



FCC TEST REPORT

REPORT NO.: RF911026R01A

MODEL NO.: WMP55AG

RECEIVED: Feb. 12, 2003

TESTED: Feb. 13, 2003 ~ Mar. 7, 2003

APPLICANT: The Linksys Group, Inc.

ADDRESS: 17401 Armstrong Ave., Irvine, CA 92614

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei,
Taiwan, R.O.C.

This test report consists of 160 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, NVLAP or any government agencies. The test results in the report only apply to the tested sample.



0528
ILAC MRA



Lab Code: 200102-0

Table of Contents

1.	CERTIFICATION	5
2.	SUMMARY OF TEST RESULTS.....	6
3.	GENERAL INFORMATION	8
3.1	GENERAL DESCRIPTION OF EUT	8
3.2	DESCRIPTION OF TEST MODES	9
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	10
3.4	DESCRIPTION OF SUPPORT UNITS.....	11
4.	TEST TYPES AND RESULTS (For Part 802.11b & draft 802.11g).....	12
4.1	CONDUCTED EMISSION MEASUREMENT	12
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	12
4.1.2	TEST INSTRUMENTS	12
4.1.3	TEST PROCEDURES	13
4.1.4	DEVIATION FROM TEST STANDARD	13
4.1.5	TEST SETUP	14
4.1.6	EUT OPERATING CONDITIONS.....	14
4.1.7	TEST RESULTS (A)	15
4.1.8	TEST RESULTS (B)	17
4.2	RADIATED EMISSION MEASUREMENT	19
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	19
4.2.2	TEST INSTRUMENTS	20
4.2.3	TEST PROCEDURES	21
4.2.4	DEVIATION FROM TEST STANDARD	21
4.2.5	TEST SETUP	22
4.2.6	EUT OPERATING CONDITIONS.....	22
4.2.7	TEST RESULTS	23
4.2.8	TEST RESULTS (A)	24
4.2.9	TEST RESULTS (B)	27
4.2.10	TEST RESULTS (C)	30
4.3	6dB BANDWIDTH MEASUREMENT	31
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	31
4.3.2	TEST INSTRUMENTS	31
4.3.3	TEST PROCEDURE	32
4.3.4	DEVIATION FROM TEST STANDARD	32
4.3.5	TEST SETUP	32
4.3.6	EUT OPERATING CONDITIONS.....	32
4.3.7	TEST RESULTS (A)	33
4.3.8	TEST RESULTS (B)	37
4.3.9	TEST RESULTS (C)	41
4.4	MAXIMUM PEAK OUTPUT POWER.....	43
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	43
4.4.2	INSTRUMENTS.....	43



4.4.3	TEST PROCEDURES	44
4.4.4	DEVIATION FROM TEST STANDARD	44
4.4.5	TEST SETUP	44
4.4.6	EUT OPERATING CONDITIONS.....	44
4.4.7	TEST RESULTS (A)	45
4.4.8	TEST RESULTS (B)	45
4.4.9	TEST RESULTS (C)	45
4.5	POWER SPECTRAL DENSITY MEASUREMENT	46
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	46
4.5.2	TEST INSTRUMENTS	46
4.5.3	TEST PROCEDURE	47
4.5.4	DEVIATION FROM TEST STANDARD	47
4.5.5	TEST SETUP	47
4.5.6	EUT OPERATING CONDITION	47
4.5.7	TEST RESULTS (A)	48
4.5.8	TEST RESULTS (B)	52
4.5.9	TEST RESULTS (C)	56
4.6	BAND EDGES MEASUREMENT	58
4.6.1	LIMITS OF BAND EDGES MEASUREMENT	58
4.6.2	TEST INSTRUMENTS	58
4.6.3	TEST PROCEDURE	58
4.6.4	DEVIATION FROM TEST STANDARD	58
4.6.5	EUT OPERATING CONDITION	59
4.6.6	TEST RESULTS	59
4.7	ANTENNA REQUIREMENT	66
4.7.1	STANDARD APPLICABLE	66
4.7.2	ANTENNA CONNECTED CONSTRUCTION	66
5.	TEST TYPES AND RESULTS (For part 802.11a).....	67
5.1	CONDUCTED EMISSION MEASUREMENT	67
5.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	67
5.1.2	TEST INSTRUMENTS	67
5.1.3	TEST PROCEDURES	68
5.1.4	DEVIATION FROM TEST STANDARD	68
5.1.5	TEST SETUP	69
5.1.6	EUT OPERATING CONDITIONS.....	69
5.1.7	TEST RESULTS	70
5.2	RADIATED EMISSION MEASUREMENT	72
5.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	72
5.2.2	LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	72
5.2.3	TEST INSTRUMENTS	73
5.2.4	TEST PROCEDURES	74
5.2.5	DEVIATION FROM TEST STANDARD	74
5.2.6	TEST SETUP	75
5.2.7	EUT OPERATING CONDITIONS.....	75



5.2.8	TEST RESULTS	76
5.3	PEAK TRANSMIT POWER MEASUREMENT	88
5.3.1	LIMITS OF PEAK TRANSMIT POWER MEASUREMENT	88
5.3.2	TEST INSTRUMENTS	88
5.3.3	TEST PROCEDURE	89
5.3.4	DEVIATION FROM TEST STANDARD	89
5.3.5	TEST SETUP	89
5.3.6	EUT OPERATING CONDITIONS	89
5.3.7	TEST RESULTS	90
5.4	PEAK POWER EXCURSION MEASUREMENT	114
5.4.1	LIMITS OF PEAK POWER EXCURSION MEASUREMENT	114
5.4.2	TEST INSTRUMENTS	114
5.4.3	TEST PROCEDURE	115
5.4.4	DEVIATION FROM TEST STANDARD	115
5.4.5	TEST SETUP	115
5.4.6	EUT OPERATING CONDITIONS	115
5.4.7	TEST RESULTS	116
5.5	PEAK POWER SPECTRAL DENSITY MEASUREMENT	129
5.5.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	129
5.5.2	TEST INSTRUMENTS	129
5.5.3	TEST PROCEDURES	130
5.5.4	DEVIATION FROM TEST STANDARD	130
5.5.5	TEST SETUP	130
5.5.6	EUT OPERATING CONDITIONS	130
5.5.7	TEST RESULTS	131
5.6	FREQUENCY STABILITY	144
5.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	144
5.6.2	TEST INSTRUMENTS	144
5.6.3	TEST PROCEDURE	144
5.6.4	DEVIATION FROM TEST STANDARD	145
5.6.5	TEST SETUP	145
5.6.6	EUT OPERATING CONDITION	145
5.6.7	TEST RESULTS	146
5.7	BAND EDGES MEASUREMENT	147
5.7.1	TEST INSTRUMENTS	147
5.7.2	TEST PROCEDURE	147
5.7.3	EUT OPERATING CONDITION	147
5.7.4	TEST RESULTS	147
5.8	ANTENNA REQUIREMENT	157
5.8.1	STANDARD APPLICABLE	157
5.8.2	ANTENNA CONNECTED CONSTRUCTION	157
6.	PHOTOGRAPHS OF THE TEST CONFIGURATION	158
7.	INFORMATION ON THE TESTING LABORATORIES	160



1. CERTIFICATION

PRODUCT : Dual-Band A+G Wireless Network PCI Adapter
BRAND NAME : Linksys
MODEL NO. : WMP55AG
APPLICANT : The Linksys Group, Inc.
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
Subpart E (Section 15.407), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Feb. 13, 2003 to Mar. 7, 2003. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

CHECKED BY : Emily Lu , **DATE :** Mar. 7, 2003
Emily Lu

APPROVED BY : Dr. Alan Lane , **DATE :** Mar. 7, 2003
Dr. Alan Lane, Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is -17.05dBuV at 1.437MHz
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(c)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -2.3dBuV at 2389.00MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

APPLIED STANDARD: 47 CFR Part 15, Subpart E			
Standard Section	Test Type	Result	REMARK
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is -18.76dBuV at 1.425MHz
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 -2.8dBuV at 10640.00MHz
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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Dual-Band A+G Wireless Network PCI Adapter
MODEL NO.	WMP55AG
POWER SUPPLY	5VDC from host equipment
MODULATION	CCK, DQPSK, DBPSK, OFDM
TRANSFER RATE	up to 54Mbps *(Turbo mode : up to 72Mbps)
FREQUENCY RANGE	802.11b and draft 802.11g: 2412~2462MHz 802.11a: 5.15~5.35GHz and 5.725~5.825GHz
NUMBER OF CHANNEL	802.11b and draft 802.11g: 11 / 1 for Turbo mode 802.11a: 12 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	802.11b and draft 802.11g: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	802.11b and draft 802.11g: 19.70dBm 802.11a: 16.65dBm
DATA CABLE	NA
ANTENNA TYPE	Dipole antenna
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11g technology.
2. IEEE 802.11a, 802.11b, and Draft 802.11g Compliant.
3. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

For 802.11b and draft 802.11g: Eleven channels are provided to this EUT.

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		

NOTE:

1. Below 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. Transfer rate of 11Mbps with CCK technique and 54Mbps with OFDM technique, the worst case, was chosen for final test.
4. One turbo mode at frequency 2437MHz.
5. Test result A is for CCK technique, test result B is for OFDM technique and test result C is for OFDM technique in Turbo mode which presented in Section 4.

For 802.11a: Twelve channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	7	5300 MHz
2	5200 MHz	8	5320 MHz
3	5220 MHz	9	5745 MHz
4	5240 MHz	10	5765 MHz
5	5260 MHz	11	5785 MHz
6	5280 MHz	12	5805 MHz

Five channels are provided to this EUT for Turbo Mode.

Channel	Frequency	Channel	Frequency
1	5210 MHz	4	5760 MHz
2	5250 MHz	5	5800 MHz
3	5290 MHz		

NOTE:

1. The EUT was transmitting at full power on the specified channel with a duty cycle of 99% (maximum allowed). The EUT was tested in both normal mode (channel bandwidth of approximately 30MHz) and turbo mode (channel bandwidth of approximately 60MHz).
2. "Normal Mode" allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. "Turbo Mode" allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).
4. Channel 1, 4, 5, 8, 9 and 12 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
5. Channel 1 ~ 5 were chosen for final test of turbo mode.



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Dual-Band A+G Wireless Network PCI Adapter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 15, Subpart C. (15.247),
Subpart E (15.407). ANSI C63.4 : 1992**

All tests 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	PERSONAL COMPUTER	HEWLETT PACKARD	HP Vectra XE310	SG14201716	FCC DoC APPROVED
2	MONITOR	ADI	CM100	026058T10200531	FCC DoC APPROVED
3	MODEM	ACEEX	1414	0206026772	IFAXDM1414
4	MATRIX PRINTER	EPSON	LQ-300+	DCGY017097	FCC DoC APPROVED
5	KEYBOARD	IBM	KB-7953	0229605	N/A
6	MOUSE	DEXIN	A2P800A	80102116	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	NA
5	NA
6	NA

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

4. TEST TYPES AND RESULTS (FOR PART 802.11b & draft 802.11g)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Nov. 17, 2003
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 13, 2003
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2003
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 03, 2003
Terminator(for KYORITSU)	50	#1	Apr. 11, 2003
Software	Cond-V2e	NA	NA

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



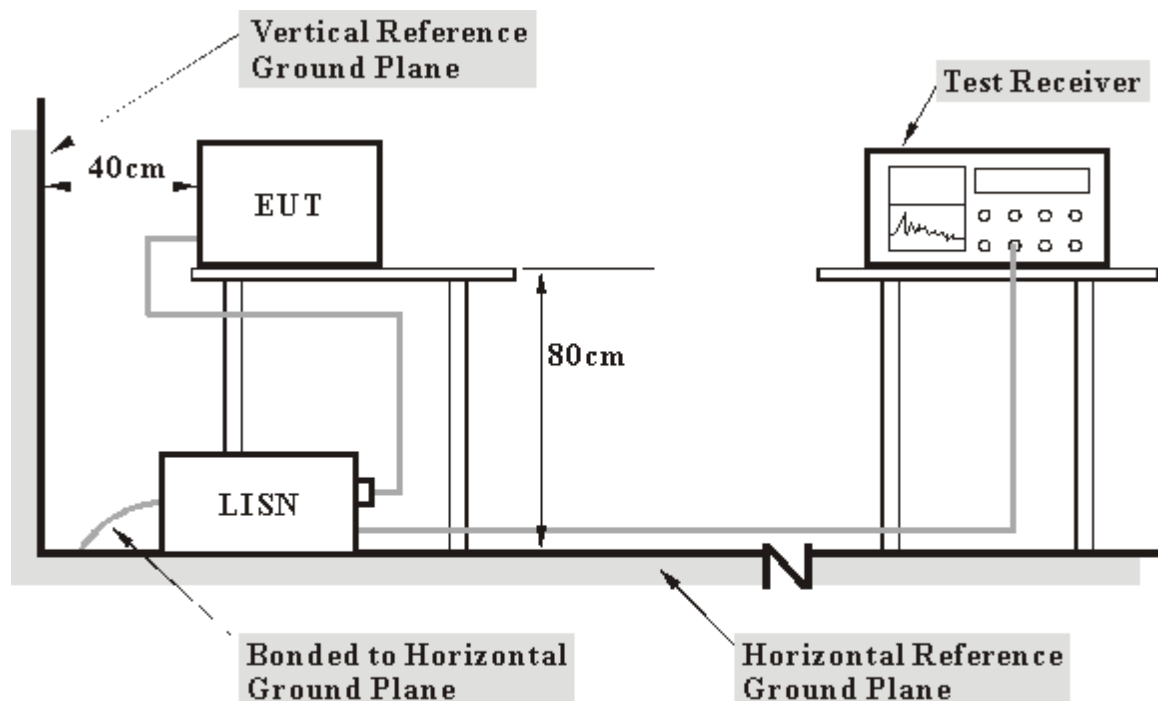
4.1.3 TEST PROCEDURES

- 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 over 10dB under the prescribed limits could not be reported

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

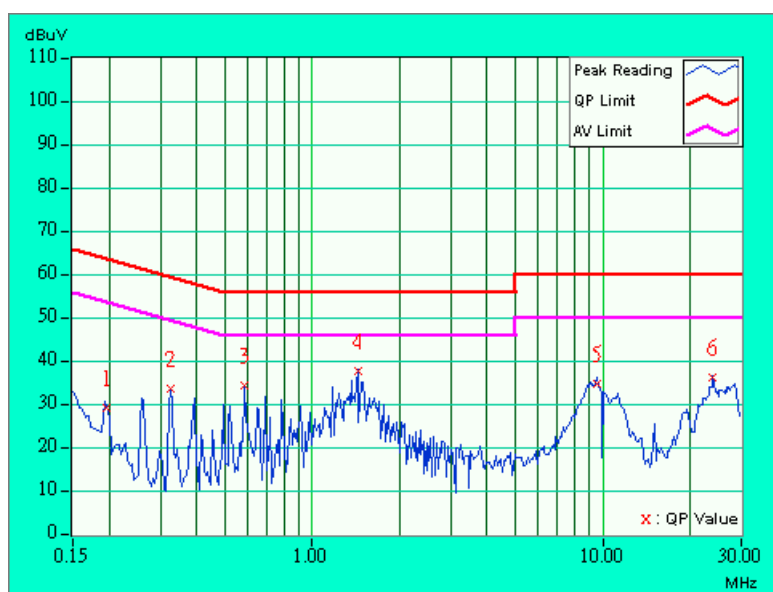
- a. Plug the EUT into the computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H" messages to modem.
- e. The computer system sent "H" messages to printer, and the printer prints them on paper.

4.1.7 TEST RESULTS (A)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	28.01	-	28.11	-	63.75	53.75	-35.64	-
2	0.326	0.10	32.61	-	32.71	-	59.56	49.56	-26.85	-
3	0.588	0.10	33.32	-	33.42	-	56.00	46.00	-22.58	-
4	1.435	0.10	36.62	-	36.72	-	56.00	46.00	-19.28	-
5	9.525	0.58	33.72	-	34.30	-	60.00	50.00	-25.70	-
6	24.002	1.16	34.96	-	36.12	-	60.00	50.00	-23.88	-

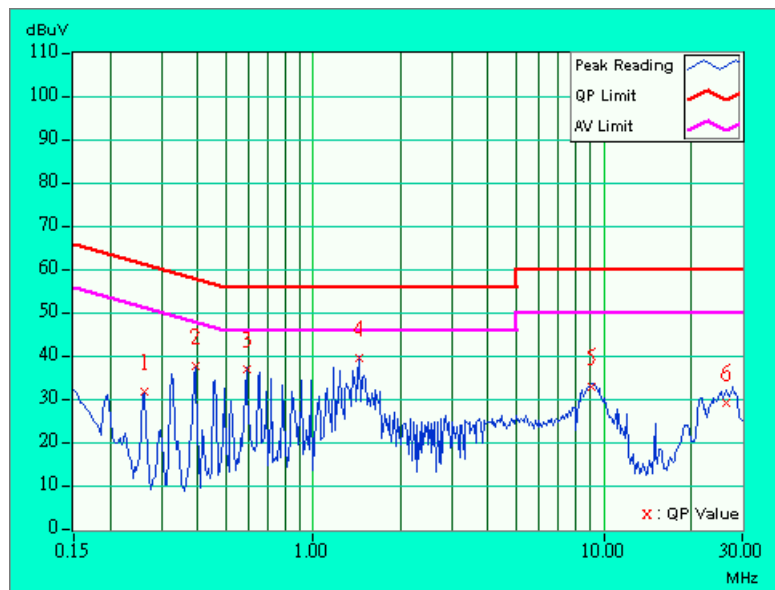
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.262	0.10	30.93	-	31.03	-	61.37	51.37	-30.34	-
2	0.392	0.10	36.79	-	36.89	-	58.02	48.02	-21.13	-
3	0.591	0.10	36.08	-	36.18	-	56.00	46.00	-19.82	-
4	1.439	0.10	38.73	-	38.83	-	56.00	46.00	-17.17	-
5	9.083	0.48	31.91	-	32.39	-	60.00	50.00	-27.61	-
6	26.332	0.90	28.53	-	29.43	-	60.00	50.00	-30.57	-

- 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.

