FCC TEST REPORT (15.407)

REPORT NO.:	RF940714L17
MODEL NO.:	WX-7615A (refer to Page 6 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

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1. CERTIFICATION

PRODUCT:	Wireless 11a+g Dual-Band AP Router
BRAND NAME:	SparkLAN (refer to Page 6 for other brand)
MODEL NO.:	WX-7615A (refer to Page 6 for other model)
APPLICANT:	SparkLAN Communications, Inc.
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	Aug. 01 ~ Aug. 02, 2005
STANDARDS:	FCC Part 15, Subpart E (Section 15.407) 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 (Andrea Hsia) , **DATE:** Aug. 09, 2005

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

APPROVED BY : (Cody Chang, Deputy Manager) , **DATE:** Aug. 09, 2005

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)			
Standard Section	**Test Type**	**Result**	**Remark**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –12.81dB at 3.820MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is –0.06 dB at 10360.00 MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	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 5150 ~ 5250MHz, 5250MHz ~ 5350MHz bands:

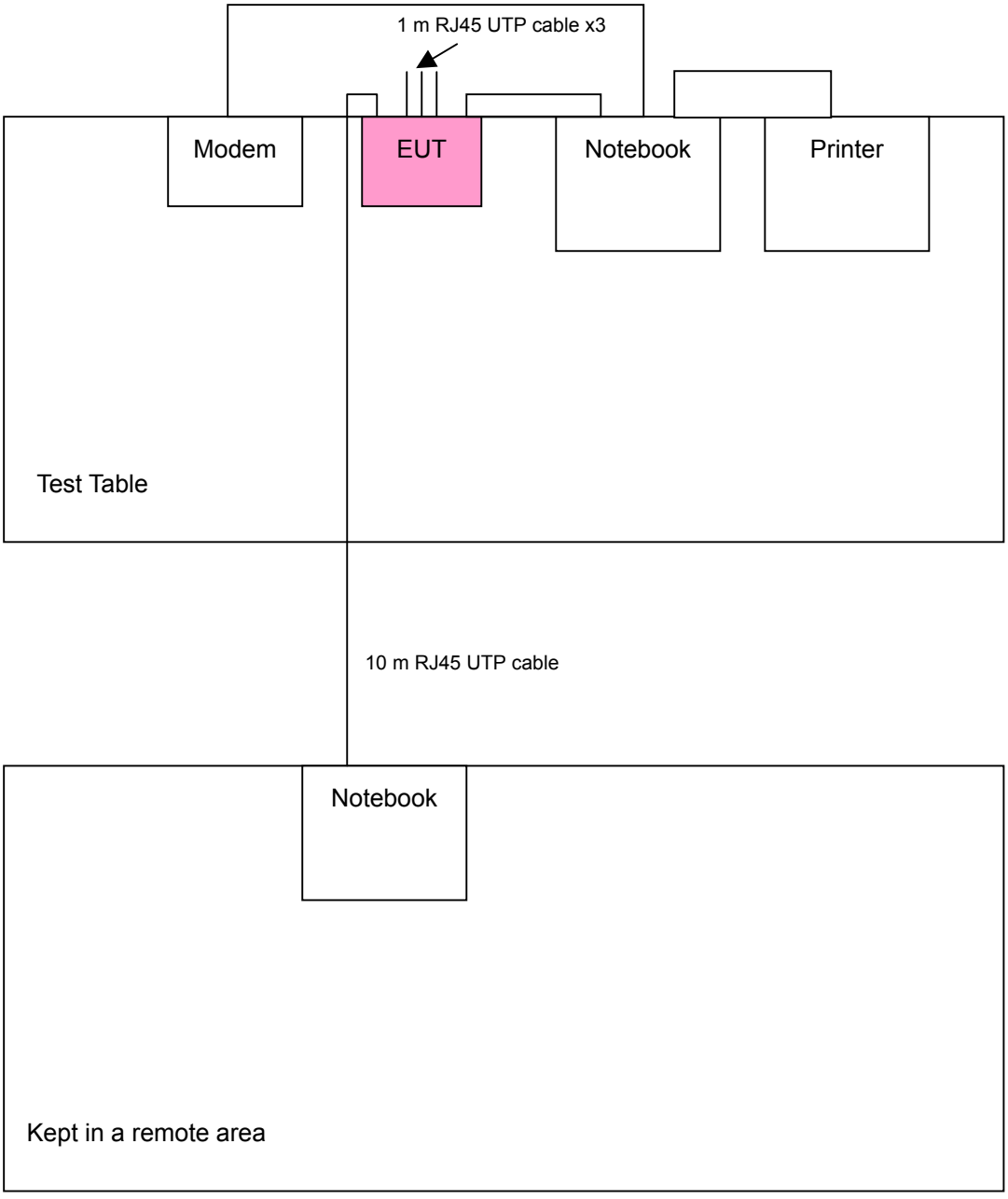
Eight channels are provided to this EUT for normal mode.

Channel	Frequency
1	5180 MHz
2	5200 MHz
3	5220 MHz
4	5240 MHz
5	5260 MHz
6	5280 MHz
7	5300 MHz
8	5320 MHz

Three channels are provided to this EUT for turbo mode.

Channel	Frequency
1	5210 MHz
2	5250 MHz
3	5290 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)
802.11a	1 to 8	8	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)
802.11a	1 to 8	8	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)
802.11a	1 to 8	1, 4, 5, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 2, 3	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)
802.11a	1 to 8	1, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 3	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)
802.11a	1 to 8	1, 4, 5, 8	OFDM	BPSK	6
802.11a Turbo	1 to 3	1, 2, 3	OFDM	BPSK	12

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 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 E (15.407)

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 (5150 ~ 5350MHz 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 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.
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.

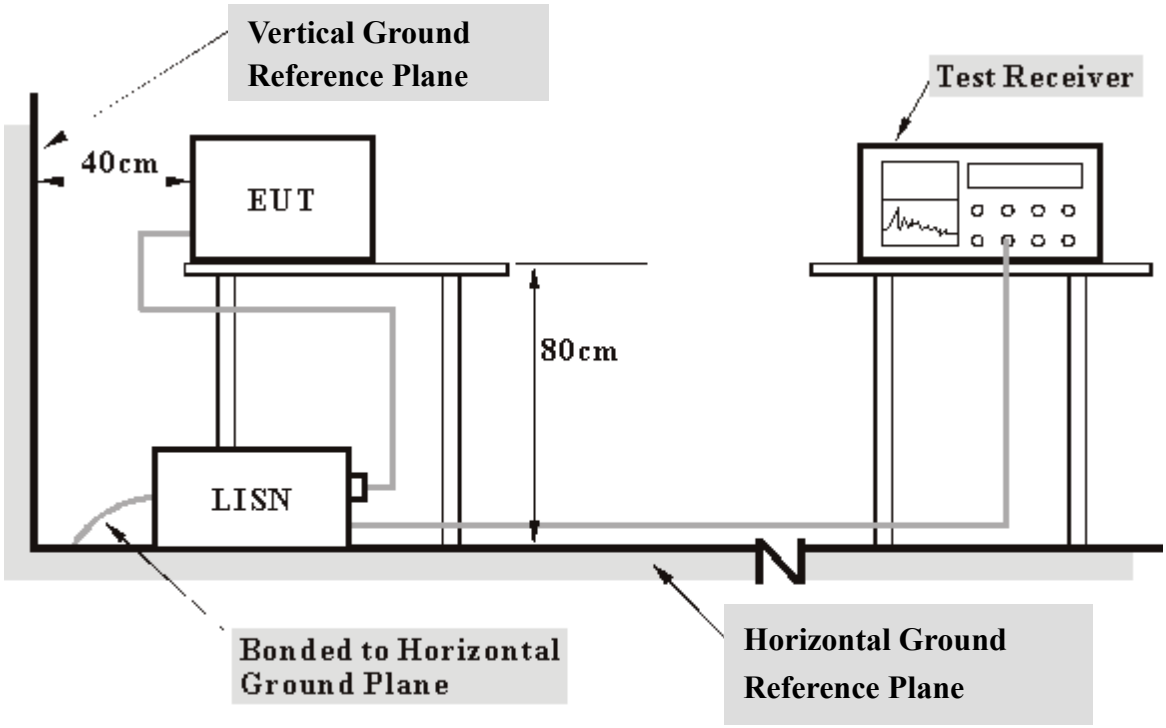
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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.

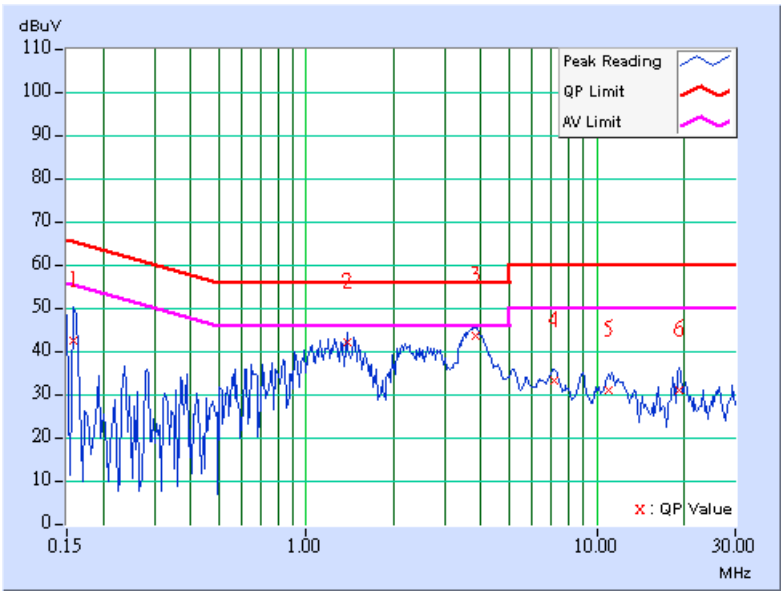
4.1.7 TEST RESULTS

Conducted Worst-Case Data

EUT	Wireless 11a+g Dual-Band AP Router	**MEASUREMENT DETAIL**	
MODEL	WX-7615A	**PHASE**	Line 1
CHANNEL	Channel 8	**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	41.88	-	41.98	-	65.58	55.58	-23.60	-
2	1.383	0.20	41.34	-	41.54	-	56.00	46.00	-14.46	-
3	**3.820**	**0.20**	**42.99**	**-**	**43.19**	**-**	**56.00**	**46.00**	**-12.81**	**-**
4	7.145	0.25	32.75	-	33.00	-	60.00	50.00	-27.00	-
5	11.016	0.32	30.48	-	30.80	-	60.00	50.00	-29.20	-
6	19.180	0.73	30.24	-	30.97	-	60.00	50.00	-29.03	-

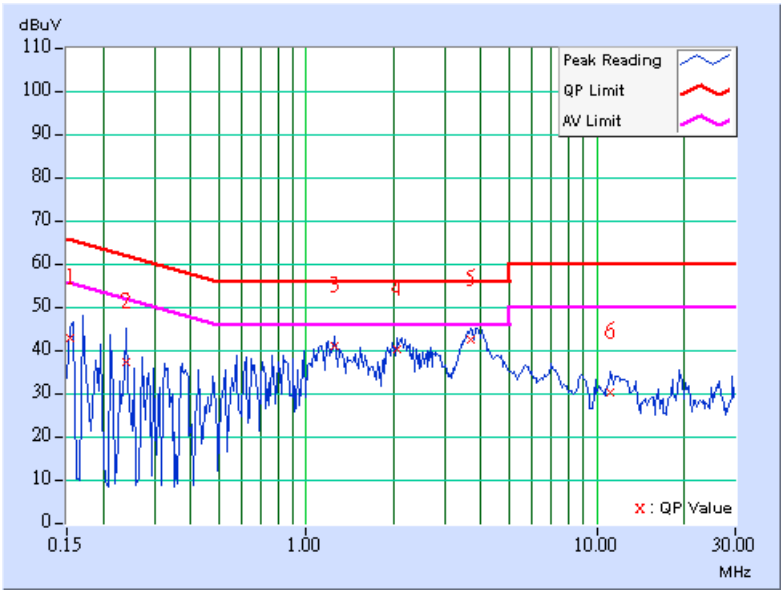
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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 8	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	0.154	0.10	42.45	-	42.55	-	65.79	55.79	-23.24	-
2	0.240	0.10	37.03	-	37.13	-	62.10	52.10	-24.97	-
3	1.258	0.20	40.56	-	40.76	-	56.00	46.00	-15.24	-
4	2.063	0.20	39.82	-	40.02	-	56.00	46.00	-15.98	-
5	3.676	0.20	42.21	-	42.41	-	56.00	46.00	-13.59	-
6	11.195	0.42	29.84	-	30.26	-	60.00	50.00	-29.74	-

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



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 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	**EIRP Limit (dBm)**	**Equivalent Field Strength at 3m (dBμV/m)** *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

4.2.3 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.

4.2.4 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.

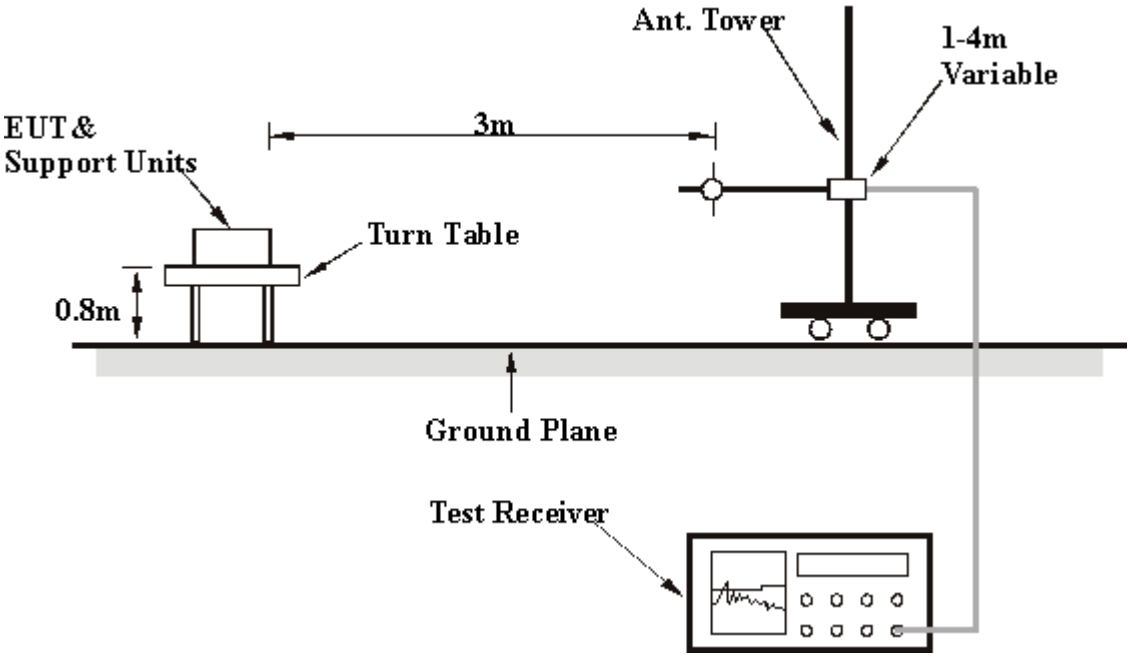
NOTE:

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.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 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 8	**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	109.70	35.53 QP	43.50	-7.97	3.00 H	319	23.68	11.86
2	150.52	36.49 QP	43.50	-7.01	2.00 H	283	21.79	14.70
3	199.12	34.93 QP	43.50	-8.57	1.00 H	34	23.59	11.34
4	249.66	36.07 QP	46.00	-9.93	1.00 H	70	22.97	13.11
5	300.20	38.20 QP	46.00	-7.80	1.00 H	10	23.79	14.41
6	500.42	42.36 QP	46.00	-3.64	2.00 H	244	23.78	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	35.83	37.64 QP	40.00	-2.36	1.25 V	109	22.97	14.67
2	109.77	40.42 QP	43.50	-3.08	1.50 V	72	28.56	11.86
3	142.75	39.54 QP	43.50	-3.96	1.00 V	335	25.03	14.51
4	249.75	39.07 QP	46.00	-6.93	1.00 V	21	25.96	13.11
5	500.48	41.52 QP	46.00	-4.48	1.25 V	172	22.94	18.58
6	550.90	38.22 QP	46.00	-7.78	1.00 V	107	18.74	19.48

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

802.11a 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**	25deg.C, 60%RH, 991hPa
TRANSFER RATE	6Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	3453.00	48.31 PK	68.30	-19.99	1.29 H	7	12.73	35.58
2	#5150.00	55.46 PK	74.00	-18.54	1.34 H	119	16.36	39.10
2	#5150.00	44.69 AV	54.00	-9.31	1.34 H	119	5.59	39.10
3	*5180.00	104.06 PK			1.34 H	119	64.89	39.17
3	*5180.00	93.29 AV			1.34 H	119	54.12	39.17
4	10360.00	66.25 PK	68.30	-2.05	1.29 H	203	20.96	45.29

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	3453.00	50.07 PK	68.30	-18.23	1.29 V	360	14.49	35.58
2	#5150.00	62.67 PK	74.00	-11.33	1.05 V	333	23.57	39.10
2	#5150.00	51.38 AV	54.00	-2.62	1.05 V	333	12.28	39.10
3	*5180.00	111.27 PK			1.05 V	334	72.10	39.17
3	*5180.00	99.98 AV			1.05 V	334	60.81	39.17
4	**10360.00**	**68.24 PK**	**68.30**	**-0.06**	**1.05 V**	**236**	**22.95**	**45.29**

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 40 GHz
CHANNEL	Channel 4	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	3493.00	46.89 PK	68.30	-21.41	1.10 H	41	11.20	35.70
2	*5240.00	103.45 PK			1.25 H	114	64.27	39.18
2	*5240.00	91.83 AV			1.25 H	114	52.65	39.18
3	10480.00	64.47 PK	68.30	-3.83	1.11 H	207	18.38	46.08

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	3493.00	48.97 PK	68.30	-19.33	1.10 V	311	13.28	35.70
2	*5240.00	112.27 PK			1.10 V	294	73.09	39.18
2	*5240.00	101.39 AV			1.10 V	294	62.21	39.18
3	10480.00	65.84 PK	68.30	-2.46	1.09 V	21	19.75	46.08

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency.
6. “#”The radiated frequency falling in the restricted band.

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	25deg.C, 60%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	#3506.00	48.00 PK	74.00	-26.00	1.06 H	38	12.26	35.73
1	#3506.00	37.15 AV	54.00	-16.85	1.06 H	38	1.42	35.73
2	*5260.00	103.81 PK			1.30 H	119	64.65	39.16
2	*5260.00	92.80 AV			1.30 H	119	53.64	39.16
3	10520.00	63.94 PK	68.30	-4.36	1.27 H	207	17.79	46.16

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	3506.00	51.58 PK	74.00	-22.42	1.09 V	320	15.84	35.73
1	3506.00	43.84 AV	54.00	-10.16	1.09 V	320	8.10	35.73
2	*5260.00	112.90 PK			1.25 V	341	73.74	39.16
2	*5260.00	102.29 AV			1.25 V	341	63.13	39.16
3	10520.00	67.22 PK	68.30	-1.08	1.26 V	21	21.07	46.16
4	#15780.00	61.23 PK	74.00	-12.77	1.29 V	282	13.97	47.25
4	#15780.00	47.61 AV	54.00	-6.39	1.29 V	282	0.35	47.25

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency.
6. “#”The radiated frequency falling in the restricted band.

