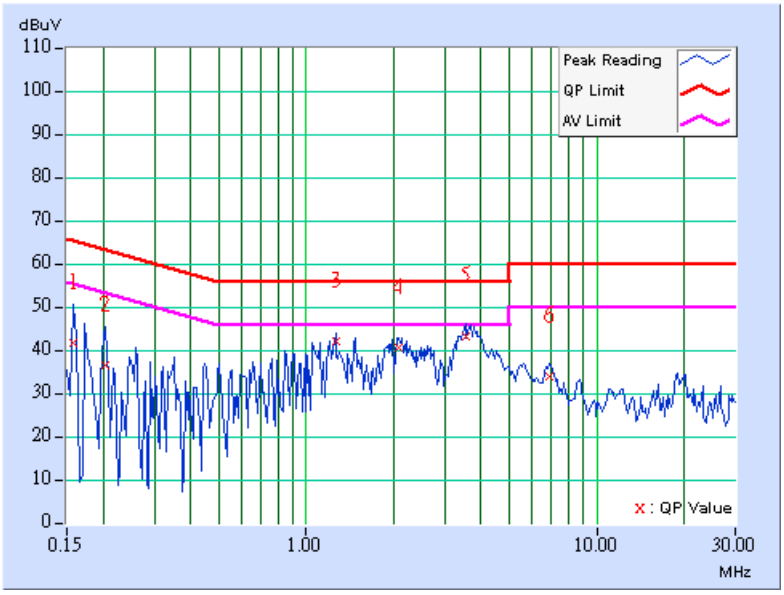
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 2
CHANNEL	Channel 6	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.158	0.10	41.52	-	41.62	-	65.58	55.58	-23.96	-
2	0.205	0.10	36.23	-	36.33	-	63.42	53.42	-27.09	-
3	1.262	0.20	41.88	-	42.08	-	56.00	46.00	-13.92	-
4	2.070	0.20	40.52	-	40.72	-	56.00	46.00	-15.28	-
5	3.551	0.20	43.06	-	43.26	-	56.00	46.00	-12.74	-
6	6.895	0.30	33.71	-	34.01	-	60.00	50.00	-25.99	-

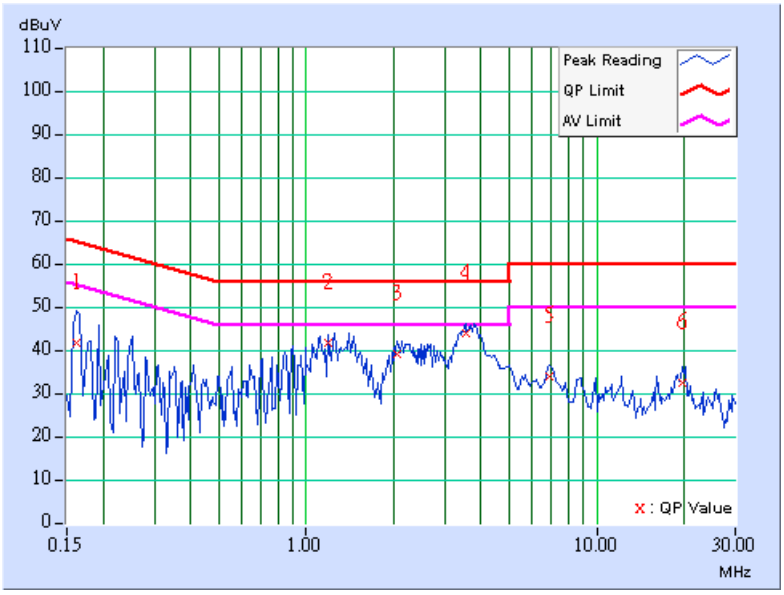
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 1
CHANNEL	Channel 11	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.162	0.10	40.99	-	41.09	-	65.38	55.38	-24.29	-
2	1.191	0.20	41.16	-	41.36	-	56.00	46.00	-14.64	-
3	2.059	0.20	38.32	-	38.52	-	56.00	46.00	-17.48	-
4	3.551	0.20	43.32	-	43.52	-	56.00	46.00	-12.48	-
5	6.887	0.25	33.22	-	33.47	-	60.00	50.00	-26.53	-
6	19.711	0.78	31.66	-	32.44	-	60.00	50.00	-27.56	-

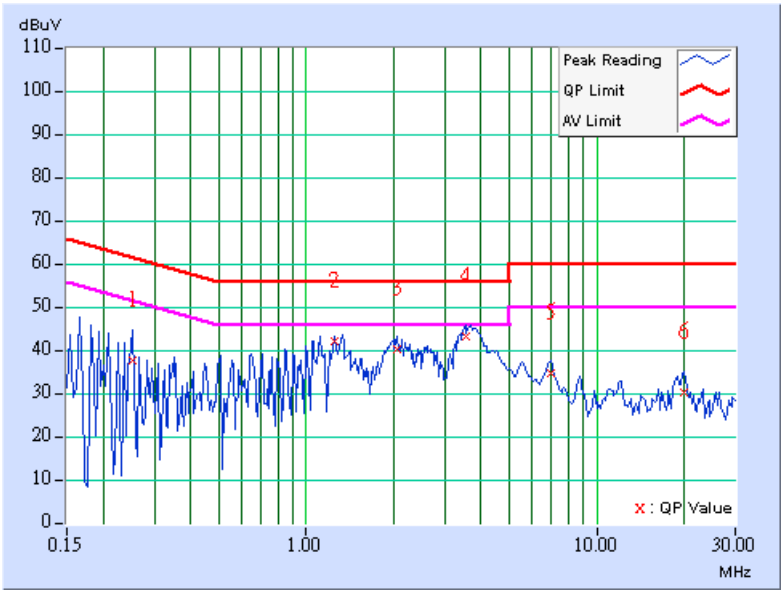
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 2
CHANNEL	Channel 11	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.252	0.10	36.83	-	36.93	-	61.71	51.71	-24.78	-
2	1.258	0.20	41.48	-	41.68	-	56.00	46.00	-14.32	-
3	2.055	0.20	39.41	-	39.61	-	56.00	46.00	-16.39	-
4	3.555	0.20	42.68	-	42.88	-	56.00	46.00	-13.12	-
5	6.949	0.30	34.16	-	34.46	-	60.00	50.00	-25.54	-
6	19.980	0.80	29.71	-	30.51	-	60.00	50.00	-29.49	-

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 UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Jan. 07, 2006
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Nov. 29, 2005
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 22, 2006
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Jan. 05, 2006
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170242	Jan. 23, 2006
Preamplifier Agilent	8447D	2944A10631	Nov. 17, 2005
Preamplifier Agilent	8449B	3008A01960	Nov. 14, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219272/4	Jan. 26, 2006
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219275/4	Jan. 26, 2006
Software ADT.	ADT_Radiated_V5.14	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

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 3.

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

4. The IC Site Registration No. is IC4924-4.

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 3 meter semi- anechoic. 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 lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

.

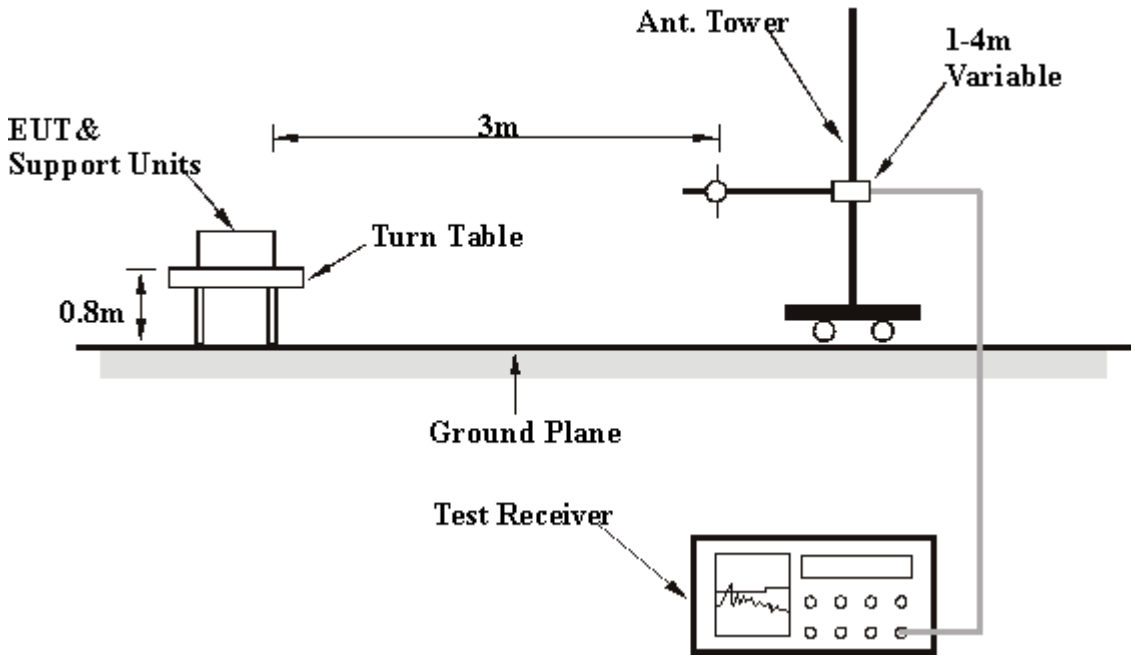
NOTE:

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 and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

Below 1GHz Worst-Case Data

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	Below 1000MHz
CHANNEL	Channel 6	**DETECTOR FUNCTION**	Quasi-Peak
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Brad Wu		

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	113.59	40.64 QP	43.50	-2.86	1.75 H	94	28.41	12.23
2	154.41	34.39 QP	43.50	-9.11	1.75 H	217	19.59	14.80
3	199.12	40.12 QP	43.50	-3.38	1.25 H	70	28.77	11.34
4	249.66	41.89 QP	46.00	-4.11	1.00 H	160	28.78	13.11
5	300.20	36.95 QP	46.00	-9.05	1.00 H	166	22.54	14.41
6	374.07	35.60 QP	46.00	-10.40	1.00 H	277	19.50	16.10
7	440.16	36.29 QP	46.00	-9.71	1.00 H	295	18.54	17.75
8	500.42	43.66 QP	46.00	-2.34	1.50 H	241	25.08	18.58

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	33.20	37.68 QP	40.00	-2.32	1.00 V	202	23.46	14.23
2	68.26	35.16 QP	40.00	-4.84	1.25 V	226	22.48	12.68
3	109.70	33.98 QP	43.50	-9.52	1.25 V	16	22.13	11.86
4	150.52	35.54 QP	43.50	-7.96	1.00 V	67	20.83	14.70
5	199.12	37.00 QP	43.50	-6.50	1.00 V	217	25.66	11.34
6	249.66	43.01 QP	46.00	-2.99	1.00 V	196	29.91	13.11
7	449.88	37.27 QP	46.00	-8.73	1.00 V	163	19.28	18.00
8	500.42	40.11 QP	46.00	-5.89	1.75 V	298	21.53	18.58
9	550.96	35.53 QP	46.00	-10.47	1.00 V	298	16.04	19.49
10	770.62	35.15 QP	46.00	-10.85	1.25 V	253	11.82	23.33
11	881.42	39.17 QP	46.00	-6.83	1.00 V	187	14.70	24.48

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	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	Channel 1	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	CCK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	11Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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	1120.00	45.70 PK	74.00	-28.30	1.20 H	201	16.67	29.03
2	1320.00	43.31 PK	74.00	-30.69	1.12 H	320	13.06	30.25
3	2390.00	49.17 PK	74.00	-24.83	1.04 H	17	15.34	33.83
4	*2412.00	103.76 PK			1.04 H	17	69.83	33.93
4	*2412.00	95.43 AV			1.04 H	17	61.50	33.93
5	2688.00	45.44 PK	74.00	-28.56	1.15 H	27	10.58	34.86
6	4824.00	53.85 PK	74.00	-20.15	1.16 H	209	13.19	40.66
6	4824.00	44.30 AV	54.00	-9.70	1.16 H	209	3.64	40.66

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	1120.00	43.87 PK	74.00	-30.13	1.12 V	272	14.84	29.03
2	1320.00	44.39 PK	74.00	-29.61	1.28 V	80	14.14	30.25
3	2390.00	56.56 PK	74.00	-17.44	1.11 V	323	22.73	33.83
3	2390.00	48.13 AV	54.00	-5.87	1.11 V	323	14.30	33.83
4	*2412.00	111.15 PK			1.11 V	323	77.22	33.93
4	*2412.00	102.72 AV			1.11 V	323	68.79	33.93
5	2688.00	45.56 PK	74.00	-28.44	1.24 V	326	10.70	34.86
6	4824.00	56.05 PK	74.00	-17.95	1.09 V	294	15.39	40.66
6	4824.00	48.12 AV	54.00	-5.88	1.09 V	294	7.46	40.66

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	Channel 6	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	CCK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	11Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1120.00	46.29 PK	74.00	-27.71	1.24 H	192	17.26	29.03
2	1320.00	44.43 PK	74.00	-29.57	1.16 H	324	14.18	30.25
3	*2437.00	106.35 PK			1.07 H	342	72.30	34.05
3	*2437.00	97.98 AV			1.07 H	342	63.93	34.05
4	2688.00	47.62 PK	74.00	-26.38	1.16 H	24	12.76	34.86
5	4874.00	54.48 PK	74.00	-19.52	1.15 H	127	13.79	40.69
5	4874.00	45.69 AV	54.00	-8.31	1.15 H	127	5.00	40.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1120.00	44.48 PK	74.00	-29.52	1.10 V	271	15.45	29.03
2	1320.00	42.66 PK	74.00	-31.34	1.41 V	290	12.41	30.25
3	*2437.00	115.23 PK			1.10 V	204	81.18	34.05
3	*2437.00	106.78 AV			1.10 V	204	72.73	34.05
4	2688.00	50.28 PK	74.00	-23.72	1.02 V	151	15.42	34.86
5	4874.00	58.46 PK	74.00	-15.54	1.10 V	300	17.77	40.69
5	4874.00	51.23 AV	54.00	-2.77	1.10 V	300	10.54	40.69

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	Channel 11	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	CCK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	11Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1120.00	47.07 PK	74.00	-26.93	1.32 H	259	18.04	29.03
2	1320.00	43.70 PK	74.00	-30.30	1.13 H	324	13.45	30.25
3	*2462.00	102.64 PK			1.30 H	18	68.48	34.16
3	*2462.00	98.57 AV			1.30 H	18	64.41	34.16
4	2483.50	48.25 PK	74.00	-25.75	1.30 H	18	13.99	34.26
5	4924.00	53.97 PK	74.00	-20.03	1.00 H	213	13.11	40.86
5	4924.00	46.59 AV	54.00	-7.41	1.00 H	213	5.73	40.86
6	9848.00	63.95 PK	74.00	-10.05	1.30 H	278	10.00	53.95
6	9848.00	52.08 AV	54.00	-1.92	1.30 H	278	-1.87	53.95

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1120.00	44.41 PK	74.00	-29.59	1.00 V	318	15.38	29.03
2	1320.00	44.02 PK	74.00	-29.98	1.34 V	252	13.77	30.25
3	*2462.00	111.70 PK			1.12 V	183	77.54	34.16
3	*2462.00	103.31 AV			1.12 V	183	69.15	34.16
4	2483.50	57.31 PK	74.00	-16.69	1.12 V	183	23.05	34.26
4	2483.50	48.92 AV	54.00	-5.08	1.12 V	183	14.66	34.26
5	4924.00	55.58 PK	74.00	-18.42	1.14 V	85	14.72	40.86
5	4924.00	50.45 AV	54.00	-3.55	1.14 V	85	9.59	40.86
6	9848.00	63.46 PK	74.00	-10.54	1.15 V	310	9.51	53.95
6	9848.00	51.83 AV	54.00	-2.17	1.15 V	310	-2.12	53.95

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

802.11g OFDM Normal modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	Channel 1	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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	1120.00	47.35 PK	74.00	-26.65	1.30 H	280	18.32	29.03
2	1320.00	44.28 PK	74.00	-29.72	1.15 H	327	14.03	30.25
3	2390.00	51.97 PK	74.00	-22.03	1.34 H	57	18.14	33.83
3	2390.00	41.65 AV	54.00	-12.35	1.34 H	57	7.82	33.83
4	*2412.00	100.23 PK			1.34 H	57	66.30	33.93
4	*2412.00	89.91 AV			1.34 H	57	55.98	33.93
5	2688.00	44.61 PK	74.00	-29.39	1.17 H	23	9.75	34.86
6	4824.00	51.39 PK	74.00	-22.61	1.24 H	328	10.73	40.66
6	4824.00	37.98 AV	54.00	-16.02	1.24 H	328	-2.68	40.66

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	1120.00	46.98 PK	74.00	-27.02	1.00 V	252	17.95	29.03
2	1320.00	43.72 PK	74.00	-30.28	1.34 V	246	13.47	30.25
3	2390.00	59.90 PK	74.00	-14.10	1.14 V	196	26.07	33.83
3	2390.00	49.02 AV	54.00	-4.98	1.14 V	196	15.19	33.83
4	*2412.00	108.16 PK			1.14 V	196	74.23	33.93
4	*2412.00	97.28 AV			1.14 V	196	63.35	33.93
5	2688.00	46.33 PK	74.00	-27.67	1.04 V	10	11.47	34.86
6	4824.00	54.59 PK	74.00	-19.41	1.06 V	289	13.93	40.66
6	4824.00	40.37 AV	54.00	-13.63	1.06 V	289	-0.29	40.66

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	Channel 6	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1120.00	45.01 PK	74.00	-28.99	1.00 H	186	15.98	29.03
2	1320.00	44.95 PK	74.00	-29.05	1.10 H	225	14.70	30.25
3	*2437.00	103.50 PK			1.03 H	344	69.45	34.05
3	*2437.00	92.80 AV			1.03 H	344	58.75	34.05
4	2688.00	46.14 PK	74.00	-27.86	1.14 H	22	11.28	34.86
5	4874.00	54.12 PK	74.00	-19.88	1.13 H	212	13.43	40.69
5	4874.00	40.33 AV	54.00	-13.67	1.13 H	212	-0.36	40.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1120.00	45.22 PK	74.00	-28.78	1.32 V	182	16.19	29.03
2	1320.00	43.07 PK	74.00	-30.93	1.30 V	289	12.82	30.25
3	*2437.00	111.88 PK			1.08 V	141	77.83	34.05
3	*2437.00	104.14 AV			1.08 V	141	70.09	34.05
4	2688.00	48.83 PK	74.00	-25.17	1.02 V	6	13.97	34.86
5	4874.00	57.16 PK	74.00	-16.84	1.06 V	288	16.47	40.69
5	4874.00	43.27 AV	54.00	-10.73	1.06 V	288	2.58	40.69

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 25GHz
CHANNEL	Channel 11	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1120.00	45.17 PK	74.00	-28.83	1.00 H	186	16.14	29.03
2	1320.00	44.10 PK	74.00	-29.90	1.06 H	233	13.85	30.25
3	*2462.00	101.50 PK			1.04 H	342	67.34	34.16
3	*2462.00	90.12 AV			1.04 H	342	55.96	34.16
4	2483.50	56.49 PK	74.00	-17.51	1.04 H	342	22.23	34.26
4	2483.50	45.11 AV	54.00	-8.89	1.04 H	342	10.85	34.26
5	2688.00	45.03 PK	74.00	-28.97	1.03 H	349	10.17	34.86
6	4924.00	50.48 PK	74.00	-23.52	1.04 H	67	9.62	40.86

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1120.00	45.97 PK	74.00	-28.03	1.37 V	190	16.94	29.03
2	1320.00	43.59 PK	74.00	-30.41	1.37 V	105	13.34	30.25
3	*2462.00	108.68 PK			1.06 V	284	74.52	34.16
3	*2462.00	97.88 AV			1.06 V	284	63.72	34.16
4	2483.50	63.67 PK	74.00	-10.33	1.06 V	284	29.41	34.26
4	**2483.50**	**52.87 AV**	**54.00**	**-1.13**	**1.06 V**	**284**	**18.61**	**34.26**
5	2688.00	47.62 PK	74.00	-26.38	1.22 V	183	12.76	34.86
6	4924.00	51.92 PK	74.00	-22.08	1.21 V	272	11.06	40.86
6	4924.00	38.69 AV	54.00	-15.31	1.21 V	272	-2.17	40.86

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

802.11g Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	1 ~ 25GHz
CHANNEL	Channel 6	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	12Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Morgan Chen		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	1120.00	43.51 PK	74.00	-30.49	1.00 H	265	14.48	29.03
2	2390.00	47.18 PK	74.00	-26.82	1.00 H	12	13.35	33.83
3	*2437.00	93.52 PK			1.00 H	12	59.47	34.05
3	*2437.00	84.30 AV			1.00 H	12	50.25	34.05
4	2483.50	44.62 PK	74.00	-29.38	1.00 H	12	10.36	34.26
5	4874.00	50.29 PK	74.00	-23.71	1.02 H	25	9.60	40.69

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	1120.00	44.64 PK	74.00	-29.36	1.00 V	64	15.61	29.03
2	2390.00	61.63 PK	74.00	-12.37	1.00 V	306	27.80	33.83
2	2390.00	52.65 AV	54.00	-1.35	1.00 V	306	18.82	33.83
3	*2437.00	107.97 PK			1.00 V	306	73.92	34.05
3	*2437.00	98.99 AV			1.00 V	306	64.94	34.05
4	2483.50	59.07 PK	74.00	-14.93	1.00 V	306	24.81	34.26
4	2483.50	50.09 AV	54.00	-3.91	1.00 V	306	15.83	34.26
5	4874.00	53.11 PK	74.00	-20.89	1.00 V	8	12.42	40.69
5	4874.00	39.57 AV	54.00	-14.43	1.00 V	8	-1.12	40.69

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

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
SPECTRUM ANALYZER	FSEK 30	100049	Aug. 12, 2005

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

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 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.

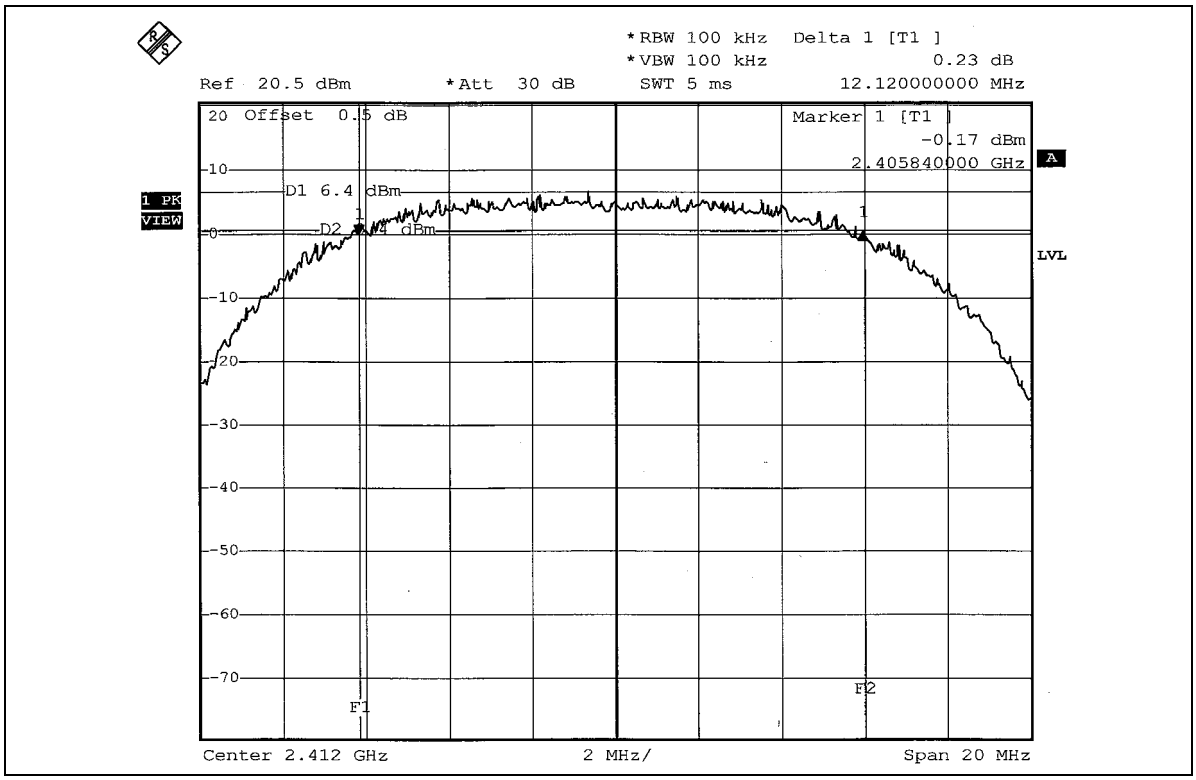
4.3.7 TEST RESULTS

802.11b DSSS modulation

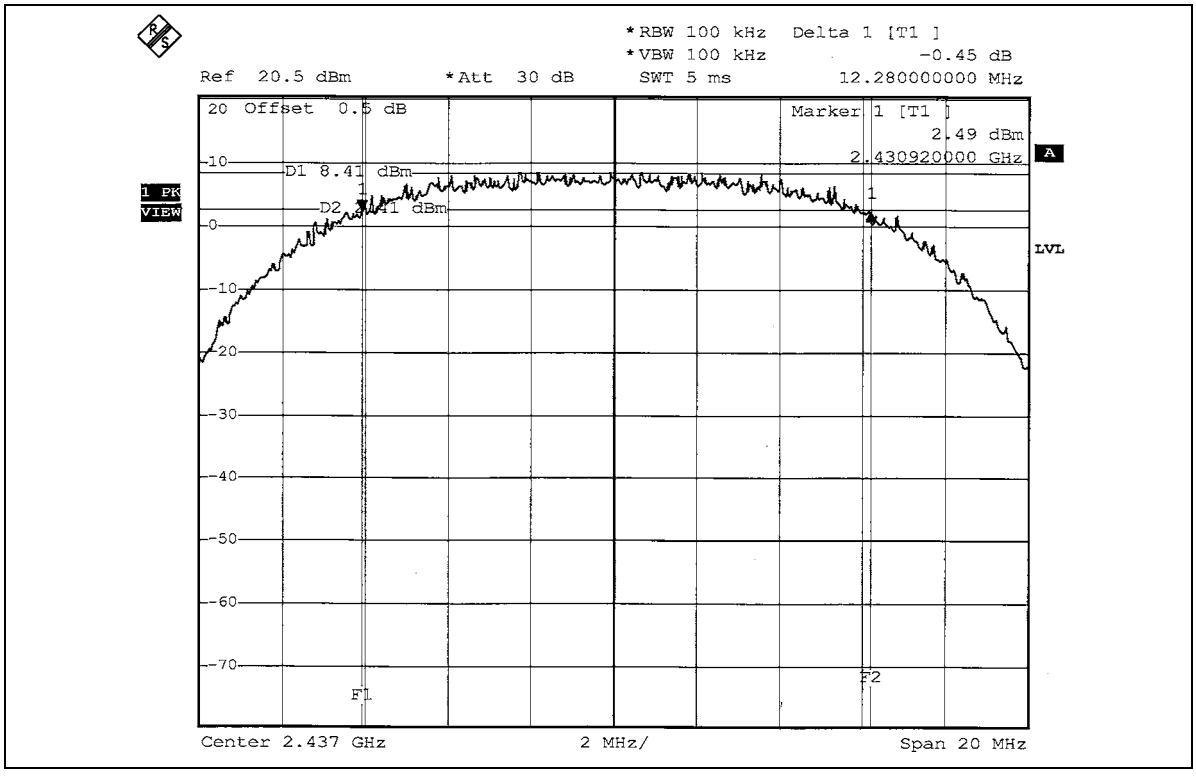
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	CCK	**TRANSFER RATE**	11Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.12	0.5	PASS
6	2437	12.28	0.5	PASS
11	2462	12.28	0.5	PASS