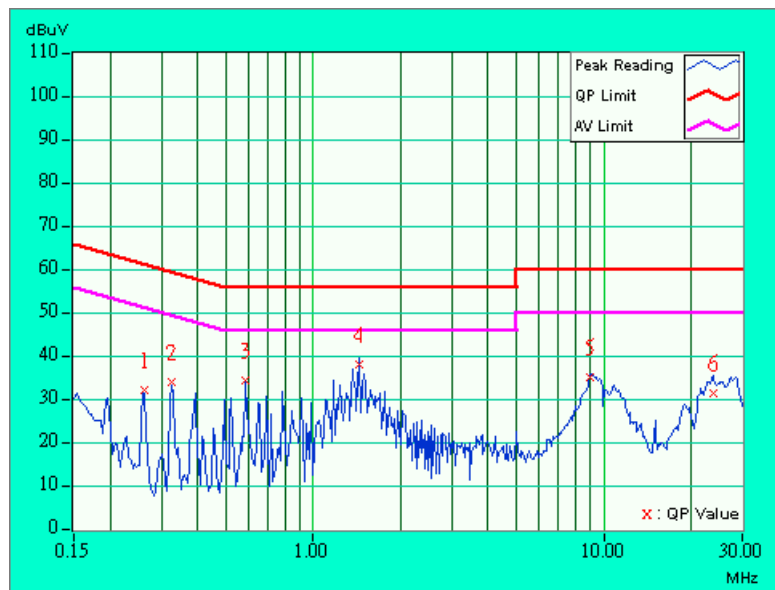


4.1.8 TEST RESULTS (B)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.262	0.10	31.05	-	31.15	-	61.37	51.37	-30.22	-
2	0.326	0.10	32.94	-	33.04	-	59.56	49.56	-26.52	-
3	0.588	0.10	33.30	-	33.40	-	56.00	46.00	-22.60	-
4	1.436	0.10	36.90	-	37.00	-	56.00	46.00	-19.00	-
5	9.008	0.57	33.94	-	34.51	-	60.00	50.00	-25.49	-
6	23.762	1.15	30.18	-	31.33	-	60.00	50.00	-28.67	-

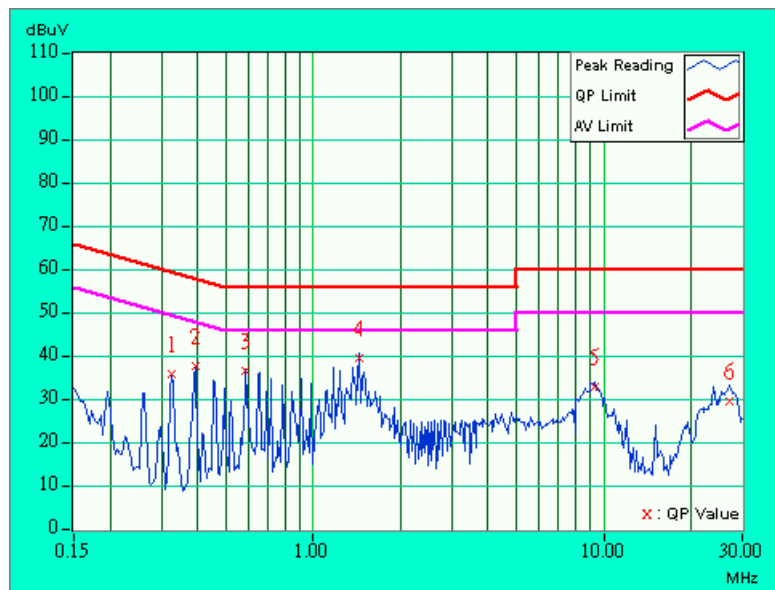
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.326	0.10	35.17	-	35.27	-	59.56	49.56	-24.29	-
2	0.392	0.10	36.73	-	36.83	-	58.02	48.02	-21.19	-
3	0.588	0.10	35.91	-	36.01	-	56.00	46.00	-19.99	-
4	1.437	0.10	38.85	-	38.95	-	56.00	46.00	-17.05	-
5	9.276	0.49	32.18	-	32.67	-	60.00	50.00	-27.33	-
6	27.166	0.90	28.89	-	29.79	-	60.00	50.00	-30.21	-

- 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
HP Spectrum Analyzer	8594ER	3829U04676	Jul. 14, 2003
ADVANTEST Spectrum Analyzer	R3271A	85060311	May 21, 2003
CHASE RF Pre_Amplifier	CPA9232	1057	Apr. 24, 2003
HP Pre_Amplifier	8449B	3008A01281	Jun. 27, 2003
ROHDE & SCHWARZ Test Receiver	ESVS 10	849231 /019	Nov. 03, 2003
CHASE Broadband Antenna	CBL6111c	2730	Jul 17, 2003
Schwarzbeck Horn_Antenna	BBHA9120-D1	D123	Jul. 31, 2003
SCHWARZBECK Tunable Dipole Antenna	UHAP	896	Mar. 07, 2003
SCHWARZBECK Tunable Dipole Antenna	VHAP	879	Mar. 07, 2003
RF Switches (ARNITSU)	CS-201	1565157	Jul. 29, 2003
RF CABLE (Chaintek) 1GHz-20GHz	Ak 9515-D	001	Aug, 20.2003
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Nov. 5, 2003
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. * = These equipment are used for the final measurement.

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

4. The test was performed in ADT Open Site No. C.

5. The FCC Site Registration No. is 656396.

6. The VCCI Site Registration No. is R-1626.

4.2.3 TEST PROCEDURES

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

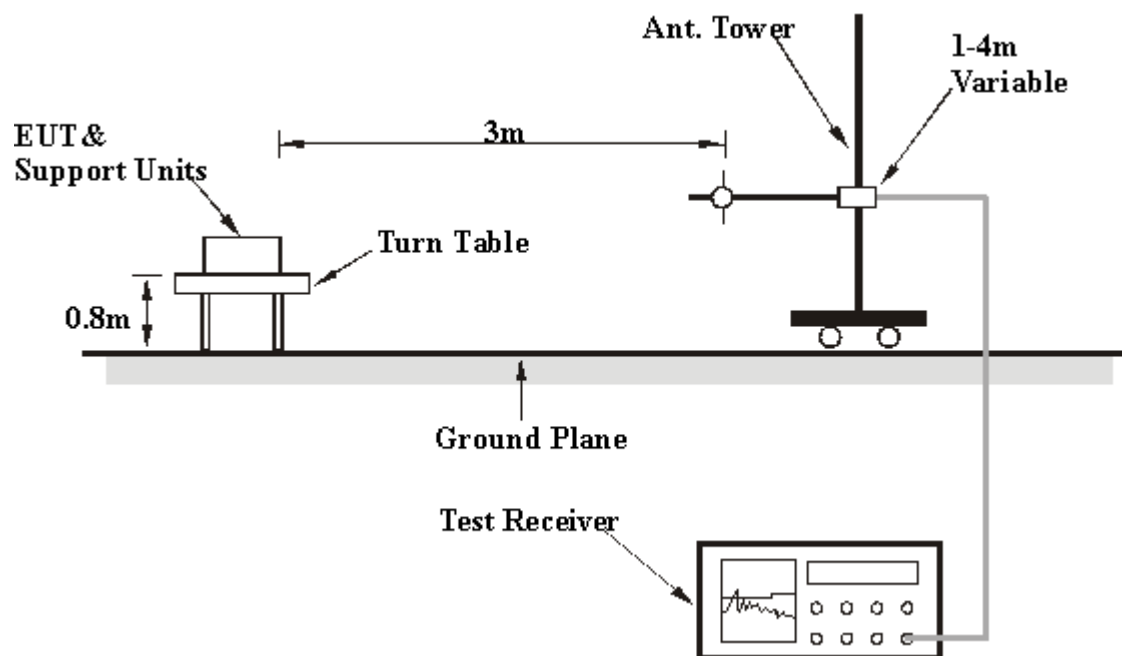
NOTE:

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 300 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

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 79%RH, 1005hPa	TESTED BY: Eric Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.62	20.6 QP	40.00	-19.40	1.64 H	20	9.20	11.40
2	192.03	19.5 QP	43.50	-24.00	1.46 H	321	10.30	9.20
3	220.66	30.9 QP	46.00	-15.10	1.43 H	0	21.30	9.60
4	256.83	23.0 QP	46.00	-23.00	1.02 H	2	8.90	14.10
5	300.54	28.0 QP	46.00	-18.00	1.60 H	120	13.90	14.10
6	320.03	32.1 QP	46.00	-13.90	1.42 H	200	17.60	14.50
7	352.06	25.2 QP	46.00	-20.80	1.55 H	144	9.60	15.60
8	400.01	25.3 QP	46.00	-20.70	1.33 H	126	8.30	17.00
9	500.21	27.6 QP	46.00	-18.40	1.40 H	333	8.30	19.30
10	660.00	32.1 QP	46.00	-13.90	1.54 H	360	9.90	22.20

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	44.62	33.8 QP	40.00	-6.20	1.35 V	125	22.40	11.40
2	192.03	22.4 QP	43.50	-21.10	1.45 V	21	13.20	9.20
3	220.35	31.9 QP	46.00	-14.10	1.23 V	32	22.40	9.50
4	256.33	23.3 QP	46.00	-22.70	1.22 V	3	9.30	14.00
5	300.66	26.4 QP	46.00	-19.60	1.09 V	11	12.30	14.10
6	320.01	35.8 QP	46.00	-10.20	1.66 V	222	21.30	14.50
7	351.89	35.7 QP	46.00	-10.30	1.50 V	6	20.10	15.60
8	440.00	26.0 QP	46.00	-20.00	1.50 V	300	8.00	18.00
9	500.52	28.5 QP	46.00	-17.50	1.36 V	122	9.20	19.30
10	660.00	31.3 QP	46.00	-14.70	1.11 V	20	9.10	22.20

- 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.

4.2.8 TEST RESULTS (A)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1005hPa	TESTED BY:	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2384.00	46.2 PK	74.00	-27.80	1.38 H	90	16.40	29.80
2	*2412.00	94.3 PK			1.41 H	24	64.40	29.90
2	*2412.00	88.9 AV			1.41 H	24	59.00	29.80
3	2496.00	45.7 PK	74.00	-28.30	1.63 H	21	15.50	30.20
4	2592.00	52.0 PK	74.00	-22.00	1.62 H	30	21.60	30.40
4	2592.00	38.3 AV	54.00	-15.70	1.62 H	30	7.90	29.90
5	4824.00	55.0 PK	74.00	-19.00	1.11 H	15	18.80	36.20
5	4824.00	45.0 AV	54.00	-9.00	1.11 H	15	8.80	30.20

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	2384.00	53.7 PK	74.00	-20.30	1.16 V	1	23.90	29.80
1	2384.00	46.3 AV	54.00	-7.70	1.16 V	1	16.50	29.80
2	*2412.00	104.2 PK			1.17 V	3	74.30	29.90
2	*2412.00	100.0 AV			1.17 V	3	70.10	29.90
3	2496.00	53.2 PK	74.00	-20.80	1.24 V	60	23.00	30.20
3	2496.00	44.1 AV	54.00	-9.90	1.24 V	60	13.90	30.20
4	2592.00	55.1 PK	74.00	-18.90	1.07 V	12	24.70	30.40
4	2592.00	43.8 AV	54.00	-10.20	1.07 V	12	13.40	30.40
5	4824.00	58.0 PK	74.00	-16.00	1.21 V	31	21.80	36.20
5	4824.00	48.3 AV	54.00	-5.70	1.21 V	31	12.10	36.20

- 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	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1005hPa	TESTED BY: Eric Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2276.00	50.2 PK	74.00	-23.80	1.02 H	38	20.70	29.50
1	2276.00	39.7 AV	54.00	-14.30	1.02 H	38	10.20	29.50
2	2369.00	49.7 PK	74.00	-24.30	1.56 H	30	20.00	29.70
3	2372.00	48.7 PK	74.00	-25.30	1.08 H	40	19.00	29.70
4	*2437.00	95.1 PK			1.21 H	4	65.10	30.00
4	*2437.00	91.2 AV			1.21 H	4	61.20	29.70
5	2624.00	49.7 PK	74.00	-24.30	1.00 H	173	19.20	30.50
6	4874.00	58.9 PK	74.00	-15.10	1.11 H	35	22.40	36.50
6	4874.00	44.6 AV	54.00	-9.40	1.11 H	35	8.10	29.70

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	2272.00	52.9 PK	74.00	-21.10	1.20 V	5	23.50	29.40
1	2272.00	44.4 AV	54.00	-9.60	1.20 V	5	15.00	29.40
2	2369.00	52.2 PK	74.00	-21.80	1.16 V	40	22.50	29.70
2	2369.00	42.7 AV	54.00	-11.30	1.16 V	40	13.00	29.70
3	2372.00	53.8 PK	74.00	-20.20	1.20 V	5	24.10	29.70
3	2372.00	44.9 AV	54.00	-9.10	1.20 V	5	15.20	29.70
4	*2437.00	104.9 PK			1.11 V	359	74.90	30.00
4	*2437.00	102.0 AV			1.11 V	359	72.00	30.00
5	2624.00	57.3 PK	74.00	-16.70	1.05 V	357	26.80	30.50
5	2624.00	50.3 AV	54.00	-3.70	1.05 V	357	19.80	30.50
6	4874.00	56.5 PK	74.00	-17.50	1.01 V	3	20.00	36.50
6	4874.00	45.2 AV	54.00	-8.80	1.01 V	3	8.70	36.50

- 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	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1005hPa	TESTED BY: Eric Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2376.00	46.9 PK	74.00	-27.10	1.01 H	173	17.20	29.70
2	2396.00	51.1 PK	74.00	-22.90	1.03 H	95	21.30	29.80
2	2396.00	39.8 AV	54.00	-14.20	1.03 H	95	10.00	29.70
3	*2462.00	95.1 PK			1.18 H	4	65.00	30.10
3	*2462.00	91.2 AV			1.18 H	4	61.10	29.80
4	4924.00	55.3 PK	74.00	-18.70	1.03 H	65	18.60	36.70
4	4924.00	46.1 AV	54.00	-7.90	1.03 H	65	9.40	30.10

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	2376.00	56.0 PK	74.00	-18.00	1.16 V	41	26.30	29.70
1	2376.00	45.6 AV	54.00	-8.40	1.16 V	41	15.90	29.70
2	2396.00	53.8 PK	74.00	-20.20	1.20 V	123	24.00	29.80
2	2396.00	44.1 AV	54.00	-9.90	1.20 V	123	14.30	29.80
3	*2462.00	104.3 PK			1.06 V	359	74.20	30.10
3	*2462.00	100.1 AV			1.06 V	359	70.00	30.10
4	4924.00	57.7 PK	74.00	-16.30	1.01 V	45	21.00	36.70
4	4924.00	47.8 AV	54.00	-6.20	1.01 V	45	11.10	36.70

- 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

4.2.9 TEST RESULTS (B)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 79%RH, 1005hPa	TESTED BY:	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2376.00	49.6 PK	74.00	-24.40	1.11 H	32	19.90	29.70
2	*2412.00	87.5 PK			1.15 H	3	57.60	29.90
2	*2412.00	81.5 AV			1.15 H	3	51.60	29.70
3	2496.00	47.9 PK	74.00	-26.10	1.22 H	36	17.70	30.20
4	4824.00	54.0 PK	74.00	-20.00	1.42 H	13	17.80	36.20
4	4824.00	43.9 AV	54.00	-10.10	1.42 H	13	7.70	29.90

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	2389.00	66.1 PK	74.00	-7.90	1.00 V	1	36.30	29.80
1	2389.00	51.7 AV	54.00	-2.30	1.00 V	1	21.90	29.80
2	*2412.00	100.8 PK			1.26 V	3	70.90	29.90
2	*2412.00	91.3 AV			1.26 V	3	61.40	29.90
3	2495.00	56.2 PK	74.00	-7.80	1.12 V	345	36.00	30.20
3	2495.00	48.6 AV	54.00	-5.40	1.12 V	345	18.40	30.20
4	4824.00	55.7 PK	74.00	-18.30	1.22 V	21	19.50	36.20
4	4824.00	47.4 AV	54.00	-6.60	1.22 V	21	11.20	36.20

- 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	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 79%RH, 1005hPa	TESTED BY: Eric Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2389.00	50.4 PK	74.00	-23.60	1.21 H	12	20.60	29.80
1	2389.00	45.1 AV	54.00	-8.90	1.21 H	12	15.30	29.80
2	*2437.00	89.1 PK			1.11 H	51	59.10	30.00
2	*2437.00	82.1 AV			1.11 H	51	52.10	30.00
3	2496.00	47.6 PK	74.00	-26.40	1.30 H	31	17.40	30.20
4	4874.00	53.9 PK	74.00	-20.10	1.12 H	10	17.40	36.50
4	4874.00	44.0 AV	54.00	-10.00	1.12 H	10	7.50	30.20

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	2386.00	52.9 PK	74.00	-21.10	1.11 V	4	23.10	29.80
1	2386.00	43.6 AV	54.00	-10.40	1.11 V	4	13.80	29.80
2	*2437.00	103.5 PK			1.08 V	12	73.50	30.00
2	*2437.00	95.7 AV			1.08 V	12	65.70	30.00
3	2495.00	59.8 PK	74.00	-14.20	1.09 V	24	29.60	30.20
3	2495.00	49.5 AV	54.00	-4.50	1.09 V	24	19.30	30.20
4	4874.00	54.9 PK	74.00	-19.10	1.20 V	2	18.40	36.50
4	4874.00	45.9 AV	54.00	-8.10	1.20 V	2	9.40	36.50

- 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	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 79%RH, 1005hPa	TESTED BY: Eric Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2336.00	50.4 PK	74.00	-23.60	1.02 H	45	20.80	29.60
1	2336.00	40.7 AV	54.00	-13.30	1.02 H	45	11.10	29.60
2	*2462.00	91.2 PK			1.08 H	50	61.10	30.10
2	*2462.00	83.9 AV			1.08 H	50	53.80	30.10
3	2496.00	47.5 PK	74.00	-26.50	1.30 H	32	17.30	30.20
4	4924.00	54.2 PK	74.00	-19.80	1.23 H	20	17.50	36.70
4	4924.00	44.2 AV	54.00	-9.80	1.23 H	20	7.50	30.20

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	2335.00	51.7 PK	74.00	-22.30	1.01 V	1	22.10	29.60
1	2335.00	40.9 AV	54.00	-13.10	1.01 V	1	11.30	29.60
2	*2462.00	104.2 PK			1.09 V	24	74.10	30.10
2	*2462.00	96.0 AV			1.09 V	24	65.90	30.10
3	2496.00	60.0 PK	74.00	-19.50	1.02 V	54	24.30	30.20
3	2496.00	50.2 AV	54.00	-2.40	1.02 V	54	21.40	30.20
4	4924.00	55.6 PK	74.00	-18.40	1.38 V	30	18.90	36.70
4	4924.00	45.6 AV	54.00	-8.40	1.38 V	30	8.90	36.70

- 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

4.2.10 TEST RESULTS (C)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 79%RH, 1005hPa	TESTED BY:	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2371.00	48.8 PK	74.00	-25.20	1.11 H	359	12.80	36.00
2	*2437.00	105.9 PK			1.01 H	339	69.60	36.30
2	*2437.00	86.9 AV			1.01 H	339	50.60	36.00
3	2496.00	50.7 PK	74.00	-23.30	1.46 H	50	14.20	36.50
3	2496.00	36.9 AV	54.00	-17.10	1.46 H	50	0.40	36.30
4	4874.00	54.2 PK	74.00	-19.80	1.01 H	1	7.30	46.90
4	4874.00	43.1 AV	54.00	-10.90	1.01 H	1	-3.80	36.50

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/m)
1	2371.00	54.1 PK	74.00	-19.90	1.20 V	1	18.10	36.00
1	2371.00	45.8 AV	54.00	-8.20	1.20 V	1	9.80	36.00
2	*2437.00	108.7 PK			1.38 V	1	72.50	36.30
2	*2437.00	87.4 AV			1.38 V	1	51.20	36.30
3	2496.00	61.3 PK	74.00	-12.70	1.07 V	4	24.80	36.50
3	2496.00	46.4 AV	54.00	-7.60	1.07 V	4	9.90	36.50
4	4874.00	56.4 PK	74.00	-17.60	1.40 V	1	9.50	46.90
4	4874.00	48.5 AV	54.00	-5.50	1.40 V	1	1.60	46.90

- 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	8564EC	4208A00660	Nov. 20, 2003

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.

