



FCC TEST REPORT

REPORT NO.: RF910821R01A

MODEL NO.: GN-WLM01

RECEIVED: Sept. 30, 2002

TESTED: Oct. 2, 2002

APPLICANT: Giga-Byte Technology Co., Ltd.

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Taiwan, R.O.C.

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0528
ILAC MRA



Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT : WLAN PCMCIA CARD
MODEL NO. : GN-WLM01
BRAND : GIGABYTE
APPLICANT : Giga-Byte Technology Co., Ltd.
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility on Oct. 2, 2002, 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. This report is issued as a supplementary report of RF910821R01. This report shall be used combined together with its original report.

CHECKED BY: Emily Lu, **DATE:** Oct. 9, 2002
(Emily Lu)

APPROVED BY: Dr. Alan Lane, **DATE:** Oct. 9, 2002
(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 -18.24dBuV at 0.170MHz
15.247(c)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -13.00dBuV at 220.00MHz

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WLAN PCMCIA CARD
MODEL NO.	GN-WLM01
POWER SUPPLY	3.3VDC from host equipment
MODULATION TYPE	DBPSK, DQPSK, CCK
RADIO TECHNOLOGY	DSSS
TRANSFER RATE	1/2/5.5/11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	13.64dBm
ANTENNA TYPE	Printed Patch Antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is a supplementary report of the original report (ADT report No.: RF910821R01).
2. This report is prepared for FCC class II permissive change. The differences compared with the original design are the change of VCO and a 5V DC regulator was added to the EUT.
3. Only conducted and radiated emission measurements were presented in this test report.

3.2 DESCRIPTION OF TEST MODES

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 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a WLAN PCMCIA CARD. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR 47 Part 15, Subpart C. (15.247)

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	NOTEBOOK	DELL	PP01L	TW-09C748-12800-19O-B220	FCC DoC APPROVED
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC APPROVED
3	MODEM	ACEEX	1414	980020504	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics 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.

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

4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	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	ESCS30	847793/022	Mar. 12, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH2-Z5	828075/003	July 23, 2003
ROHDE & SCHWARZ 200-A Four-line V-Network	ENV4200	830326/018	Oct. 25, 2002
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 2, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 2, 2002
EMCO-L.I.S.N. (for peripheral)	3825/2	90031627	July 23, 2003
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C05.01	July 23, 2003
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-305	Feb. 20, 2003
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-306	Feb. 20, 2003
Shielded Room	Site 5	ADT-C05	NA
VCCI Site Registration No.	Site 5	C-1093	NA

- 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.
 3. “*”: These equipment are used for conducted telecom port test only (if tested).
 4. The test was performed in ADT Open Site No. 5



