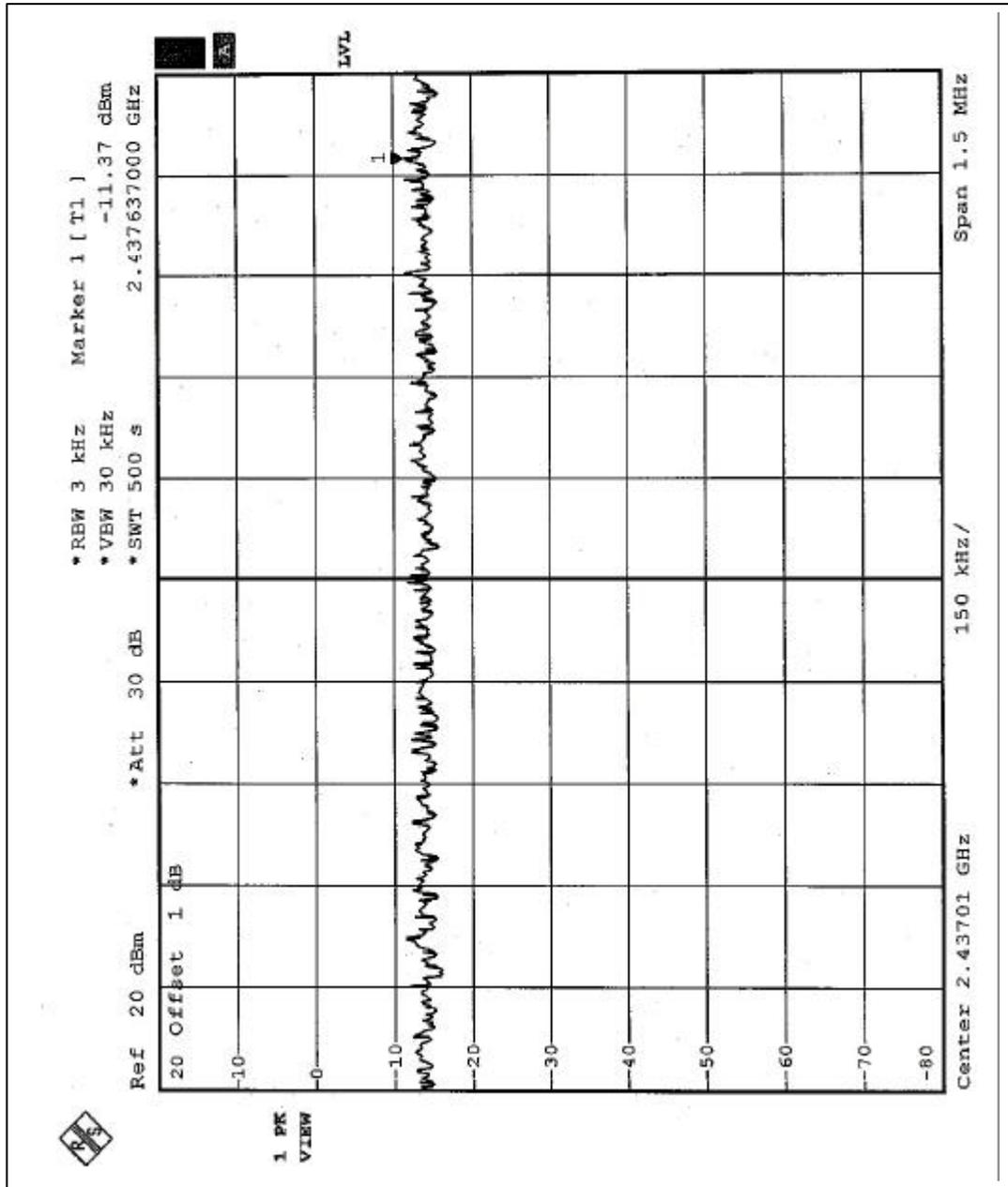


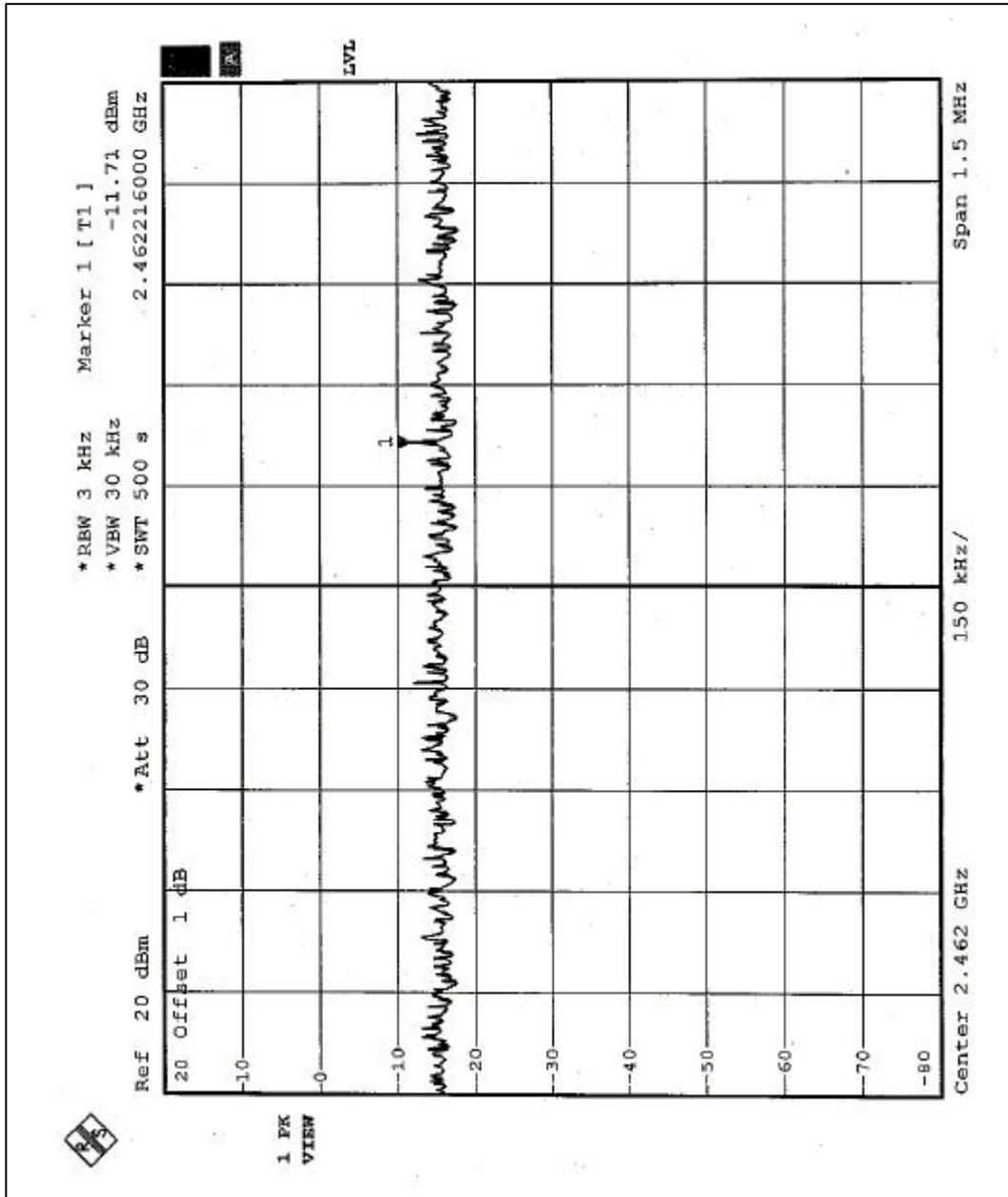


CH6





CH11





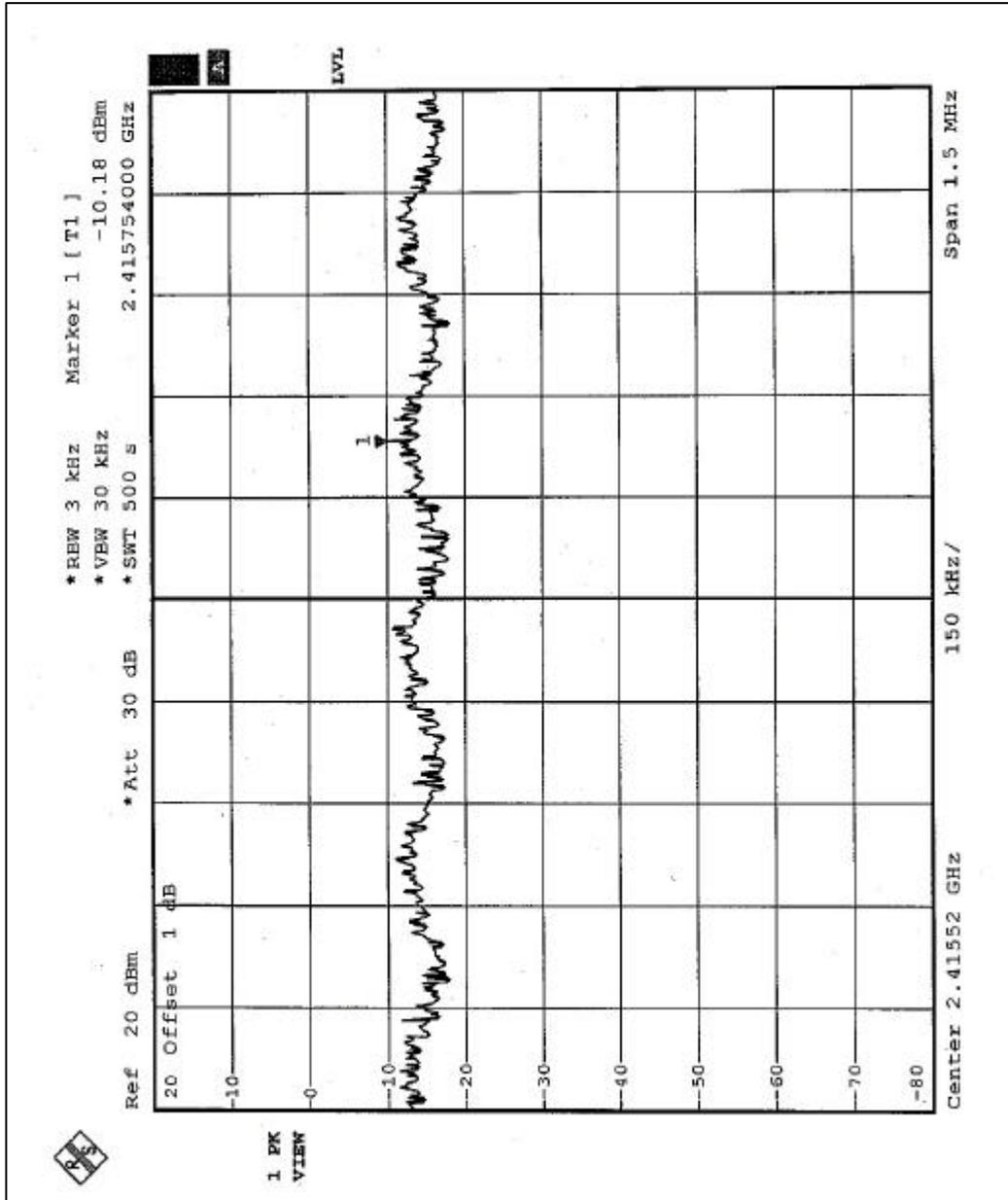
4.5.8 TEST RESULTS(B)

EUT	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg. C, 56RH, 976 hPa
TESTED BY	Tony Chen		