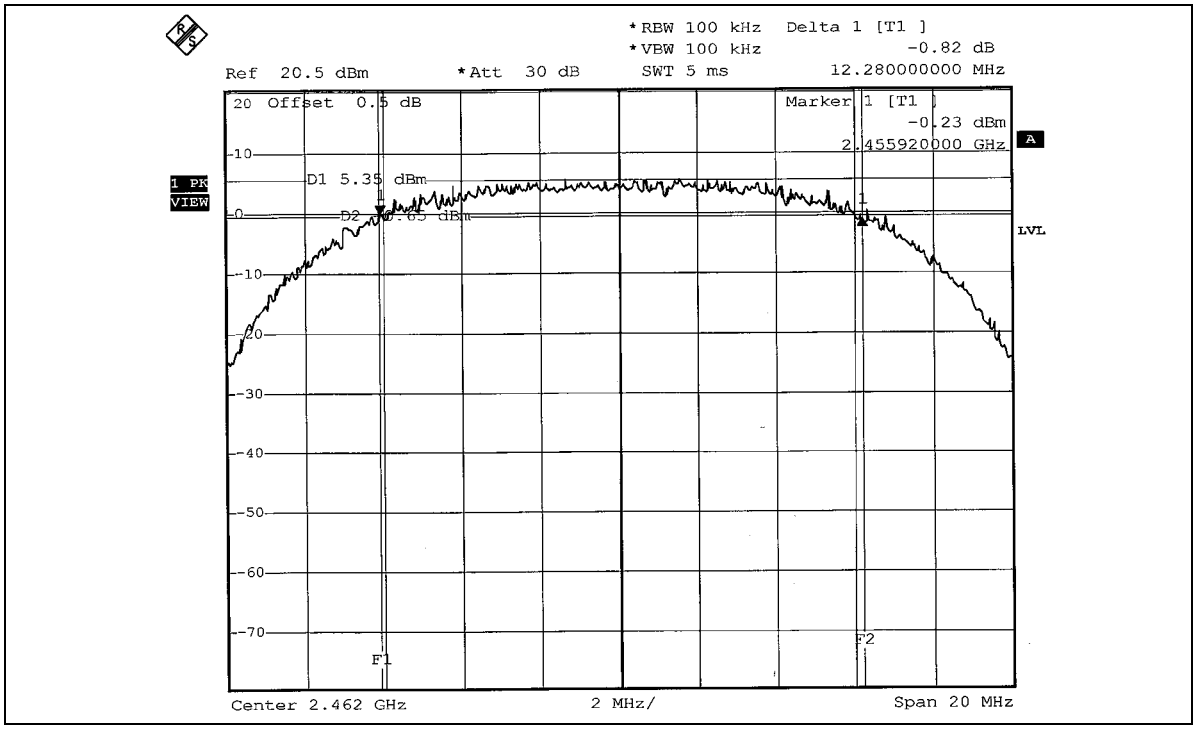
CH 1


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.23 dB
12.120000000 MHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-0.17 dBm
2.405840000 GHz
D1 6.4 dBm
D2 0.4 dBm
1 PK
VIEW
A
LVL
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz

CH 6


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.45 dB
12.280000000 MHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
2.49 dBm
2.430920000 GHz
D1 8.41 dBm
D2 1.41 dBm
1 PK
VIEW
A
LVL
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH 11

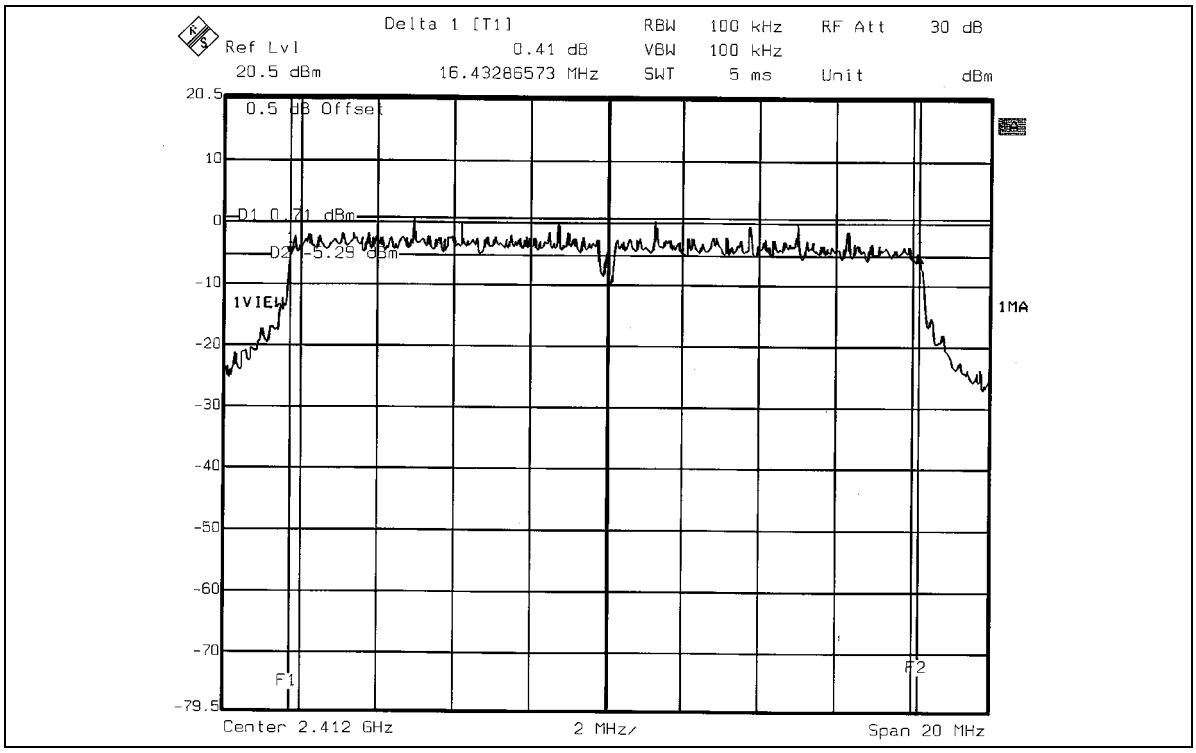

*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.82 dB
12.280000000 MHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-0.23 dBm
2.455920000 GHz
1 PK
VIEW
D1 5.35 dBm
D2 -7.65 dBm
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

802.11g OFDM Normal modulation

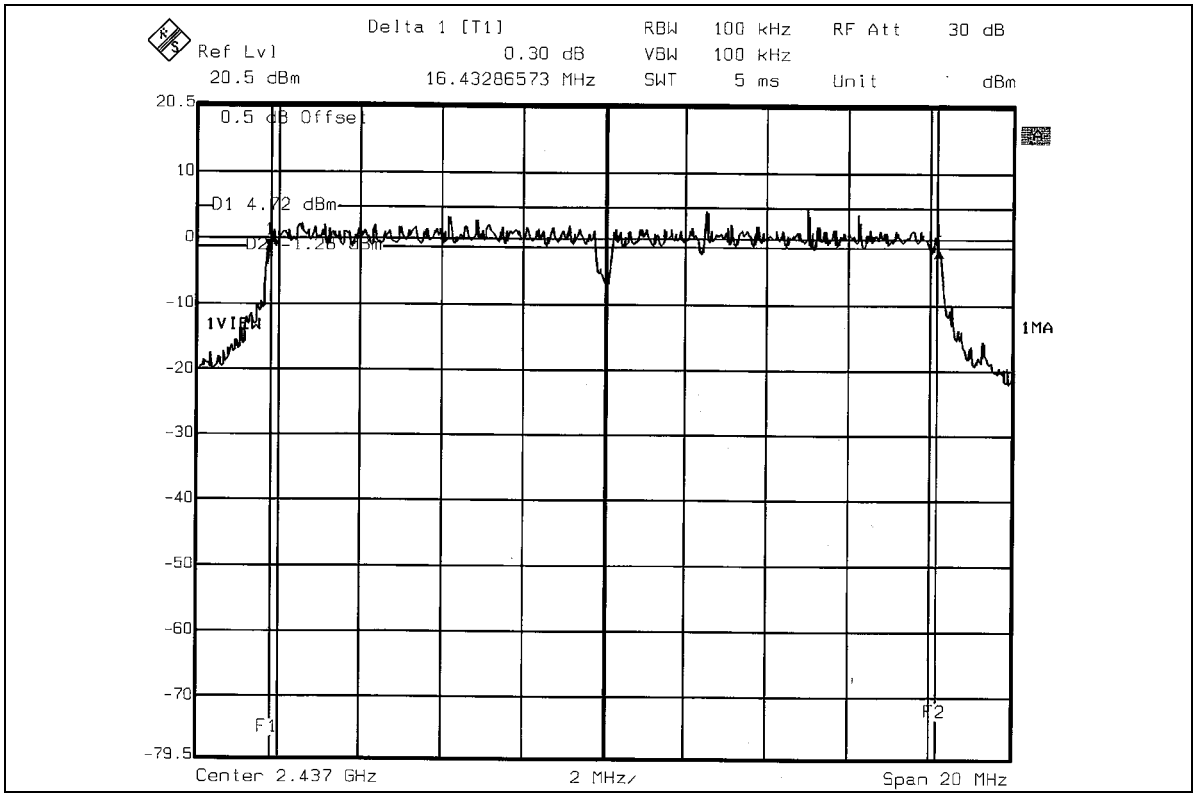
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.43	0.5	PASS
6	2437	16.43	0.5	PASS
11	2462	16.39	0.5	PASS

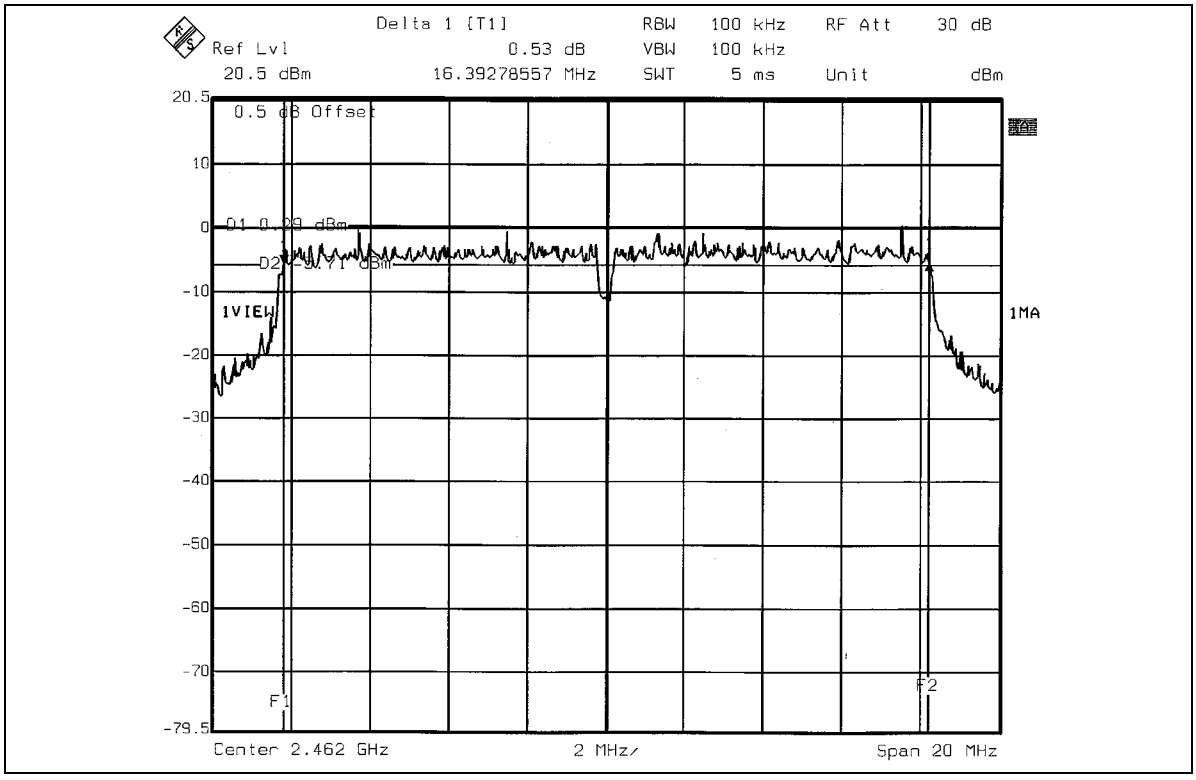
CH 1


Delta 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
0.41 dB
VBW 100 kHz
20.5 dBm
16.43286573 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 0.71 dBm
D2 -5.25 dBm
1VIEW
1MA
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz

CH 6


Delta 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
0.30 dB
VBW 100 kHz
20.5 dBm
16.43286573 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 4.72 dBm
1VIEW
1MA
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH 11

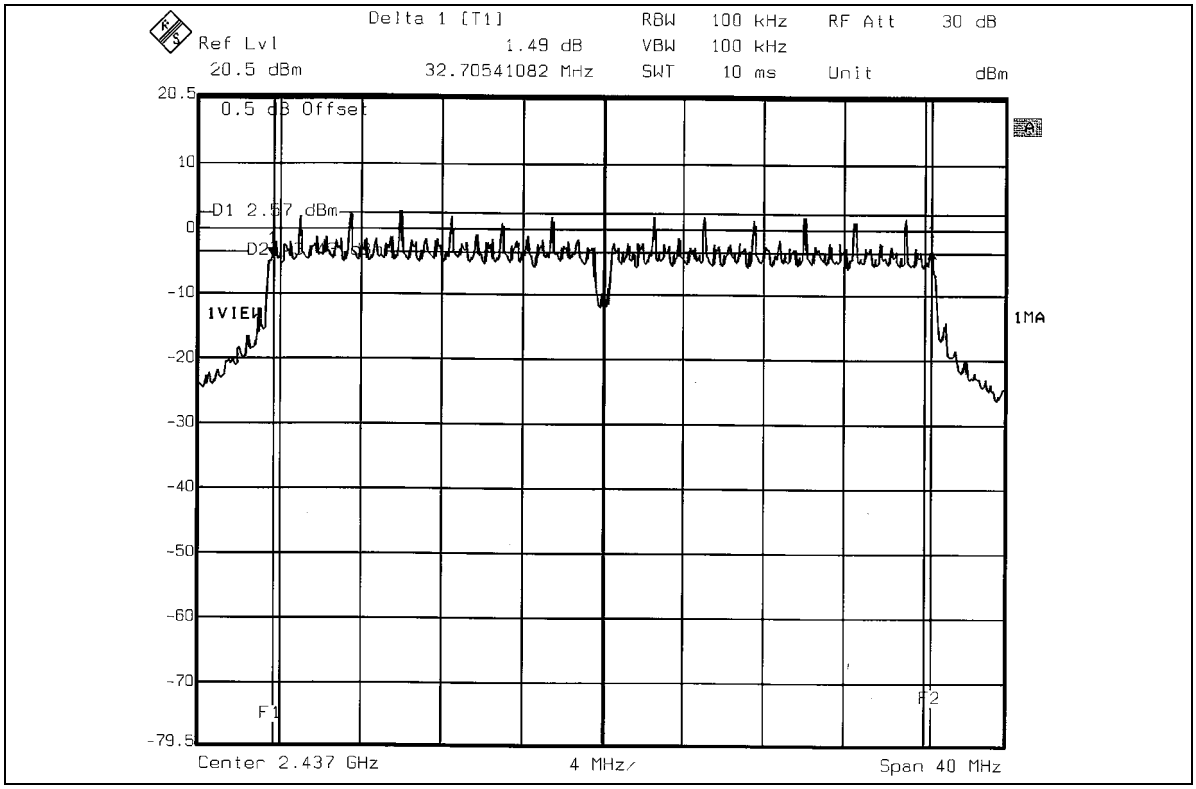

Delta 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
0.53 dB
VBW 100 kHz
20.5 dBm
16.39278557 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 0.29 dBm
D2 -9.71 dBm
1VIEW
1MA
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

802.11g Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
6	2437	32.71	0.5	PASS

CH 6


Delta 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
1.49 dB
VBW 100 kHz
20.5 dBm
32.70541082 MHz
SWT 10 ms
Unit dBm
0.5 dB Offset
D1 2.57 dBm
1VIEW
1MA
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz

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	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2005
TEKTRONIX OSCILLOSCOPE	TDS 1012	C019167	Feb. 01, 2006
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.

4.4.1 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.

4.4.2 DEVIATION FROM TEST STANDARD

No deviation

4.4.3 TEST SETUP

4.4.4 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.3 TEST RESULTS

802.11b DSSS modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	CCK	**TRANSFER RATE**	11Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	51.286	17.10	30	PASS
6	2437	100.000	20.00	30	PASS
11	2462	50.119	17.00	30	PASS

802.11g OFDM Normal modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	32.359	15.10	30	PASS
6	2437	63.096	18.00	30	PASS
11	2462	31.623	15.00	30	PASS

802.11g Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
6	2437	50.119	17.00	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	FSEK30	100049	Aug. 12, 2005

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

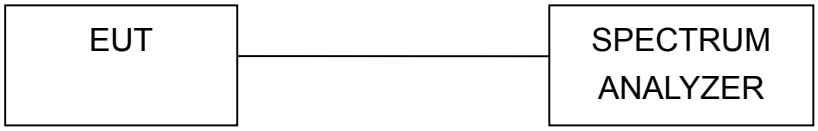
4.5.3 TEST PROCEDURE

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

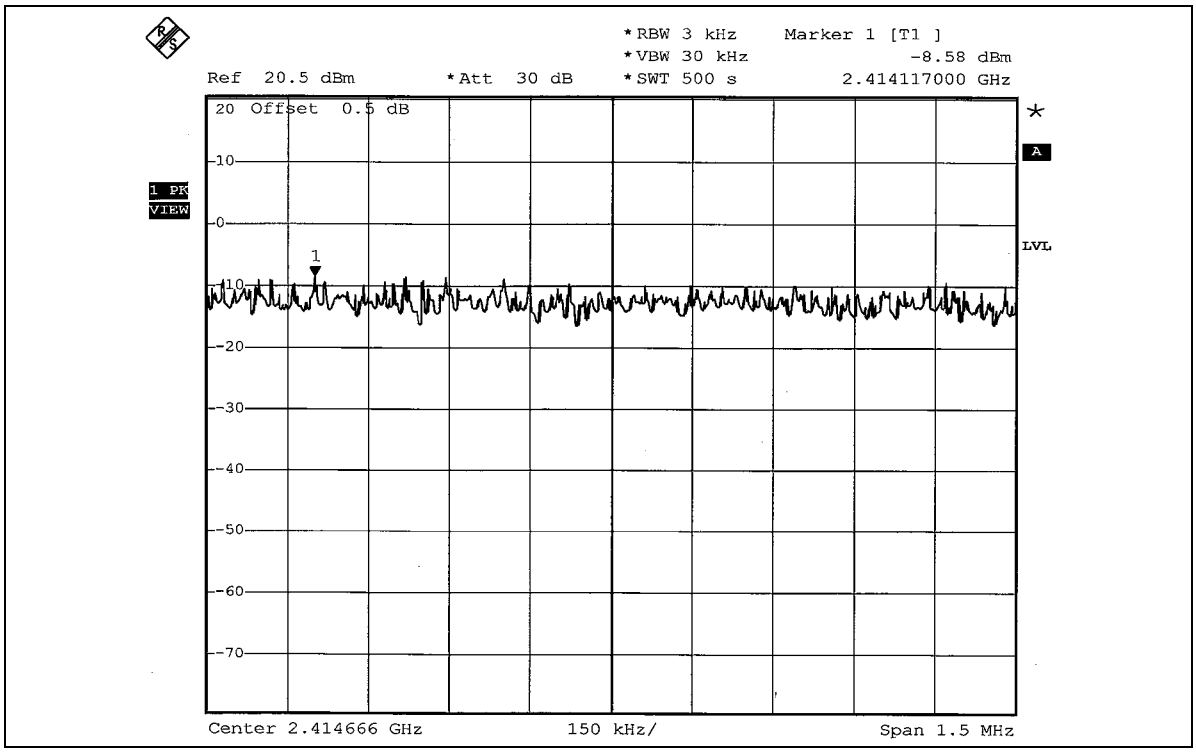
4.5.7 TEST RESULTS

802.11b DSSS modulation

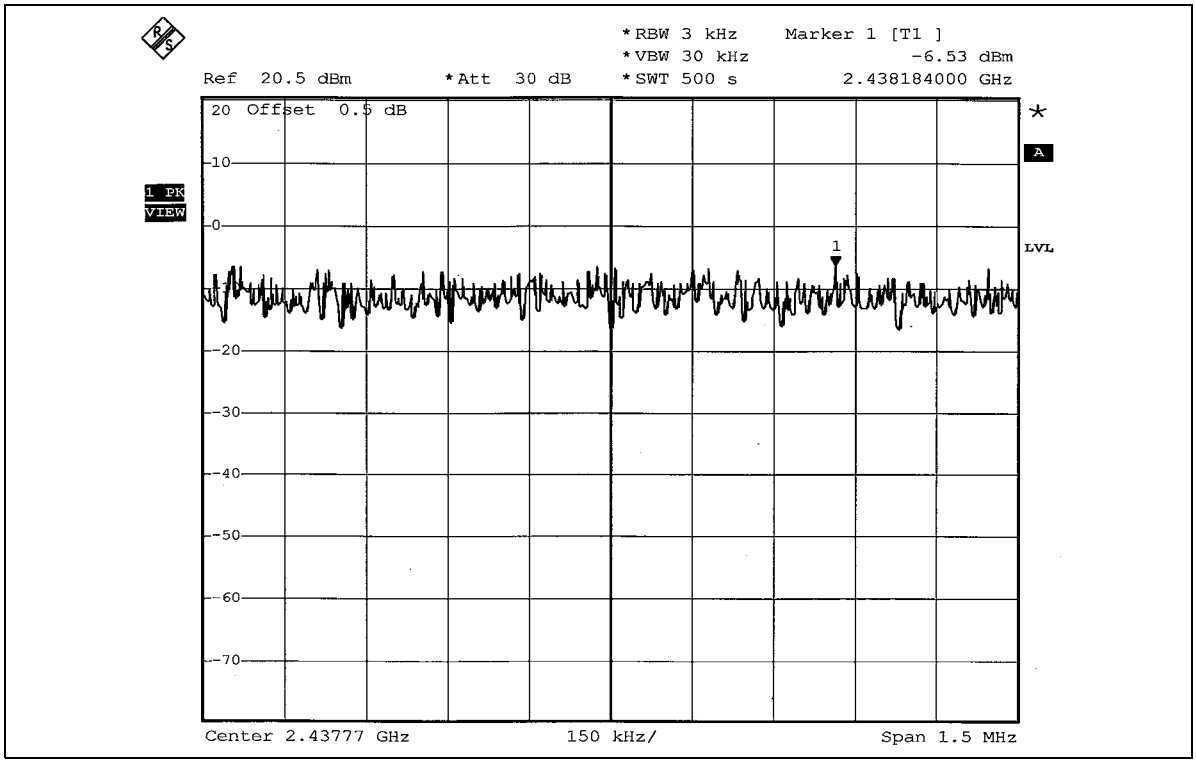
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	CCK	**TRANSFER RATE**	11Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-8.58	8	PASS
6	2437	-6.53	8	PASS
11	2462	-8.30	8	PASS

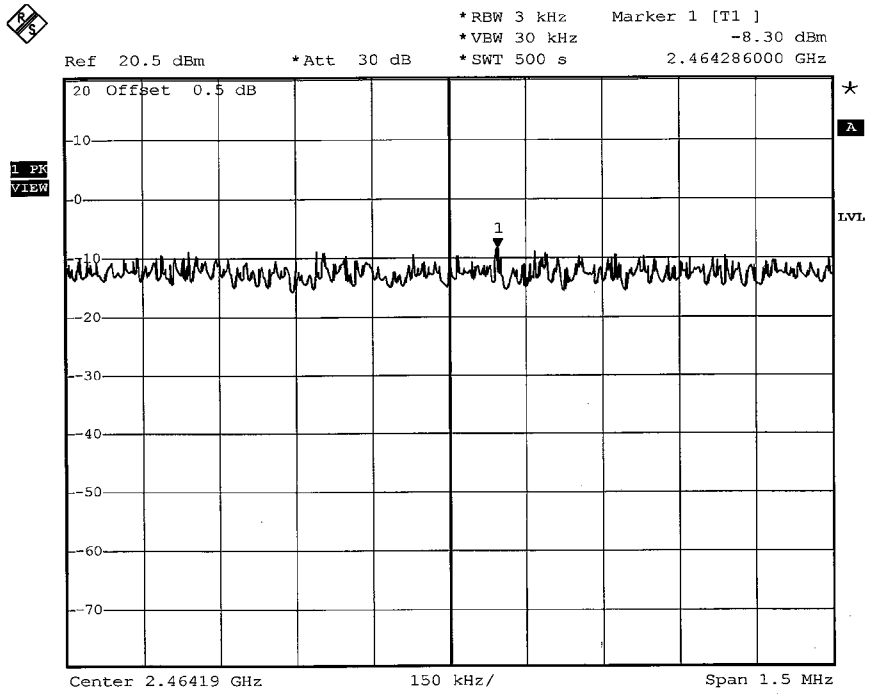
CH 1


*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
-8.58 dBm
Ref 20.5 dBm
*Att 30 dB
*SWT 500 s
2.414117000 GHz
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
Center 2.414666 GHz
150 kHz/
Span 1.5 MHz

CH 6


*RBW 3 kHz
Marker 1 [T1]
*VBW 30 kHz
-6.53 dBm
Ref 20.5 dBm
*Att 30 dB
*SWT 500 s
2.438184000 GHz
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
Center 2.43777 GHz
150 kHz/
Span 1.5 MHz

CH 11

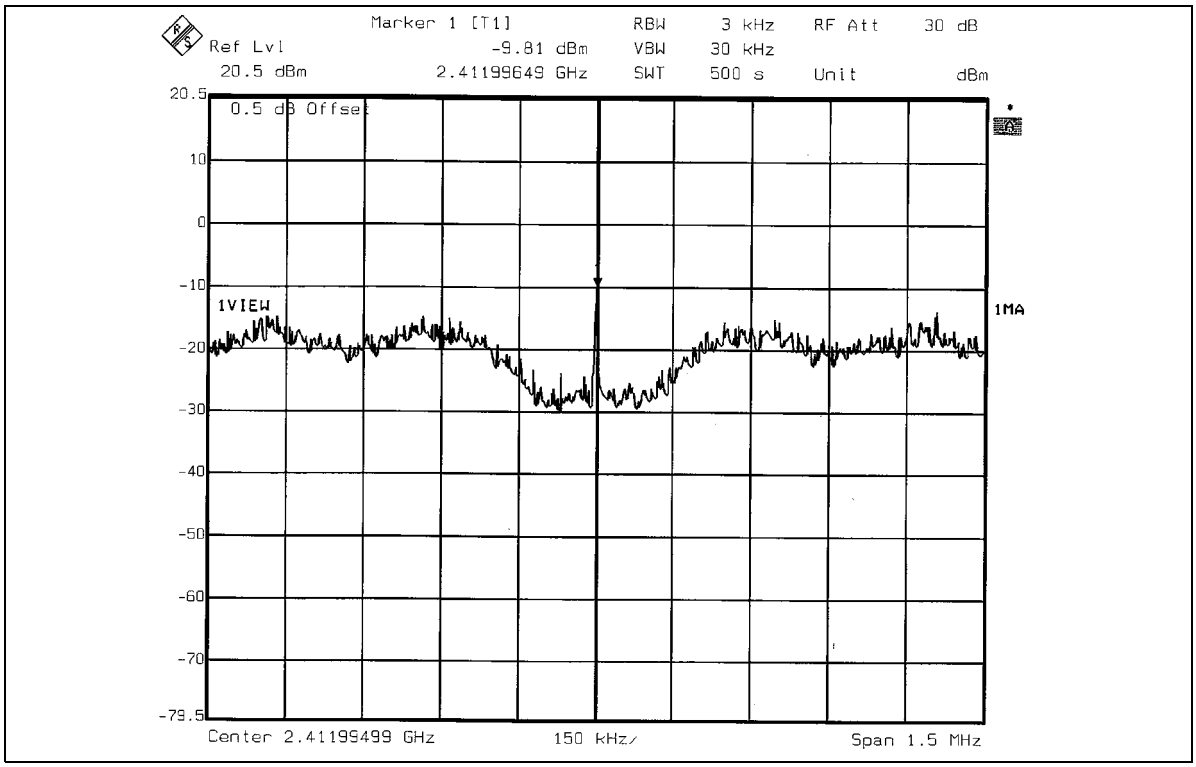

*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-8.30 dBm
2.464286000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.46419 GHz
150 kHz/
Span 1.5 MHz