EUT	Wireless 11a+g Dual-Band AP Router	MEASUREMENT DETAIL	
MODEL	WX-7615A	FREQUENCY RANGE	1 ~ 40 GHz
CHANNEL	Channel 8	DETECTOR FUNCTION	Peak(PK) Average (AV)
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 991hPa
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	#3546.00	47.97 PK	74.00	-26.03	1.21 H	312	12.12	35.85
1	#3546.00	37.54 AV	54.00	-16.46	1.21 H	312	1.69	35.85
2	*5320.00	102.13 PK			1.20 H	115	62.98	39.15
2	*5320.00	91.65 AV			1.20 H	115	52.50	39.15
3	#5350.00	53.36 PK	74.00	-20.64	1.20 H	115	14.16	39.20
3	#5350.00	42.88 AV	54.00	-11.12	1.20 H	115	3.68	39.20
4	#10640.00	63.95 PK	74.00	-10.05	1.25 H	209	17.72	46.23
4	#10640.00	51.30 AV	54.00	-2.70	1.25 H	209	5.07	46.23
5	#15960.00	56.85 PK	74.00	-17.15	1.26 H	279	11.89	44.96
5	#15960.00	45.29 AV	54.00	-8.71	1.26 H	279	0.33	44.96

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	#3546.00	51.65 PK	74.00	-22.35	1.09 V	321	15.80	35.85
1	#3546.00	45.71 AV	54.00	-8.29	1.09 V	321	9.86	35.85
2	*5320.00	112.30 PK			1.19 V	293	73.15	39.15
2	*5320.00	101.16 AV			1.19 V	293	62.01	39.15
3	#5350.00	63.53 PK	74.00	-10.47	1.19 V	293	24.33	39.20
3	#5350.00	52.39 AV	54.00	-1.61	1.19 V	293	13.19	39.20
4	#10640.00	65.98 PK	74.00	-8.02	1.26 V	7	19.75	46.23
4	#10640.00	52.35 AV	54.00	-1.65	1.26 V	7	6.12	46.23
5	#15960.00	60.14 PK	74.00	-13.86	1.34 V	296	15.18	44.96
5	#15960.00	47.02 AV	54.00	-6.98	1.34 V	296	2.06	44.96

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.

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**	25deg.C, 60%RH, 991hPa
TRANSFER RATE	12Mbps	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	3473.00	48.56 PK	68.30	-19.74	1.07 H	70	12.92	35.64
2	#5150.00	52.69 PK	74.00	-21.31	1.69 H	117	13.59	39.10
2	#5150.00	43.65 AV	54.00	-10.35	1.69 H	117	4.55	39.10
3	*5210.00	100.53 PK			1.69 H	117	61.32	39.21
3	*5210.00	91.49 AV			1.69 H	117	52.28	39.21
4	10420.00	60.47 PK	68.30	-7.83	1.08 H	266	14.70	45.77

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	3473.00	50.48 PK	68.30	-17.82	1.10 V	311	14.84	35.64
2	#5150.00	60.24 PK	74.00	-13.76	1.18 V	322	21.14	39.10
2	#5150.00	50.46 AV	54.00	-3.54	1.18 V	322	11.36	39.10
3	*5210.00	108.08 PK			1.18 V	322	68.87	39.21
3	*5210.00	98.60 AV			1.18 V	322	59.39	39.21
4	10420.00	67.70 PK	68.30	-0.60	1.20 V	20	21.93	45.77
5	#15630.00	60.95 PK	74.00	-13.05	1.27 V	287	12.87	48.08
5	#15630.00	48.75 AV	54.00	-5.25	1.27 V	287	0.67	48.08

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.

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	25deg.C, 60%RH, 991hPa
TRANSFER RATE	12Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	#3500.00	49.52 PK	74.00	-24.48	1.64 H	221	13.80	35.72
1	#3500.00	36.98 AV	54.00	-17.02	1.64 H	221	1.26	35.72
2	*5250.00	100.90 PK			1.34 H	117	61.73	39.17
2	*5250.00	90.58 AV			1.34 H	117	51.41	39.17
3	10500.00	62.23 PK	68.30	-6.07	1.30 H	200	16.04	46.19

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	#3500.00	49.90 PK	74.00	-24.10	1.70 V	1	14.18	35.72
1	#3500.00	40.90 AV	54.00	-13.10	1.70 V	1	5.18	35.72
2	*5250.00	110.94 PK			1.14 V	355	71.77	39.17
2	*5250.00	101.20 AV			1.14 V	355	62.03	39.17
3	10500.00	65.72 PK	68.30	-2.58	1.26 V	22	19.53	46.19
4	#15750.00	61.23 PK	74.00	-12.77	1.32 V	290	13.72	47.51
4	#15750.00	48.27 AV	54.00	-5.73	1.32 V	290	0.76	47.51

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency.
6. “#”The radiated frequency falling in the restricted band.

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	25deg.C, 60%RH, 991hPa
TRANSFER RATE	12Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Match Tsui		

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	#3526.00	47.72 PK	74.00	-26.28	1.44 H	269	11.93	35.79
1	#3526.00	36.33 AV	54.00	-17.67	1.44 H	269	0.54	35.79
2	*5290.00	100.31 PK			1.06 H	302	61.18	39.13
2	*5290.00	90.23 AV			1.06 H	302	51.10	39.13
3	#5350.00	50.02 PK	74.00	-23.98	1.06 H	302	10.82	39.20
3	#5350.00	39.94 AV	54.00	-14.06	1.06 H	302	0.74	39.20
4	10580.00	59.32 PK	68.30	-8.98	1.06 H	261	13.25	46.07

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	#3526.00	50.47 PK	74.00	-23.53	1.45 V	357	14.68	35.79
1	#3526.00	42.15 AV	54.00	-11.85	1.45 V	357	6.36	35.79
2	*5290.00	112.08 PK			1.23 V	334	72.95	39.13
2	*5290.00	101.32 AV			1.23 V	334	62.19	39.13
3	#5350.00	61.79 PK	74.00	-12.21	1.23 V	334	22.59	39.20
3	#5350.00	51.03 AV	54.00	-2.97	1.23 V	334	11.83	39.20
4	10580.00	67.35 PK	68.30	-0.95	1.30 V	7	21.28	46.07
5	#15870.00	59.95 PK	74.00	-14.05	1.17 V	292	13.85	46.10
5	#15870.00	46.99 AV	54.00	-7.01	1.17 V	292	0.89	46.10

NOTE:

1. Emission level = Raw value + Correction Factor.
2. Correction Factor = Ant. Factor + Cable loss.
3. Margin value = Emission level - Limit value.
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.

4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 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.

4.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 3MHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

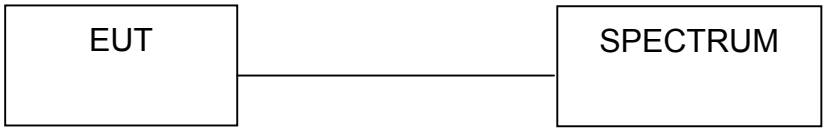
NOTE:
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

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 specific channel frequencies individually.

4.3.7 TEST RESULTS

802.11a OFDM modulation

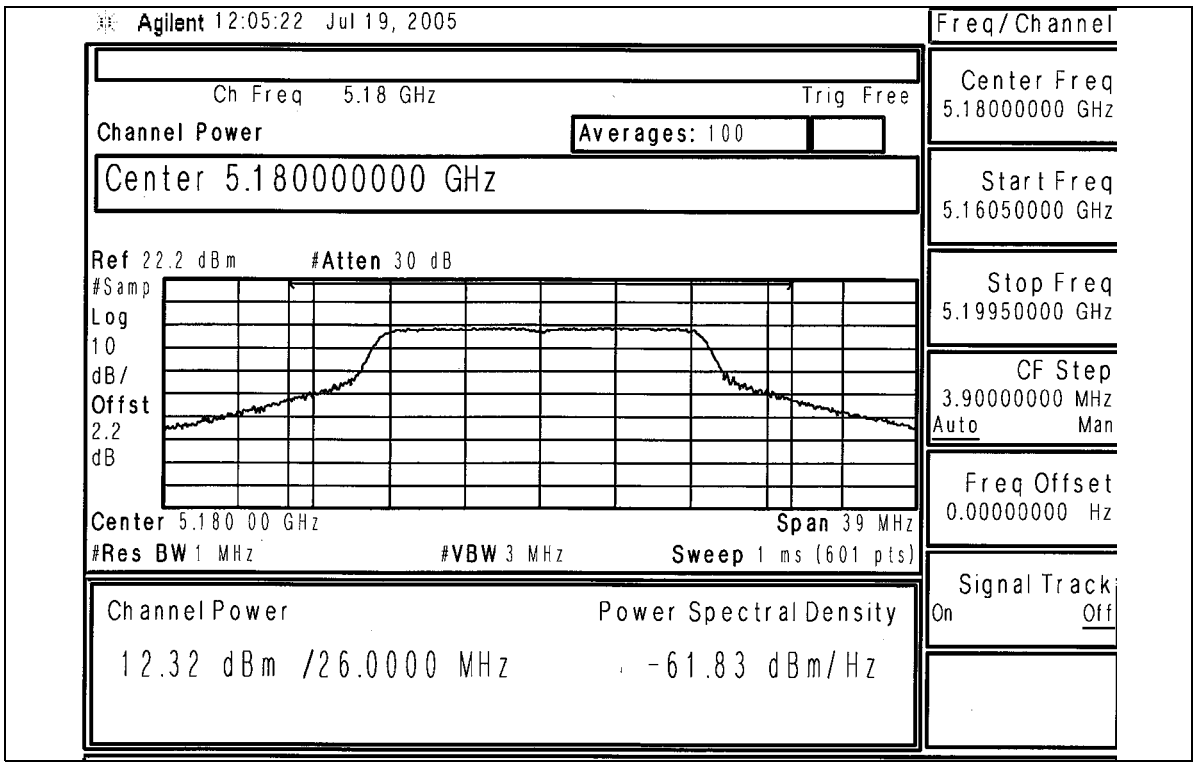
EUT	Wireless 11a+g Dual-Band AP Router	MODEL	WX-7615A
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS/FAIL
1	5180	17.061	12.32	17.00	25.67	PASS
4	5240	20.184	13.05	17.00	26.09	PASS
5	5260	20.091	13.03	24.00	25.11	PASS
8	5320	20.417	13.10	24.00	25.53	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Peak Power Output:

CH 1



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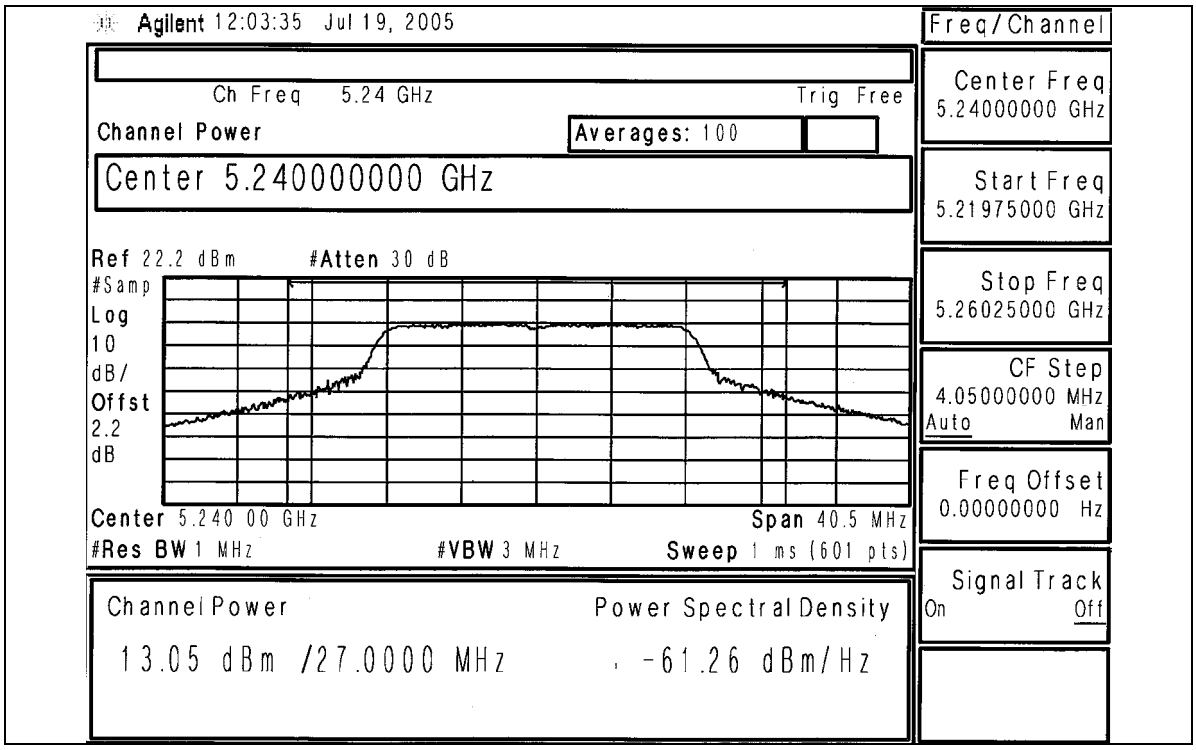
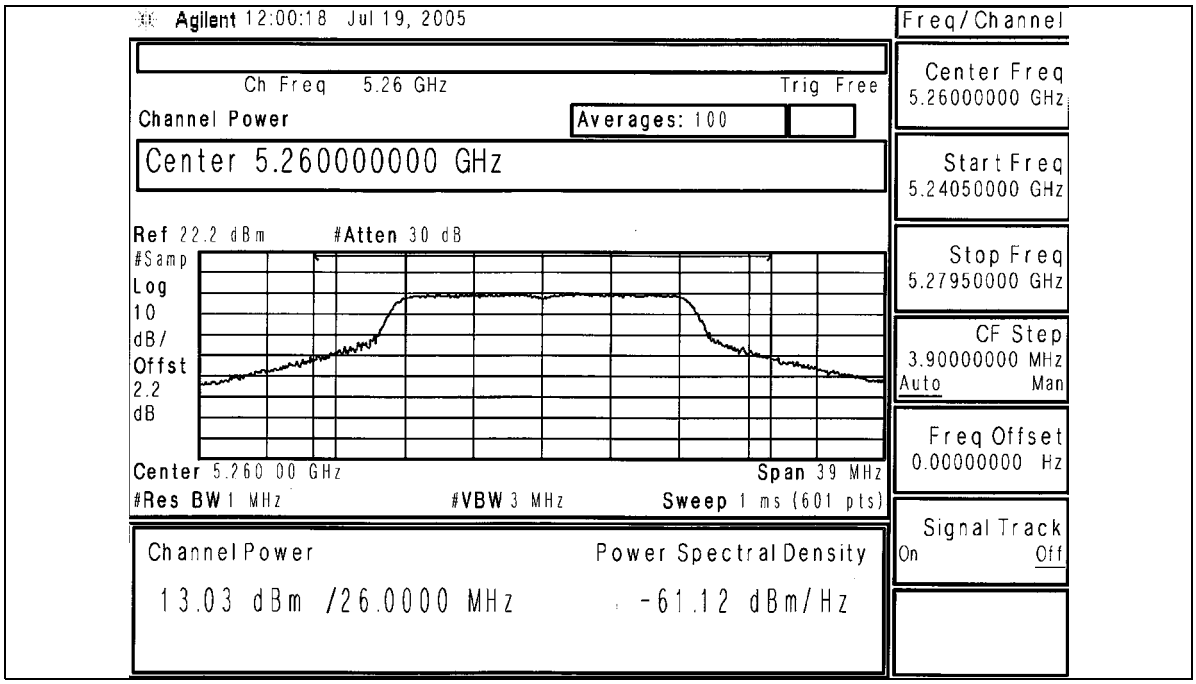


CH 5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Trig Free
Channel Power
Averages: 100
Center 5.260000000 GHz
Ref 22.2 dBm
#Atten 30 dB
#Samp
Log
10
dB/
Offst
2.2
dB
Center 5.260 00 GHz
Span 39 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
13.03 dBm /26.0000 MHz
Power Spectral Density
-61.12 dBm/Hz
Center Freq
5.26000000 GHz
Start Freq
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Freq Offset
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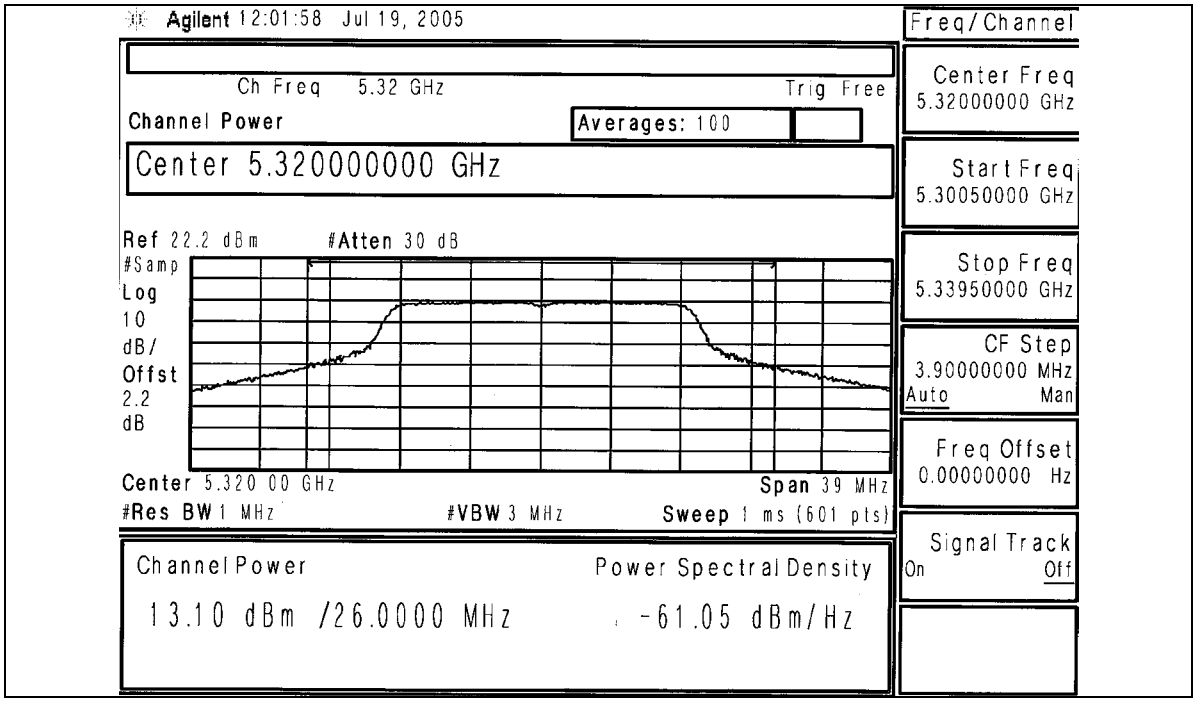
Off