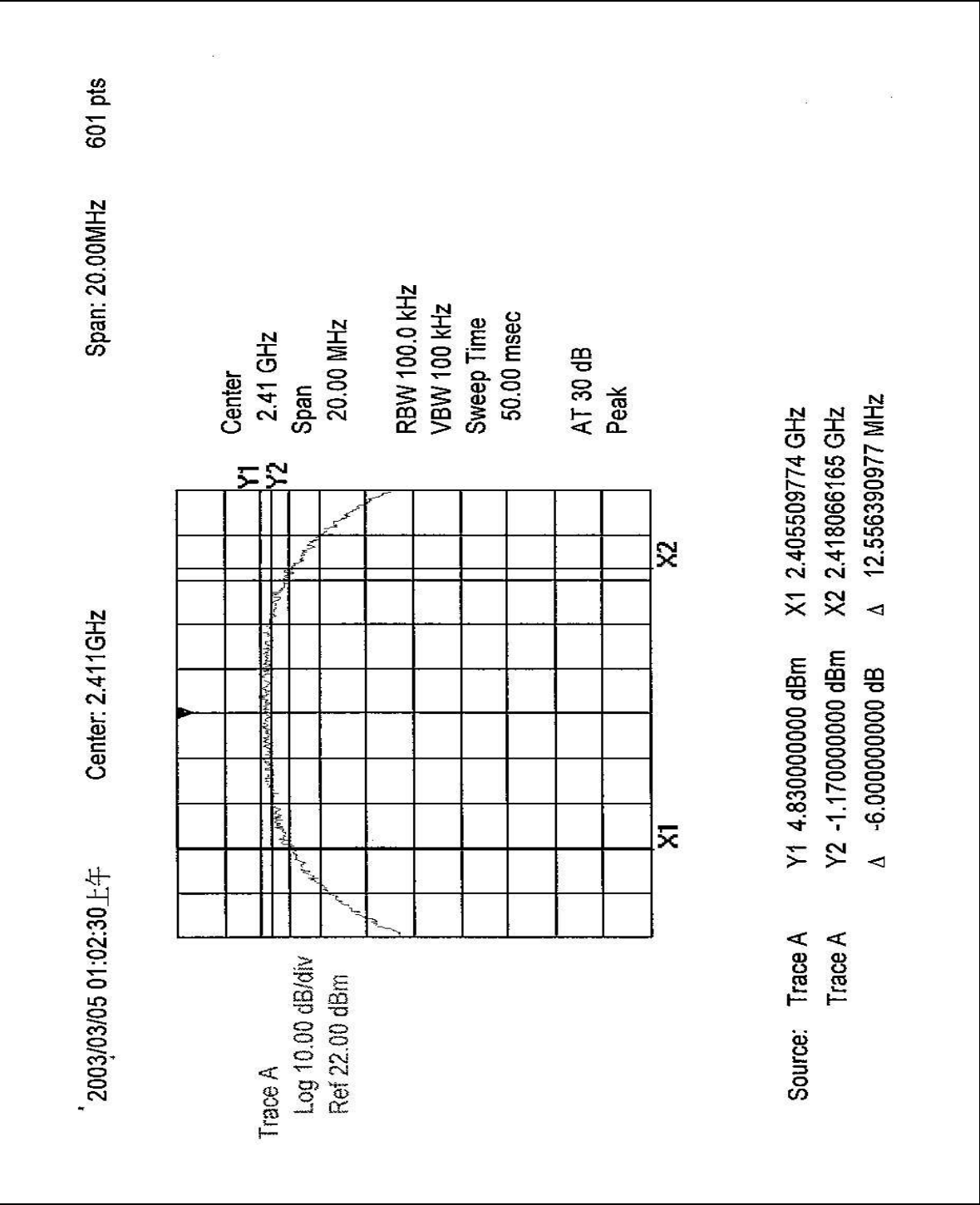
4.3.7 TEST RESULTS (A)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.556	0.5	PASS
6	2437	12.331	0.5	PASS
11	2462	12.406	0.5	PASS

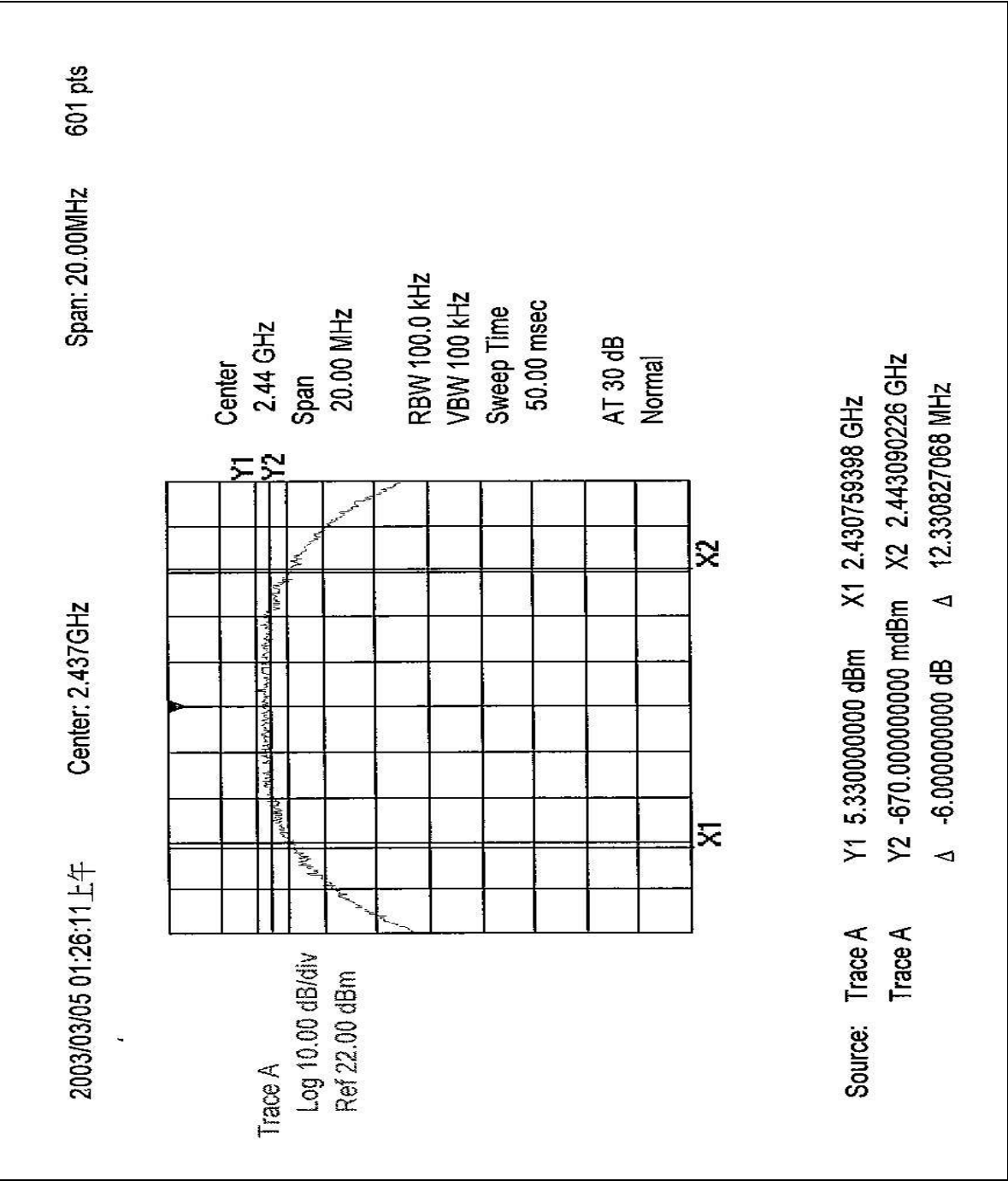


CH1



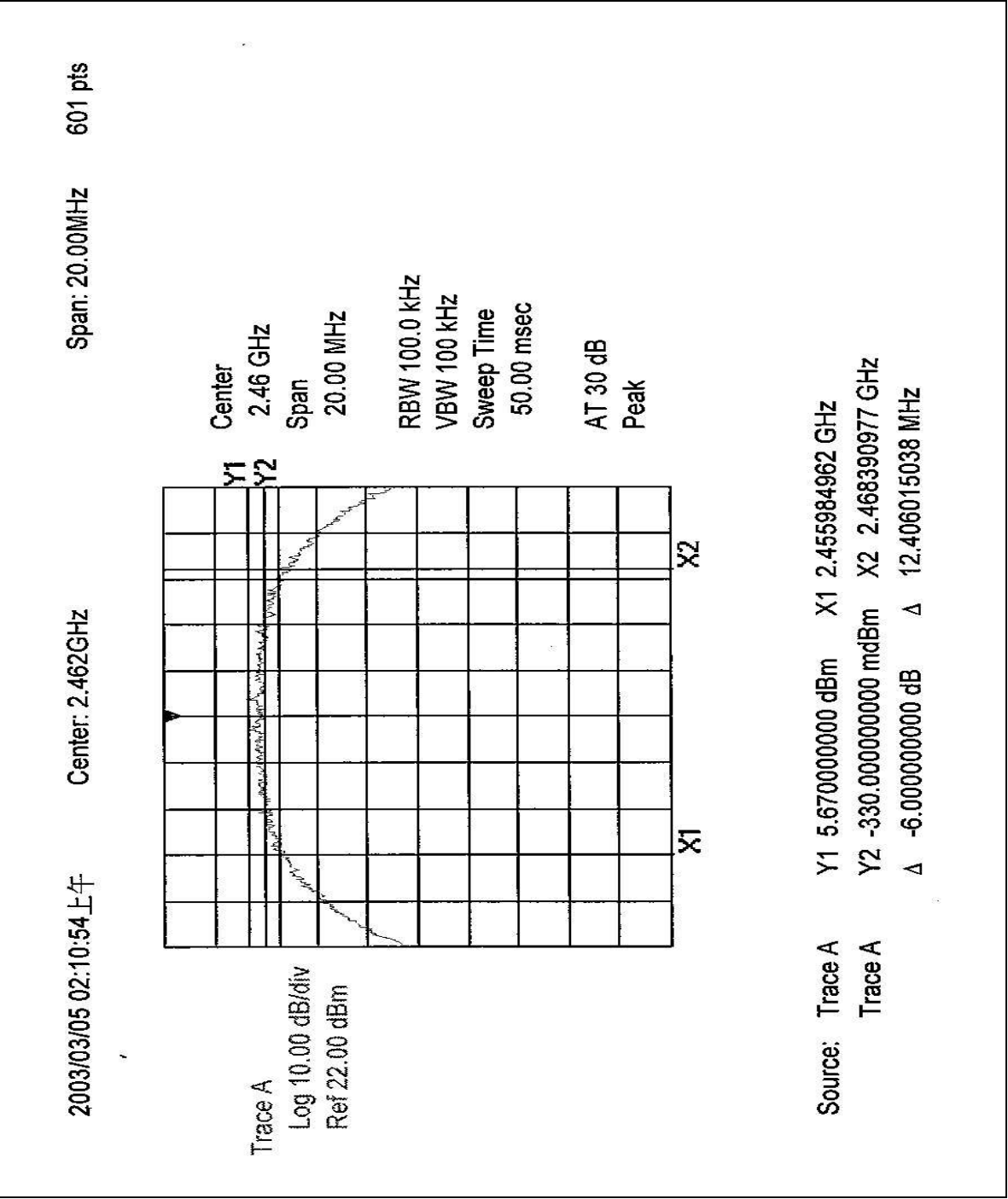


CH6





CH11



Source: Trace A

Trace A

Y1 5.670000000 dBm

Y2 -330.000000000 mdBm

Δ -6.000000000 dB

X1 2.455984962 GHz

X2 2.468390977 GHz

Δ 12.406015038 MHz

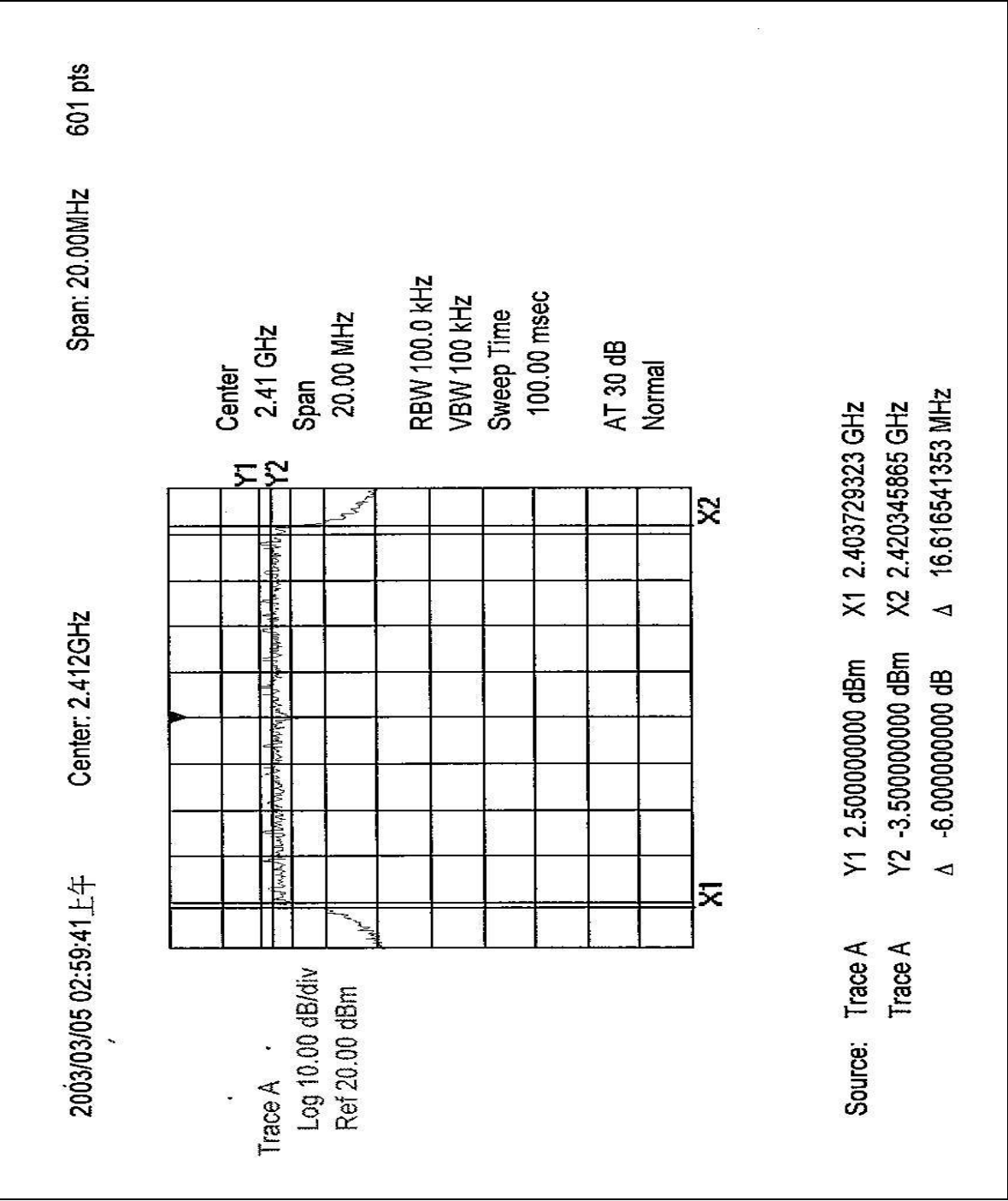
4.3.8 TEST RESULTS (B)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.617	0.5	PASS
6	2437	16.842	0.5	PASS
11	2462	16.617	0.5	PASS



CH1



2003/03/05 03:17:58 上午 Center: 2.437GHz Span: 20.00MHz 601 pts

Trace A
Log 10.00 dB/div
Ref 22.00 dBm

Center 2.44 GHz
Span 20.00 MHz
RBW 100.0 kHz
VBW 100 kHz
Sweep Time 500.00 msec
AT 30 dB
Sample

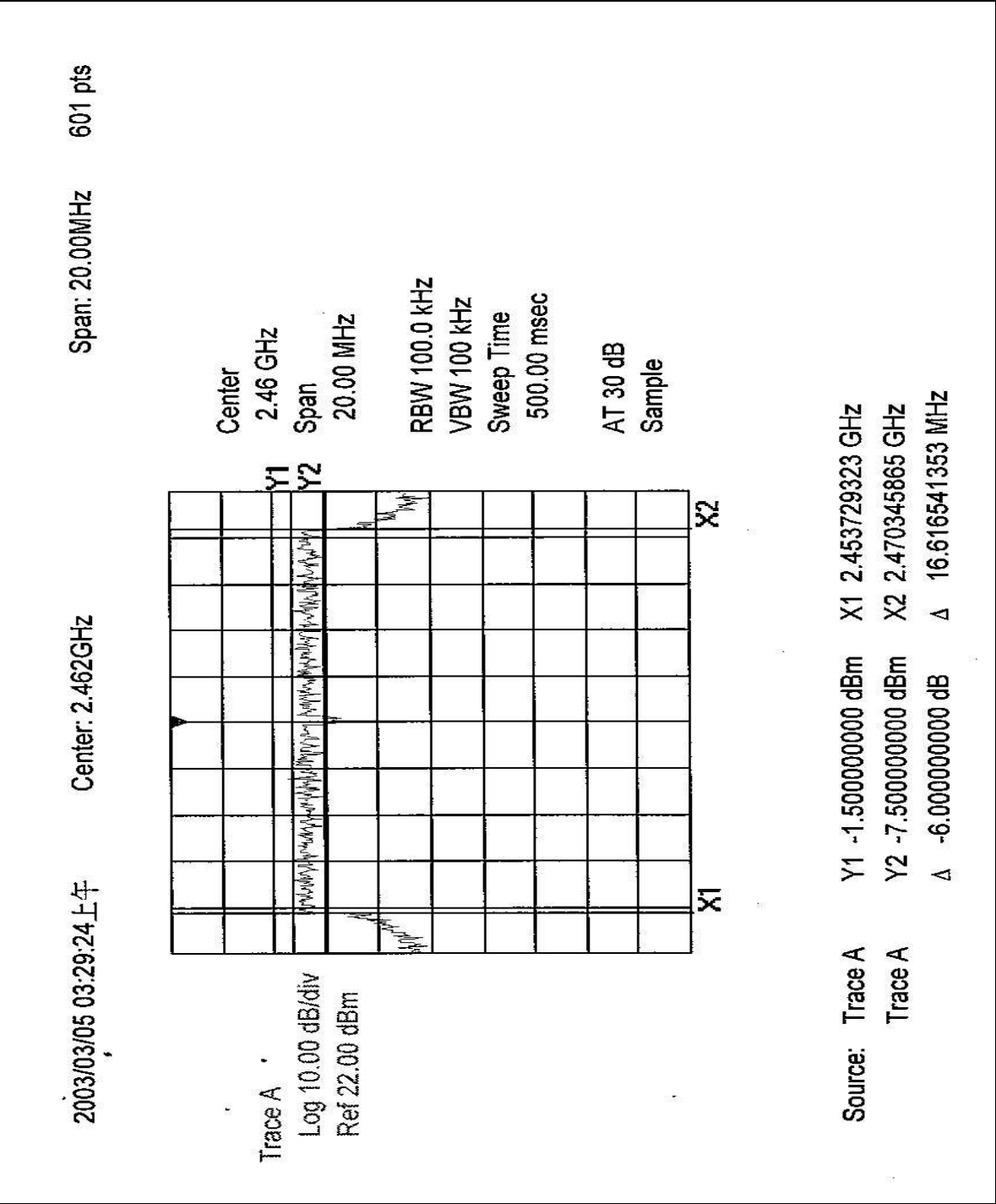
Y1
Y2

X1 X2

Source: Trace A Y1 1.170000000 dBm X1 2.428578947 GHz
Trace A Y2 -4.830000000 dBm X2 2.445421053 GHz
Δ -6.000000000 dB Δ 16.842105263 MHz