802.11g OFDM Normal modulation

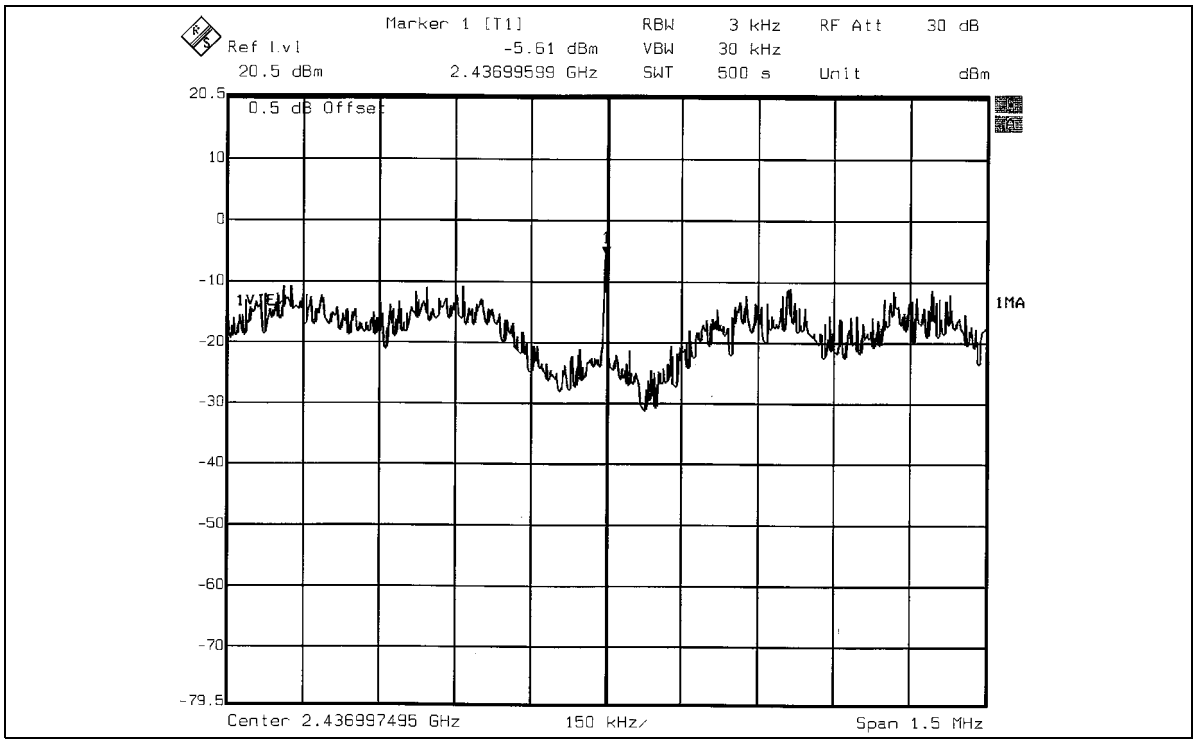
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-9.81	8	PASS
6	2437	-5.61	8	PASS
11	2462	-9.82	8	PASS

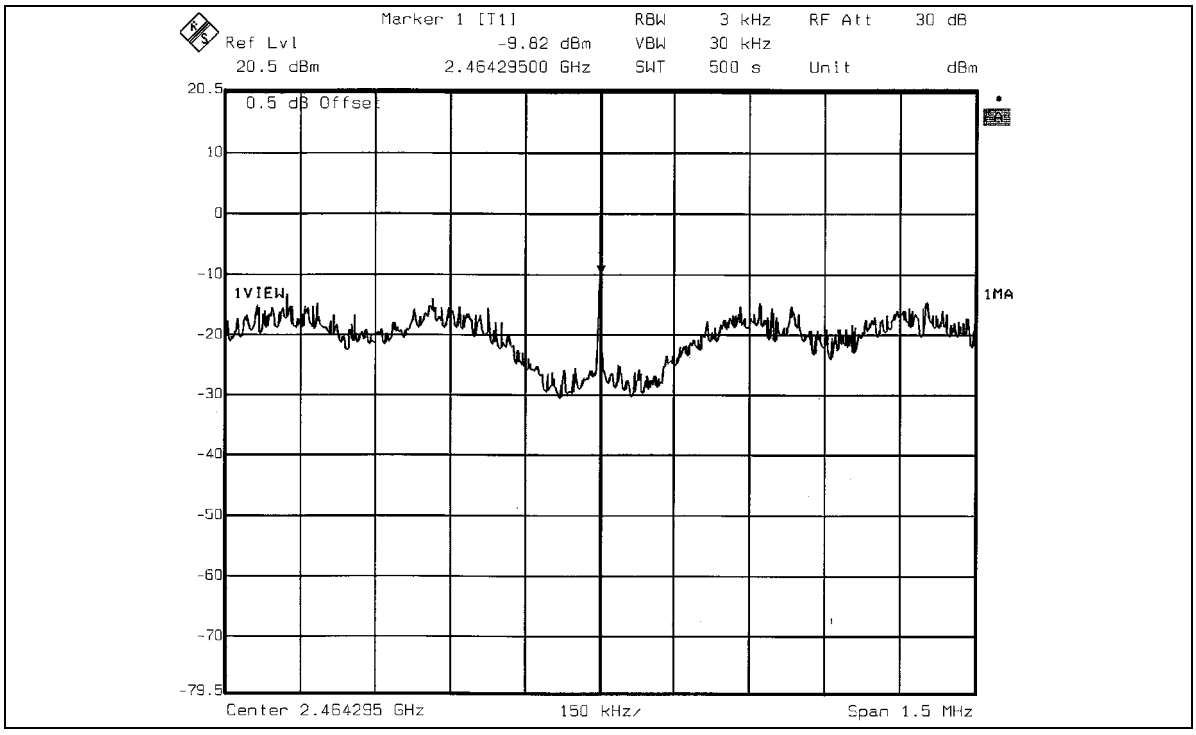
CH 1


Marker 1 [T1]
RBW 3 kHz
RF Att 30 dB
Ref Lvl
-9.81 dBm
VBW 30 kHz
20.5 dBm
2.41199649 GHz
SWT 500 s
Unit dBm
0.5 dB Offset
1VIEW
1MA
Center 2.41199499 GHz
150 kHz/
Span 1.5 MHz

CH 6


Marker 1 [T1]
RBW 3 kHz
RF Att 30 dB
Ref Lvl
-5.61 dBm
VBW 30 kHz
20.5 dBm
2.43699599 GHz
SWT 500 s
Unit dBm
0.5 dB Offset
1VIEW
1MA
Center 2.436997495 GHz
150 kHz/
Span 1.5 MHz

CH 11

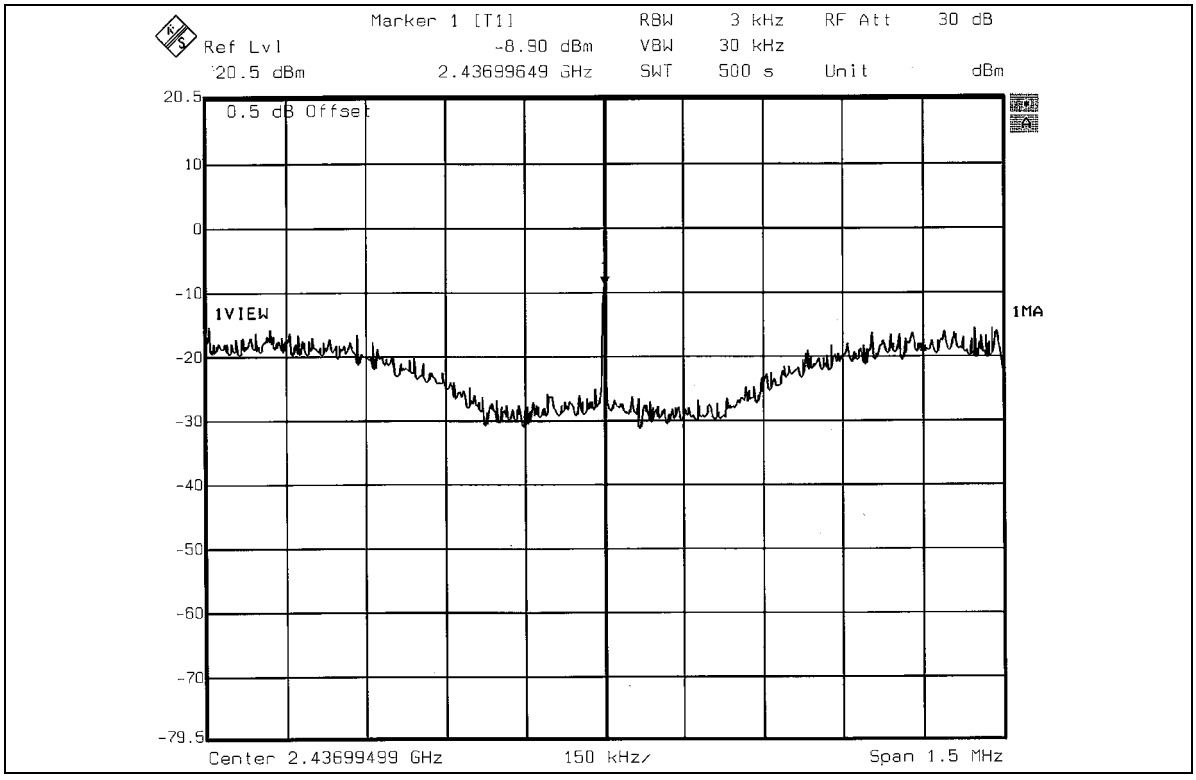

Marker 1 [T1]
RBW 3 kHz
RF Att 30 dB
Ref Lvl
-9.82 dBm
VBW 30 kHz
20.5 dBm
2.46429500 GHz
SWT 500 s
Unit dBm
20.5
0.5 dB Offset
10
0
-10
1VIEW
1MA
-20
-30
-40
-50
-60
-70
-79.5
Center 2.464295 GHz
150 kHz/
Span 1.5 MHz

802.11g Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
6	2437	-8.90	8	PASS

CH 6


Marker 1 [T1]
Ref Lvl
20.5 dBm
-8.90 dBm
2.43699649 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
0.5 dB Offset
1VIEW
1MA
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 2.43699499 GHz
150 kHz/
Span 1.5 MHz

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES 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	FSEK30	100049	Aug. 12, 2005

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

4.6.3 TEST PROCEDURE

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

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=10Hz) 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 18 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

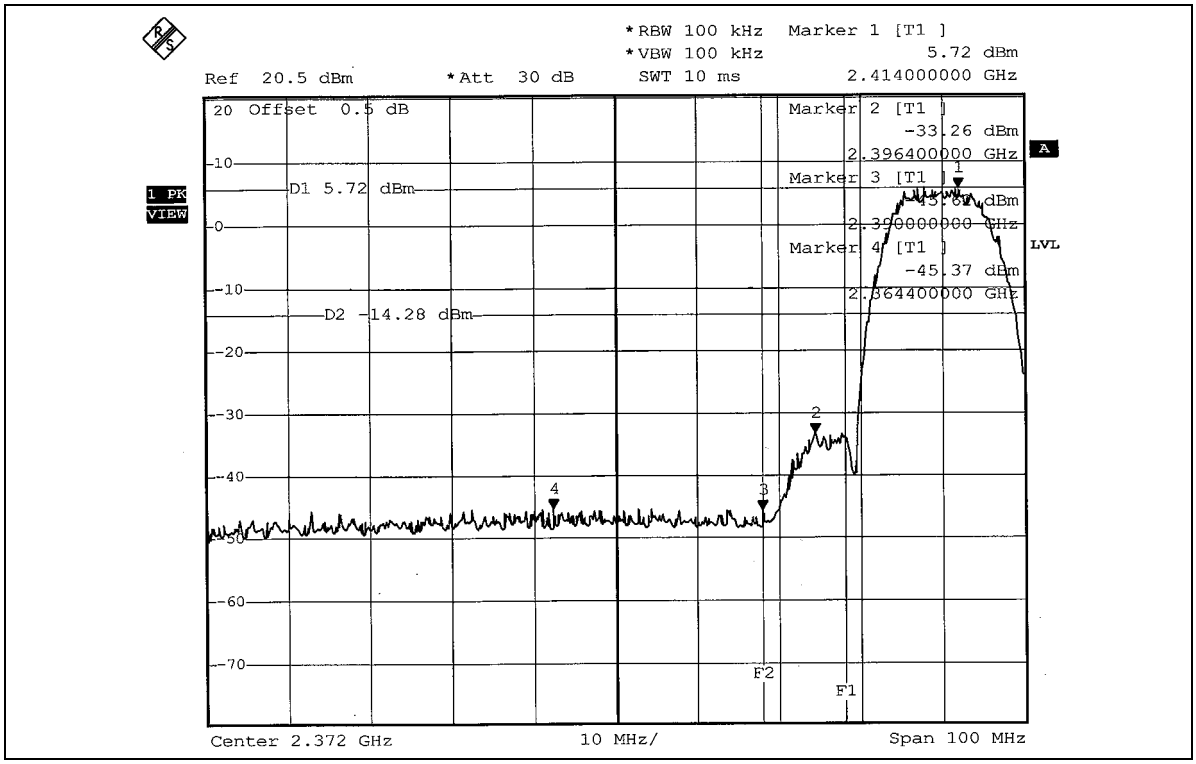
NOTE 1: The band edge emission plot on page 60 shows 51.09dBc between carrier maximum power and local maximum band (2.3898GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 111.15dBuV/m (Peak), so the maximum field strength in restrict band is 111.15-51.09=60.06dBuV/m which is under 74dBuV/m limit.

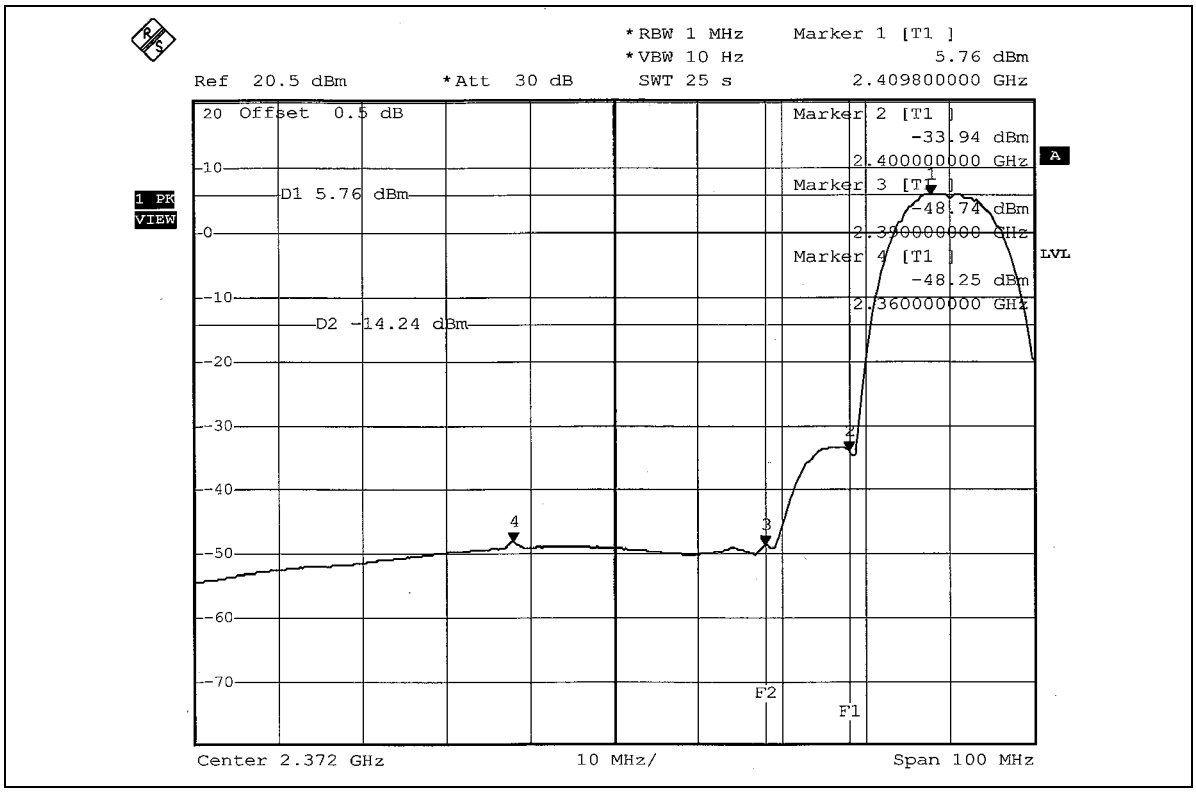
The band edge emission plot of on page 60 shows 54.01dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 102.72dBuV/m (Average), so the maximum field strength in restrict band is 102.72-54.01=48.71dBuV/m which is under 54dBuV/m limit.

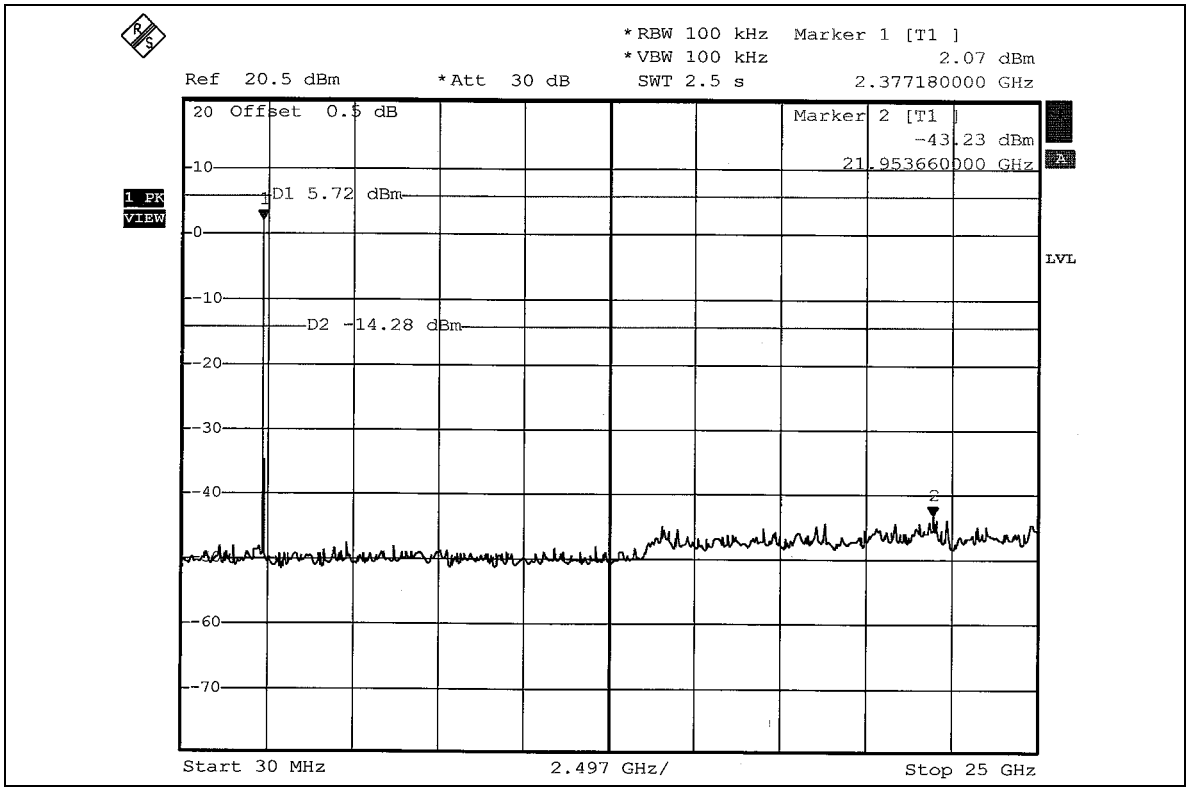
NOTE 2: The band edge emission plot on page 61 shows 49.54dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 111.70dBuV/m (Peak), so the maximum field strength in restrict band is 111.70-49.54=62.16dBuV/m which is under 74dBuV/m limit.

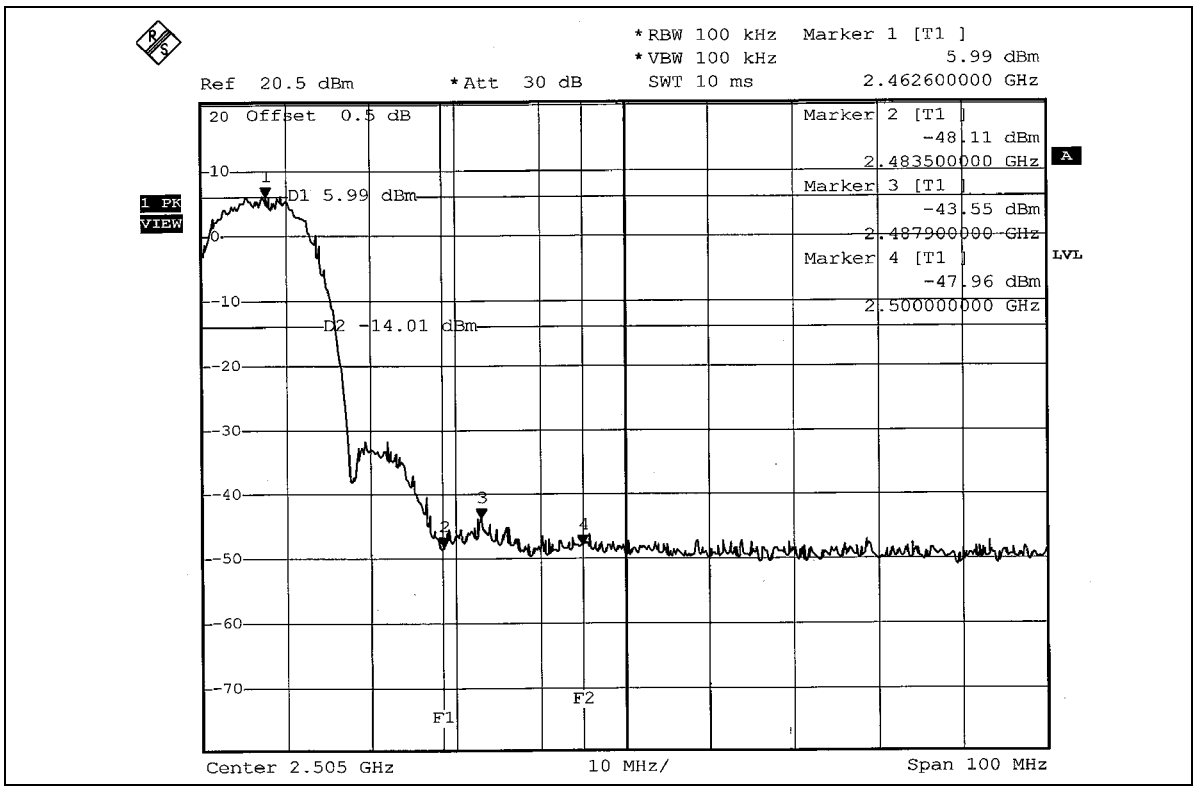
The band edge emission plot on page 62 shows 52.67dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 103.31dBuV/m (Average), so the maximum field strength in restrict band is 103.31-52.67=46.86dBuV/m which is under 54dBuV/m limit.