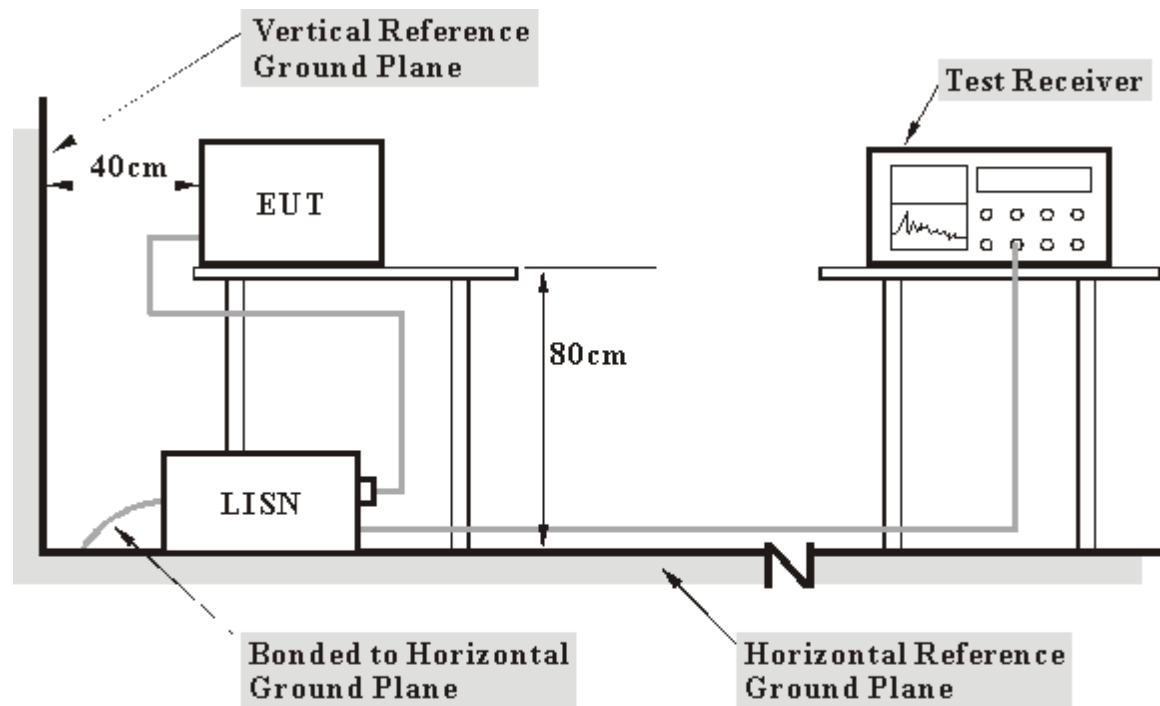
4.1.3 TEST PROCEDURES

- 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 150 kHz to 30 MHz 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. Connected the EUT to a 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.

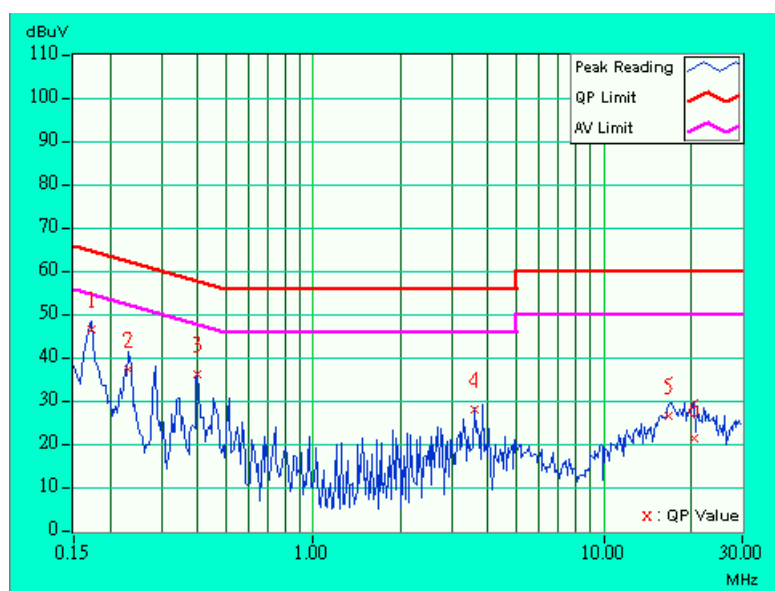
4.1.7 TEST RESULTS

EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	45.45	-	45.55	-	64.79	54.79	-19.24	-
2	0.232	0.10	36.42	-	36.52	-	62.38	52.38	-25.86	-
3	0.400	0.10	35.13	-	35.23	-	57.85	47.85	-22.62	-
4	3.594	0.36	27.00	-	27.36	-	56.00	46.00	-28.64	-
5	16.828	0.91	25.46	-	26.37	-	60.00	50.00	-33.63	-
6	20.535	1.11	20.32	-	21.43	-	60.00	50.00	-38.57	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