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.18	8	PASS
6	2437	-12.92	8	PASS
11	2462	-14.57	8	PASS

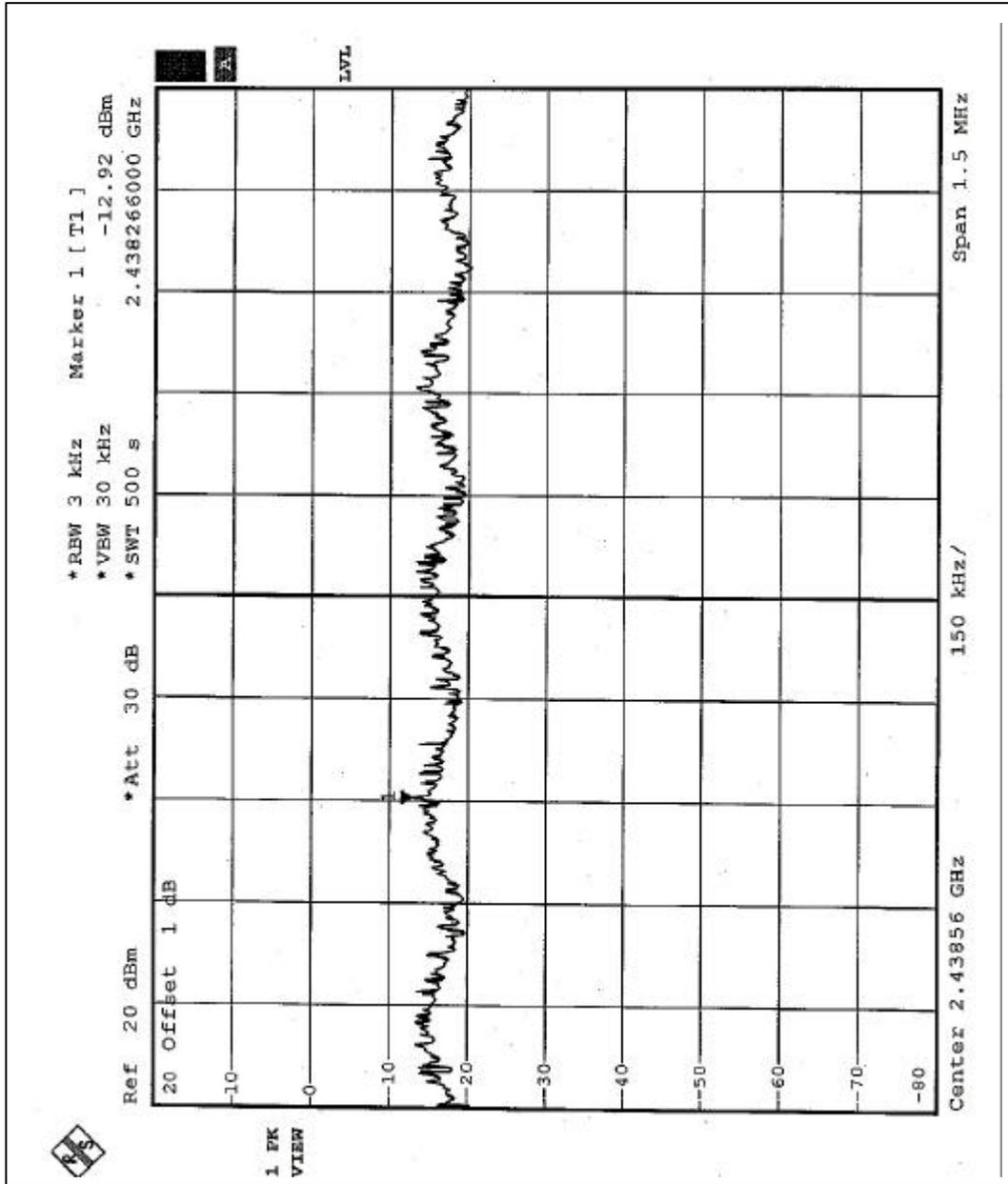


CH1



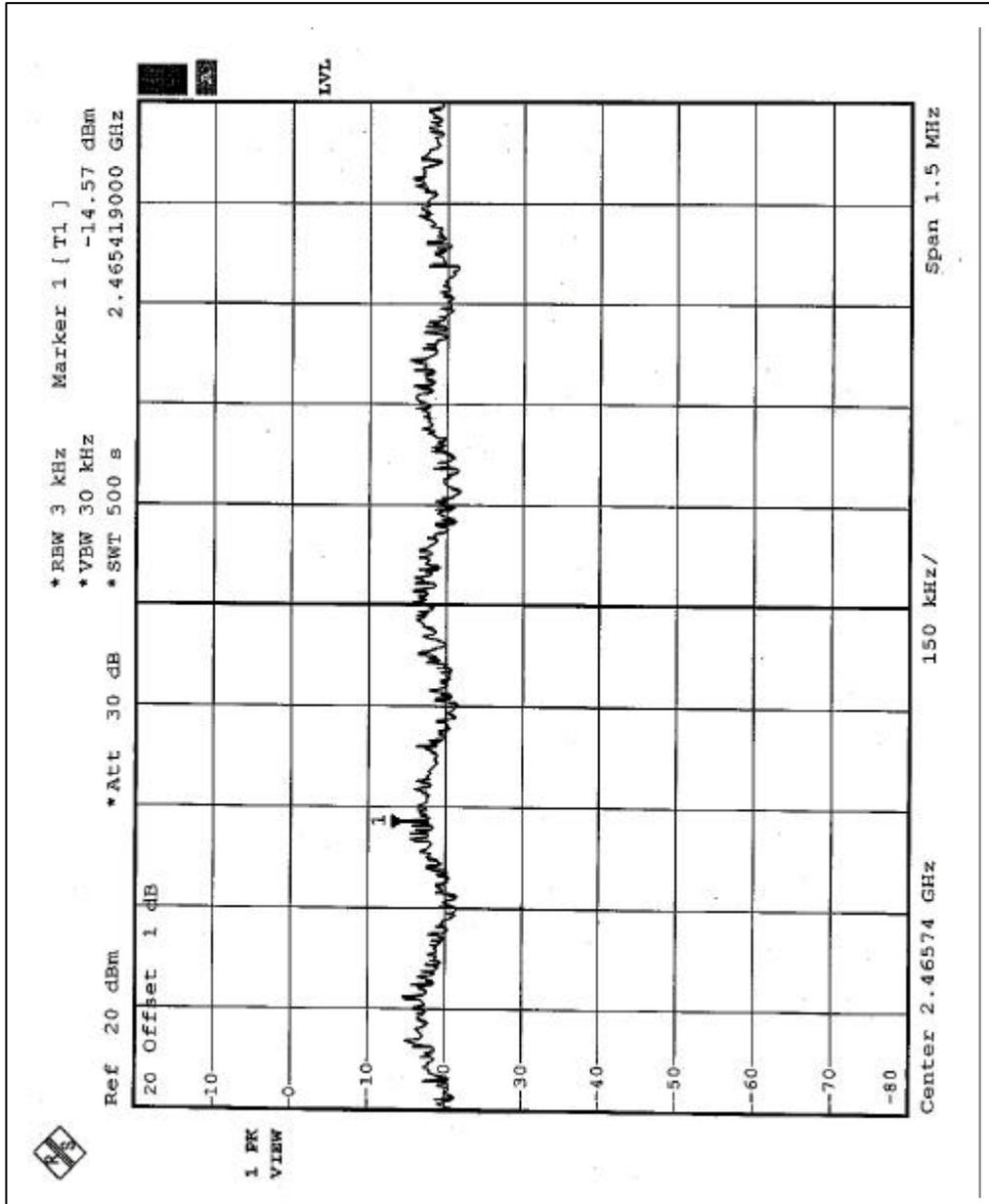


CH6





CH11





4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 2003

NOTE:

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

4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 kHz 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

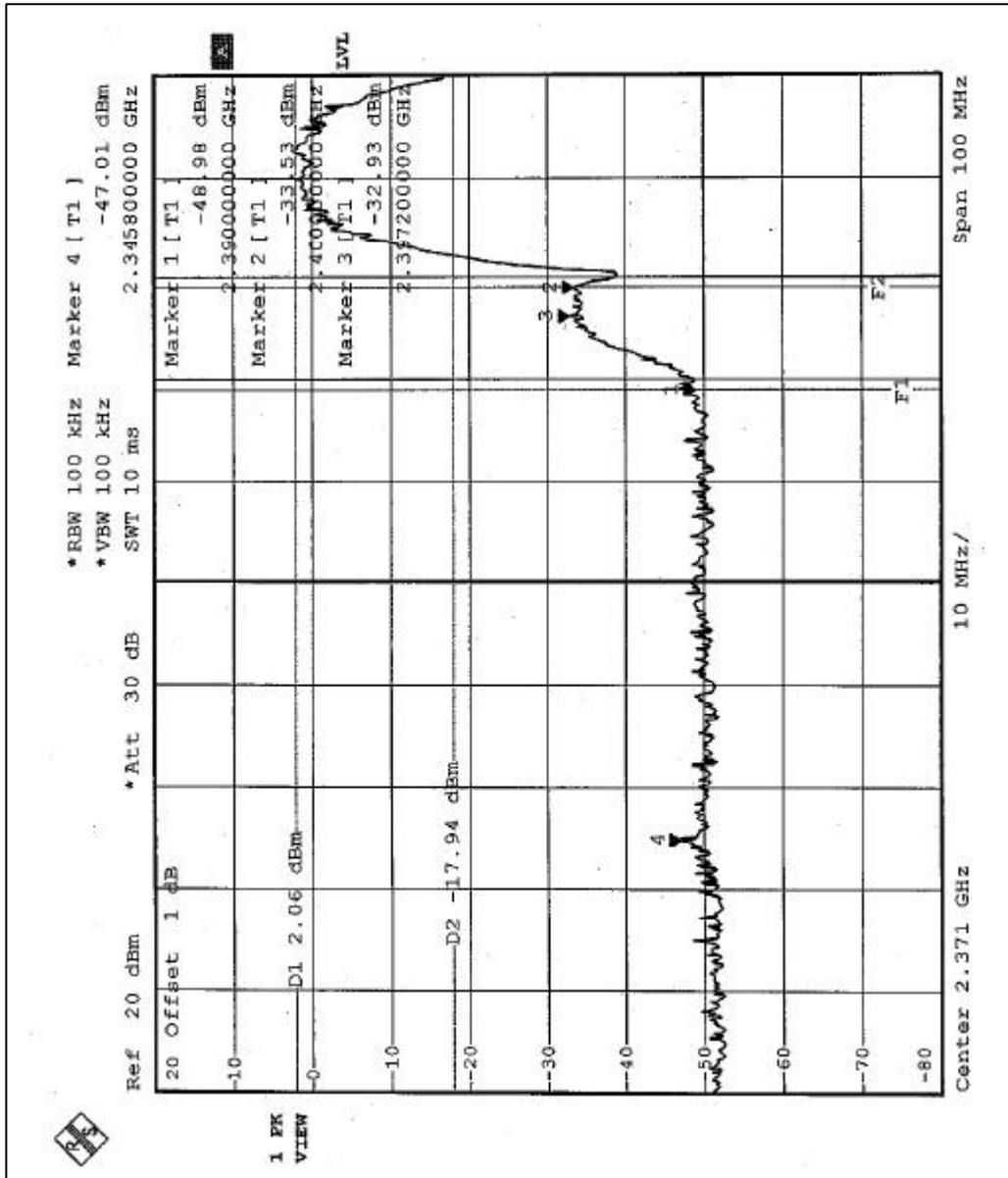
Same as Item 4.3.6

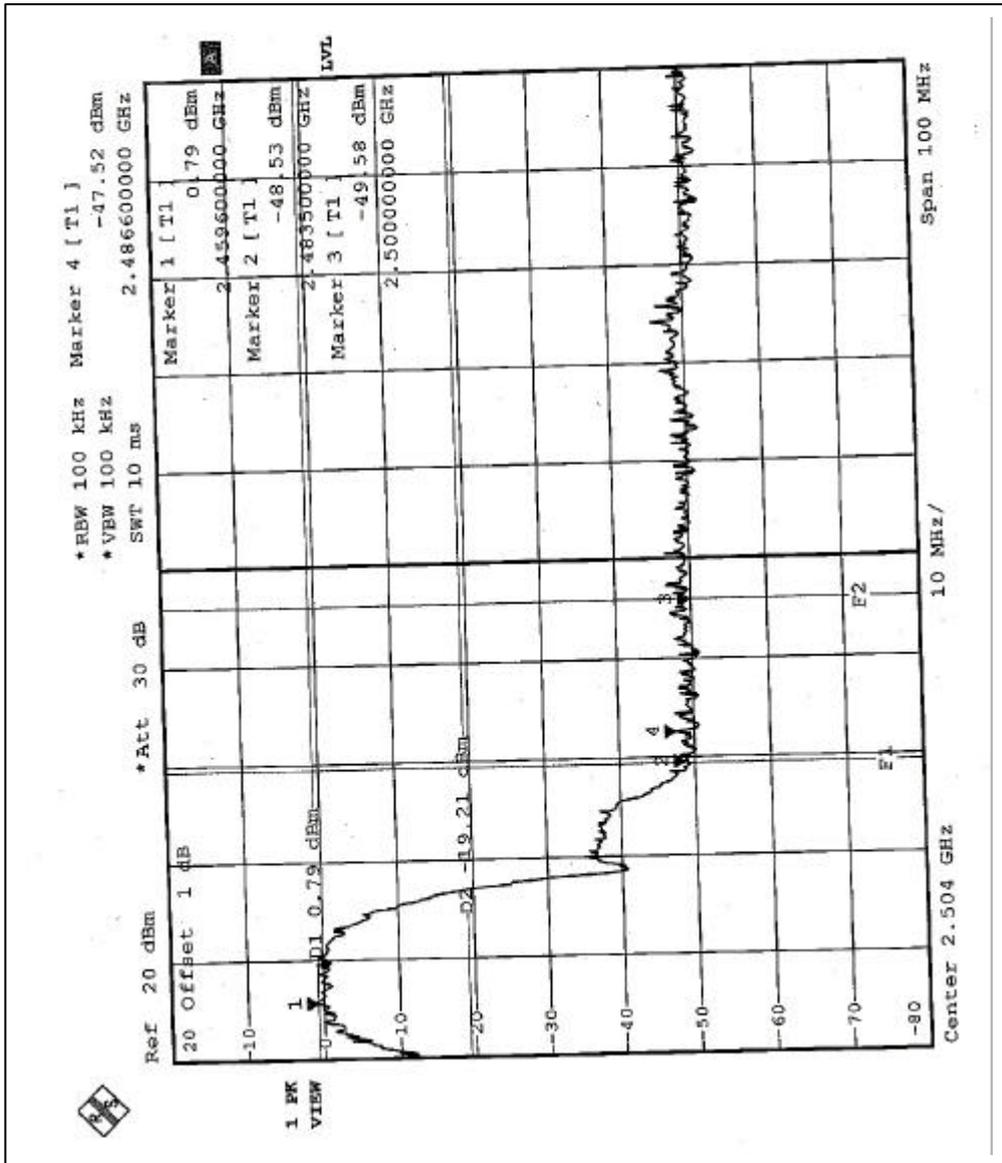
4.6.6 TEST RESULTS (A)

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

NOTE (1): The band edge emission plot on the following first page shows 49.07dB delta between carrier maximum power and local maximum emission in restrict band (2.3458GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 100.8dBuV/m, so the maximum field strength in restrict band is $100.8 - 49.07 = 51.73$ dBuV/m which is under 54 dBuV/m limit.

NOTE (2): The band edge emission plot on the following second page shows 48.31 dB delta between carrier maximum power and local maximum emission in restrict band (2.4866GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 100.1dBuV/m, so the maximum field strength in restrict band is $100.1 - 48.31 = 51.79$ dBuV/m which is under 54 dBuV/m limit.