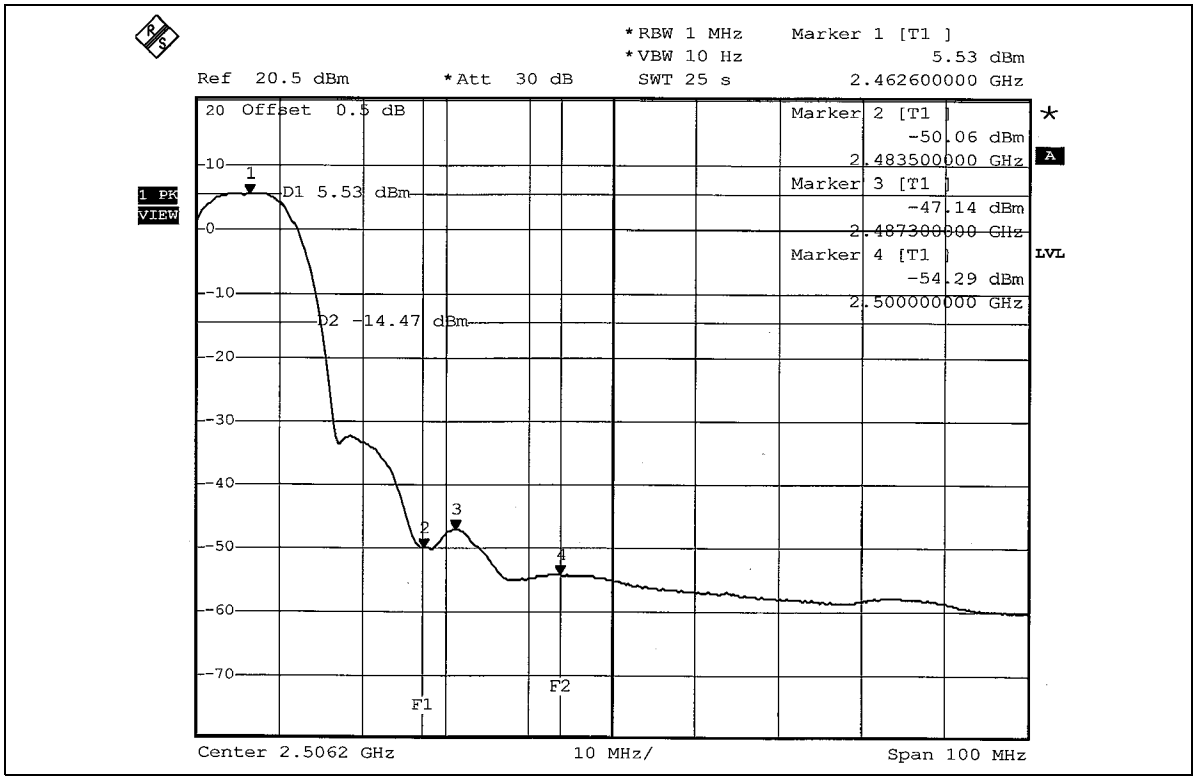
802.11b DSSS modulation

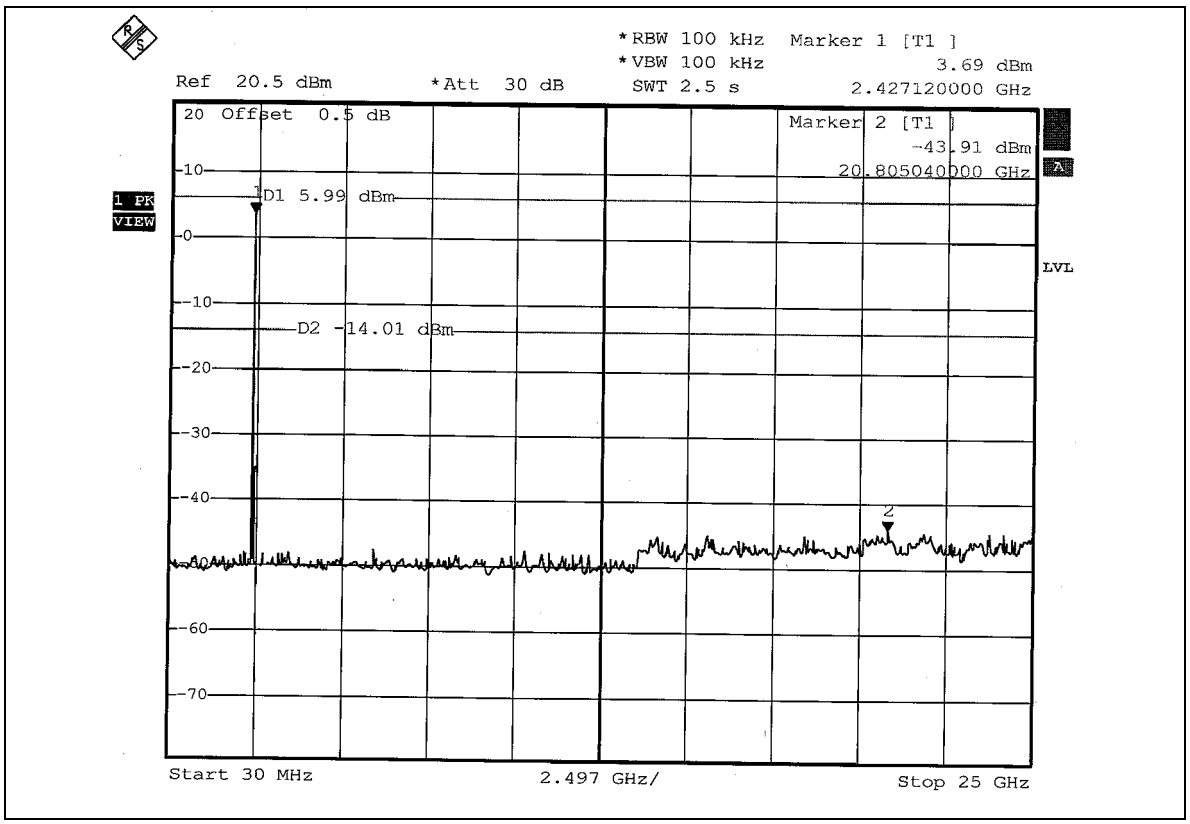





*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
2.07 dBm
2.377180000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-43.23 dBm
21.953660000 GHz
1 PK
VIEW
D1 5.72 dBm
D2 -14.28 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
5.99 dBm
2.462600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-48.11 dBm
2.483500000 GHz
Marker 3 [T1]
-43.55 dBm
2.487900000 GHz
Marker 4 [T1]
-47.96 dBm
2.500000000 GHz
1 PK
VIEW
D1 5.99 dBm
D2 -14.01 dBm
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1]
5.53 dBm
2.462600000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-50.06 dBm
2.483500000 GHz
Marker 3 [T1]
-47.14 dBm
2.487300000 GHz
Marker 4 [T1]
-54.29 dBm
2.500000000 GHz
1 PK
VIEW
D1 5.53 dBm
D2 -14.47 dBm
LVL
F1
F2
Center 2.5062 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
3.69 dBm
2.427120000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-43.91 dBm
20.805040000 GHz
1 PK
VIEW
D1 5.99 dBm
D2 -14.01 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g OFDM Normal modulation

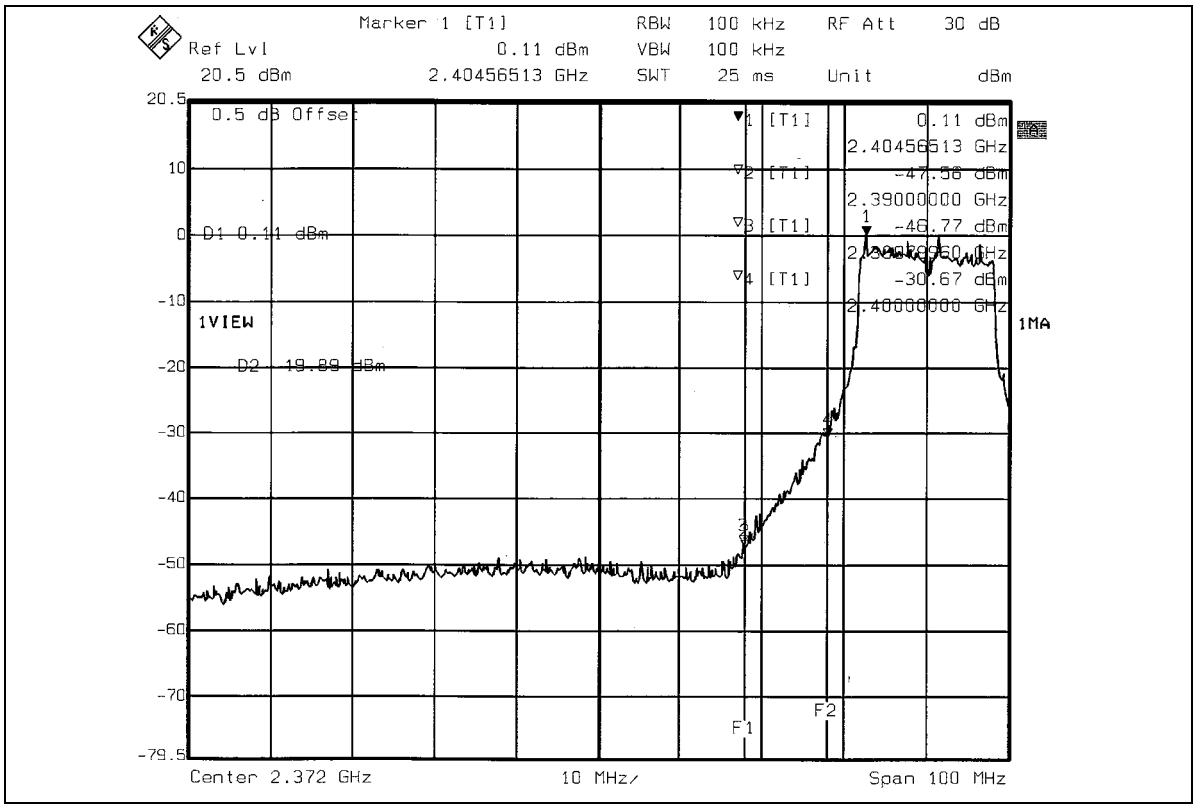
NOTE 1: The band edge emission plot on page 64 shows 46.88dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 108.16dBuV/m (Peak), so the maximum field strength in restrict band is 108.16-46.88=61.28dBuV/m which is under 74dBuV/m limit.

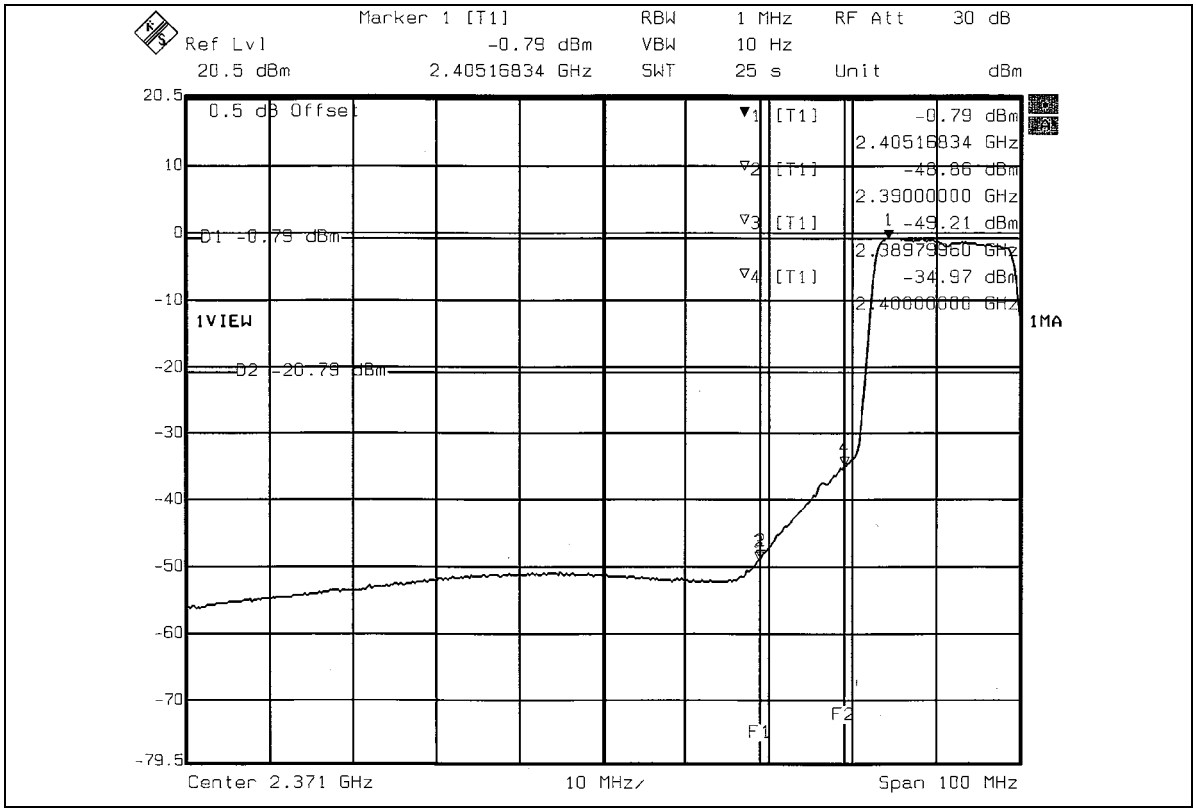
The band edge emission plot of on page 64 shows 48.07dBc between carrier maximum power and local maximum emission in restrict band (2.3600GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 97.28dBuV/m (Average), so the maximum field strength in restrict band is 97.28-48.07=49.21dBuV/m which is under 54dBuV/m limit.

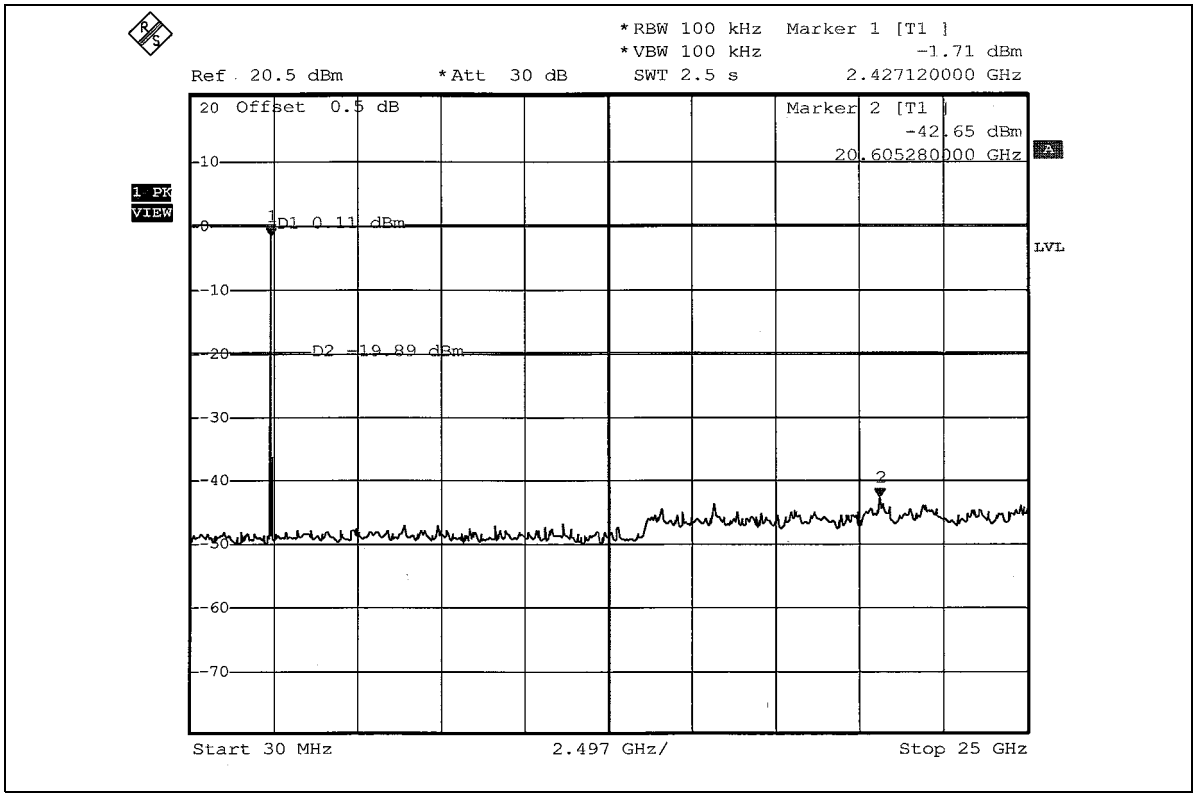
NOTE 2: The band edge emission plot on page 65 shows 43.85dBc between carrier maximum power and local maximum emission in restrict band (2.4879GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 108.68dBuV/m (Peak), so the maximum field strength in restrict band is 108.68-43.85=64.83dBuV/m which is under 74dBuV/m limit.

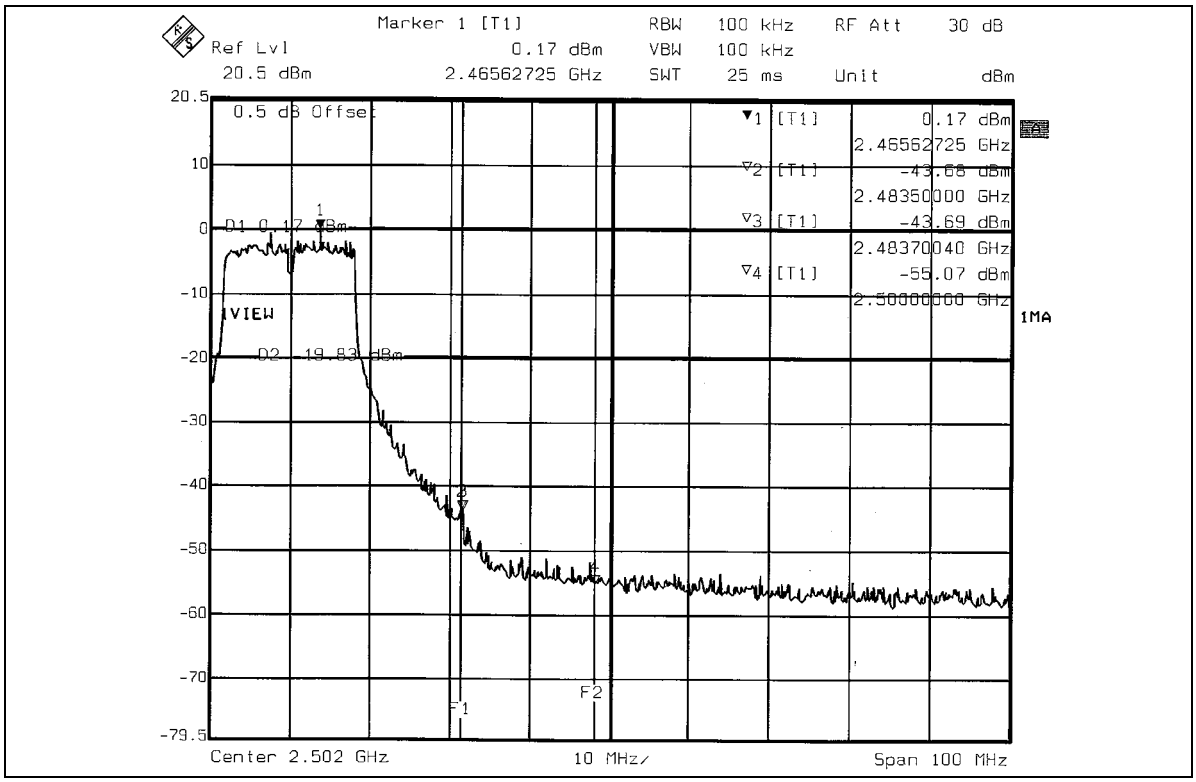
The band edge emission plot on page 66 shows 46.86dBc between carrier maximum power and local maximum emission in restrict band (2.4873GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 97.88dBuV/m (Average), so the maximum field strength in restrict band is 97.88-46.86=51.02dBuV/m which is under 54dBuV/m limit.

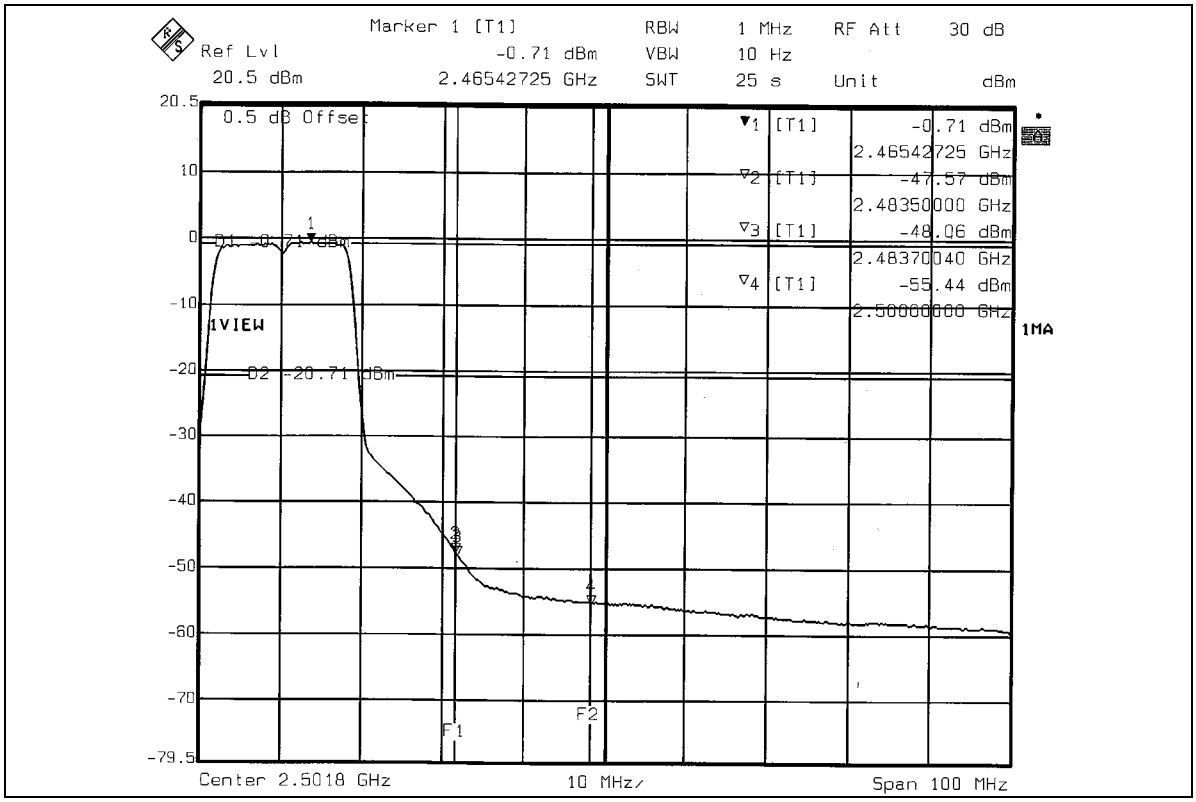
802.11g OFDM Normal modulation

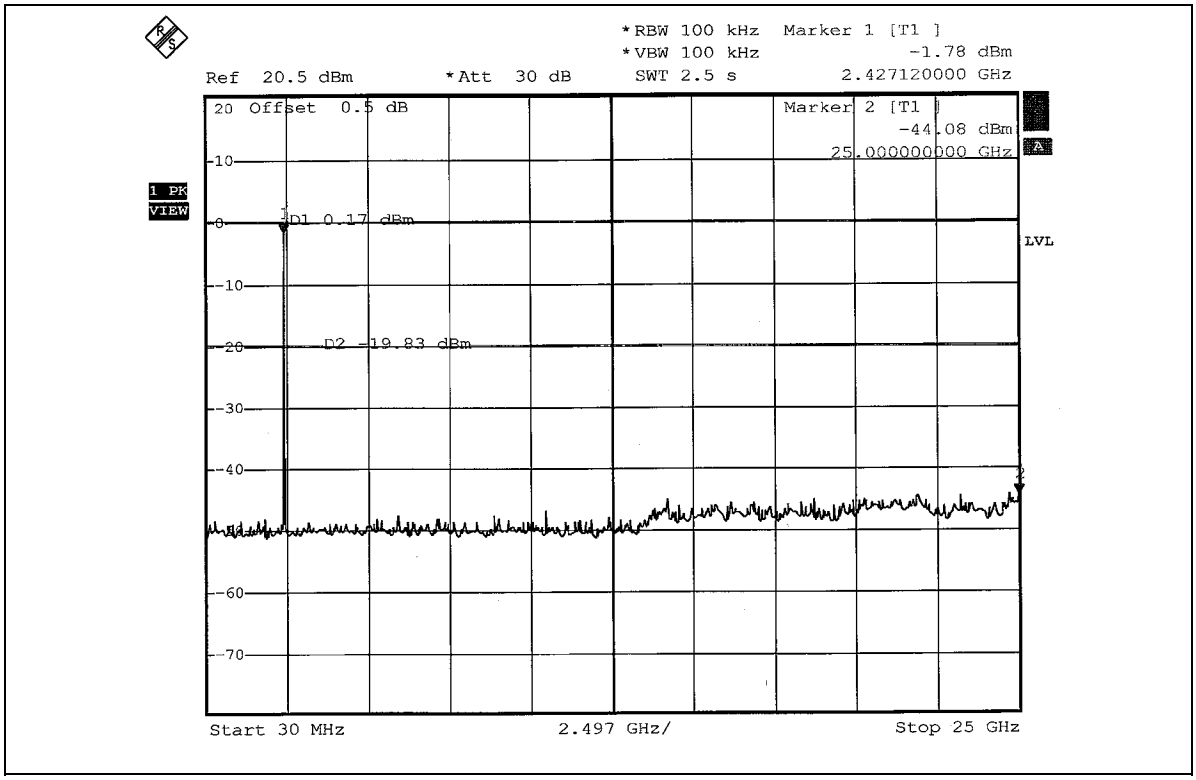





*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 2.5 s
Marker 1 [T1]
-1.71 dBm
2.427120000 GHz
20 Offset 0.5 dB
Marker 2 [T1]
-42.65 dBm
20.605280000 GHz
1 PK
VIEW
D1 0.11 dBm
D2 -19.89 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz


Marker 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
0.17 dBm
VBW 100 kHz
20.5 dBm
2.46562725 GHz
SWT 25 ms
Unit dBm
0.5 dB Offset
▼1 [T1] 0.17 dBm
2.46562725 GHz
▽2 [T1] -43.68 dBm
2.48350000 GHz
▽3 [T1] -43.69 dBm
2.48370040 GHz
▽4 [T1] -55.07 dBm
2.50000000 GHz
D1 0.17 dBm
VIEW
D2 -19.83 dBm
IMA
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


Marker 1 [T1]
Ref Lvl
20.5 dBm
-0.71 dBm
2.46542725 GHz
RBW 1 MHz
VBW 10 Hz
SWT 25 s
RF Att 30 dB
Unit dBm
0.5 dB Offset
▼1 [T1] -0.71 dBm
2.46542725 GHz
▽2 [T1] -47.57 dBm
2.48350000 GHz
▽3 [T1] -48.06 dBm
2.48370040 GHz
▽4 [T1] -55.44 dBm
2.50000000 GHz
1VIEW
1MA
D1 -0.71 dBm
D2 -20.71 dBm
F1
F2
Center 2.5018 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
-1.78 dBm
2.427120000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-44.08 dBm
25.000000000 GHz
1 PK
VIEW
D1 0.17 dBm
D2 -19.83 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz

802.11g Turbo OFDM modulation

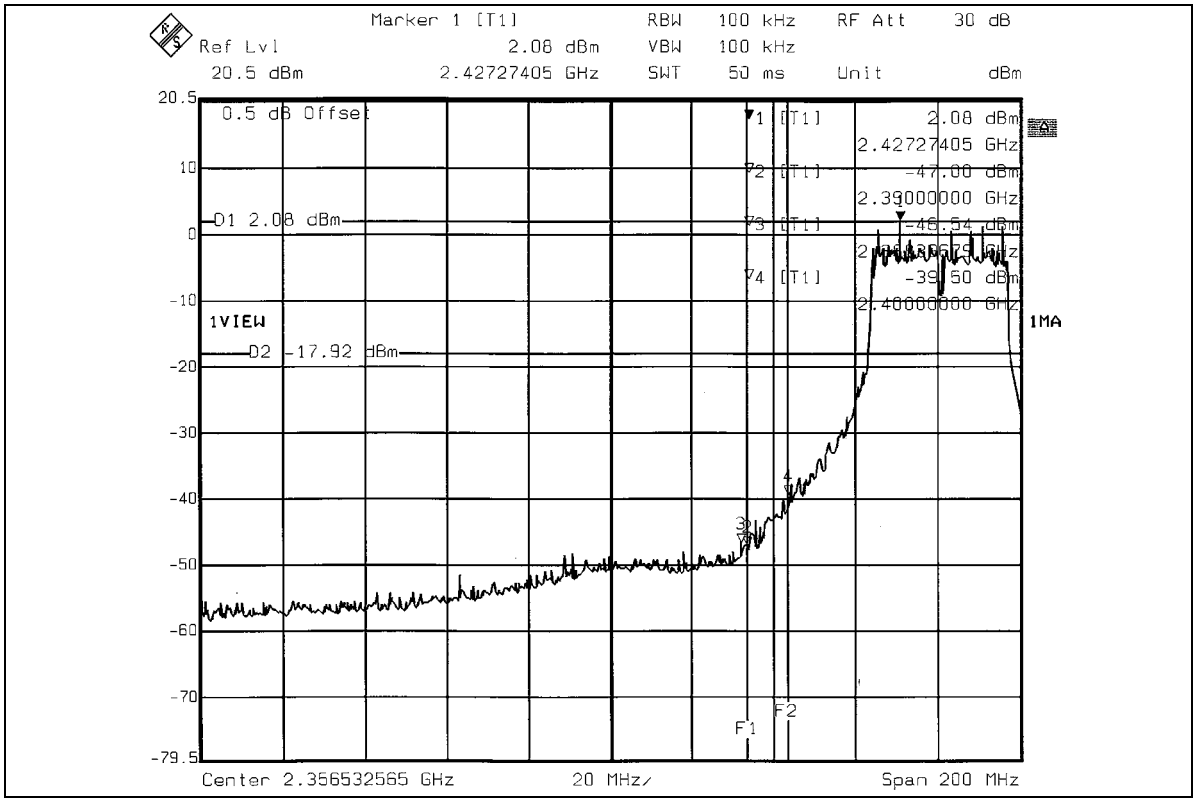
NOTE 1: The band edge emission plot on page 68 shows 48.62dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.7 is 107.97dBuV/m (Peak), so the maximum field strength in restrict band is 107.97-48.62=59.35dBuV/m which is under 74dBuV/m limit.