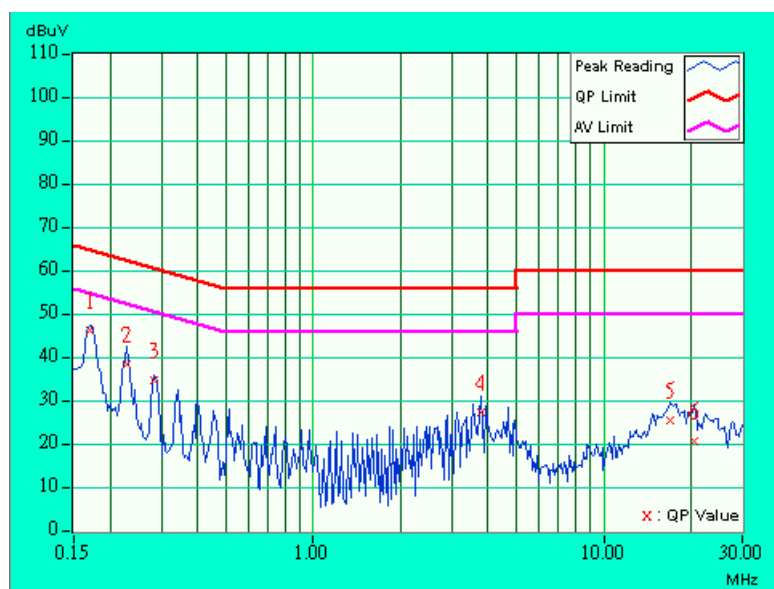


EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.10	45.63	-	45.73	-	64.98	54.98	-19.25	-
2	0.228	0.10	37.56	-	37.66	-	62.52	52.52	-24.86	-
3	0.283	0.10	34.17	-	34.27	-	60.73	50.73	-26.46	-
4	3.762	0.29	26.76	-	27.05	-	56.00	46.00	-28.95	-
5	16.957	0.62	24.74	-	25.36	-	60.00	50.00	-34.64	-
6	20.582	0.79	19.90	-	20.69	-	60.00	50.00	-39.31	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

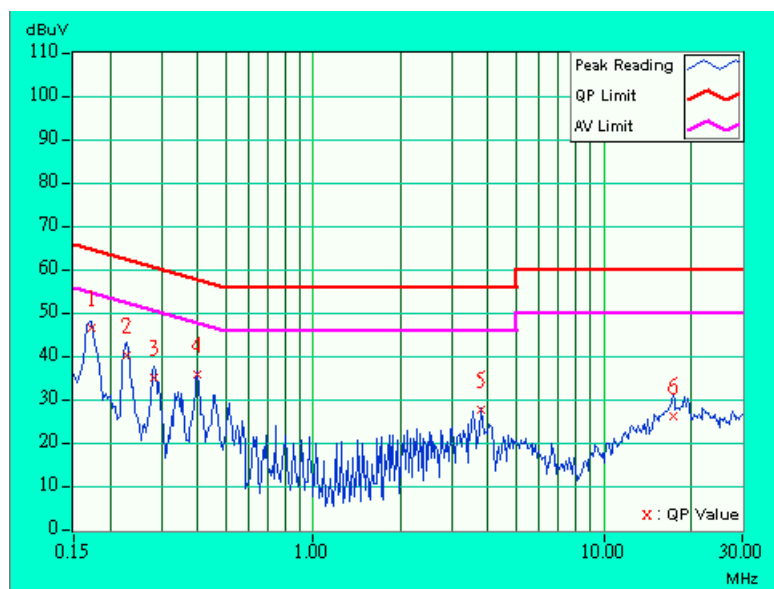


EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	45.55	-	45.65	-	64.79	54.79	-19.14	-
2	0.228	0.10	39.32	-	39.42	-	62.52	52.52	-23.10	-
3	0.283	0.10	34.29	-	34.39	-	60.73	50.73	-26.34	-
4	0.400	0.10	35.09	-	35.19	-	57.85	47.85	-22.66	-
5	3.766	0.38	27.00	-	27.38	-	56.00	46.00	-28.62	-
6	17.309	0.94	25.22	-	26.16	-	60.00	50.00	-33.84	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