CH11

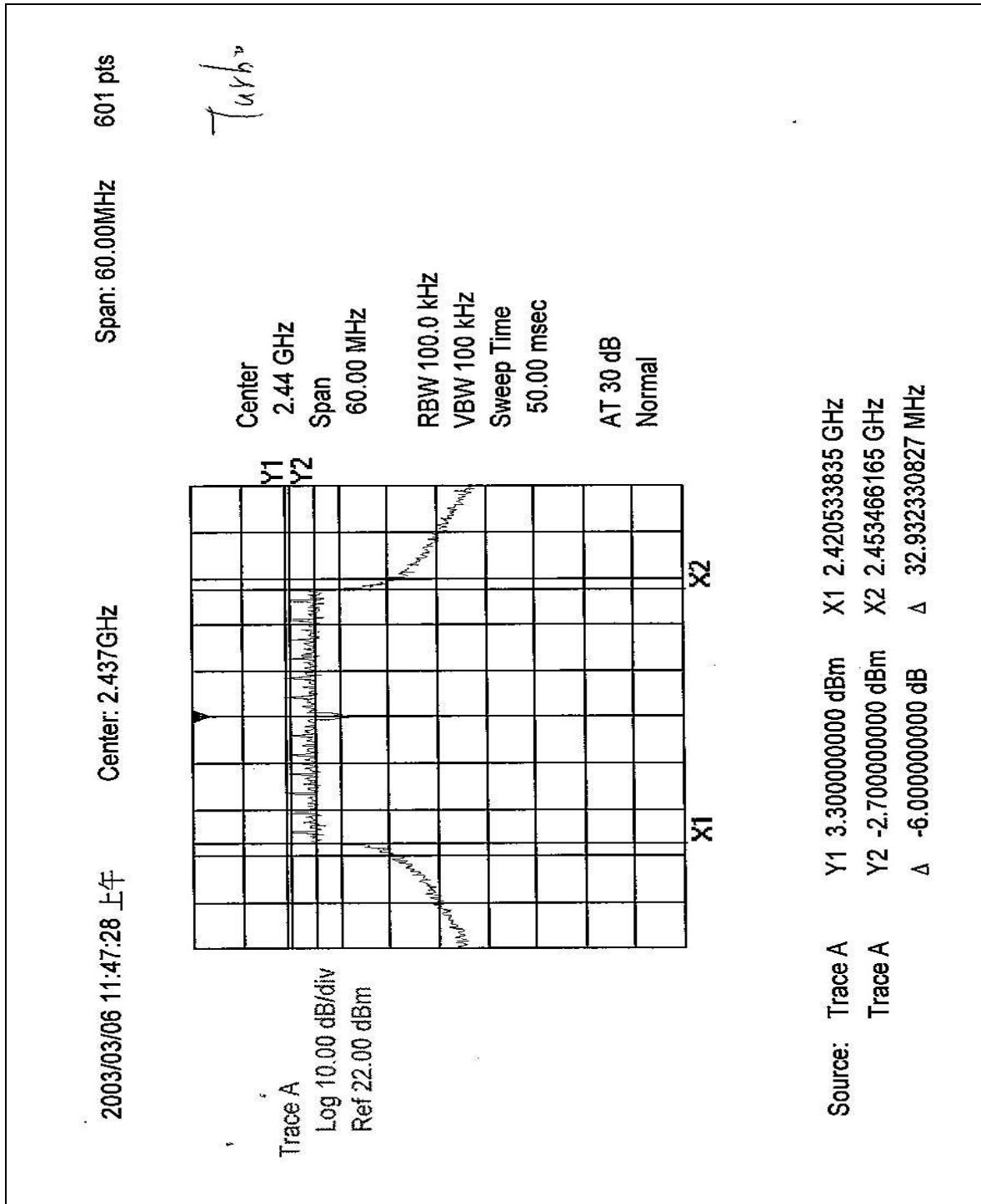


4.3.9 TEST RESULTS (C)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
6	2437	32.932	0.5	PASS

CH6



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
PEAK POWER SENSOR	E9327A	US40440722	July 30, 2003
POWER METER	E4416A	GB41291118	July 30, 2003

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

4.4.3 TEST PROCEDURES

The transmitter output was connected to the peak power meter.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS (A)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	14.8	30	PASS
6	2437	14.9	30	PASS
11	2462	14.6	30	PASS

4.4.8 TEST RESULTS (B)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	19.70	30	PASS
6	2437	19.32	30	PASS
11	2462	19.09	30	PASS

4.4.9 TEST RESULTS (C)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
6	2437	19.5	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
SPECTRUM ANALYZER	8564EC	4208A00660	Nov. 20, 2003

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

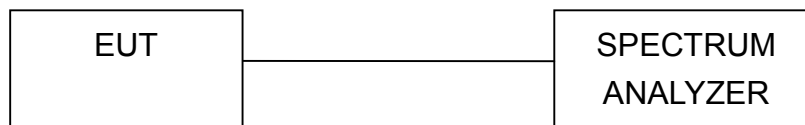
4.5.3 TEST PROCEDURE

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

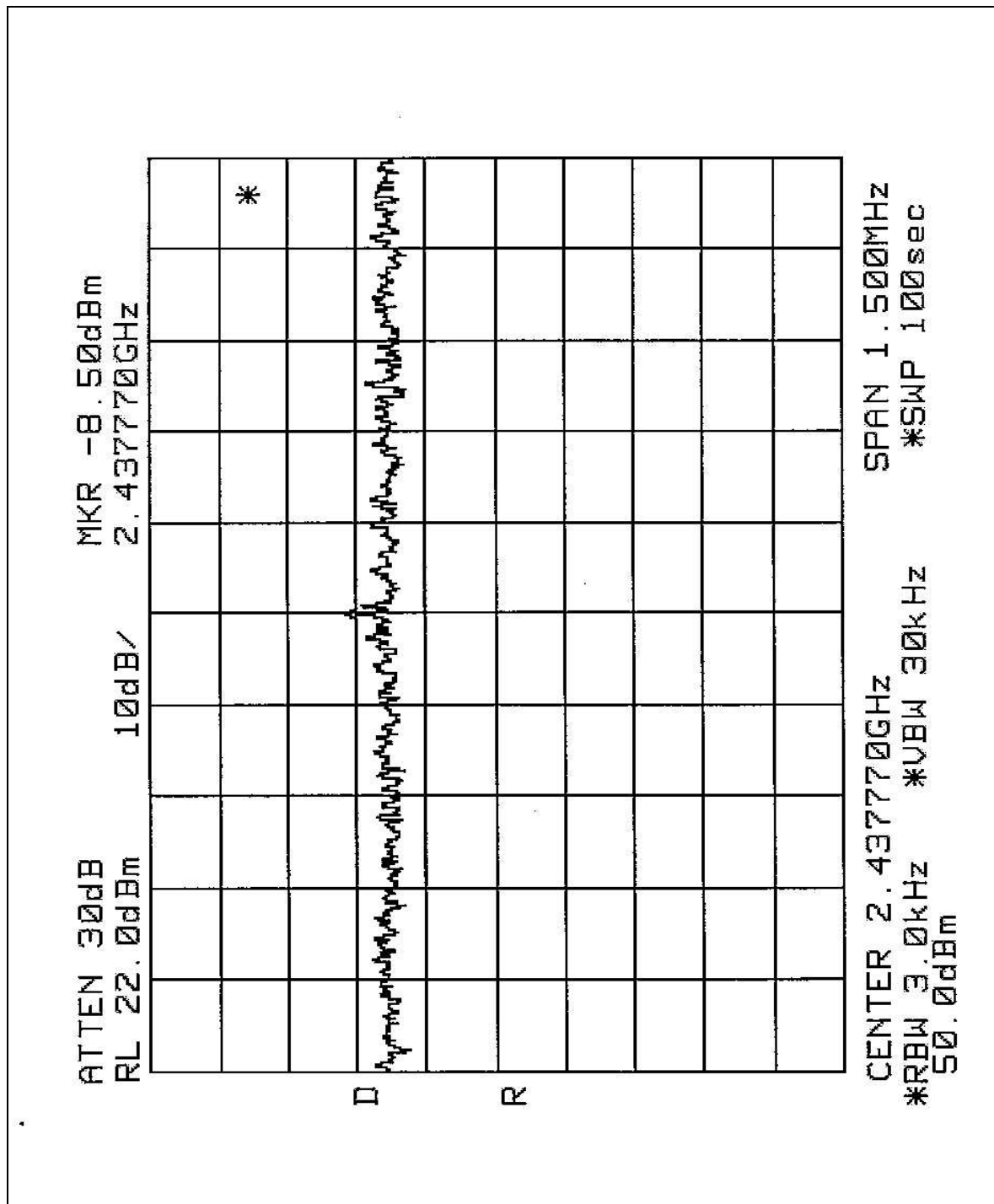
4.5.7 TEST RESULTS (A)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-6.67	8	PASS
6	2437	-8.50	8	PASS
11	2462	-9.17	8	PASS

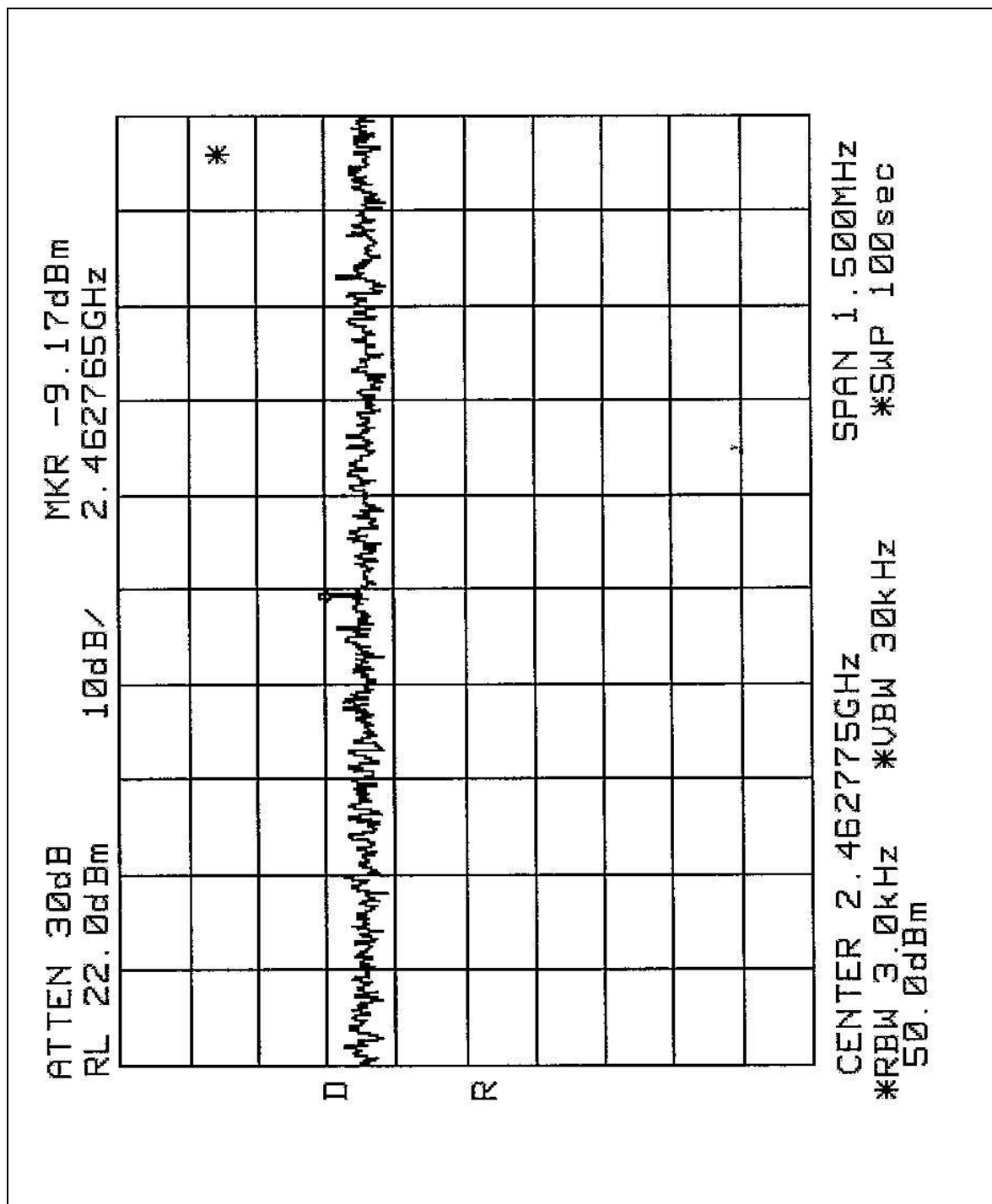
[illegible]

CH6





CH11

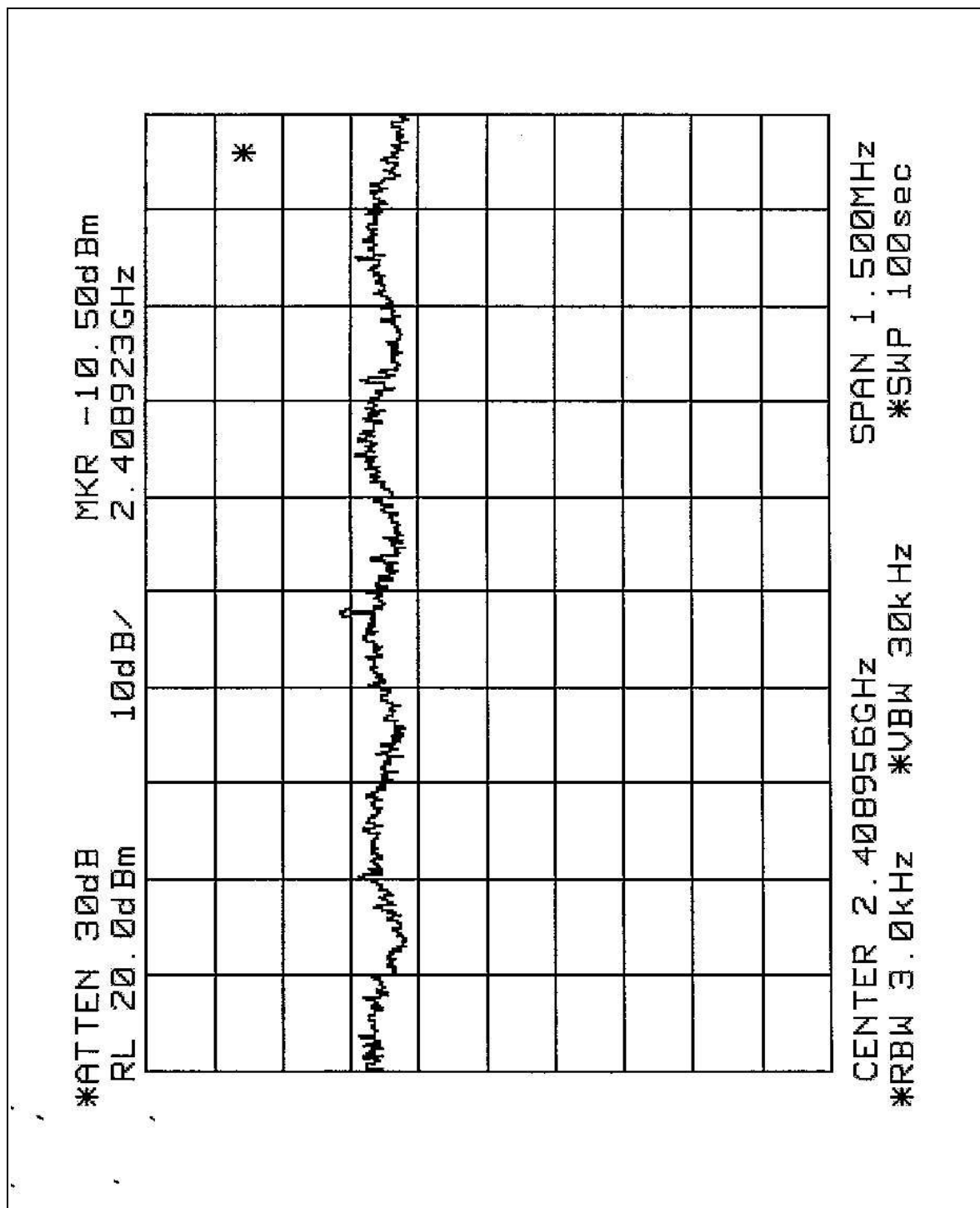


4.5.8 TEST RESULTS (B)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.50	8	PASS
6	2437	-8.83	8	PASS
11	2462	-12.17	8	PASS