CH 8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Trig Free
Channel Power
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Center 5.320000000 GHz
Ref 22.2 dBm
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#Samp
Log
10
dB/
Offst
2.2
dB
Center 5.320 00 GHz
Span 39 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
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Power Spectral Density
-61.05 dBm/Hz
Center Freq
5.32000000 GHz
Start Freq
5.30050000 GHz
Stop Freq
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CF Step
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Man
Freq Offset
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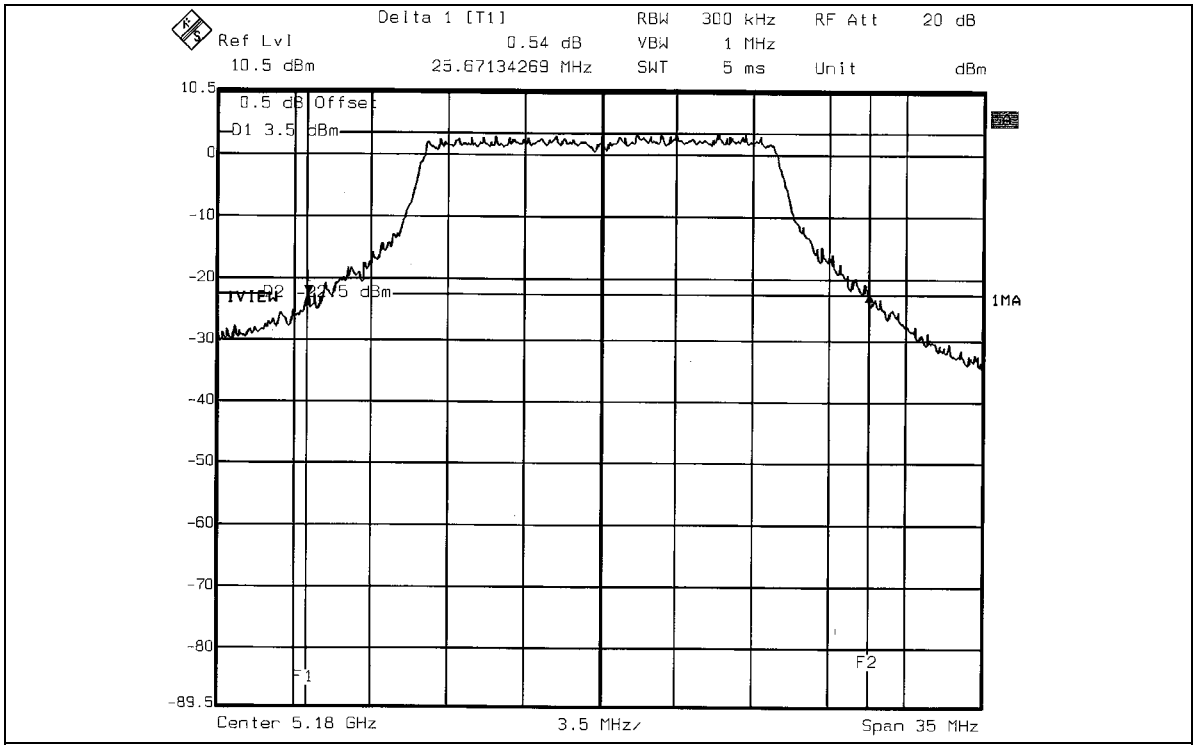
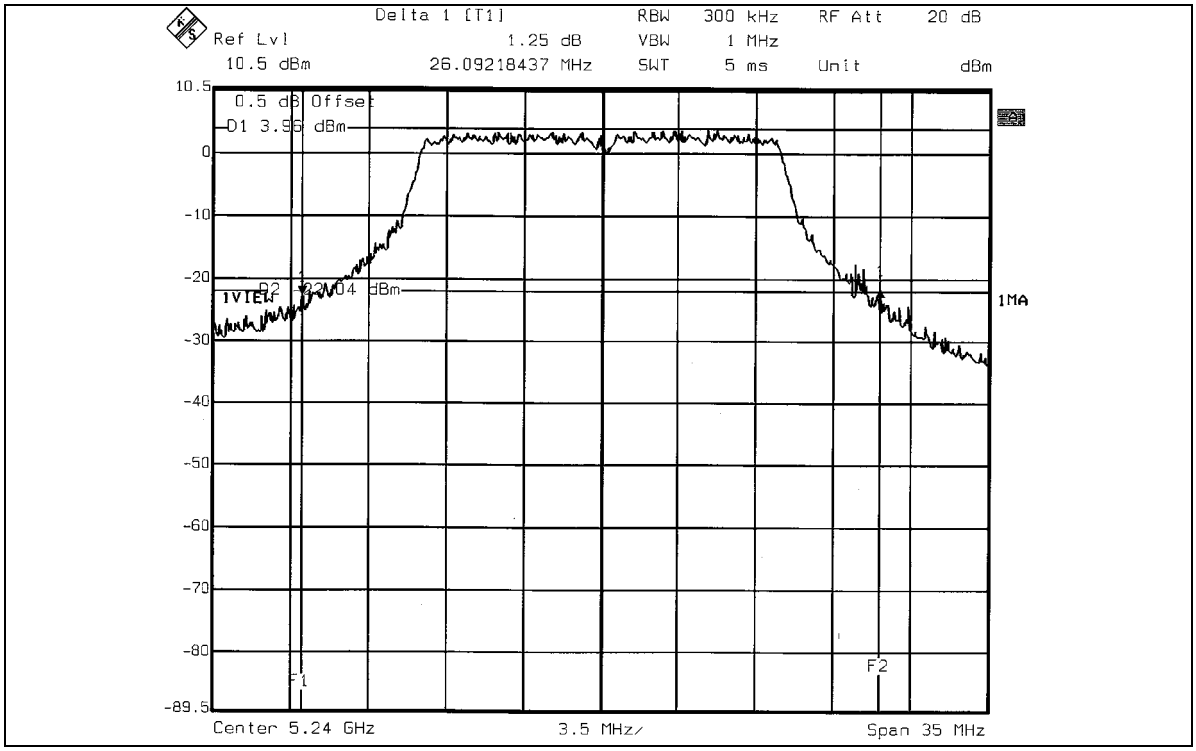
Signal Track
On
Off

26dB Occupied Bandwidth:

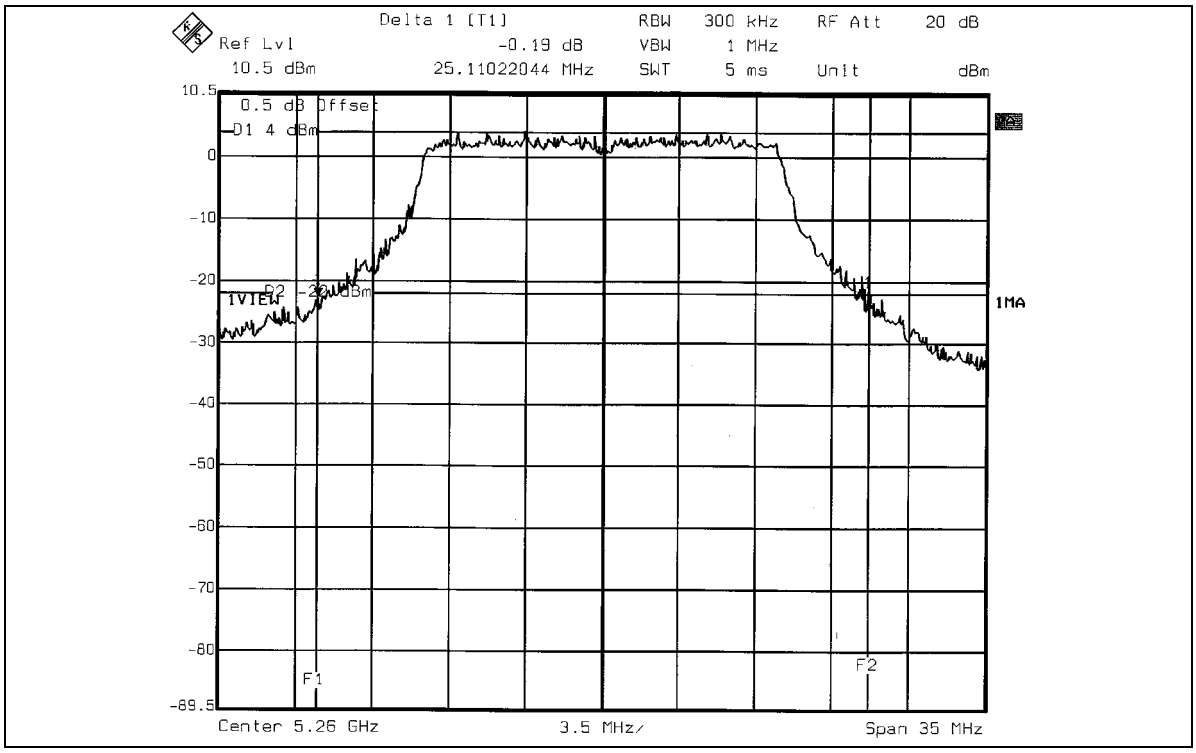
CH 1



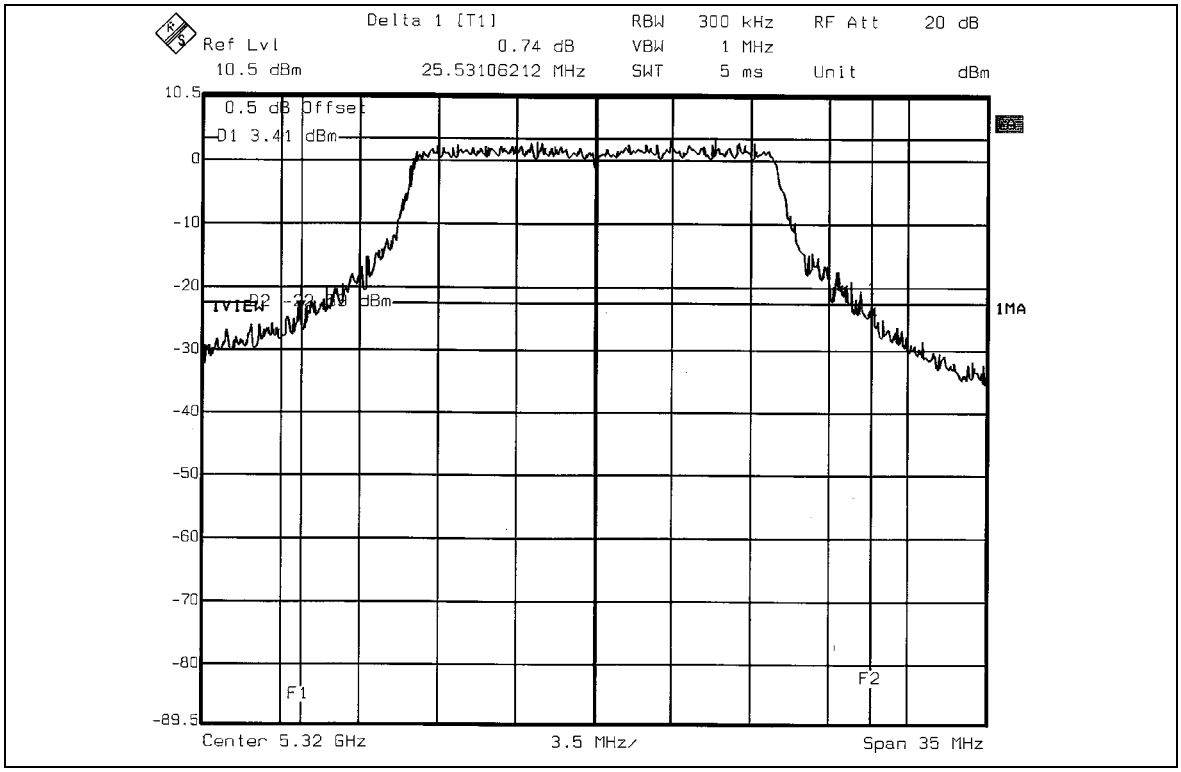
CH 4



CH 5


Delta 1 [T1]
RBW 300 kHz
RF Att 20 dB
Ref Lvl
-0.19 dB
VBW 1 MHz
10.5 dBm
25.11022044 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 4 dBm
D2 -20 dBm
1MA
F1
F2
Center 5.26 GHz
3.5 MHz/
Span 35 MHz

CH 8


Delta 1 [T1]
RBW 300 kHz
RF Att 20 dB
Ref Lvl
0.74 dB
VBW 1 MHz
10.5 dBm
25.53106212 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
D1 3.41 dBm
1MA
F1
F2
Center 5.32 GHz
3.5 MHz/
Span 35 MHz

802.11a Turbo OFDM modulation

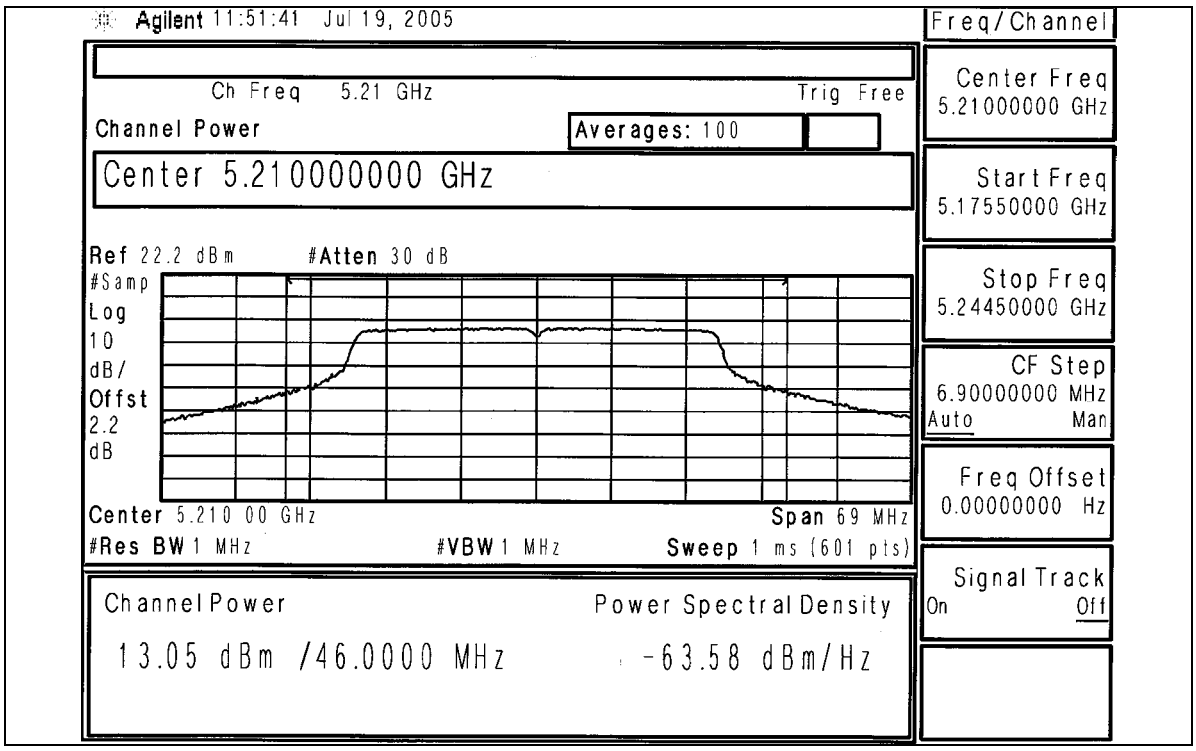
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS/FAIL
1	5210	20.184	13.05	17.00	45.45	PASS
2	5250	20.230	13.06	17.00	44.49	PASS
3	5290	20.370	13.09	24.00	46.89	PASS

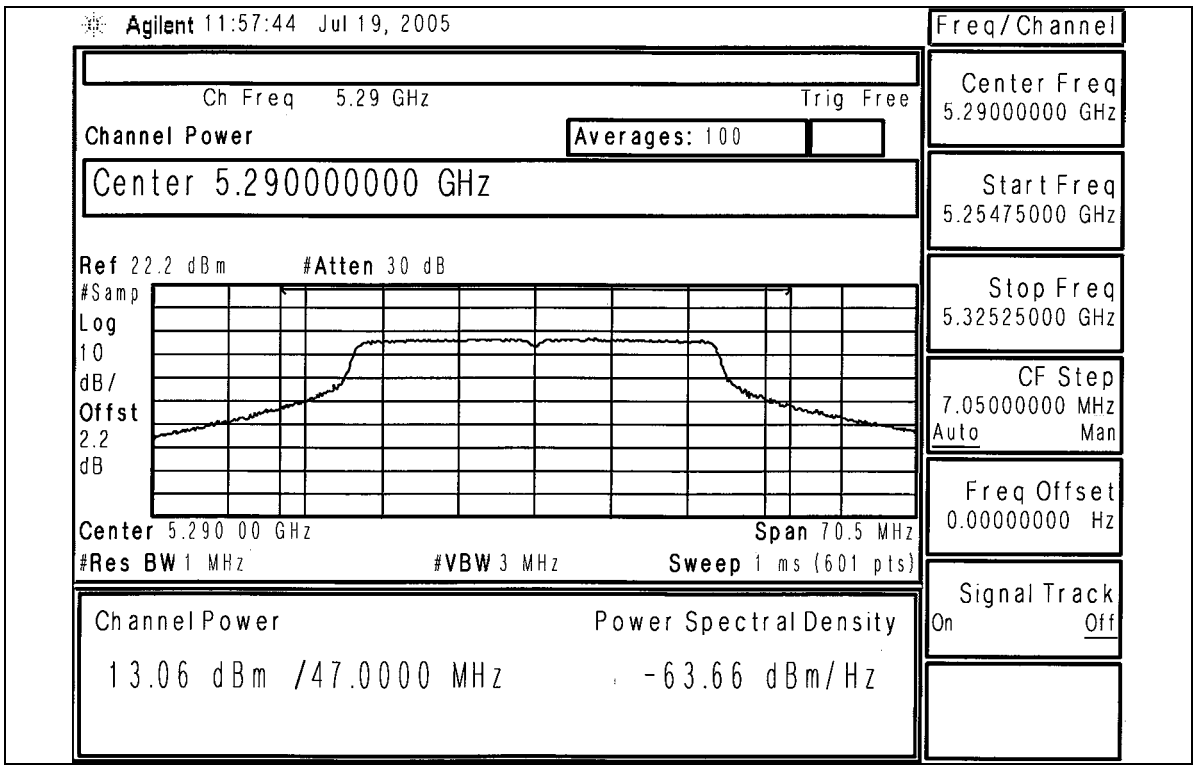
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Peak Power Output:

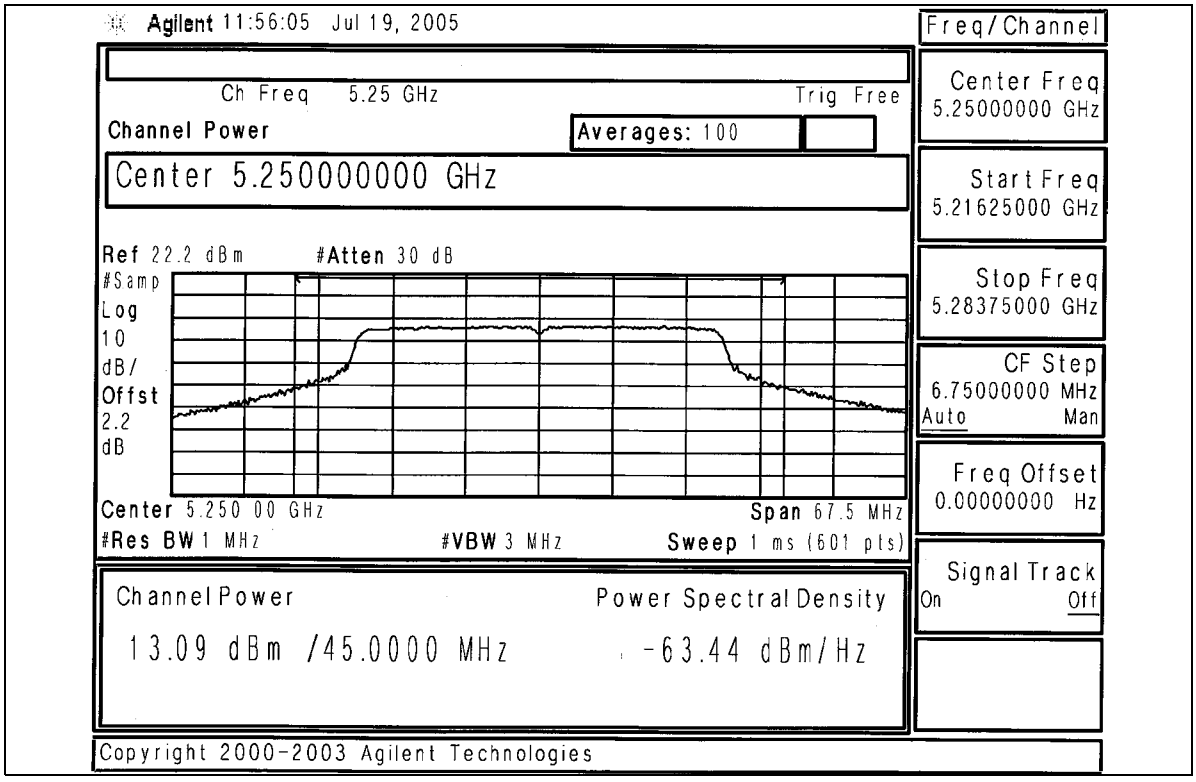
CH 1



CH 2

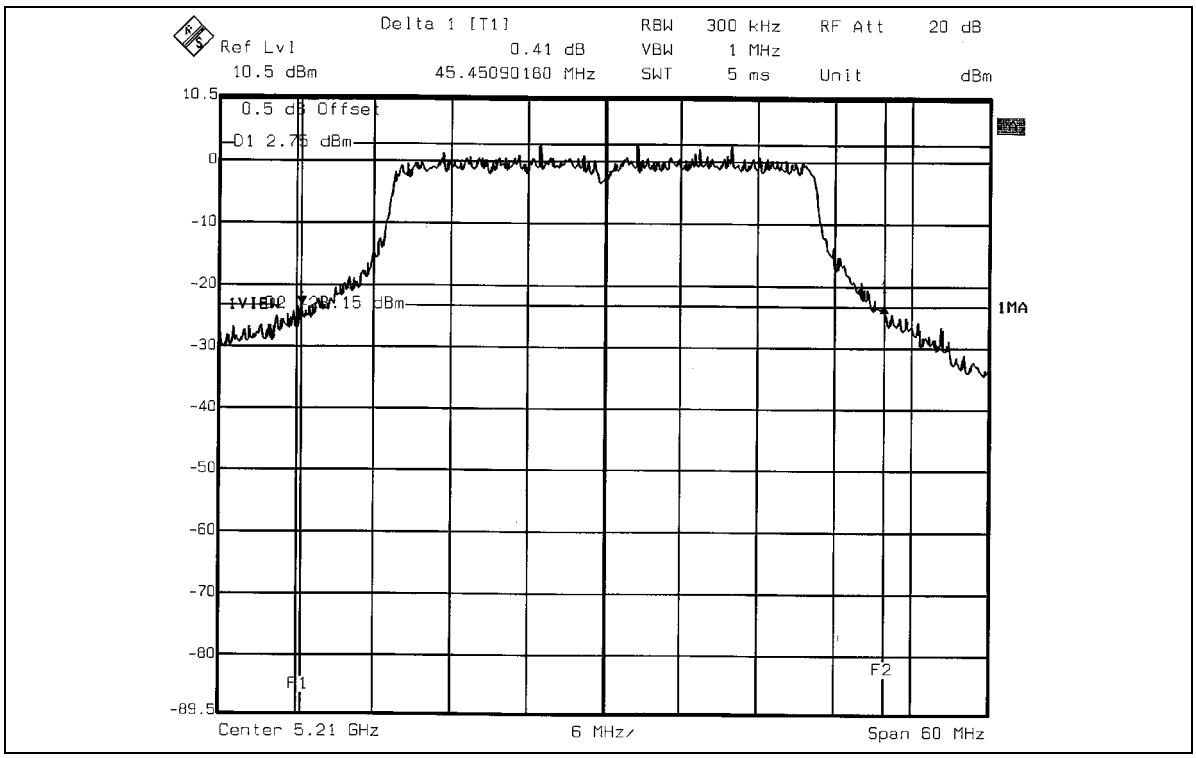


CH 3

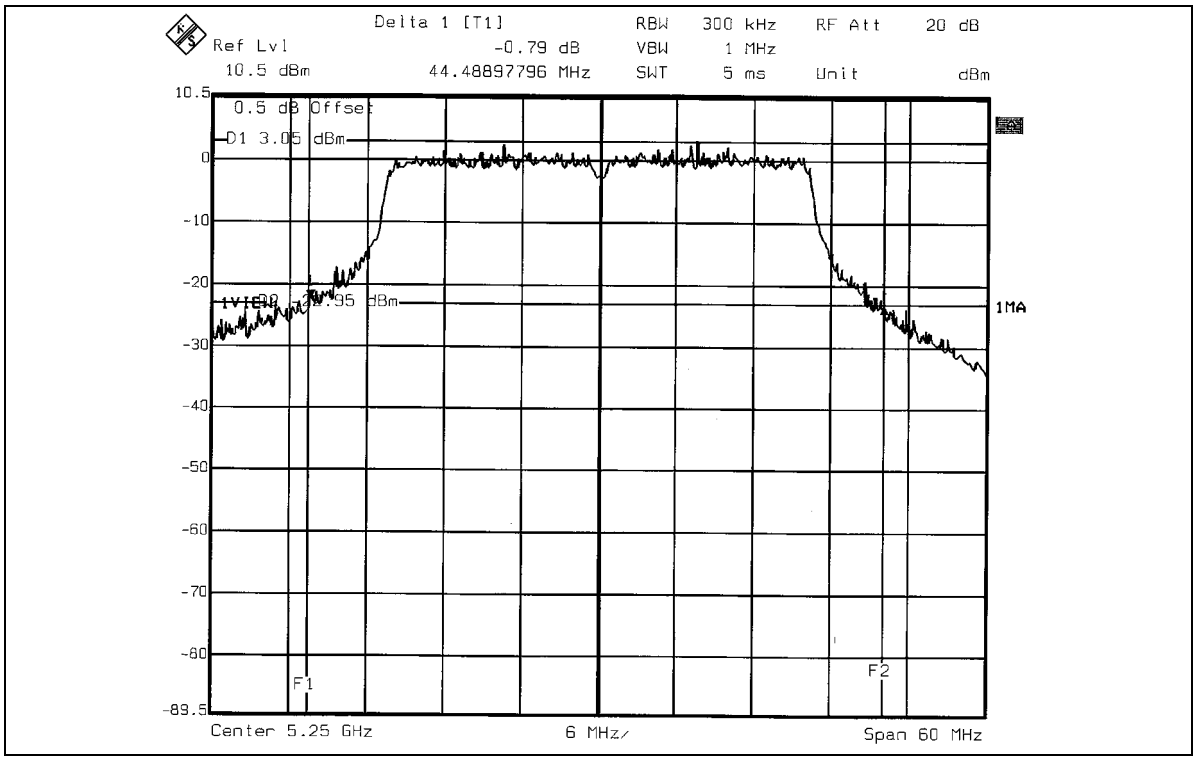

Agilent 11:56:05 Jul 19, 2005
Freq/Channel
Ch Freq 5.25 GHz
Trig Free
Channel Power
Averages: 100
Center 5.250000000 GHz
Ref 22.2 dBm
#Atten 30 dB
#Samp
Log
10
dB/
Offst
2.2
dB
Center 5.250 00 GHz
Span 67.5 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
13.09 dBm /45.0000 MHz
Power Spectral Density
-63.44 dBm/Hz
Center Freq
5.25000000 GHz
Start Freq
5.21625000 GHz
Stop Freq
5.28375000 GHz
CF Step
6.75000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Copyright 2000-2003 Agilent Technologies

26dB Occupied Bandwidth:

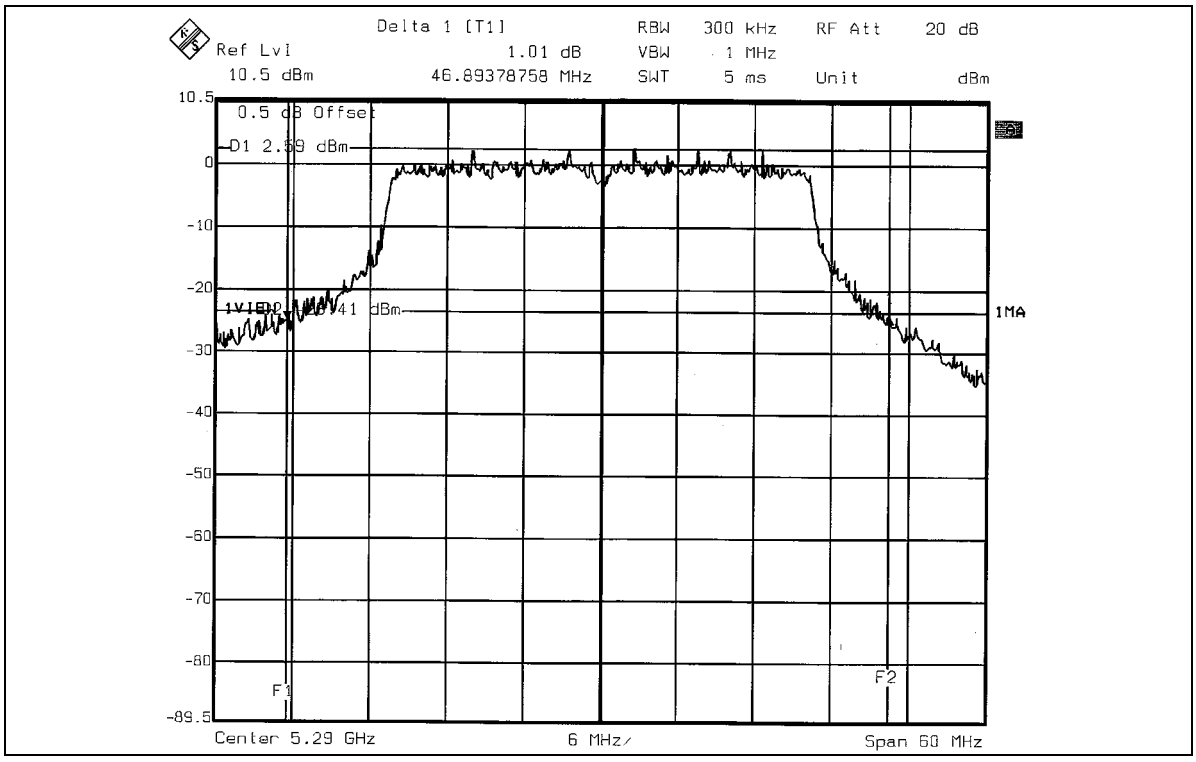
CH 1



CH 2



CH 3


Delta 1 [T1]
Ref Lvl
10.5 dBm
1.01 dB
46.89378758 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
0.5 dB Offset
D1 2.59 dBm
1MA
F1
F2
Center 5.29 GHz
6 MHz/
Span 60 MHz

4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.725 – 5.825 GHz	13dB

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
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.

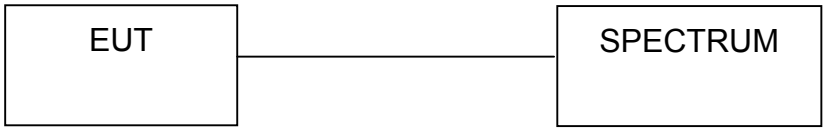
4.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

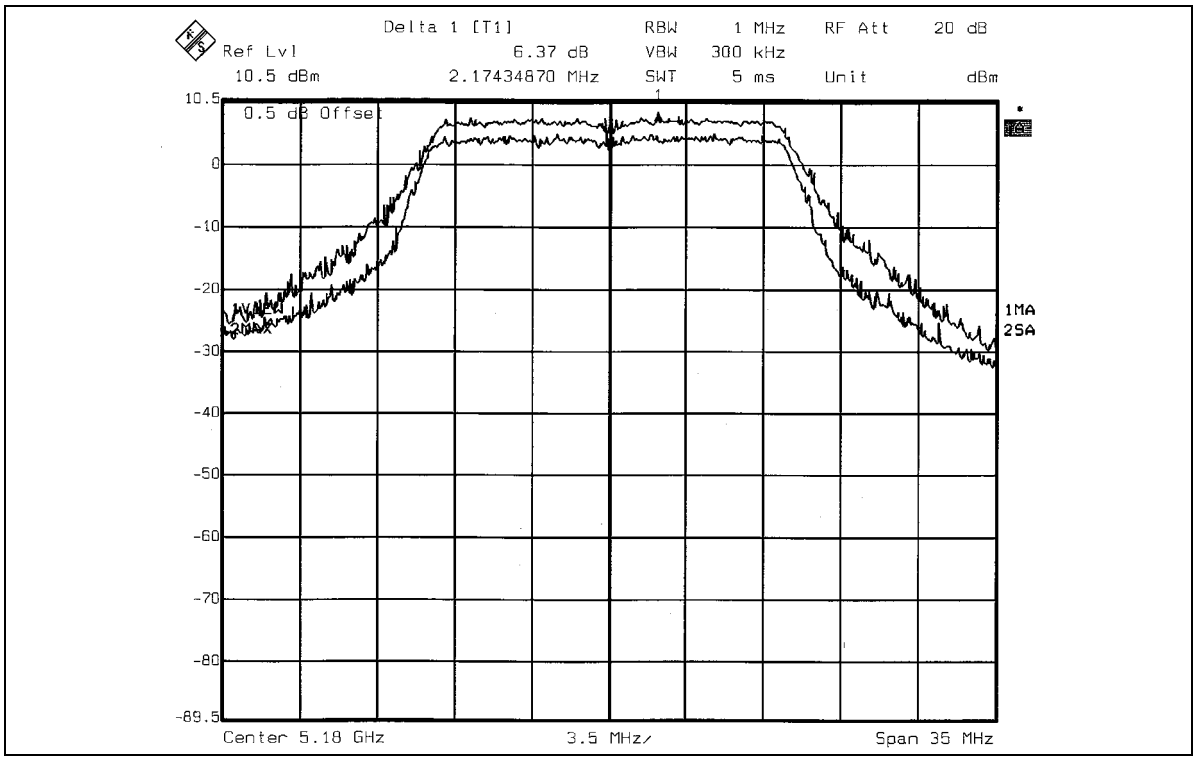
4.4.7 TEST RESULTS

802.11a OFDM modulation

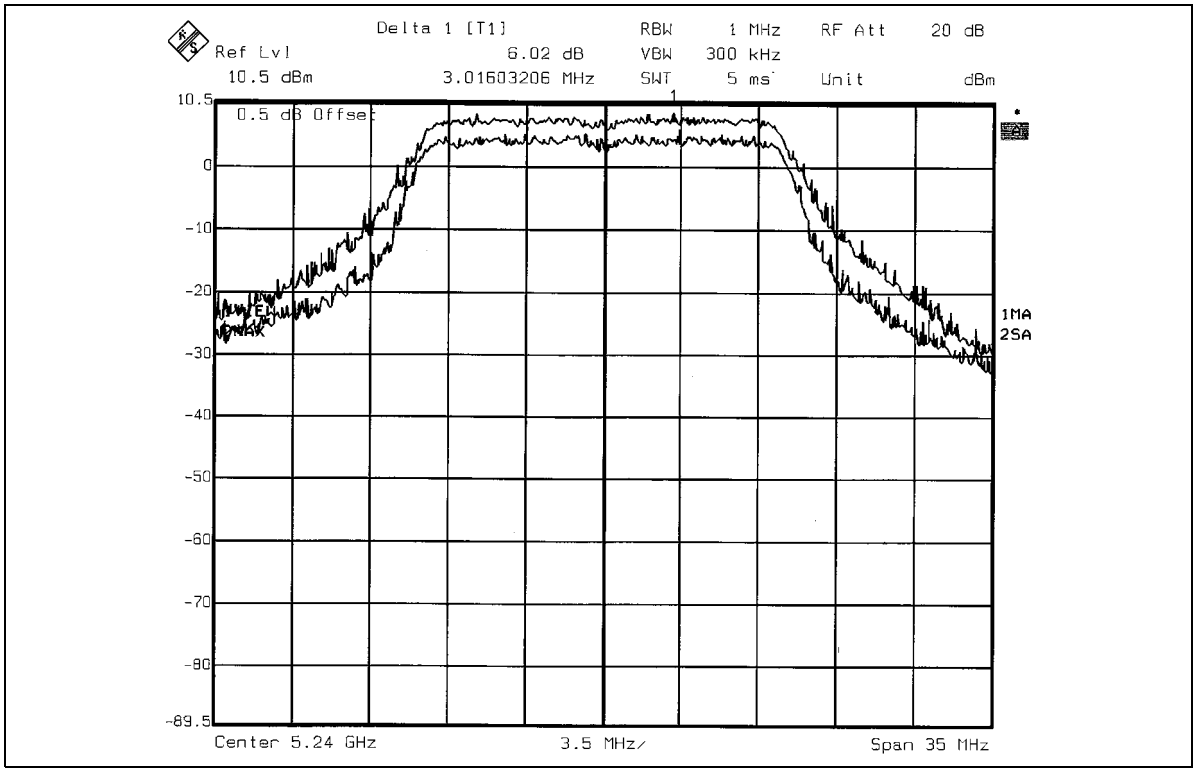
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	6.37	13	PASS
4	5240	6.02	13	PASS
5	5260	5.77	13	PASS
8	5320	6.60	13	PASS

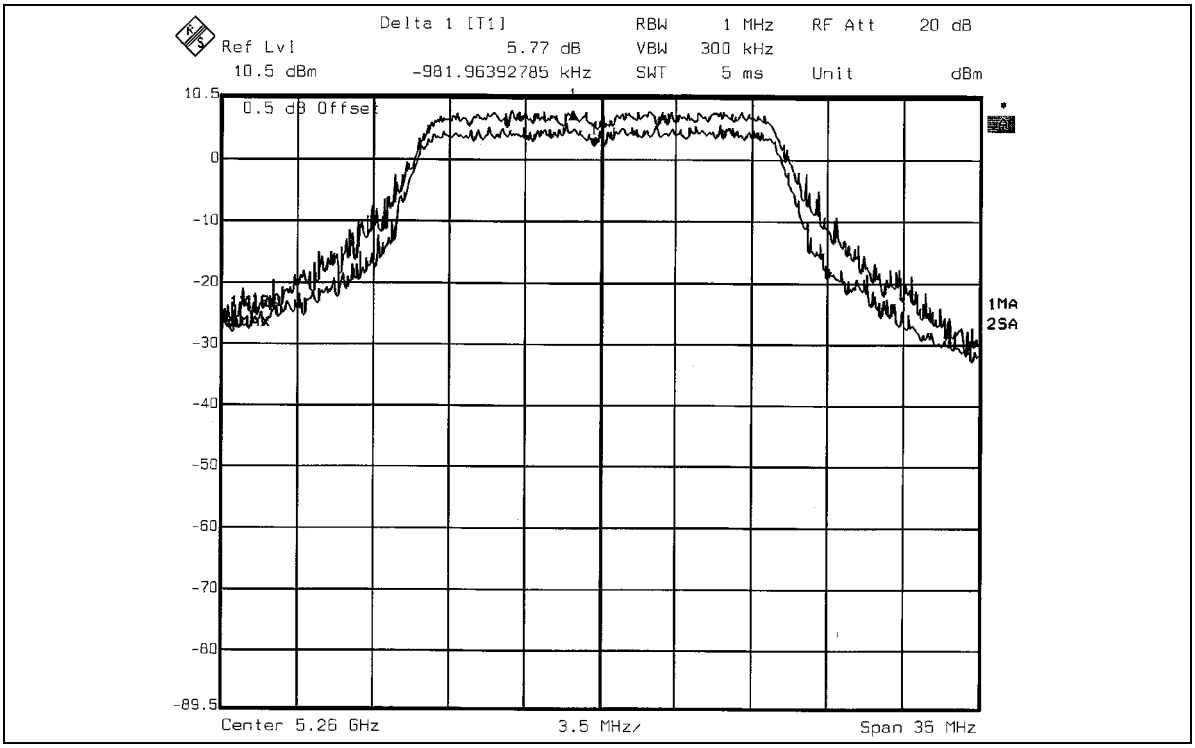
CH 1


Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
6.37 dB
VBW 300 kHz
10.5 dBm
2.17434870 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.18 GHz
3.5 MHz/
Span 35 MHz

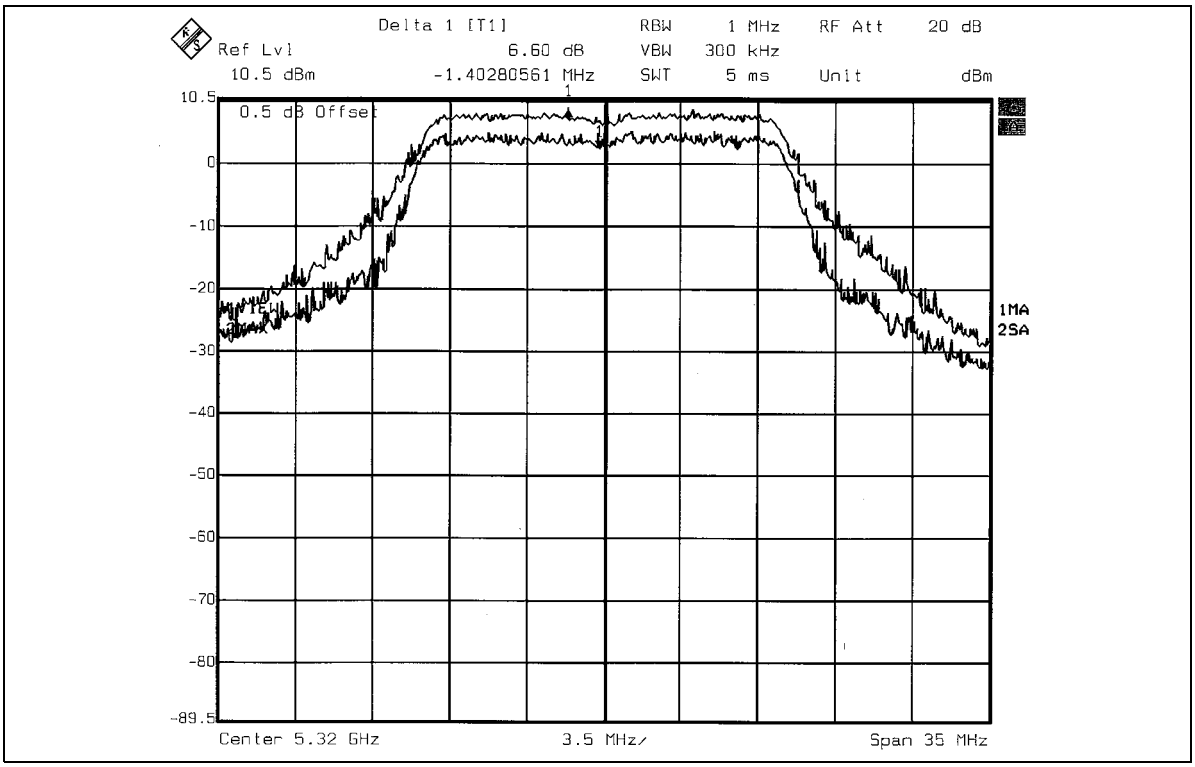
CH 4


Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
6.02 dB
VBW 300 kHz
10.5 dBm
3.01603206 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.24 GHz
3.5 MHz/
Span 35 MHz