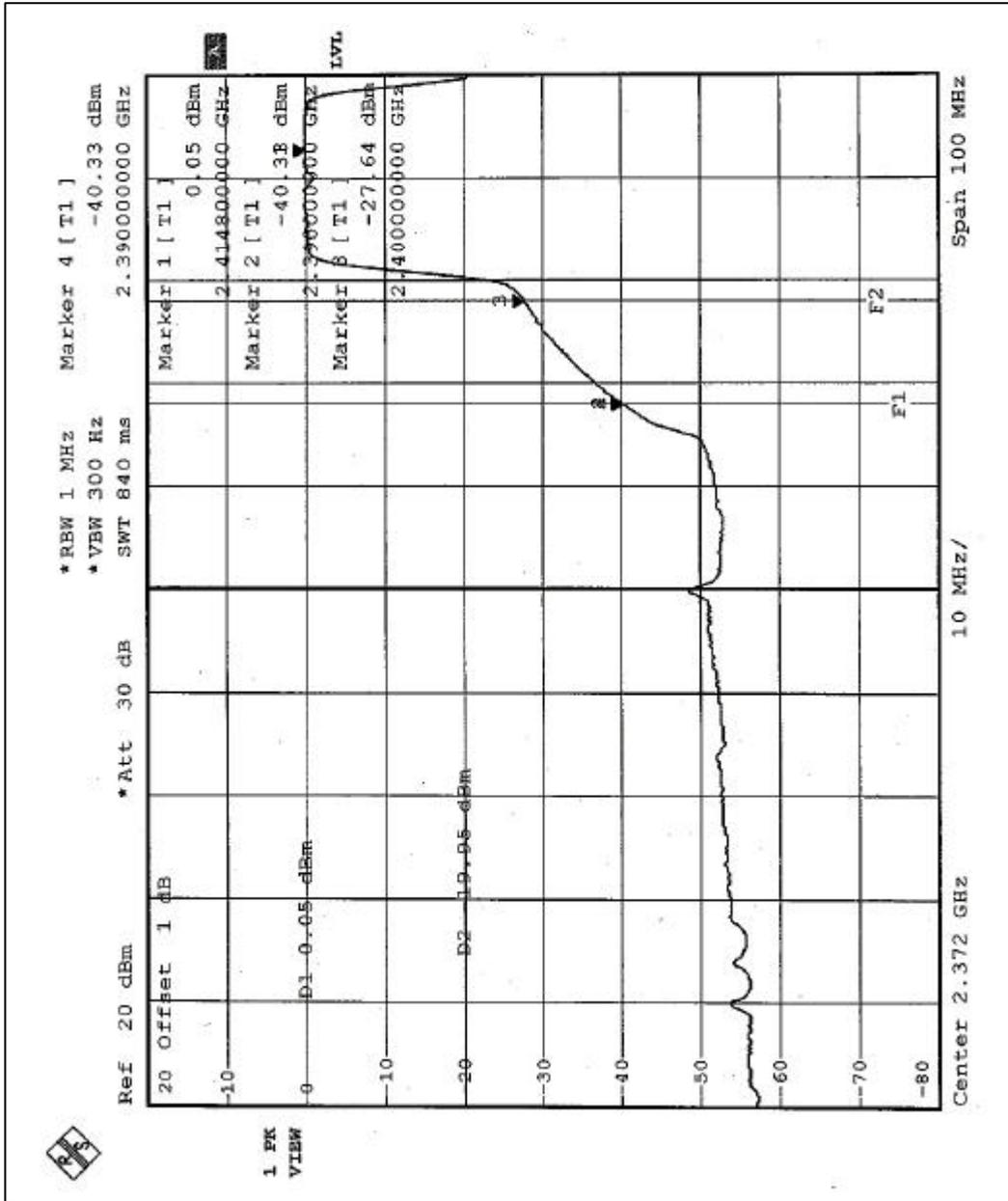


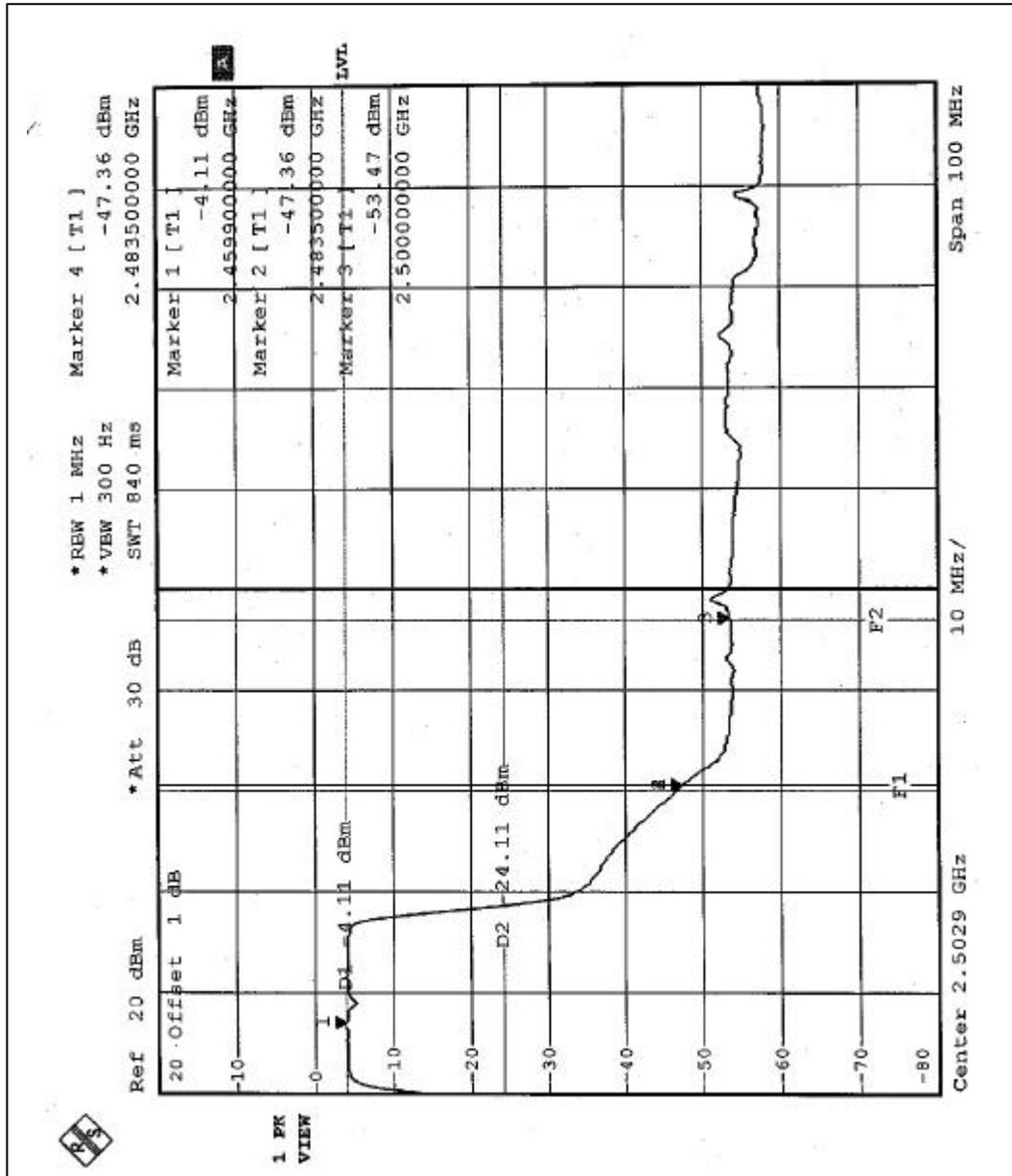
4.6.7 TEST RESULTS (B)

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

NOTE (1): The band edge emission plot on the following first page shows 40.38dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 93.8dBuV/m, so the maximum field strength in restrict band is $93.8-40.38=53.42$ dBuV/m which is under 54 dBuV/m limit.

NOTE (2): The band edge emission plot on the following second page shows 43.25 dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 93.2dBuV/m, so the maximum field strength in restrict band is $93.2-43.25=49.95$ dBuV/m which is under 54 dBuV/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 with MCX connector. The maximum Effective Gain of the antenna is 2.2dBi (2.45GHz).



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, 2004
Terminator(for KYORITSU)	50	3	Apr. 11, 2004
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.
3. The test was performed in ADT Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.



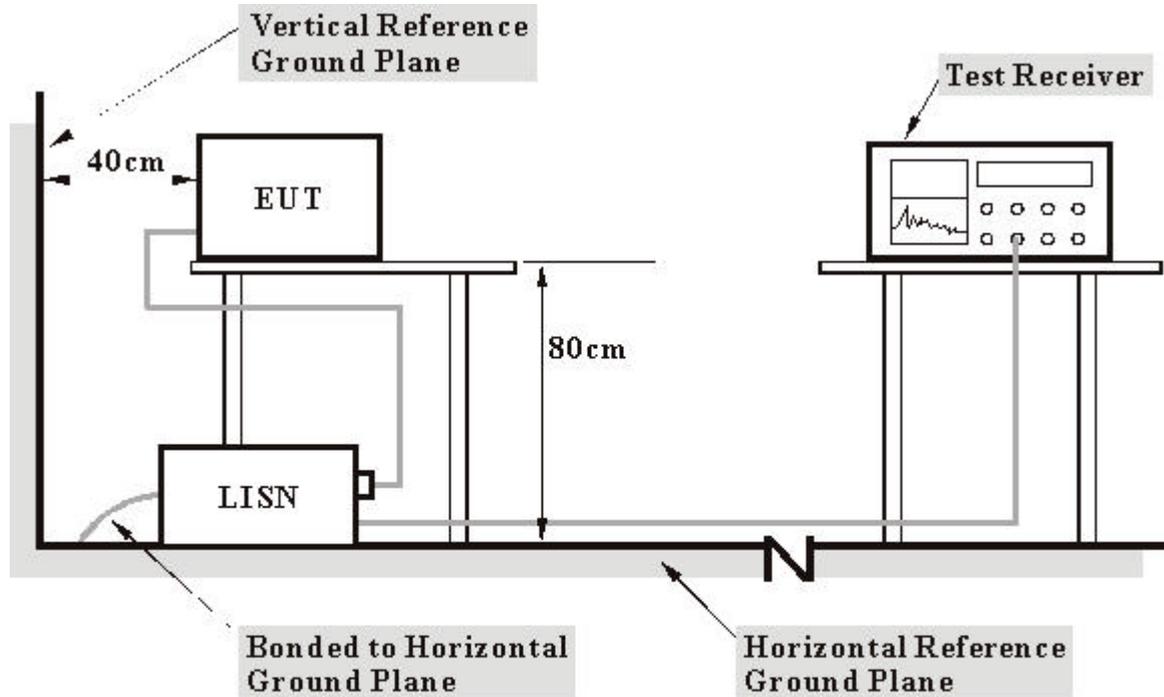
5.1.3 TEST PROCEDURES

- 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 150 kHz to 30 MHz 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.