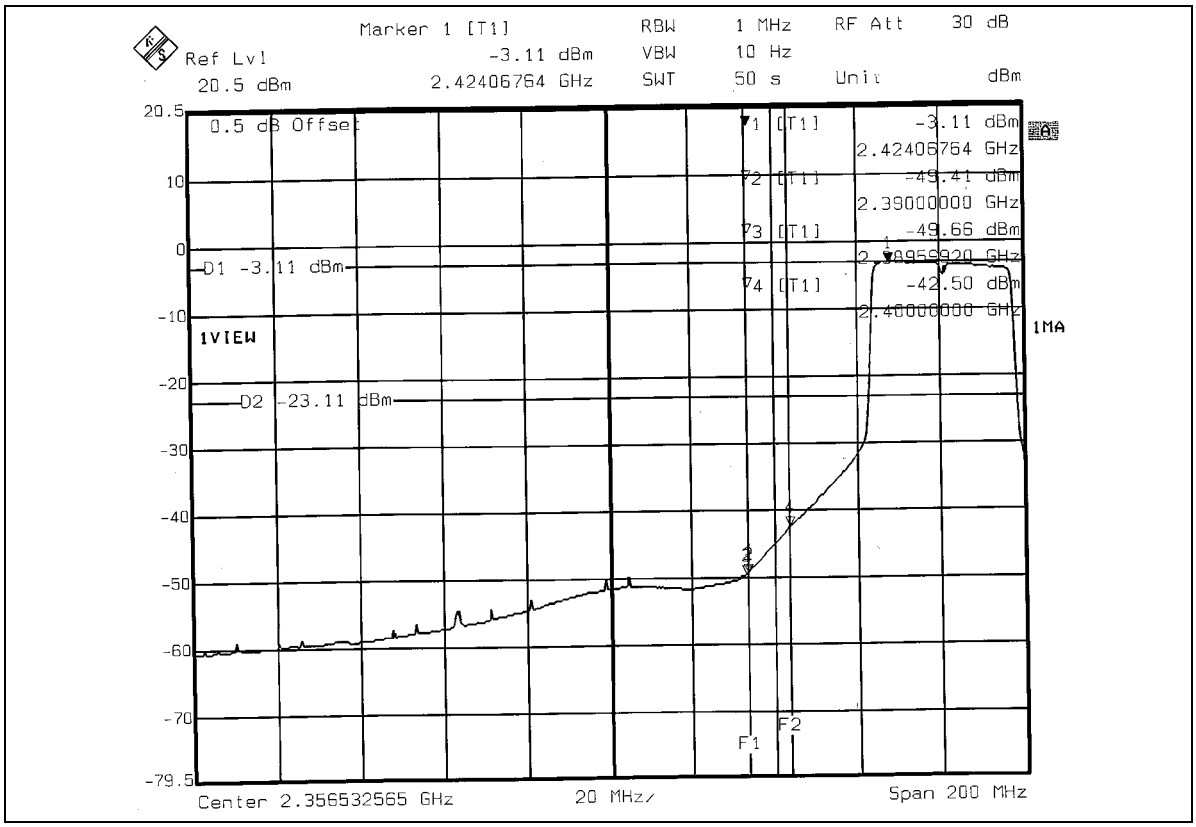
The band edge emission plot of on page 68 shows 46.30dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.7 is 98.99dBuV/m (Average), so the maximum field strength in restrict band is 98.99-46.30=52.69dBuV/m which is under 54dBuV/m limit.

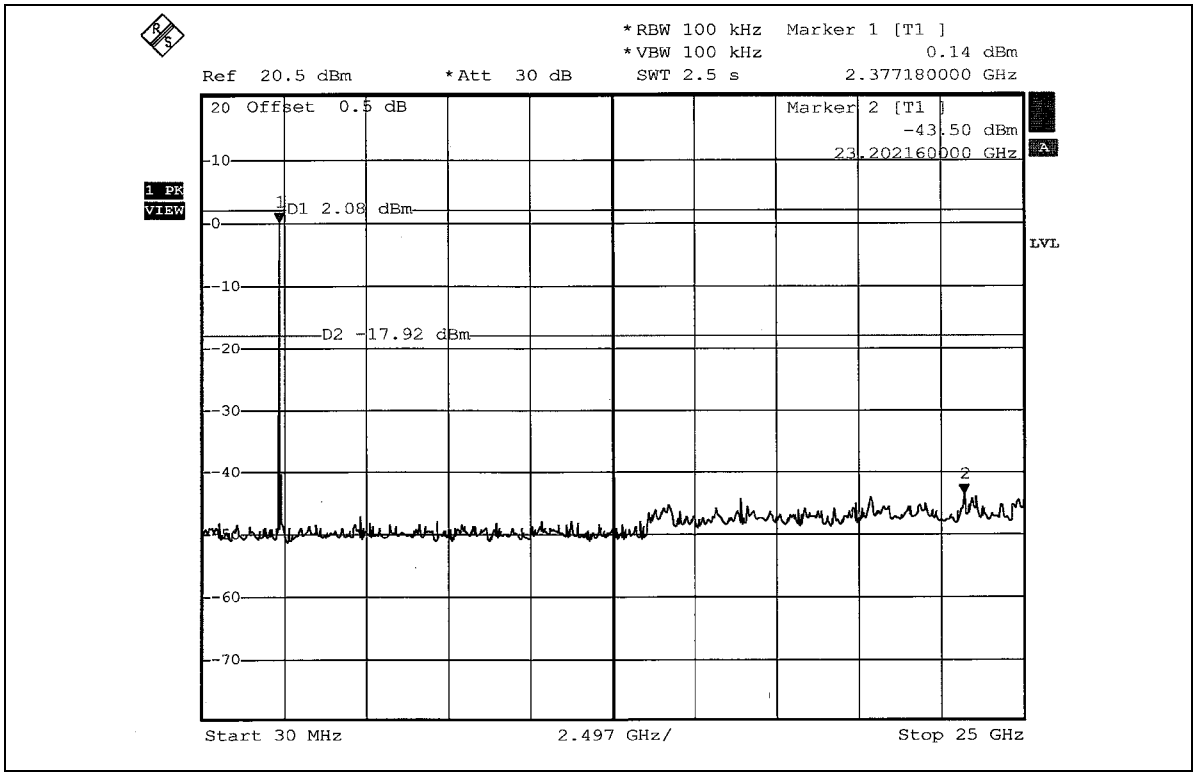
NOTE 2: The band edge emission plot on page 69 shows 51.48dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.7 is 107.97dBuV/m (Peak), so the maximum field strength in restrict band is 107.97-51.48=56.49dBuV/m which is under 74dBuV/m limit.

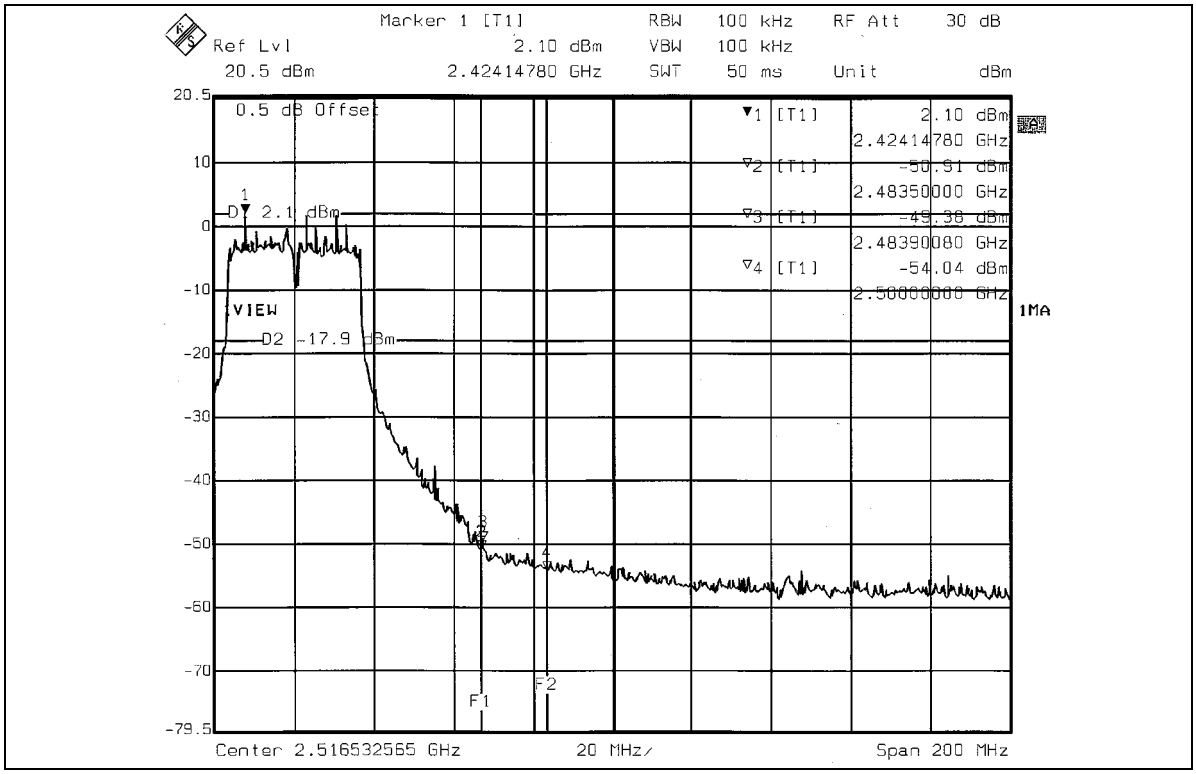
The band edge emission plot on page 70 shows 49.35dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.7 is 98.99dBuV/m (Average), so the maximum field strength in restrict band is 98.99-49.35=49.64dBuV/m which is under 54dBuV/m limit.

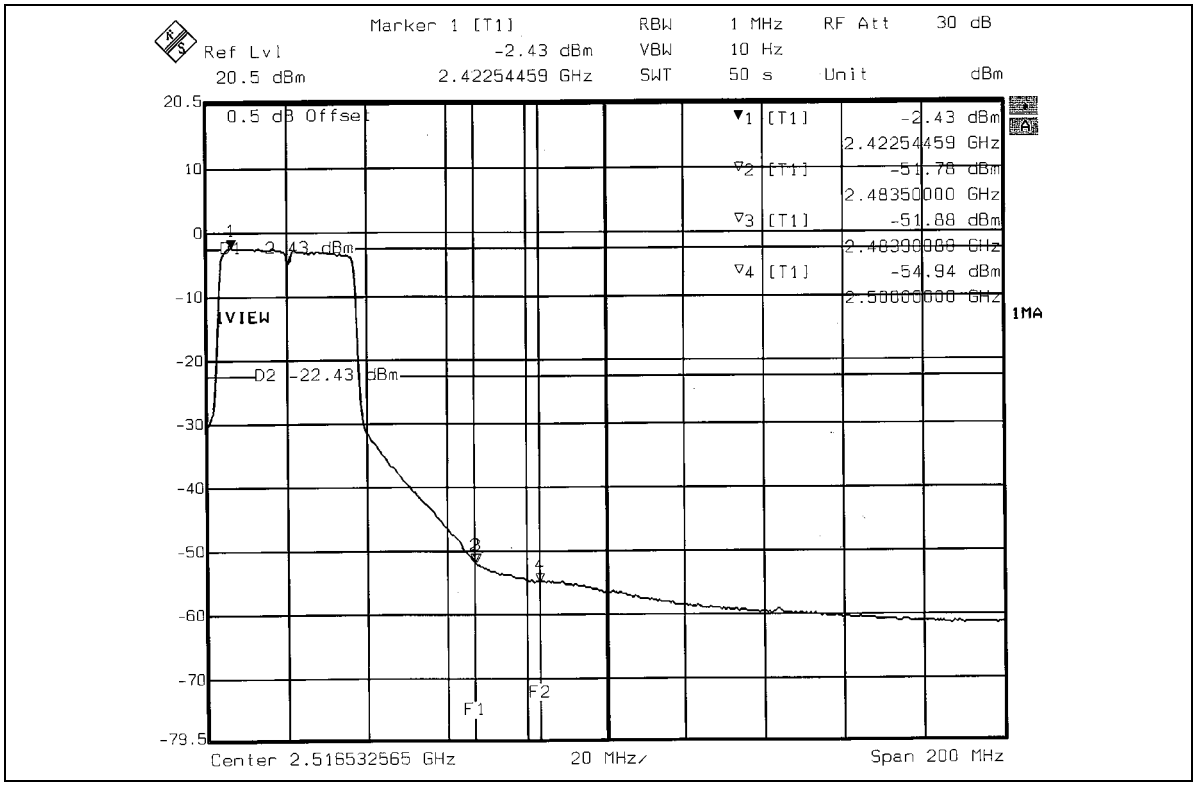
802.11g Turbo OFDM modulation

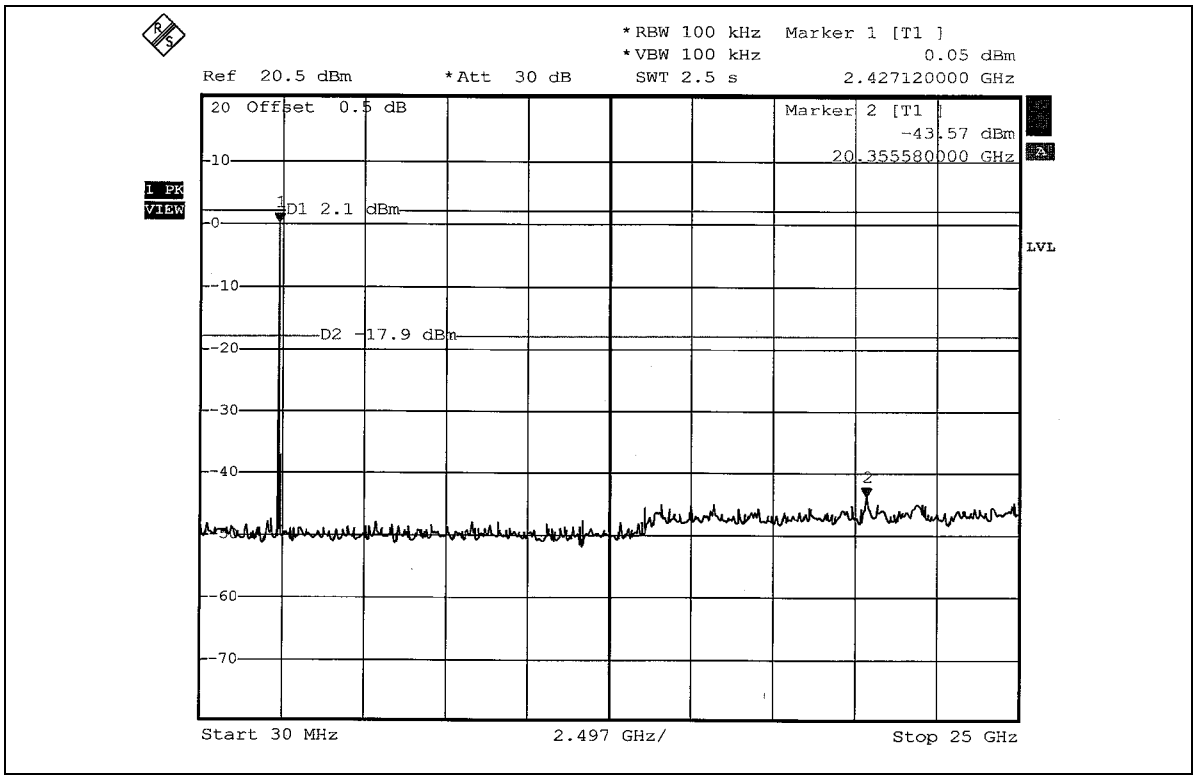





*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
0.14 dBm
2.377180000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-43.50 dBm
23.202160000 GHz
1 PK
VIEW
D1 2.08 dBm
D2 -17.92 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz


Marker 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
2.10 dBm
VBW 100 kHz
20.5 dBm
2.42414780 GHz
SWT 50 ms
Unit dBm
0.5 dB Offset
1 [T1] 2.10 dBm
2.42414780 GHz
2 [T1] -50.31 dBm
2.48350000 GHz
3 [T1] -49.36 dBm
2.48390080 GHz
4 [T1] -54.04 dBm
2.50000000 GHz
D1 2.1 dBm
VIEW
D2 -17.9 dBm
1MA
F1
F2
Center 2.516532565 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
Ref Lvl
20.5 dBm
-2.43 dBm
2.42254459 GHz
RBW 1 MHz
VBW 10 Hz
SWT 50 s
RF Att 30 dB
Unit dBm
0.5 dB Offset
T1 -2.43 dBm
D2 -22.43 dBm
1VIEW
1MA
F1
F2
Center 2.516532565 GHz
20 MHz/
Span 200 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 2.5 s
Marker 1 [T1]
0.05 dBm
2.427120000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-43.57 dBm
20.355580000 GHz
1 PK
VIEW
D1 2.1 dBm
D2 -17.9 dBm
LVL
Start 30 MHz
2.497 GHz/
Stop 25 GHz

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 antenna with R-SMA antenna connector. The maximum Gain of the antenna is 2dBi.

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

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 06, 2005
RF signal cable Woken	5D-FB	Cable-HyC02-01	Jan. 09, 2006
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 20, 2006
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jan. 20, 2006
Software ADT	ADT_Cond_V3	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 HwaYa Shielded Room 3.

3. The VCCI Site Registration No. is C-2047.

5.1.3 TEST PROCEDURES

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

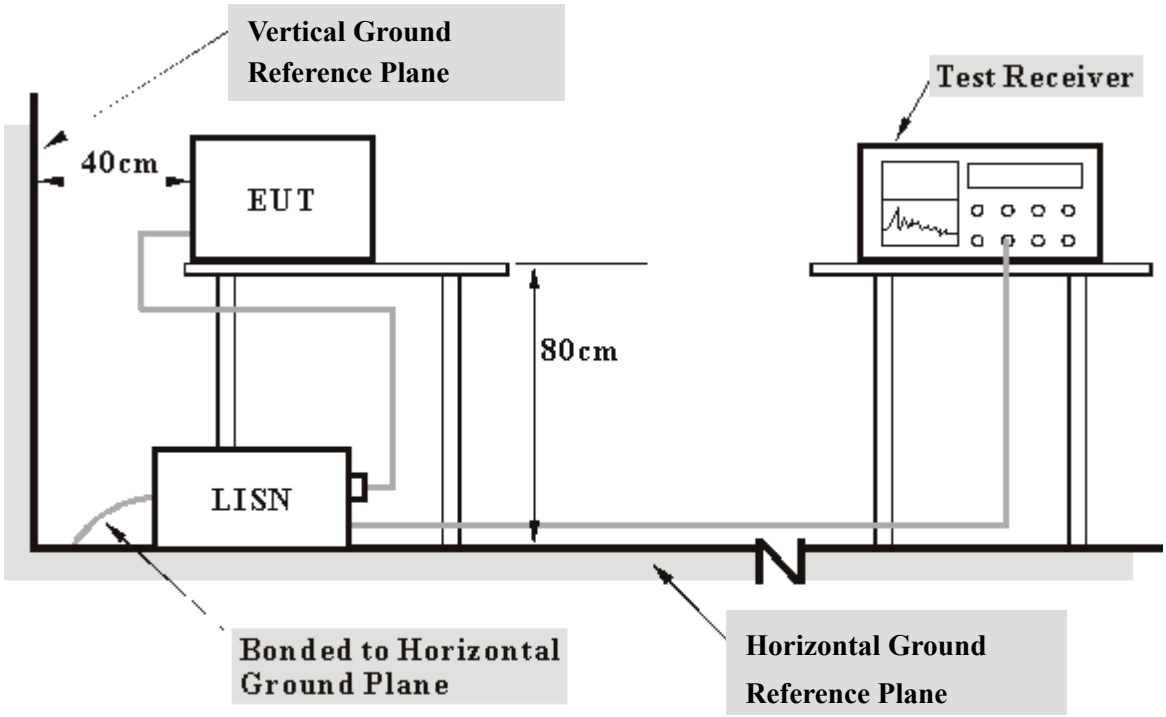
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

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

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6

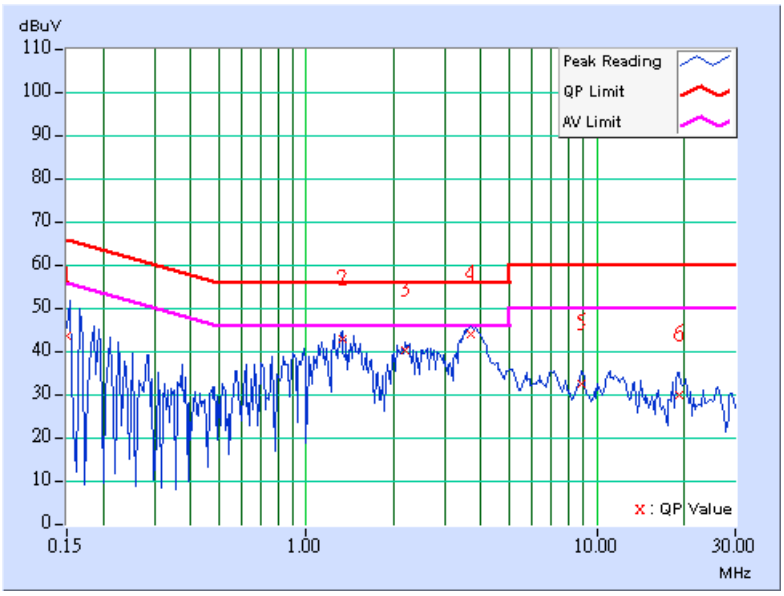
5.1.7 TEST RESULTS

Conducted Worst-Case Data

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**PHASE**	Line 1
CHANNEL	Channel 3	**6dB BANDWIDTH**	9 kHz
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.150	0.10	42.89	-	42.99	-	65.99	55.99	-23.00	-
2	1.328	0.20	42.25	-	42.45	-	56.00	46.00	-13.55	-
3	2.195	0.20	39.53	-	39.73	-	56.00	46.00	-16.27	-
4	3.691	0.20	43.38	-	43.58	-	56.00	46.00	-12.42	-
5	8.844	0.28	31.96	-	32.24	-	60.00	50.00	-27.76	-
6	19.191	0.74	29.38	-	30.12	-	60.00	50.00	-29.88	-

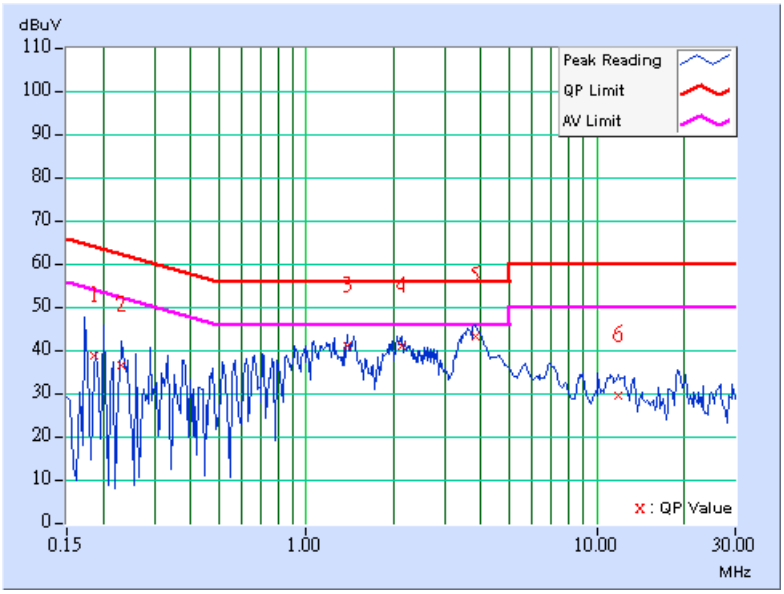
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	PHASE	Line 2
CHANNEL	Channel 3	6dB BANDWIDTH	9 kHz
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Gary Chang		

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	0.185	0.10	38.60	-	38.70	-	64.26	54.26	-25.56	-
2	0.232	0.10	36.07	-	36.17	-	62.38	52.38	-26.21	-
3	1.387	0.20	40.85	-	41.05	-	56.00	46.00	-14.95	-
4	2.137	0.20	40.63	-	40.83	-	56.00	46.00	-15.17	-
5	3.820	0.20	42.85	-	43.05	-	56.00	46.00	-12.95	-
6	11.836	0.44	29.27	-	29.71	-	60.00	50.00	-30.29	-

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



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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

5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Jan. 07, 2006
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Nov. 29, 2005
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 22, 2006
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Jan. 05, 2006
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170242	Jan. 23, 2006
Preamplifier Agilent	8447D	2944A10631	Nov. 17, 2005
Preamplifier Agilent	8449B	3008A01960	Nov. 14, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219272/4	Jan. 26, 2006
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219275/4	Jan. 26, 2006
Software ADT.	ADT_Radiated_V5.14	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

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 3.

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

4. The IC Site Registration No. is IC4924-4.

5.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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 lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

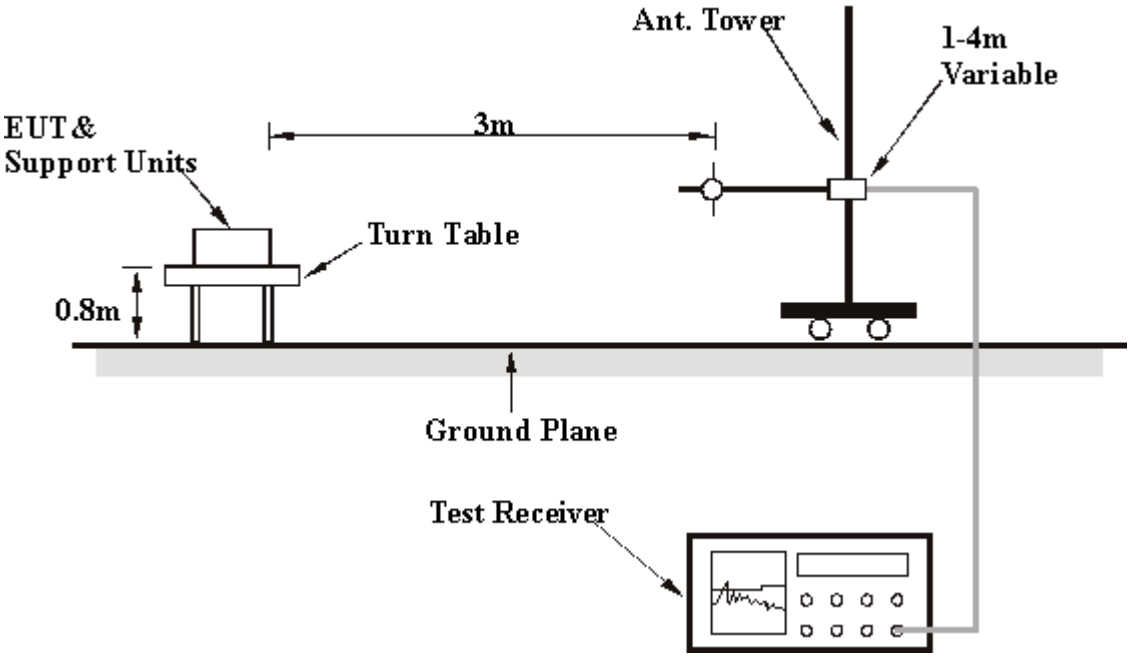
NOTE:

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

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



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

5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

5.2.7 TEST RESULTS

Below 1GHz Worst-Case Data

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	Below 1000MHz
CHANNEL	Channel 3	**DETECTOR FUNCTION**	Quasi-Peak
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25deg. C, 65%RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Brad Wu		

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	38.93	37.30 QP	40.00	-2.70	1.00 H	220	22.16	15.14
2	109.70	40.55 QP	43.50	-2.95	1.00 H	76	28.69	11.86
3	142.75	39.95 QP	43.50	-3.55	1.25 H	229	25.44	14.51
4	199.12	34.74 QP	43.50	-8.76	1.00 H	301	23.40	11.34
5	249.66	39.49 QP	46.00	-6.51	1.00 H	70	26.38	13.11
6	300.20	37.23 QP	46.00	-8.77	1.50 H	358	22.81	14.41
7	500.42	41.60 QP	46.00	-4.40	1.00 H	163	23.02	18.58
8	550.96	38.13 QP	46.00	-7.87	1.00 H	100	18.64	19.49
9	881.42	37.29 QP	46.00	-8.71	2.00 H	187	12.82	24.48

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	35.83	37.52 QP	40.00	-2.48	1.00 V	109	22.85	14.67
2	109.70	40.58 QP	43.50	-2.92	1.00 V	79	28.72	11.86
3	142.75	39.48 QP	43.50	-4.02	1.00 V	346	24.97	14.51
4	199.12	34.36 QP	43.50	-9.14	1.50 V	52	23.02	11.34
5	249.66	39.00 QP	46.00	-7.00	1.00 V	73	25.90	13.11
6	300.20	37.00 QP	46.00	-9.00	1.00 V	355	22.59	14.41
7	500.42	41.54 QP	46.00	-4.46	1.25 V	154	22.96	18.58
8	550.96	38.14 QP	46.00	-7.86	1.00 V	97	18.65	19.49
9	881.42	37.19 QP	46.00	-8.81	1.50 V	211	12.72	24.48

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

802.11a OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	1 ~ 40 GHz
CHANNEL	Channel 1	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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)
1	*5745.00	105.84 PK			1.53 H	107	64.94	40.90
1	*5745.00	95.93 AV			1.53 H	107	55.03	40.90
2	#11490.00	61.01 PK	74.00	-12.99	1.51 H	215	13.63	47.38
2	#11490.00	48.65 AV	54.00	-5.35	1.51 H	215	1.27	47.38

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)
1	*5745.00	113.73 PK			1.20 V	360	72.83	40.90
1	*5745.00	103.38 AV			1.20 V	360	62.48	40.90
2	#11490.00	66.36 PK	74.00	-7.64	1.22 V	214	18.98	47.38
2	**#11490.00**	**52.75 AV**	**54.00**	**-1.25**	**1.22 V**	**214**	**5.37**	**47.38**

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
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 falling in the restricted band.
7. The limit value is defined as per 15.247.