CH 5


Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
5.77 dB
VBW 300 kHz
10.5 dBm
-981.96392785 kHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.26 GHz
3.5 MHz/
Span 35 MHz

CH 8

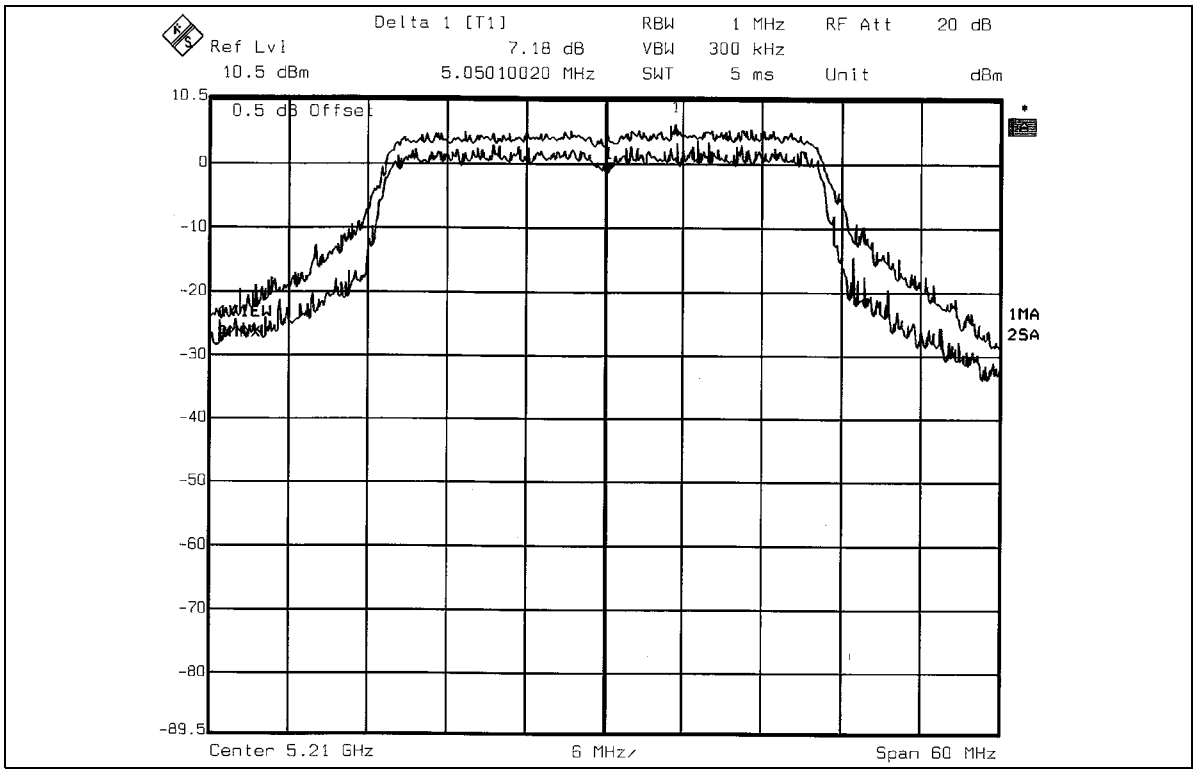

Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
6.60 dB
VBW 300 kHz
10.5 dBm
-1.40280561 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.32 GHz
3.5 MHz/
Span 35 MHz

802.11a Turbo OFDM modulation

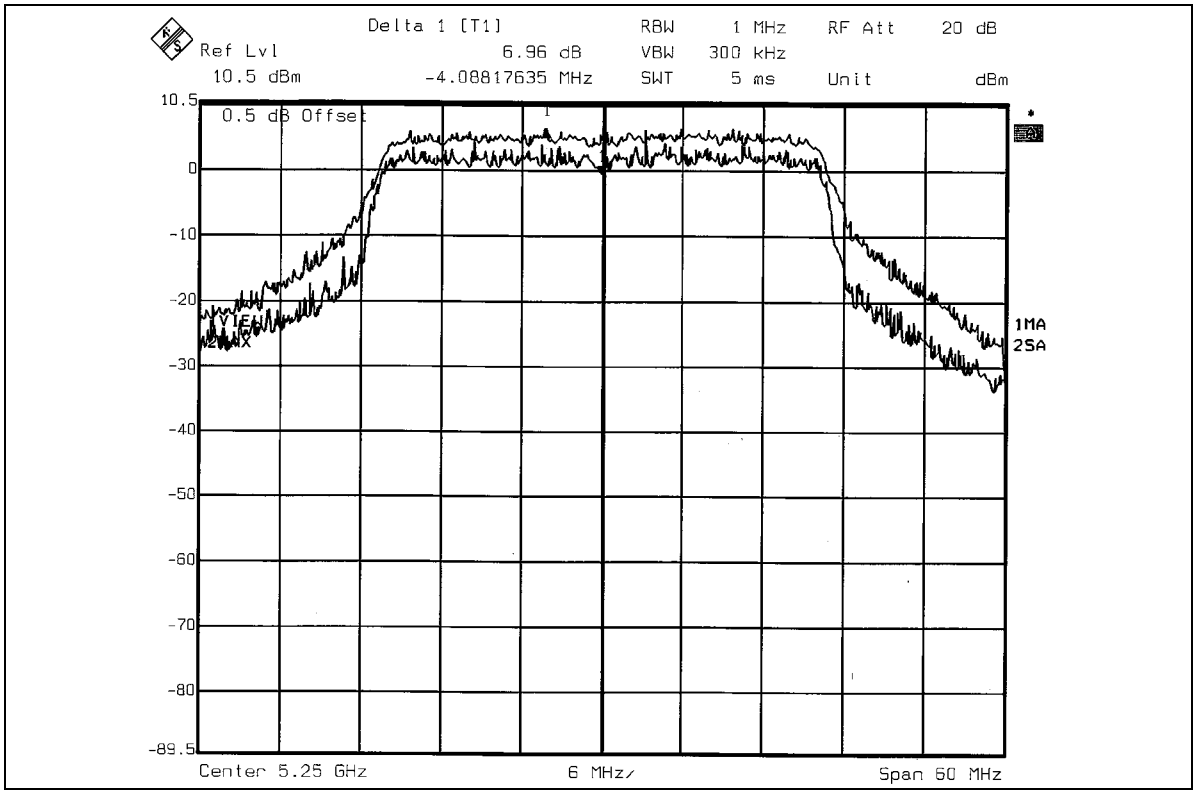
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5210	7.18	13	PASS
2	5250	6.96	13	PASS
3	5290	6.10	13	PASS

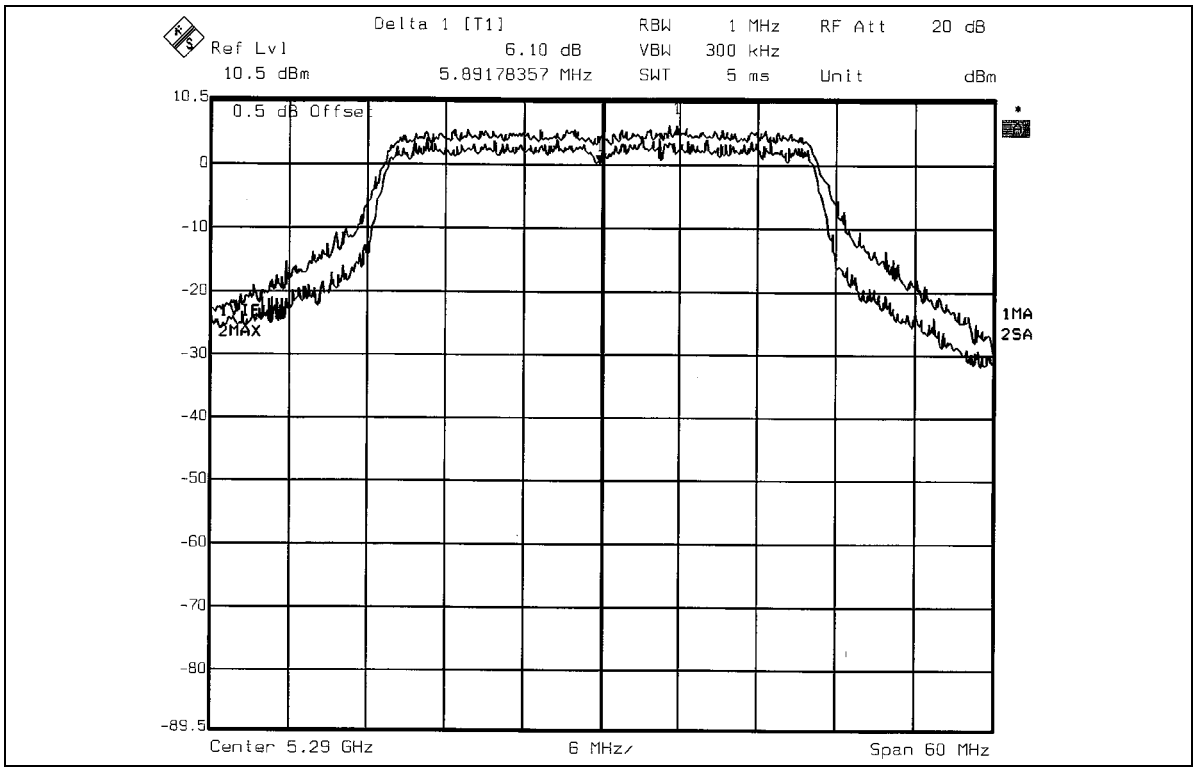
CH 1


Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
7.18 dB
VBW 300 kHz
10.5 dBm
5.05010020 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.21 GHz
6 MHz/
Span 60 MHz

CH 2


Delta 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
6.96 dB
VBW 300 kHz
10.5 dBm
-4.08817635 MHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.25 GHz
6 MHz/
Span 60 MHz

CH 3


Delta 1 [T1]
6.10 dB
5.89178357 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1MA
2SA
Center 5.29 GHz
6 MHz/
Span 60 MHz

4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 ~ 5.25GHz	4dBm
5.25 ~ 5.35GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
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.

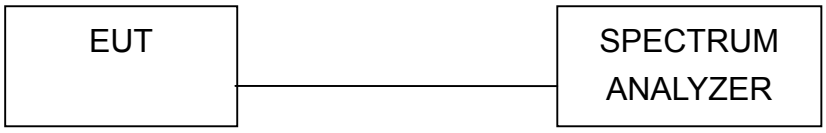
4.5.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6

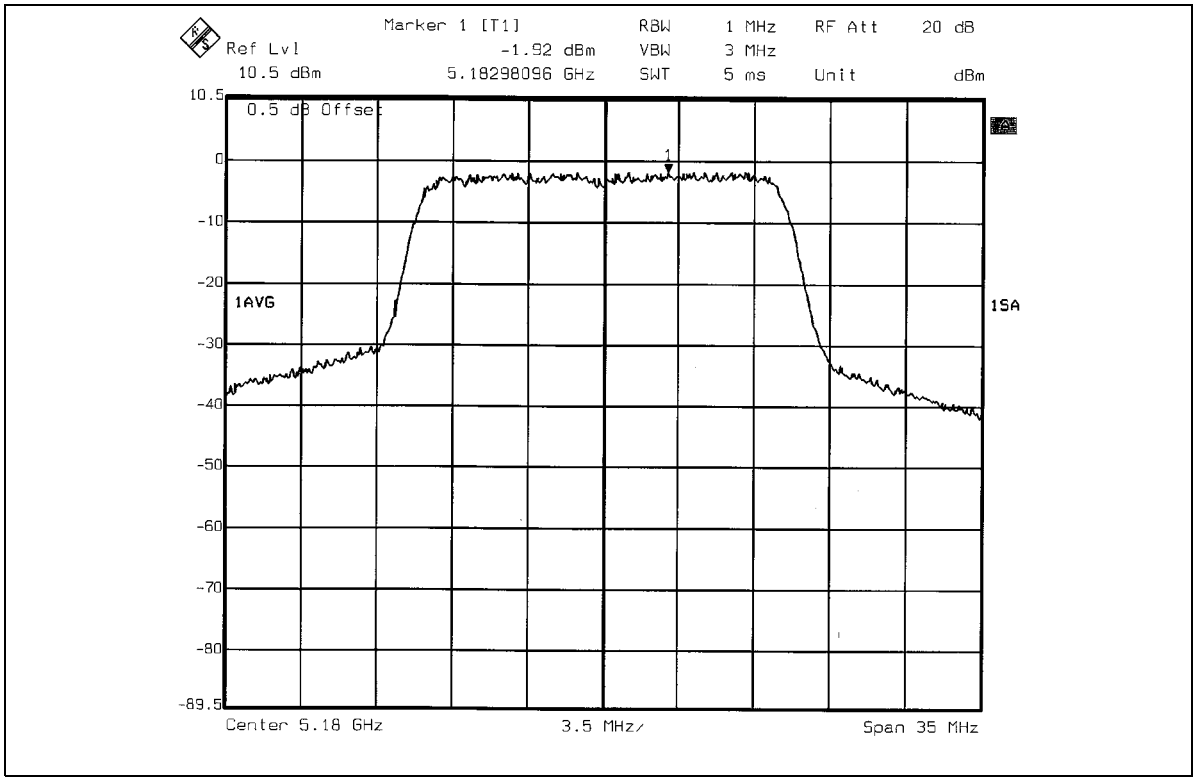
4.5.7 TEST RESULTS

802.11a OFDM modulation

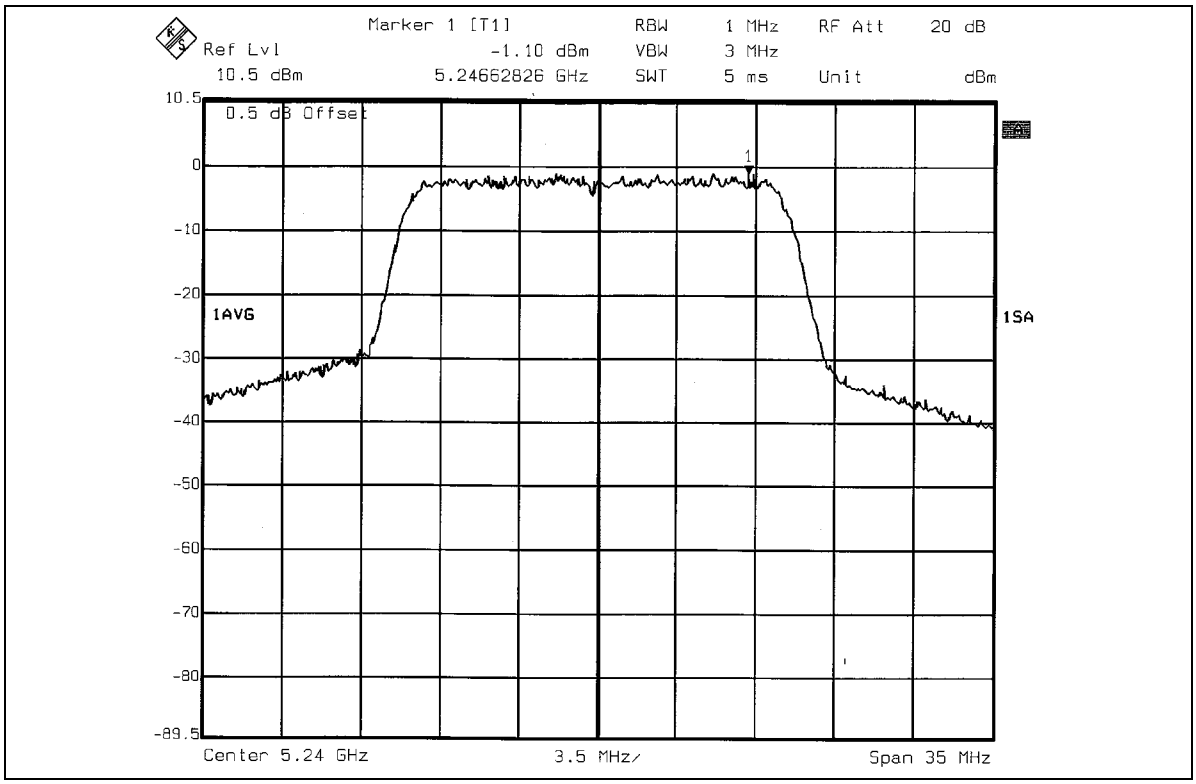
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-1.92	4	PASS
4	5240	-1.10	4	PASS
5	5260	-1.19	11	PASS
8	5320	-1.77	11	PASS

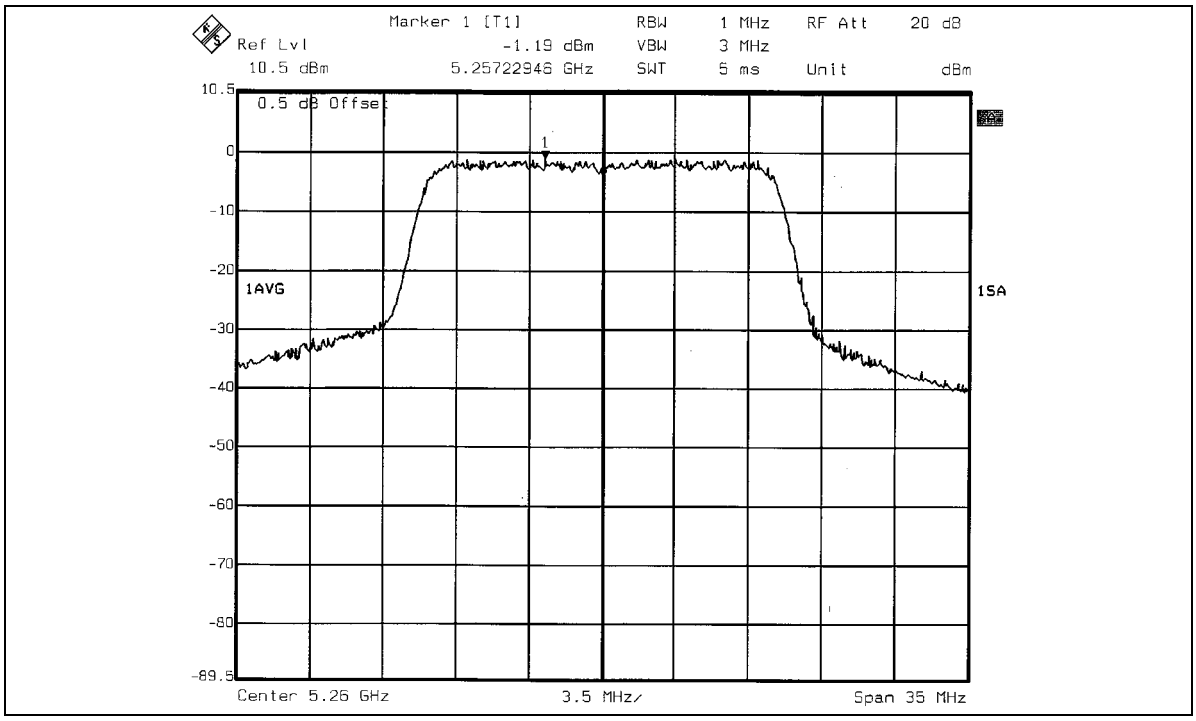
CH 1


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-1.92 dBm
VBW 3 MHz
10.5 dBm
5.18298096 GHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1AVG
1SA
Center 5.18 GHz
3.5 MHz/
Span 35 MHz