CH1

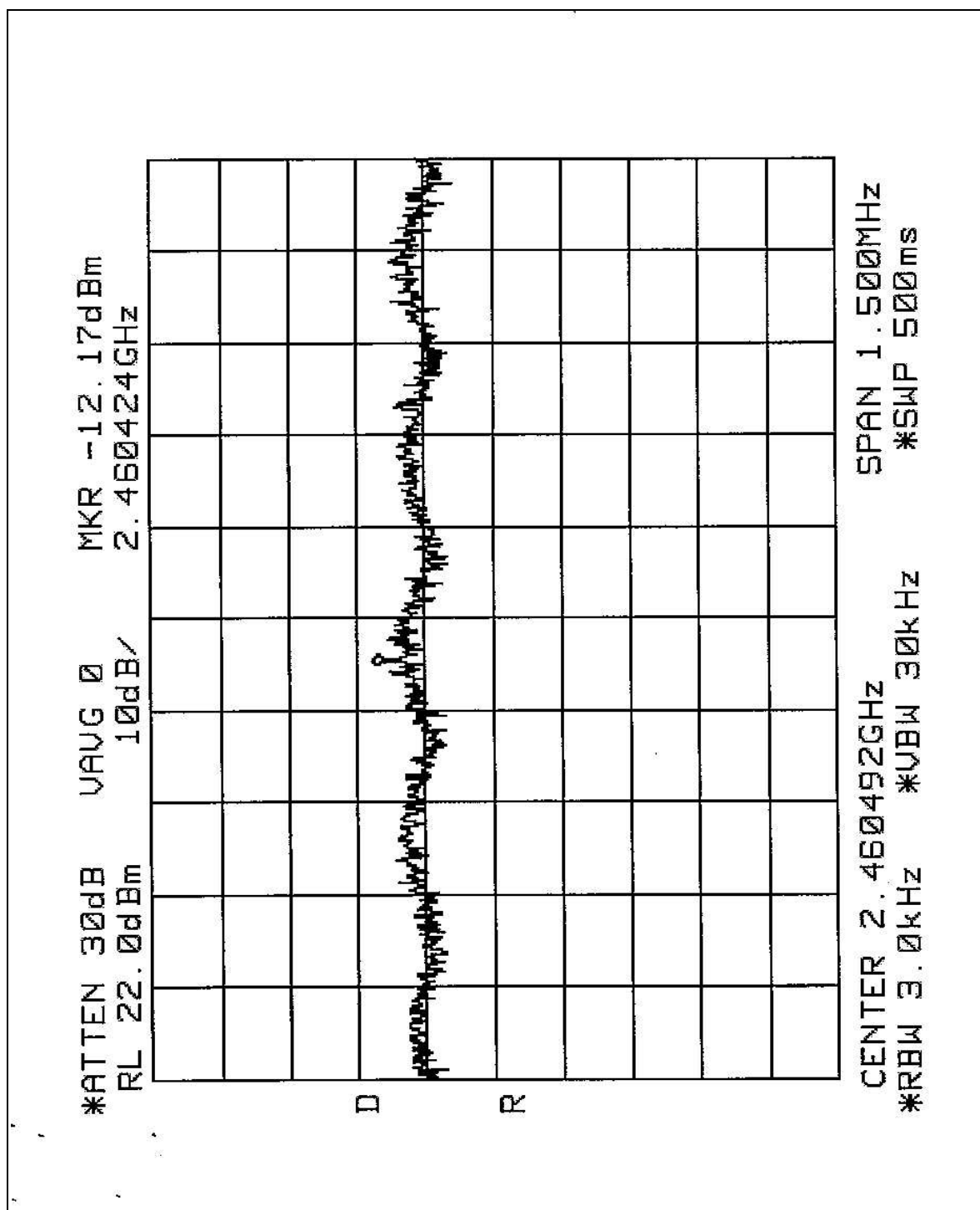


*ATTEN 30dB VAVG 0 MKR -8.83dBm
RL 22.0dBm 10dB/

D R

CENTER 2.436338GHz SPAN 1.500MHz
*RBW 3.0kHz *VBW 30kHz *SWP 500ms

CH11

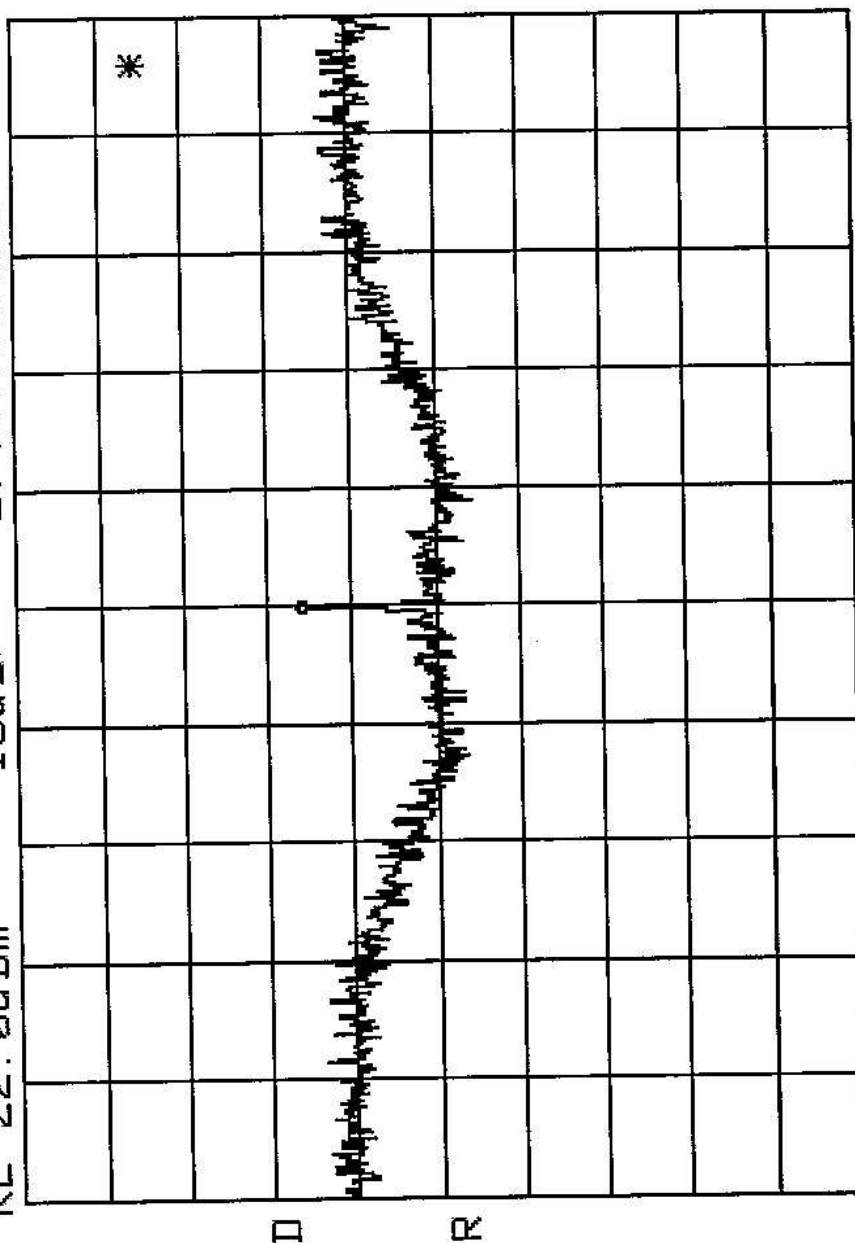


4.5.9 TEST RESULTS (C)

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 53%RH, 1005hPa
TESTED BY: Bunny Yao			

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
6	2437	-13.33	8	PASS

*ATTEN 30dB	VAUG Ø	MKR -13.33dBm
RL 22.0dBm	10dB/	2.437008GHz



CENTER 2.437008GHz
*RBW 30kHz *VBW 30kHz
SPAN 1.500MHz
*SWP 100sec

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
SPECTRUM ANALYZER	8564EC	4208A00660	Nov. 20, 2003

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 loss cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 300Hz with suitable frequency span including 100kHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation



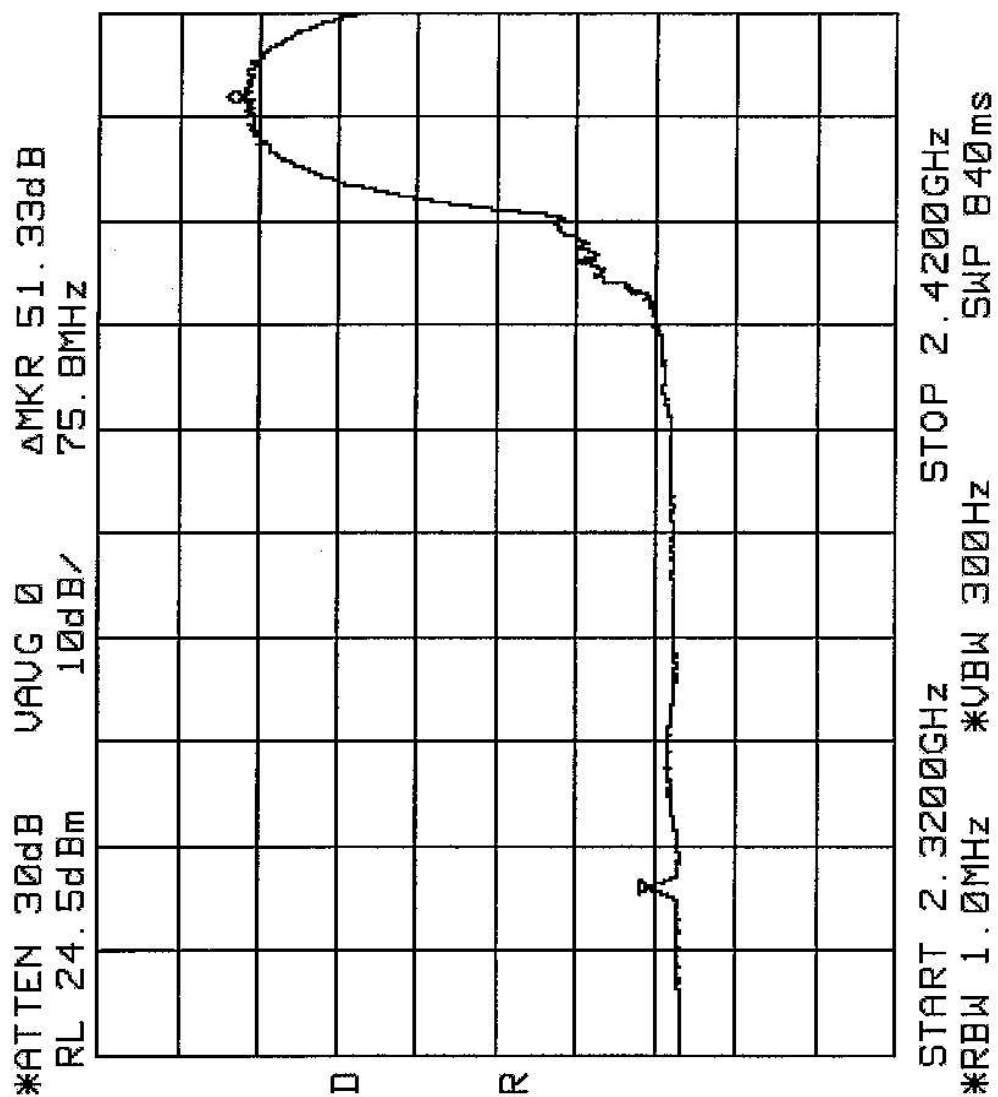
4.6.5 EUT OPERATING CONDITION

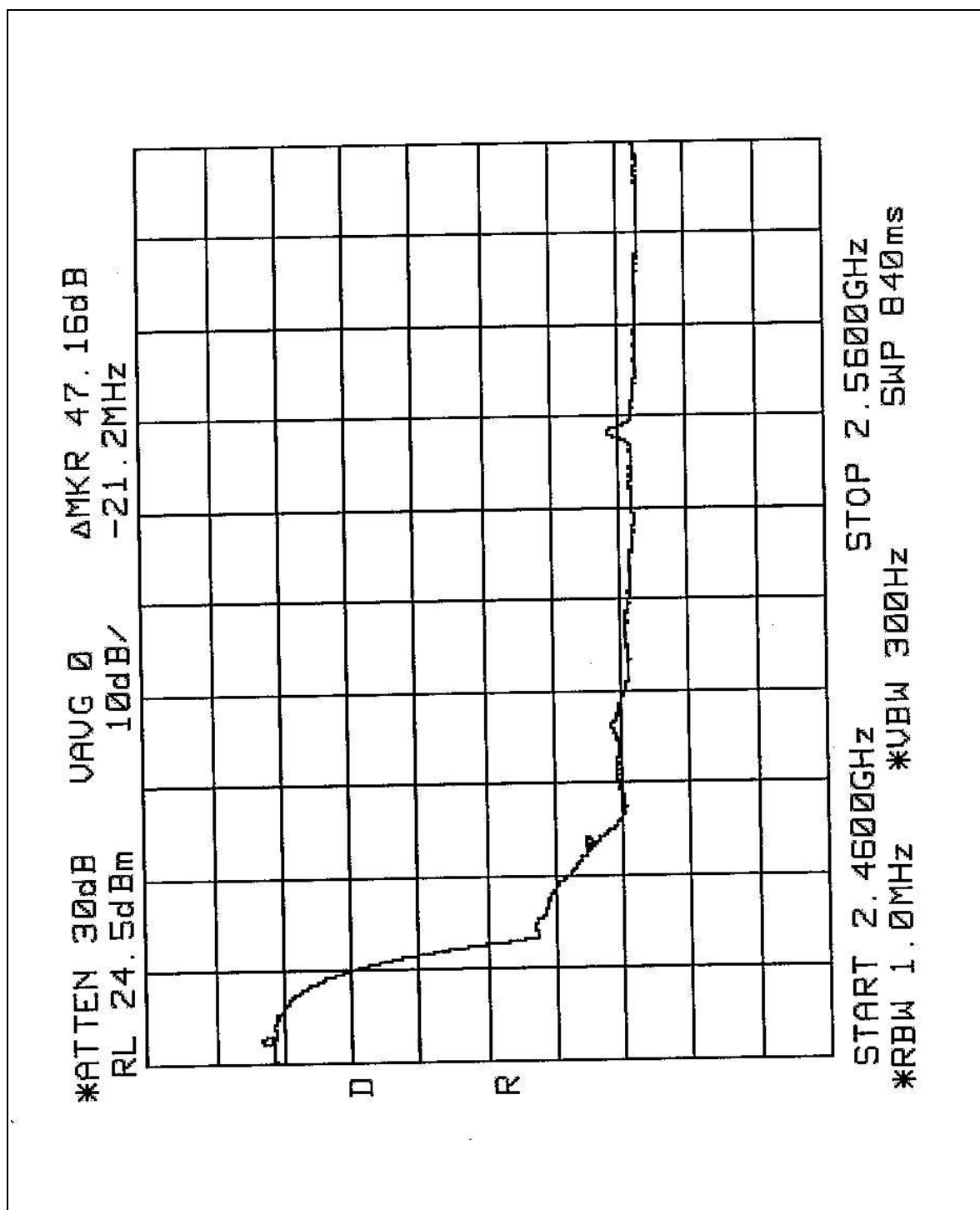
Same as Item 4.3.6

4.6.6 TEST RESULTS

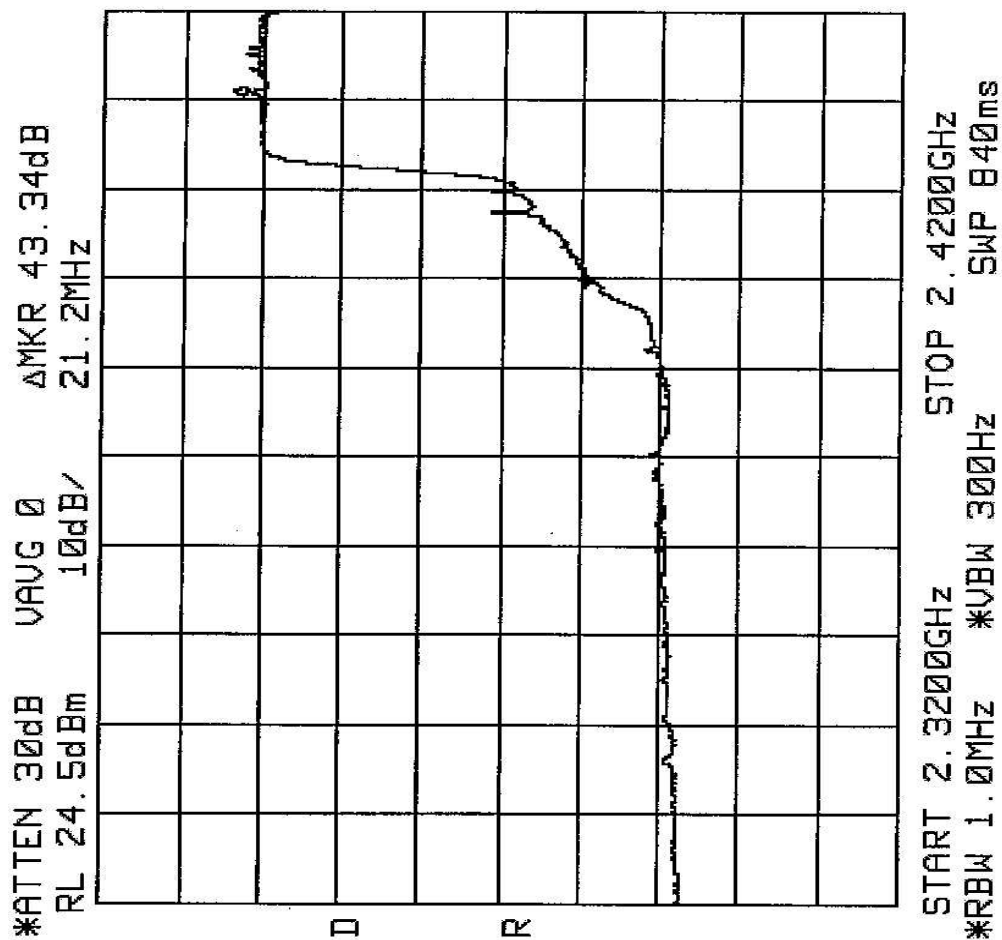
The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, and D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

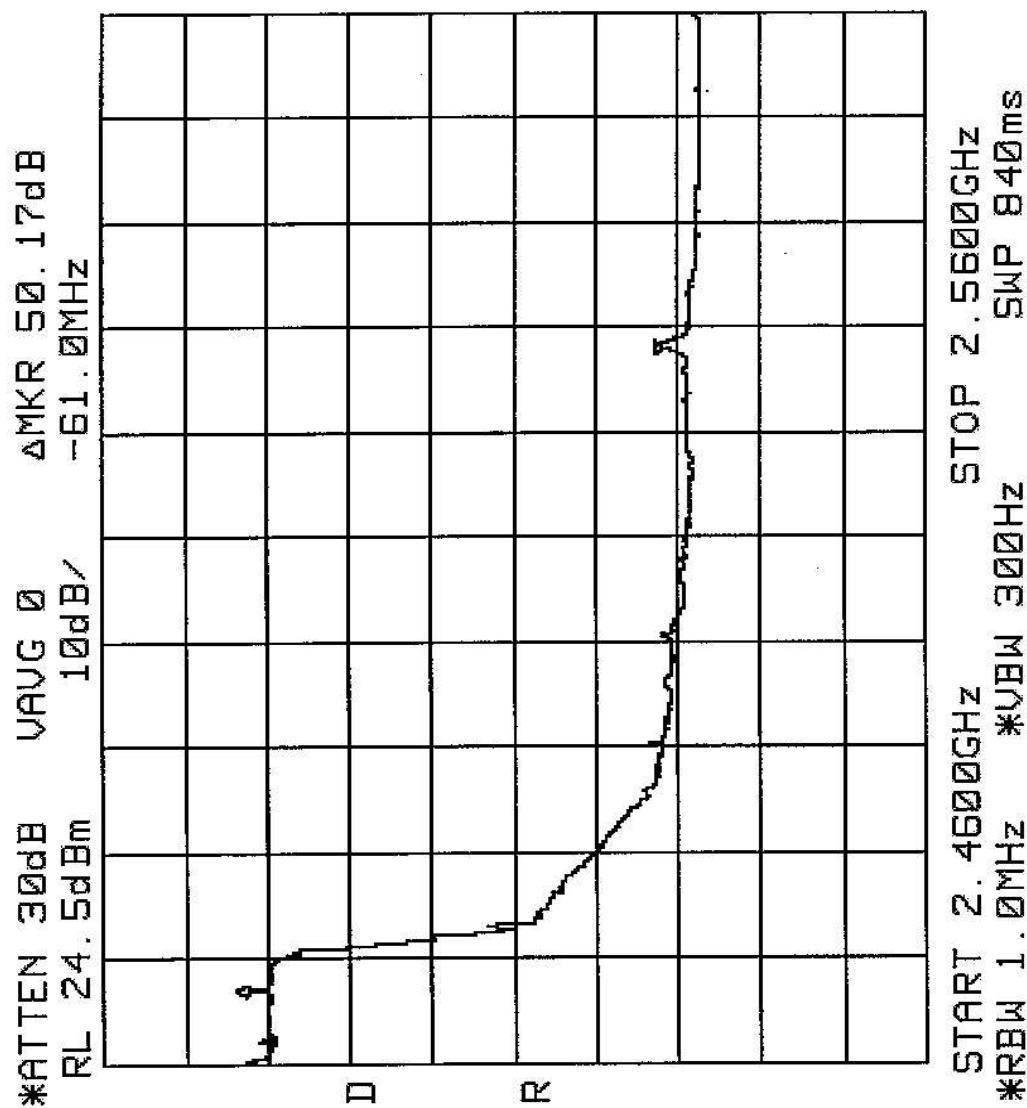
NOTE A: The band edge emission plot of CCK technique on the following 2 pages shows 51.33dB / 47.16dB delta between carrier maximum power and local maximum emission in restrict band (2.3357GHz / 2.4836GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 100.10dBuV/m, so the maximum field strength in restrict band is $100.10 - 47.16 = 52.94$ dBuV/m which is under 54dBuV/m limit.