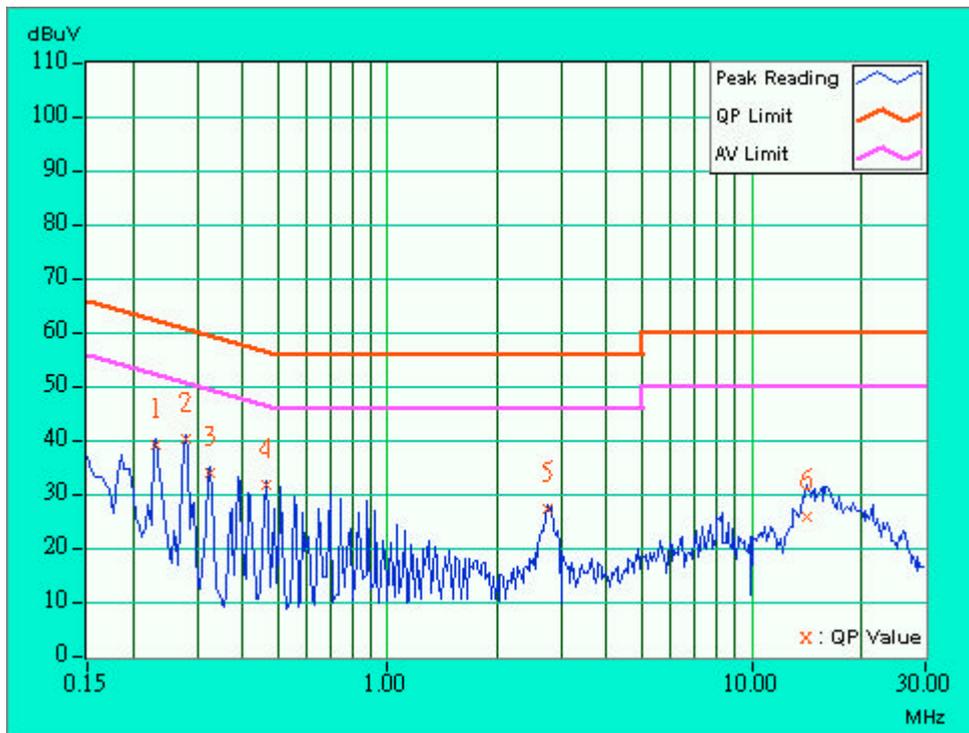


5.1.7 TEST RESULTS

EUT	Netgear 802.11a/g Wireless PCI Adapter		
MODEL	WAG311	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 57RH, 976 hPa	TESTED BY	Tony Chen

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.232	0.10	38.63	-	38.73	-	62.38	52.38	-23.65	-
2	0.279	0.10	39.60	-	39.70	-	60.85	50.85	-21.15	-
3	0.326	0.10	33.43	-	33.53	-	59.56	49.56	-26.03	-
4	0.463	0.10	31.21	-	31.31	-	56.65	46.65	-25.34	-
5	2.736	0.14	26.54	-	26.68	-	56.00	46.00	-29.32	-
6	14.246	0.77	25.16	-	25.93	-	60.00	50.00	-34.07	-

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

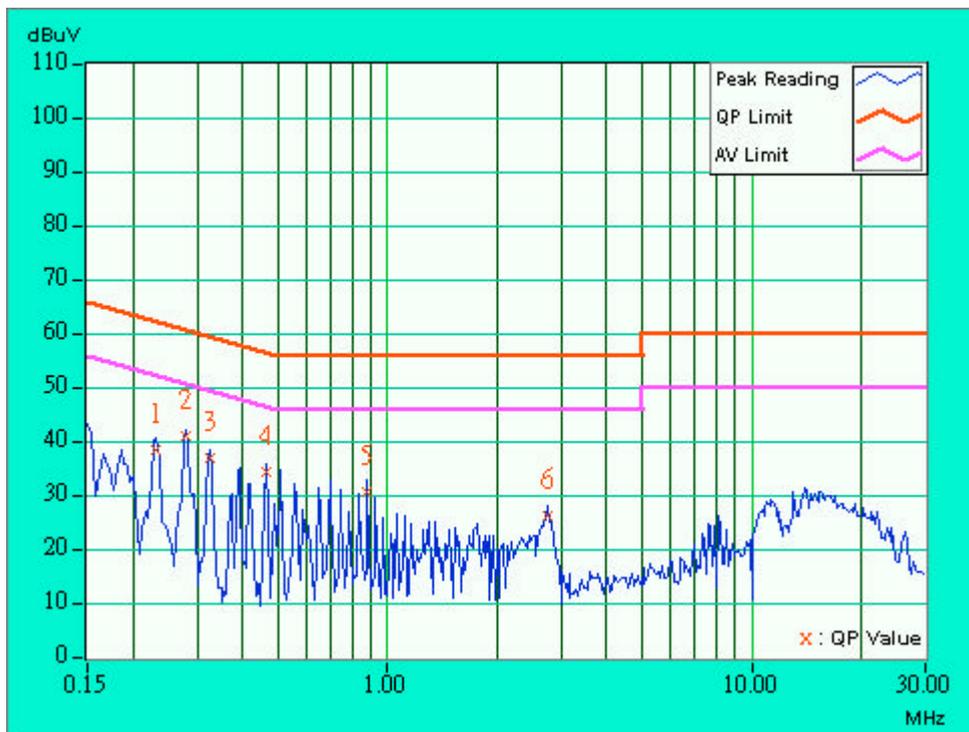




EUT	Netgear 802.11a/g Wireless PCI Adapter		
MODEL	WAG311	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 67RH, 976 hPa	TESTED BY	Tony Chen
TEST MODE	802.11a		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.232	0.10	38.33	-	38.43	-	62.38
2	0.279	0.10	41.07	-	41.17	-	60.85	50.85	-19.68	-
3	0.326	0.10	36.91	-	37.01	-	59.56	49.56	-22.55	-
4	0.463	0.10	34.21	-	34.31	-	56.65	46.65	-22.34	-
5	0.880	0.10	30.72	-	30.82	-	56.00	46.00	-25.18	-
6	2.736	0.14	26.28	-	26.42	-	56.00	46.00	-29.58	-

- NOTES: (1) "": Undetectable
 (2) Q.P. and AV. are abbreviations of quasi-peak and average.
 (3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
 (4) The emission levels of other frequencies were very low against the limit.
 (5) Correction Factor = Insertion loss + Cable loss
 (6) Margin value = Emission level - Limit 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 (dB μ V/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

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



5.2.3 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, 2004
CHASE RF Pre_Amplifier	CPA9232	1057	Apr. 24, 2004
HP Pre_Amplifier	8449B	3008A01281	June 27, 2004
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	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
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 (36 months for Tunable Dipole Antenna) 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.
7. The CANADA Site Registration No. is IC 3789-C.



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.

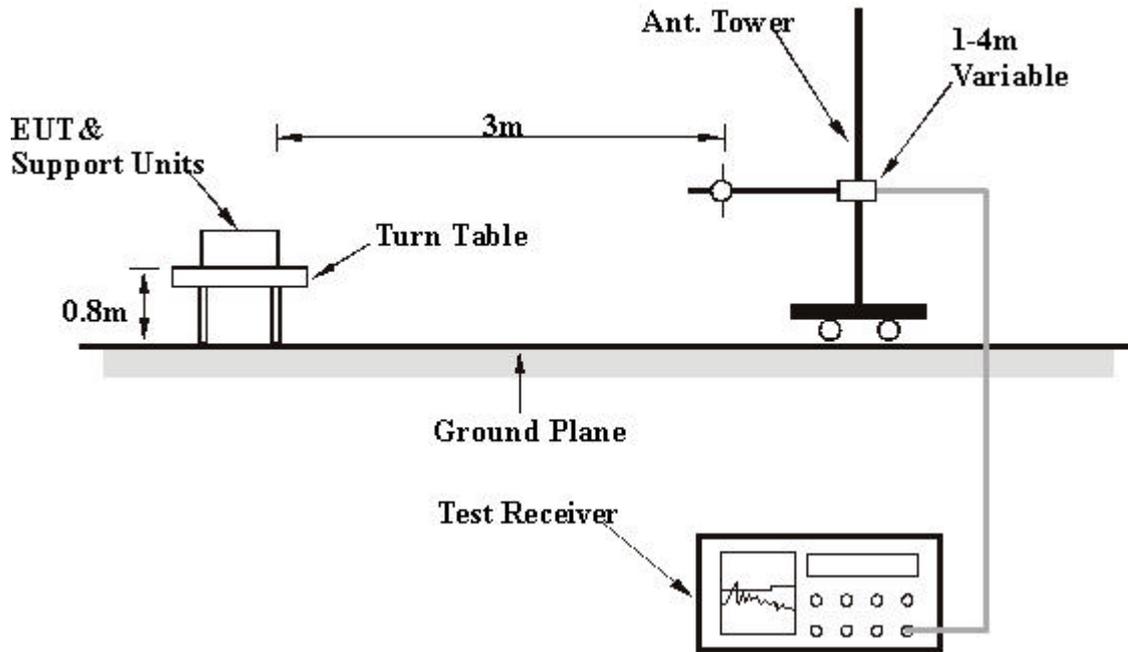
NOTE:

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
FREQUENCY RANGE	Below 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	124.00	18.8 QP	43.50	-24.70	1.35 H	68	6.90	11.90
2	125.60	20.2 QP	43.50	-23.30	1.65 H	247	8.20	12.00
3	132.04	21.8 QP	43.50	-21.70	1.11 H	320	10.00	11.80
4	250.00	29.8 QP	46.00	-16.20	1.17 H	59	16.80	13.00
5	264.00	23.0 QP	46.00	-23.00	1.54 H	38	8.90	14.10
6	330.50	24.5 QP	46.00	-21.50	1.34 H	226	9.60	14.90
7	352.04	25.5 QP	46.00	-20.50	1.21 H	4	10.00	15.50
8	468.03	26.8 QP	46.00	-19.20	1.03 H	360	8.30	18.50
9	500.00	27.3 QP	46.00	-18.70	1.63 H	269	8.00	19.30
10	598.60	25.9 QP	46.00	-20.10	1.16 H	292	5.00	20.90

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	44.02	31.0 QP	40.00	-9.00	1.30 V	245	19.20	11.70
2	125.06	25.2 QP	43.50	-18.30	1.58 V	354	13.20	12.00
3	128.30	24.9 QP	43.50	-18.60	1.07 V	222	13.00	11.90
4	132.03	22.1 QP	43.50	-21.40	1.46 V	253	10.30	11.80
5	264.50	26.3 QP	46.00	-19.70	1.63 V	239	12.30	14.00
6	324.00	26.0 QP	46.00	-20.00	1.58 V	55	11.30	14.70
7	352.03	29.8 QP	46.00	-16.20	1.26 V	54	14.30	15.50
8	468.64	30.8 QP	46.00	-15.20	1.44 V	107	12.20	18.60
9	480.06	26.8 QP	46.00	-19.20	1.19 V	358	7.90	18.90
10	496.00	34.8 QP	46.00	-11.20	1.00 V	24	15.60	19.20
11	640.00	32.8 QP	46.00	-13.20	1.09 V	3	10.90	21.90

- 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



5.2.9 TEST RESULTS

EUT	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5027.00	44.2 PK	74.00	-29.80	1.58 H	24	7.20	37.00
2	#5056.00	46.4 PK	74.00	-27.60	1.32 H	14	9.30	37.00
3	#5120.00	50.3 PK	74.00	-23.70	1.35 H	210	13.30	37.00
4	#5150.00	42.8 PK	74.00	-31.20	1.87 H	258	5.80	37.00
5	*5180.00	98.3 PK			1.35 H	214	61.30	37.00
5	*5180.00	88.2 AV			1.35 H	214	51.20	37.00
6	#5376.00	44.9 PK	74.00	-29.10	1.23 H	238	7.80	37.00
7	10360.00	50.9 PK	68.30	-17.40	1.25 H	247	6.20	44.70

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	#5027.00	52.9 PK	74.00	-21.10	1.36 V	125	15.90	37.00
1	#5027.00	44.3 AV	54.00	-9.70	1.36 V	125	7.20	37.00
2	#5056.00	54.4 PK	74.00	-19.60	1.26 V	101	17.40	37.00
2	#5056.00	50.2 AV	54.00	-3.80	1.26 V	101	13.20	37.00
3	#5120.00	56.8 PK	74.00	-17.20	1.09 V	120	19.70	37.00
3	#5120.00	52.5 AV	54.00	-1.50	1.09 V	120	15.50	37.00
4	#5150.00	48.8 PK	74.00	-25.20	1.29 V	344	11.70	37.00
5	*5180.00	106.4 PK			1.06 V	89	69.40	37.00
5	*5180.00	98.2 AV			1.06 V	89	61.20	37.00
6	#5376.00	52.8 PK	74.00	-21.20	1.36 V	101	15.80	37.00
6	#5376.00	47.2 AV	54.00	-6.80	1.36 V	101	10.10	37.00
7	10360.00	51.6 PK	68.30	-16.70	1.41 V	2	6.90	44.70

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5028.00	45.1 PK	74.00	-28.90	1.02 H	254	8.10	37.00
2	#5056.00	47.7 PK	74.00	-26.30	1.54 H	74	10.70	37.00
3	#5120.00	50.2 PK	74.00	-23.80	1.14 H	247	13.20	37.00
4	#5150.00	44.7 PK	74.00	-29.30	1.66 H	320	7.70	37.00
5	5240.00	99.5 PK			1.25 H	88	62.50	37.00
5	5240.00	88.4 AV			1.25 H	88	51.40	37.00
6	#5440.00	43.0 PK	74.00	-31.00	1.30 H	2	6.00	37.00
7	10480.00	50.7 PK	68.30	-17.60	1.30 H	24	5.70	45.00

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	#5028.00	52.3 PK	74.00	-21.70	1.00 V	298	15.30	37.00
1	#5028.00	45.2 AV	54.00	-8.80	1.00 V	298	8.20	37.00
2	#5056.00	52.4 PK	74.00	-21.60	1.39 V	62	15.30	37.00
2	#5056.00	48.6 AV	54.00	-5.40	1.39 V	62	11.60	37.00
3	#5120.00	50.3 PK	74.00	-23.70	1.25 V	24	13.30	37.00
4	#5150.00	51.2 PK	74.00	-22.80	1.35 V	247	14.20	37.00
4	#5150.00	44.2 AV	54.00	-9.80	1.35 V	247	7.20	37.00
5	*5240.00	105.2 PK			1.35 V	247	68.20	37.00
5	*5240.00	97.3 AV			1.35 V	247	60.20	37.00
6	#5440.00	53.9 PK	74.00	-20.10	1.02 V	24	16.90	37.00
6	#5440.00	47.0 AV	54.00	-7.00	1.02 V	24	9.90	37.00
7	10480.00	54.0 PK	68.30	-14.30	1.35 V	24	9.10	45.00

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5088.00	50.3 PK	74.00	-23.70	1.32 H	52	13.30	37.00
2	#5120.00	49.5 PK	74.00	-24.50	1.08 H	247	12.50	37.00
3	*5260.00	100.2 PK			1.11 H	107	63.20	37.00
3	*5260.00	92.7 AV			1.11 H	107	55.70	37.00
4	#5376.00	47.0 PK	74.00	-27.00	1.45 H	258	9.90	37.00
5	#5440.00	43.8 PK	74.00	-30.20	1.30 H	85	6.80	37.00
6	10520.00	52.1 PK	68.30	-16.20	1.08 H	57	6.90	45.20

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	#5088.00	56.0 PK	74.00	-18.00	1.33 V	321	18.90	37.00
1	#5088.00	47.2 AV	54.00	-6.80	1.33 V	321	10.20	37.00
2	#5120.00	55.2 PK	74.00	-18.80	1.03 V	52	18.20	37.00
2	#5120.00	50.2 AV	54.00	-3.80	1.03 V	52	13.20	37.00
3	*5260.00	107.3 PK			1.05 V	24	70.20	37.00
3	*5260.00	98.6 AV			1.05 V	24	61.60	37.00
4	#5376.00	55.1 PK	74.00	-18.90	1.32 V	254	18.10	37.00
4	#5376.00	49.3 AV	54.00	-4.70	1.32 V	254	12.30	37.00
5	#5440.00	52.0 PK	74.00	-22.00	1.35 V	20	15.00	37.00
5	#5440.00	46.9 AV	54.00	-7.10	1.35 V	20	9.90	37.00
6	10520.00	54.8 PK	68.30	-13.50	1.35 V	24	9.70	45.20

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5056.00	42.6 PK	74.00	-31.40	1.09 H	320	5.60	37.00
2	#5120.00	44.5 PK	74.00	-29.50	1.21 H	87	7.50	37.00
3	*5320.00	100.2 PK			1.24 H	8	63.20	37.00
3	*5320.00	91.3 AV			1.24 H	8	54.30	37.00
4	#5376.00	50.1 PK	74.00	-23.90	1.35 H	24	13.00	37.00
5	#5440.00	43.0 PK	74.00	-31.00	1.25 H	55	6.00	37.00
6	#10640.00	53.4 PK	74.00	-20.60	1.32 H	222	7.10	46.30
6	#10640.00	43.1 AV	54.00	-10.90	1.32 H	222	-3.20	37.00