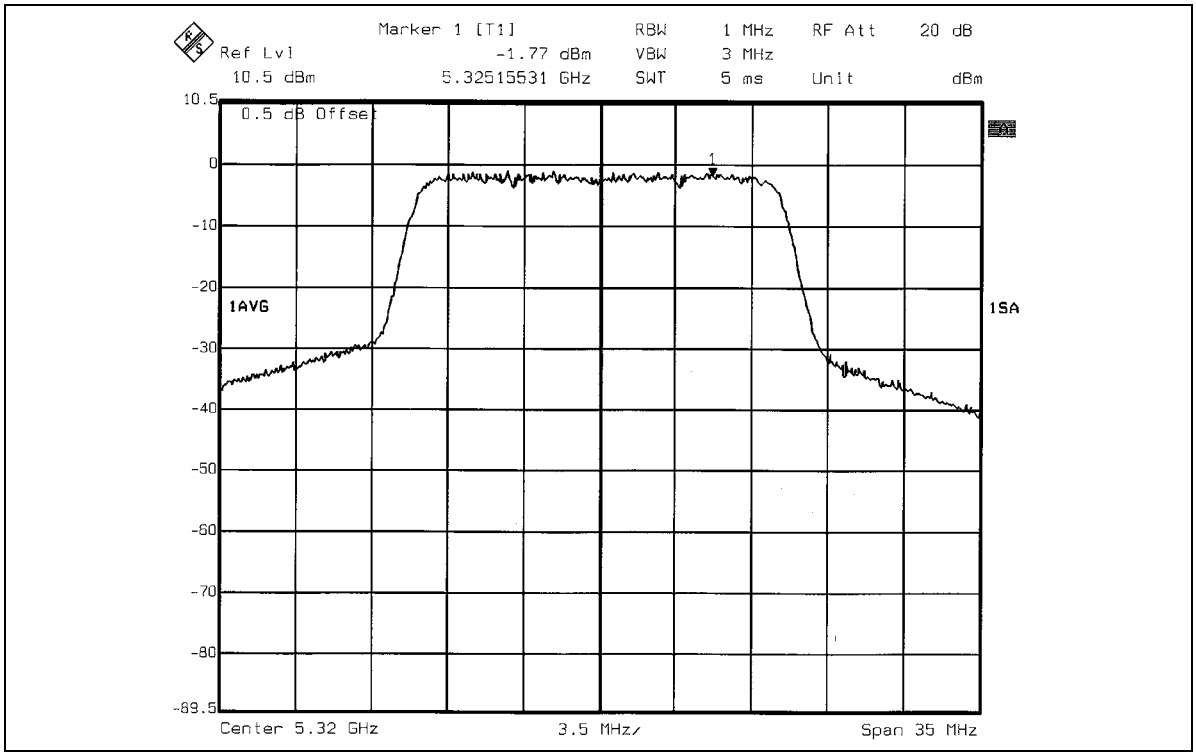
CH 4


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-1.10 dBm
VBW 3 MHz
10.5 dBm
5.24662826 GHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1AVG
1SA
Center 5.24 GHz
3.5 MHz/
Span 35 MHz

CH 5


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-1.19 dBm
VBW 3 MHz
10.5 dBm
5.25722946 GHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1AVG
1SA
Center 5.26 GHz
3.5 MHz/
Span 35 MHz

CH 8

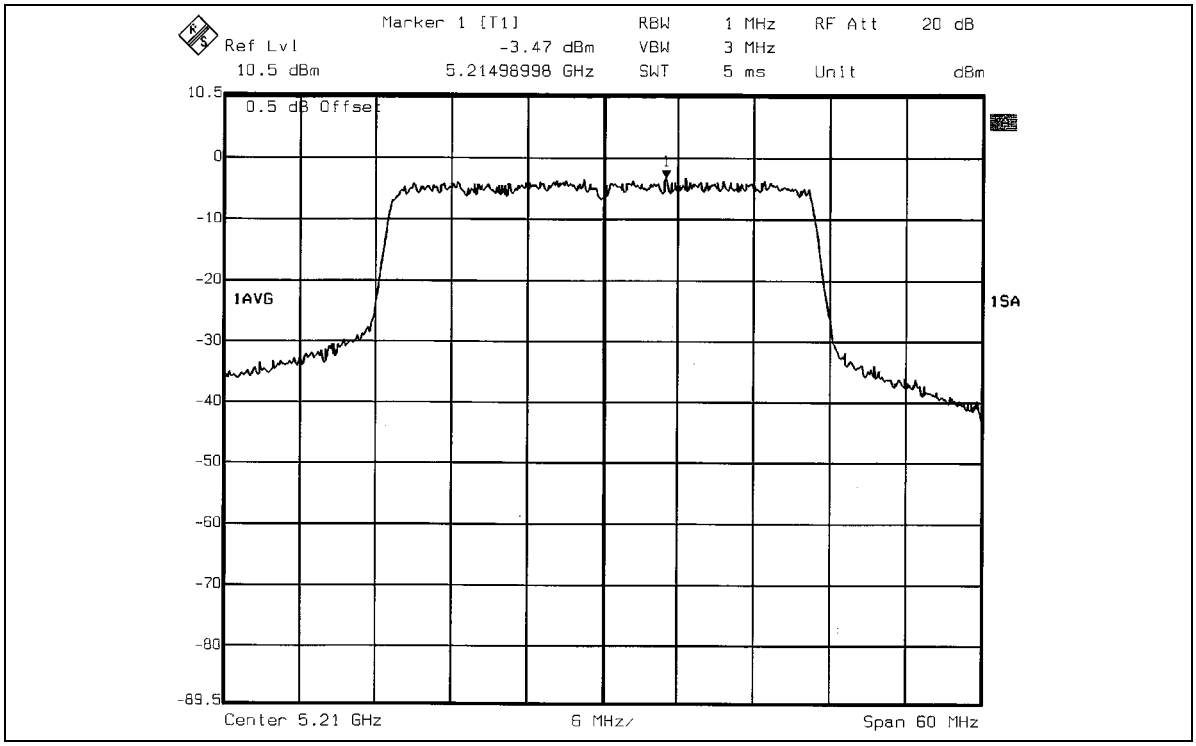

Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-1.77 dBm
VBW 3 MHz
10.5 dBm
5.32515531 GHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1AVG
1SA
Center 5.32 GHz
3.5 MHz/
Span 35 MHz

802.11a Turbo OFDM modulation

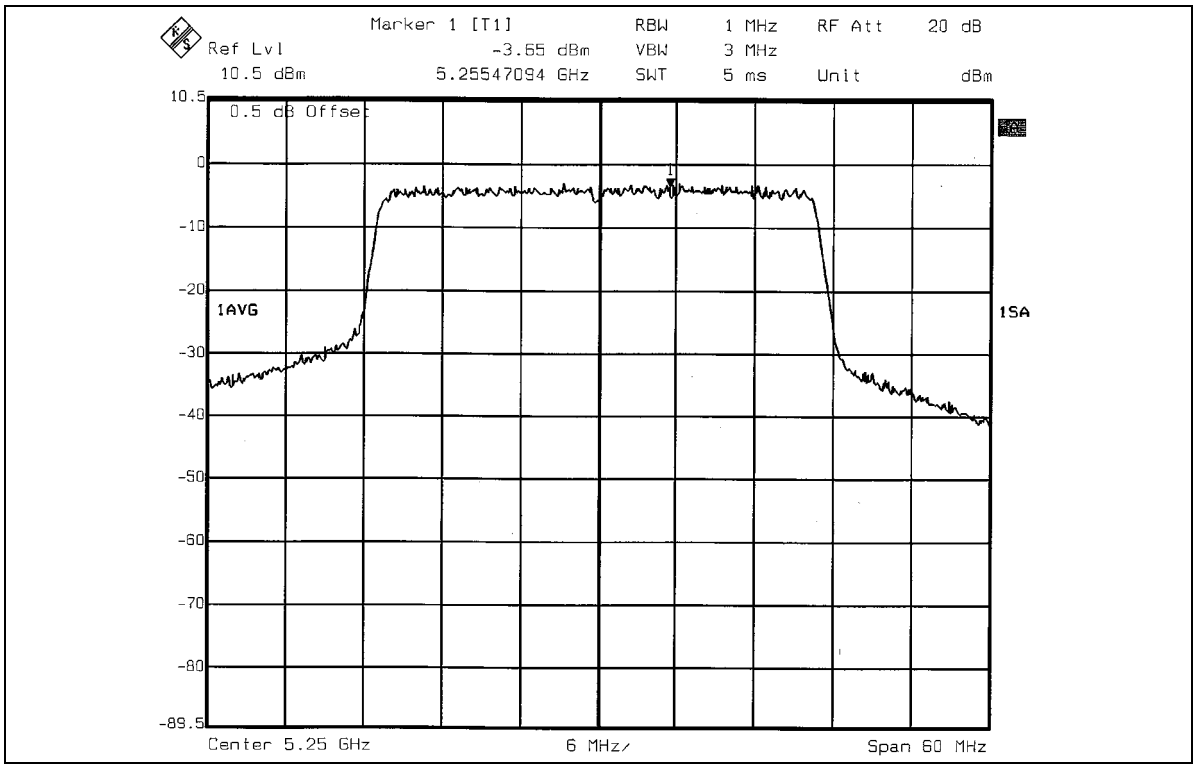
EUT	Wireless 11a+g Dual-Band AP Router	**MODEL**	WX-7615A
MODULATION TYPE	BPSK	**TRANSFER RATE**	12Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 67%RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5210	-3.47	4	PASS
2	5250	-3.65	4	PASS
3	5290	-3.72	11	PASS

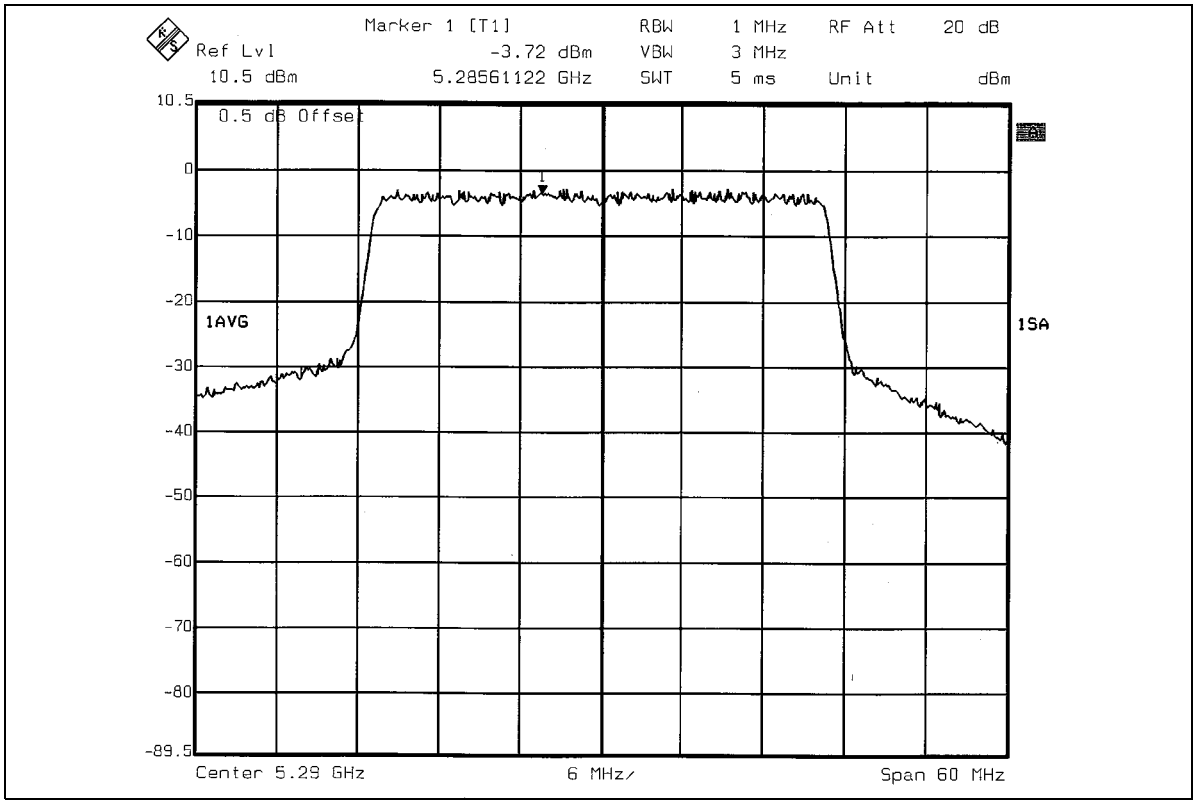
CH 1


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-3.47 dBm
VBW 3 MHz
10.5 dBm
5.21498998 GHz
SWT 5 ms
Unit dBm
10.5
0.5 dB Offset
0
-10
-20
1AVG
1SA
-30
-40
-50
-60
-70
-80
-89.5
Center 5.21 GHz
6 MHz/
Span 60 MHz

CH 2


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-3.65 dBm
VBW 3 MHz
10.5 dBm
5.25547094 GHz
SWT 5 ms
Unit dBm
10.5
0.5 dB Offset
0
-10
-20
1AVG
1SA
-30
-40
-50
-60
-70
-80
-89.5
Center 5.25 GHz
6 MHz/
Span 60 MHz

CH 3


Marker 1 [T1]
RBW 1 MHz
RF Att 20 dB
Ref Lvl
-3.72 dBm
VBW 3 MHz
10.5 dBm
5.28561122 GHz
SWT 5 ms
Unit dBm
0.5 dB Offset
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5
1AVG
1SA
Center 5.29 GHz
6 MHz/
Span 60 MHz

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Aug. 12, 2005
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	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.

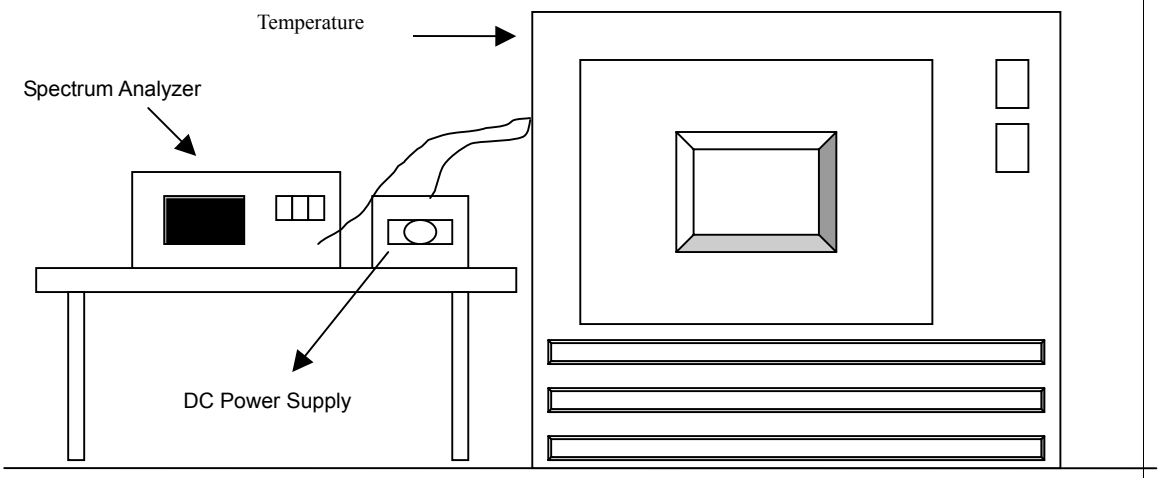
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.01%			
Temp. (℃)	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	138	5320.0095	0.0001786	5320.0120	0.0002256	5320.0138	0.0002594
	120	5320.0105	0.0001974	5320.0126	0.0002368	5320.0144	0.0002707
	102	5320.0112	0.0002105	5320.0130	0.0002444	5320.0147	0.0002763
40	138	5319.9952	-0.0000902	5319.9957	-0.0000808	5319.9965	-0.0000658
	120	5319.9953	-0.0000883	5319.9959	-0.0000771	5319.9968	-0.0000602
	102	5319.9955	-0.0000846	5319.9962	-0.0000714	5319.9971	-0.0000545
30	138	5319.9937	-0.0001184	5319.9938	-0.0001165	5319.9939	-0.0001147
	120	5319.9937	-0.0001184	5319.9938	-0.0001165	5319.9939	-0.0001147
	102	5319.9938	-0.0001165	5319.9939	-0.0001147	5319.9940	-0.0001128
20	138	5319.9949	-0.0000959	5319.9947	-0.0000996	5319.9944	-0.0001053
	120	5319.9949	-0.0000959	5319.9954	-0.0000865	5319.9940	-0.0001128
	102	5319.9947	-0.0000996	5319.9954	-0.0000865	5319.9950	-0.0000940
10	138	5319.9921	-0.0001485	5319.9925	-0.0001410	5319.9927	-0.0001372
	120	5319.9923	-0.0001447	5319.9926	-0.0001391	5319.9929	-0.0001335
	102	5319.9925	-0.0001410	5319.9926	-0.0001391	5319.9930	-0.0001316
0	138	5319.9962	-0.0000714	5319.9961	-0.0000733	5319.9960	-0.0000752
	120	5319.9961	-0.0000733	5319.9960	-0.0000752	5319.9961	-0.0000733
	102	5319.9961	-0.0000733	5319.9610	-0.0007331	5319.9961	-0.0000733
-10	138	5320.0065	0.0001222	5320.0067	0.0001259	5320.0068	0.0001278
	120	5320.0065	0.0001222	5320.0068	0.0001278	5320.0070	0.0001316
	102	5320.0066	0.0001241	5320.0069	0.0001297	5320.0070	0.0001316
-20	138	5319.9972	-0.0000526	5319.9970	-0.0000564	5319.9970	-0.0000564
	120	5319.9970	-0.0000564	5319.9970	-0.0000564	5319.9971	-0.0000545
	102	5319.9970	-0.0000564	5319.9768	-0.0004361	5319.9969	-0.0000583
-30	138	5319.9915	-0.0001598	5319.9913	-0.0001635	5319.9909	-0.0001711
	120	5319.9915	-0.0001598	5319.9912	-0.0001654	5319.9908	-0.0001729
	102	5319.9914	-0.0001617	5319.9912	-0.0001654	5319.9908	-0.0001729

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
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.

4.7.2 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 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

802.11a OFDM modulation

Channel 1 (5180MHz)

The band edge emission plot on page 64 shows 50.17dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 111.27dBuV/m (Peak), so the maximum field strength in restrict band is 111.27-50.17=61.10dBuV/m which is under 74dBuV/m limit.

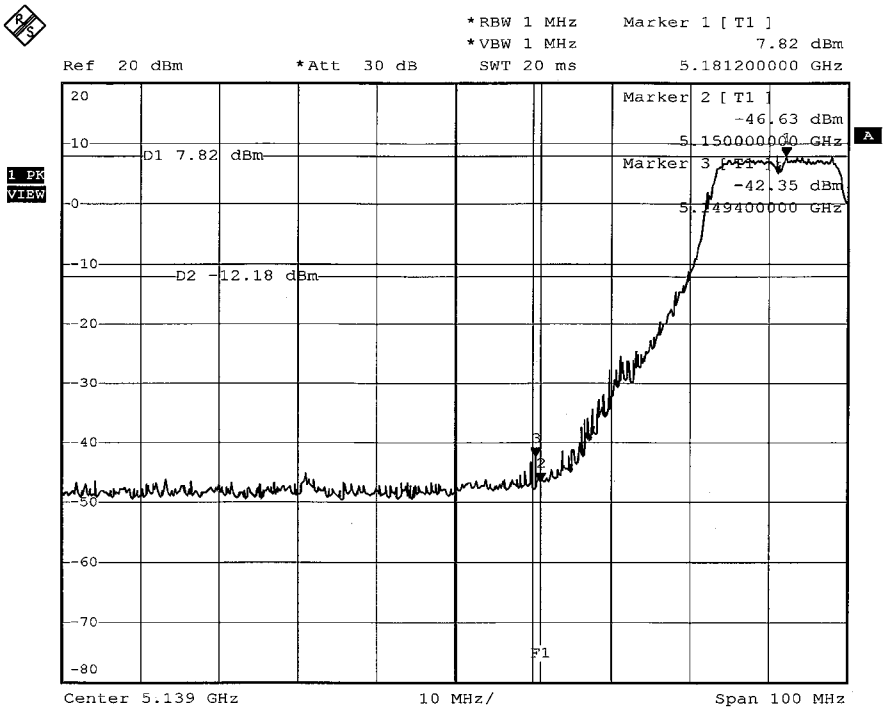
The band edge emission plot on page 64 shows 54.14dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 99.98dBuV/m (Average), so the maximum field strength in restrict band is 99.98-54.14=45.84dBuV/m which is under 54dBuV/m limit.