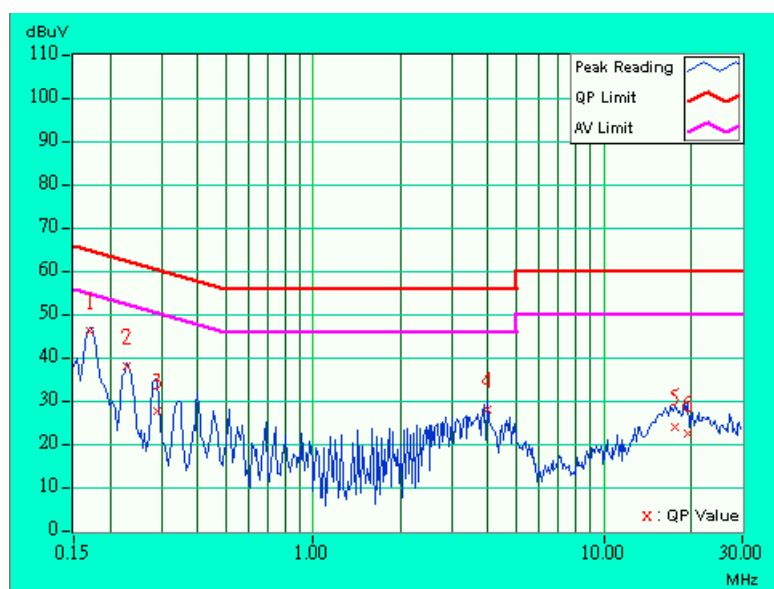


EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.10	45.45	-	45.55	-	64.98	54.98	-19.43	-
2	0.228	0.10	37.30	-	37.40	-	62.52	52.52	-25.12	-
3	0.291	0.10	27.08	-	27.18	-	60.51	50.51	-33.33	-
4	3.992	0.30	27.44	-	27.74	-	56.00	46.00	-28.26	-
5	17.680	0.66	23.28	-	23.94	-	60.00	50.00	-36.06	-
6	19.395	0.76	21.92	-	22.68	-	60.00	50.00	-37.32	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

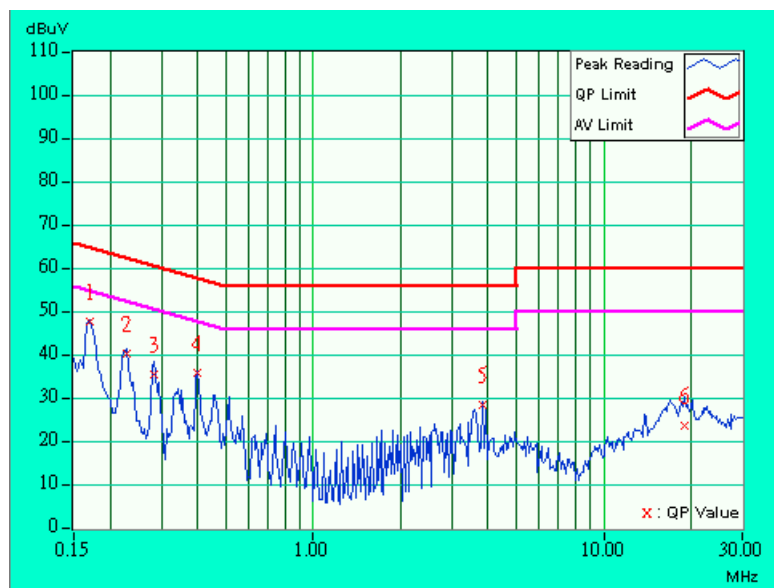


EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.10	46.64	-	46.74	-	64.98	54.98	-18.24	-
2	0.228	0.10	39.26	-	39.36	-	62.52	52.52	-23.16	-
3	0.283	0.10	34.49	-	34.59	-	60.73	50.73	-26.14	-
4	0.400	0.10	35.03	-	35.13	-	57.85	47.85	-22.72	-
5	3.820	0.38	27.45	-	27.83	-	56.00	46.00	-28.17	-
6	19.039	1.04	22.74	-	23.78	-	60.00	50.00	-36.22	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