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	#5056.00	51.2 PK	74.00	-22.80	1.58 V	88	14.10	37.00
1	#5056.00	47.7 AV	54.00	-6.30	1.58 V	88	10.70	37.00
2	#5120.00	51.1 PK	74.00	-22.90	1.57 V	58	14.10	37.00
2	#5120.00	47.6 AV	54.00	-6.40	1.57 V	58	10.60	37.00
3	*5320.00	107.9 PK			1.30 V	259	70.90	37.00
3	*5320.00	98.3 AV			1.30 V	259	61.30	37.00
4	#5350.00	54.3 PK	74.00	-19.70	1.08 V	89	17.20	37.00
4	#5350.00	44.1 AV	54.00	-9.90	1.08 V	89	7.10	37.00
5	#5376.00	55.6 PK	74.00	-18.40	1.44 V	126	18.60	37.00
5	#5376.00	48.5 AV	54.00	-5.50	1.44 V	126	11.50	37.00
6	#5440.00	51.5 PK	74.00	-22.50	1.61 V	126	14.50	37.00
6	#5440.00	45.6 AV	54.00	-8.40	1.61 V	126	8.60	37.00
7	#10640.00	57.7 PK	74.00	-16.30	1.56 V	32	11.40	46.30
7	#10640.00	47.7 AV	54.00	-6.30	1.56 V	32	1.40	46.30

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5120.00	49.2 PK	74.00	-24.80	1.35 H	247	12.20	37.00
2	#5440.00	51.1 PK	74.00	-22.90	1.36 H	254	14.10	37.00
2	#5440.00	42.0 AV	54.00	-12.00	1.36 H	254	5.00	37.00
3	5715.00	61.8 PK	68.30	-6.50	1.35 H	24	24.30	37.50
4	5725.00	69.3 PK	78.30	-9.00	1.36 H	247	31.80	37.50
5	*5745.00	100.7 PK			1.65 H	324	63.20	37.60
5	*5745.00	100.8 AV			1.65 H	324	63.20	37.50
6	#11490.00	58.4 PK	74.00	-15.60	1.31 H	20	7.00	51.30
6	#11490.00	48.3 AV	54.00	-5.70	1.31 H	20	-3.10	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)
1	#5120.00	54.1 PK	74.00	-19.90	1.32 V	24	17.10	37.00
1	#5120.00	50.2 AV	54.00	-3.80	1.32 V	24	13.20	37.00
2	#5440.00	55.9 PK	74.00	-18.10	1.35 V	247	18.90	37.00
2	#5440.00	49.3 AV	54.00	-4.70	1.35 V	247	12.30	37.00
3	5715.00	66.1 PK	68.30	-2.20	1.41 V	167	28.60	37.50
4	5725.00	71.1 PK	78.30	-7.20	1.58 V	238	33.60	37.50
5	*5745.00	106.8 PK			1.06 V	254	69.20	37.60
5	*5745.00	98.8 AV			1.06 V	254	61.30	37.60
6	#11490.00	58.3 PK	74.00	-15.70	1.32 V	25	6.90	51.30
6	#11490.00	50.3 AV	54.00	-3.70	1.32 V	25	-1.00	51.30

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	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21 deg. C, 57%RH, 976 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Eic 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	#5120.00	49.2 PK	74.00	-24.80	1.33 H	24	12.20	37.00
2	#5440.00	50.7 PK	74.00	-23.30	1.03 H	35	13.70	37.00
3	*5805.00	99.2 PK			1.25 H	249	61.50	37.70
3	*5805.00	92.6 AV			1.25 H	249	54.90	37.00
4	5825.00	70.0 PK	78.30	-8.30	1.65 H	41	32.20	37.70
5	5835.00	62.0 PK	68.30	-6.30	1.35 H	20	24.30	37.70
6	#11610.00	57.9 PK	74.00	-16.10	1.02 H	222	6.90	51.00
6	#11610.00	50.0 AV	54.00	-4.00	1.02 H	222	-1.00	37.70

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	#5120.00	54.1 PK	74.00	-19.90	1.32 V	25	17.10	37.00
1	#5120.00	50.1 AV	54.00	-3.90	1.32 V	25	13.10	37.00
2	#5440.00	55.0 PK	74.00	-19.00	1.30 V	247	18.00	37.00
2	#5440.00	48.9 AV	54.00	-5.10	1.30 V	247	11.90	37.00
3	*5805.00	108.8 PK			1.63 V	210	71.20	37.70
3	*5805.00	99.0 AV			1.63 V	210	61.30	37.70
4	5825.00	73.9 PK	78.30	-4.40	1.02 V	24	36.20	37.70
5	5835.00	66.7 PK	68.30	-1.60	1.35 V	24	29.00	37.70
6	#11610.00	61.0 PK	74.00	-13.00	1.33 V	35	10.00	51.00
6	#11610.00	52.3 AV	54.00	-1.70	1.33 V	35	1.30	51.00

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.



5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

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 30kHz.
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

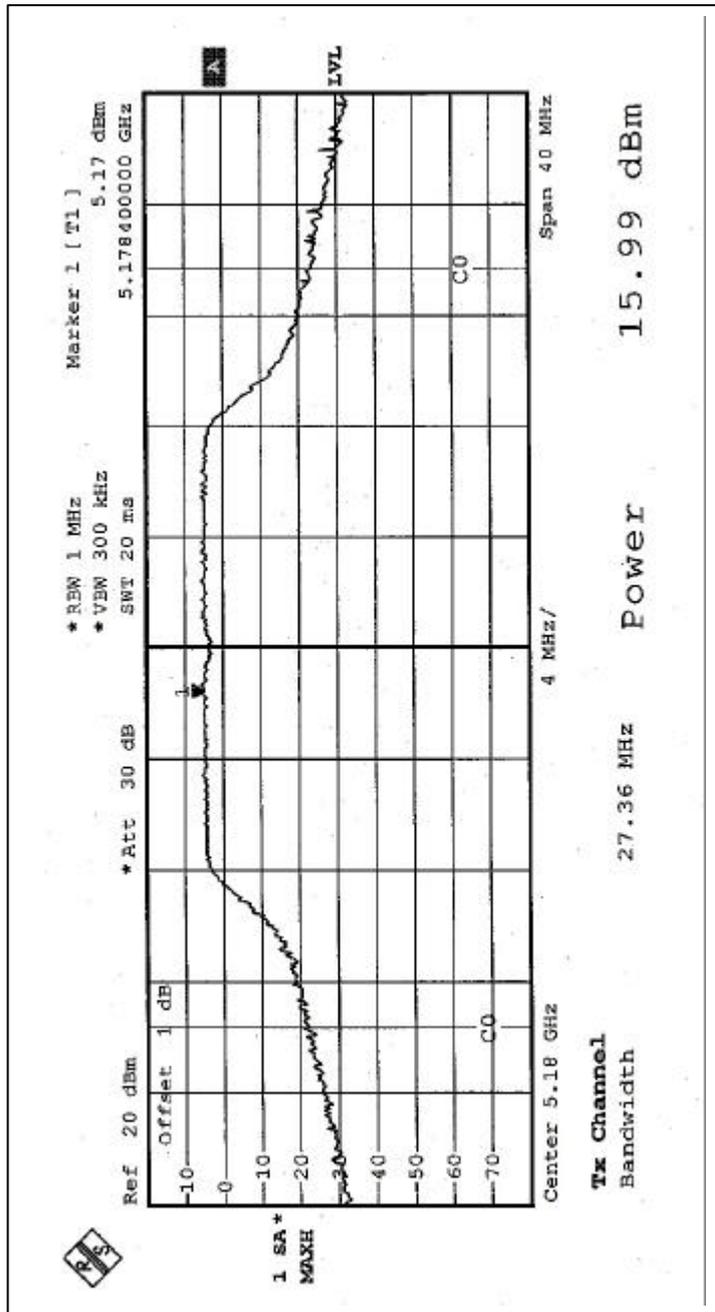
EUT	Netgear 802.11a/g Wireless PCI Adapter	MODEL	WAG311
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27eg. C, 56RH, 976 hPa	TESTED BY	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.99	17.00	27.36	PASS
4	5240	16.50	17.00	28.16	PASS
5	5260	16.38	24.00	28.00	PASS
8	5320	16.48	24.00	27.60	PASS
9	5745	16.25	30.00	31.04	PASS
12	5805	16.77	30.00	30.00	PASS