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 40 GHz
CHANNEL	Channel 3	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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)
1	*5785.00	103.39 PK			1.13 H	97	62.34	41.05
1	*5785.00	93.20 AV			1.13 H	97	52.15	41.05
2	#11570.00	59.52 PK	74.00	-14.48	1.16 H	360	12.05	47.47
2	#11570.00	47.28 AV	54.00	-6.72	1.16 H	360	-0.19	47.47

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)
1	*5785.00	113.55 PK			1.22 V	342	72.50	41.05
1	*5785.00	103.47 AV			1.22 V	342	62.42	41.05
2	#11570.00	66.13 PK	74.00	-7.87	1.27 V	213	18.66	47.47
2	#11570.00	52.28 AV	54.00	-1.72	1.27 V	213	4.81	47.47

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
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 falling in the restricted band.
7. The limit value is defined as per 15.247.

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 40 GHz
CHANNEL	Channel 5	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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)
1	*5825.00	104.33 PK			1.42 H	113	63.38	40.95
1	*5825.00	94.95 AV			1.42 H	113	54.00	40.95
2	#11650.00	60.60 PK	74.00	-13.40	1.20 H	29	12.88	47.72
2	#11650.00	47.11 AV	54.00	-6.89	1.20 H	29	-0.61	47.72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	*5825.00	113.02 PK			1.10 V	344	72.07	40.95
1	*5825.00	102.82 AV			1.10 V	344	61.87	40.95
2	#11650.00	64.20 PK	74.00	-9.80	1.10 V	309	16.48	47.72
2	#11650.00	51.72 AV	54.00	-2.28	1.10 V	309	4.00	47.72

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
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 falling in the restricted band.
7. The limit value is defined as per 15.247.

802.11a Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**FREQUENCY RANGE**	1 ~ 40 GHz
CHANNEL	Channel 1	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	12Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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)
1	*5760.00	104.24 PK			1.33 H	116	63.28	40.96
1	*5760.00	93.82 AV			1.33 H	116	52.86	40.96
2	#11520.00	59.10 PK	74.00	-14.90	1.43 H	32	11.68	47.41
2	#11520.00	46.72 AV	54.00	-7.28	1.43 H	32	-0.70	47.41

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)
1	*5760.00	111.57 PK			1.16 V	3	70.78	40.79
1	*5760.00	103.36 AV			1.16 V	3	62.57	40.79
2	#11520.00	65.97 PK	74.00	-8.03	1.48 V	223	18.55	47.41
2	#11520.00	51.71 AV	54.00	-2.29	1.48 V	223	4.29	47.41

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
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 falling in the restricted band.
7. The limit value is defined as per 15.247.

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 40 GHz
CHANNEL	Channel 2	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991hPa
TRANSFER RATE	12Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Morgan Chen		

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)
1	*5800.00	104.08 PK			1.29 H	116	62.97	41.11
1	*5800.00	94.34 AV			1.29 H	116	53.23	41.11
2	#11600.00	57.61 PK	74.00	-16.39	1.32 H	298	10.11	47.50
2	#11600.00	46.75 AV	54.00	-7.25	1.32 H	298	-0.75	47.50

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)
1	*5800.00	112.21 PK			1.15 V	360	71.10	41.11
1	*5800.00	102.68 AV			1.15 V	360	61.57	41.11
2	#11600.00	64.19 PK	74.00	-9.81	1.22 V	214	16.69	47.50
2	#11600.00	51.72 AV	54.00	-2.28	1.22 V	214	4.22	47.50

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
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 falling in the restricted band.
7. The limit value is defined as per 15.247.

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

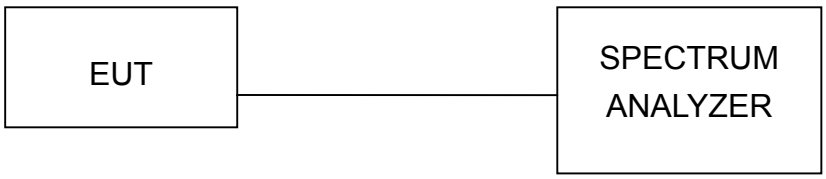
5.3.3 TEST PROCEDURE

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

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

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

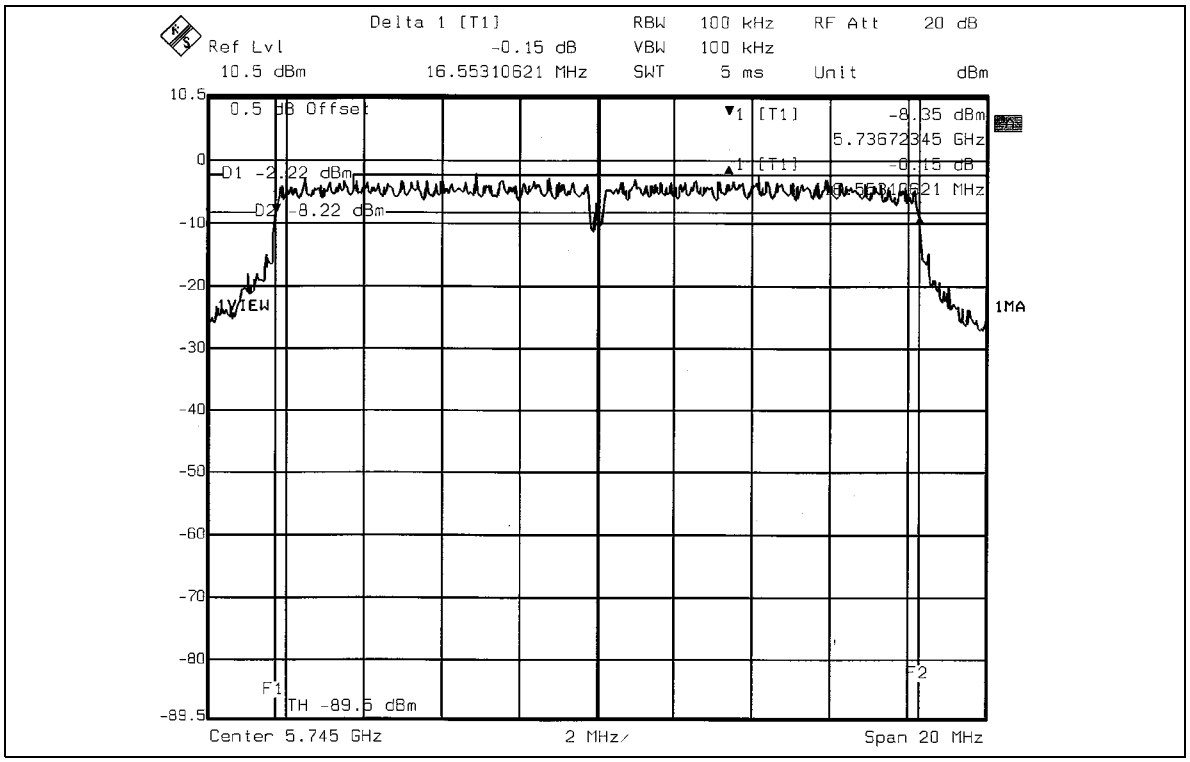
5.3.7 TEST RESULTS

802.11a OFDM modulation

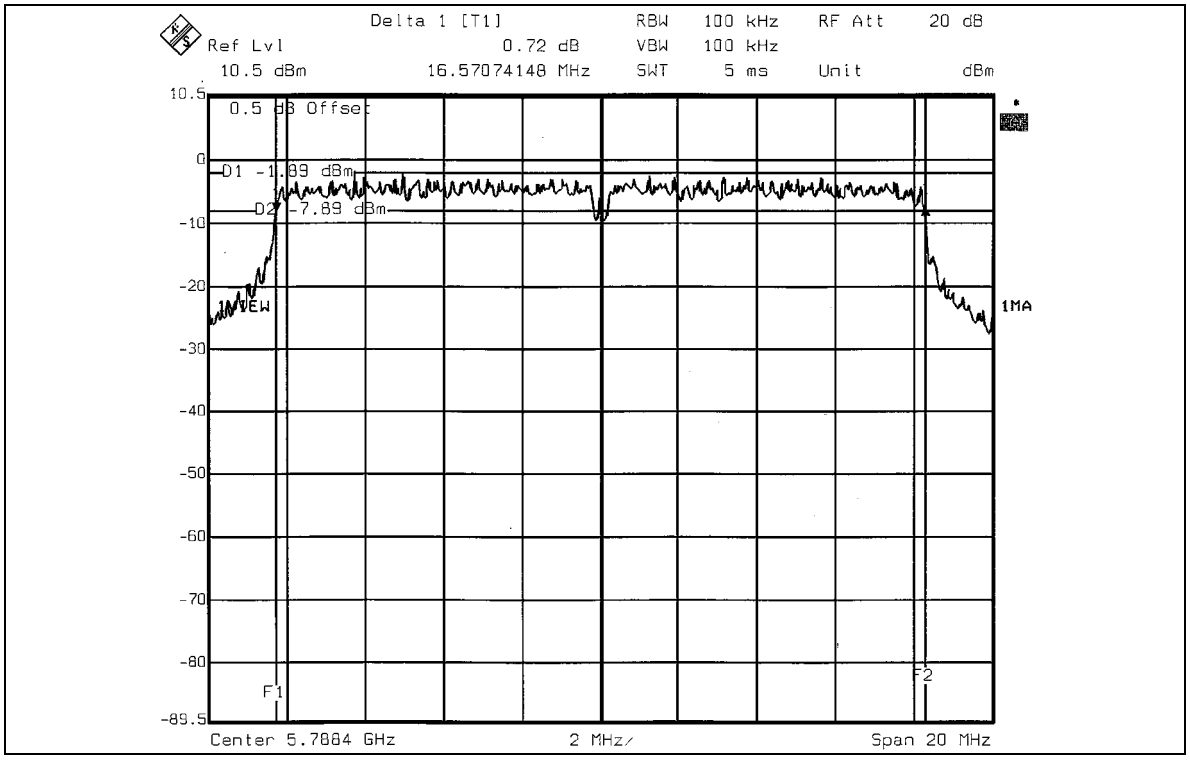
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	5745	16.55	0.5	PASS
3	5785	16.57	0.5	PASS
5	5825	16.51	0.5	PASS

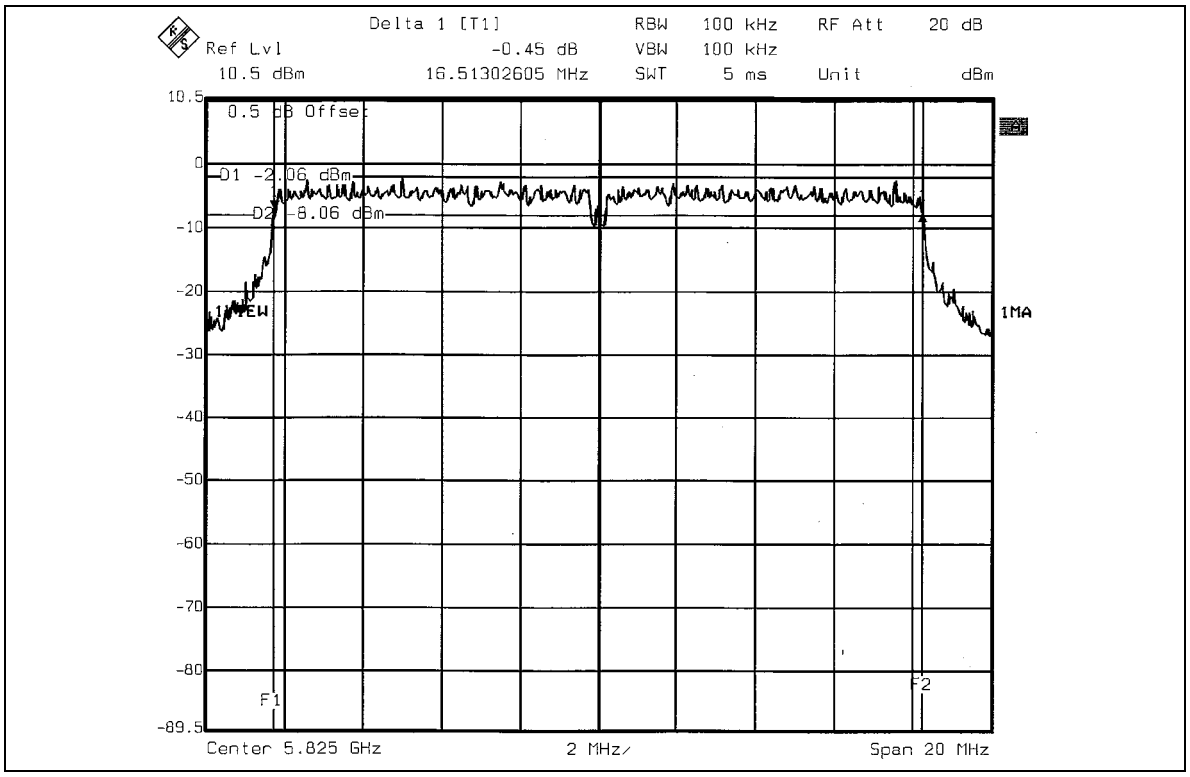
CH 1


Delta 1 [T1]
RBW 100 kHz
RF Att 20 dB
Ref Lvl
-0.15 dB
VBW 100 kHz
10.5 dBm
16.55310621 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
▼1 [T1]
-8.35 dBm
5.73672345 GHz
D1 -2.22 dBm
▲1 [T1]
-0.15 dB
16.55310621 MHz
D2 -8.22 dBm
1VIEW
1MA
F1
TH -89.5 dBm
F2
Center 5.745 GHz
2 MHz/
Span 20 MHz

CH 3


Delta 1 [T1]
RBW 100 kHz
RF Att 20 dB
Ref Lvl
0.72 dB
VBW 100 kHz
10.5 dBm
16.57074148 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 -1.89 dBm
D2 -7.89 dBm
1VIEW
1MA
F1
F2
Center 5.7884 GHz
2 MHz/
Span 20 MHz

CH 5

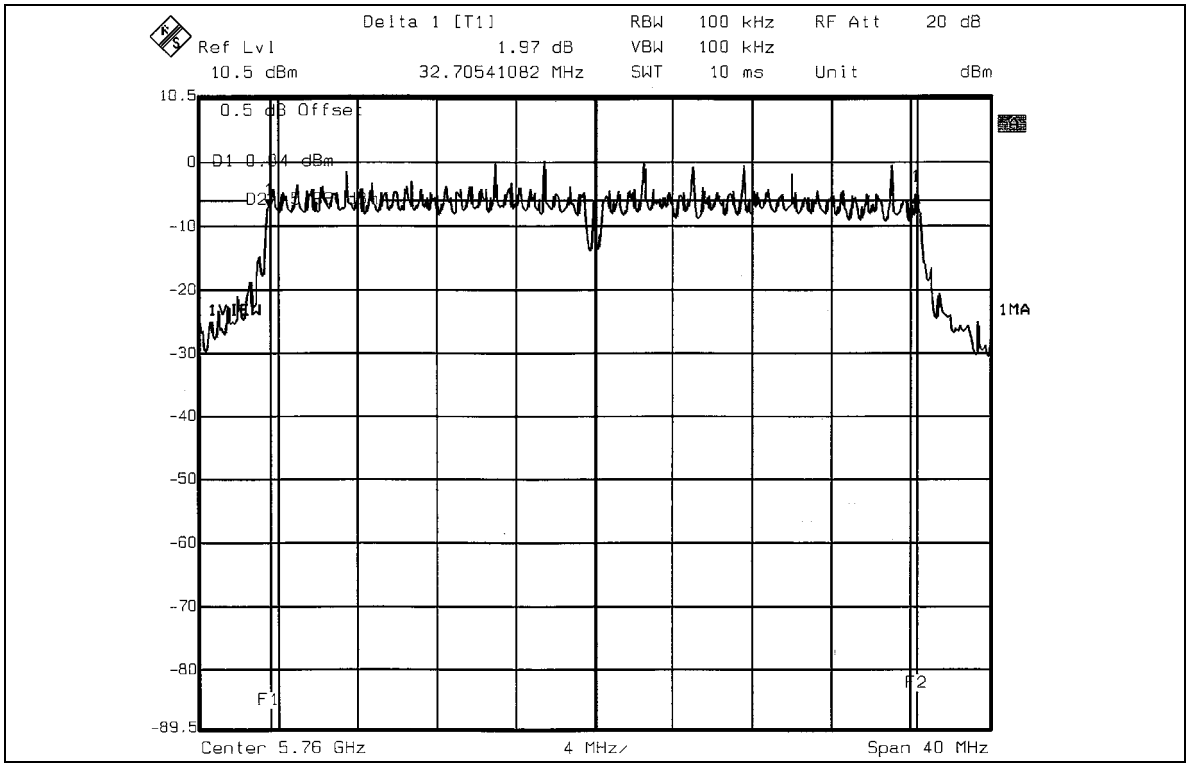

Delta 1 [T1]
Ref Lvl
10.5 dBm
-0.45 dB
16.51302605 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
0.5 dB Offset
D1 -2.06 dBm
D2 -8.06 dBm
1MA
F1
F2
Center 5.825 GHz
2 MHz/
Span 20 MHz

802.11a Turbo OFDM modulation

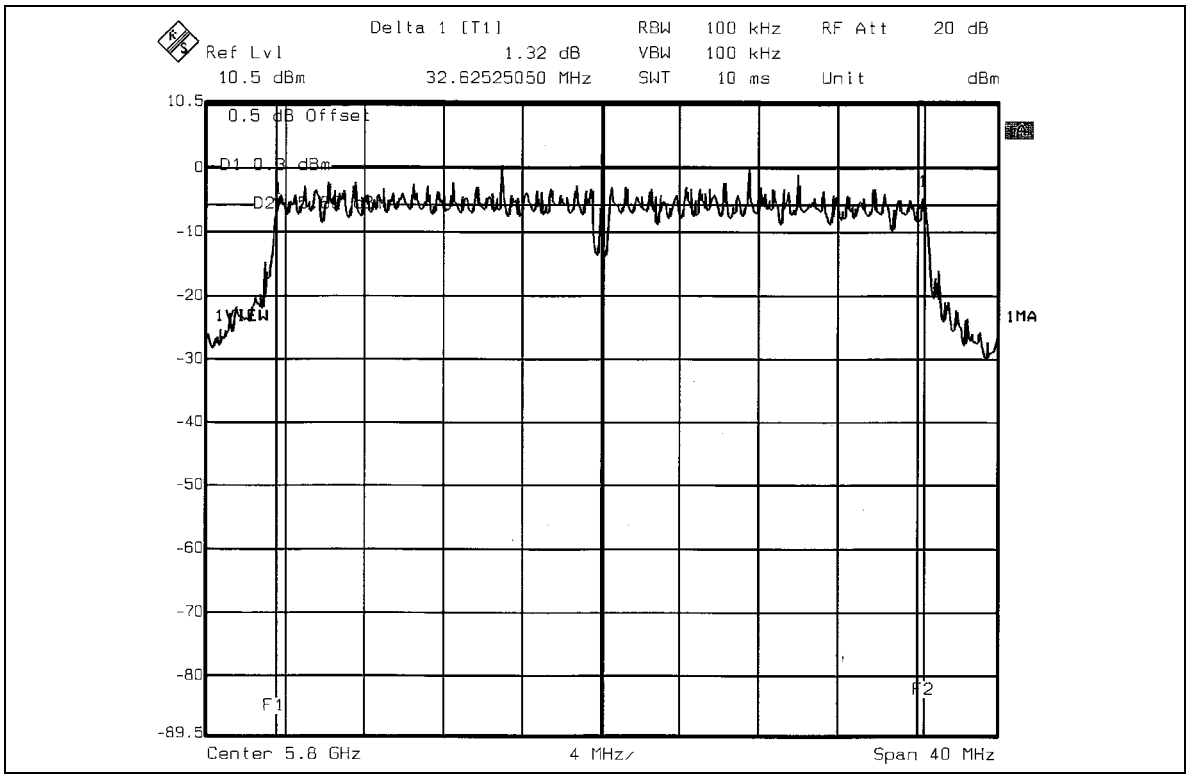
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	5760	32.70	0.5	PASS
2	5800	32.62	0.5	PASS

CH 1


Delta 1 [T1]
RBW 100 kHz
RF Att 20 dB
Ref Lvl
1.97 dB
VBW 100 kHz
10.5 dBm
32.70541082 MHz
SWT 10 ms
Unit dBm
0.5 dB Offset
D1 0.04 dBm
1MA
F1
F2
Center 5.76 GHz
4 MHz/
Span 40 MHz

CH 2


Delta 1 [T1]
RBW 100 kHz
RF Att 20 dB
Ref Lvl
1.32 dB
VBW 100 kHz
10.5 dBm
32.62525050 MHz
SWT 10 ms
Unit dBm
0.5 dB Offset
1MA
F1
F2
Center 5.8 GHz
4 MHz/
Span 40 MHz

5.4 MAXIMUM PEAK OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2005
TEKTRONIX OSCILLOSCOPE	TDS 1012	C019167	Feb. 01, 2006
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..

5.4.3 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.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP

5.4.6 EUT OPERATING CONDITIONS

Same as Item 5.3.6

5.4.7 TEST RESULTS

802.11a OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	MODEL	WX-7615A
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	5745	40.738	16.10	30	PASS
3	5785	41.687	16.20	30	PASS
5	5825	39.811	16.00	30	PASS

802.11a Turbo OFDM modulation

EUT	Wireless 11a+g Dual-Band AP Router	MODEL	WX-7615A
MODULATION TYPE	BPSK	TRANSFER RATE	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	5760	50.738	16.10	30	PASS
2	5800	41.687	16.20	30	PASS

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

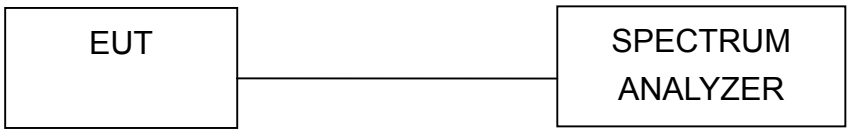
5.5.3 TEST PROCEDURE

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

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

Same as Item 5.3.6

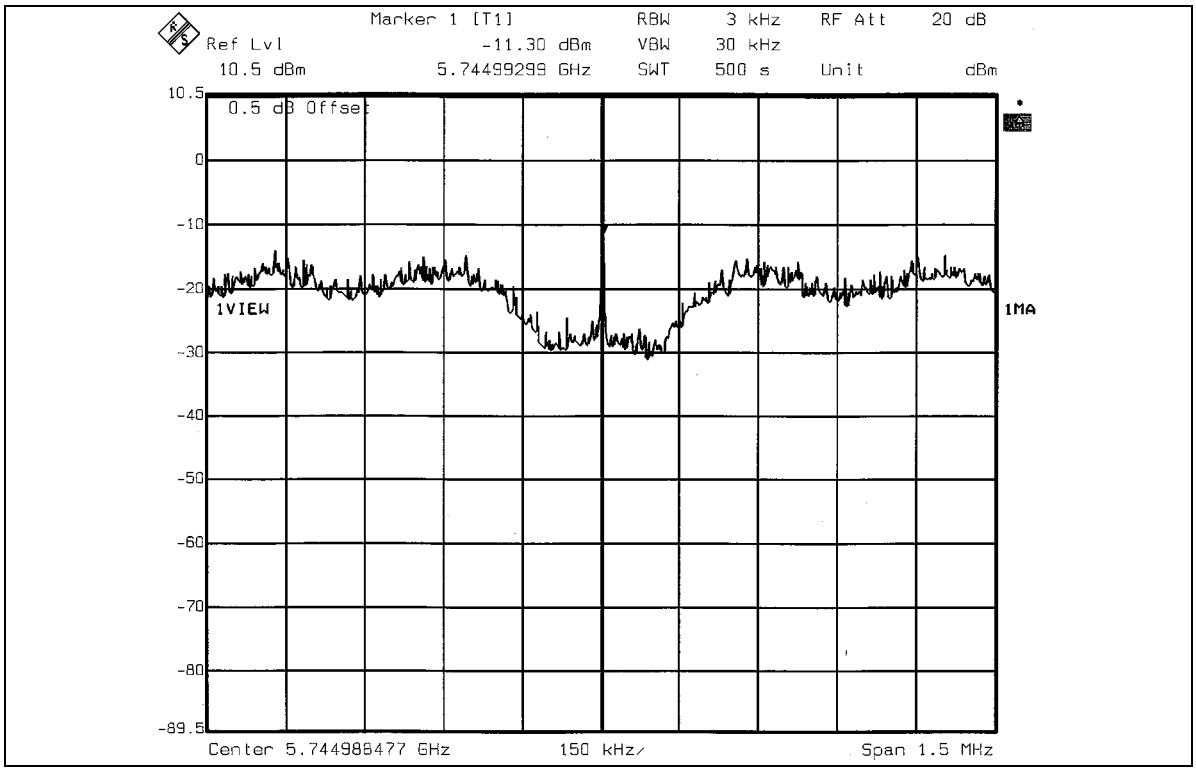
5.5.7 TEST RESULTS

802.11a OFDM modulation

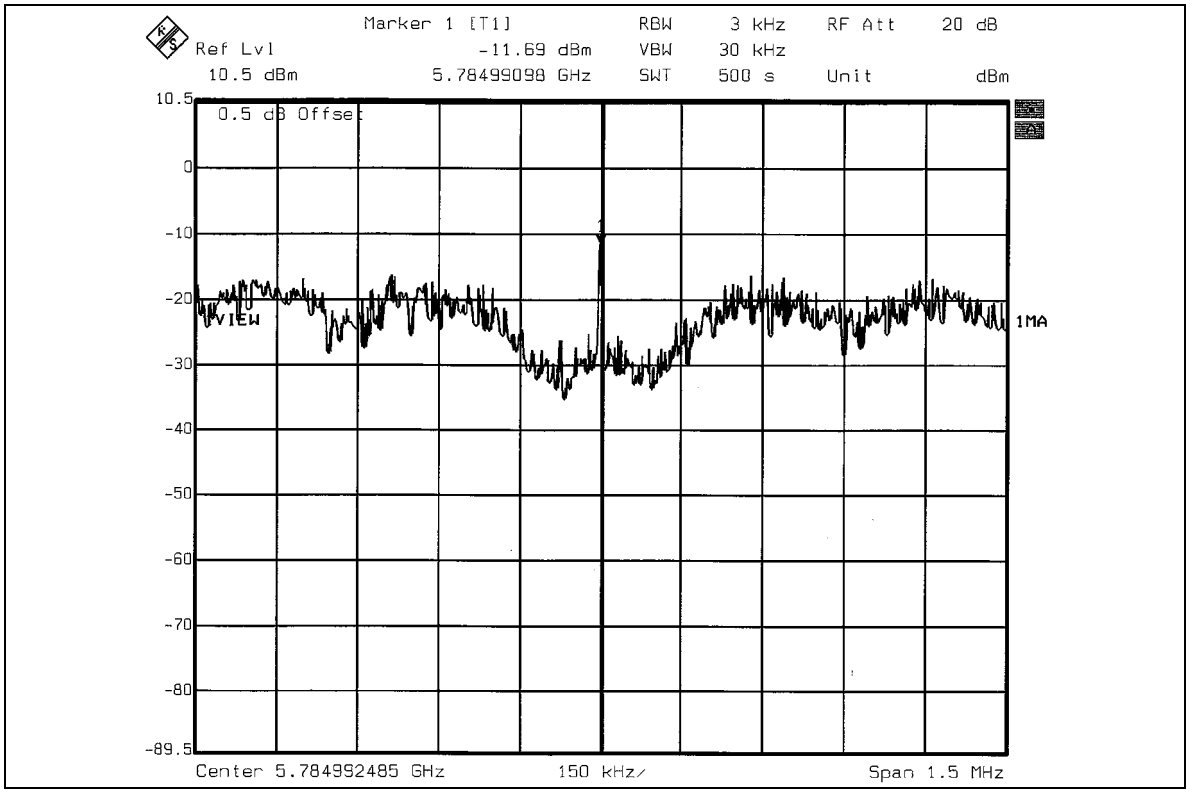
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5745	-11.30	8	PASS
3	5785	-11.69	8	PASS
5	5825	-11.34	8	PASS