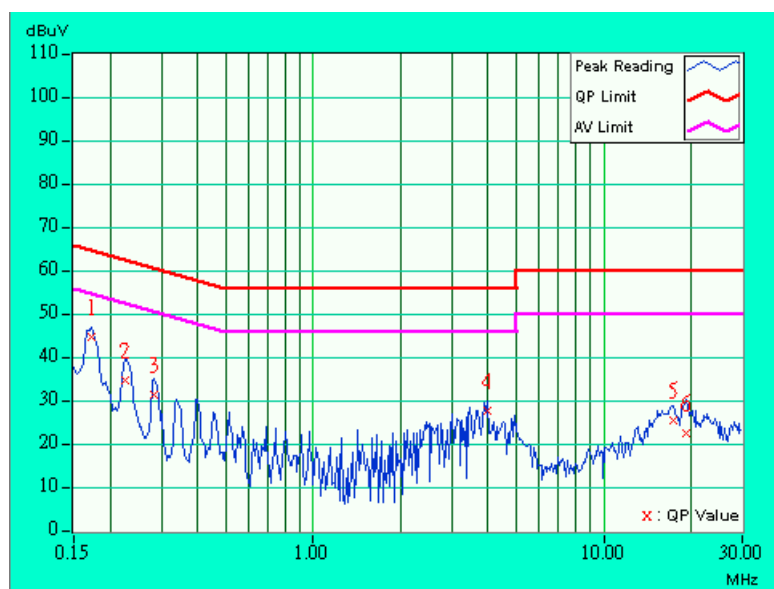


EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	44.24	-	44.34	-	64.79	54.79	-20.45	-
2	0.224	0.10	34.08	-	34.18	-	62.66	52.66	-28.48	-
3	0.283	0.10	30.65	-	30.75	-	60.73	50.73	-29.98	-
4	3.992	0.30	27.20	-	27.50	-	56.00	46.00	-28.50	-
5	17.332	0.64	24.69	-	25.33	-	60.00	50.00	-34.67	-
6	19.195	0.75	21.87	-	22.62	-	60.00	50.00	-37.38	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Field strength limits are at the distance of 3 meters, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field Strength of Fundamental	
	uV/m	dBuV/m
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

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	8590L	3544A01176	May 13, 2003
* HP Preamplifier	8447D	2944A08485	Oct. 30, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 7, 2003
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 27, 2003
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jul. 3, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 9, 2003
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jan. 25, 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 12, 2003
Open Field Test Site	Site 5	ADT-R05	Jul. 19, 2003
VCCI Site Registration No.	Site 5	R-1039	NA

- NOTE:** 1. The measurement uncertainty is less than ± 3.0 dB, 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.
3. "*" = These equipment are used for the final measurement.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The test was performed in ADT Open Site No. 5.



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 peak, quasi-peak or average method as specified and then reported in a data sheet.

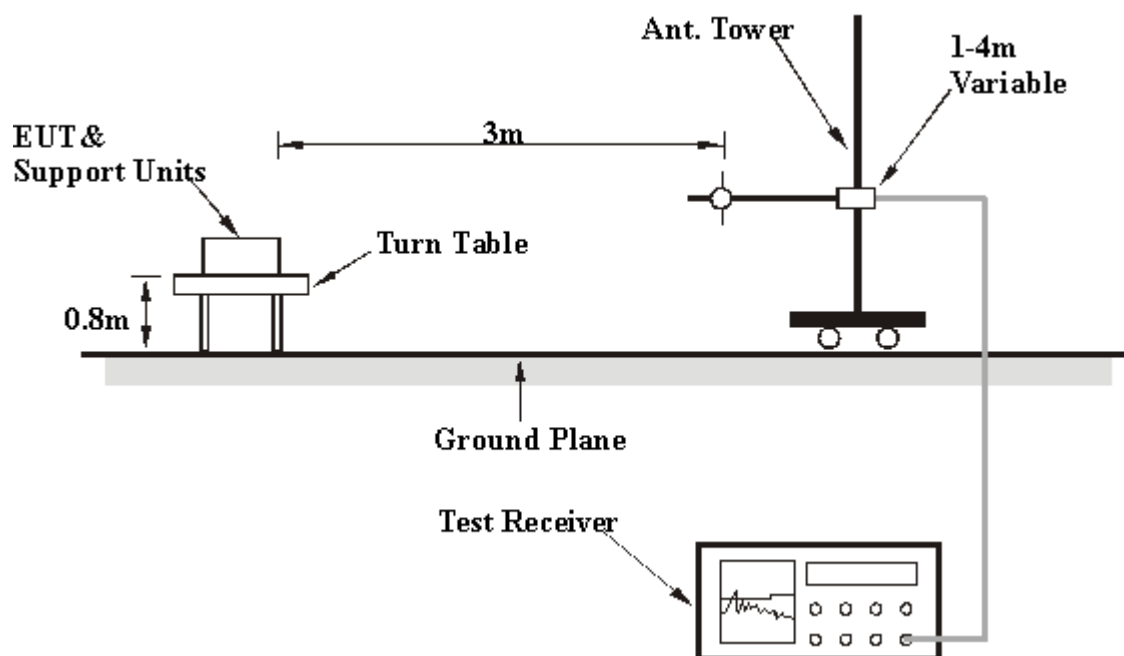
NOTE:

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.