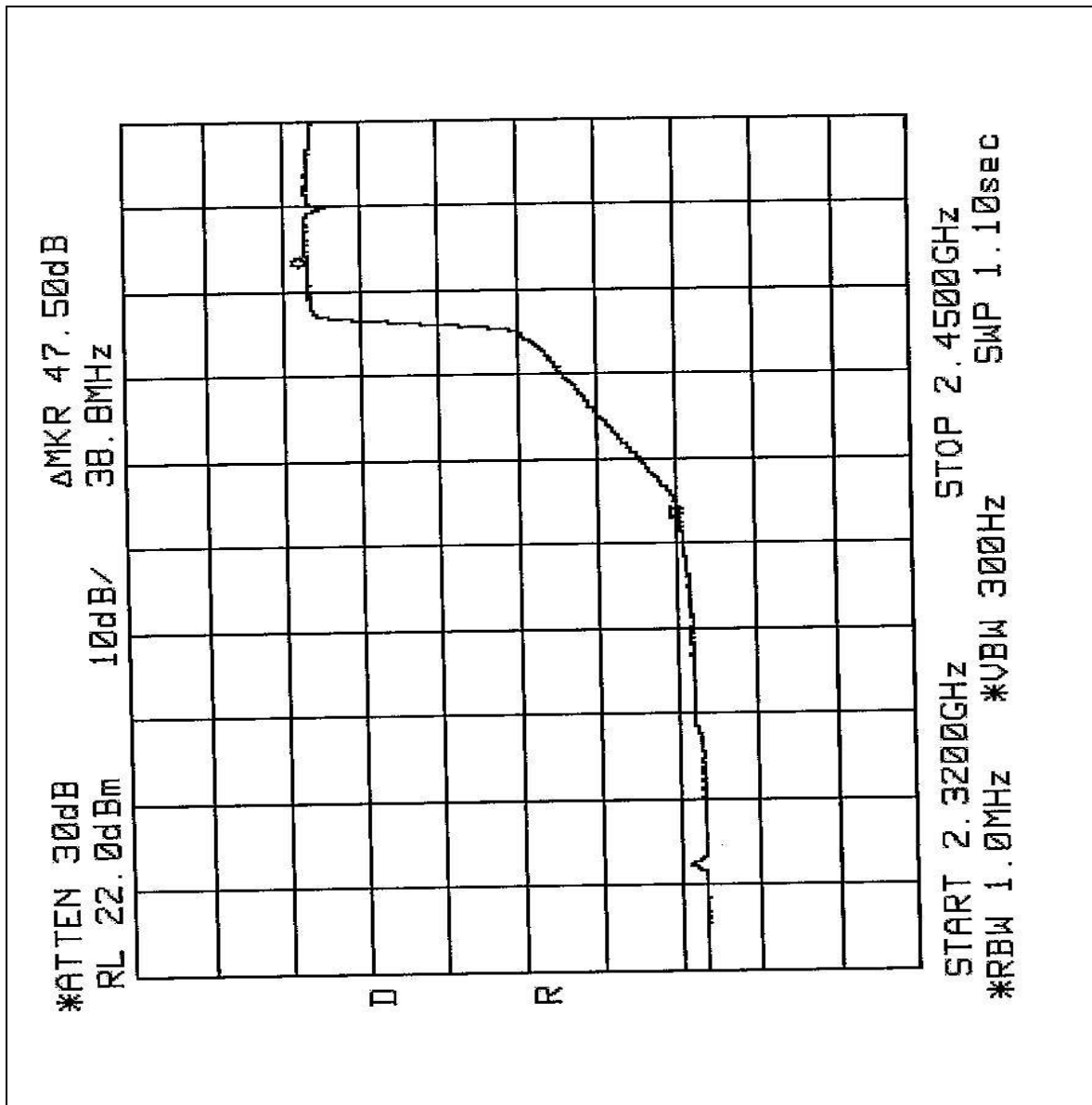


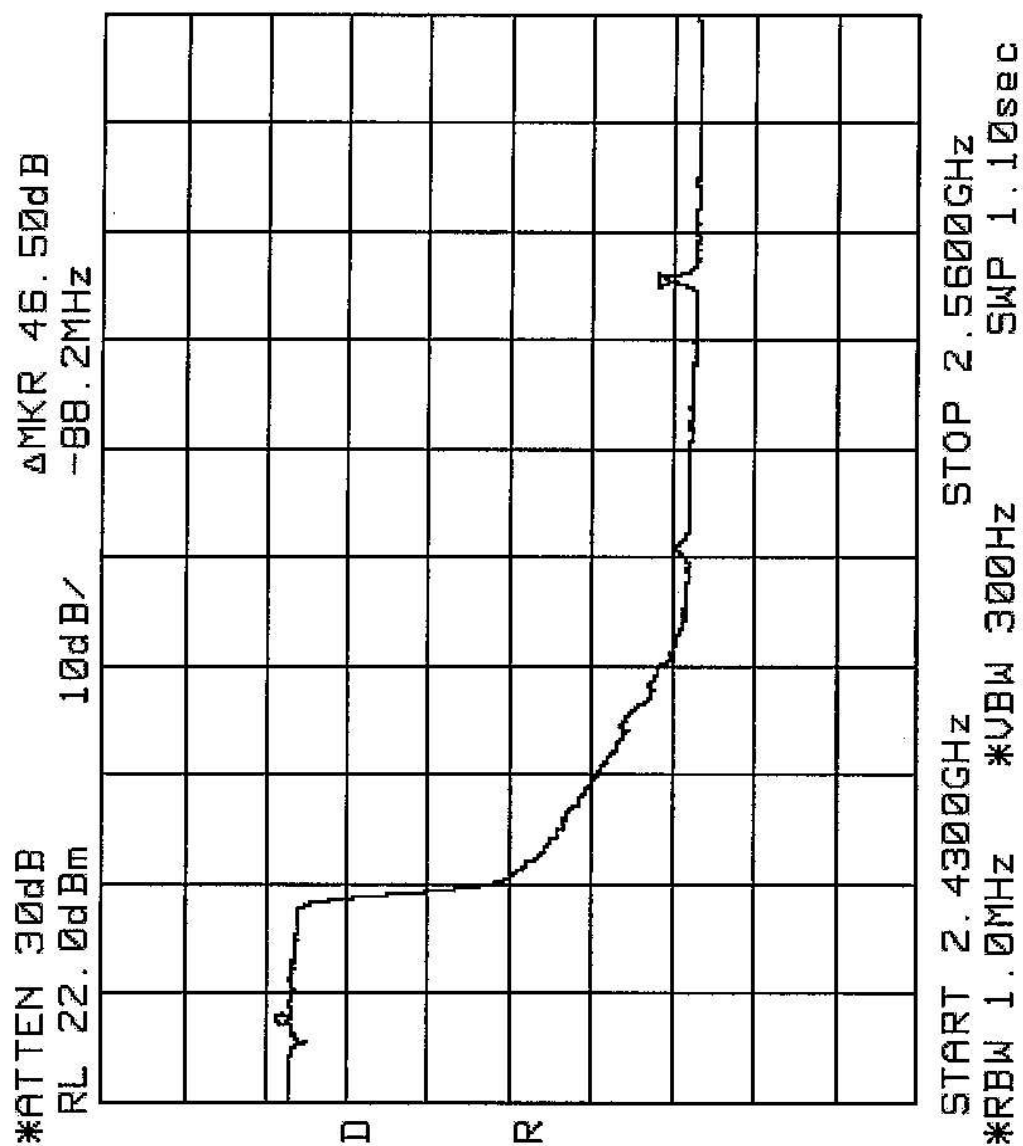
NOTE B: The band edge emission plot of OFDM technique on the following pages shows 43.34dB / 50.17dB delta between carrier maximum power and local maximum emission in restrict band (2.389GHz / 2.528GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 91.3dBuV/m, so the maximum field strength in restrict band is $91.3 - 43.34 = 47.96$ dBuV/m which is under 54dBuV/m limit.





NOTE C: The band edge emission plot of OFDM technique with Turbo mode on the following pages shows 47.50dB / 46.50dB delta between carrier maximum power and local maximum emission in restrict band (2.3893GHz / 2.5286GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.10 is 87.4dBuV/m, so the maximum field strength in restrict band is 87.4-46.50=40.90dBuV/m which is under 54dBuV/m limit.







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 without connector. The maximum Gain of the antenna is 1dBi.

5. TEST TYPES AND RESULTS (FOR PART 802.11a)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Nov. 17, 2003
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 13, 2003
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2003
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 03, 2003
Terminator(for KYORITSU)	50	#1	Apr. 11, 2003
Software	Cond-V2e	NA	NA

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



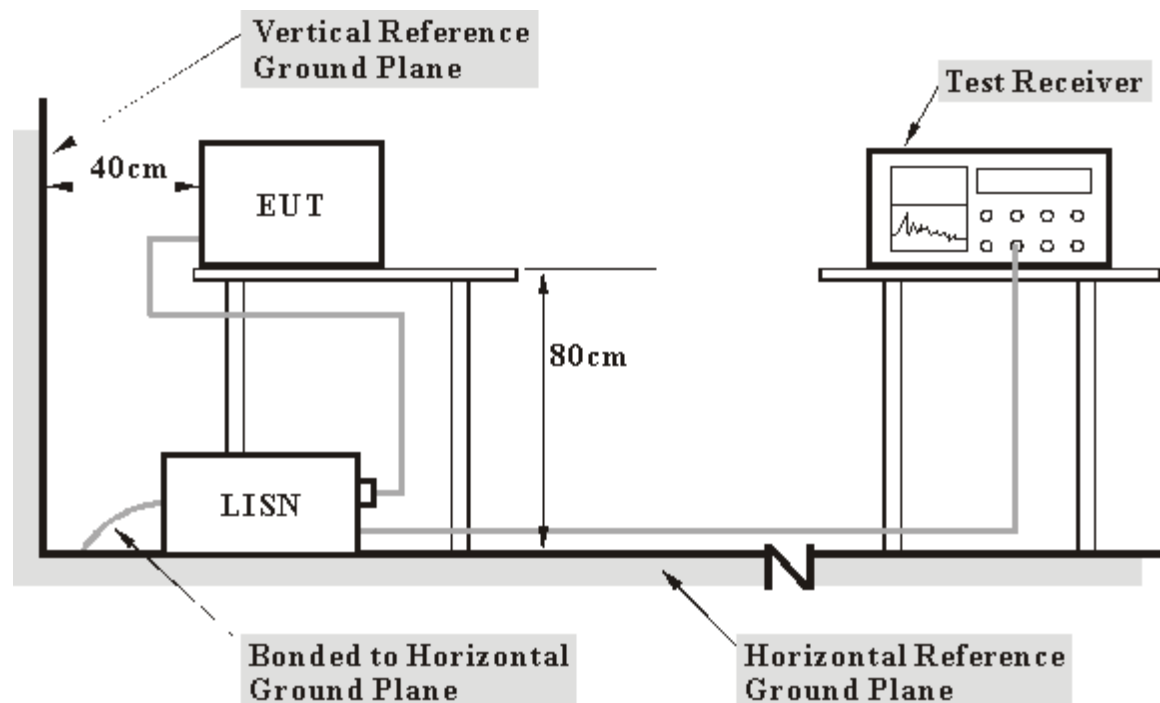
5.1.3 TEST PROCEDURES

- 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 over 10dB under the prescribed limits could not be reported

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

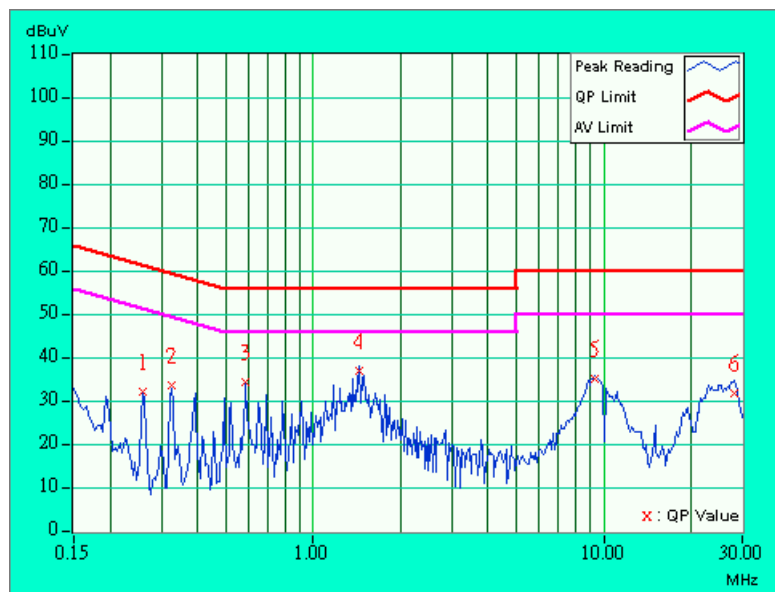
Same as 4.1.6.

5.1.7 TEST RESULTS

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.261	0.10	31.01	-	31.11	-	61.41	51.41	-30.30	-
2	0.326	0.10	32.55	-	32.65	-	59.56	49.56	-26.91	-
3	0.588	0.10	33.22	-	33.32	-	56.00	46.00	-22.68	-
4	1.435	0.10	35.67	-	35.77	-	56.00	46.00	-20.23	-
5	9.317	0.58	34.03	-	34.61	-	60.00	50.00	-25.39	-
6	28.210	1.20	30.63	-	31.83	-	60.00	50.00	-28.17	-

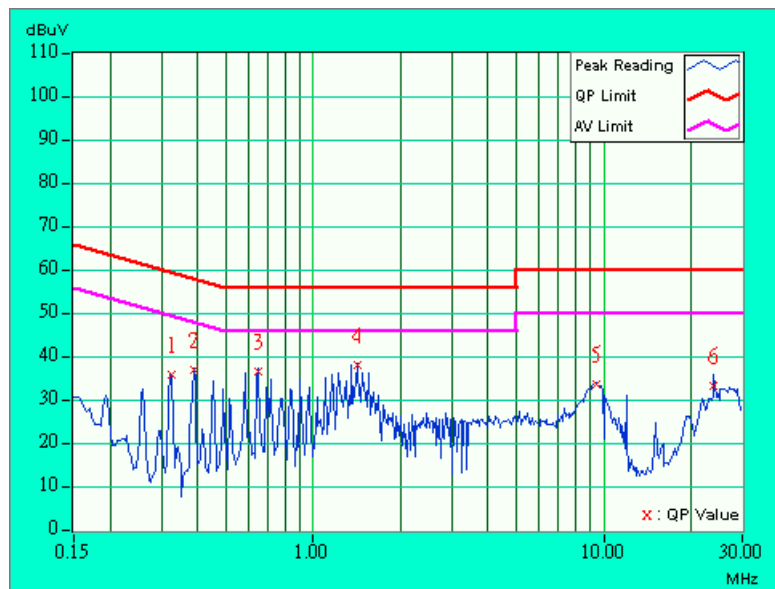
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 56%RH, 1005hPa	TESTED BY: Jay Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.324	0.10	34.93	-	35.03	-	59.59	49.59	-24.56	-
2	0.388	0.10	36.23	-	36.33	-	58.10	48.10	-21.77	-
3	0.647	0.10	35.98	-	36.08	-	56.00	46.00	-19.92	-
4	1.425	0.10	37.14	-	37.24	-	56.00	46.00	-18.76	-
5	9.455	0.49	32.94	-	33.43	-	60.00	50.00	-26.57	-
6	24.002	0.86	32.50	-	33.36	-	60.00	50.00	-26.64	-

- 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 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

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

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Spectrum Analyzer	8590L	3544A01176	May 13, 2003
* HP Preamplifier	8447D	2944A08485	Apr. 29, 2003
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01292	Aug. 07, 2003
*Spectrum Analyzer	8593E	3926A04191	Mar. 28, 2003
*Test Receiver	ESI7	838496/016	Feb. 23, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Nov. 22, 2003
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 02, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 03, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 09, 2003
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	ADT_Radiated_V5.09	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jul. 11. 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 11. 2003

- 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. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 5.
5. The VCCI Site Registration No. is R-1039.