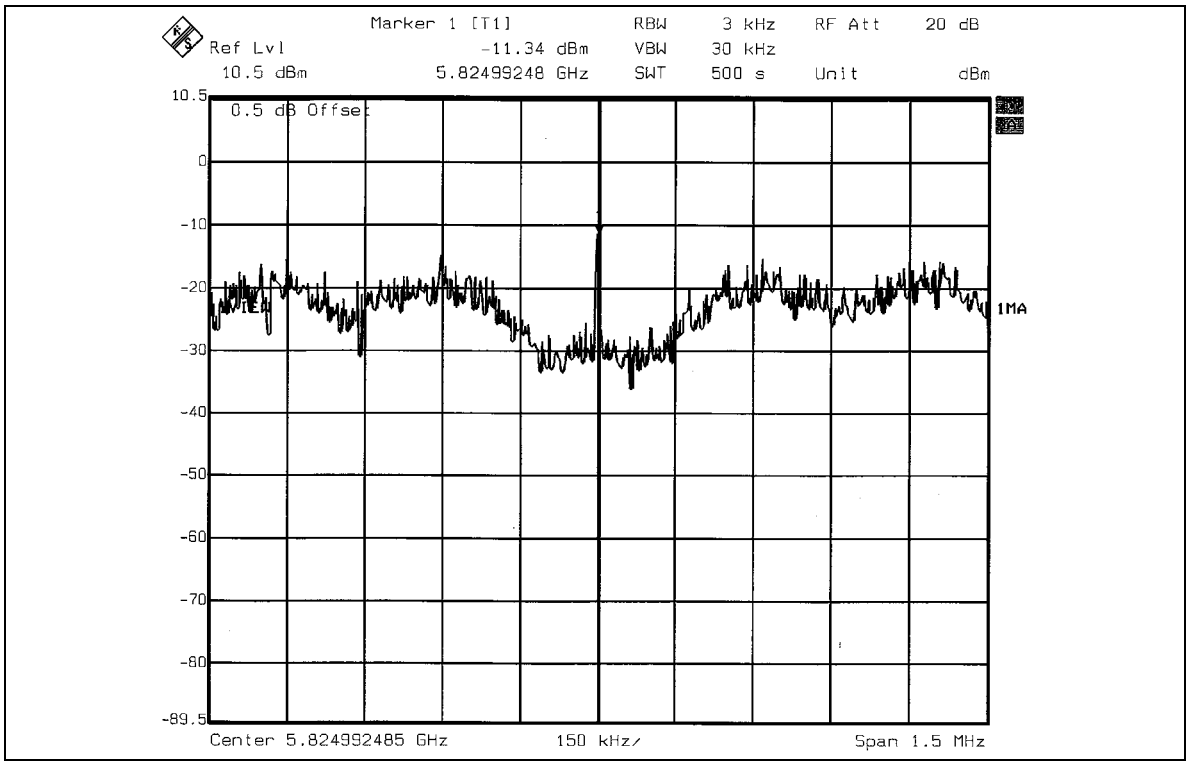
CH 1


Marker 1 [T1]
RBW 3 kHz
RF Att 20 dB
Ref Lvl
-11.30 dBm
VBW 30 kHz
10.5 dBm
5.74499299 GHz
SWT 500 s
Unit dBm
10.5
0.5 dB Offset
0
-10
-20
1VIEW
1MA
-30
-40
-50
-60
-70
-80
-89.5
Center 5.744988477 GHz
150 kHz/
Span 1.5 MHz

CH 3


Marker 1 [T1]
RBW 3 kHz
RF Att 20 dB
Ref Lvl
-11.69 dBm
VBW 30 kHz
10.5 dBm
5.78499098 GHz
SWT 500 s
Unit dBm
10.5
0.5 dB Offset
0
-10
-20
1VIEW
1MA
-30
-40
-50
-60
-70
-80
-89.5
Center 5.784992485 GHz
150 kHz/
Span 1.5 MHz

CH 5

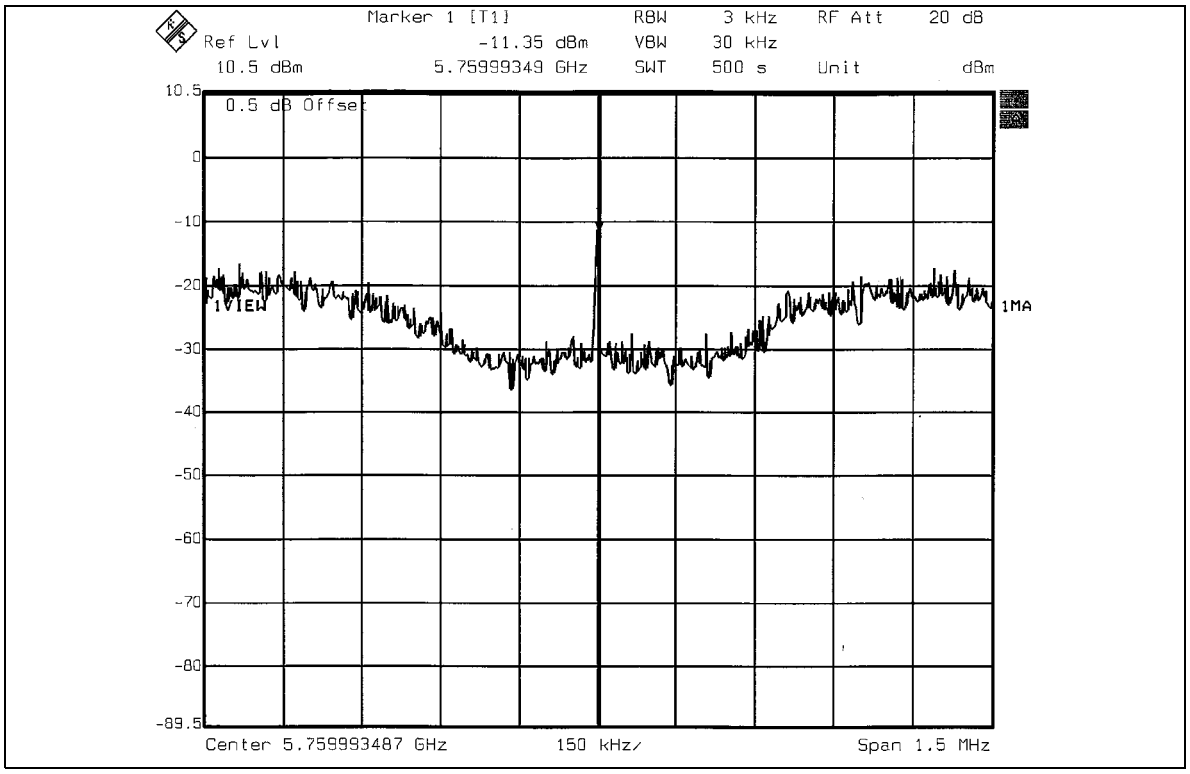

Marker 1 [T1]
RBW 3 kHz
RF Att 20 dB
Ref Lvl
-11.34 dBm
VBW 30 kHz
10.5 dBm
5.82499248 GHz
SWT 500 s
Unit dBm
10.5
0.5 dB Offset
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
Center 5.824992485 GHz
150 kHz/
Span 1.5 MHz

802.11a Turbo OFDM modulation

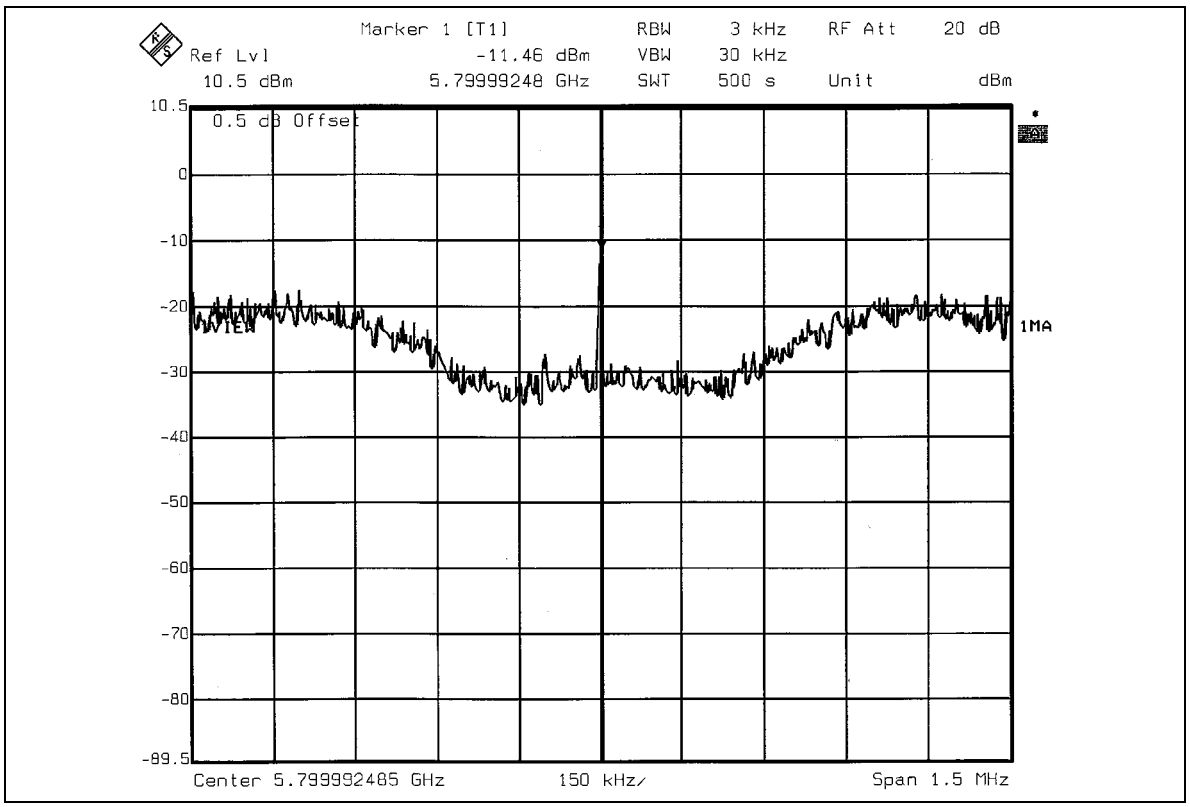
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 64%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5760	-11.35	8	PASS
2	5800	-11.46	8	PASS

CH 1


Marker 1 [T1]
RBW 3 kHz
RF Att 20 dB
Ref Lvl
-11.35 dBm
VBW 30 kHz
10.5 dBm
5.75999349 GHz
SWT 500 s
Unit dBm
0.5 dB Offset
1VIEW
1MA
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
Center 5.759993487 GHz
150 kHz/
Span 1.5 MHz

CH 2


Marker 1 [T1]
RBW 3 kHz
RF Att 20 dB
Ref Lvl
-11.46 dBm
VBW 30 kHz
10.5 dBm
5.79999248 GHz
SWT 500 s
Unit dBm
0.5 dB Offset
1VIEW
1MA
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
Center 5.799992485 GHz
150 kHz/
Span 1.5 MHz

5.6 BAND EDGES MEASUREMENT

5.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

5.6.3 TEST PROCEDURE

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

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

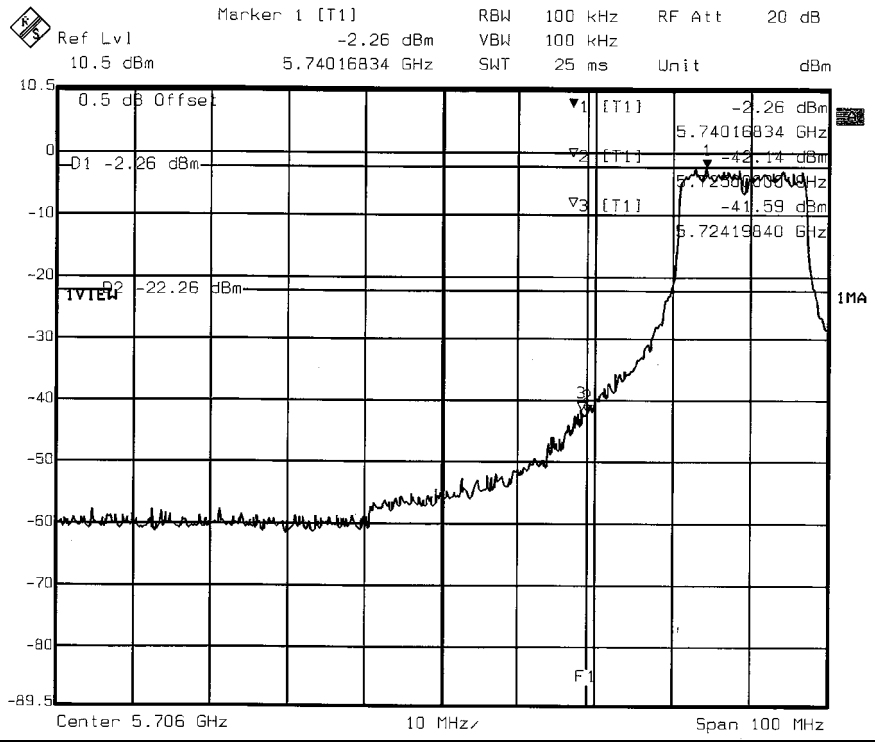
5.6.5 EUT OPERATING CONDITION

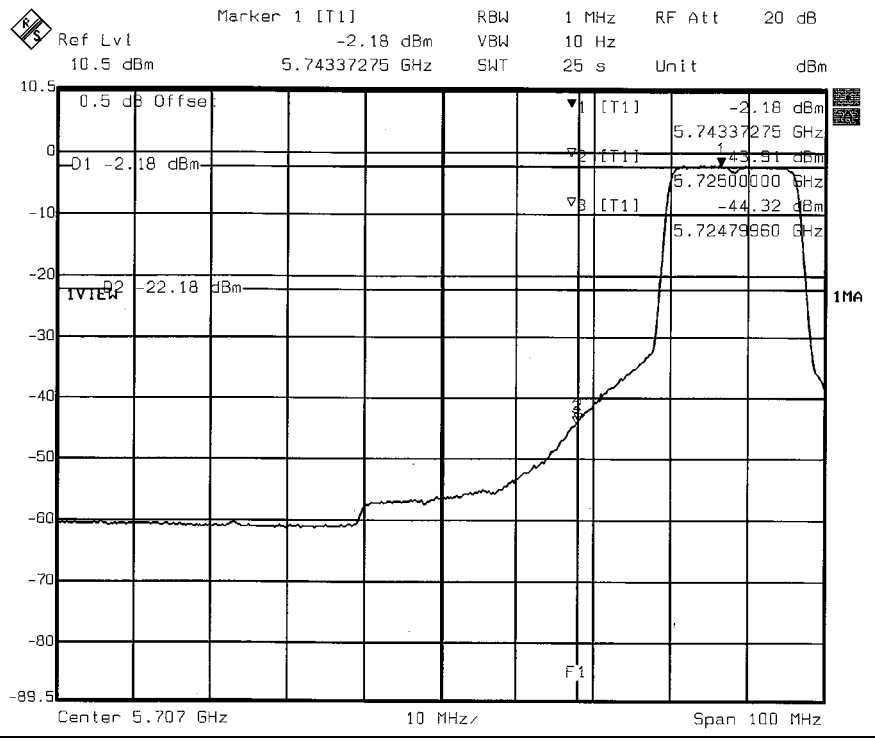
Same as Item 5.9.6

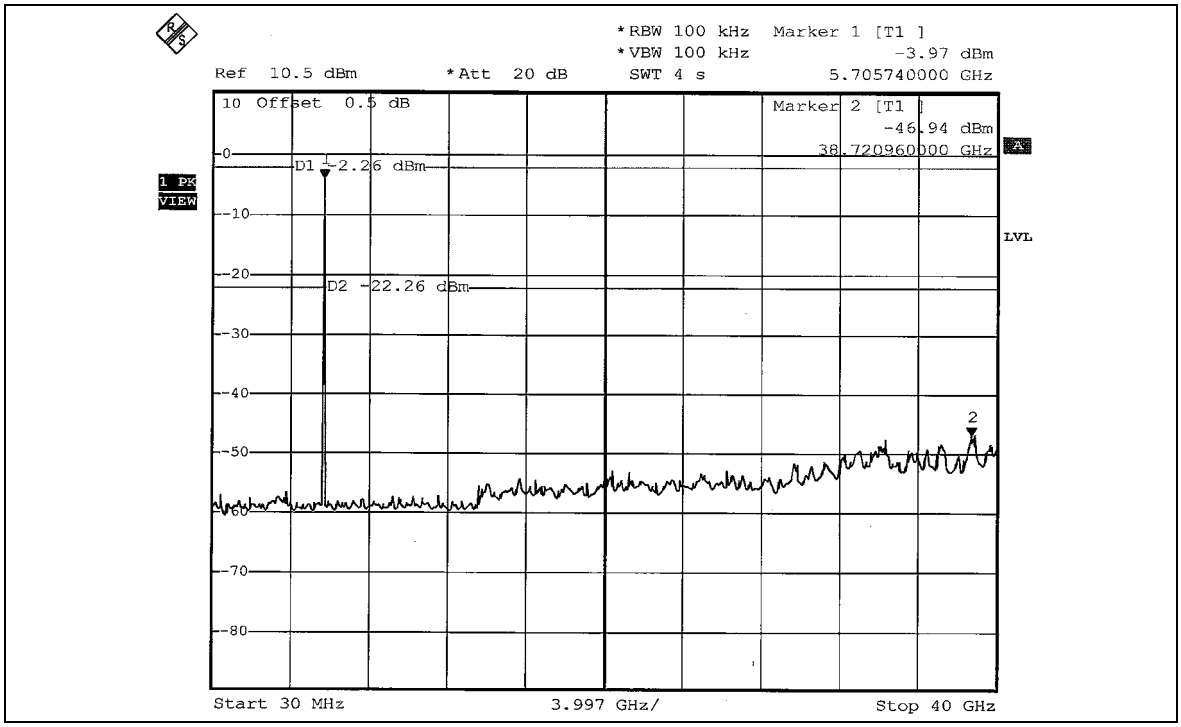
5.6.6 TEST RESULTS

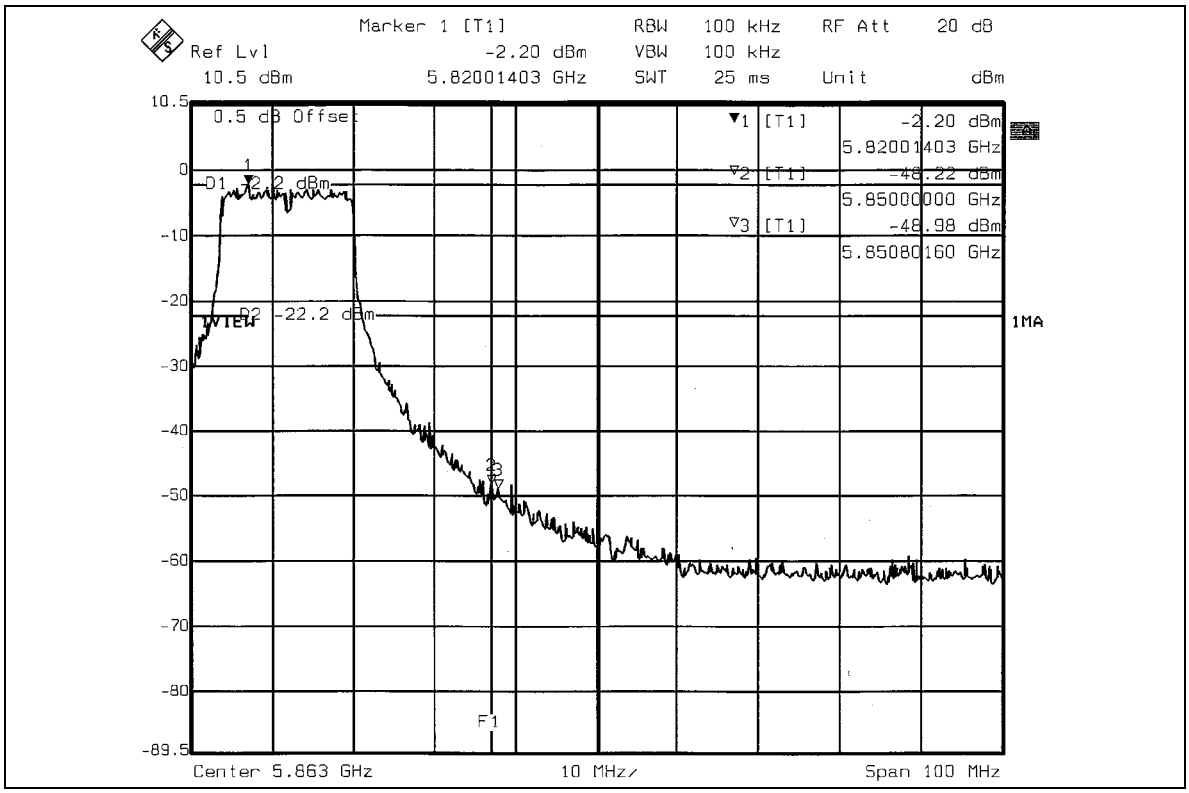
The spectrum plots are attached on the following pages. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

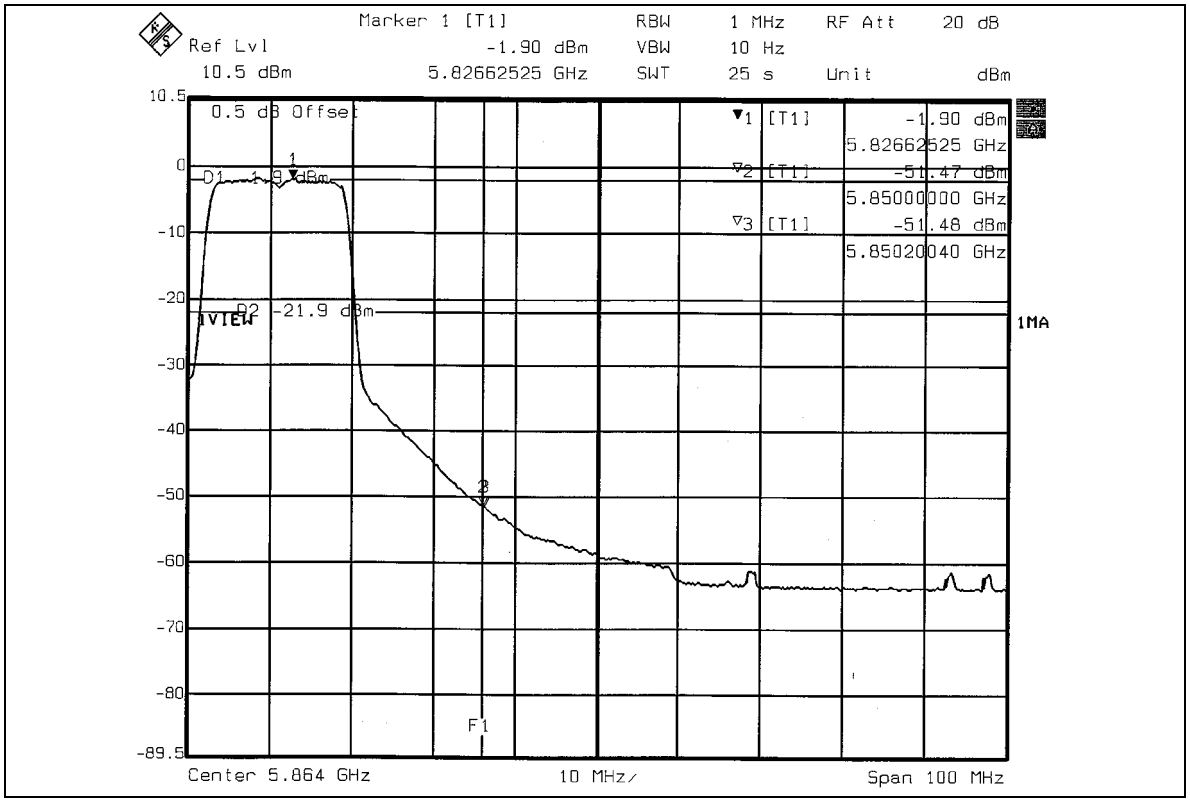
802.11a OFDM modulation

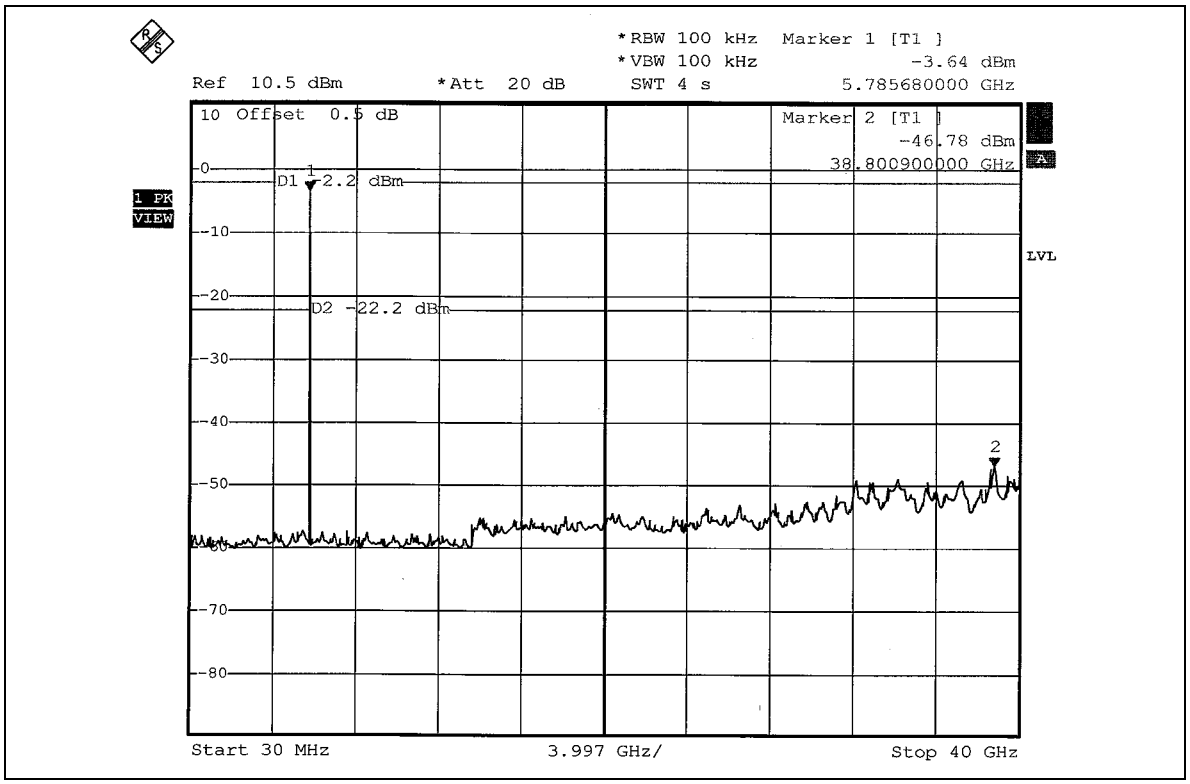




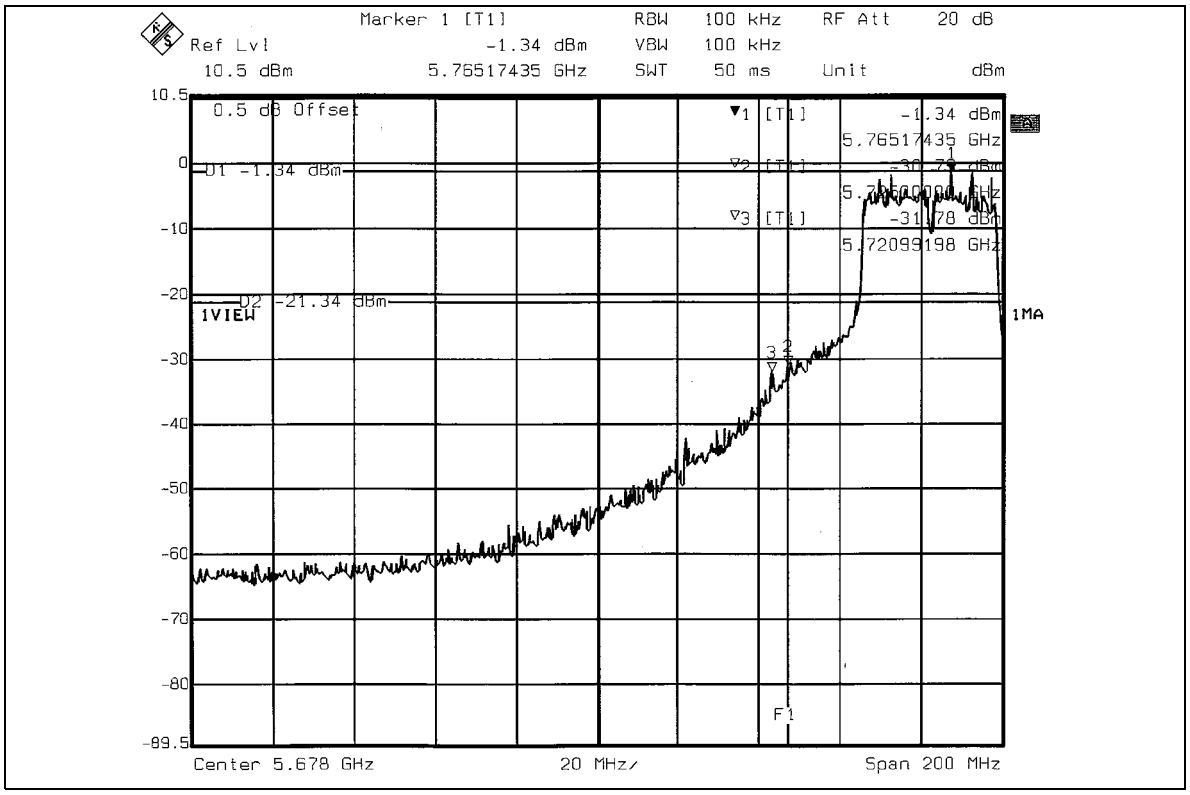

*RBW 100 kHz
*VBW 100 kHz
SWT 4 s
Marker 1 [T1]
-3.97 dBm
5.705740000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
Marker 2 [T1]
-46.94 dBm
38.720960000 GHz
D1 -2.26 dBm
D2 -22.26 dBm
1 PK VIEW
LVL
Start 30 MHz
3.997 GHz/
Stop 40 GHz