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	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 1050 hPa	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	132.00	29.0 QP	43.50	-14.50	1.02H	206	16.75	11.16	1.09	0.00	-12.25
2	220.00	33.0 QP	46.00	-13.00	1.52H	33	21.52	10.12	1.36	0.00	-11.48
3	264.00	31.0 QP	46.00	-15.00	1.40H	360	16.80	12.89	1.31	0.00	-14.20
4	352.00	33.0 QP	46.00	-13.00	1.36H	45	17.24	14.31	1.46	0.00	-15.76
5	396.00	32.0 QP	46.00	-14.00	1.18H	3	14.50	15.96	1.54	0.00	-17.50
6	484.00	32.0 QP	46.00	-14.00	1.21H	37	13.34	16.96	1.70	0.00	-18.66
7	748.50	33.0 QP	46.00	-13.00	1.45H	10	10.68	20.14	2.17	0.00	-22.32
8	792.00	31.0 QP	46.00	-15.00	1.31H	3	8.13	20.60	2.27	0.00	-22.87
9	880.00	26.0 QP	46.00	-20.00	1.03H	159	2.91	20.68	2.41	0.00	-23.09

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	132.00	27.0 QP	43.50	-16.50	1.15V	105	14.75	11.16	1.09	0.00	-12.25
2	264.00	28.1 QP	46.00	-17.90	1.33V	177	13.90	12.89	1.31	0.00	-14.20
3	396.00	25.0 QP	46.00	-21.00	1.47V	262	7.50	15.96	1.54	0.00	-17.50
4	484.00	26.8 QP	46.00	-19.20	1.02V	60	8.14	16.96	1.70	0.00	-18.66
5	528.00	27.0 QP	46.00	-19.00	1.49V	250	7.58	17.62	1.79	0.00	-19.42
6	748.50	28.5 QP	46.00	-17.50	1.55V	3	6.18	20.14	2.17	0.00	-22.32
7	836.00	26.8 QP	46.00	-19.20	1.38V	226	3.92	20.54	2.34	0.00	-22.88

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	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 1050 hPa	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	2038.00	48.0 PK	74.00	-26.00	1.24H	16	57.00	26.37	1.38	36.80	9.05
2	4076.00	46.5 PK	74.00	-27.50	1.38H	3	49.00	30.38	3.63	36.52	2.51
3	6113.00	45.8 PK	74.00	-28.20	1.38H	15	44.80	32.98	4.78	36.74	-1.02
4	8151.00	48.1 PK	74.00	-25.90	1.49H	295	42.70	36.93	5.82	37.33	-5.42

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	2038.00	43.0 PK	74.00	-31.00	1.05V	3	52.00	26.37	1.38	36.80	9.05
2	4076.00	43.5 PK	74.00	-30.50	1.11V	5	46.00	30.38	3.63	36.52	2.51
3	6113.00	45.0 PK	74.00	-29.00	1.41V	271	44.00	32.98	4.78	36.74	-1.02
4	8151.00	48.4 PK	74.00	-25.60	1.19V	204	43.00	36.93	5.82	37.33	-5.42

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	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 1050 hPa	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	2063.00	45.0 PK	74.00	-29.00	1.16H	242	53.80	26.51	1.51	36.79	8.77
2	4126.00	44.8 PK	74.00	-29.20	1.07H	288	47.20	30.50	3.66	36.56	2.39
3	6188.00	44.0 PK	74.00	-30.00	1.14H	326	42.80	33.30	4.67	36.77	-1.20

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2063.00	44.2 PK	74.00	-29.80	1.02V	3	53.00	26.51	1.51	36.79	8.77
2	4126.00	44.6 PK	74.00	-29.40	1.10V	349	47.00	30.50	3.66	36.56	2.39
3	6188.00	44.2 PK	74.00	-29.80	1.14V	326	43.00	33.30	4.67	36.77	-1.20

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. " * " : Fundamental frequency
5. The other emission levels were very low against the limit.