5.2.4 TEST PROCEDURES

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

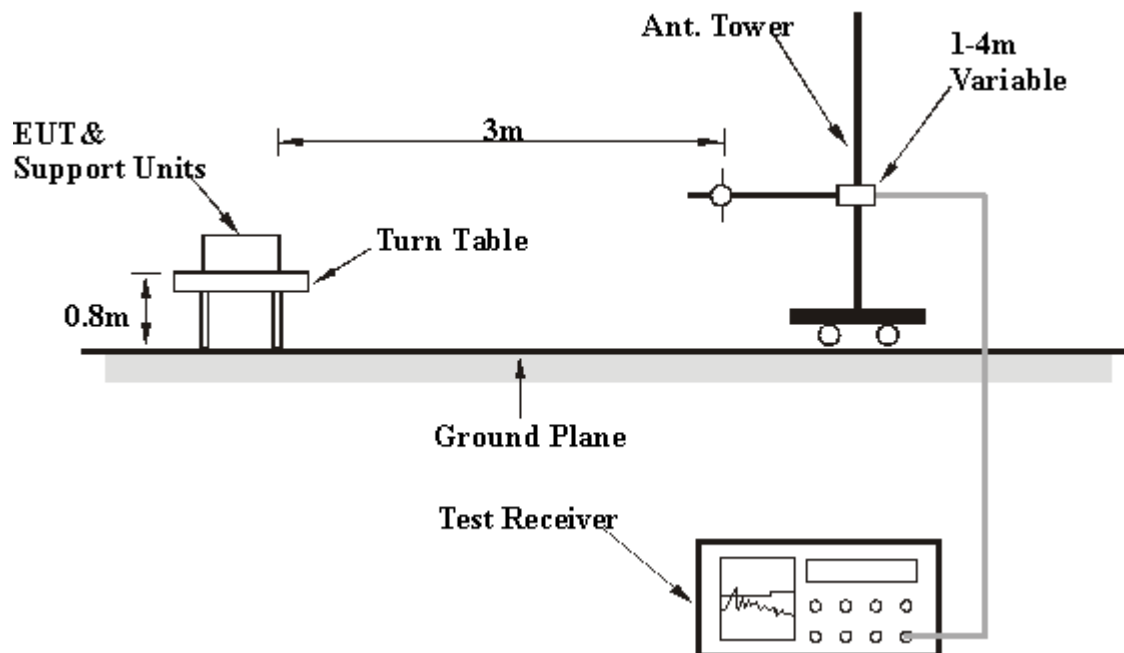
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth 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 300 Hz for Average detection (AV) at frequency above 1GHz.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



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

5.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.2.8 TEST RESULTS

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
FREQUENCY RANGE	Below 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	160.00	26.4 QP	43.50	-17.10	1.40H	30	13.15	9.62	3.62	0.00	-13.25
2	192.00	27.0 QP	43.50	-16.50	1.00H	3	14.04	8.95	4.00	0.00	-12.97
3	320.00	26.0 QP	46.00	-20.00	1.19H	3	7.03	13.62	5.34	0.00	-18.97
4	384.00	28.0 QP	46.00	-18.00	1.35H	1	6.48	15.50	6.02	0.00	-21.53
5	480.00	27.0 QP	46.00	-19.00	1.04H	3	3.57	16.92	6.51	0.00	-23.43
6	576.00	28.0 QP	46.00	-18.00	1.25H	43	2.05	18.28	7.67	0.00	-25.95

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	160.00	26.8 QP	43.50	-16.70	1.40V	293	13.55	9.62	3.62	0.00	-13.25
2	192.00	28.0 QP	43.50	-15.50	1.07V	288	15.04	8.95	4.00	0.00	-12.96
3	224.00	27.0 QP	46.00	-19.00	1.29V	1	12.24	10.41	4.36	0.00	-14.77
4	320.00	30.0 QP	46.00	-16.00	1.67V	29	11.03	13.62	5.34	0.00	-18.97
5	384.00	28.0 QP	46.00	-18.00	1.44V	299	6.48	15.50	6.02	0.00	-21.52
6	480.00	25.0 QP	46.00	-21.00	1.35V	3	1.57	16.92	6.51	0.00	-23.43
7	576.00	27.0 QP	46.00	-19.00	1.09V	20	1.05	18.28	7.67	0.00	-25.95

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)	Remark
1	*5180.00	88.8 AV			1.40H	5	89.60	31.87	3.95	36.63	0.82	
2	*5180.00	96.2 PK			1.40H	5	97.00	31.87	3.95	36.63	0.82	
3	10360.00	53.6 PK	68.30	-14.70	1.38H	4	45.20	39.16	6.69	37.42	-8.43	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)	Remark
1	*5180.00	101.0 AV			1.00V	322	101.80	31.87	3.95	36.63	0.82	
2	*5180.00	109.0 PK			1.00V	322	109.86	31.87	3.95	36.63	0.82	
3	10360.00	55.9 PK	68.30	-12.40	1.68V	18	47.50	39.16	6.69	37.42	-8.44	

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5240.00	92.2 AV			1.20H	337	93.00	31.90	3.86	36.60	0.84
2	*5240.00	98.2 PK			1.20H	337	99.00	31.90	3.86	36.60	0.84
3	10480.00	53.2 PK	68.30	-15.10	1.26H	349	44.00	39.36	7.14	37.32	-9.19

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5240.00	104.2 AV			1.16V	355	105.00	31.90	3.86	36.60	0.84
2	*5240.00	110.2 PK			1.16V	355	111.00	31.90	3.86	36.60	0.84
3	10480.00	62.4 PK	68.30	-5.90	1.00V	181	53.20	39.36	7.14	37.32	-9.19

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5260.00	100.2 PK			1.04H	2	101.00	31.90	3.86	36.60	0.84
2	*5260.00	9506 AV			1.04H	2	96.40	31.90	3.86	36.60	0.84
3	10518.00	62.4 PK	68.30	-5.90	1.08H	14	53.00	39.43	7.22	37.28	-9.36

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5260.00	103.2 AV			1.07V	7	104.00	31.90	3.86	36.60	0.84
2	*5260.00	107.8 PK			1.07V	7	108.60	31.90	3.86	36.60	0.84
3	10517.00	64.4 PK	68.30	-3.90	1.36V	5	55.00	39.43	7.22	37.28	-9.37

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)	Remark
1	*5320.00	90.9 AV			1.65H	82	91.73	31.93	3.77	36.57	0.86	
2	*5320.00	97.6 PK			1.65H	82	98.50	31.93	3.77	36.57	0.86	
3	10640.00	56.6 PK	74.00	-17.40	1.25H	351	47.00	39.61	7.22	37.18	-9.64.	NOTE 6

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)	Remark
1	*5320.00	101.1 AV			1.70V	311	101.93	31.93	3.77	36.57	0.86	
2	*5320.00	107.9 PK			1.70V	311	108.76	31.93	3.77	36.57	0.86	
3	5350.00	46.4 PK	74.00	-27.60	1.70V	311	47.22	31.93	3.77	36.57	0.86	NOTE 6
4	10640.00	51.2 AV	54.00	-2.80	1.63V	297	41.58	39.61	7.22	37.18	-9.64	NOTE 6
5	10640.00	59.6 PK	74.00	-14.40	1.63V	297	50.00	39.61	7.22	37.18	-9.64.	NOTE 6

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
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	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)	Remark
1	4598.00	54.7 PK	74.00	-19.30	1.45 H	3	19.50	35.20	NOTE 6
1	4598.00	43.3 AV	54.00	-10.70	1.45 H	3	8.10	35.20	NOTE 6
2	5375.00	53.2 PK	74.00	-20.80	1.02 H	1	16.20	37.00	NOTE 6
2	5375.00	43.5 AV	54.00	-10.50	1.02 H	1	6.50	37.00	NOTE 6
3	5715.00	59.8 PK	68.30	-8.50	1.25 H	32	22.30	37.50	
4	5725.00	60.9 PK	78.30	-17.40	1.54 H	2	23.40	37.50	
5	*5745.00	102.6 PK			1.68 H	20	65.00	37.60	
5	*5745.00	94.1 AV			1.68 H	20	56.50	37.60	

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)	Remark
1	4598.00	54.1 PK	74.00	-19.90	1.21 V	20	18.90	35.20	NOTE 6
1	4598.00	44.1 AV	54.00	-9.90	1.21 V	20	8.90	35.20	NOTE 6
2	5375.00	58.9 PK	74.00	-15.10	1.34 V	3	21.90	37.00	NOTE 6
2	5375.00	48.7 AV	54.00	-5.30	1.34 V	3	11.70	37.00	NOTE 6
3	5715.00	59.8 PK	68.30	-8.50	1.54 V	1	22.30	37.50	
4	5725.00	65.4 PK	78.30	-12.90	1.01 V	3	27.90	37.50	
5	*5745.00	107.0 PK			1.01 V	11	69.40	37.60	
5	*5745.00	98.7 AV			1.01 V	11	61.10	37.60	
6	11490.00	59.5 PK	74.00	-14.50	1.54 V	2	8.20	51.30	NOTE 6
6	11490.00	46.7 AV	54.00	-7.30	1.54 V	2	-4.60	51.30	NOTE 6

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.

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)	Remark
1	5118.00	52.6 PK	74.00	-21.40	1.24 H	2	15.60	37.00	NOTE 6
1	5118.00	43.4 AV	54.00	-10.60	1.24 H	2	6.40	37.00	NOTE 6
2	5375.00	55.7 PK	74.00	-18.30	1.32 H	4	18.70	37.00	NOTE 6
2	5375.00	45.0 AV	54.00	-9.00	1.32 H	4	8.00	37.00	NOTE 6
3	*5805.00	102.0 PK			1.63 H	32	64.30	37.70	
3	*5805.00	95.1 AV			1.63 H	32	57.40	37.70	
4	5825.00	62.0 PK	78.30	-16.30	1.69 H	54	24.30	37.70	
5	5835.00	54.3 PK	68.30	-14.00	1.32 H	33	16.60	37.70	
6	11610.00	58.1 PK	74.00	-15.90	1.22 H	1	7.10	51.00	NOTE 6
6	11610.00	45.1 AV	54.00	-8.90	1.22 H	1	-5.90	51.00	NOTE 6

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)	Remark
1	5118.00	56.6 PK	74.00	-17.40	1.12 V	12	19.60	37.00	NOTE 6
1	5118.00	46.9 AV	54.00	-7.10	1.12 V	12	9.90	37.00	NOTE 6
2	5375.00	58.9 PK	74.00	-15.10	1.29 V	13	21.90	37.00	NOTE 6
2	5375.00	47.8 AV	54.00	-6.20	1.29 V	13	10.80	37.00	NOTE 6
3	*5805.00	108.6 PK			1.32 V	0	70.90	37.70	
3	*5805.00	99.0 AV			1.32 V	0	61.30	37.70	
4	5825.00	68.6 PK	78.30	-9.70	1.23 V	2	30.90	37.70	
5	5835.00	60.9 PK	68.30	-7.40	1.47 V	11	23.20	37.70	
6	11610.00	59.2 PK	74.00	-14.80	1.54 V	21	8.20	51.00	NOTE 6
6	11610.00	46.5 AV	54.00	-7.50	1.54 V	21	-4.50	51.00	NOTE 6

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.



EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5210.00	79.9 AV			1.13H	170	80.70	31.88	3.90	36.62	0.83
2	*5210.00	88.2 PK			1.13H	170	89.00	31.88	3.90	36.62	0.83
3	10420.00	54.9 PK	68.30	-13.40	1.09H	188	46.00	39.30	6.99	37.35	-8.94.

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5210.00	107.2 PK			1.18V	154	108.00	31.88	3.90	36.62	0.83
2	*5210.00	95.2 AV			1.18V	154	96.00	31.88	3.90	36.62	0.83
3	10420.00	56.9 PK	68.30	-11.40	1.06V	178	48.00	39.30	6.99	37.35	-8.94.

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5250.00	87.2 PK			1.30H	338	88.00	31.90	3.86	36.60	0.84
2	*5250.00	80.2 AV			1.30H	338	81.00	31.90	3.86	36.60	0.84
3	10500.00	55.1 PK	68.30	-13.20	1.49H	351	45.70	39.43	7.22	37.28	-9.36.

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5250.00	97.2 AV			1.03V	217	98.00	31.90	3.86	36.60	0.84
2	*5250.00	108.2 PK			1.03V	217	109.00	31.90	3.86	36.60	0.84
3	10500.00	54.4 PK	68.30	-13.90	1.83V	0	45.00	39.43	7.22	37.28	-9.36.

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Gary Chang		

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5290.00	88.2 AV			1.00H	189	89.00	31.92	3.82	36.58	0.85
2	*5290.00	96.2 PK			1.00H	189	97.00	31.92	3.82	36.58	0.85
3	10580.00	55.5 PK	68.30	-12.80	1.01H	165	46.00	39.49	7.22	37.25	-9.46.

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*5290.00	95.2 AV			1.01V	258	96.00	31.92	3.82	36.58	0.85
2	*5290.00	107.2 PK			1.01V	258	108.00	31.92	3.82	36.58	0.85
3	10580.00	57.5 PK	68.30	-10.80	1.04V	273	48.00	39.49	7.22	37.25	-9.46

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)	Remark
1	5118.00	53.1 PK	74.00	-20.90	1.84 H	42	16.10	37.00	NOTE 6
1	5118.00	43.8 AV	54.00	-10.20	1.84 H	42	6.80	37.00	NOTE 6
2	5375.00	50.6 PK	74.00	-23.40	1.33 H	23	13.60	37.00	NOTE 6
2	5375.00	43.2 AV	54.00	-10.80	1.33 H	23	6.20	37.00	NOTE 6
3	5715.00	45.2 PK	68.30	-23.10	1.03 H	32	7.70	37.50	
4	5725.00	51.3 PK	78.30	-27.00	1.65 H	2	13.80	37.50	
5	*5760.00	92.5 PK			1.84 H	42	54.90	37.60	
5	*5760.00	84.0 AV			1.84 H	42	46.40	37.50	
6	11520.00	58.4 PK	74.00	-15.60	1.69 H	32	7.10	51.30	NOTE 6
6	11520.00	44.5 AV	54.00	-9.50	1.69 H	32	-6.80	37.60	NOTE 6

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)	Remark
1	5375.00	54.2 PK	74.00	-19.80	1.05 V	6	17.20	37.00	NOTE 6
1	5375.00	44.9 AV	54.00	-9.10	1.05 V	6	7.90	37.00	NOTE 6
2	5375.00	54.4 PK	74.00	-19.60	1.05 V	6	17.40	37.00	NOTE 6
2	5375.00	45.3 AV	54.00	-8.70	1.05 V	6	8.30	37.00	NOTE 6
3	5715.00	55.1 PK	68.30	-13.20	1.02 V	21	17.60	37.50	
4	5725.00	61.2 PK	78.30	-17.10	1.11 V	359	23.70	37.50	
5	*5760.00	102.4 PK			1.52 V	22	64.90	37.60	
5	*5760.00	93.1 AV			1.52 V	22	55.50	37.60	
6	11520.00	58.7 PK	74.00	-15.30	1.77 V	5	7.40	51.30	NOTE 6
6	11520.00	46.8 AV	54.00	-7.20	1.77 V	5	-4.50	51.30	NOTE 6

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.

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 73%RH, 1050hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eric Lee		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)	Remark
1	5119.00	52.5 PK	74.00	-21.50	1.32 H	357	15.50	37.00	NOTE 6
1	5119.00	40.4 AV	54.00	-13.60	1.32 H	357	3.40	37.00	NOTE 6
2	5440.00	50.9 PK	74.00	-23.10	1.11 H	2	13.90	37.00	NOTE 6
2	5440.00	40.6 AV	54.00	-13.40	1.11 H	2	3.60	37.00	NOTE 6
3	*5800.00	91.5 PK			1.89 H	40	53.80	37.70	
3	*5800.00	82.3 AV			1.89 H	40	44.60	37.70	
4	5825.00	48.0 PK	78.30	-30.30	1.11 H	10	10.30	37.70	
5	5835.00	44.8 PK	68.30	-23.50	1.01 H	9	7.10	37.70	
6	11600.00	56.1 PK	74.00	-17.90	1.54 H	2	5.10	51.00	NOTE 6
6	11600.00	44.2 AV	54.00	-9.80	1.54 H	2	-6.80	37.70	NOTE 6

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)	Remark
1	5118.00	54.5 PK	74.00	-19.50	1.07 V	12	17.50	37.00	NOTE 6
1	5118.00	44.7 AV	54.00	-9.30	1.07 V	12	7.70	37.00	NOTE 6
2	5440.00	54.3 PK	74.00	-19.70	1.16 V	35	17.30	37.00	NOTE 6
2	5440.00	46.3 AV	54.00	-7.70	1.16 V	35	9.30	37.00	NOTE 6
3	*5800.00	102.8 PK			1.24 V	23	65.10	37.70	
3	*5800.00	93.6 AV			1.24 V	23	56.00	37.70	
4	5825.00	59.3 PK	78.30	-19.00	1.55 V	23	21.60	37.70	
5	5835.00	56.1 PK	68.30	-12.20	1.24 V	4	18.40	37.70	
6	11600.00	59.6 PK	74.00	-14.40	1.22 V	15	8.60	51.00	NOTE 6
6	11600.00	47.0 AV	54.00	-7.00	1.22 V	15	-4.00	51.00	NOTE 6

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.

5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 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.

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003
SPECTRUM ANALYZER	8564EC	4208A00660	Nov. 20, 2003

NOTE: 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

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 100kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

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 specific channel frequencies individually.