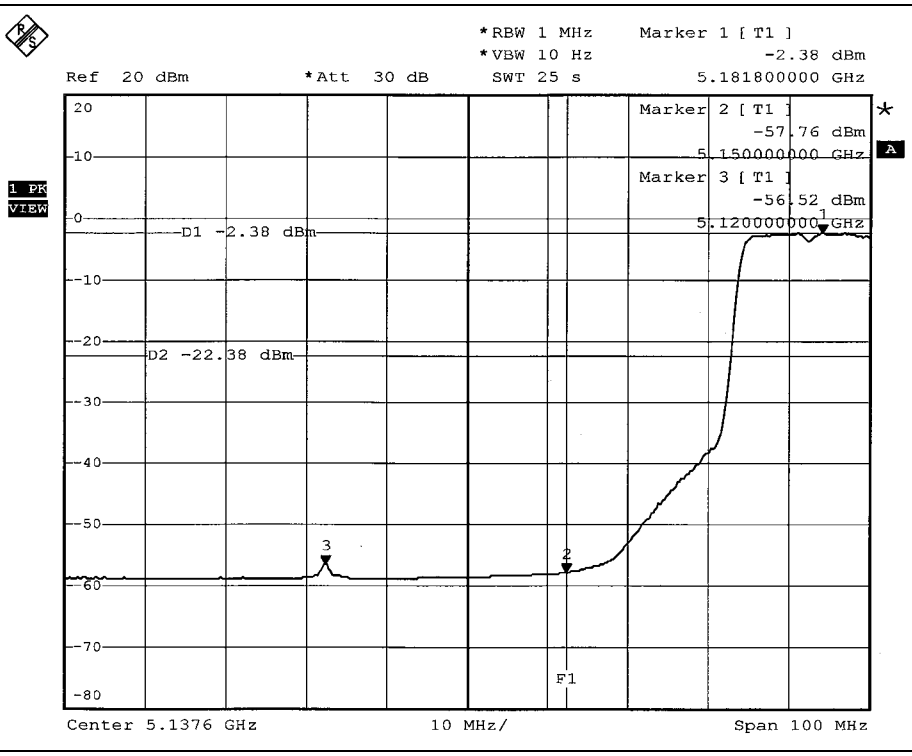
Channel 8 (5320MHz)

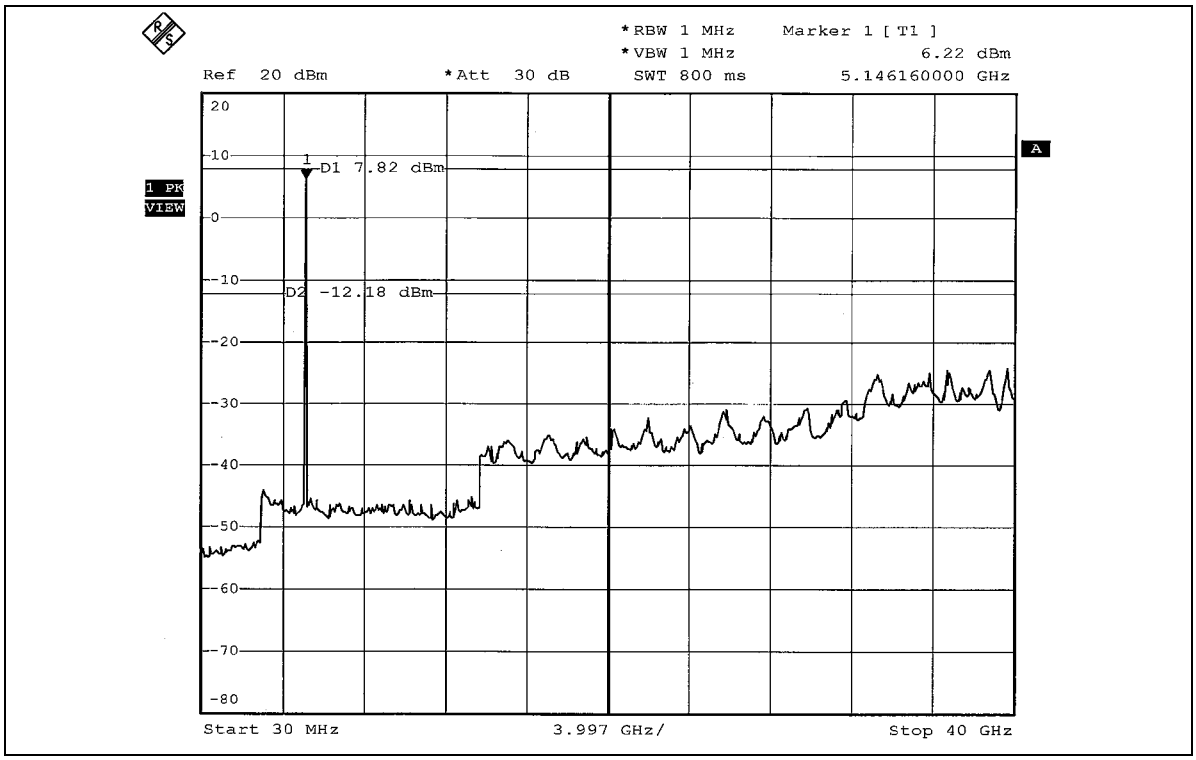
The band edge emission plot on page 65 shows 53.72dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 112.30dBuV/m (Peak), so the maximum field strength in restrict band is 112.30-53.72=58.58dBuV/m which is under 74dBuV/m limit.

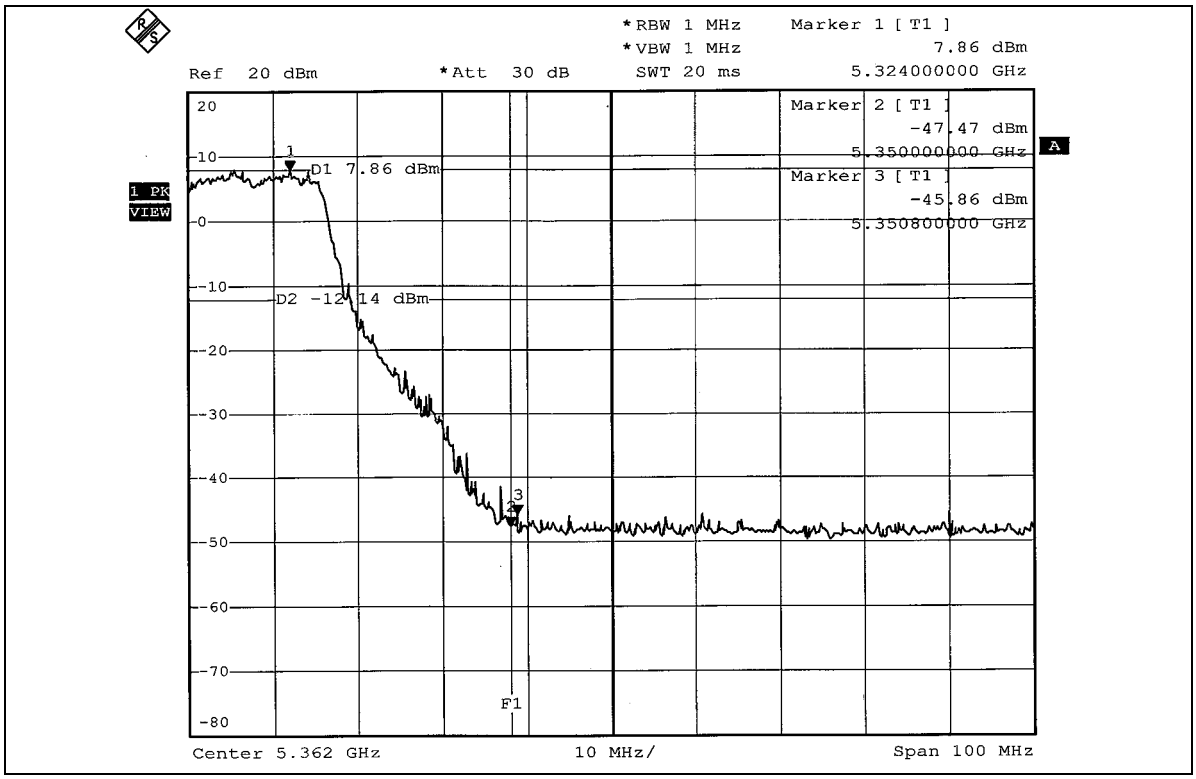
The band edge emission plot on page 66 shows 55.16dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 101.16dBuV/m (Average), so the maximum field strength in restrict band is 101.16-55.16=46.00dBuV/m which is under 54dBuV/m limit.

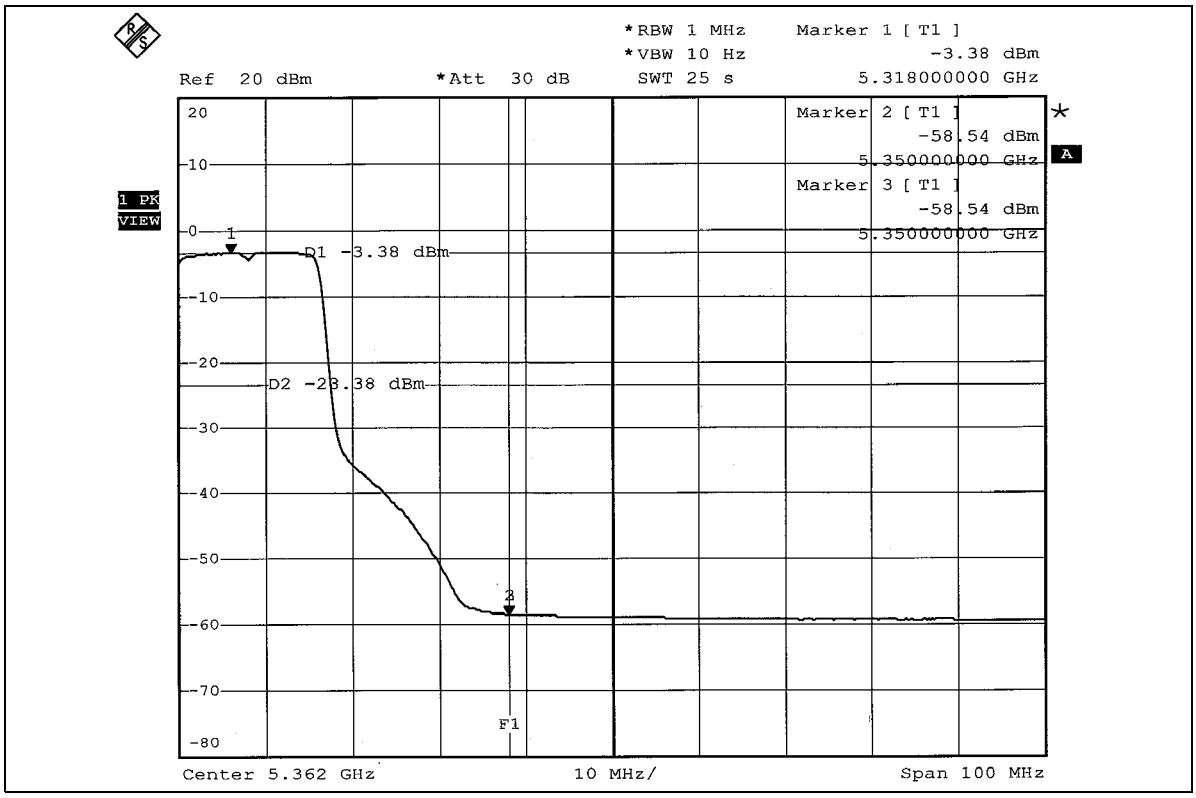
802.11a OFDM modulation

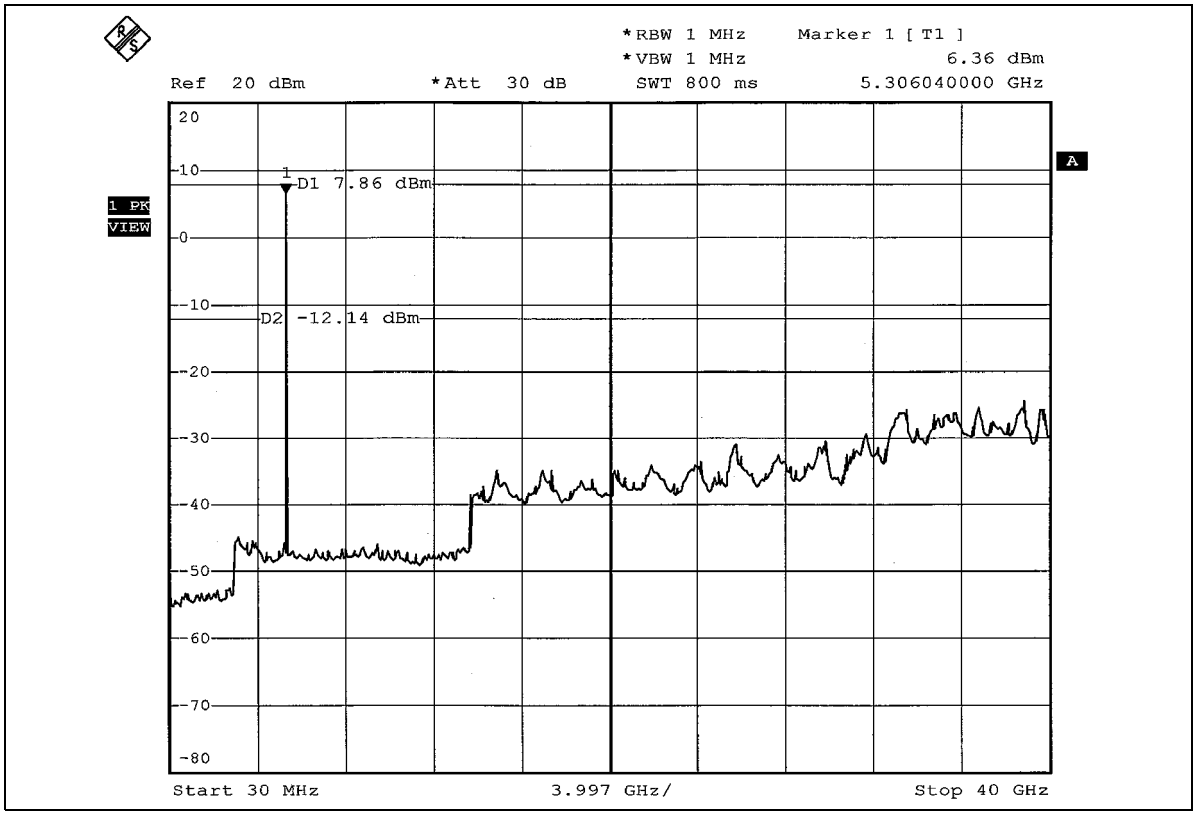





*RBW 1 MHz
*VBW 1 MHz
SWT 800 ms
Marker 1 [T1]
6.22 dBm
5.146160000 GHz
Ref 20 dBm
*Att 30 dB
1 PK
VIEW
D1 7.82 dBm
D2 -12.18 dBm
A
Start 30 MHz
3.997 GHz/
Stop 40 GHz


*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
7.86 dBm
5.324000000 GHz
Ref 20 dBm
*Att 30 dB
Marker 2 [T1]
-47.47 dBm
5.350000000 GHz
Marker 3 [T1]
-45.86 dBm
5.350800000 GHz
1 PK
VIEW
D1 7.86 dBm
D2 -12.14 dBm
A
F1
Center 5.362 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 10 Hz
Ref 20 dBm
*Att 30 dB
SWT 25 s
Marker 1 [T1]
-3.38 dBm
5.318000000 GHz
Marker 2 [T1]
-58.54 dBm
5.350000000 GHz
Marker 3 [T1]
-58.54 dBm
5.350000000 GHz
1 PK
VIEW
A
D1 -3.38 dBm
D2 -23.38 dBm
F1
Center 5.362 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 1 MHz
Ref 20 dBm
*Att 30 dB
SWT 800 ms
Marker 1 [T1]
6.36 dBm
5.306040000 GHz
1 PK
VIEW
A
D1 7.86 dBm
D2 -12.14 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

802.11a Turbo OFDM modulation

Channel 1 (5210MHz)

The band edge emission plot on page 67 shows 49.66dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 108.08dBuV/m (Peak), so the maximum field strength in restrict band is 108.08-49.66=58.42dBuV/m which is under 74dBuV/m limit.

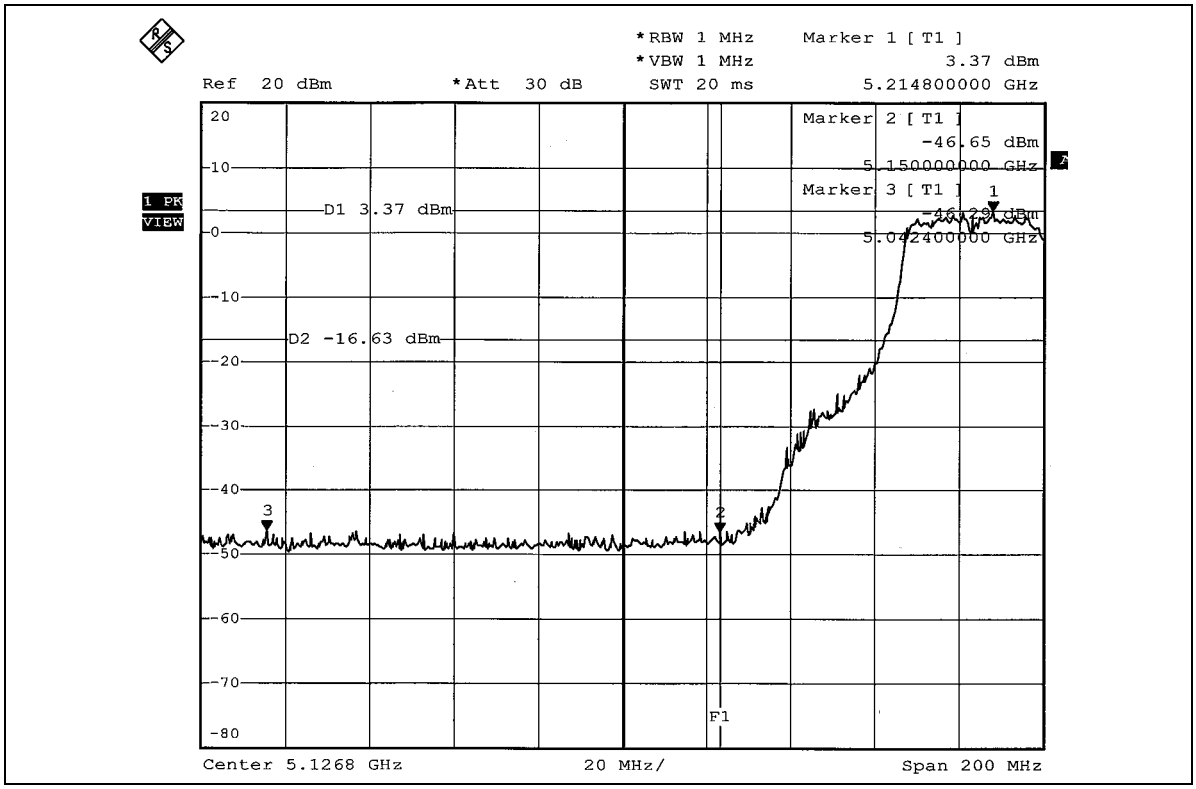
The band edge emission plot on page 67 shows 51.36dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 98.60dBuV/m (Average), so the maximum field strength in restrict band is 98.60- 51.36=47.24dBuV/m which is under 54dBuV/m limit.