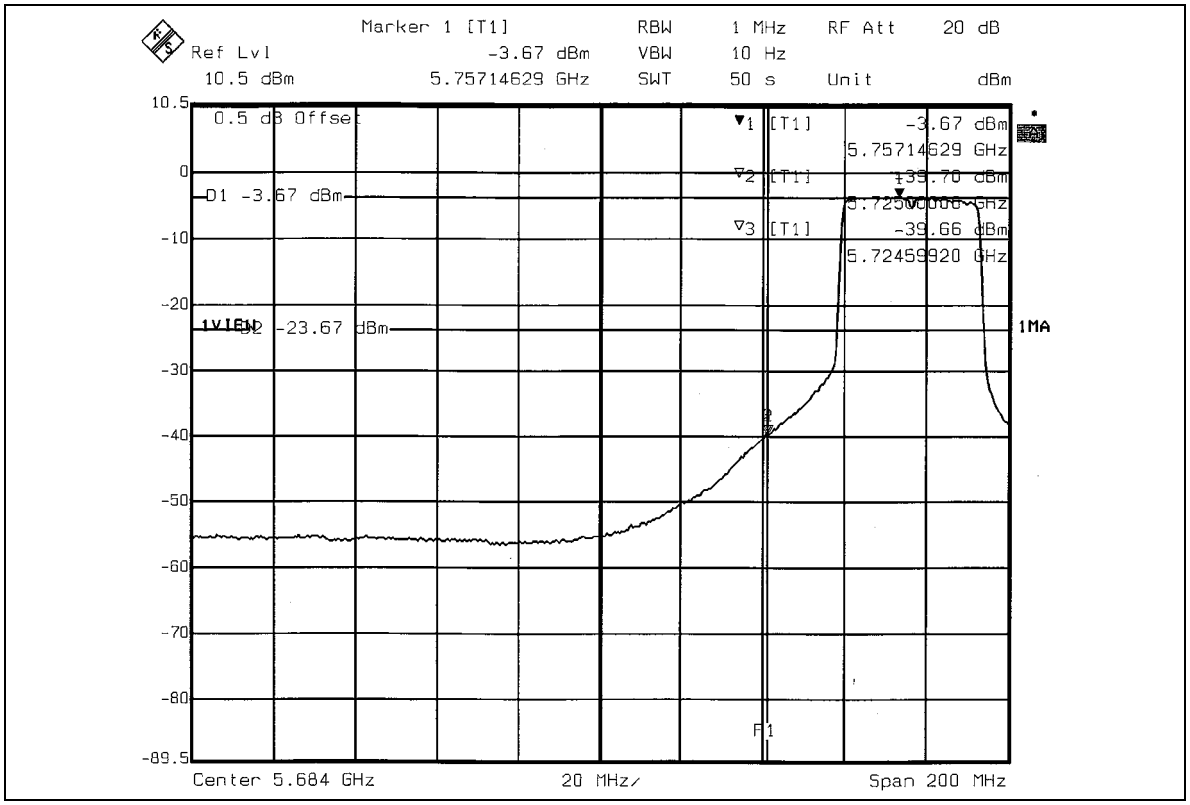

Marker 1 [T1]
RBW 100 kHz
RF Att 20 dB
Ref Lvl
-2.20 dBm
VBW 100 kHz
10.5 dBm
5.82001403 GHz
SWT 25 ms
Unit dBm
0.5 dB Offset
▼1 [T1] -2.20 dBm
5.82001403 GHz
▽2 [T1] -48.22 dBm
5.85000000 GHz
▽3 [T1] -48.98 dBm
5.85080160 GHz
D1 -2.2 dBm
D2 -22.2 dBm
1MA
F1
Center 5.863 GHz
10 MHz/
Span 100 MHz

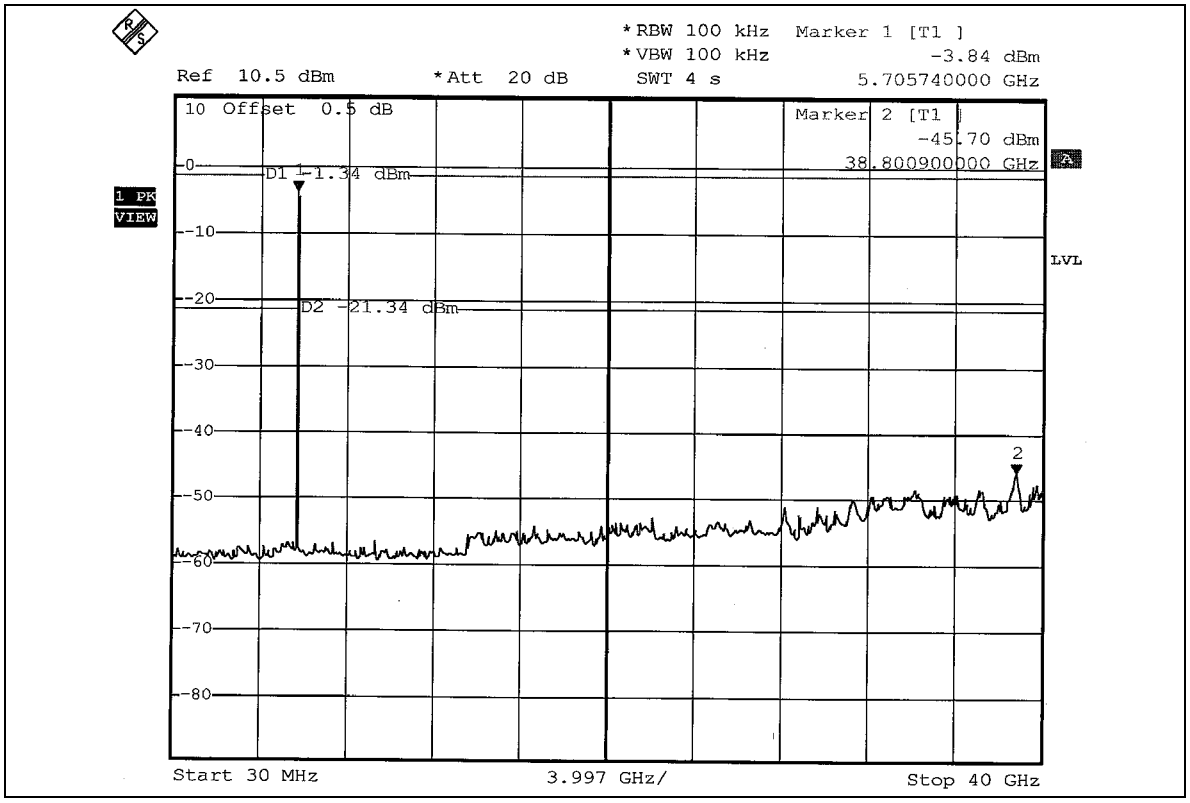

Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl -1.90 dBm
VBW 10 Hz
10.5 dBm 5.82662525 GHz
SWT 25 s
Unit dBm
0.5 dB Offset
▼1 [T1] -1.90 dBm
5.82662525 GHz
▽2 [T1] -51.47 dBm
5.85000000 GHz
▽3 [T1] -51.48 dBm
5.85020040 GHz
D1 -1.9 dBm
D2 -21.9 dBm
1VIEW
1MA
F1
Center 5.864 GHz
10 MHz/
Span 100 MHz

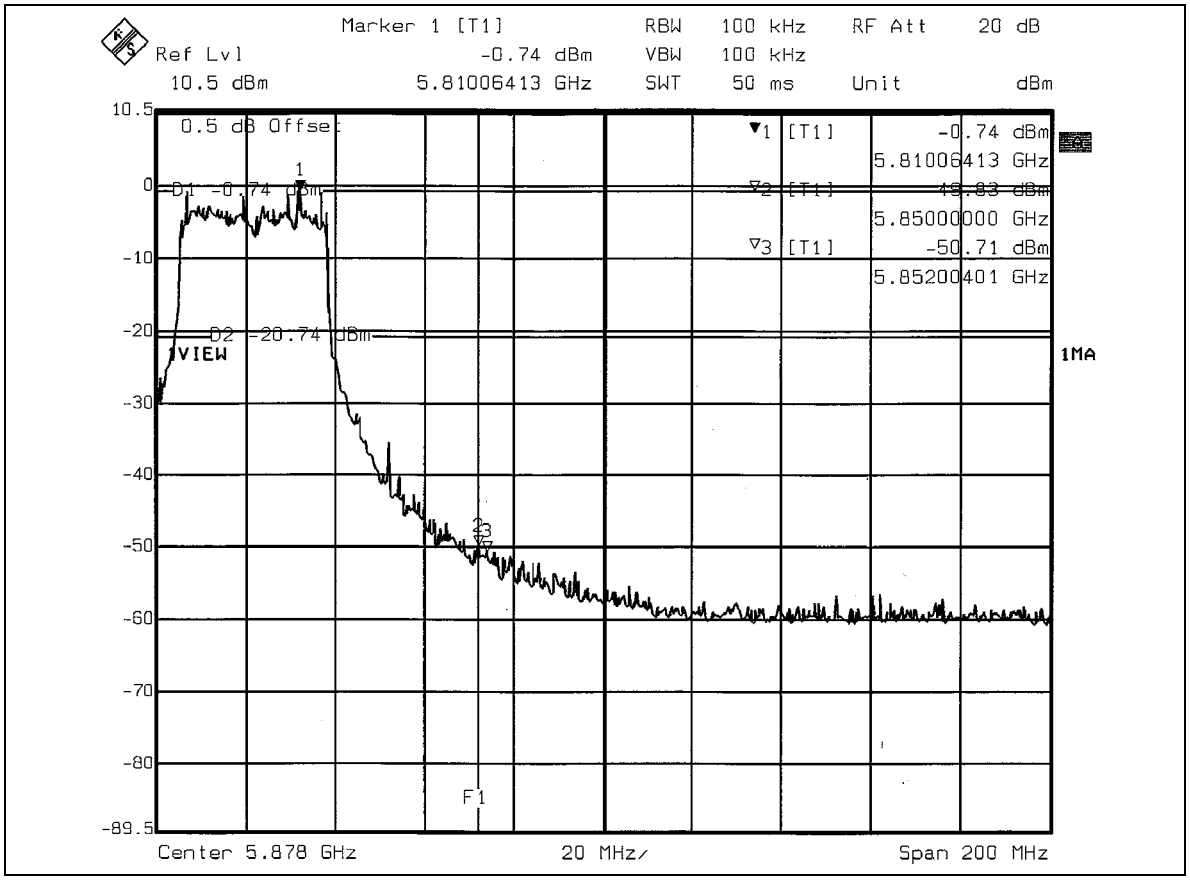

*RBW 100 kHz
*VBW 100 kHz
SWT 4 s
Marker 1 [T1]
-3.64 dBm
5.785680000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
Marker 2 [T1]
-46.78 dBm
38.800900000 GHz
D1 -2.2 dBm
D2 -22.2 dBm
1 PK
VIEW
LVL
Start 30 MHz
3.997 GHz/
Stop 40 GHz

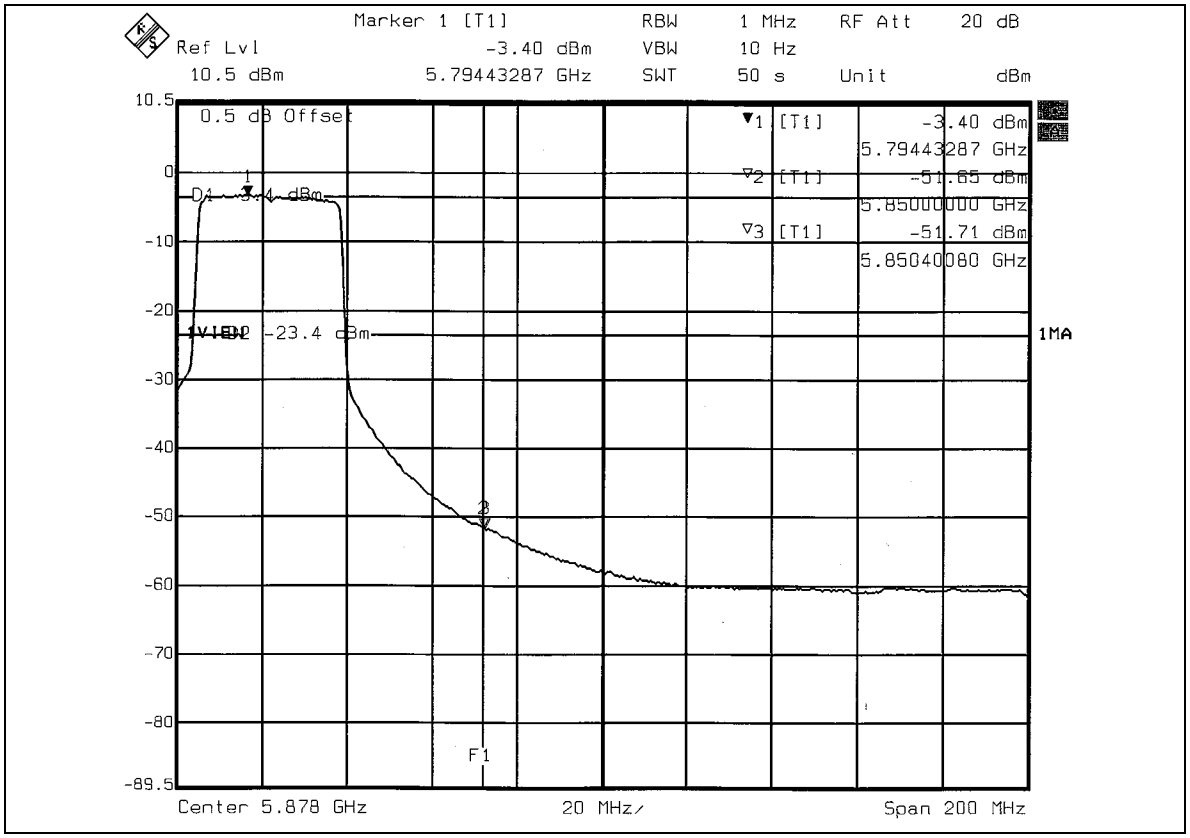
802.11a Turbo OFDM modulation

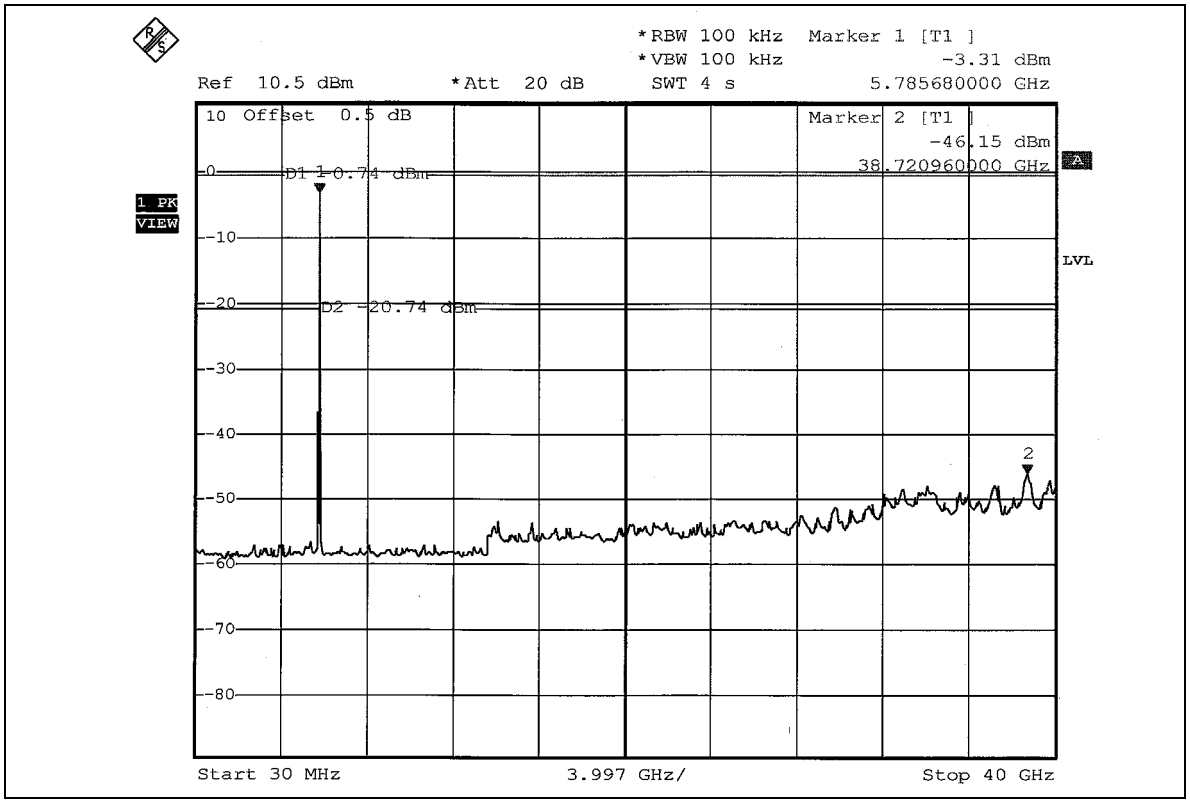





*RBW 100 kHz
*VBW 100 kHz
SWT 4 s
Marker 1 [T1]
-3.84 dBm
5.705740000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
Marker 2 [T1]
-45.70 dBm
38.800900000 GHz
D1 -1.34 dBm
D2 -21.34 dBm
1 PK
VIEW
LVL
Start 30 MHz
3.997 GHz/
Stop 40 GHz


Marker 1 [T1]
-0.74 dBm
5.81006413 GHz
RBW 100 kHz
VBW 100 kHz
SWT 50 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
▼1 [T1] -0.74 dBm
5.81006413 GHz
▽2 [T1] 48.83 dBm
5.85000000 GHz
▽3 [T1] -50.71 dBm
5.85200401 GHz
D1 -0.74 dBm
D2 -20.74 dBm
VIEW
1MA
F1
Center 5.878 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-3.40 dBm
VBW 10 Hz
10.5 dBm
5.79443287 GHz
SWT 50 s
Unit dBm
0.5 dB Offset
1 [T1] -3.40 dBm
5.79443287 GHz
2 [T1] -51.65 dBm
5.85000000 GHz
3 [T1] -51.71 dBm
5.85040080 GHz
D1 -3.4 dBm
D2 -23.4 dBm
1MA
F1
Center 5.878 GHz
20 MHz/
Span 200 MHz


*RBW 100 kHz
Marker 1 [T1]
*VBW 100 kHz
-3.31 dBm
Ref 10.5 dBm
*Att 20 dB
SWT 4 s
5.785680000 GHz
10 Offset 0.5 dB
Marker 2 [T1]
-46.15 dBm
38.720960000 GHz
D1 -10.74 dBm
D2 -20.74 dBm
1 PK
VIEW
LVL
Start 30 MHz
3.997 GHz/
Stop 40 GHz

5.7 ANTENNA REQUIREMENT

5.7.1 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(a), 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.

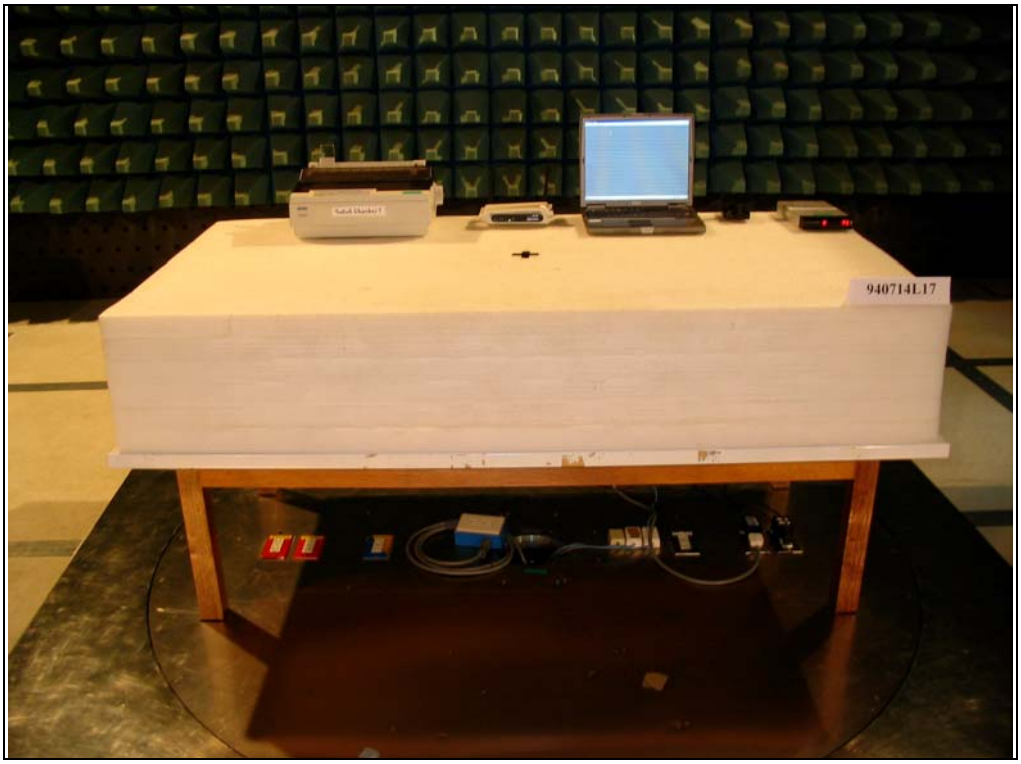
5.7.2 ANTENNA CONNECTED CONSTRUCTION

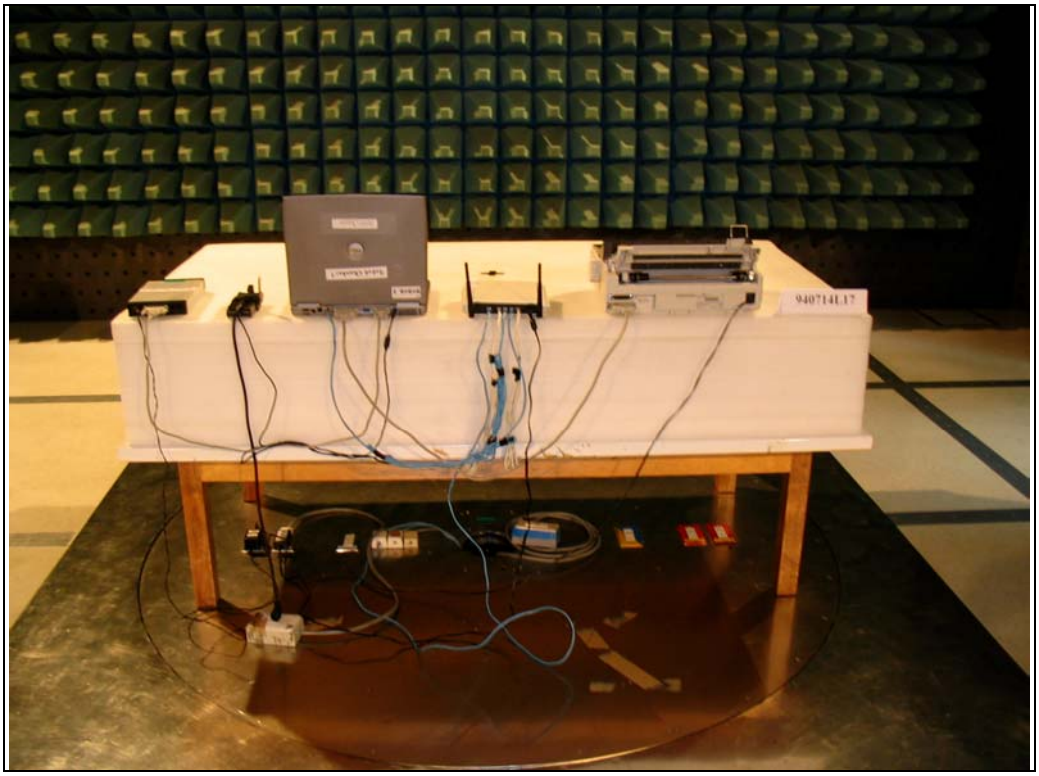
The antenna used in this product is Dipole antenna with R-SMA antenna connector. The maximum Gain of the antenna is 4dBi.

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST





7. 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, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , 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

Linko RF Lab.
Tel: 886-3-3270910
Fax: 886-3-3270892

Web Site: www.adt.com.tw

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