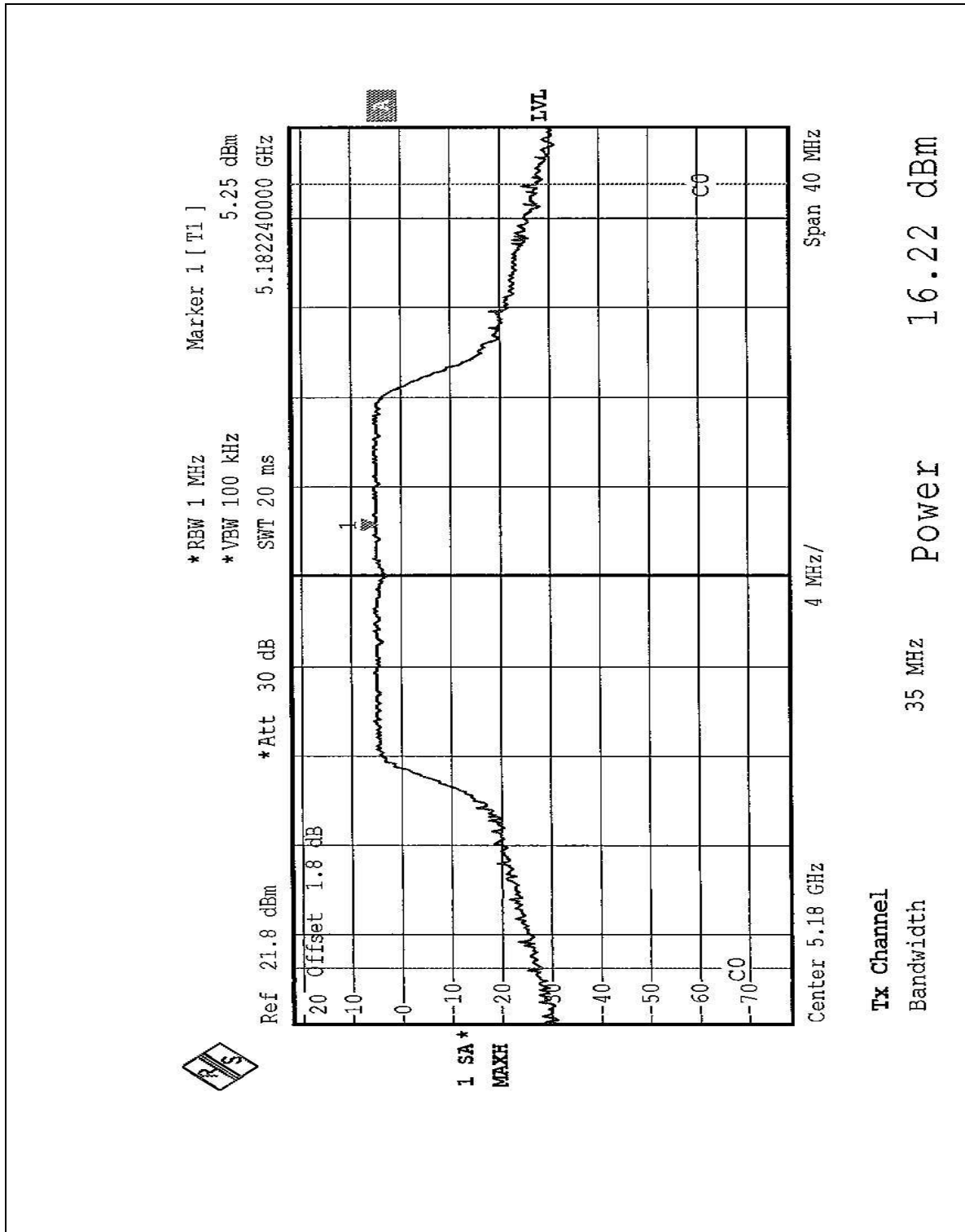
5.3.7 TEST RESULTS

EUT	Dual-Band A+G Wireless Network PCI Adapter	MODEL	WMP55AG
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 1005hPa	TESTED BY	Steven Lu

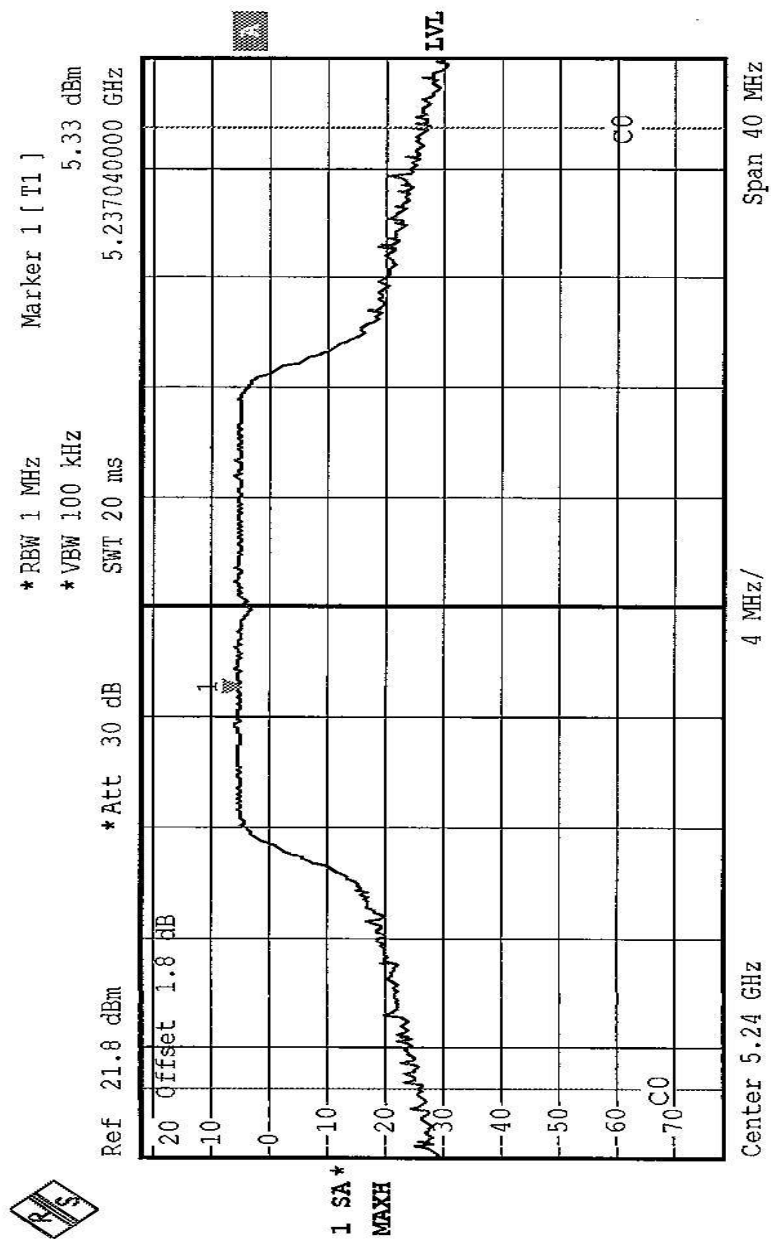
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	16.22	17.00	31.04	PASS
4	5240	16.56	17.00	32.00	PASS
5	5260	15.67	24.00	31.04	PASS
8	5320	16.19	24.00	32.00	PASS
9	5745	15.00	30.00	28.12	PASS
12	5805	14.80	30.00	27.22	PASS

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

CHANNEL 1



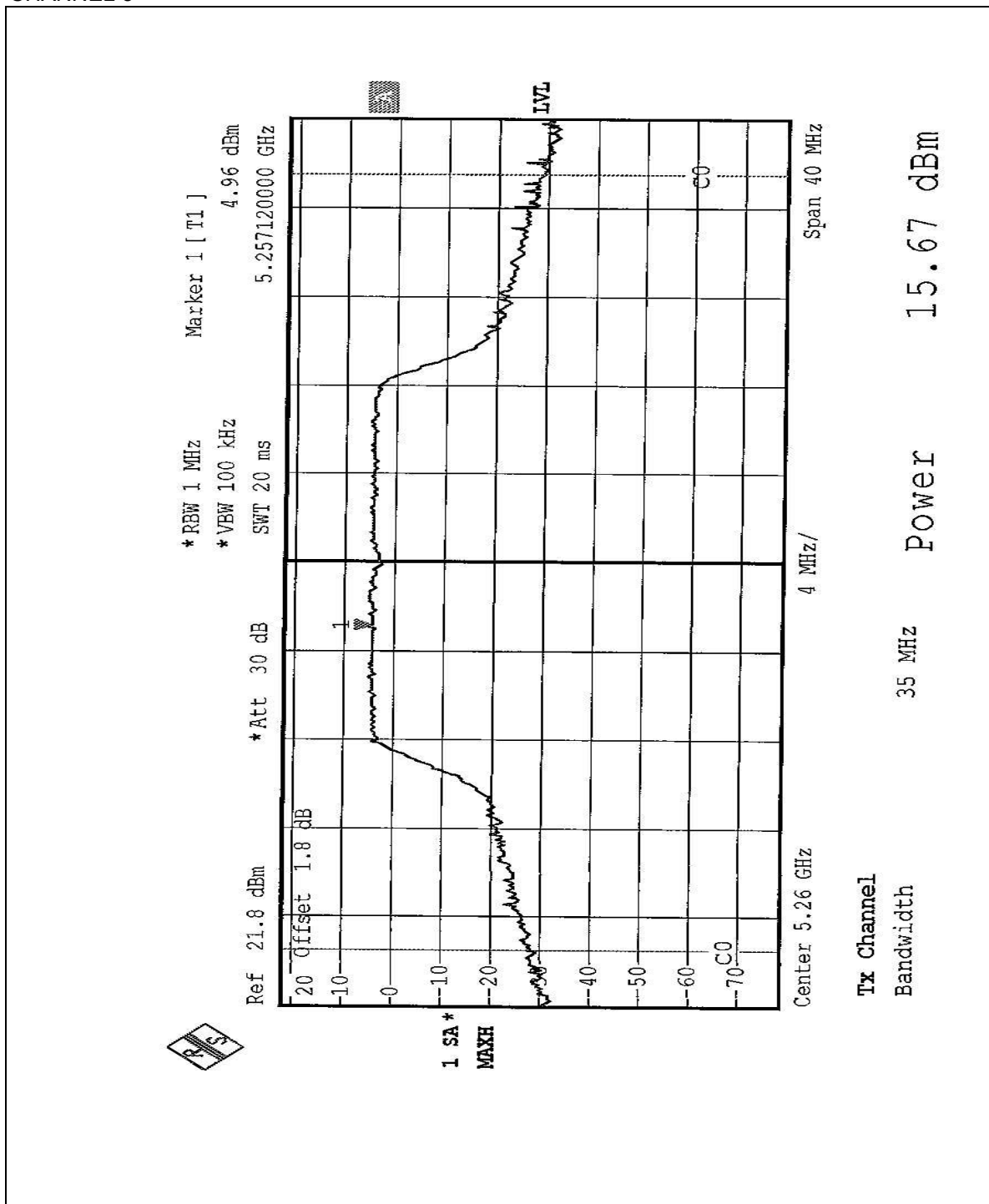
CHANNEL 4



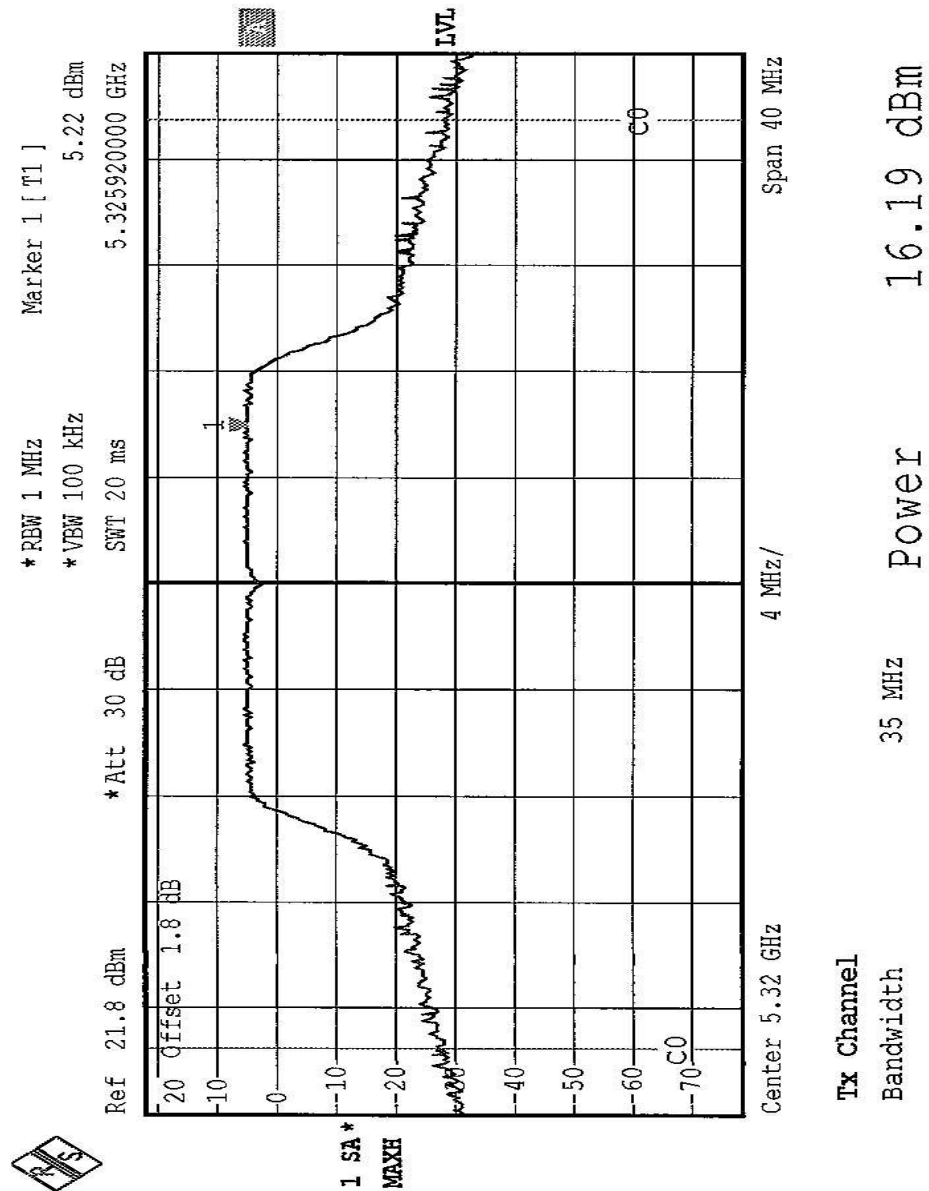
Tx Channel 35 MHz Power 16.56 dBm

Bandwidth

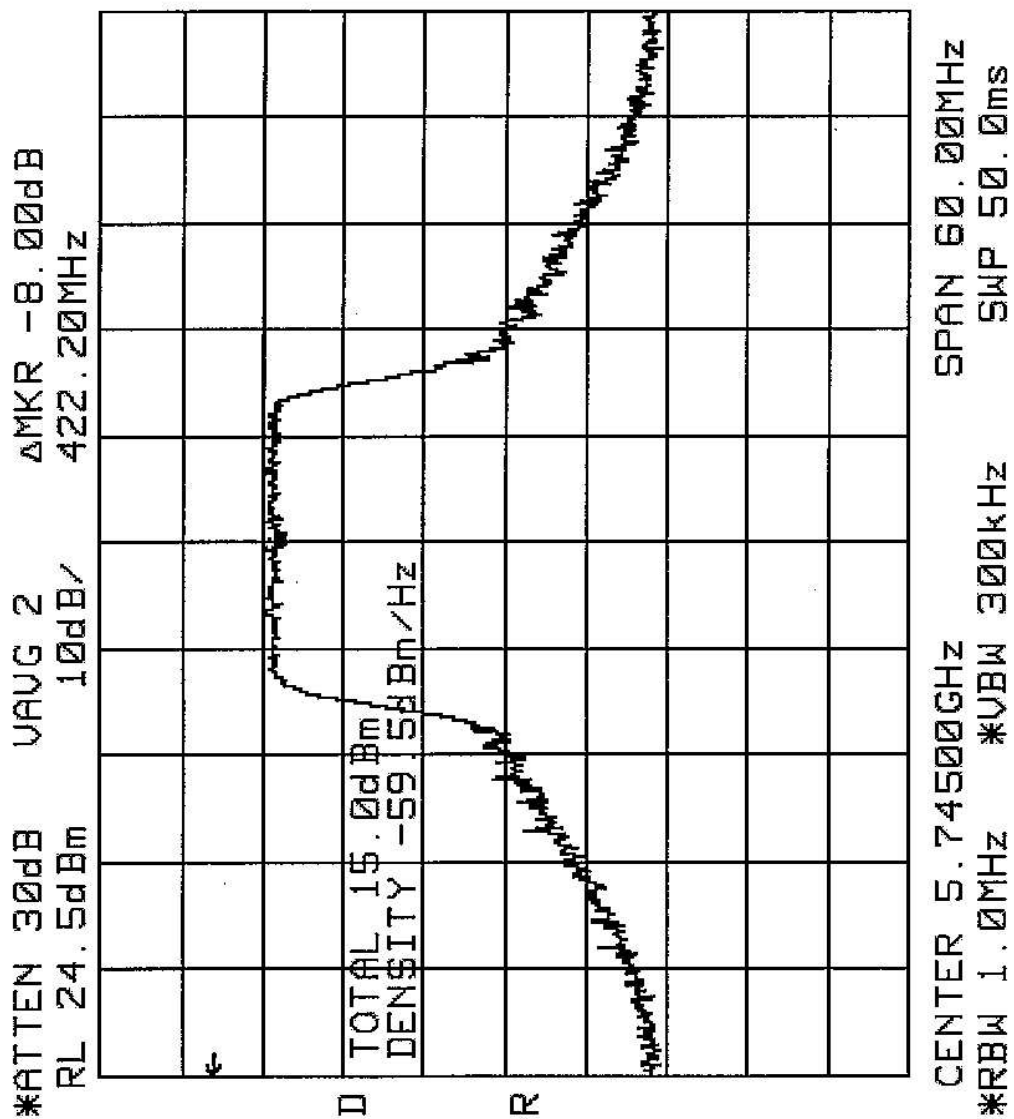
CHANNEL 5



CHANNEL 8

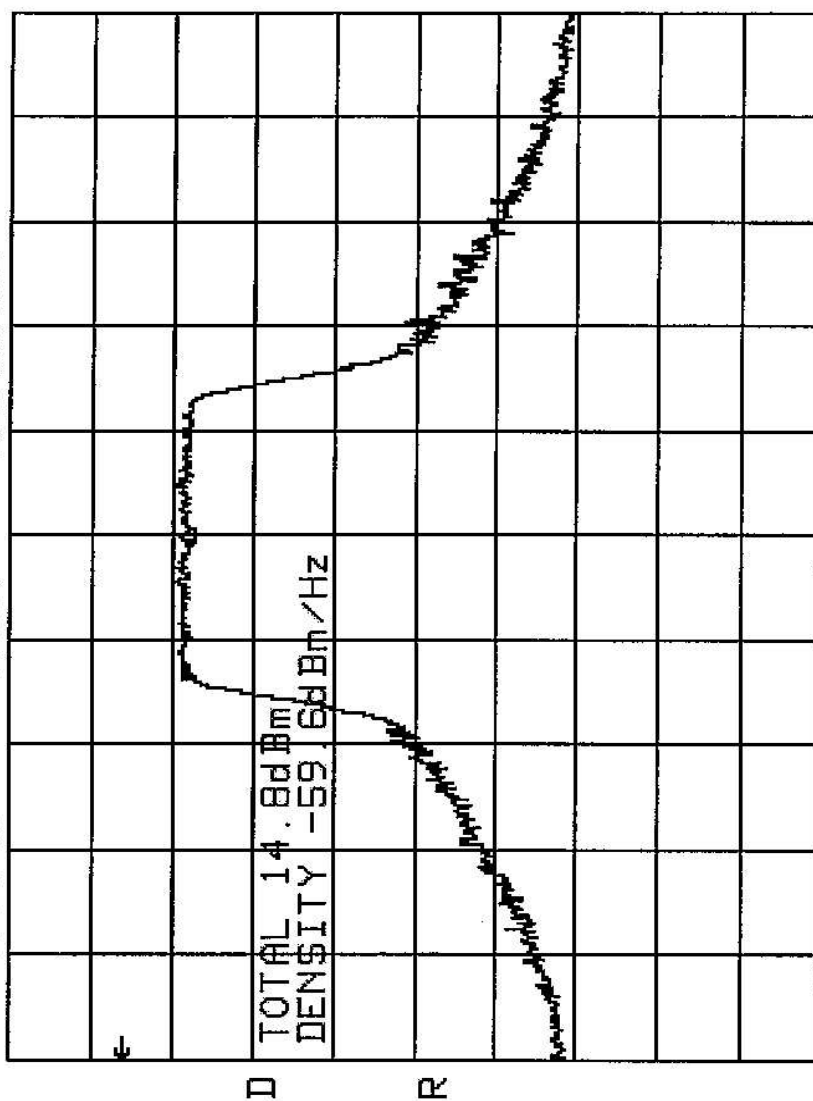


CHANNEL 9



CHANNEL 12

*ATTEN 30dB VAVG 0 ΔMKR -8.83dB
RL 24.5dBm 10dB/ 55.00MHz



CENTER 5.80530GHz SPAN 60.00MHz
*RBW 1.0MHz *VBW 300kHz SWP 50.0ms