EUT	WLAN PCMCIA CARD	MODEL	GN-WLM01
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 1050 hPa	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	2088.00	42.5 PK	74.00	-31.50	1.20H	19	51.00	26.66	1.64	36.78	8.49
2	4176.00	42.7 PK	74.00	-31.30	1.27H	51	45.00	30.56	3.68	36.58	2.33
3	6263.00	47.4 PK	74.00	-26.60	1.35H	107	46.00	33.63	4.56	36.81	-1.38
4	8351.00	48.5 PK	74.00	-25.50	1.30H	147	43.00	36.97	5.89	37.37	-5.49

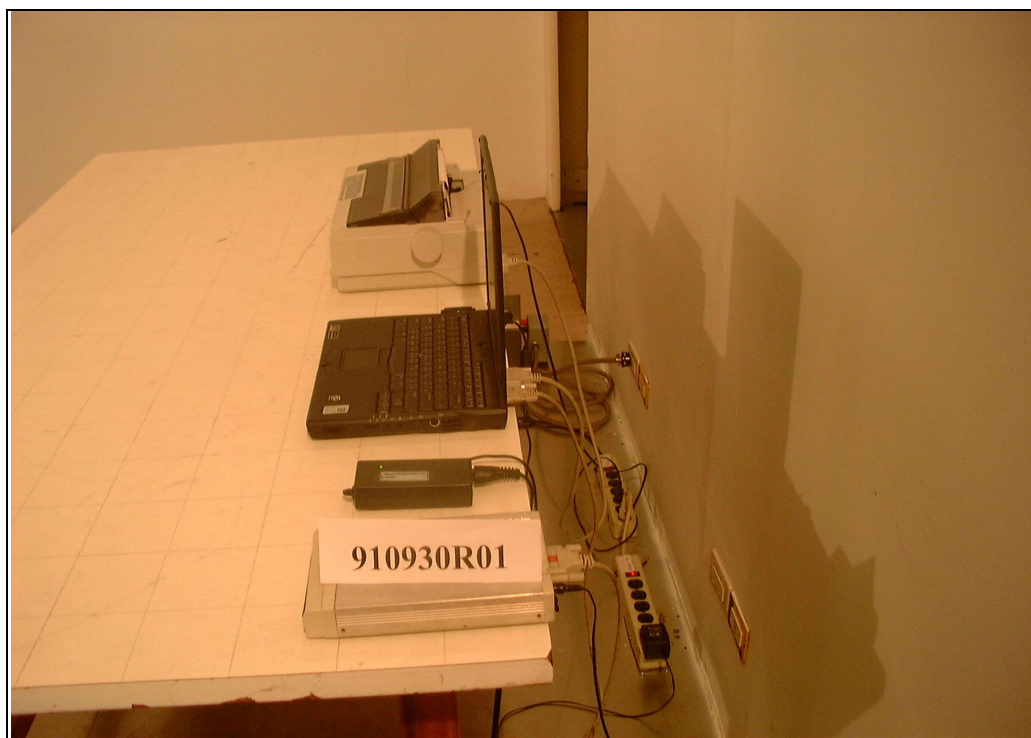
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M											
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2088.00	45.5 PK	74.00	-28.50	1.12V	246	54.00	26.66	1.64	36.78	8.49
2	4176.00	47.2 PK	74.00	-26.80	1.06V	163	49.50	30.56	3.68	36.58	2.33
3	6263.00	45.2 PK	74.00	-28.80	1.18V	288	43.80	33.63	4.56	36.81	-1.38
4	8351.00	50.5 PK	74.00	-23.50	1.24V	331	45.00	36.97	5.89	37.37	-5.49

NOTE:

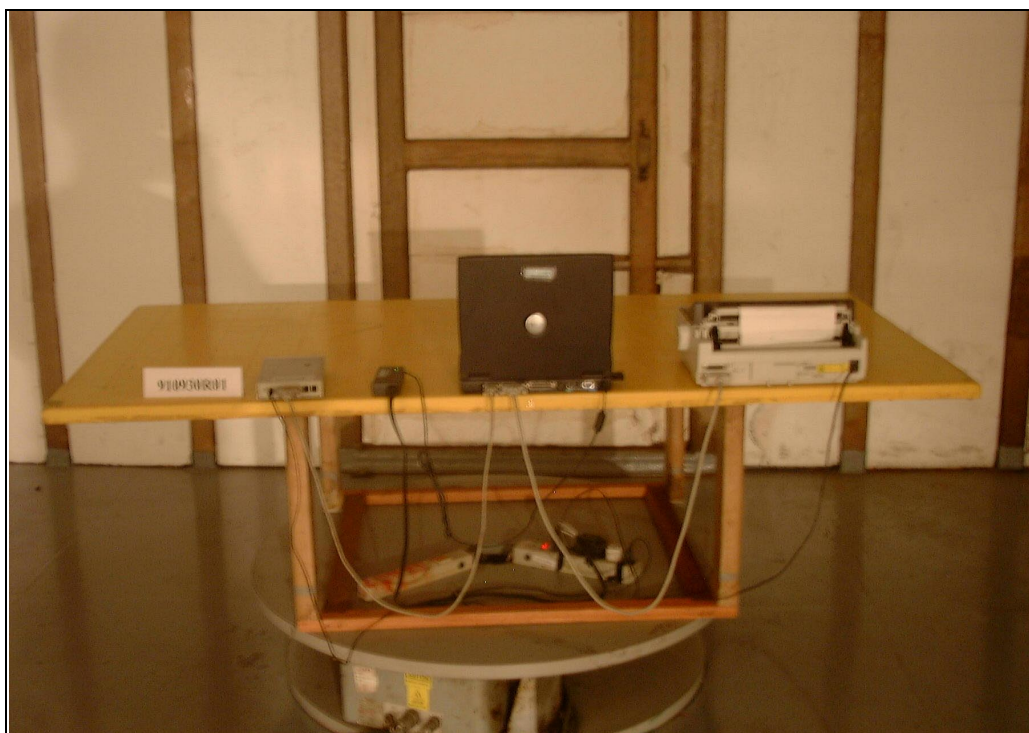
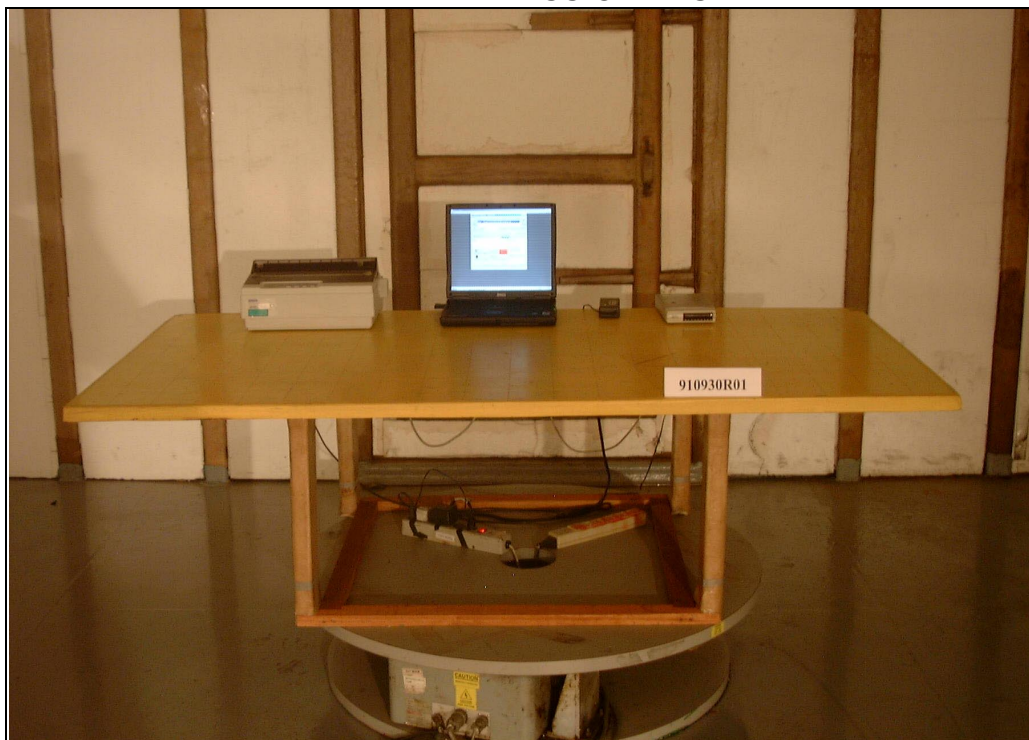
1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST



RADIATED EMISSION TEST





6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO
R.O.C.	BSMI, DGT, CNLA

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5/phtml.

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