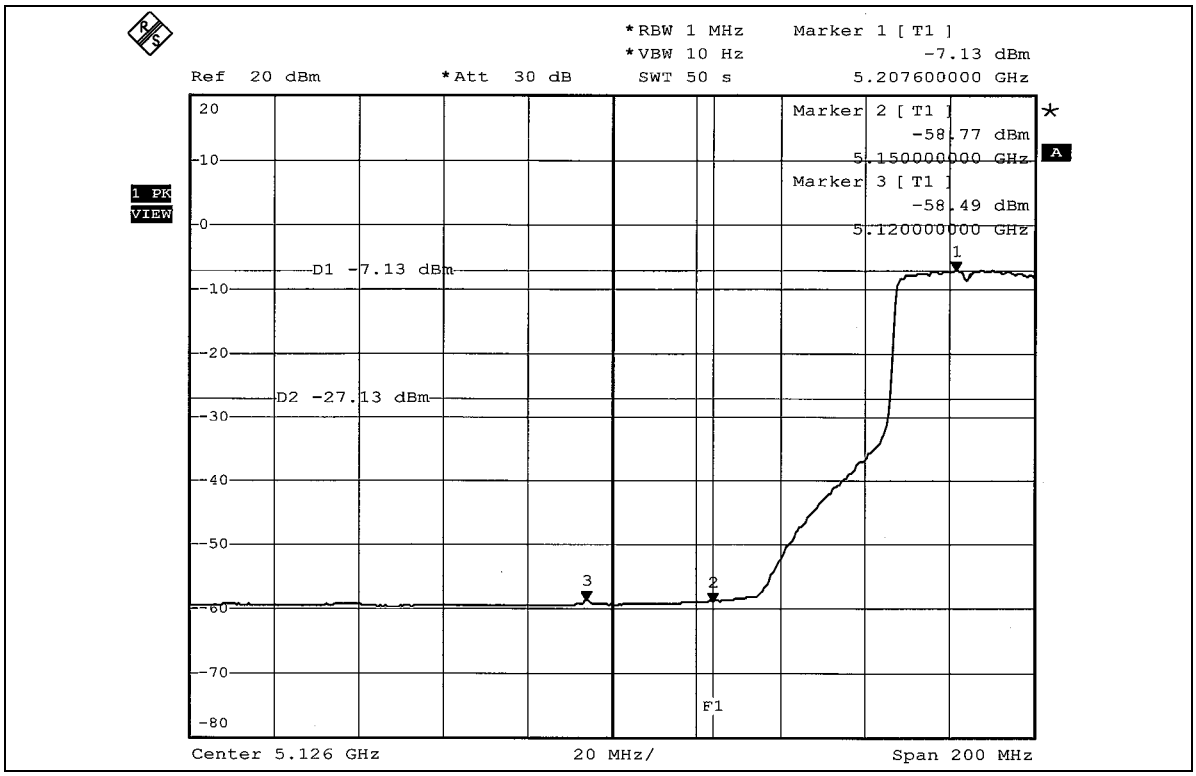
Channel 3 (5290MHz)

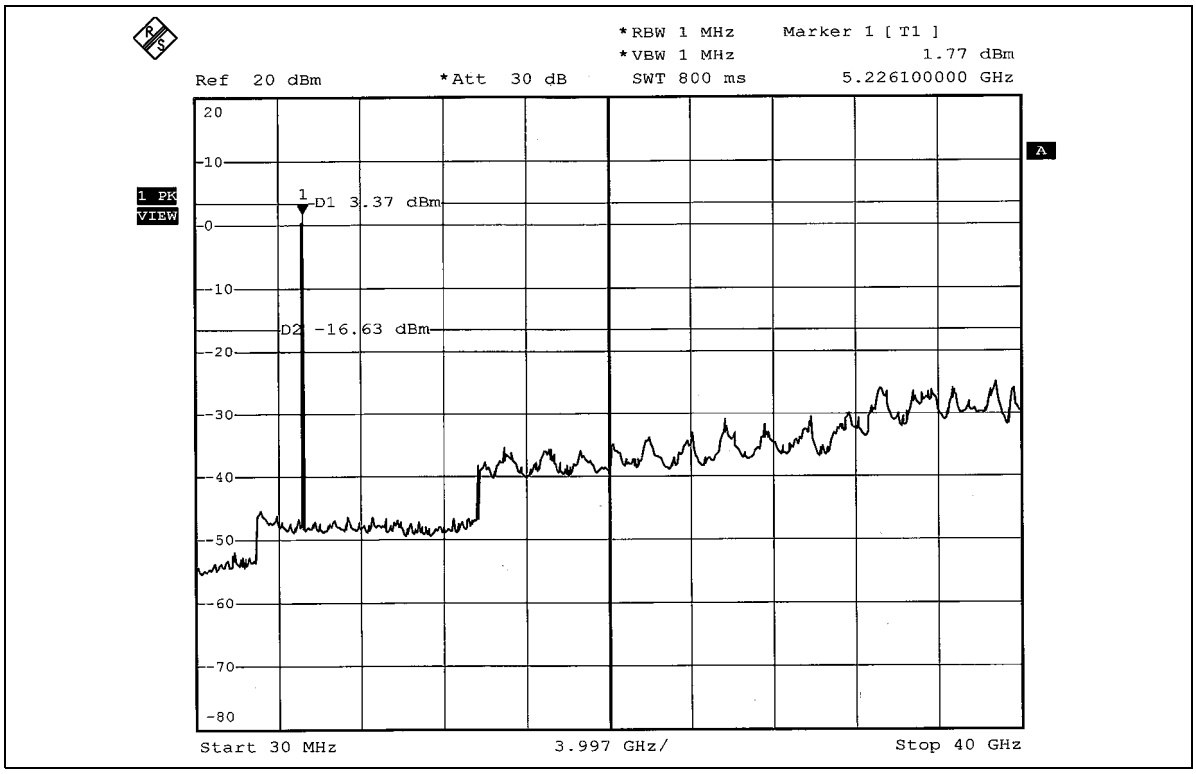
The band edge emission plot on the pages 68 shows 48.80dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 112.08dBuV/m (Peak), so the maximum field strength in restrict band is 112.08-48.80=63.28dBuV/m which is under 74dBuV/m limit.

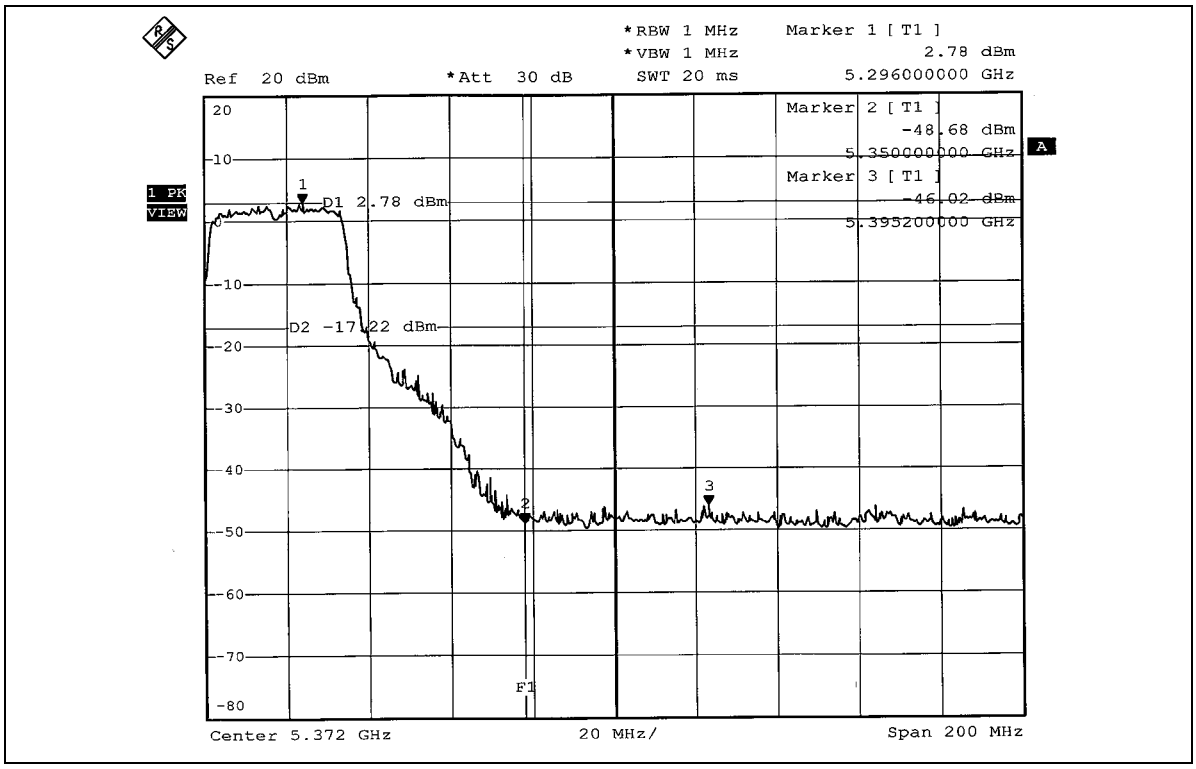
The band edge emission plot on the pages 69 shows 51.41dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 101.32dBuV/m (Average), so the maximum field strength in restrict band is 101.32-51.41=49.91dBuV/m which is under 54dBuV/m limit.

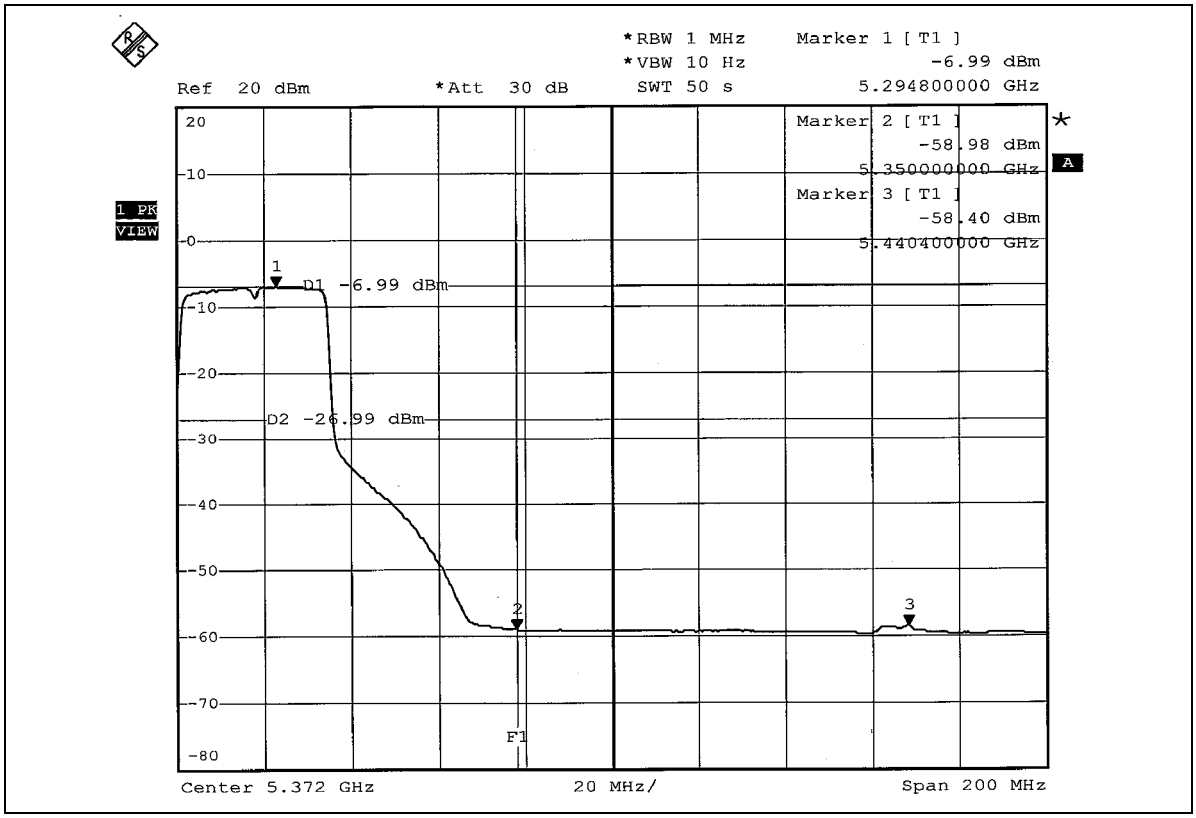
802.11a Turbo OFDM modulation

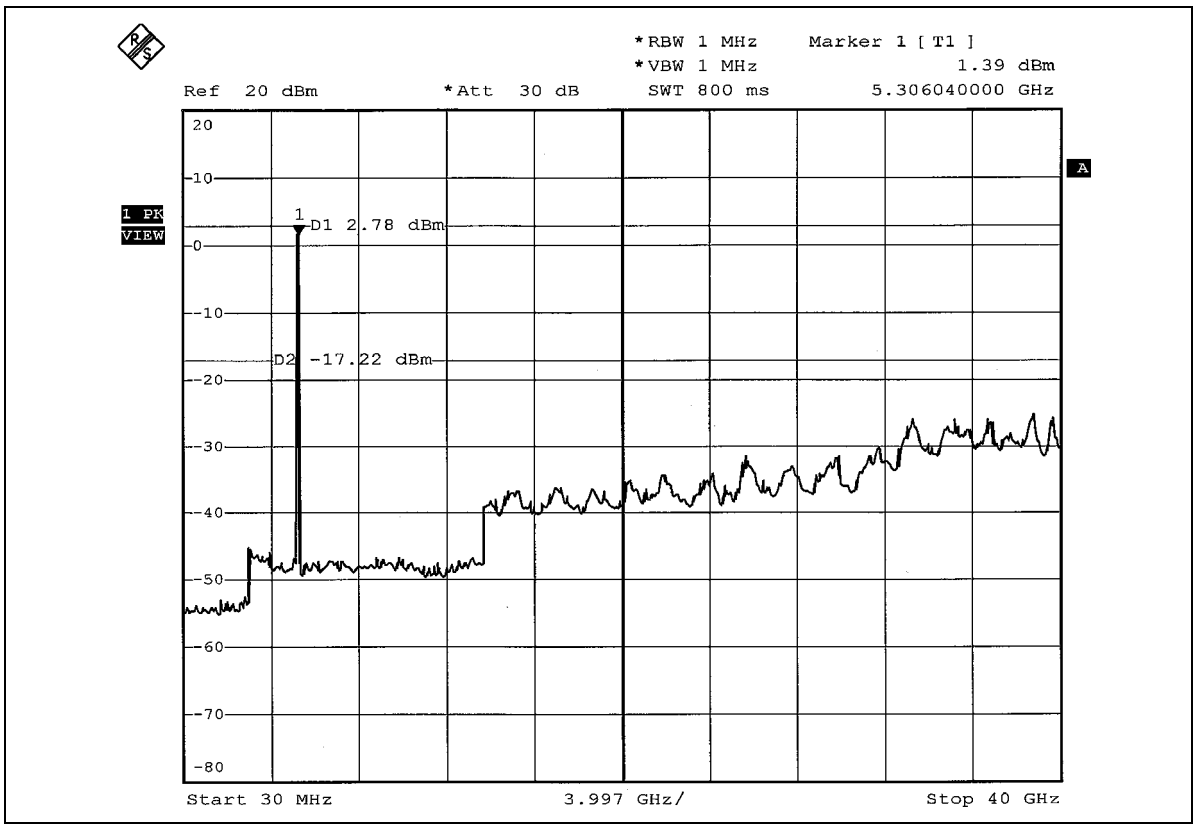





*RBW 1 MHz
*VBW 1 MHz
SWT 800 ms
Marker 1 [T1]
1.77 dBm
5.226100000 GHz
Ref 20 dBm
*Att 30 dB
1 PK
VIEW
A
D1 3.37 dBm
D2 -16.63 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz


*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
2.78 dBm
5.296000000 GHz
Ref 20 dBm
*Att 30 dB
Marker 2 [T1]
-48.68 dBm
5.350000000 GHz
Marker 3 [T1]
-46.02 dBm
5.395200000 GHz
1 PK
VIEW
A
D1 2.78 dBm
D2 -17.22 dBm
Center 5.372 GHz
20 MHz/
Span 200 MHz


*RBW 1 MHz
*VBW 10 Hz
Ref 20 dBm
*Att 30 dB
SWT 50 s
Marker 1 [T1]
-6.99 dBm
5.294800000 GHz
Marker 2 [T1]
-58.98 dBm
5.350000000 GHz
Marker 3 [T1]
-58.40 dBm
5.440400000 GHz
1 PK
VIEW
A
D1 -6.99 dBm
D2 -26.99 dBm
F1
Center 5.372 GHz
20 MHz/
Span 200 MHz


*RBW 1 MHz
*VBW 1 MHz
Ref 20 dBm
*Att 30 dB
SWT 800 ms
Marker 1 [T1]
1.39 dBm
5.306040000 GHz
1 PK
VIEW
A
D1 2.78 dBm
D2 -17.22 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz

4.8 ANTENNA REQUIREMENT

4.8.1 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 15.407(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.

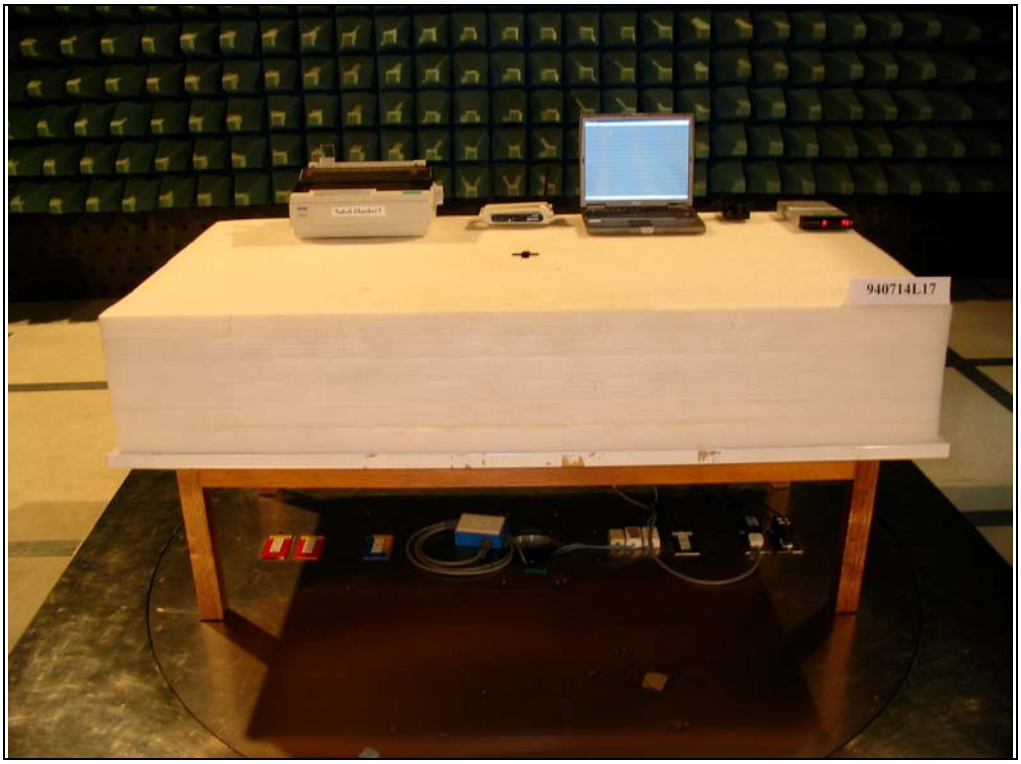
4.8.2 ANTENNA CONNECTED CONSTRUCTION

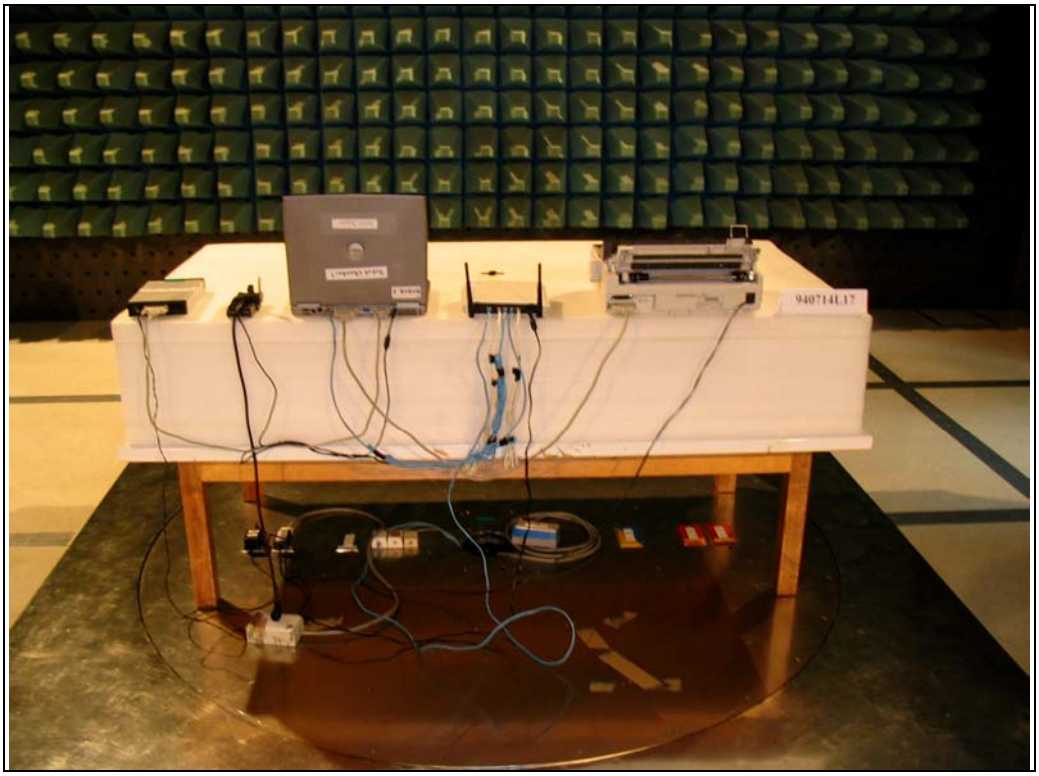
The antenna used in this product is Dipole antenna with R-SMA antenna connector. The maximum Gain of the antenna is 4dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST





6.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