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

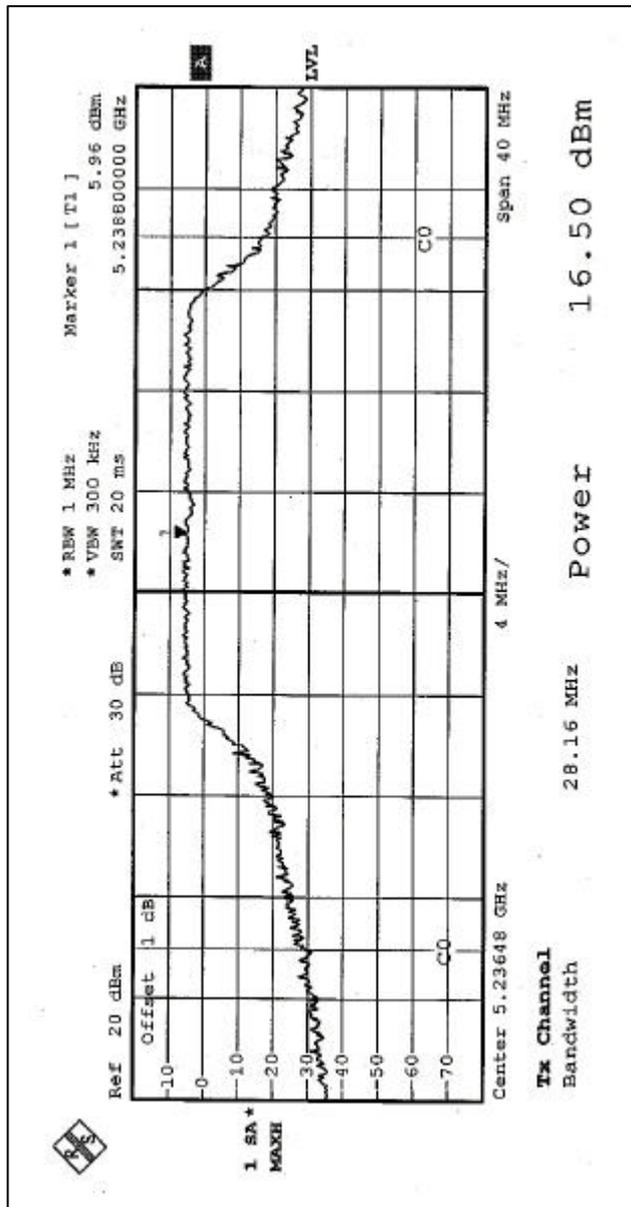


CHANNEL 1



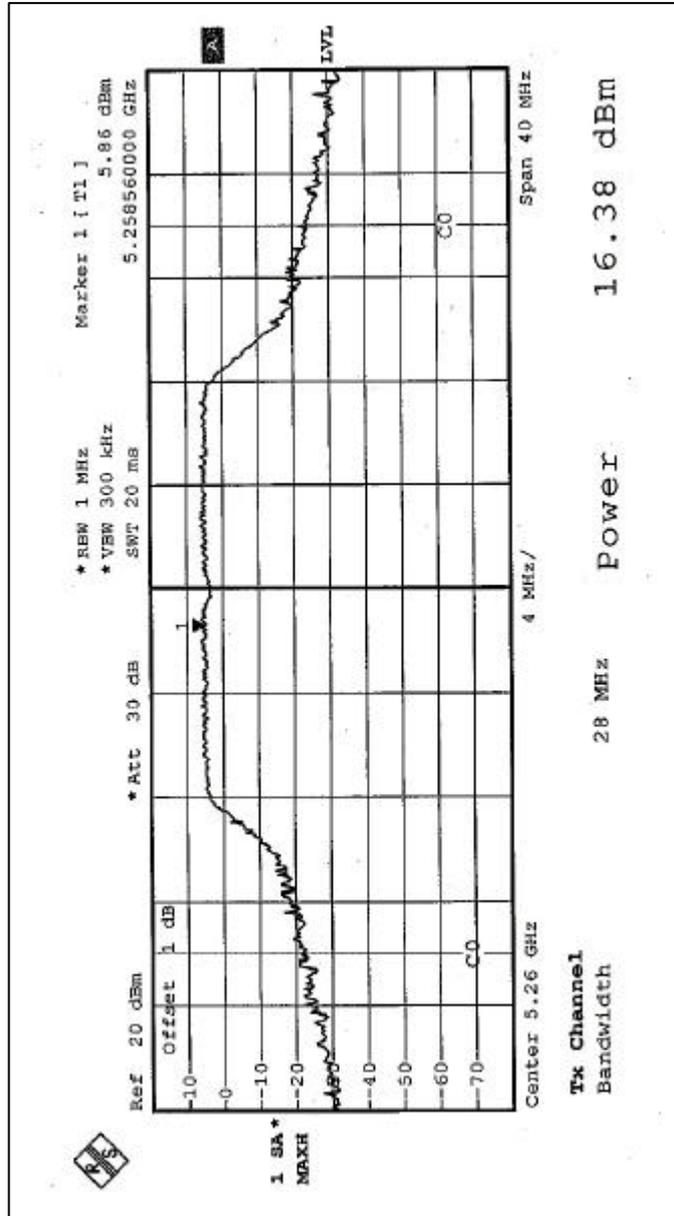


CHANNEL 4



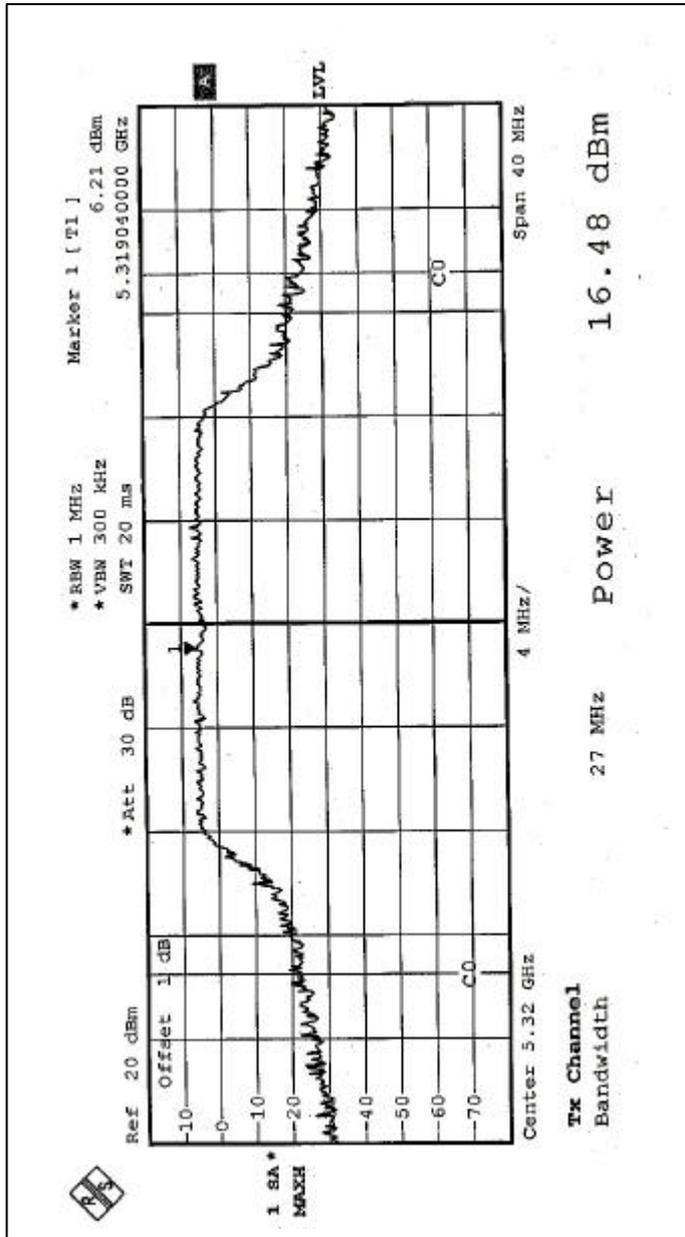


CHANNEL 5



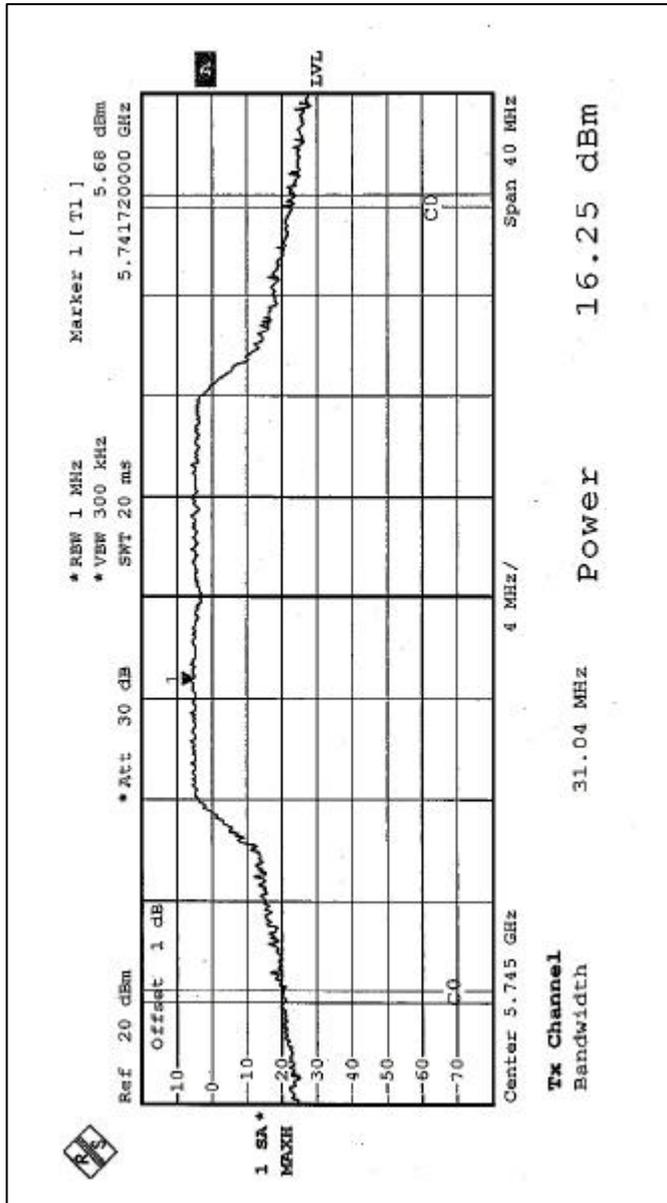


CHANNEL 8





CHANNEL 9





CHANNEL 12

